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EDITOR-IN-CHIEF
Reed Kroloff
rkroloff@architecturemag.com

ART DIRECTOR
Lisa Naftolin
lnaftolin@architecturemag.com

CONTRIBUTING DESIGNERS
Kathleen Oginski
Richard Smith

MANAGING EDITOR
Samuel W. Barry
sbarry@architecturemag.com

SENIOR EDITORS
Raul A. Barreneche
rbarreneche@architecturemag.com
Philip Arcidi
parcidi@architecturemag.com

ASSOCIATE EDITORS
Eric Adams
eadams@architecturemag.com
Ned Cramer
ncramer@architecturemag.com
Sara Hart
shart@architecturemag.com

ASSISTANT EDITOR
Michael J. O'Connor
mo'connor@architecturemag.com

COPY EDITOR
Michelle Patient
mpatient@architecturemag.com

ASSOCIATE ART DIRECTOR
Lara Anita Behnert
lbehnert@architecturemag.com

ASSISTANT ART DIRECTOR
Douglas McLennan Thom
dthom@architecturemag.com

EDITORIAL ASSISTANT
Joelle Byrer
jbyrer@architecturemag.com

TECHNICAL ILLUSTRATOR
Christine Malecki West

CONTRIBUTING EDITORS
Aaron Betsky
Peter Buchanan
Colin Davies
Joseph Giovannini
Edward Gunts
Richard Ingersoll
Edward Keegan
Barry B. LePatner
Steven Litt
Vernon Mays
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Morris Newman
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CIRCULATION MANAGER
Barbara Falk
bfalk@bpicomm.com

VICE PRESIDENT/PRODUCTION
Robert M. Hoover
rhoover@architecturemag.com

PRODUCTION MANAGER
Helen Koh
hkoh@architecturemag.com

BUSINESS MANAGER
Richard Francois
rfrancois@bpicomm.com

PUBLISHER
Stephen B. Donohue
sdonohue@architecturemag.com

ASSISTANT TO THE PUBLISHER
Marilyn Alba
malba@architecturemag.com

GROUP PUBLISHER/VICE PRESIDENT
Dennis M. Cahill
dmcahill@architecturemag.com

PRESIDENT/DESIGN GROUP
Craig Reiss
creiss@architecturemag.com

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December 1998
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TECHNOLOGY + PRACTICE

NEXT ISSUE
Richard Rogers convenes court
Remembering Albert Frey
The Green Sheet debuts

COVER
Earth from Palmer/Rose House, Tucson, Arizona. Photography by Anne Katrine Senstad

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Construction of rammed-earth wall. Illustration by Hiroshi Tanabe.

On the Market

Architects should reclaim the production housing market.

Architects have been wringing their hands over the deplorable state of production housing in this country for decades: They decry the destructive planning models, mindless building design, and lowest-common-denominator construction. They fume over developments with ready-made houses that cost as much or more than these built through a traditional architect-client relationship. They thunder that, given the chance, architects could do much, much better.

But the dirty little secret is that an enormous amount of the junk that passes for production housing is designed by architects. Look at the building credits in an issue of *Builder* magazine: There are architects hiding behind those three-car garage doors, just as there are architects who design suburban strip malls and Taco Bell restaurants.

This is not to say that the architects designing production housing (or strip malls or Taco Bells) are necessarily thoughtless or simply poor designers. Most of the offices that crank out typical subdivision houses are fulfilling the demands of their clients: big builders. Sadly, those builders deliver a product that architects could also provide.

At one time, they did. Prior to World War II, architects and builders worked together to produce improved housing through plan books, catalogs, and early forms of subdivision design. Ironically, it was the triumph of mass production—the fulfillment of the Modernist vision—that heralded the demise of architects as part of the home-design process. Builders, not architects, translated wartime economies of scale into efficient postwar construction practice. Builders and developers, not architects, foresaw the baby boom and postwar prosperity. Architects simply weren't interested: With visions of skyscrapers dancing in their heads, they abandoned the building market's largest sector.

Of course, there were exceptions. The Case Study Houses of the 1950s and 1960s pointed to a brave new residential world, and influenced communities across the West. California developer Joseph Eichler retained rising young architects to design his innovative and popular houses. Even Frank Lloyd Wright weighed in with his Usonian concept for architect-designed, owner-built houses.

For the most part, however, architects stood aloof from an arena whose mass-market paradigms were anathema to their self-perception as craftsmen and artists. Further, the ever clear-sighted AIA banned design-build among its members, further limiting the number of architects who might have tried their hand at development. The result is a profession so long absent from what could and should have been its core practice that most people now think architect-designed houses are for the wealthy only.

It's time to change that perception once and for all. The popularity of stores like Ikea and Crate and Barrel reflect the broader public's increasingly sophisticated design sensibilities. So does the resurgent popularity of 1950s Modernism. People are ready—and hungry—for something better.

Andres Duany and the New Urbanists (pages 37-40, this issue) have demonstrated that architects can produce thoughtful, if nostalgic, mass market housing. Their efforts, more than any other organization, have raised the profession's public profile and rekindled the notion that when people want a good, affordable house, they should call an architect. For that, architects should thank them—then follow their lead. Accept or reject New Urbanist dogma as you see fit. But the profession must draw lessons from the movement's marketing and public relations successes if architects are ever to reclaim the mass-production housing market. *Reed Kroloff*

Stern words

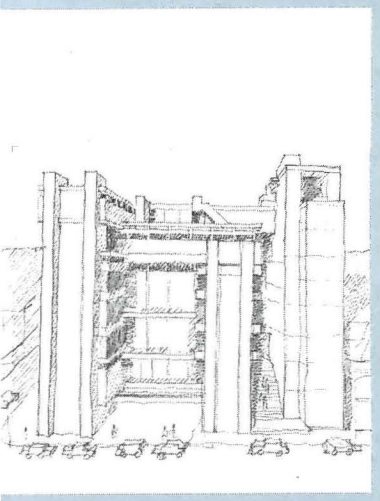
I am flattered and Yale is flattered that you took the news of a new dean's appointment at the architecture school as a subject of sufficient importance for editorial comment (*Architecture*, October 1998, page 11). Overlooking the (I hope genial) swipes here and there—Disney, yes, party boy, hardly—I think you pointed out critical issues in the school. Moreover, as you suggested, I am committed to furthering the school's traditions of open-minded debate between different views. In a time when, more than ever in recent memory, ideologies are confused for architectural ideas, I am committed to keeping Yale true to its historic mission: It will set an example for the study of architecture in all its richness and complexity, addressing core issues of building form in the context of landscape, urbanism, and technology.

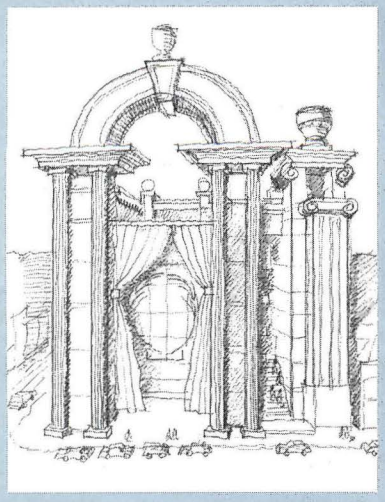
Robert A.M. Stern
Dean, School of Architecture
Yale University
New Haven, Connecticut

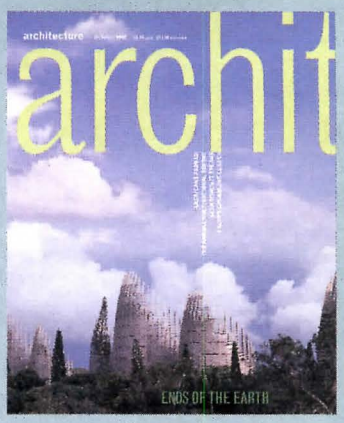
Picture this

After reading Reed Kroloff's editorial (*Architecture*, October 1998, page 11) and the news (*Architecture*, October 1998, page 29) about the Yale School of Architecture, I had this vision (nightmare) that A.M. (Stern) "retro-vates" P.R. (Paul Rudolph) with P.M. (postmodernism) to celebrate Y2K.

D.F. Trees
D.F. Trees Associates
Hamilton, Massachusetts







Libeskind responds

I am an architect not adverse to controversy about what I build; I enjoy valid debate. However, an informed critique in a professional journal is one thing, inaccurate reporting another. I would like to take this opportunity to correct factual errors in Richard Ingersoll's article, "Felix Nussbaum Museum" (*Architecture*, September 1998, pages 108-117). I did find it remarkable that Ingersoll did not bother to speak with me or any architect from my office associated with this project.

First, my drawings are not based on pick-up sticks. Second, there are no tilted walls on the inside of the museum; all the walls in the three parts of the Nussbaum Museum are vertical, except for the entrance facade, which is not used for hanging paintings. Third, the gigantic steel portal is aluminum and is thematically treated as the rough cut in Nussbaum's life.

Fourth, the Nussbaum walk's interior is only 6.75 feet wide, perhaps the narrowest space ever created for exhibition. But what is this exhibition and why such a narrrow space? Hanging within this walk are solitary pictures painted by Nussbaum while he was in hiding from the Nazis. It is a space planned to depict the confined closure in which Nussbaum found himself painting his most profoundly agonizing subjects: without perspective, without outside light, but with incredible humanity. At the time that Ingersoll saw this space, the artificial lighting had not yet been installed. I can assure Ingersoll that both floors of the walk are virtually empty, have direct, dramatic lighting, and contain the most disturbing and powerful works.

Fifth, the exposed screws that batten down the oak panels have been specially treated so as to ensure no weathering streaks. Sixth, the building was handed over to the museum a mere two weeks prior to the opening exhibition. This necessitated closing the doors in order for the building to be quickly dried out and air conditioned for opening day. These doors (some of which are indeed fire doors) are now wide open and will remain so. The ones that are not open are deliberately closed, just like the dead ends of closure that Nussbaum himself experienced.

Here is a short but telling anecdote: On one of the guided tours of the museum, a group met in the foyer after the tour. One of the young German students exclaimed that he and his buddies had lost their way in the museum. An elderly woman leaned over and said, "But that's the idea, sonny! Don't you get it?" I am sorry that Ingersoll did not acknowledge his experience as part of the content and substance of the museum itself.

Daniel Libeskind
Berlin

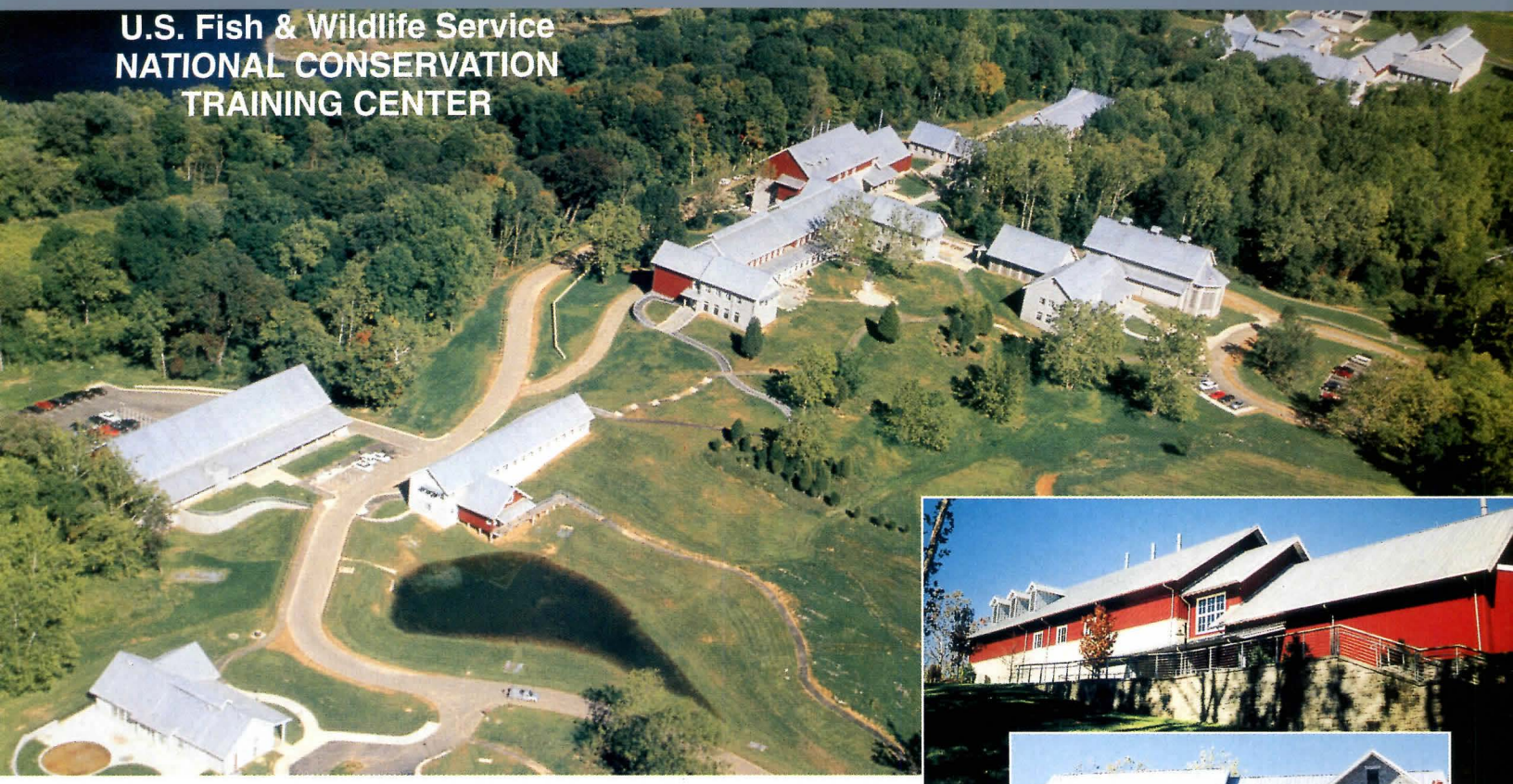
Eroding power?

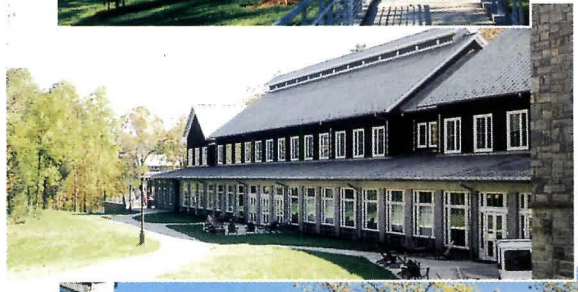
I appreciated Richard Ingersoll's review of the Felix Nussbaum Museum (*Architecture*, September 1998, pages 108-117). I work for an institution that struggles to maintain its failing structures and bring them into compliance with current building and accessibility codes. So I am grateful, for example, that you point out the likelihood of deterioration of the museum's exterior walls, while at the same time acknowledging their poetic power. Architecture is a complex profession, and we as practitioners should not shrink from challenging existing modes of construction. At the same time, buildings should be built for posterity, so that they do not pose unreasonable challenges.

Ludmilla Pavlova
Facilities Planning
University of Massachusetts
Amherst, Massachusetts

Bleak building

Oppressive, bleak, dead, cold, and antisocial are the words I find myself using to describe the built work of Daniel Libeskind. I cannot imagine these buildings being





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strong enough as an overall experience to justify the dismal, meaningless spaces they create. No more structures like the Felix Nussbaum Museum, which only serve to club us over the head with monumental, painful reminders of how bleak the human condition can be. The world needs buildings that actually respond to the human experience and support our search for the meaning of it all.
Andy Weber
Port Washington, Wisconsin

Berlin builds

Joseph Giovannini's "Berlin's New Walls" (*Architecture*, September 1998, pages 50-55) raises questions about the architect's role in the shaping of cities. The industrial revolution liberated architecture in the 19th century, but it also demanded a new morality of design. Architecture was no longer constrained by the limitations of masonry construction that had provided a craftsmanlike order to cities.

Modernism emphasized disciplined structure, but today's theorists view that period as innocently bourgeois. Architects distanced themselves from that 19th-century mandate and wallow in self-absorption. One sympathizes with Berlin's planners: Faced with likely unbridled self-expression, they adopted a policy contrived to provide, questionably, a synthetic order to supplant the natural order of old cities.
James A. Gresham
Tucson, Arizona

Completing the Arc

SCI-Arc (*Architecture*, August 1998, pages 37-43) is a school possessed of rare energy. [The institution] is more diverse in the composition of faculty and student body, and in views about architecture, than many realize, certainly more so than in my own institution.

A good measure of the points raised in the [Ray Kappe and Neil Denari] interview is the attitude of other schools toward SCI-Arc. This year, a talented female architect (and terrific teacher and SCI-Arc graduate) was not invited to teach again at the University of Southern California on the grounds that by teaching at SCI-Arc when not employed at USC, she was "disloyal"—this is not the first time this has happened.
Diane Ghirardo
Professor of Architecture
University of Southern California
Los Angeles

CORRECTION

The photographs of the Jean-Marie Tjibaou Cultural Center (*Architecture*, October 1998, pages 152-155) are by Tim Griffith/Esto.

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exhibitions

city	dates	exhibition	contact
Chicago	through December 31	**New Chicago Skyscrapers** at The Chicago Athenaeum Museum of Architecture and Design	(312) 251-0175
Houston	through January 3, 1999	**The Elusive City: Photographs of Houston by Paul Hester** at the Menil Collection	(713) 525-9400
New York City	through January 22, 1999	**Berlin Constructions** at the Parsons School of Design Gallery	(212) 229-8987
Pittsburgh	through March 28, 1999	**Zig Zags and Speed Stripes: The Art Deco Style** at the Heinz Architectural Center	(412) 622-3131
Washington, D.C.	through February 28, 1999	**City Satire: The Cartoons of Roger K. Lewis** at the National Building Museum	(202) 272-2448

Paul Hester's photograph of 1987 demolition of Wyatt C. Hendrick's Shamrock Hotel (1949) is part of Menil Collection exhibition of unseen Houston.

conferences

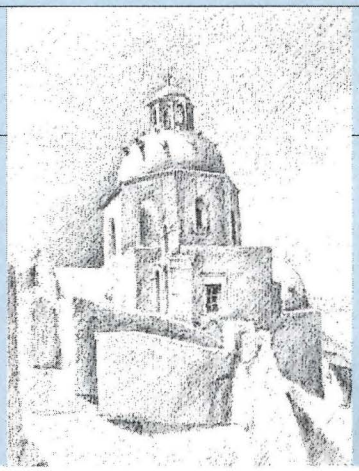
city	dates	conference	contact
Dallas	May 6-9, 1999	**The 1999 AIA National Convention and Expo**	(617) 572-3553
Decatur, Georgia	February 22-23, 1999	**Greenprints '99: Sustainable Communities—By Design,** cosponsored by Southface Energy Institute and the Georgia Environmental Facilities Authority	(404) 653-0606
Los Angeles	March 11-13, 1999	**L.A. DesignWeek 1999** incorporates WestWeek 99, NeoCon West, Senior Living Design Expo, Design Show Los Angeles, and CAD/FM Systems	(800) 677-6278
Monterey, California	April 16-18, 1999	**AIA California Council Monterey Design Conference**	(916) 429-1414
Singapore	April 19-21, 1999	**World Conference on Model Cities,** sponsored by Singapore's Urban Redevelopment Authority and the Institute of Policy Studies	(65) 779-2633

BRIAN GASSEL

Southface Energy Institute's Decatur, Georgia, headquarters incorporates green principles it will advocate at this year's Greenprints conference.

competitions

competition	deadline	contact
Rotch Travelling Scholarship, a $30,000 stipend for eight months of international travel and study	January 4, 1999 (registration)	(617) 951-0845 fax
Dog Haus: Architecture Unleashed, sponsored by The Council on Architecture of the Oakland Museum of California and the Oakland Society for the Prevention of Cruelty to Animals	January 15, 1999	www.museumca.org/doghaus/
The MacDowell Colony Fellowships for a six-week residency at the New Hampshire arts colony	January 15, 1999	(603) 924-3886
The Steedman Fellowship in Architecture, a $25,000 stipend from the Washington University in St. Louis	January 26, 1999	(314) 935-6293
ACSA/Wood Products Promotion Council Carl E. Darrow Student Design Competition for a regional meteorological center and field station	March 8, 1999 (registration)	(202) 785-2324



Mark Moeller, 1990 Rotch Scholar, self-published sketches of his travels, like this one of Santorini, Greece, in his book, Graphic Reflections.

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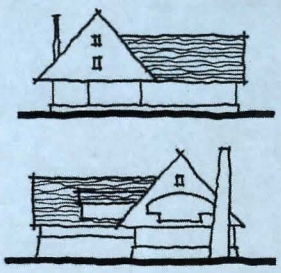


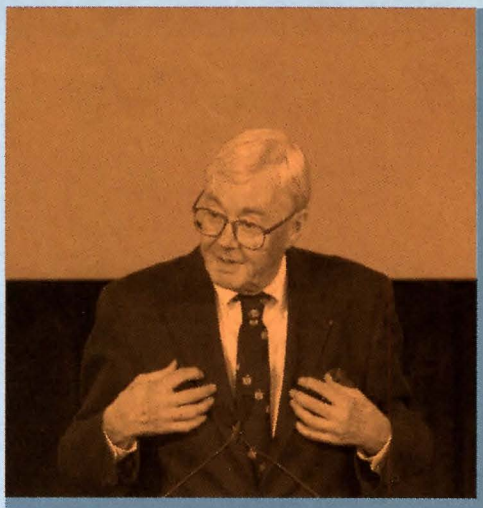
Women-Owned Firm Designs 1999 LIFE Dream House

LIFE magazine has selected Minneapolis- and Stillwater, Minnesota-based, women-owned firm Mulfinger, Susanka, Mahady & Partners (MSMP) to design its 1999 Dream House. This choice represents a departure from *LIFE*'s usual selection of members of the Postmodernist boys club such as Robert A.M. Stern and Michael Graves.

Partner Sarah Susanka is the author of *The Not So Big House* (Taunton Press, 1998), in which she advocates a simple, informal floor plan more suited to modern living in minimal square footages. In keeping with this philosophy, MSMP's design team, led by Partner Michaela Mahady and Associate Wayne Branum, prepared five models of small houses for *LIFE*'s editorial board. The editors selected certain features from each scheme that the design team then integrated into two houses of about 2,000 square feet each.

"Just the Basics," (top left) an affordable version of the house, contrasts with the souped-up "The Whole Nine Yards" (above left), which incorporates more developed spaces and custom details for the consumer with more to spend. The houses are currently being built in Wayzata and Afton, Minnesota, respectively.

LIFE will publish the resultant schemes in its May 1999 issue. Readers will have the opportunity to purchase MSMP's plans; *LIFE* typically publishes the built results of each Dream House the following year. *Michael J. O'Connor*

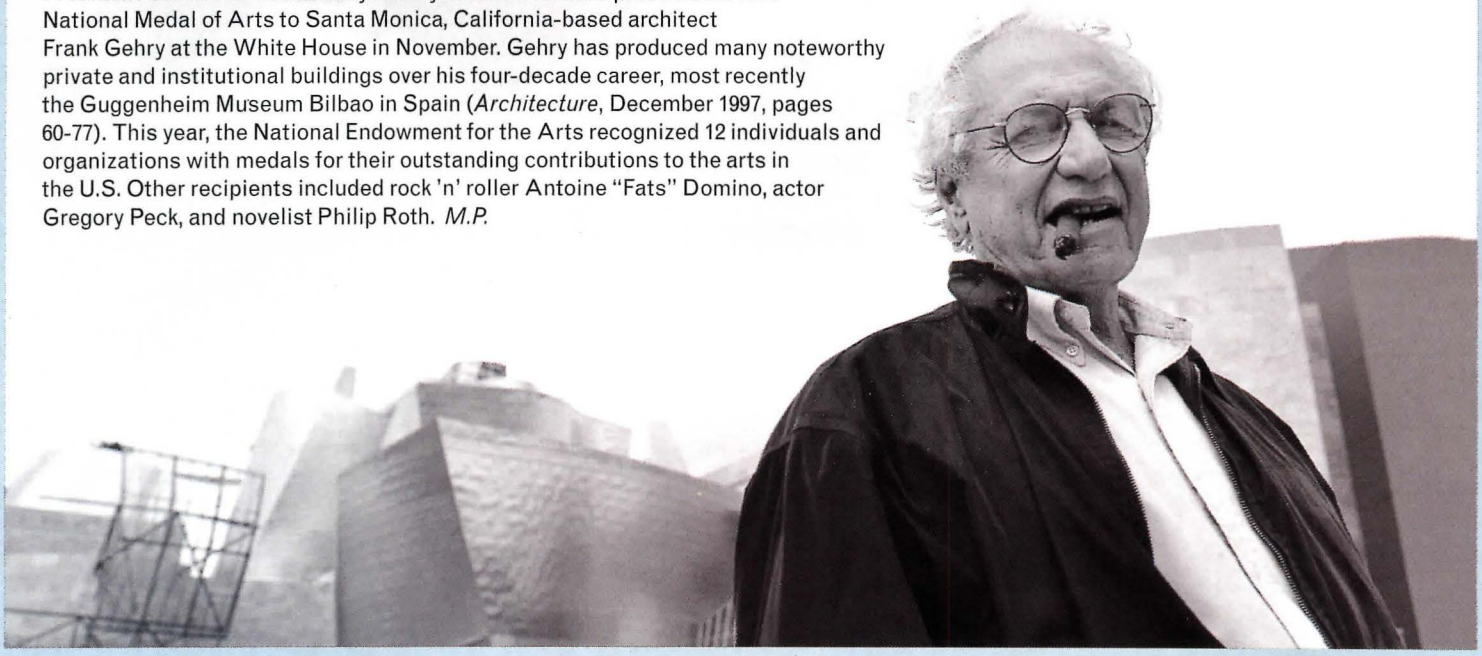


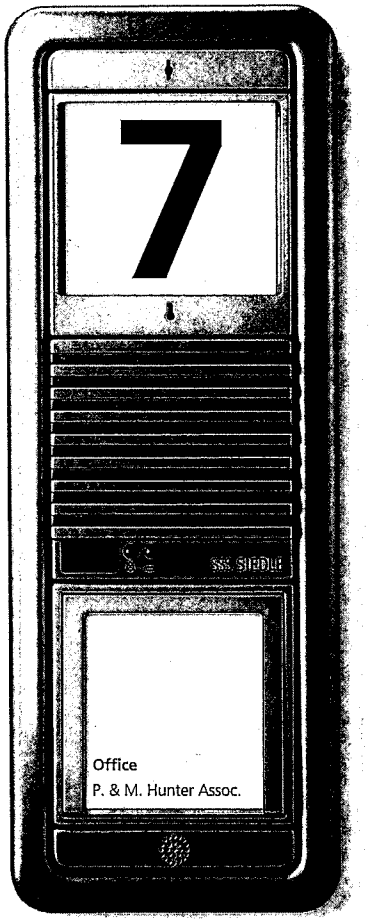
PRESERVATION PIONEER
MOYNIHAN TO RETIRE

Architecture is about to lose a valuable ally in Congress. On November 6, Senator Daniel Patrick Moynihan (D-New York) announced his plans to retire in the year 2000, at the end of his fourth term. Moynihan, who was first elected in 1976, is well-known for pushing numerous preservation projects through the federal bureaucracy. (The New York Landmarks Conservancy recently honored Moynihan as a "living landmark.") Most significantly, Moynihan has lent his considerable political clout to the redevelopment of Pennsylvania Avenue in Washington, D.C., and the restoration of New York City's Grand Central Station. After a six-year fight in Congress, Moynihan also secured nearly $315 million in federal funding for the conversion of McKim, Mead & White's James A. Farley Post Office Building (1914) into a new rail station (Architecture, April 1998, page 27). Last month, Senator-Elect Charles E. Schumer (D-New York) announced that he plans to introduce legislation to name the new Penn Station in Senator Moynihan's honor. *Michelle Patient*

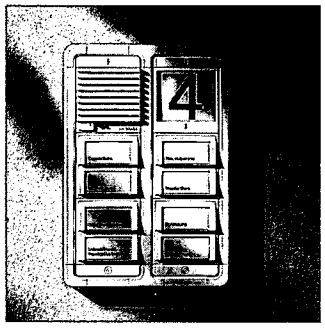
Clinton, NEA Honor Gehry

President Clinton and First Lady Hillary Rodham Clinton presented a 1998 National Medal of Arts to Santa Monica, California-based architect Frank Gehry at the White House in November. Gehry has produced many noteworthy private and institutional buildings over his four-decade career, most recently the Guggenheim Museum Bilbao in Spain (*Architecture*, December 1997, pages 60-77). This year, the National Endowment for the Arts recognized 12 individuals and organizations with medals for their outstanding contributions to the arts in the U.S. Other recipients included rock 'n' roller Antoine "Fats" Domino, actor Gregory Peck, and novelist Philip Roth. *M.P.*





Architecture Loves Design



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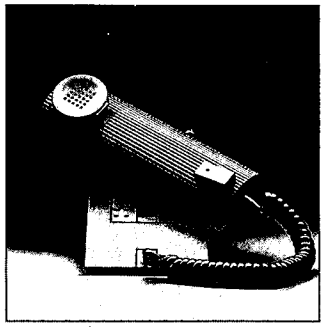

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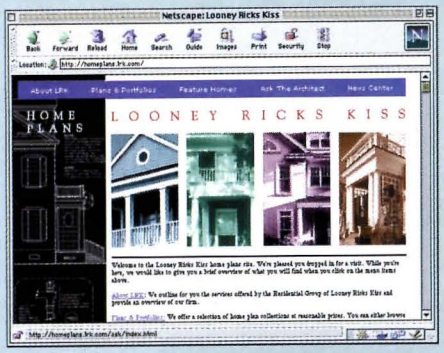
Mixed Signals on Housing

Architecture looks at some economic indicators that influence who was and is able to purchase a new house—in 1982, before the boom and bust of the 1980s, and 15 years later, in today's more cautious fiscal climate.

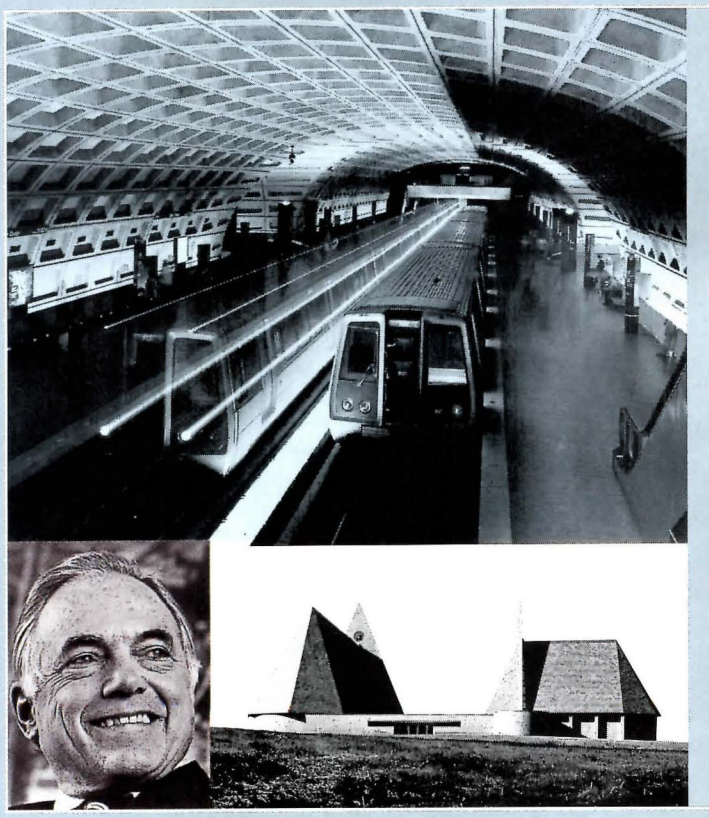
1982		1997
231,664,458	U.S. population	267,636,061
90.9 million	Total housing units	109 million
663,000	Single-family new housing starts	1.13 million
400,000	Multifamily new housing starts	342,000
16.09%	Average fixed-rate mortgage rate	7.10%
$83,900	Average new home price	$175,700
$267.26	Average weekly earnings	$424.89

SOURCE: U.S. CENSUS BUREAU

LOONEY RICKS KISS'S CYBER SHINGLE



Memphis, Tennessee-based architect Looney Ricks Kiss Architects (LRK) has unveiled a new Web site (www.homeplans.lrk.com) that allows consumers to browse through—and even purchase—the floor plans and construction documents of several of their residential projects. The site also provides the opportunity to buy volumes of house plans that are grouped by style. Although most of the featured plans are LRK's Neotraditional custom home designs, the firm plans to expand the scope of its Web site's offerings in the future to include more designs by other firms. *M.J.O.*



Chicago's Iconoclastic Icon

Chicago architect Harry Weese, an urban advocate whose ideas shaped his hometown, died of a stroke on October 29 at age 83. Born in Evanston, Illinois, Weese studied at Yale University, the Massachusetts Institute of Technology, and the Cranbrook Academy of Art. He worked briefly at Skidmore, Owings & Merrill in Chicago prior to establishing his namesake firm in 1947.

Weese's best work manipulates bold geometric forms. His design of the Washington, D.C., Metro system (1977) transforms the staid Classical vault into a sleek, contemporary monument to public transportation. Weese had a particular fascination with triangular forms, evident in the attenuated gables of his First Baptist Church (1965) in Columbus, Indiana. Chicago wantonly destroyed many of its architectural legacies before Weese exercised his enthusiasm for historic preservation.

In 1967, his firm rehabilitated both Louis Sullivan's Auditorium Theatre (1889) and Daniel Burnham's Field Museum of Natural History (1920).

Weese's futile efforts to save Sullivan's Chicago Stock Exchange (1893) from the wrecker's ball in 1973 led to the formation of the Landmarks Preservation Council of Illinois. Weese consistently drew attention to underappreciated districts in the city, extolling the potential of The Chicago River, Navy Pier, Printers Row, and River North years before others realized it. *Edward Keegan*

Harry Weese (far left) designed D.C.'s subway system (above left) to hover between city's Beaux-Arts vernacular and his Modernist ideals, as expressed by Baptist church in Columbus, Indiana (left).

Keating Leaves DMJM

Richard Keating, the design chief of Los Angeles's Daniel, Mann, Johnson, and Mendenhall (DMJM), has left DMJM after four years amidst a firmwide reorganization. Keating blames the split on "culture clash," while DMJM spokesperson Alexandra Spencer would say only that the firm wishes him well.

Keating's designs include the 52-story Los Angeles headquarters of the Gas Company (1992) and the ongoing renovation of a commercial office building in Beverly Hills, California, for watchmaker Rolex.

Although Keating hasn't announced his future plans, *The Los Angeles Times* reports that he may join the local office of an unnamed national firm. Keating refused to comment. *M.J.O.*

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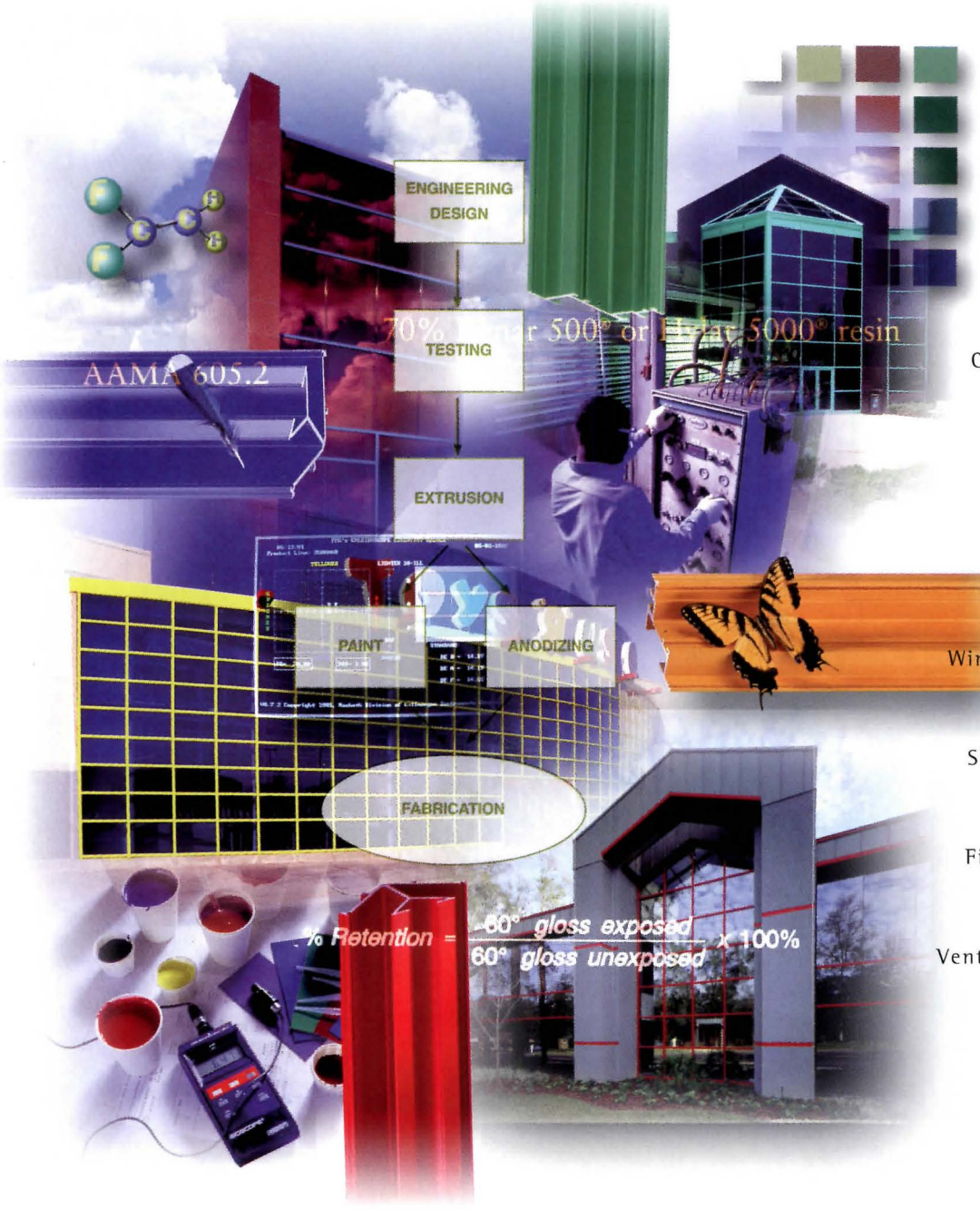

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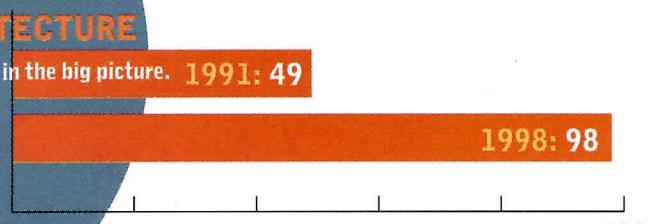


1998

While it's true that the number of black women in the architectural profession has doubled over the last seven years, those 98 architects represent only .05% of the 169,000 registered American architects.

STATISTICS COURTESY PROFESSOR DENNIS MANN OF THE UNIVERSITY OF CINCINNATI

RPI OFFERS FIRST ACOUSTICS MASTERS

Acoustician Christopher Jaffe will head the nation's first masters degree program in architectural acoustics at Rensselaer Polytechnic Institute (RPI) in Troy, New York. Jaffe, founder of Norwalk, Connecticut-based Jaffe Holden Scarbrough Acoustics, has contributed to the designs of more than 200 concert halls, including Rafael Viñoly Architects' Tokyo International Forum (Architecture, October 1996, pages 110-135). The one-year program will create a research group similar to RPI's Lighting Research Center. Pending staffing, Jaffe hopes to welcome the first class in the fall of 1999. *M.J.O.*

Wings That Don't Fly

On November 9, the Municipal Art Society's Urban Center Books sponsored a panel discussion called "Wings That Don't Fly: The Problem of Museum Expansion" in New York City. Participating were Maxwell Anderson, director of the Whitney Museum of American Art; architect Philip Johnson; Victoria Newhouse, author of Towards a New Museum (Monacelli Press, 1998); artist Frank Stella; and Bernard Tschumi, dean of Columbia University's school of architecture. Architectural critic Suzanne Stephens moderated the discussion. What follows is an excerpt of the evening's proceedings.

SUZANNE STEPHENS: Frank, let's talk about housing contemporary art, which is often very large-scale.

FRANK STELLA: I think it's possible to do beautiful neutral spaces or build a form to fit beautiful paintings in. I think overdoing it is part of the problem. I haven't seen Bilbao, but it seems to be a museum in search of a collection.

PHILIP JOHNSON: There's nothing wrong with Bilbao. The pictures will change and someday it will find that fit. Somebody is going to go into Bilbao and say, "Ah, the picture that goes here is X." But right now, it is a museum in search of a collection. But so what? Get the museum up first. You see—the best thing to do is to start with the architecture.

VICTORIA NEWHOUSE: Coop Himmelblau has a good idea, which is to have a kind of nucleus with offices, perhaps one exhibition space, and then have alternative spaces throughout the community.

SS: That seems to require a certain amount of excision when collecting. In 1948, Abby Aldrich Rockefeller left MoMA two van Gogh drawings and stipulated that after 50 years, they would no longer be considered modern so they should be transferred to the Metropolitan Museum of Art, which they just were. That brings up the old debate: Should there be a cutoff point on what is modern?

PJ: I think that Victoria's point about having a nucleus would work well with art that was suddenly thought not to be modern. [Houston arts patron Dominique] de Menil added to the nucleus with the [Cy Twombly Gallery]. You have to go across the street, but why shouldn't you?

VN: I think The Menil Collection is successful because it blends art and architecture so well. It's the perfect size; you go to the museum, spend an hour. When Mrs. de Menil made the program, she purposely made the museum smaller than what could contain her whole collection. She felt that to make it any larger would compromise the experience. She recommended rotating the collection, which is another option. Some curators have said to me, "Well, rotating is very expensive." But when I look at the price tags of some of these new wings, the price of rotation suddenly seems not so great.

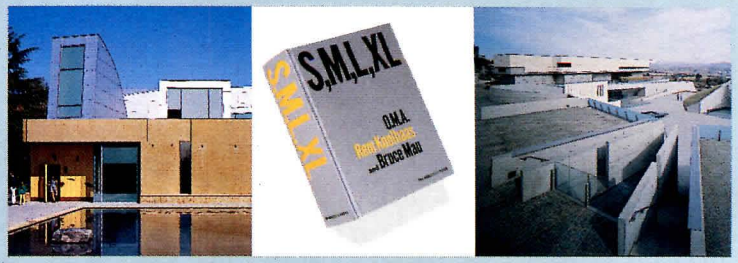
SS: Philip, when we spoke about museums 10 years ago, you said, "You don't want to go into a modern art museum, which is just a loft building parading as a work of architecture. A room is a room is a room." How do you feel about that statement today?

PJ: The relation between art and architecture is shifting under our feet. I still feel a room is a room. I'm building a museum in Ft. Worth right now and I've designed each room to be about 25 by 20. I've made suggestions [to the curators] how to hang the art, but it doesn't matter. Within the next month or two, they're going to change it.

Chrysler Lauds Design Innovators

Architects Steven Holl and Tod Williams and Billie Tsien are among the winners of the sixth annual Chrysler Awards for Innovation in Design. Chrysler announced the awards at a ceremony at New York City's Four Seasons Hotel in November.

Holl, the author of *Anchoring* (Princeton Architectural Press, 1989) and *Intertwining* (Princeton Architectural Press, 1996), recently completed a contemporary art museum in Helsinki, Finland, known as Kiasma (a Greek word meaning "crossing over"). Williams and Tsien designed the Scripps Research Institute's Neurosciences Institute in La Jolla, California (*Architecture*, March 1996, pages 82-93). Their namesake firm was one of 10 selected for Toward the New Museum of Modern Art, an ideas charette that led to the current renovation and addition by Japanese architect Yoshio Taniguchi.



Holl's chapel; Mau/Koolhaas collaboration; Williams Tsien's Neurosciences Institute

This year's other winners are graphic designers April Greiman, Erik Adigard and Patricia McShane (whose firm, MAD, created *Wired*'s distinctive look); Bruce Mau (designer of Rem Koolhaas's *S,M,L,XL* [Monacelli Press, 1996]); and the designers of the Mars Pathfinder microprobe, which will explore the Red Planet next year. *M.J.O.*

Buzz

The city planning committee of London's Kensington district has approved the design of **Daniel Libeskind**'s "spiral" addition to the Victoria & Albert Museum. Libeskind won the prestigious commission in a 1996 competition.

Will the mystery architect please come forward? An Indian newspaper is claiming that the world's tallest tower (at 670 meters) will be built in Jabalpur, India, as designed by "a popular American architectural firm."

Richard Rogers Partnership will design the new Welsh Assembly Building and **Kisho Kurakawa** will be the first Japanese architect to plan the capital city of a foreign country in Astana, Kazakhstan, a former republic of the Soviet Union.

The lengthy, international, 15-finalist shortlist for a new contemporary art center in Rome comprises: **Peter St. John Architects, Zaha M. Hadid**, both of London; **Francesco Cellini and Franci Ceschi, Mose Ricci, Caremn Andriani, Aldo Aymonino, Pippo Ciora, and Fillippo Spaini**, all of Rome; **Michele De Lucchi, Achille Castiglioni, and Italo Lupi, Gregotti Associates International, Pierluigi Nicolin and Italo Rota**, and **Cino Zucchi and Stefano Duon**, all of Milan, Italy; **Toyo Ito & Associates**, and **Kasuyo Sejima + Ryue Nishizawa & Associates and SANAA**, both of Tokyo; **Office for Metropolitan Architecture** of Rotterdam, the Netherlands; **Jean Nouvel Architecture** of Paris; **Eduardo Souto de Moura** of Porto, Portugal; **Christos Papoulias** of Athens, Greece; and **Steven Holl Architects and Guy Nordenson & Associates** of New York City.

The shortlist for the AIA Firm of the Year comprises Boston's **Schwartz/Silver Architects; The Hillier Group** of Princeton, New Jersey; and Chicago-based **Perkins + Will. Michael Graves, Kisho Kurakawa**, and perennial nominee **Frank Gehry** are this year's finalists for the AIA Gold Medal.

The Canadian Centre for Architecture has announced its first International Foundation of the Canadian Centre for Architecture Prize, a triennial invited competition intended to spur urban renewal. The first site will be Manhattan's West Side, between Eighth Avenue and the Hudson River and 30th and 34th streets. The prize carries a $100,000 cash award. The jury is architects **Elizabeth Diller; Frank Gehry; Arata Isozaki; José Rafael Moneo; Charles A. Gargano**, chairman and commissioner of New York City's Empire State Development; **Gary Hack**, dean of the Graduate School of Fine Arts at the University of Pennsylvania; and **Joseph B. Rose**, chairman of the New York City Planning Commission.

Richard N. Swett, the first architect in Congress in more than 70 years (D-New Hampshire, from 1990-1994), is now the first architect-ambassador in more than a century. Swett presented his credentials to **Queen Margarethe** in Copenhagen, Denmark, in September.

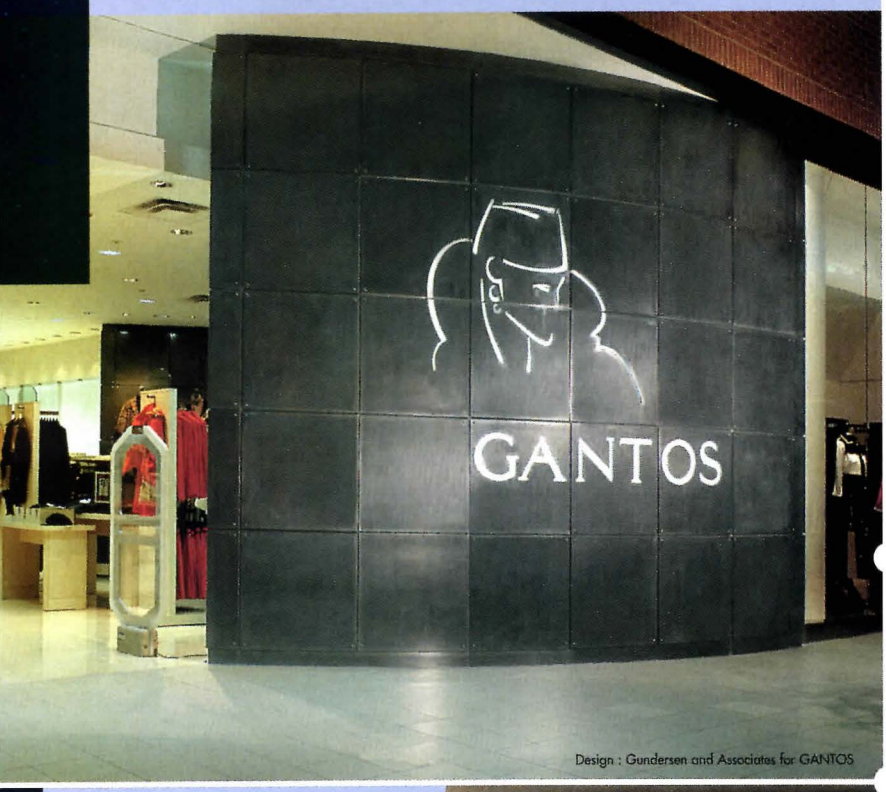
Richard Meier & Partners will design a 550,000-square-foot, $230 million new city hall for San Jose, California.

At a meeting of the Neotraditional Hastings Council in Charleston, South Carolina, in October, members **Leon Krier, Ray Gindroz**, and **Andres Duany** announced their intention to found the Institute of Traditional Architecture, an alternative school that will advocate the teachings of the New Urbanist movement.

Legal news: A federal appeals court in Michigan has found architect **Daniel Tosch** guilty of copyright infringement. The court found Tosch liable after he removed the name and seal of Bloomfield Hills-based architect **Douglas Johnson** from plans Johnson completed for a house renovation and presented them to a builder as his own. Tosch unsuccessfully argued that by providing him with his plans, Johnson constituted an implied license to assume ownership of them.

The National Trust for Historic Preservation has presented their 1998 National Preservation Honor Award to **Carey & Company** for the restoration of the War Memorial Opera House in San Francisco. **The Hillier Group** will head the restoration of the U.S. Supreme Court building in Washington, D.C.

OBITUARIES: Artist-architect **Bruno Munari**, 90, leading member of Italy's Futurist movement; **Werner Seligmann**, 68, former Syracuse University professor and dean; California regional Modernist **Calvin Straub**, 78, professor emeritus at Arizona State University.



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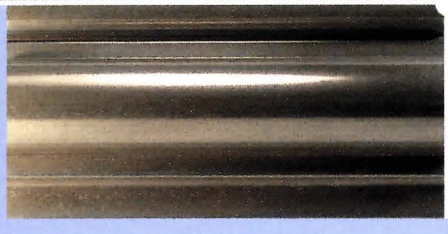

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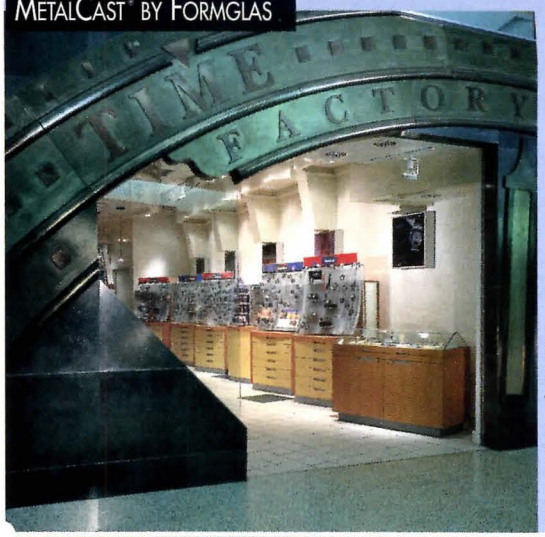

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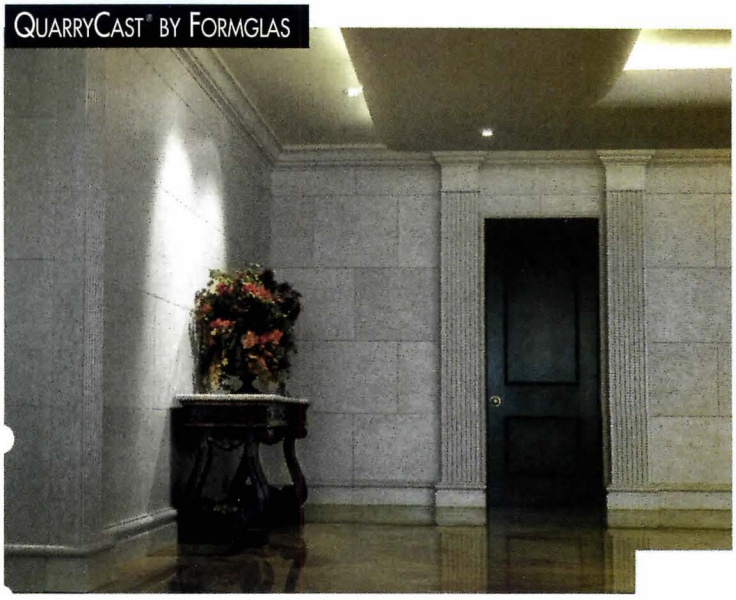

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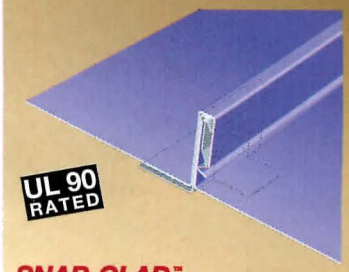

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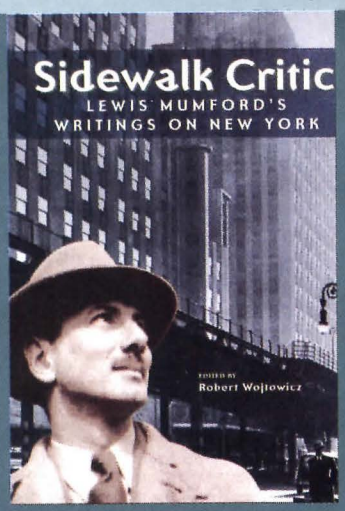

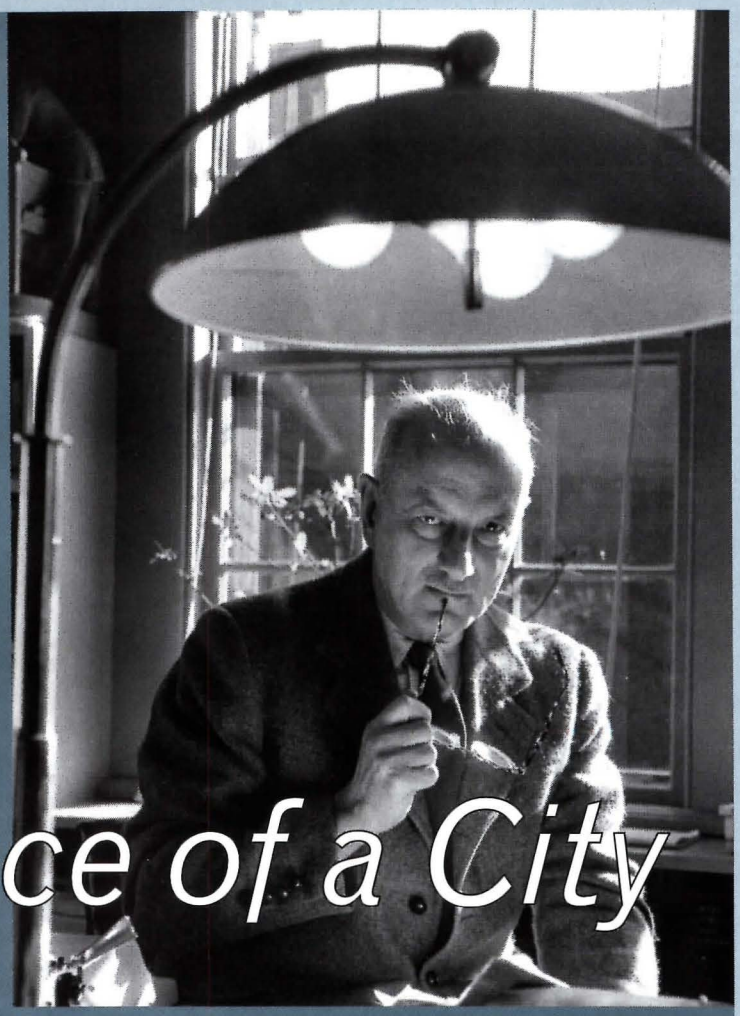

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For *New Yorker* architecture critic Paul Goldberger, a new anthology confirms the extraordinary vision of his predecessor, Lewis Mumford.

Conscience of a City

Lewis Mumford was infuriating. He was arrogant, pompous, aloof, utterly without irony, and frequently wrong. He found New York City disturbing, and he yearned for the green and ordered precincts of the garden city. He sometimes gave the impression of barely being interested in architecture, and of preferring to pronounce on social policy instead. How is it, then, that he could possibly be called, as Robert Wojtowicz dubs him in a new anthology, *Sidewalk Critic: Lewis Mumford's Writings on New York* (Princeton Architectural Press), "the most important architectural critic produced by the United States in the 20th century?"

Because he was. In assembling more than fifty of Mumford's early "Sky Line" columns from *The New Yorker*, along with a pair of autobiographical essays and some of his art reviews from the magazine, Wojtowicz, an associate professor of art history at Old Dominion University in Norfolk, Virginia, and the literary executor of Mumford's estate, lets Mumford's writing make the case. When you begin to read Mumford, you forgive all. If his tone was Olympian, it was gracefully so, and consistently humane. Mumford was profoundly earnest, and dazzling in his insights. He believed passionately in Modernism, but did not buy into the International Style; long before anyone else, he saw the corporate sterility that would replace the International Style's early utopianism. Mumford believed in the perfectibility of people and

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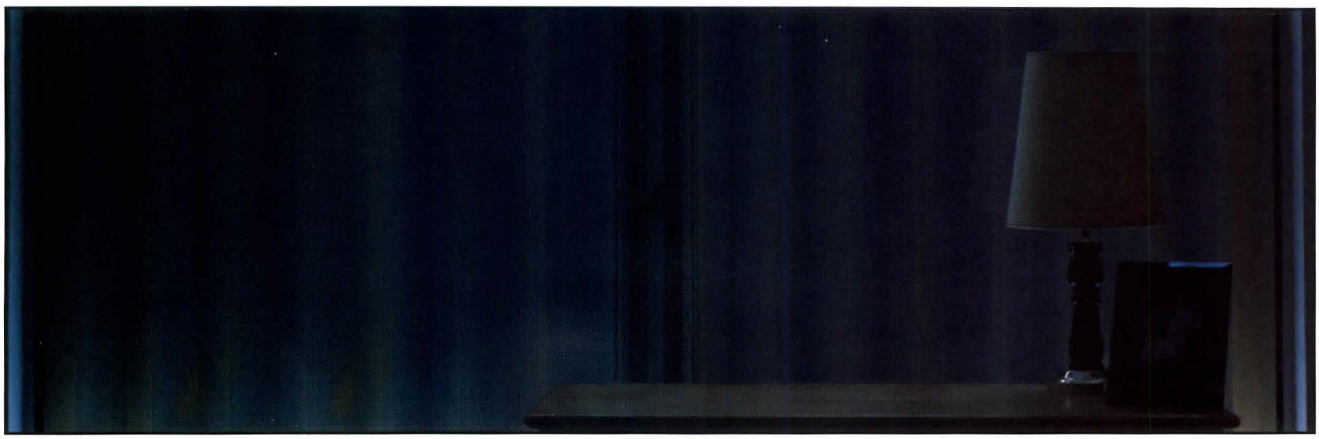

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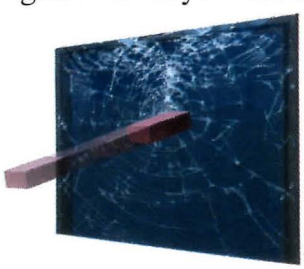

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civilization, but to a fault; he tended to think that everything could be planned rationally, which is why he idolized Patrick Geddes and the garden cities movement, and failed entirely to grasp what Jane Jacobs was talking about.

Mumford's greatest contributions (how striking it is to be able to say this about a rationalist!) were his passion and his sense of social conviction. He broadened the agenda of architectural criticism to include urbanism, planning, and a whole range of social issues. His eye was acute, but he had no patience for criticism that was based solely on what things looked like. He also knew that the quality of urban life is often shaped more by ordinary buildings of the everyday landscape than by great monuments, which is why he made certain that his *New Yorker* columns included evaluations of luncheonettes and storefronts as well as of skyscrapers and museums.

Mumford's violent mistrust of technology, heightened late in his career by his powerful opposition to the war in Vietnam, today gives him something of the air of a Luddite. He might not mind that impression—he had hoped, after all, to be remembered mainly for his books on urban and cultural history, and for their underlying moral stance—but once he was lighter and more nimble in his perceptions than his late works would suggest. Mumford did better, in some ways, when he had clear, definable subjects to cover than when he tried to take on the entire world. His "Sky Line" columns are among his finest works, largely because the nature of the assignment forced him to stay focused. These essays are informed by his ever-present moral compass, and yet they never become moralizing tracts.

Mumford's postwar architectural criticism was long ago collected in two volumes, *From the Ground Up* and *The Highway and the City*, but his pre-1940 columns from *The New Yorker* are largely unknown today. If the limited time frame from which Robert Wojtowicz has chosen these columns means that readers of *Sidewalk Critic* do not get to read Mumford's writings about a later and slightly more familiar New York City, there is a compensation. Mumford was still deeply attached to New York City in the 1930s (he moved upstate in 1936) and in these pages he views the city not as a hotbed of chaos, but as an admirable, if flawed, piece of civilization. It is a place that frequently disappointed him, but it was a disappointment born out of love, and of the belief that things would get better. *Paul Goldberger*

MUMFORD'S GREATEST CONTRIBUTIONS WERE HIS PASSION AND HIS SENSE OF SOCIAL CONVICTION.

Paul Goldberger is the architecture critic for The New Yorker.

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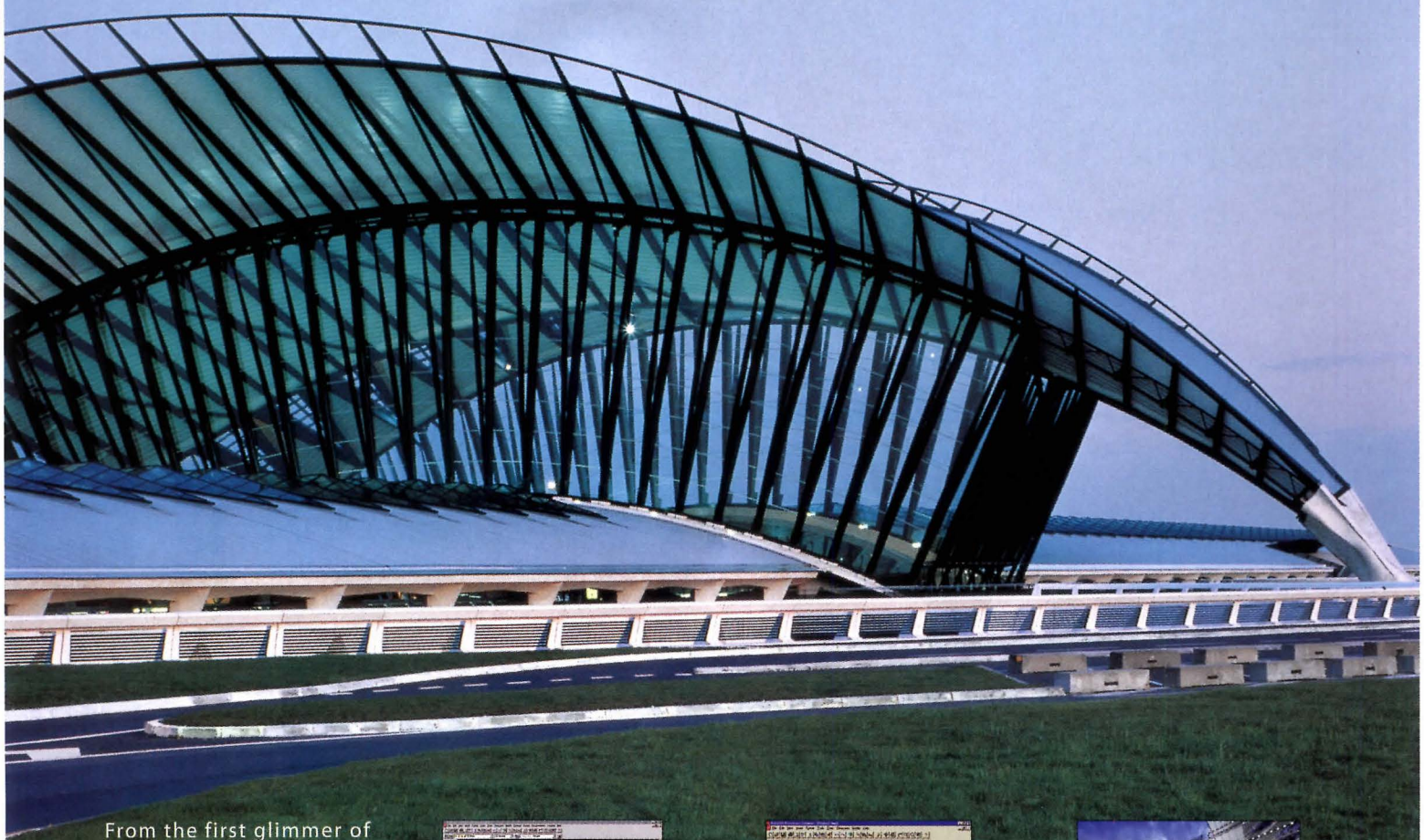

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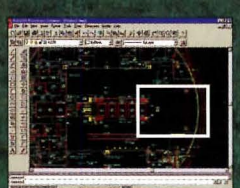

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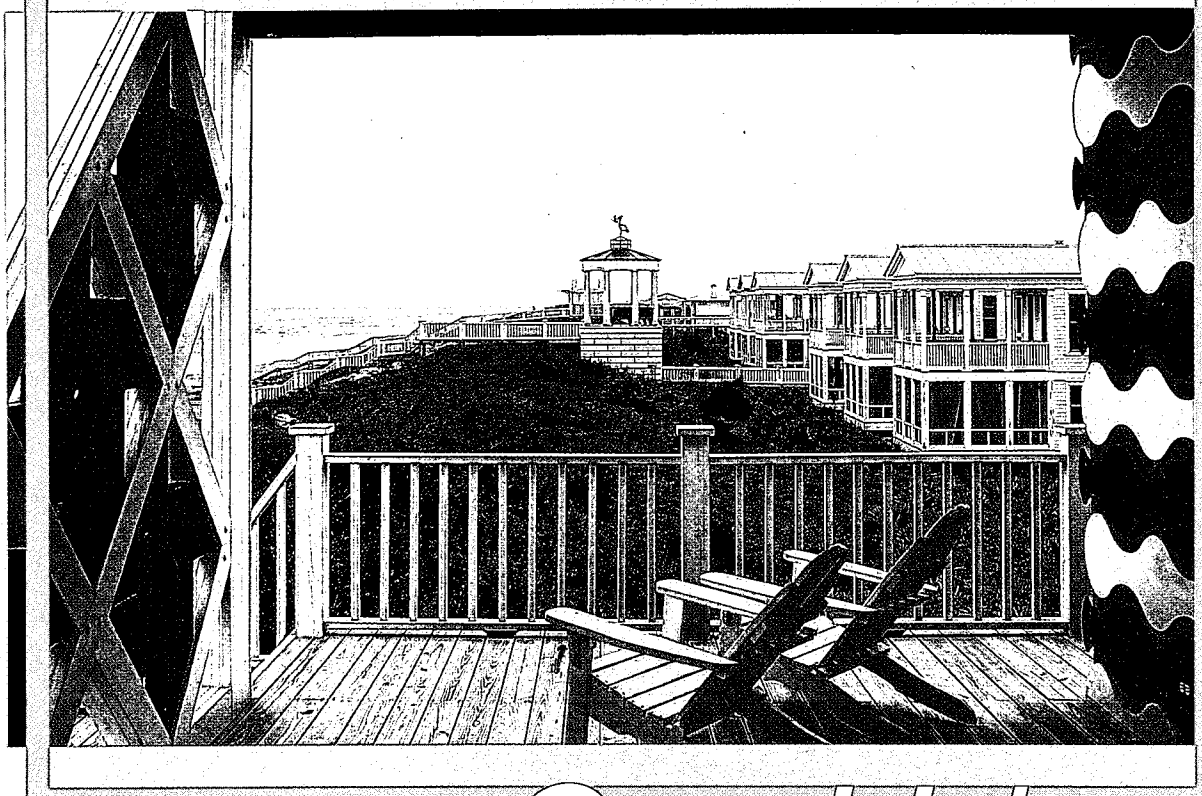


Andres Duany responds to Alex Krieger's criticisms of New Urbanism, which appeared in the November issue of *Architecture*.

Our Urbanism

The architectural academy has finally noticed that devastating offspring of Modernism, suburban sprawl. In their awakening fog, they have aimed their critical apparatus at New Urbanism, thus attacking not the problem, but its solution. Alex Krieger, an illustrious representative of the academy, has marshalled a collection of the usual critiques (*Architecture*, November 1998, pages 73-77). These share one thing: They are based on fallacies.

The fallacy of sprawl. The argument against New Urbanism can be summarized in the bumper-sticker slogan that it merely replaces suburban sprawl with New Urban sprawl. In fact, since its founding in 1992, New Urbanism has been the antithesis of sprawl, because it designs communities that are balanced in function; creates inclusive housing; supports home-based business; spatially defines the public realm; facilitates pedestrian accessibility; minimizes use of the car; supports transit; and builds on infill as well as greenfield sites.

The fallacy of infill. This critique states that New Urbanists should direct all their efforts toward the reconstruction of existing urban fabric; that to build on greenfield sites, even if creating authentic urbanism, undermines the city. New Urbanists do work in the inner city, and very effectively, but 95 percent of what is built in this country is built on greenfield sites. California grows at the rate of one Pasadena every year, and one Massachusetts every decade. Infill alone cannot accommodate this rate of growth. Even if the public process did not limit infill projects, the price differential between urban land and an immediately

adjacent greenfield would undermine any controls. If the New Urbanists abdicate the urban edge, sprawl will have lost its most effective bridle.

The fallacy of density. It is a misstatement that New Urbanism cannot deliver adequate densities. Dan Solomon habitually reaches 50 housing units to the acre and Moule & Polyzoides at Playa Vista, California, approach 40. These urban densities are comparable to those of Commonwealth Avenue in Boston.

However, Krieger is correct that typical New Urbanist projects have a lower density. The reason is not the abdication of principle, but the more complex criteria of diversity—a variety of human needs and desires, some fulfilled by an urban apartment and others by a house with a yard. New Urbanism requires inclusive housing, the full range of choices provided in close proximity within each neighborhood. Although this can reach very high net densities in localized areas, inclusive housing averages about eight units per acre. A lesser gross density is probable, as open spaces and commercial and civic buildings in a New Urbanist community can consume a substantial area.

Even if the preference of the non-nuclear family is for the single family house (and it is), New Urbanism proposes that these houses be assembled into a neighborhood and a regional structure that supports transit. That transit is gaining national credibility is due in part to New Urbanists Peter Calthorpe, Douglas Kelbaugh, and Bill Lieberman's conceptualization of transit-oriented development.

The behavioral fallacy. Critics accuse New Urbanists of erroneously claiming that physical design can affect human behavior, then that "social engineering" is dangerous, and when utopian, a short step from the Holocaust. The built environment's potential to affect human behavior was one of the defining premises of the Modern movement, and was discredited only in the wake of the 1973 demolition of Pruitt-Igoe in St. Louis. The correct conclusion from the failure of Pruitt-Igoe should have been that design has such a powerful affect on human behavior that it could transform, in very short order, a viable neighborhood society into a self-destructive one. This power, ably documented by sociologists Oscar Newman and William Whyte, was thus abdicated to the mall developers. Accepting this power and wielding it responsibly is a key to New Urbanism's success. Skeptics should study the astounding turnarounds of the U.S. Department of Housing and Urban Development's (HUD) housing in Diggs Town, Norfolk, Virginia, retrofitted by Ray Gindroz. These are successful field tests of the HUD's *Principles for Designing and Planning Homeownership Zones*, commissioned from the Congress of the New Urbanism (CNU) by former Secretary Henry Cisneros.

The fallacy of controls. Many architects find New Urbanism's widespread use of codes noxious, even fascist. Yet codes are categorically democratic, in the sense that the rule of law and orderly processes are as essential as the vote. To a New Urbanist, codes are necessary because architectural harmony allows *mixed use* to be acceptable. When buildings share a common vernacular, it is possible to integrate them in great variety: Apartment buildings, offices, and shops can be adjacent without raising hackles.

In addition to establishing a shared syntax, New Urbanism's codes limit the expressive range of some buildings. Only civic buildings are uncoded in New Urbanist practice. The modicum of visual silence required of the private buildings that constitute the urban fabric allows the public buildings to be noticed. They are encouraged to express the aspirations of the institutions they embody and the cre-

ative intent of their designers. The need for this dialectic is evident if one were to imagine Frank Gehry's Guggenheim Bilbao framed, not by the existing avenue of self-effacing buildings, but by the hyperactive work of his followers. It would be a ridiculous scene.

The ethical fallacy. There is a fundamental difference between a critical architecture and an architecture of reform. Critical design clarifies or expresses a condition. But New Urbanism has an ethic, put forth in its charter. There are important problems of environmental degradation and social equity that inform the New Urbanist position. Take for example the new drive-through restaurant by Machado and Silvetti (*Architecture*, May 1998, pages 104-107). At no time was it noted in the article that, for something as ordinary as lunch, this typology requires access to a car. Never mind that a car is an environmentally noxious device, or that this restaurant is intrinsically inaccessible to that 50% of the American population that is unable to drive. This class-based segregation should be at least as repugnant to critics as a building that is inaccessible to the disabled would be. The critical apparatus is attuned only to the esthetic of the object, missing its potentially negative social or ecological implications.

The fallacy of governance. The notion of "private government," a brilliantly conceived term of accusation, is laden with irony and paranoia. The implication is that New Urbanist communities, by being so administered, are permitted to withdraw from the travails of the Republic. There are actually over 160,000 such associations in the United States, ranging from the co-ops of urban apartment buildings to the tough new improvement districts of New York City.

New Urbanists take these governments seriously. Communities such as Kentlands, Maryland, are equipped with association documents that foster a sophisticated participatory democracy. They include not only the vote, but the possibility of individual leadership, and provide avenues to appeal decisions. Such associations can be more fair and more responsive than the incompetent bureaucracies and tyrannical politics of many municipal governments.

The elitist fallacy. Minorities are living in New Urbanist communities, but it would take more than behavioral science to affect the integrated resettlement demanded by some critics. A more realistic discussion would acknowledge that ethnic groups prefer to live with their own kind. One can encourage all types of minorities to live in any New Urbanist community, but only a Stalinist would hold this as an attainable ideal.

The accusation that many New Urbanist communities are more expensive is true, but this is not intrinsic. While they do not necessarily cost more to build, they do usually sell for more. Laws of supply and demand drive up the prices of commodities that are better and scarce.

The common suggestion that the resale price of affordable housing must be controlled is unfair. Why should the poor not reap the benefit of an investment as the wealthy do without limit? The only permanent solution to the problem of high value is to make New Urbanist communities common. Only then will the pressure on prices be relieved.

The fallacy of nostalgia. Architectural criticism seems unable to discern anything beyond the surface of form. What could be more modern than the current nationwide industrial-distribution complex that delivers building elements as an open prefabrication system? How does one compare the archaic, elitist, painstaking drawing to create a single building, when New Urbanism has hundreds of sets of construction documents ready for overnight delivery? These buildings are good,

typical housing available for less than one-hundredth the cost of the current master's fee. The architecture of New Urbanism is well suited to Sigfried Giedion's "problem of large numbers"—one of Modernism's constituent facts. The fussy arts-and-crafts tectonics of the current avant-garde are more Luddite than John Ruskin was in his time.

What is Krieger's proposal other than refurbishment and preservation? Where is anything remotely as challenging as the syncretic New Urbanist proposal that Krieger describes sardonically as "the best of everything"? Why should the human environment settle for less?

Krieger is right, we are allergic to nostalgia. The CNU is prepared to engage the mass culture of the American middle class and damn the kitsch. It is learning the brutally modern techniques of marketing, communication, and financing. The only thing nostalgic about the CNU is the holding of principles and nurturing of the possibility of attaining them.

The fallacy of style. At the heart of the academy's contempt for New Urbanism is what Krieger calls its "retrograde" architectural syntax. But this variable is not under the control of New Urbanists. It is the consumer's choice—the determinant of a mass-produced product's design, exercised through selective purchase. There is a common confusion among critics regarding the housing consumer. There are actually four classes: the patron, the client, the customer, and the victim.

The patron is the architectural sophisticate who knowingly commissions a building as a work of art. The second type of consumer is the client, who is not so much sophisticated as savvy by making himself available for contact with architects during the design process. The client underwrites most of the decent buildings in America.

Third is the customer, the most common consumer, and the stock-in-trade of New Urbanism. The customer has no contact with the designer. She (usually) arrives at a decision to purchase housing in a state of innocence at best. Only lightly attuned to the rigors of architecture, a customer is vulnerable to kitsch, and since this option is usually provided competitively somewhere in the vicinity, it drives out serious architecture. The fourth kind of consumer is the victim, the one with no choice in housing. Due to limited income or a very tight housing market, the victim will accept good or bad housing.

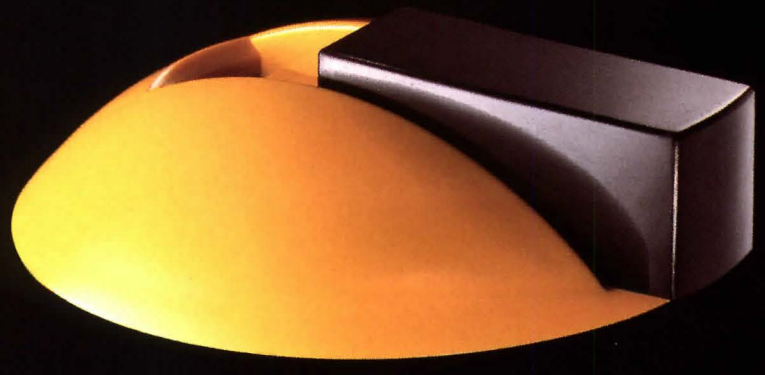
The patron, the client, and at times the victim are the consumers of decent architecture, but New Urbanist practice, being by definition about mass housing, must take on the difficult and problematic customer. The language of traditional architecture integrally communicates to the increasingly assertive democracy of the marketplace. That this vernacular must still be studied regionally, be made energy-efficient and liberated from kitsch, the CNU is preparing to affect.

Perhaps the most remarkable aspect of the criticisms raised by the academy is that they hardly coincide with the economic, security, and other concerns typically evinced by the development industry, a group no less opposed to New Urbanism. Since the real power lies on the side of the developers, why should the CNU even bother to engage the academy in debate? There would be no reason to do so were the academy not so overtly plying its students with its ill disposition towards New Urbanism. In doing so, they actively cull design talent away from some of the most important issues of our time. This must not continue unchallenged. *Andres Duany*

Andres Duany is a founder of the Congress of the New Urbanism, and principal of Duany Plater-Zyberk & Company. This text is available in full at www.dpz.com.

Part No.
625 A

Part No.
625 B



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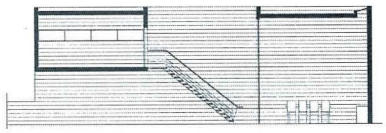
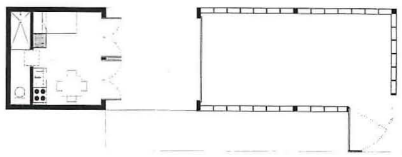
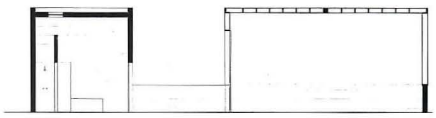
Cottage 1 first- and second-floor plan



Cottage 1 north-south section

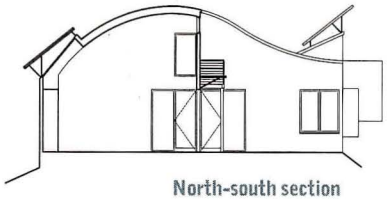


Cottage 2 plan

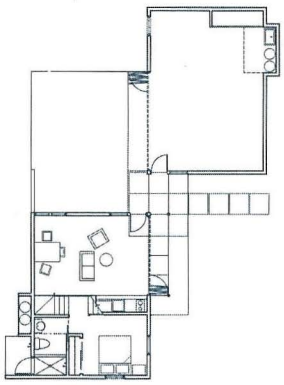


Cottage 2 east-west section

1 JIM JENNINGS ARCHITECTURE
with Czeslaw Milosz and Richard Serra

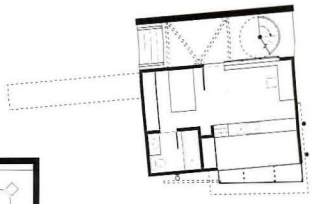


North-south section

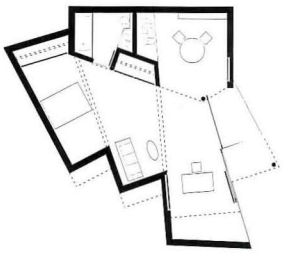


Plan

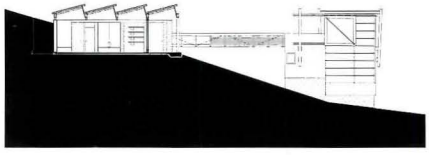
2 ADÈLE NAUDÉ SANTOS AND ASSOCIATES
with Doug Hollis



Sister Suzie plan



Death in Venice plan



North-south section/west elevation

3 HODGETTS + FUNG DESIGN ASSOCIATES
with Lee Breuer

An Orchard for Artists
Villa Montalvo
Saratoga, California

Since its founding in 1942, Villa Montalvo, a private artist-residency program, has been housed in a turn-of-the-century Mediterranean villa in the mountains above Silicon Valley. The program offers one- to three-month residencies on its 175-acre campus, which includes a performing arts center, a contemporary art museum, a redwood grove, a National Audubon Society bird sanctuary, and miles of nature trails.

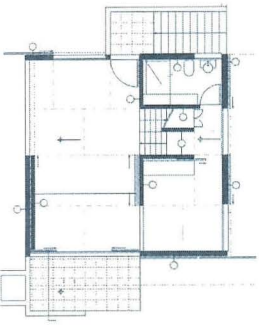
But in the early 1990s, close quarters between the artists' residences and the very public (and very noisy) concert and function halls effected the board of trustees' decision to expand Montalvo's residential quarters in the form of several small outbuildings. They hired Donald Stastny of Portland, Oregon-based StastnyBrun Architects to oversee their vision for expansion.

As a result, earlier this year the board invited five architects—Hodgetts + Fung Design Associates of Santa Monica, California; Venice, California-based Mack Architects; and Jim Jennings Architecture, Adèle Naudé Santos and Associates, and Solomon Inc., all of San Francisco—to design the new outbuildings in collaboration with an allied artist of their choosing. (Approximately 40 percent of Montalvo's residents are artists; another 40 percent are writers; the remainder are musicians.)

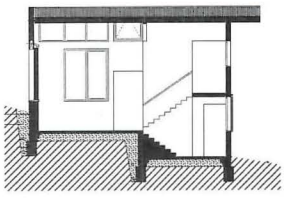
The program's name, "An Orchard for Artists," refers to the 5-acre sloping site's former life as a plum orchard. Each artist-architect team produced a pair of cottages, most of which are single-story structures of about 1,000 square feet. (Catherine Funk, the residency program's director, admits that 10 architects would be too many cooks.) The brief called for a living-sleeping area with kitchenette and a separate studio space using sustainable building products and techniques.

Jim Jennings created two cottages that contrast levels of permeability. Although similar in plan, the bunkerish writer's cottage he created with 1980 Nobel Prize-winning poet Czeslaw Milosz has windowless living and working areas and an open central courtyard, while Jennings and sculptor Richard Serra sheathed and roofed the studio of an

Cottages 1 and 2 perspective

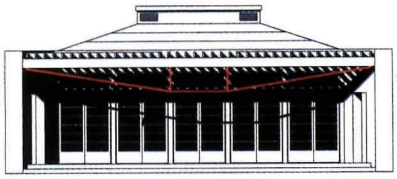


Cottage 1 plan

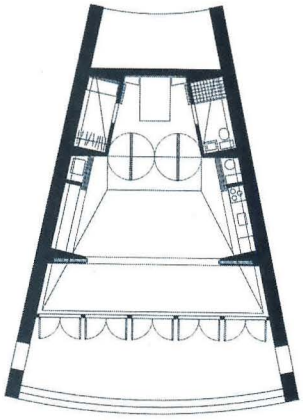


Cottage 1 north-south section

4 MACK ARCHITECTS
with David Ireland

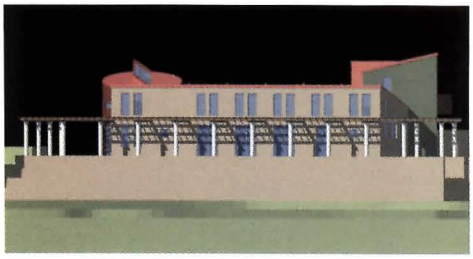


East elevation

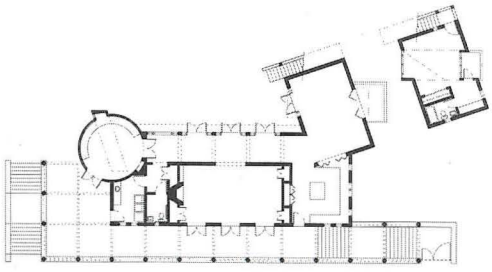


Plan

5 SOLOMON INC.
with Nellie King Solomon and Patrick Gleeson

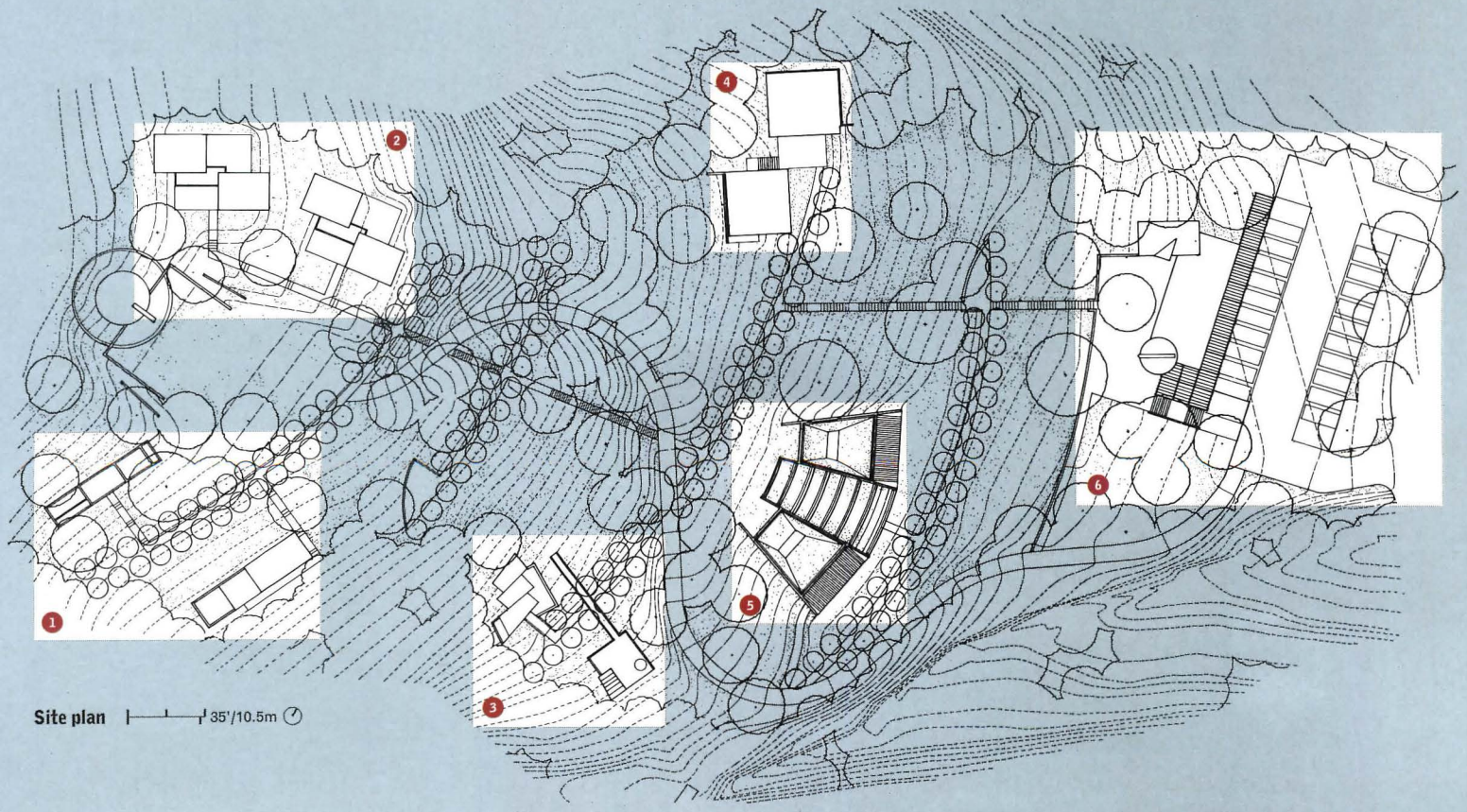


East elevation



Plan

6 STASTNYBRUN ARCHITECTS
with Ted Savinar



Site plan 35'/10.5m

artist's cottage in translucent polycarbonate panels to bring in daylight.

Adèle Naudé Santos and artist Doug Hollis separated the living and working functions of their artists' cottages, creating a four-square of building and terrace. Undulated rooflines echo the surrounding mountains. When open, glass folding doors on the central elevations of the disparate live and work spaces dissolve the division between the catercorner volumes.

Inspired by New York City playwright Lee Breuer's *Death in Venice* and *Sister Suzie Cinema*, Breuer and architects Craig Hodgetts and Hsin-Ming Fung crafted writers' cottages that are connected by a steel-framed bridge. The overlapping corrugated aluminum roofs of Death in Venice denote its four-pronged program—sleeping, living, working, and eating. Sister Suzie, a plywood-paneled cube, features a rooftop aerie and a lower-level live-work space.

Mark Mack teamed with conceptual artist David Ireland to pair two orthogonal, corrugated metal-clad volumes: One uses a central stair to string together the three half-floors of a sunken living area, a floor-through studio space, and a sleeping loft; the other, a single-story cottage with disabled access, negotiates the site's grade on stilts.

Dan Solomon, working with his daughter, artist Nellie King Solomon, and composer Patrick Gleeson (who scored the 1979 film *Apocalypse Now*), designed identical trapezoidal cottages for musicians. The concrete block, stucco-clad structures feature sod roofs and nestle into the site's slope for soundproofing. A 39-foot-wide trellised porch tapers into a 900-square-foot live-work area (large enough for a baby grand piano) and a small wedge-shaped bedroom, which are separated by pivoting partitions.

To prevent residents from becoming too isolated, Stastny and artist Ted Savinar anchored the cottages with a 2,500-square-foot commons building that consolidates such domestic functions as a laundry, a kitchen, a dining room, and a large trellised porch. Landscape architect Marta Fry and Associates winds a meandering path and meticulous plantings through the orchard to create not-so-direct links among the cottages. The cottages will begin construction next summer; Funk hopes to welcome the cabins' first guests in July 2000. *Michael J. O'Connor*

Villa Montalvo's landscape architect, Marta Fry and Associates, completed studies (facing page, from top to bottom) that describes cottages' interrelationship, tree and shrub placement, and location of path that winds among residences.

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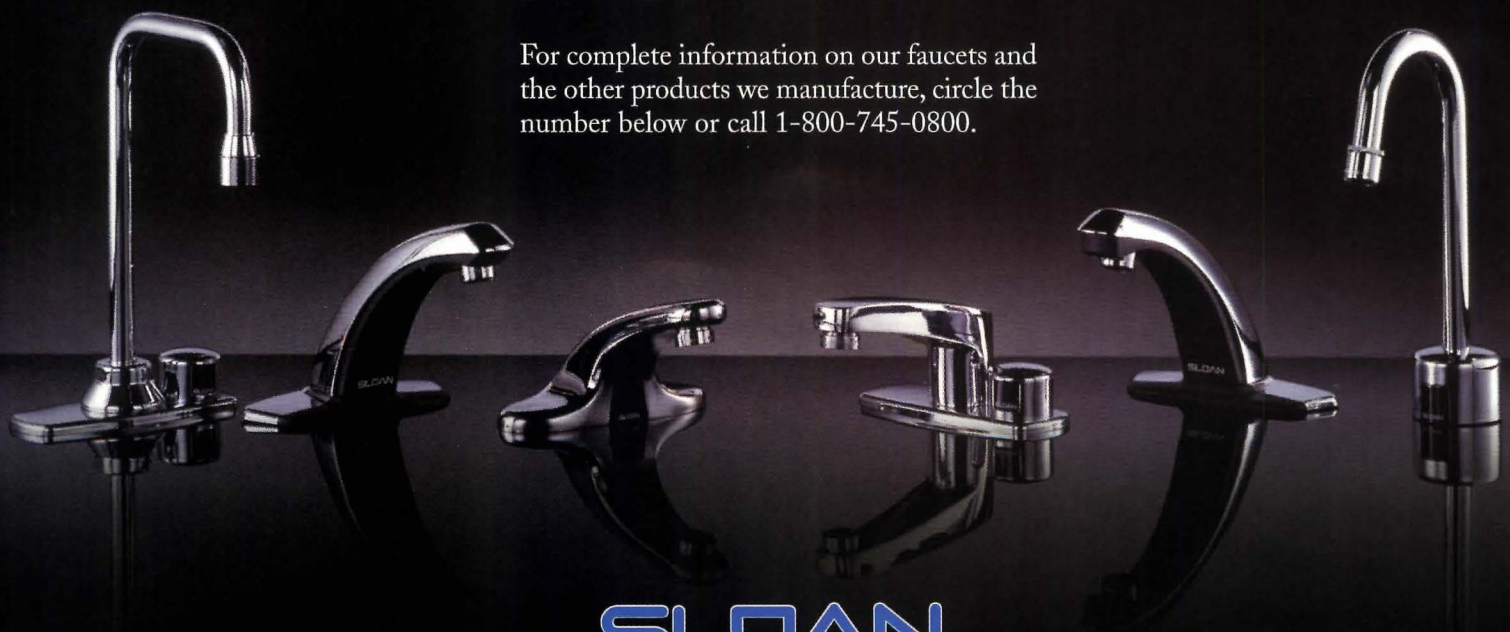

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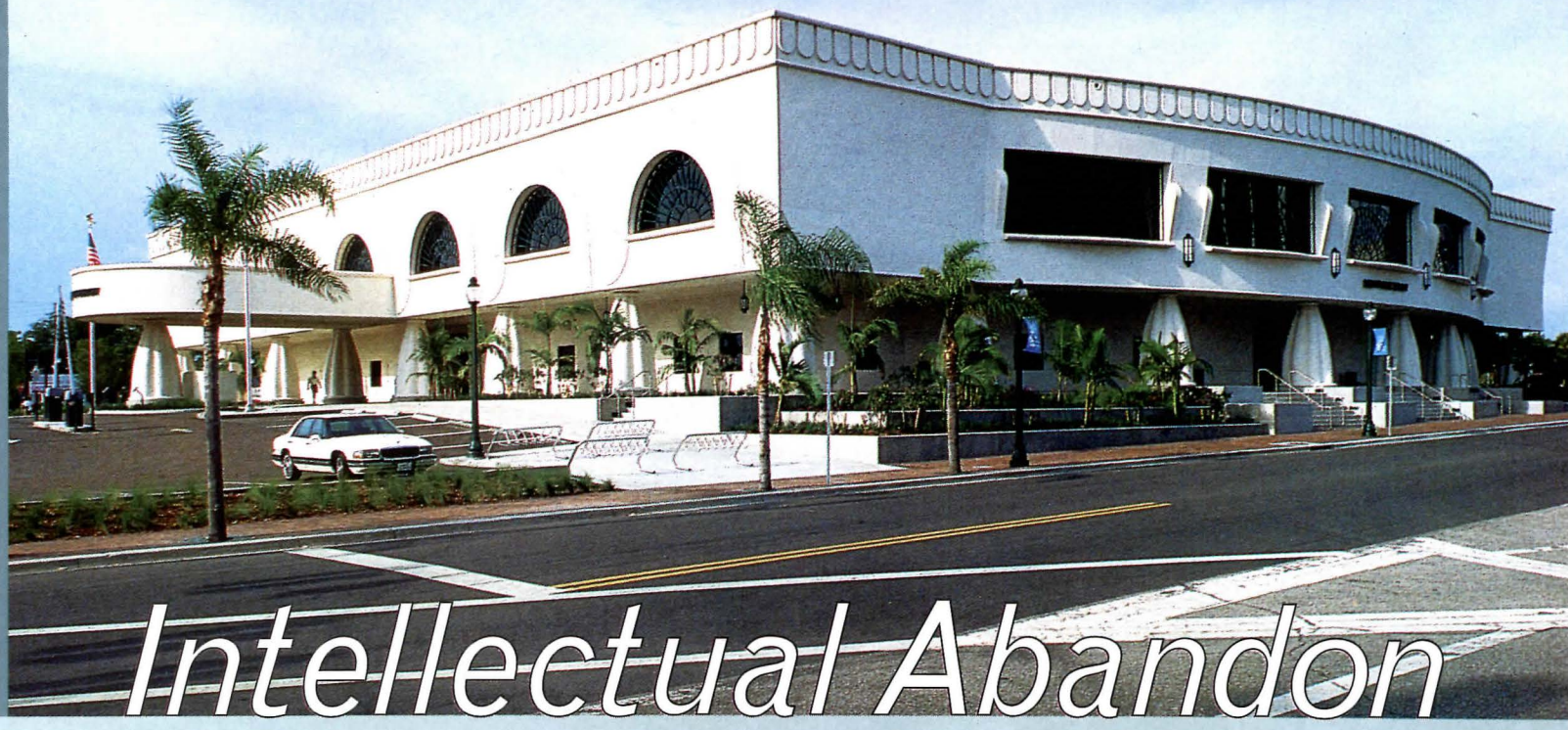

Intellectual Abandon

Sarasota, Florida's new public library is a missed opportunity at best.

Walter Benjamin, the late cultural critic of modernity, characterized a missed opportunity as a "catastrophe." Architecturally speaking, the Selby Library in Sarasota, Florida, designed by Pierce Goodwin Alexander & Linville with Gary Hoyt Architects, is the poster child for missed opportunity; its catastrophic design leaves no stone unturned in the abandonment of intellectual rigor and formal invention. The library's architecture offers nothing but a tragic roster of ignored potentialities to its would-be Sarasota audience—crowds of cybersurfing children; adults seeking alternatives to another, beachfront culture; and seniors drawn to the public realm for conversation and spectatorship.

The library's ostensibly traditionalist designers seem oddly fascinated by the current prevalence of biological metaphors in design. The architect grafts interior walls that resemble writhing, shedding skin, and that serve no fathomable architectural purpose, onto a quasi-Beaux-Arts centralized plan. The extensive shelving (a logical spatial ally in library design) lacks any particular organizational sensibility, and leaves sitting and study areas to fall where they may, like rejected organs. A choker of overscaled, funereal torchères that surround the central atrium provides, however grimly, the sole instance of architectural detail.

The library's exterior is even less successful. A monolithic upper floor, festooned with appliqué tongues and caged lunettes, squats atop the building's formal tour de force—a colonnade. Ever wonder what progeny would result if a gourd mated with a pineapple or a plunger crosspollinated with a Tuscan column? Wonder no more—Selby delivers. If Dr. Moreau needed a library prototype for his island home, this one would satisfy.

The architect makes no attempt to integrate the architecture with either its urban site or its landscape elements. (Perhaps

the gratuitous flora will prosper and one day creep up the library's exterior.) The Selby Library's streetside facade is developed to the neglect of its de facto public entrance facing the parking lot: an overhead architectural polyp upheld by a single ersatz column.

Benjamin termed the historic phenomenon wherein the status quo threatens to persist as the "critical moment." In this age, in which the value of architecture seems shunted from public consciousness, an important, architect-designed community building that can make one long for even the mediocrity of the status quo is a travesty. With this library, Sarasota—a city that at mid-century generated a landmark school involving such architects as Paul Rudolph and Ralph Twitchell—has forfeited the opportunity to move beyond the critical moment. *Paul Kariouk*

Paul Kariouk teaches architecture at the University of Florida in Gainesville, and is copartner in New York City-based The Office of Architecture Et Al.

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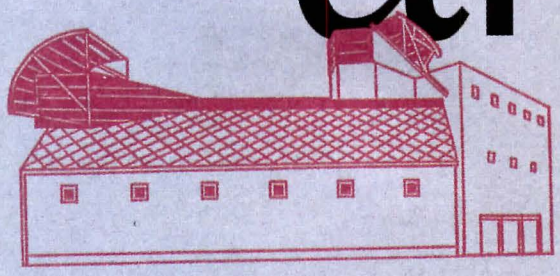
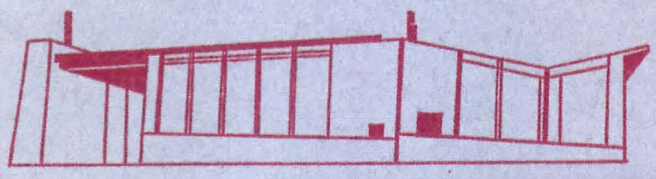


Rockhill and Associates



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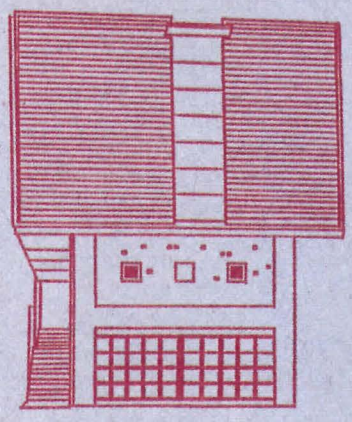
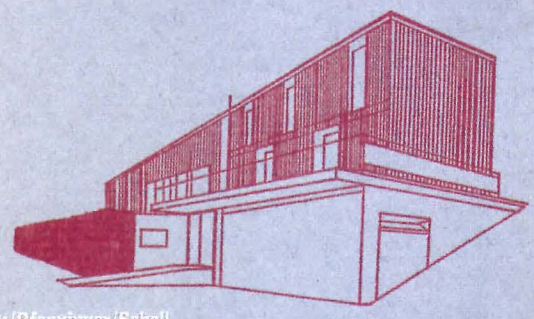
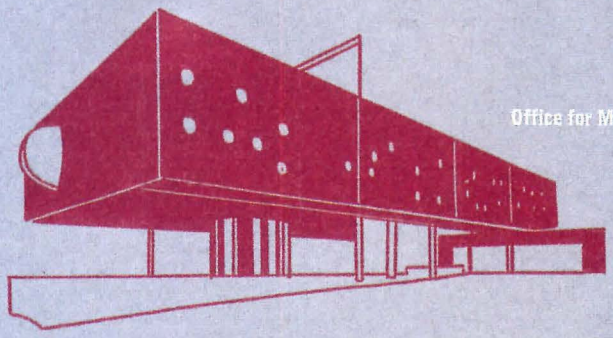


The Miller/Hull Partnership



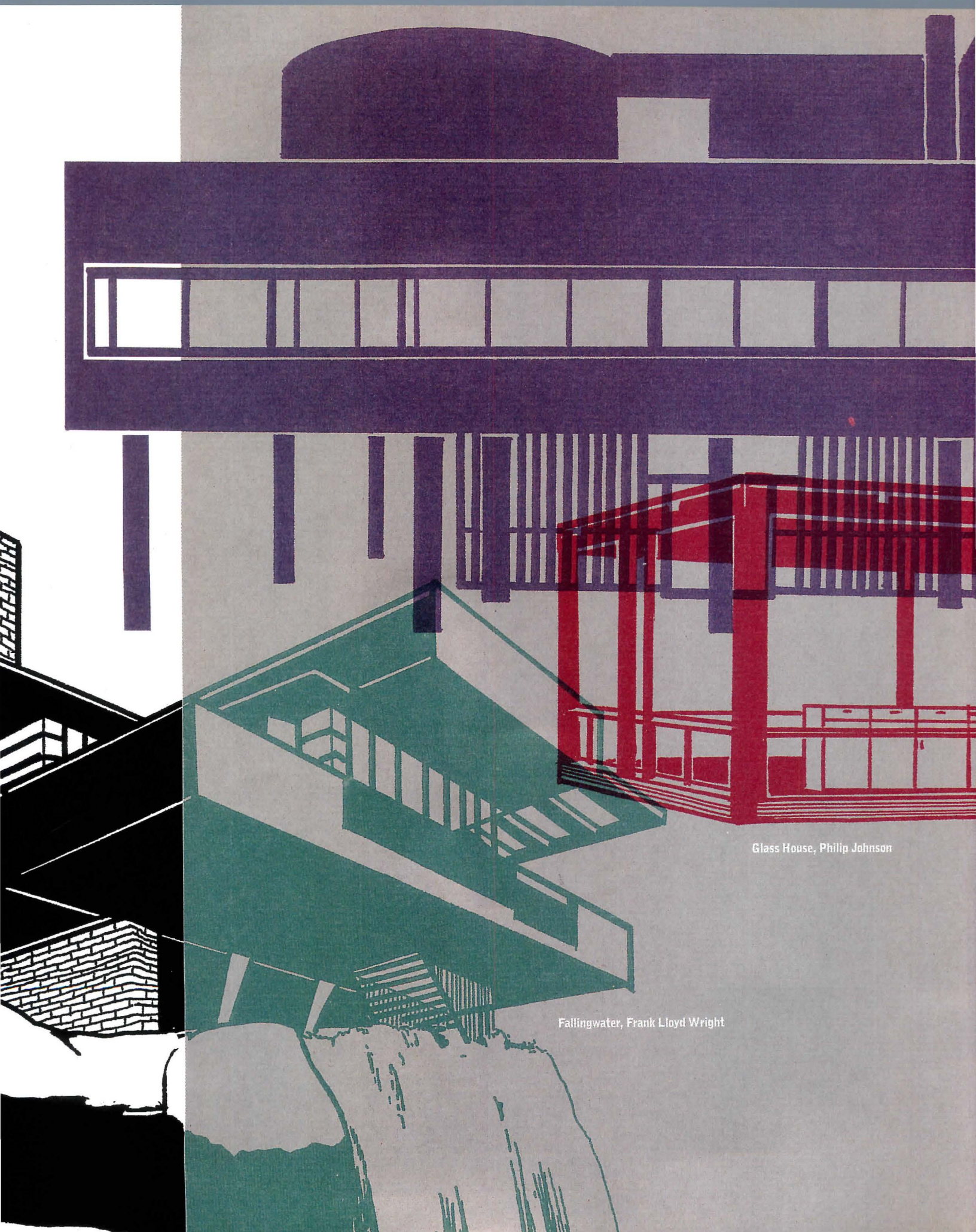
Angélil/Graham/Pfenninger/Scholl



Office for Metropolitan Architecture

HIROSHI TANABE

Making houses is the most fundamental expression of mankind's instinctive drive for shelter. Recognizing this, architects from Vitruvius to Le Corbusier have sought the origins, or future, of architecture in the essential components of residential construction. In this issue, contemporary practitioners continue that timeless quest with bold tectonic experiments: walls of rammed earth or enormous glass panes that border on the immaterial. Yet they are not concerned simply with the pragmatics of fabrication: In making houses, these architects create art by framing views of the desert or promoting spatial complexity. They affect places by settling a wooded island site or upsetting the conventions of a Kansas college town. And they define lives by accommodating growing families or an individual with special needs.



Glass House, Philip Johnson

Fallingwater, Frank Lloyd Wright

The littlest and most private works of architecture are often the most influential.
By Witold Rybczynski

Illustration by Hiroshi Tanabe

Villa Savoye, Le Corbusier

THE BIGGEST SMALL BUILDINGS

Vanna Venturi House, Robert Venturi

I LIVE IN THE Philadelphia neighborhood where Robert Venturi built a now-famous house for his mother. I occasionally pass the building on my morning walks. A long driveway leads down the narrow lot to the front facade, which is almost completely hidden by shrubs and trees in the summer, but is visible during the winter months. Whenever I stop and look, I remember the first time I was there, in the summer of 1965. This was only a year after the house was built, although I didn't know that then. Indeed, I had never heard of Robert Venturi. I was in Chestnut Hill to visit a house by Louis Kahn—already celebrated as the architect of the Richards Medical Building (1961). On the way I passed the Vanna Venturi house. It is chastening to admit that I did not give it a second glance. I was still an architecture student and I had been taught that proper architecture had white walls and flat roofs, not taupe gray walls and what looked suspiciously like a gabled roof. Little did I suspect that I was ignoring what Vincent Scully later would call "the biggest small building of the second half of the 20th century."

It is striking how many important works of early Modern architecture have been houses. The long list includes such masterpieces as Frank Lloyd Wright's quintessential Prairie house, the Robie House (1909); the Villa Savoye (1931), in which Le Corbusier introduced the chief elements of the International Style; Alvar Aalto's masterful Villa Mairea (1939); and Fallingwater (1936), unsurpassed in Wright's later oeuvre, and, after more than 60 years, still the best-known private building in America. The prosperous postwar period saw many innovative residences built in the United States. Ludwig Mies van der Rohe designed the Farnsworth House (1950) and Philip Johnson the Glass House (1949); Richard Neutra built the Kaufmann Desert House (1947), and Charles and Ray Eames built the influential Case Study House Number 8 (1949). Postmodernism, too, has had domestic landmarks, not only the Vanna Venturi House, but also Charles Moore's weekend cottage (1962) in Orinda, California, Richard Meier's Smith House (1967), Frank Gehry's own house (1979) in Santa Monica, and Peter Eisenman's House VI (1972).

There have been so many significant houses that it would be easy to compile a convincing history of 20th-century architecture illustrated solely by residences. There are several explanations: It is easier for a talented young architect to receive a small private commission than a large public one. And if a client is not forthcoming, a novice with time on his hands can strut his stuff by building his own home, as Johnson, the Eameses, Moore, and Gehry all did.

An architect who lacks the opportunity—or the means—to build for himself often has another recourse: mom and dad. Vanna Venturi's house is perhaps the most famous example of familial patronage, but there have been others. One of Le Corbusier's earliest built commissions was a small house (1925) for his parents beside Lake Geneva in Switzerland. That long, narrow plan influenced my first house (1969)—also for my parents—beside Lake Champlain in Vermont. Meier built his first large house (1965) for his parents, although not in the white neo-Corbusian style that would make him famous. Charles Gwathmey was still an architecture student when he built his first house (1967), for his father, a painter. The striking house and studio in Amagansett, Long Island, not only introduced Modern architecture to the Hamptons, but also launched Gwathmey on a prolific career as a designer of homes for the rich and famous.

A house, even a small one, is a more challenging design problem than a small shop or office. It incorporates sufficient spatial and programmatic complexity to serve convincingly as a miniature vehicle for a range of ideas. The transparency and structural rationalism of the Farnsworth House, for example, were architectural concepts that Mies would explore for the rest of his career. Moore's own barnlike cottage consisted of only one room, but it was a persuasive demonstration of how Modernism could be fused with traditional domestic and regional motifs, a theme that would reappear on a larger scale in the better-known Sea Ranch (1966). Finally, a house is always a house, a timeless problem against which a neophyte—or in the case of Fallingwater, a master—can take his measure.

During the Middle Ages and the Renaissance, architectural ideas developed slowly, through large public buildings such as cathedrals and churches. Modernism places a high value on the avant-garde. But if architecture is to be avant-garde it must be experimental, and if a building is truly experimental there will be a chance of failure. The problem is that most corporate and public clients are by nature conservative. Only a private individual—adventurous, or wealthy—will normally assume such a risk. Thus, as Aalto explained when he was designing the Villa Mairea: "It is possible to use the individual architectural case as a kind of experimental laboratory."

The motivation of the innovating architect is obvious, but I wonder about the client. What drives a

person to experiment with something as personal and lasting as a home? Is it a craving for notoriety? Is it social climbing, or merely thumbing one's nose at the establishment? Or is it the traditional desire to assume the role of patron of the arts? What attracted some clients to figures like Aalto and Wright, no doubt, and continues to bring clients to some of today's celebrity architects, was the desire to be associated, if only for a time, with greatness. The line between patron and groupie is a thin one.

Many avant-garde houses are second homes (the Villa Savoye, the Farnsworth House), or are inhabited by only one or two people (the Venturi House, the Glass House). In such circumstances functional requirements are greatly simplified. The need to deal with the clutter and confusion of family households is less onerous, and the designer is free to pursue esthetic concerns to the limit. As a consequence, the esthetic innovations in many of these houses have little to do with their function as dwellings. This may be why houses that are considered architectural milestones have not necessarily influenced domestic models for the general public.

Indeed, some distinctly bizarre houses have been elevated to the architectural pantheon, which puzzles—and alienates—the public. What is one to make of Eisenman's House VI, for example, with its upside-down staircase and unconventional (leaky) rooftop window? There are exceptions, though. The Robie House's open plan and horizontal lines inspired American homebuilders for decades. Fallingwater is much too unconventional to be influential, but the Neutra house in Palm Springs, California, that Pittsburgh retailer Edgar Kaufmann commissioned in 1946 became the prototype for several generations of sprawling, open (and heavily air-conditioned) southern California houses.

Do experimental houses make good homes? Many don't. The Farnsworth House lacks screen doors, and with only one small operable window it is oblivious to normal domestic well-being. A single, long kitchen counter is unsuitable for serious cooking; there is a guest bathroom, but no guest room. Since the walls are made of primavera wood it is impossible to hang pictures without defacing the elegant material (the present owner keeps his art in the bathroom). I have similar reservations about other experimental houses. The Savoye family must have become fatigued by continually ascending and descending the ramp and stairs of their home. Didn't the rigidity of the plan of Rudolf Schindler's groundbreaking reinforced-concrete Lovell Beach House (1926) feel confining? Doesn't one get tired of picking up after oneself in the pristine but antiseptic interiors of Meier's Smith House?

Vanna Venturi lived the last decade of her life in her home and is said to have loved it. Postmodernism received much criticism, yet its ability to blend styles and a variety of furnishings makes it amenable to the demands of everyday life. Aalto's beautiful Villa Mairea strikes me as comfortable and livable as well. So does the Robie house, although I could use more headroom. These last two have something else in common: Both are large family homes and the work of seasoned designers. By the time Aalto designed the Villa Mairea he had a decade of public work under his belt, including the extraordinary Tuberculosis Sanatorium (1933) in Paimio, Finland. Wright, an accomplished house designer when he undertook the Robie House, had already built the Larkin Building (1904) and Unity Temple (1906). Their experience shows.

Neutra never produced a public building as well-designed as any of his best houses; the Glass House remains Johnson's best work. Whether or not architectural experimentation produces good homes, I am not sure that it always produces better architects. Avant-garde houses tolerate—even demand—a degree of personal expression that is out of place in most buildings. I've always admired Moore's houses, but I find his quirky public buildings less compelling. When Meier amplifies and extends the architectural elements that infuse his houses with a retromodern charm into large buildings, the effect can be deadening, like listening to an endless Chopin étude. House experiments do not always translate well into larger civic buildings that are required to speak a different language, a common language that is understood by a large number of people. They are public, not personal, statements. This difference is something that architects such as Wright and Aalto understood instinctively. That is why they were able to design great public buildings as well as great houses, and great houses that were also good homes.

Witold Rybczynski is the Martin and Margy Meyerson Professor of Urbanism at the University of Pennsylvania.

KANSAS COMBINE

01

To visit the workshop in Dan Rockhill's backyard is to see drawings give way to built form. This is where Rockhill and his small crew of architects and interns become steel welders, cabinetmakers, window fabricators, salvage artists, and auto repairmen. The shop, where they build pieces that they will install on their job sites, is home to a fleet of four rebuilt trucks, including a 1952 Chevrolet, clad in recycled stainless steel toilet partitions with fenders fashioned from soap dispensers. The crew drives the Chevrolet to construction sites across Kansas and is just as likely to

Dan Rockhill's inventive architecture has rural inspiration—and urban sophistication.

By Philip Arcidi

Rooftop observatory of Epard/Porsch house (previous pages, left) is covered by zinc louvers on steel frame that rolls by means of boat winch. Gabled facade with front door (previous pages, right) flanks observation tower. Ridge of gable leads to second awning, at far end of house. Seen from distance (opposite page, top right), house is reticent yet looming presence on suburban street. At close range (opposite page, right), three parts of house—gabled structure, tower, and cube—comprise stark and weighty image. On garden side (opposite page, far right), house appears as composite of metal and glass affixed to rambling stone structure. Screened porch at master bedroom (opposite page, bottom right) hangs over second-floor deck. Lap pool (opposite page, bottom far right) and yet-to-be-cultivated garden sit beneath retaining walls that ensure privacy.

embark upon historic preservation as new construction. Over the past 10 years, local newspapers have applauded Rockhill and Associates' meticulous restorations, and maligned the firm's contemporary work with equal fervor. The press, and much of the public in Lawrence, Kansas, does not see that Rockhill's new houses, each a hybrid of metal armature and simple volumes, are intelligent responses to Kansas's inspirational farm machinery.

Marc Epard and Kathy Porsch, who commissioned Rockhill and Associates' most recent work, trusted the architect's sensibilities, and let him construct his most comprehensive vision of a structure grafted with machine parts. The house, completed this summer in Lawrence, is an assembly of three Kansas limestone-clad parts: a one-and-a-half-story gabled structure sited obliquely in front of a three-floor, flat-roofed cube, with a four-floor tower in between. A movable metal awning crowns the tower, where the residents, a couple without children, can survey the landscape by day and mount their telescope for celestial views after dark.

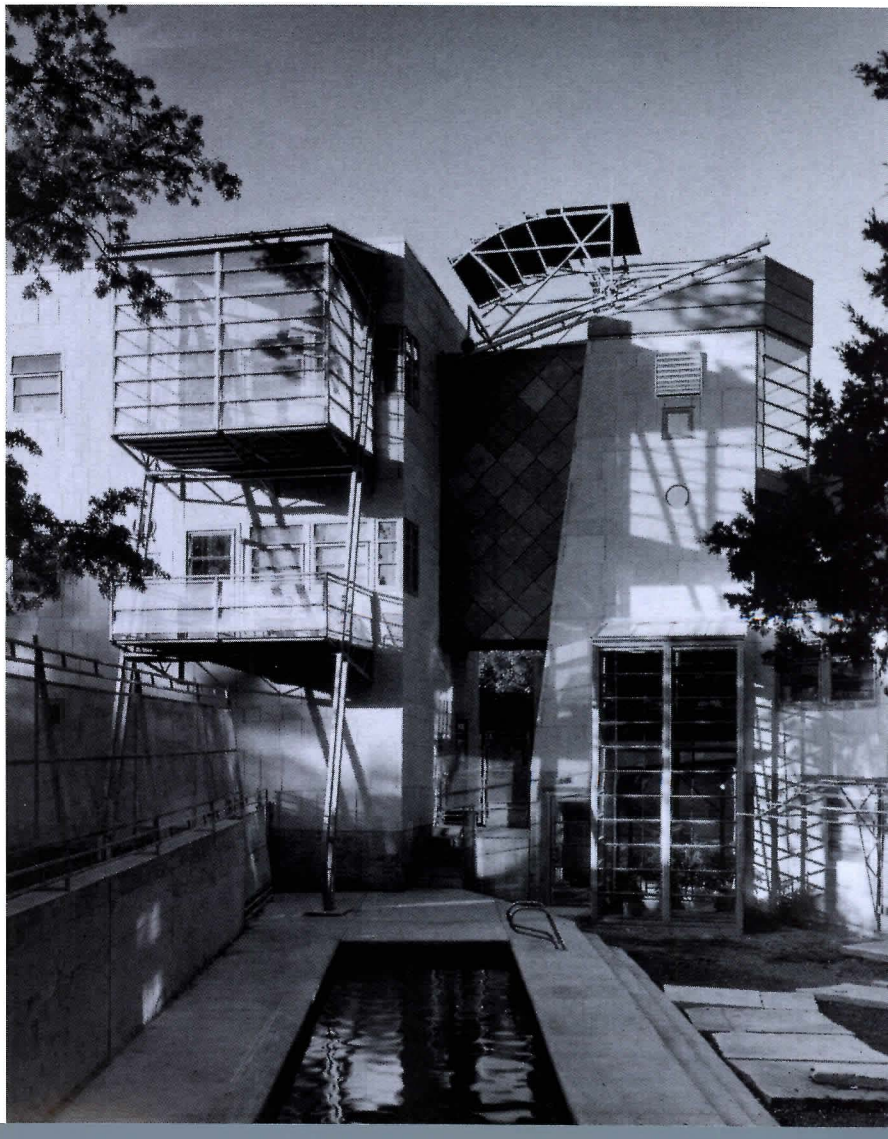
A similar fixed awning, mounted on zinc panels that surmount the sloped roof, straddles the ridge-roofed building. This canopy shades the library, a narrow, atticlike passage. Lined with glass walls and bookshelves, it is tucked above the house's contiguous living and kitchen areas, and it literally overshadows the largest space in the residence. Upon opening the front door, on the gable end, visitors encounter a ponderous steel contraption overhead. It leads to the library with a folding stair, a heroic, if labored, processional route: Guests are invited to pull the stair down with a rope and pulleys (the owners usually climb a built-in ladder nearby). A bibliophile's tiny hideaway is an underwhelming terminus for the monumental stair, a tour de force of steel construction that, when lowered to the floor, occupies half of the living area.

The kitchen and bathroom that comprise the balance of the gabled enclosure offer smaller-scale evidence of Rockhill's fascination and finesse with metal, wood, and glass assembly. He and David Sain, his associate of 10 years, designed and built an ensemble of elegant cabinets that hang from the white plaster walls on triangulated steel supports. The bathroom occupies a concrete core structure that supports the library; its door is a panel of glass shingles on a rolling steel frame. Like the library stair, it is an industrial-strength work of design—handsome, yet more weighty and elaborate than its function mandates.

There is nothing lightweight about the house: the perimeter walls, 12 inches thick, enclose chambers, rather than a freely-flowing interior. The four-story stair in the tower links the pitched-roof structure with the couple's quarters in the cubic volume. It reiterates, a bit more sparingly, the folding stair's welded-steel frame, and rises two levels to an exercise room and a study beneath a bedroom and a second study. A metal hatch at the top of the stairs opens to the rooftop deck with the movable awning.

From this perch, the house looks like an assembly of metal armature on a masonry structure with deceptively ad hoc massing. The two wings of the house, which are pivoted around the tower, shelter the backyard, dominated by a 45-foot lap pool. The pool is visible from the front doorstep through the open base of the adjacent tower, but the yet-to-be-landscaped, walled garden (6 feet below grade, like the pool) feels as private as the glass-shelved library indoors. The house provides no generous threshold to the outdoors. The upper floors of the cube have a porch and a deck, and a two-floor greenhouse extends from the base of the tower, but only two basement doors open to the garden.

The clients wanted their house to be "a fortress against the world but open in the back." Here they can choose from a suite of retreats behind, within, and atop a stout masonry dwelling. It is a house that compels those within to slow down: The massive walls, like their affixed steel framework, lend weight to the interior, a place that equates modernity with strength and durability—like the farm machinery that inspired its architect.



SECTION AT GABLED EAST WALL

In order to create a thick-walled house, Rockhill and Associates clad heavy-gauge steel studs with 3 1/2-inch thick, self-supporting Kansas limestone. Roof tiles of Norwegian alta quartzite, used like slate, and a standing-seam zinc coffer, built like a giant ridge beam, make the roof appear as weighty as the walls.

Zinc, specified for its rich, gray color, is a soft metal that expands and contracts readily as temperatures fluctuate. It was carefully folded over metal studs, whose 1 1/2-inch depth provides air space to minimize dimensional instability in heat and cold. Two-inch round vents punctuate the vertical face of the zinc coffer, which encloses an ice shield on 1/2-inch particle board, layered on a 3 1/2-inch steel frame.

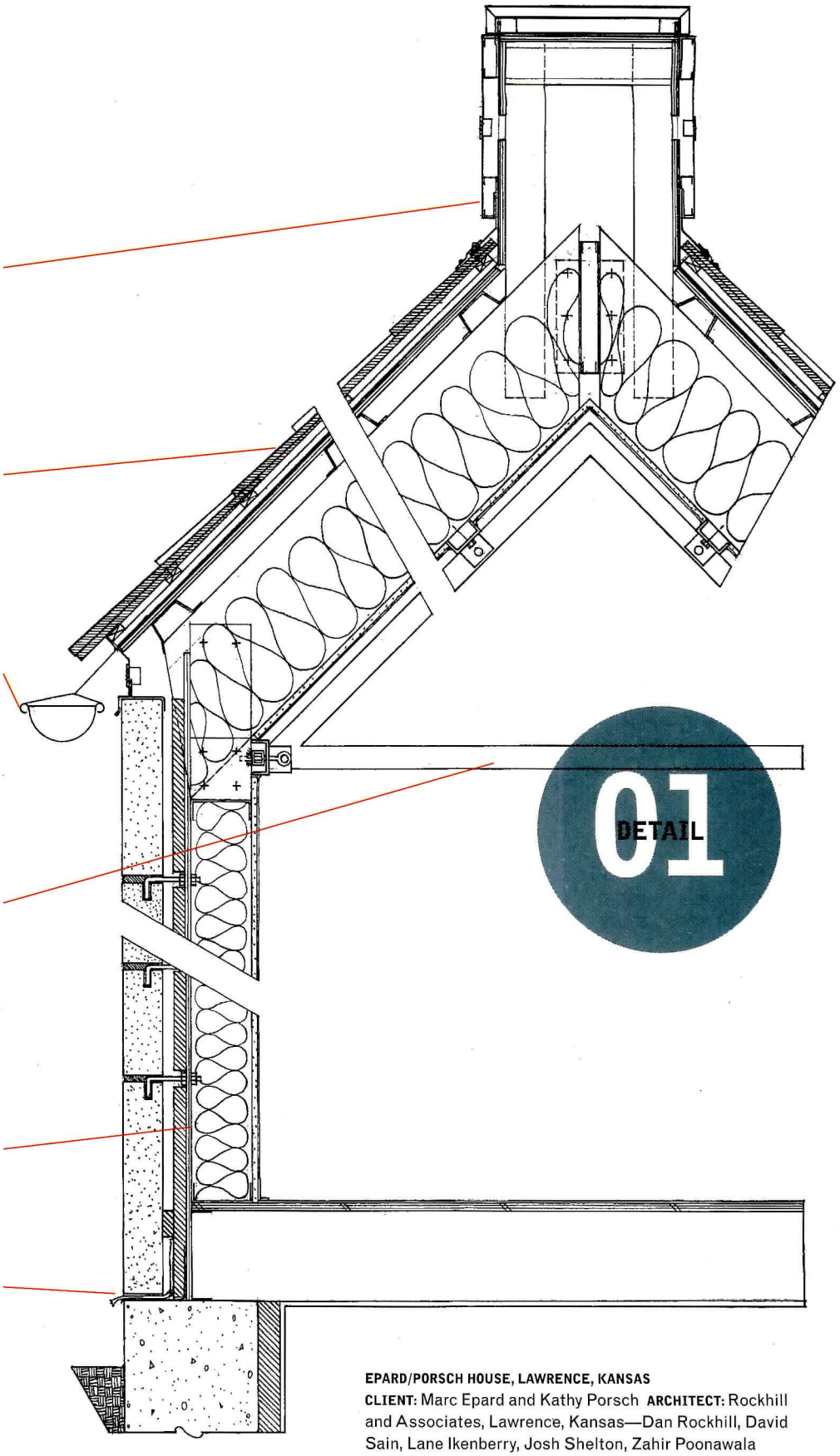
Roof shingles of alta quartzite, 21 inches square, are clipped to flashing beneath the zinc coffer. Shingles are nailed to two layers of 1 1/2-inch-by-3/4-inch purlins, set perpendicular, above the ice shield, 1/2-inch particle board, and 2-inch metal hat channels. R30 fiberglass insulation is set between 11 1/4-inch, 16-gauge steel rafters. Inside the roof is blue board with skim coat plaster.

A galvanized 5-inch, half-round steel gutter hangs at the eave of the roof, beneath a row of 2-inch round vents set in sheet metal flashing. Metal coping crowns the 3 1/2-inch thick limestone facade, built of stones as large as 30-by-36 inches. Each stone has two galvanized anchors at the top, bolted to 1/2-inch particle board. A 1-inch air cavity separates the limestone wall from a 1-inch pink board on particle board.

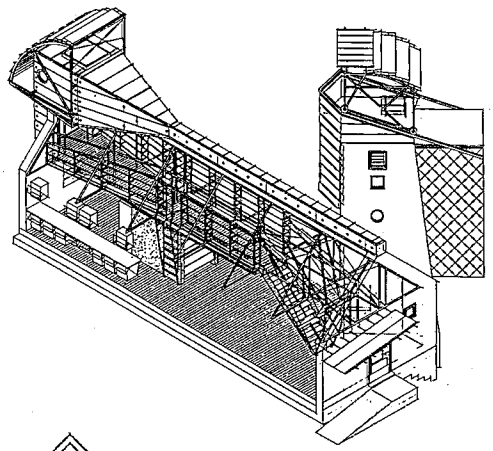
A 2-inch tube steel triangulated frame, which keeps the east and west walls from tilting outward and helps support the attic library, attaches to steel rafters and to a 3 1/2-inch-by-1 1/2-inch exposed steel channel welded to a 1 1/4-inch square steel tube, which is welded to the wall studs. In order to keep walls upright before the triangulated frame was installed, eye bolts were secured to the 1 1/4-inch square steel tube to anchor tension cables that spanned wall-to-wall.

The interior side of the particle board sheathing is lined with 15-pound black felt on 5 1/2-inch, 18-gauge steel studs lined with R19 fiberglass insulation. Blue board walls and skim coat plaster interior walls match the color and finish of the ceiling.

A rope wick in a foundation-height weep hole drains condensation in the wall cavity. A 1-inch thick block of pink board, lodged in the air space just above the wick, keeps it clean of mortar that dribbled when the crew set the limestone facade. Flashing at the base of the limestone cladding keeps water in the wall cavity off a 12-inch thick concrete foundation, lined inside with 2-inch pink board and blue board and skim coat plaster. A finish floor of Baltic birch panels, 1/8-inch thick, lays on top of a 3/4-inch plywood subfloor on 8-inch, 14-gauge steel joists.



EPARD/PORSCH HOUSE, LAWRENCE, KANSAS
CLIENT: Marc Epard and Kathy Porsch **ARCHITECT:** Rockhill and Associates, Lawrence, Kansas—Dan Rockhill, David Sain, Lane Ikenberry, Josh Shelton, Zahir Poonawala **ENGINEER:** Jones Kuehn Imhoff Engineering (stone) **GENERAL CONTRACTOR:** Rockhill and Associates **COST:** Withheld at owners' request **PHOTOGRAPHER:** Paul Bardagjy Photography



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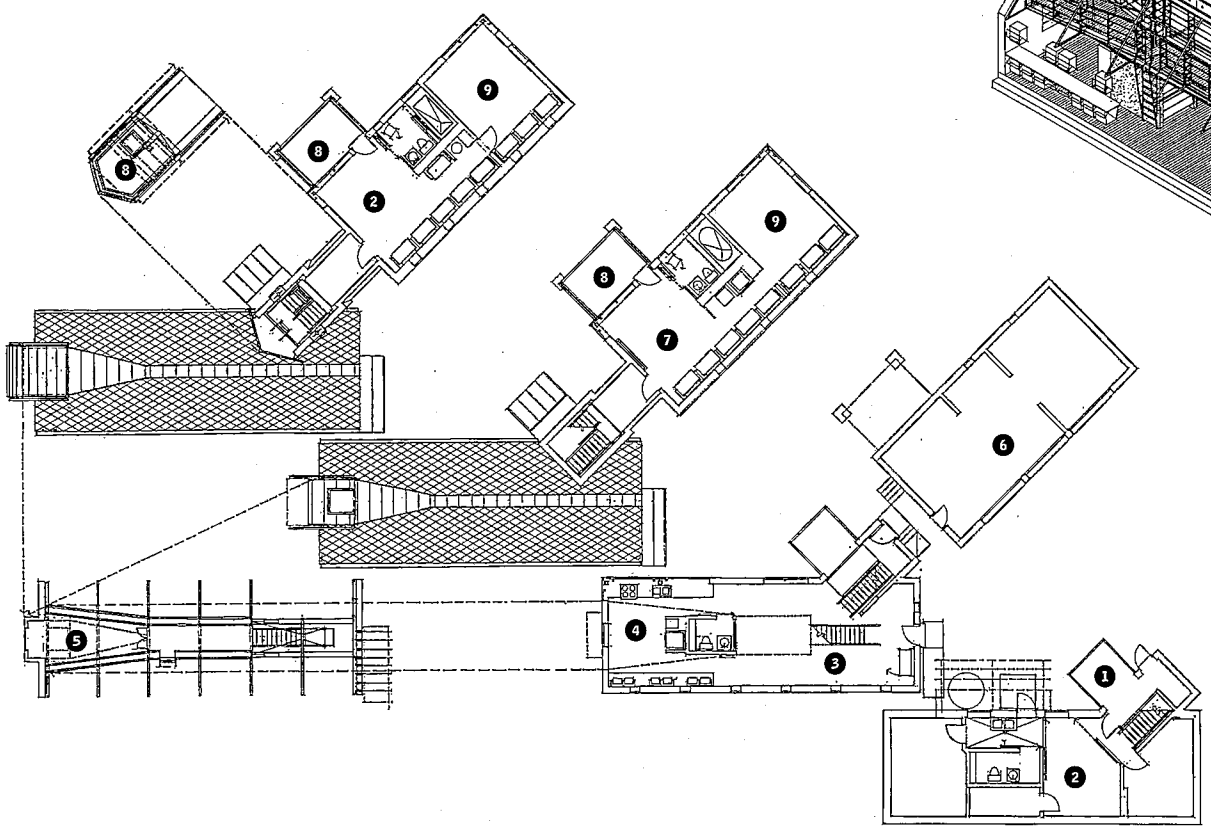
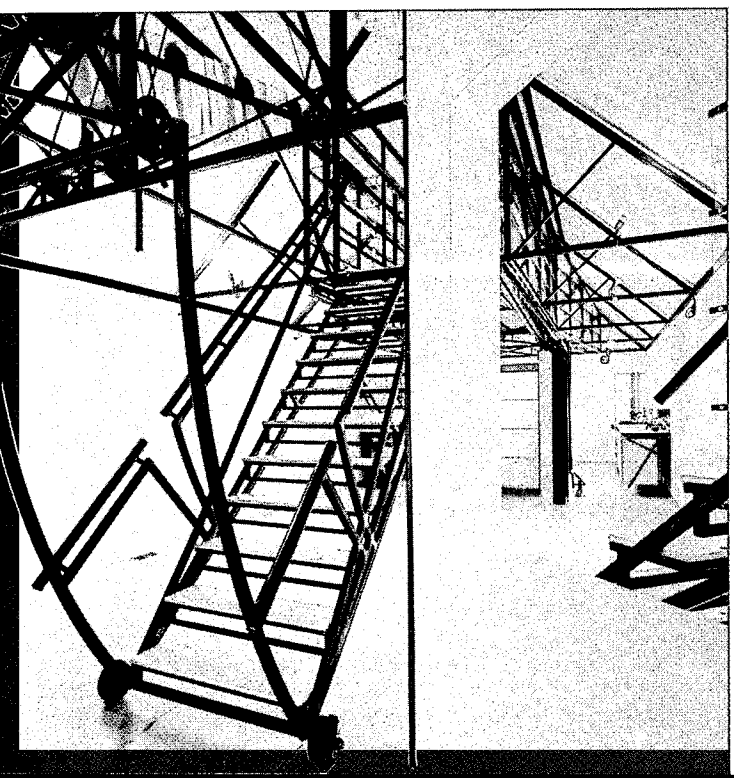


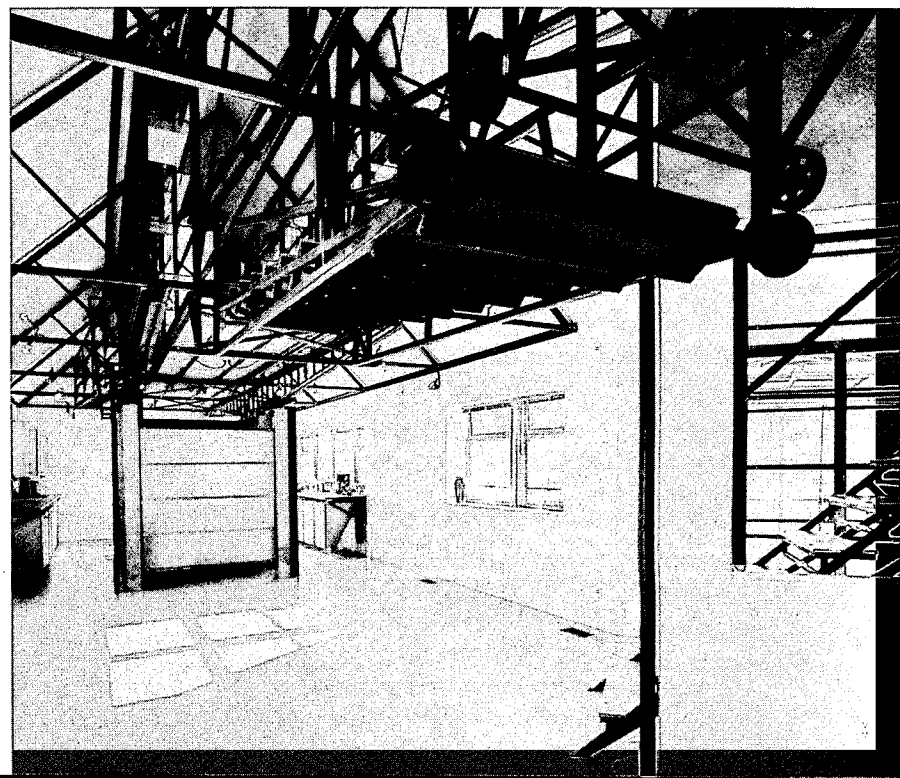
Floor plans, rooftop deck to basement (left to right)

15'/4.5m

1. greenhouse
2. bedroom
3. living room
4. kitchen
5. library
6. garage
7. exercise room
8. deck
9. office

On entering front door (below left), one can climb steel stair to glass-walled attic library. When stair is folded up (below right) 16-by-28-foot living room becomes sizable space beneath steel armature. Concrete island in background supports library, encloses bathroom, and contains appliances for kitchen at far end of interior.






PRECISION CRAFTED

An austere yet energetic house outside Zurich distills family living to its bare essentials. By Raul A. Barreneche

Seen from neighboring terrace, rear facade of Trüb House appears both solid and permeable, with tall, narrow windows and sliding glass doors alternating with larchwood strips. Open living and dining area at core of house separates children's wing (at right) from playroom and second-floor master suite (at left). Luminous moat of translucent glass between house and gravel patio washes up light from basement.

02

A Modern interloper is quietly disturbing the status quo in Horgen, Switzerland. Although it rubs shoulders with shuttered cottages and garish high-tech chalets in this affluent hillside suburb of Zurich, the Trüb House shrugs off its neighbors' Alpine nostalgia, capitalizing instead on the Swiss penchant for rationalism and ingenuity to stake out its place in the suburban landscape. Designed by Reto Pfenninger of Angélil/Graham/Pfenninger/Scholl (A/G/P/S), the Zurich outpost of Mark Angélil and Sarah Graham's Hollywood Hills studio, the strikingly simple house is rigid in its demeanor, yet flexible enough to grow with a young family.

The 5,000-square-foot house is really two buildings in one: A concrete box, bermed into the hillside, acts as a plinth for a wooden wedge wrapped in thin strips of larch and sliced top-to-bottom with narrow windows. The concrete base contains a small entrance vestibule at ground level, flanked by a large garage on one side and a vast rumpus room on the other. (A graceful, folded steel stair leads to the main living spaces one floor up.) The columnless rumpus room currently functions as both storage area and den.

The wood-framed wedge shelters a separate space for the parents and another area for their three small children; an airy, double-height living and dining area divides the two realms. For Pfenninger, these distinct areas constitute two dwellings in one: "a children's house and a parents' house." The children's wing comprises a suite of three identical bedrooms, each with a small sleeping loft to be used when their occupants grow up, and three diminutive bathrooms in a row. The parents' bedroom and study are secluded on the second floor, overlooking the living room. Directly beneath the master suite are an open kitchen and a playroom, which the owners will convert to a den or a more intimate dining area when the children are older. Space flows easily back and forth across the wedge-shaped house, but one always feels the polarized pull of distinct realms to opposite ends of the dwelling.

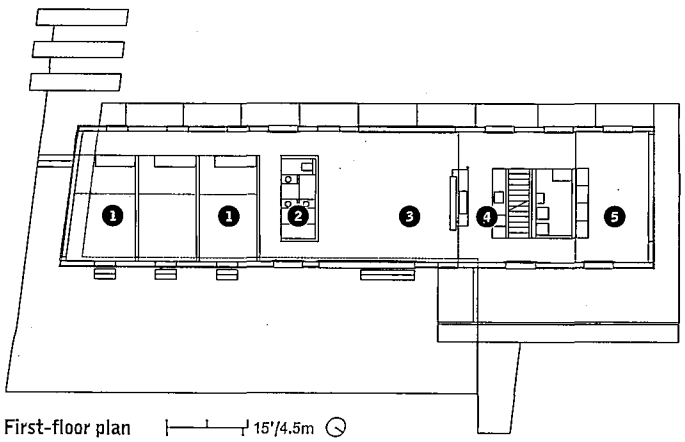
The Trüb House's exteriors are just as flexible as its interiors. On both sides of the building, Pfenninger detailed sections of the slatted larch cladding as movable screens that the owners can slide to shutter the large glazed windows and doors for privacy and security. When the owners draw the screens over the windows, the black wooden sheathing between the windows is exposed, creating a new rhythm of dark stripes. If they latch the shutters during the day, the house can look impenetrable, but the light that seeps through the wooden slats at night renders the enclosure delicate and latticelike.

The architect emphasizes the disjuncture between the house's two basic blocks by setting the wooden frame back from its concrete base and inserting a thin strip of glass into the ground along the rear edge of the house, essentially creating a flat skylight above the submerged rumpus room. This glazed moat sets the house afloat on the site, allowing light to wash up from the basement at night; sunlight that pours through the glass strip fills the rumpus room by day.

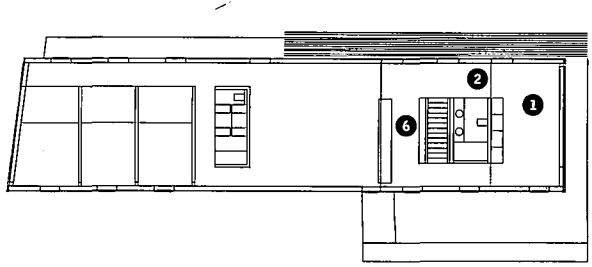
At the front of the house, Pfenninger transformed the earth displaced by burying the concrete box into a terraced lawn. Instead of building a concrete berm, he held back the earth with a grid of steel rebars, and seeded the exposed soil behind the metal cage with grass. The willowy, green wall surfaces are a cheeky, ironic gesture that look like flaps of lawn that have been wrapped over an invisible berm. This subtle interplay of landscape and building suggest a quieter counterpoint to earlier A/G/P/S houses, including a weekend residence in Topanga Canyon outside Los Angeles (*Architecture*, June 1996, pages 143-147) and, in particular, Angélil and Graham's own house and studio in the Hollywood Hills (*Architecture*, April 1994, pages 56-59). These buildings dig deep into their steep hillside sites with concrete plinths that support structurally expressive—and aggressive—Eamesian sheds. The Trüb House's concrete base, however, all but disappears into the terraced hillside, and the box above it remains starkly unassuming. Did the shift from the parched, unstable hillsides of Southern California to Zurich's rolling green foothills force the architects to rethink their attitude toward site? "We wanted to wrap the interior in a simple exterior form," explains Pfenninger. "We looked at the house as unrelated to the earth. It's like a rock sliding down the hill, not a mushroom coming out of the ground."

The Trüb House, then, is not so much a strange interloper as a wise new neighbor. Like A/G/P/S's earlier residences, the building is rational, orderly, and efficient, and relies on precise craft to exert a strong identity. Yet the architects softened its potentially jarring presence with site-savvy sleight of hand. More importantly, though, they crafted a house mutable enough to adapt to the changes and quirks of everyday life.

By stepping back from concrete base, wooden wedge of house seems to float above hillside site (facing page, top left). At night, owners slide slatted larchwood panels over windows, revealing strips of painted plywood sheathing and creating veiled, lanternlike look (facing page, top right). Concrete base and metal garage door create stern, solid plinth for house (facing page, bottom). Small, elevated lawns atop garage and grassy retaining wall overlook Lake Zurich.

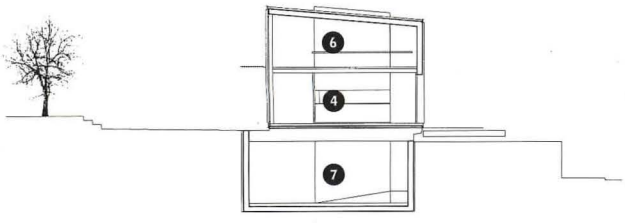


First-floor plan 15'/4.5m

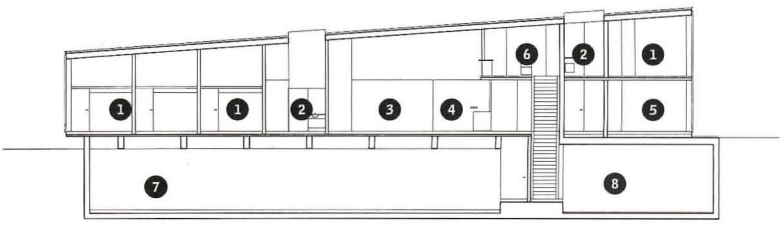


Second-floor plan

❶ bedroom ❷ bathroom ❸ living/dining room ❹ kitchen ❺ playroom ❻ study ❼ rumpus room ❽ garage



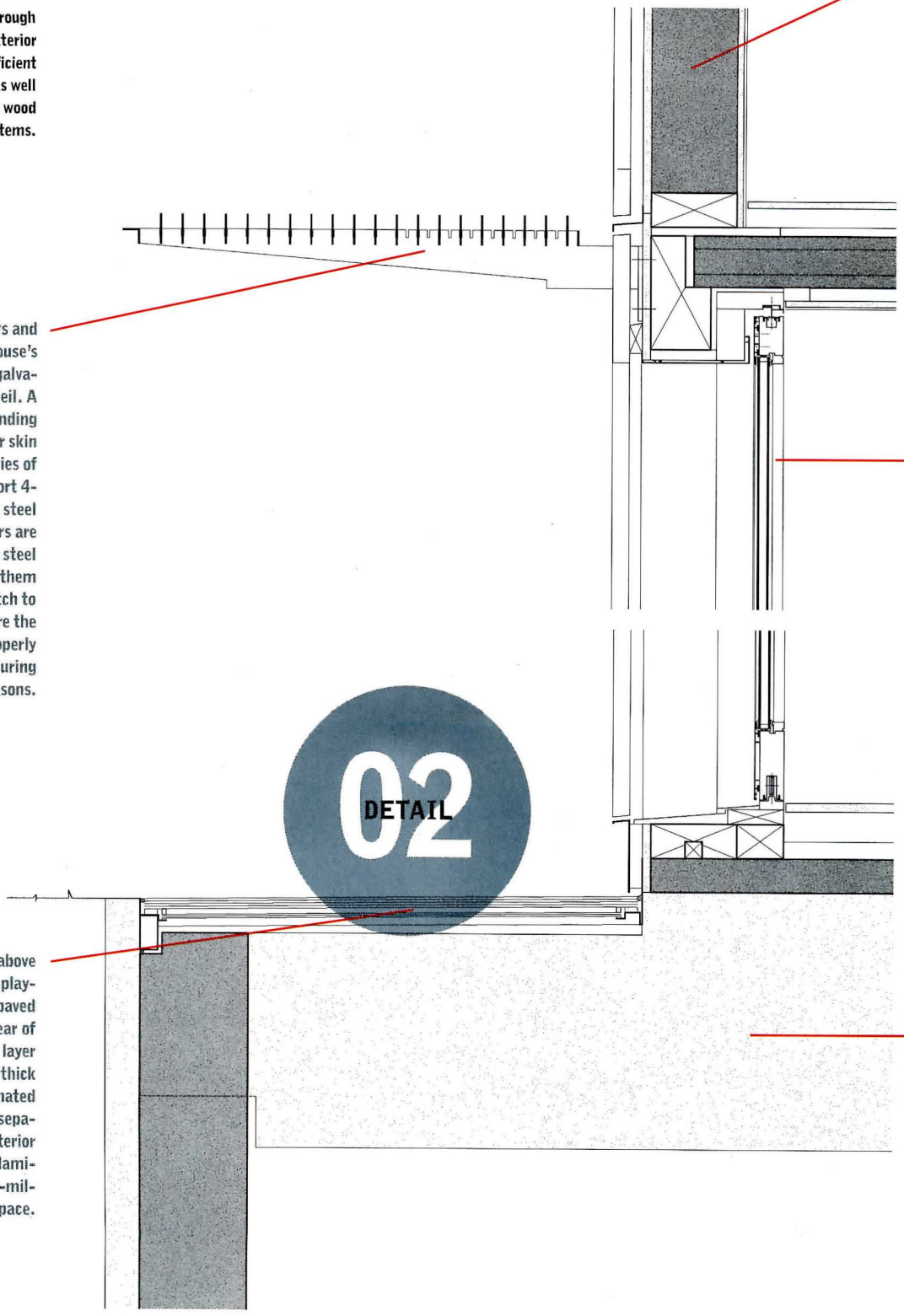
East-west section 20'/6m



North-south section

WALL SECTION AT SOUTH FACADE

A section through the south-facing exterior wall reveals its efficient construction, as well as the seam between wood and concrete systems.



The walls of the upper floors are prefabricated wood sandwich panels—a total of 30 in all—which were hoisted by crane onto the concrete base. At the core of each composite panel is a 200-millimeter-thick layer of recycled paper insulation, enclosed by painted plywood sheathing on the exterior surface and cement board on the interior. Windows and sliding glass doors were installed at the factory to minimize on-site construction.

Shading the windows and doors along the house's south facade is a galvanized steel brise-soleil. A fixed bracket extending from the exterior skin contains a series of notches that support 4-millimeter-thick steel blades. The owners are able to lift the steel blades and move them from one notch to another to ensure the sunscreen properly shades the facade during different seasons.

The sliding glass doors along the south facade are exterior mounted, so the owners can slide consecutive doors to open up huge expanses of the facade. The metal-and-wood-framed doors glide along a custom-designed track resembling a drawer assembly.

The flat skylight above the subterranean playroom doubles as a paved walkway along the rear of the house. The top layer is 10-millimeter-thick tempered, laminated structural glazing, separated from an interior layer of thinner laminated glass by a 12-millimeter-thick air space.

Above the playroom, prefabricated concrete beams, framed into a retaining wall, support the concrete floor of the main living spaces. Heating coils embedded into the concrete floor slab heat the interiors.

8"/20cm

TRÜB HOUSE, HORGEN, SWITZERLAND
CLIENT: Pat and Karin Trüb **ARCHITECT:** Angélil/Graham/Pfenninger/Scholl Architecture, Zurich, Switzerland— Reto Pfenninger (partner-in-charge), Matthias Denzler (project architect)
ENGINEER: APT (structural) **GENERAL CONTRACTOR:** Angélil/Graham/Pfenninger/Scholl Architecture
COST: Withheld at owners' request **PHOTOGRAPHER:** Reinhard Zimmerman

View from children's wing towards kitchen (top left) captures subtle yet energetic palette of interiors. Painted door leads to airy, skylit bathroom suite; wall beneath clerestory strip is backside of built-in storage system in child's bedroom. Directly beneath parents' study, kitchen (top right) occupies center of lofty interior. Soaring ceiling slopes in two directions. From second-floor study perch (above), parents can survey spartan, light-washed living area. Sliding glass doors on each side of space lead to outdoor terraces.

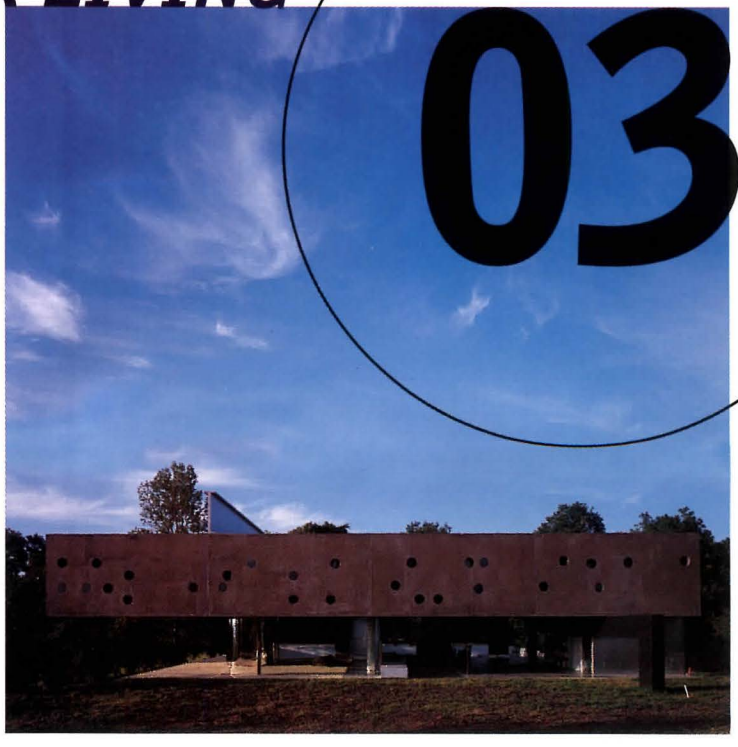
A client's disability gives new impetus to the classic Corbusian dictum. <u>*By Colin Davies*</u>

MACHINE FOR LIVING

Building a three-story house on top of a hill is not the obvious solution for a client who uses a wheelchair. Then again, clients don't turn to Rotterdam's Office for Metropolitan Architecture (OMA) and Rem Koolhaas for obvious solutions. The owner of OMA's newest house in Bordeaux, France, who was left paralyzed by a car accident shortly before the architect started the design, wanted more than mere domestic convenience: He wanted richness and complexity, a whole world of spatial experience—a house for his senses and his mind, not just for his wheelchair. After all, the house would be shared by his able-bodied wife and children.

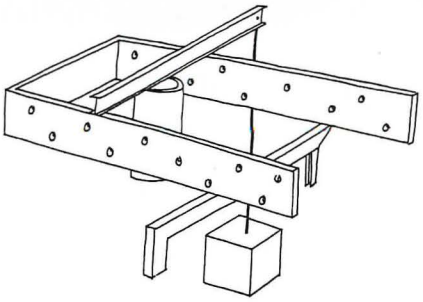
Though relatively simple in overall form—composed of a few, mostly rectangular shapes—the house is indeed spatially complex, as well as intellectually challenging. At its heart is a hydraulically operated, 10-foot-square open platform, furnished as a study, which moves the client from floor to floor. A three-story-high bookcase forms one wall of this dynamic, transmutable room. It is simple and brilliantly effective, not just as a mobility tool, but as a key to unlock different spatial combinations. From the main living room, for instance, it is possible to look up into the master bedroom, or down into the kitchen, or both, depending on the position of the platform.

Yet the platform is not what the visitor remembers most about the house. The transformations it affects are less striking than the

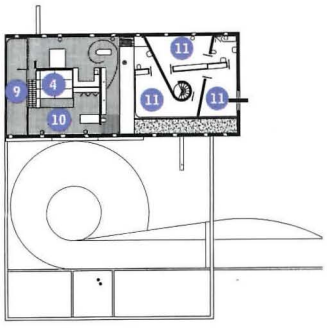



HANS WERLEMANN

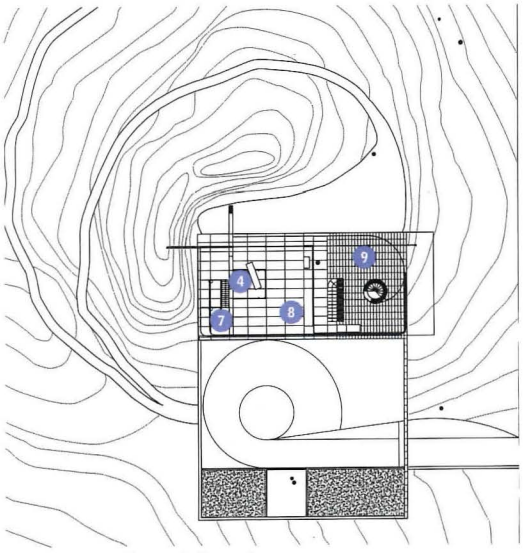
OMA's house in Bordeaux (previous pages, right) stacks three floors on hillside, with circular driveway in *courtyard*. *From* opposite side (previous pages, left) two top floors—glazed living area beneath bedrooms contained in massive concrete box—are visible. Movable glass walls (above) open main public rooms to countryside and views of Bordeaux. Column and integral beam on lawn enclose utilities and provide exterior support for concrete box above.



Structural axonometric

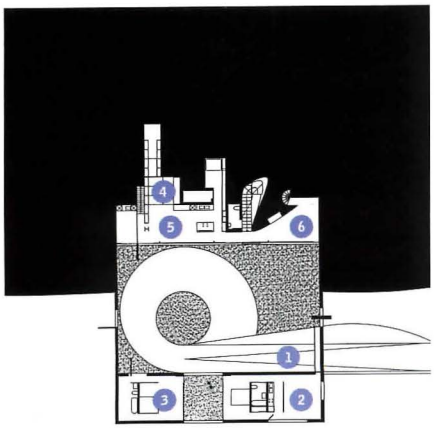


Third-floor plan



Second-floor plan

1. driveway
2. service quarters
3. guest bedroom
4. elevator
5. kitchen
6. television room
7. study
8. living area
9. terrace
10. master bedroom
11. childrens' bedrooms



First-floor plan 27'/9m

extreme, at times almost perverse contrasts of form, space, structure, and materials that characterize the rest of the building. A forecourt on its north side is enclosed by a concrete wall incorporating a single-story guest house and service quarters; the driveway slips in under the west courtyard wall and then ramps up steeply to the entrance level. The ground floor of the house, which accommodates a kitchen, a storage area, a television room, and a utility room, turns out to be a semibasement dug into the south side of the hill; it is not until visitors climb one of three staircases to the living area above that they reach the top of the hill. Here, the external walls are all glass, and views open up to the south and west, over the city of Bordeaux and the Garonne River valley. The truly startling, almost surreal, element of the composition is the uppermost bedroom floor, a massive poured-in-place concrete box hovering, apparently unsupported, over the living room and its adjacent terrace.

Koolhaas systematically overturns all architectural prejudices about the enclosure of space, the balanced disposition of forms, and the clear expression of structure. The glass-walled main living area of the house comprises a study, a living room, and an open terrace: Space flows through uninterrupted from a garden on the south, under the concrete box, and out over the northern courtyard. The living area's glass walls are made of such large panes that visually, they don't exist; along the south, one whole wall slides back on a flush-mounted track to open the room to the outdoors.

Concrete box (above) seems to float above concrete courtyard wall with stone veneer; box is supported underneath by stainless steel-clad concrete stair enclosure and from above by 36-inch-tall cantilevered steel beam.

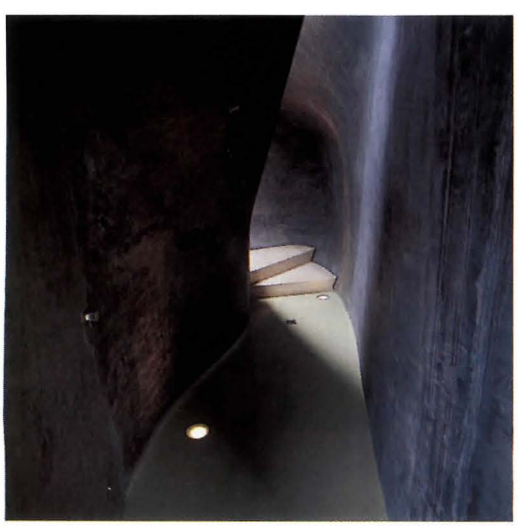
HANS WERLEMANN PHOTOS

HANS WERLEMANN LEFT; FACING PAGE BOTTOM

In second-floor living area (top), concrete ceiling—underside of top-floor box—is contiguous with bottom of 10-foot-square elevator lifted to master bedroom above. Cylindrical stairway, with reflective stainless steel finish, supports steel beam on roof. Opposite side of living area, where massive beam extends to outdoor column, shows window wall closed and elevator raised (above left) and elevator lowered to floor and window wall rolled open (above right).

In sequence of photos (above), descending elevator opens view of multistory library. Low peripheral walls surround void for safety of ambulatory residents.

Massive beam (below) that extends across stacked library shelves is supported by only interior column on second floor. Curtained window at north side of room is fixed glass, cantilevered over courtyard. In foreground, exposed track in aluminum floor indicates that south window has been rolled away.



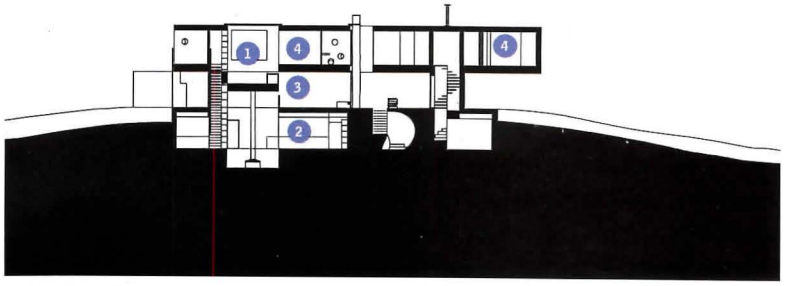
First-floor kitchen (above) and laundry are divided by library; wine cellar is beyond bookshelves (at right); all are accessible by elevator. Reflected image above sink shows car in courtyard, which is beyond glass wall (at left). Cavelike stair (left), opposite sliding front door between kitchen and television room, ascends to second-floor terrace; it provides formal entrance to living space for guests. Evening view from courtyard (facing page) highlights staccato rhythm of bedroom portholes above glazed walls below.

Full-height glass walls are nothing new; what is new is the absence of a columnar grid to support the enormous weight above.

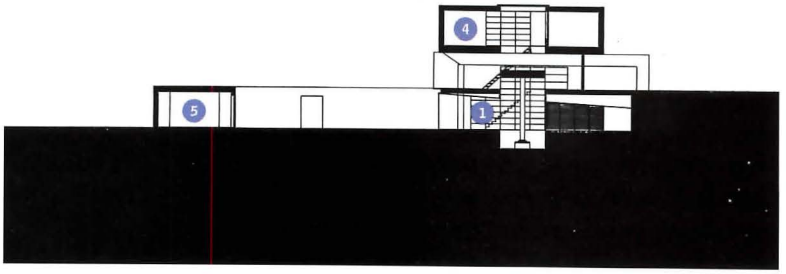
As Koolhaas explains, the effect is not intended to be oppressive, but "to define the living space by the implied pressure of the floor below and the concrete form above. To achieve intimacy with and orientation to the space beyond the house, it is essential that the concrete top story appears to float. This is achieved by evacuating or exiling the supporting structure from the space itself." The architect does not attempt to lighten the box visually: it is a massive, continuous block tinted dull pink, its spalling and formwork joints deliberately displayed. The underside is simple, a plain, flat concrete ceiling, again, straight from the formwork.

In fact, the north and south walls of the box are themselves massive concrete beams, supported from below at the east end on an overscaled, eccentrically loaded black beam: One column, a grey-painted wide flange, is inside, the other on the south lawn. The box is suspended on the west from a 36-inch-tall steel beam that seems to rest on the roof. This beam is actually held up by a tubular concrete enclosure surrounding the spiral staircase, which rises on the west from the ground floor up through the second-floor terrace, and on to the children's bedrooms on the third level. Clad in mirror-finish stainless steel, it is about 30 inches off-center of the beam's span—one of many subtly disturbing asymmetries in the plan. To balance the load on this curious structure and cancel out the tendency of the staircase to topple sideways, one end of the steel beam projects over the northern courtyard and is anchored to the ground by a steel tension rod.

Daylight enters the center of the house through a two-floor slot, open to the sky, that divides all but the first story in two; on the third floor it separates parents' from children's rooms. Surprisingly, the bedrooms in the concrete box are among the most pleasant spaces in the house. The parents' bedroom comprises two sleeping areas on opposite sides of the elevator, with a full-width balcony; bathroom facilities, unenclosed by walls, are arrayed along the side of the room. The children's suite is a nonorthogonal composition of



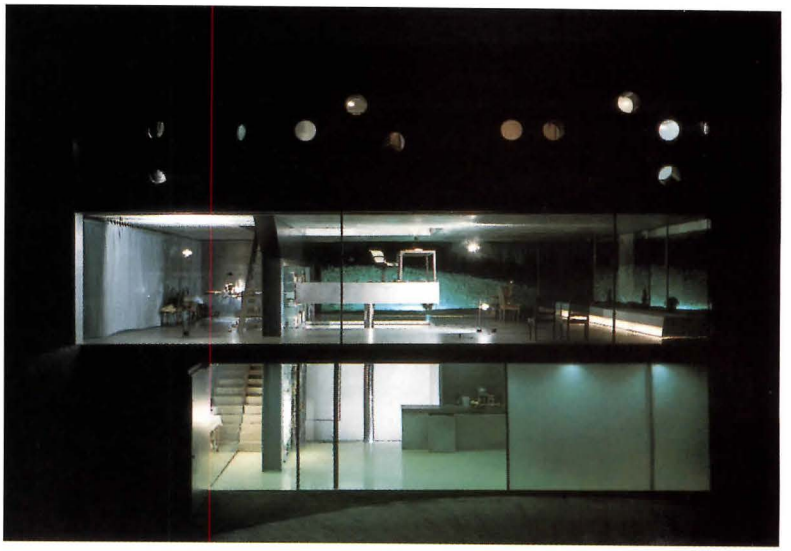
East-west section



North-south section

21'/7m

1 elevator
2 kitchen
3 living room
4 bedroom
5 guest room



HANS WERLEMANN PHOTOS

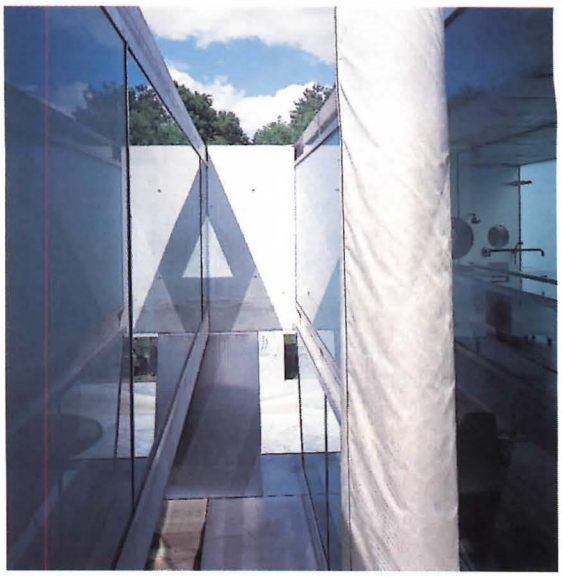
three bedrooms. The portholes that punctuate the box are angled and conical, so that they focus like lenses on key points in a room, such as those where one's head comes to rest when studying or bathing. The clever and compact plan of the top floor creates an intimate world, completely different in character from either the open living area or the carved-out spaces of the entrance floor.

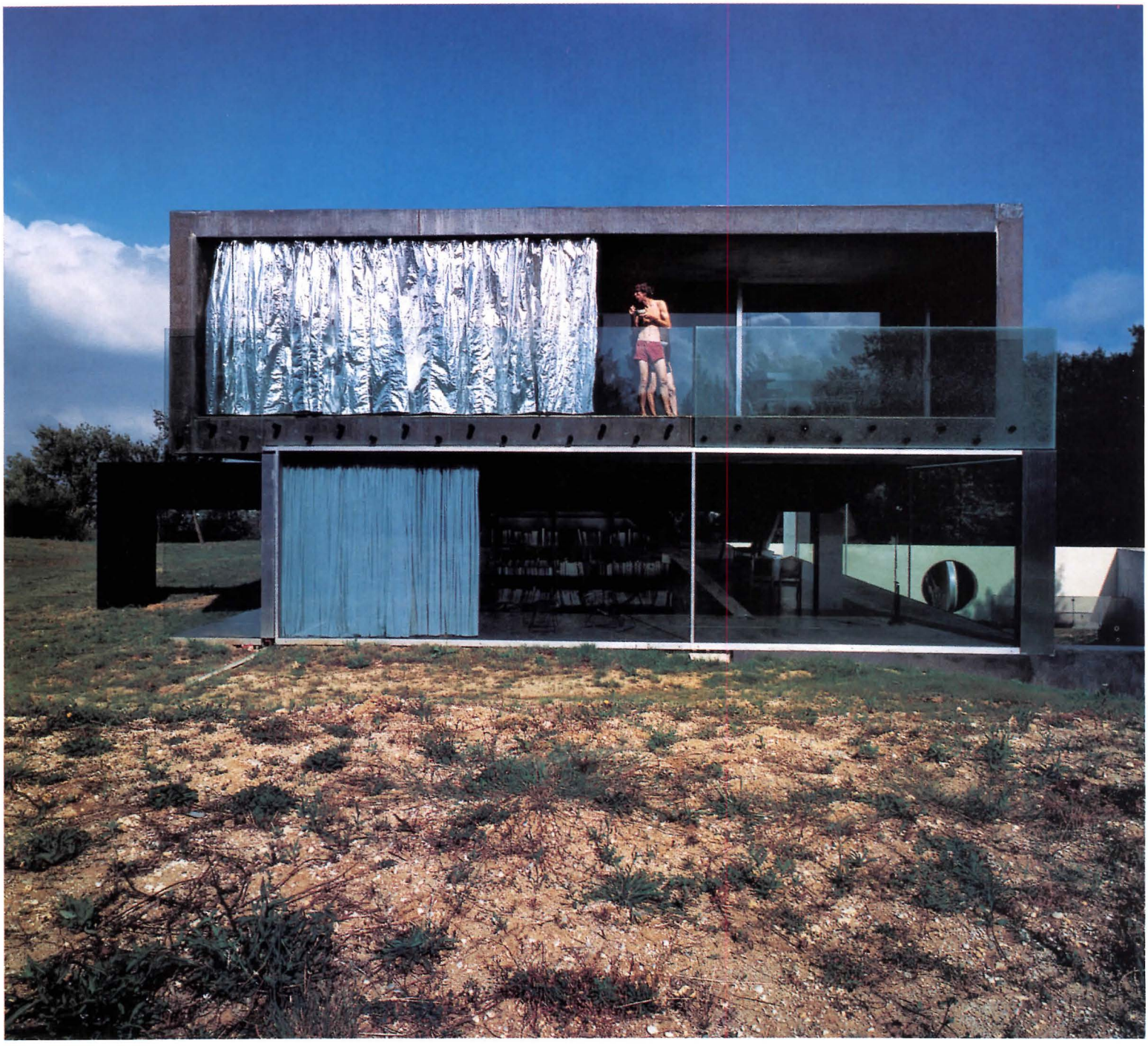
In many ways, this is quite a demanding house to inhabit. On occasion, ordinary convenience and even safety have been sacrificed to the harsh dictates of the architecture: OMA's aversion to vertical forms and spatial obstructions, for example, has resulted in the omission of balustrades. Guests unfamiliar with the house's layout walk around in constant fear of stepping backwards into a stairwell or banging into invisible glass walls. In short, there have been no compromises.

The house is a composition of great subtlety and depth, defying convention and testing the limits of domestic architecture. As such, it takes its place in the architectural canon beside, for example, Le Corbusier's Villa Savoye (1931) or Ludwig Mies van der Rohe's Farnsworth House (1950). These precedents may be perceived as architectural masterpieces now, but their unhappy clients would probably not have agreed. The question therefore arises: How much is the Bordeaux House the result of the imposition of architecturally advanced ideas on an unwilling client? The answer seems to be not at all. The client chose the architect carefully and knowledgeably. Koolhaas sees no contradiction between the demands of a client and the making of architecture. "The architecture arises from a generous reading of the client's requirements and an extreme engagement with context and program. A feature such as the absence of balustrades, for example, could never have been proposed without an intense collaboration with the client." This is architecture with a capital *A*, an experimental demonstration of the mind-expanding qualities of space. Neither the client nor the architect would have been satisfied with anything less.

Third-floor parents' bedroom and bathroom comprises suite of contiguous spaces: One sleeping area (top left), adjacent to elevator, connects to mirrored passage (above left) with paired sinks, which are routed from 16-foot-long slab of clear acrylic resin, and shower, designed to accommodate client's limited mobility. Opposite shower, freestanding bathtub (left) with curvilinear curtain track anchors second sleeping area.

Slot of space (right), open to sky and spanned by metal bridge, divides three children's bedrooms (at left) from parents' suite (at right). Off-white cylinder (at right) is chimney built of fire-retardant fabric: a non-rigid "column" suspended from metal collar above roofline. Stair (at left) rises from cavelike first floor passage to sliding aluminum door, which admits guests into enclosed living area. Reflective curtain on parents' balcony (below) is laminate of two metallic survival blankets. Glass railing is fixed to concrete with two rows of metal fasteners, visible on front edge of balcony.





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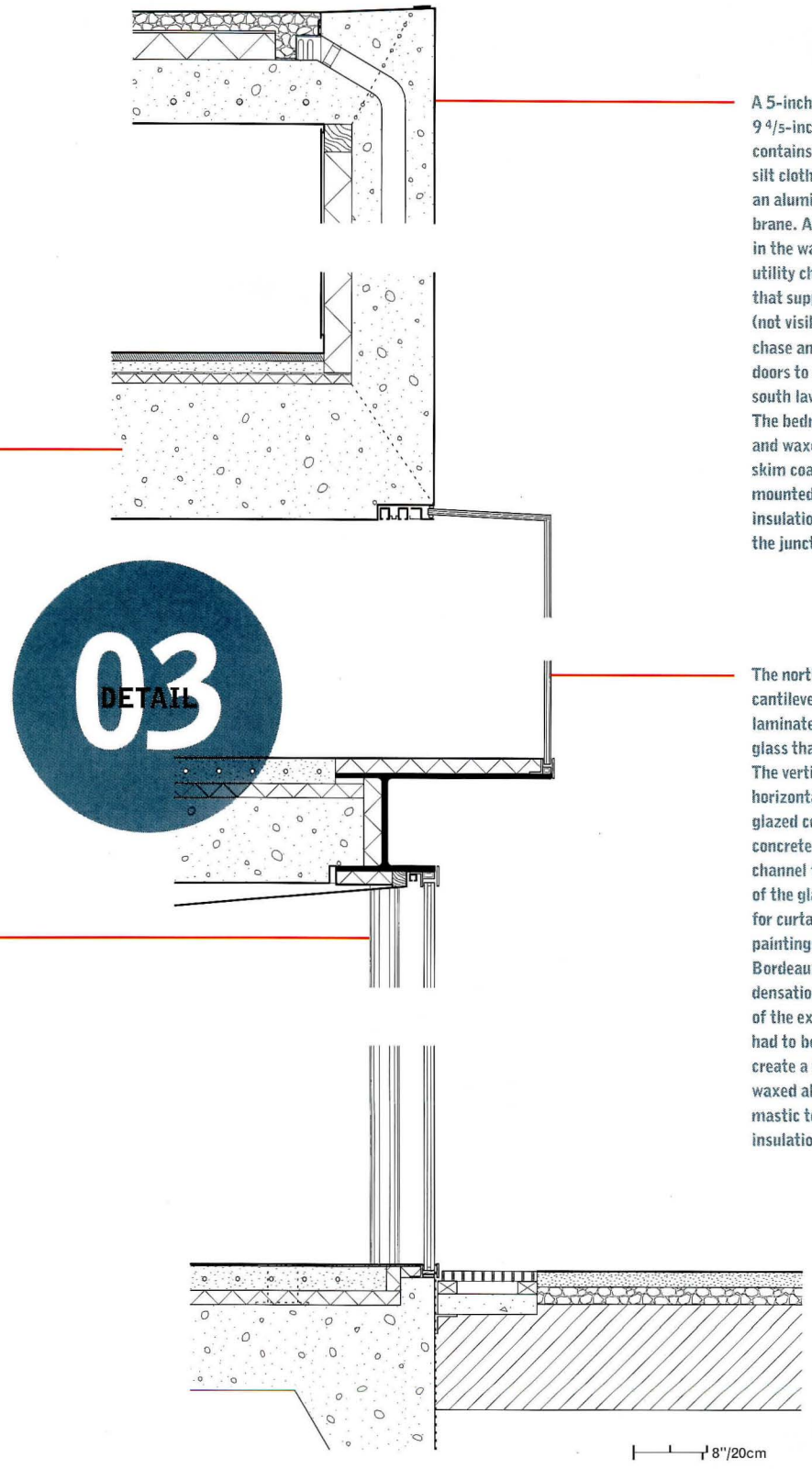
SECTION THROUGH COURTYARD FACADE

In detail, as well as form, OMA's house in Bordeaux is a work of contrasts, a concrete box seemingly supported by walls of glass. The massiveness of the concrete box—its wall, roof, and floor thicknesses structurally determined—is a counterpart to the minimalist detailing of its glass and steel connections.



A 5-inch parapet at the top of the 9 4/5-inch-thick concrete wall contains a bed of stone ballast on silt cloth laid over insulation and an aluminum-backed mastic membrane. A PVC drainpipe, embedded in the wall, drains rainwater to a utility chase in the massive beam that supports the master bedroom (not visible in this section). The chase and the beam extend outdoors to an integral column on the south lawn of the house (page 81). The bedroom ceiling is sanded and waxed concrete, and the wall skim coat plaster on blue board, mounted on a 2 1/3-inch layer of insulation, with a furring strip at the junction of wall and ceiling.

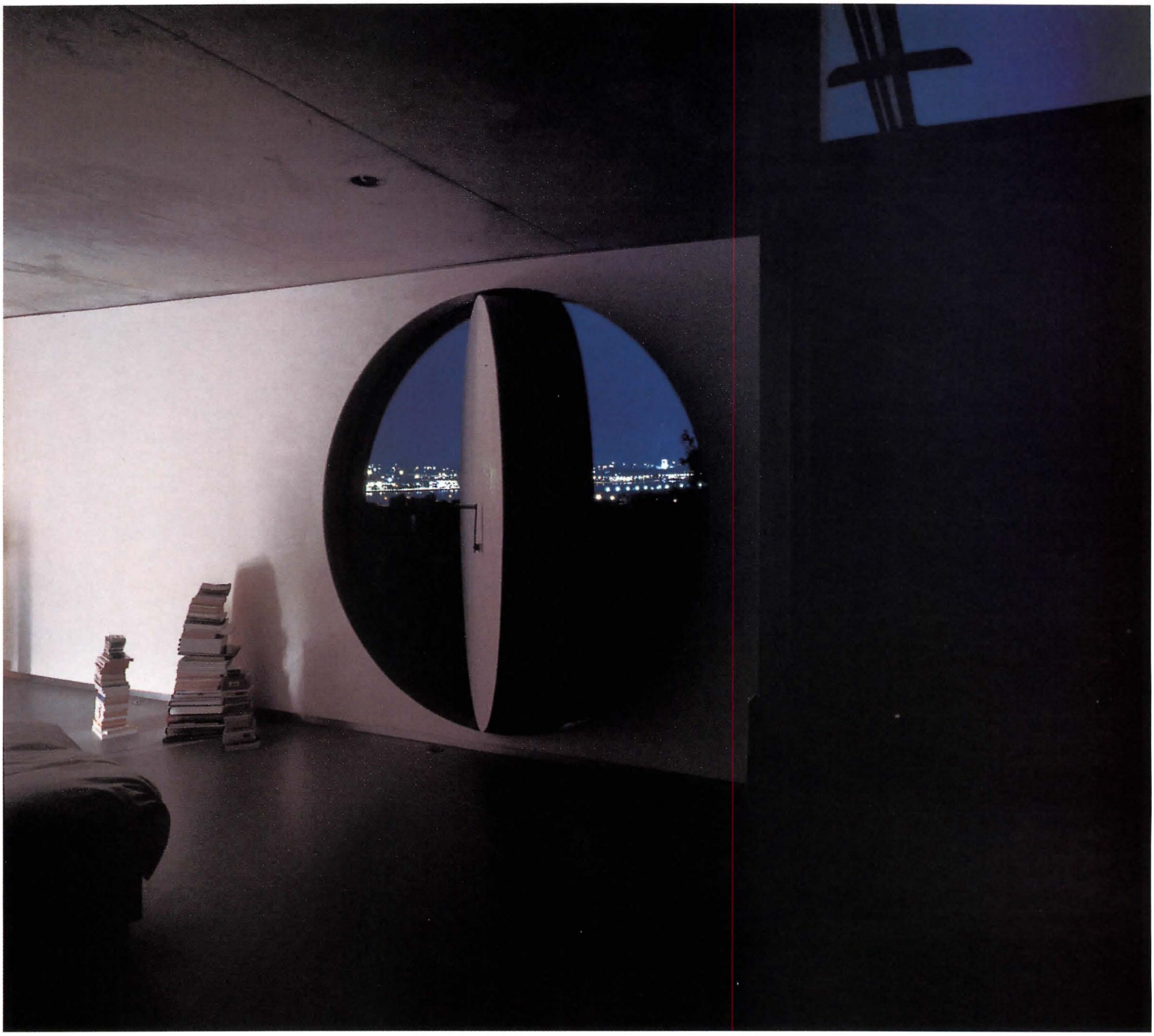
A recessed baseboard, an anodized aluminum L profile, 2 inches high, supports the blue board and separates the plaster from the floor. In the parents' bedroom the floor is oil-finished African Paduk, mounted with mastic to a cementitious layer on top of insulation. The 15 3/4-inch-thick floor slab, like the concrete slabs of the two lower levels, is fitted with PVC tubes that circulate hot water for radiant heating.

The north wall of the living area, cantilevered 13 3/4 inches, is laminate (rather than insulated) glass that can be joined with silicone: The vertical pane joins its nearly horizontal counterpart in a a butt-glazed corner seam. A recess in the concrete holds an aluminum channel that receives the top edge of the glass; it also provides tracks for curtains and cables for hanging paintings. The mild winters in Bordeaux do not cause window condensation, but the the inner surfaces of the extruded steel wide flange had to be lined with insulation to create a thermal break. The floor is waxed aluminum, mounted with mastic to a cementitous layer over insulation on a 9 4/5-inch slab.

The first-floor kitchen has a ceiling of polycarbonate sheets hung from the slab above; they act as a diffuser for ceiling-mounted fluorescent lights. The panels are tilted up toward the bottom of the wide flange that rests on a colonnade of 3 1/2-inch-wide steel tubes, painted black (this detail was slightly altered on the job site). These are the only conventional columns in the house, flanked by floor-to-ceiling fixed windows of insulated glass. The kitchen floor is a 9 4/5-inch slab on grade, with a layer of insulation and a cementitious layer topped with a synthetic resinous poured floor.

MAISON À BORDEAUX, BORDEAUX, FRANCE
CLIENT: Withheld at owner's request **ARCHITECTS:** Office for Metropolitan Architecture, Rotterdam, the Netherlands—Rem Koolhaas (principal), Jeanne Gang, Julien Monfort, Bill Price (project architects), Jeroen Thomas (project manager), Vincent Costes, Chris Dondorp, Erik Schotte, Yo Yamagata (project team); MVS, Ghent, Belgium—Maarten Van Severen (principal), Raf de Preter (collaborator) **ASSOCIATE ARCHITECT:** Regaud Engineering, Bordeaux, France—Michel Regaud (principal) **ENGINEERS:** Ove Arup (structural); ATH; CMFT (mechanical); 2 ESO (electrical); Van Santen (facades) **CONSULTANTS:** Inside/Outside (interiors); Atem; MRD (facades); Bati-renov (masonry); Bolidt; Roynel (floors); EGC (concrete); Honeywell (security); Soltechnic (foundations); Tradibois (wood)
COST: Withheld at owner's request **PHOTOGRAPHER:** Todd Eberle, except as noted

In child's bedroom (above left), portholes channel light and accentuate 9 4/5-inch depth of concrete wall.
Walled patio (above right), separated from interior by floor-to-ceiling glazing, brings daylight into children's bedrooms. Circular pivoting door (below), only aperture on western side of concrete box, swings to reveal nighttime view of Bordeaux.



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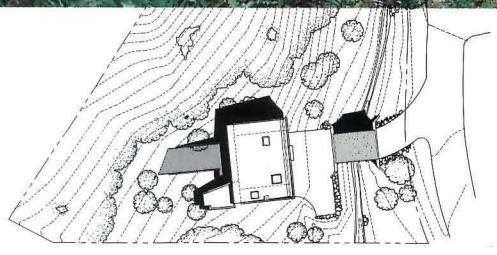
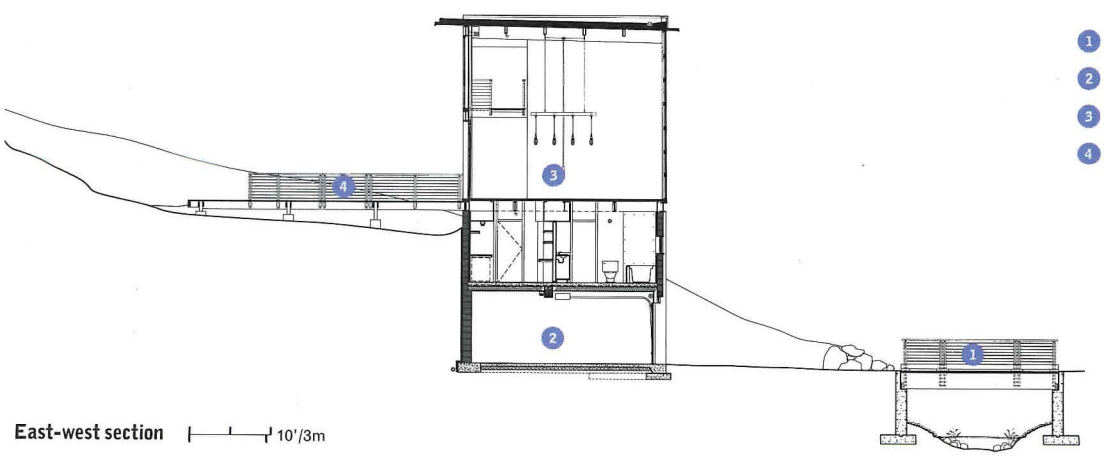
04 TREE HOUSE



Site plan 30'/9m

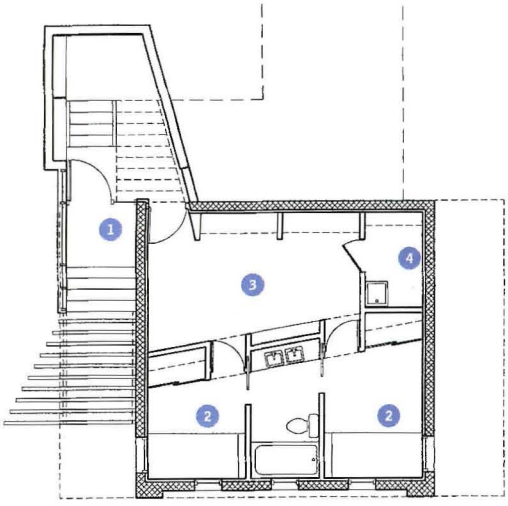
A four-square house by Miller|Hull Partnership stands its ground beneath a dense wooded canopy.
By Lawrence W. Cheek

Corrugated steel wraps around top half of Michaels/Sisson House (previous page, left); third-floor deck at rear leads to wooded slope. Drive to garage contained in concrete-block box (previous page, right) spans creek at front of site; front door is up stairs to left.

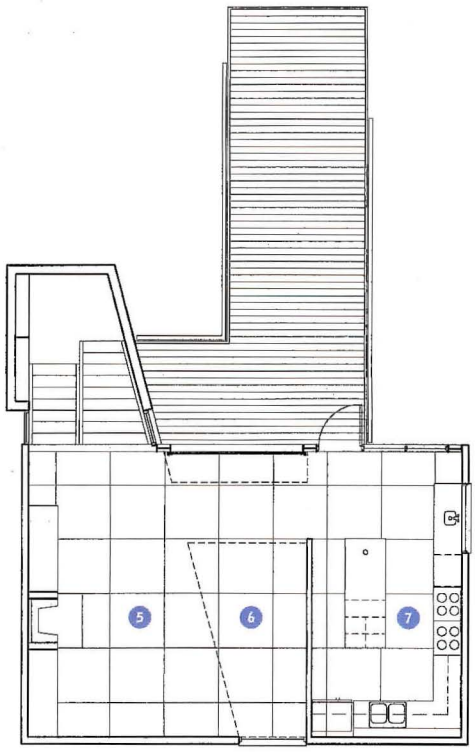


1 bridge
2 garage
3 living room
4 deck

East-west section 10'/3m

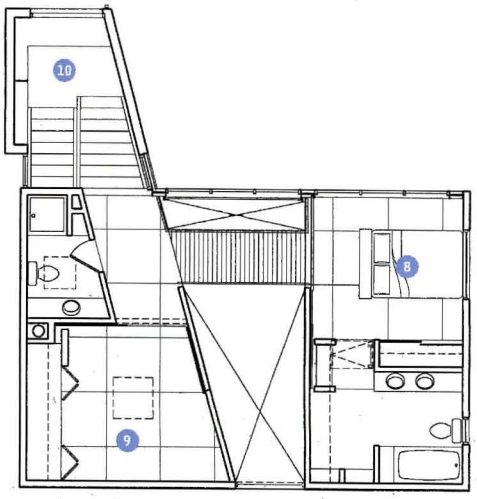


Second-floor plan 5'/1.5m



Third-floor plan

1 entrance
2 bedroom
3 playroom
4 laundry
5 living room
6 dining room
7 kitchen
8 master bedroom
9 music room
10 study



Fourth-floor plan

"It's a blood-and-guts building from the concept right up," says architect Robert Hull, whose cheerful appraisal would resonate around woodsy Mercer Island, Washington, like the report of a hunter's rifle. Architecture in this neighborhood is normally about as aggressive as Bambi. This house, however, won't melt demurely into the forest; the program wouldn't allow it. Clients Amy Michaels and Larry Sisson, a young couple with a tight budget and one-third of an acre of sloped land, were determined to preserve and enjoy the old-growth evergreens that dominate their lot. "We bought the lot from an architect who planned a horizontal spec house on it," says Sisson. "It would have wiped out the entire site."

Hull, a principal in The Miller/Hull Partnership in Seattle, says he had an instantaneous concept when he visited the site. It would be a high-rise, at least within Mercer Island's residential context, and it would look industrial: The clients didn't have the money to dress it in pretty veneers. "I didn't have to do a sales job to interest them in these materials," Hull says. "They wanted it to be what it needed to be."

The site tumbles at a 40 percent slope toward the front (where a bridge spans a creek), so the architects set the foundation deep into the hillside. The two lower levels of the house are set within a box of concrete block that functions as a retaining wall on three sides and encloses the garage and children's rooms. The primary living space and master bedroom suite are stacked on the two upper floors, where a 2-by-6-inch wood frame, employed here for economy, supports the facade on three sides. A massive exposed steel moment frame on the fourth facade, facing west towards the forest, surrounds a wall of windows; it will carry the seismic load when (not "if," Seattle seismologists assert) the big one rolls through.

The block walls downstairs are intentionally exposed and unfinished, punctuated with fixed glass blocks and square, operable windows. On the upper half of the house, an industrial jacket of corrugated steel wraps around the wood frame. The living room opens to a deck beneath the trees through a 9-by-10-foot window that slides straight up with the help of garage door hardware and tension springs. The double-

Rear facade (opposite page), with steel moment frame, provides full-height windows for third-floor living spaces and top-floor master bedroom suite. Inside, 3-panel glass door at deck (above) slides up vertically to height of balcony.

run stair that serves the upper three floors is adjacent, cantilevered to avoid the root network of a 100-foot Douglas fir. Just three trees, Hull says, had to give way for the 1,960-square-foot house, completed in October 1998.

Interior spaces are compact; simple finishes sustain the exterior's industrial palette. Floors are plain, medium-density fiberboard whose neatly aligned screw heads seem as esthetically considered as applied ornament. Glue-laminated beams support the ceilings; Hull didn't use steel because, "It is a house, after all." The third-floor living room and kitchen comprise 850 square feet. Some of the rooms seem claustrophobic: the smaller of the yet-to-be-occupied children's rooms is 5 1/2 by 8 feet—this house won't grow without a struggle.

Reactions around Mercer Island, Seattle's most expensive suburb, have been decidedly mixed. Some neighbors have asked pointedly when the house would be getting a roof or paint on its concrete base; others want to know if Miller/Hull might be interested in working on their projects. For anyone willing to listen, Hull offers an articulate logic behind the Bauhaus design. "This is a problem-solving house," he says. "It reflects an ethic, not an esthetic. An esthetic is something that's applied to a design. When it's an ethic, you mean it."

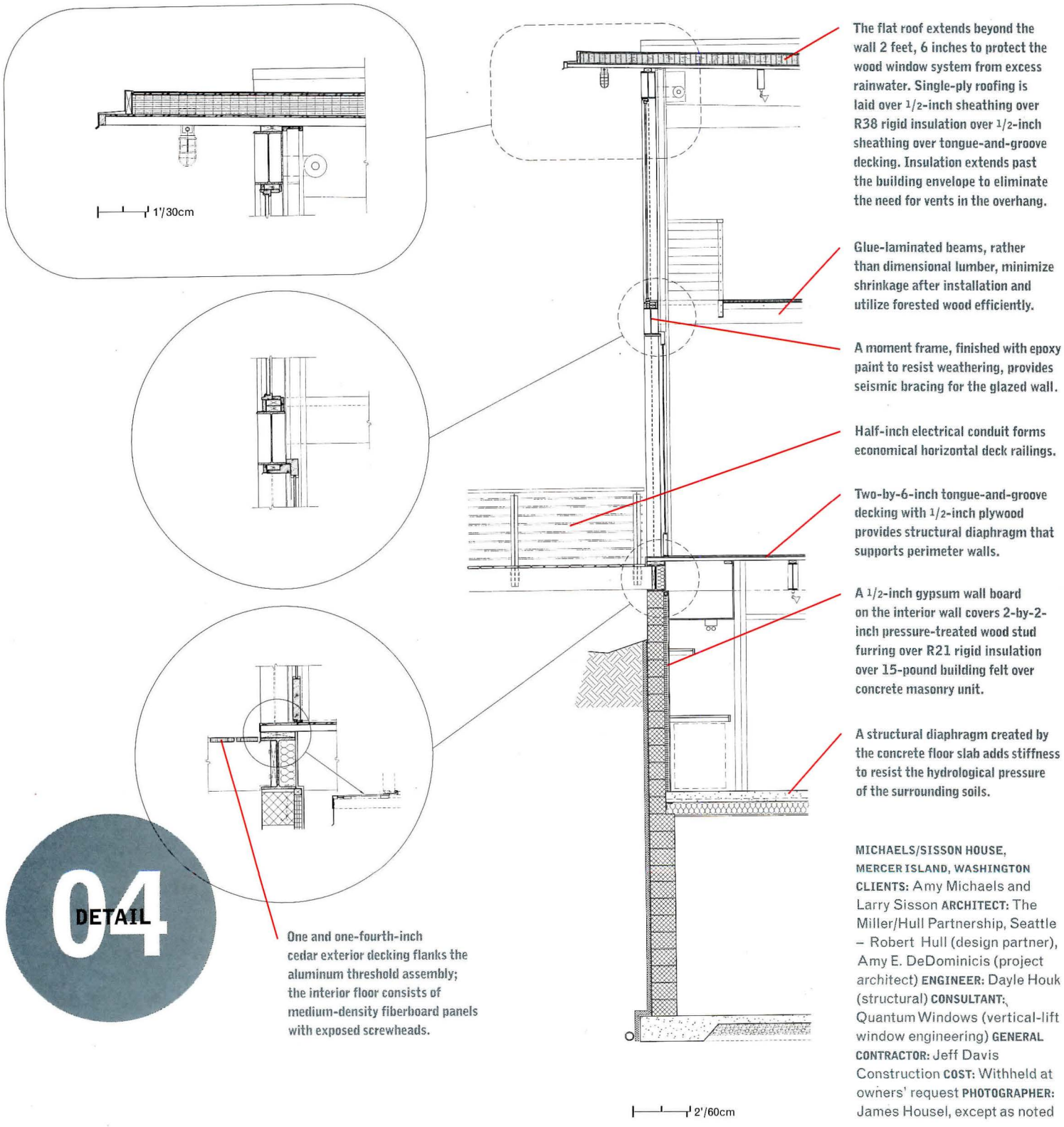
But what if, by faithfully solving a client's problem, an architect imposes a starkly alien form on the land? The forest doesn't welcome this machine; it's as jarring as a chainsaw left on a wilderness trail. The machine does engage the forest, but on only one elevation. This may be all that the clients want or need, but Miller/Hull could have offered them more—the creek, for example. When embracing a landscape as dramatic as this, more is usually more.

Lawrence W. Cheek writes about architecture for regional magazines in the Southwest and Pacific Northwest.

Shelf-lined study (below) is lodged on stairway, half-flight beneath master bedroom. Balcony (below right) links music room and master bedroom; wood ceiling and walls create residential ambience within concrete and steel exterior.

WALL SECTION AT WEST FACADE

The rear wall, facing a wooded hillside, comprises a concrete block foundation beneath a steel moment frame for maximum glazing and seismic strength. All other walls above the masonry foundation are standard wood frame with galvanized metal cladding.



The flat roof extends beyond the wall 2 feet, 6 inches to protect the wood window system from excess rainwater. Single-ply roofing is laid over 1/2-inch sheathing over R38 rigid insulation over 1/2-inch sheathing over tongue-and-groove decking. Insulation extends past the building envelope to eliminate the need for vents in the overhang.

Glue-laminated beams, rather than dimensional lumber, minimize shrinkage after installation and utilize forested wood efficiently.

A moment frame, finished with epoxy paint to resist weathering, provides seismic bracing for the glazed wall.

Half-inch electrical conduit forms economical horizontal deck railings.

Two-by-6-inch tongue-and-groove decking with 1/2-inch plywood provides structural diaphragm that supports perimeter walls.

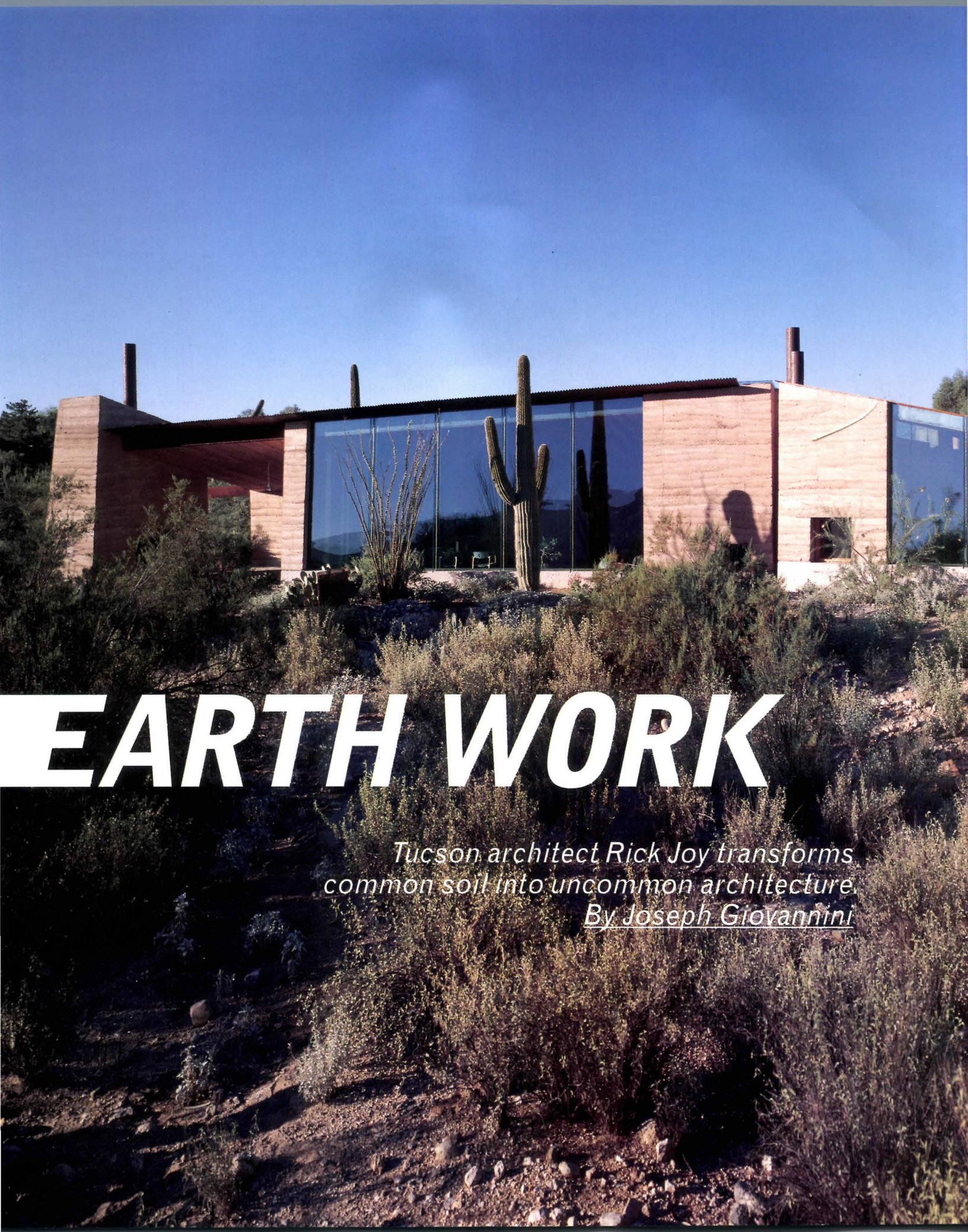
A 1/2-inch gypsum wall board on the interior wall covers 2-by-2-inch pressure-treated wood stud furring over R21 rigid insulation over 15-pound building felt over concrete masonry unit.

A structural diaphragm created by the concrete floor slab adds stiffness to resist the hydrological pressure of the surrounding soils.

04 DETAIL

One and one-fourth-inch cedar exterior decking flanks the aluminum threshold assembly; the interior floor consists of medium-density fiberboard panels with exposed screwheads.

MICHAELS/SISSON HOUSE, MERCER ISLAND, WASHINGTON
CLIENTS: Amy Michaels and Larry Sisson **ARCHITECT:** The Miller/Hull Partnership, Seattle – Robert Hull (design partner), Amy E. DeDominicis (project architect) **ENGINEER:** Dayle Houk (structural) **CONSULTANT:** Quantum Windows (vertical-lift window engineering) **GENERAL CONTRACTOR:** Jeff Davis Construction **COST:** Withheld at owners' request **PHOTOGRAPHER:** James Housel, except as noted



EARTH WORK

Tucson architect Rick Joy transforms common soil into uncommon architecture.

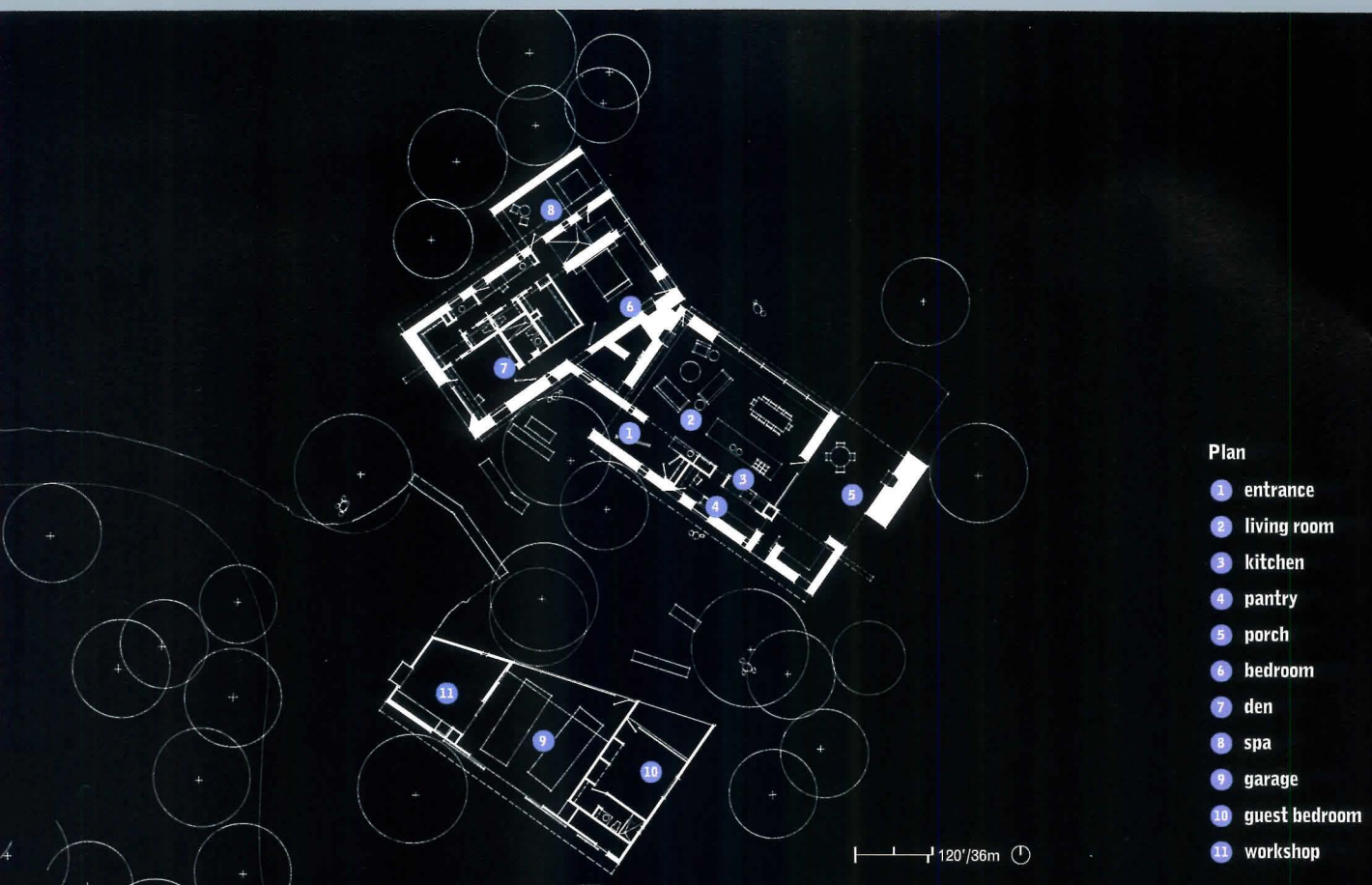
By Joseph Giovannini

On north facade (facing page), insulated-glass windows of living room (at center) and master bedroom (at right), as well as irregular roof line, reflect nearby Santa Catalina mountain range.

05

Despite the violence of its sun and the stark profile of its mountains, the Sonoran desert around Tucson is, like most deserts, visually fragile—easily thrown into imbalance by a jarring building. Though many architectural designs pay cosmetic lip service to this landscape, few achieve profound agreement with the environment. Fortunately, Tucson architect Rick Joy came to the commission for the 2,800-square-foot Palmer/Rose House in the Tucson suburbs with an unusual track record as a Modernist who designs with an elemental palette of light, space, and soil.

Perhaps Joy's interest in the basics started during his years as a carpenter in Maine in the 1970s and 1980s, but the Southwest (he attended architecture school at the University of Arizona) exposed him to the cliff dwellings of Mesa Verde and the undecorated, clean-lined vernacular of the desert. In the Southwest, adobe and rammed-earth structures belong to living traditions deeply rooted in local and regional history. Joy's explorations in Arizona were not stylistic so much as tectonic, based on the nature of the materials he found and cultivated. In 1996, he investigated the possibilities of rammed earth in the Convent Avenue Studios, packing earth in walls that revealed the streaming strata of pours, creating surfaces that look like cuts through geological time. As a contemporary Modernist, he expressed the nature of materials, but he also put the mass back into the volumes that the original Modernists had removed some eight decades before. The architect is a pragmatist and not a theorist—or rather, he bases his theory on pragmatics, developing his esthetics and approach to construction through a sensitive use of materials. He gravitates towards rammed earth "because I can do it with less of



a focus on fine craftsmanship," he explains. "It allows me to build a large part of the building without skilled labor, and then I can pull more skilled labor in target areas, and create a contrast with the shell."

The new house is located several miles from the Santa Catalina mountain range, which virtually magnetizes the four-acre site and sets the house's orientation. A sense of raw land permeates the site; Tucson, where residents have pioneered indigenous landscaping, has not succumbed to irrigated lawns and imported botanical specimens like Phoenix has, so the suburban yards have escaped domestication.

The program for the one-bedroom house called for a study and a loftlike living space to include an open kitchen and dining area, with an adjacent outdoor space equivalent to an exterior room. A secondary prep kitchen would serve as a back-up for the open kitchen. Joy divided the program into three architectural segments—a bedroom wing, living area, and a 1,500-square-foot combined garage, workshop, and guest apartment—and deployed them like a wagon train that rings a front entrance area. The rammed-earth facades of the west and middle segments, which house the bedroom wing and living area, respectively, act as the house's privacy shield. The massive walls support corrugated steel butterfly roofs with inverted gables, which drain to cantilevered steel scuppers that shoot rainwater beyond the building line. The rusty V-shaped roofs recall the profile of the surrounding mountains, and the entire mass lies low in the landscape. "We found that if we hunkered down the house, the mountains would seem higher," explains Joy.

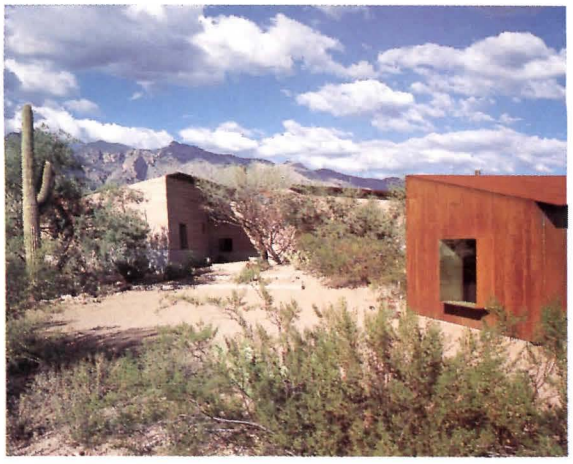
The large living area, located immediately beyond the entrance, delivers visitors to the striking mountain panorama via a wide north- facing wall of floor-to-ceiling structural glass. The valley of the butterfly roof compresses the space on the low south side and releases it to the view on the high north face. The all-in-one room, which contains a long kitchen island that doubles as a buffet for entertaining, opens at the far east flank onto a covered outdoor room walled with rammed earth; at the west end, the earthen wall is carved with large square niches and the mouth of a fireplace. The study, master bedroom, and bathroom lie beyond this wall to the west, and the bedroom, which features another north-facing structural glass wall and smaller punched windows, assumes the posture of a cave, protected at the rear and open at the front.

Joy bridges openings with flat plates of steel instead of wood, making the forms geometrically crisp rather than thematically sentimental. The architect, who studied fine arts at the Portland School of Art in Maine before attending architecture school, juxtaposes the disciplined geometry with the streams of sediment poured into the molds. Many walls are battered, giving the apparently simple volumes a subtle angular complexity. "The basic shell of the building is rough, and within that shell we insert more refined elements, as though they're in a ruin," maintains Joy. The dynamically sloped ceilings are surfaced in Douglas fir planks, and cabinets, paneling, and doors are crafted in cherry. With drywall banished to the closets, the dominantly natural palette provides a built-in esthetic and a tonal continuity that minimizes color contrast. The architect takes full advantage of the walls' thermal properties, and keeps them closed to the south while opening them to the north.

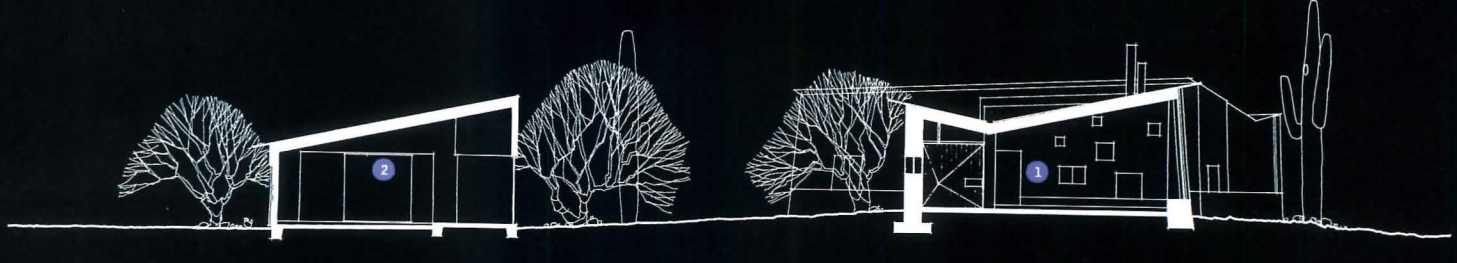
As his own contractor, Joy exercises tight controls over the construction process, isolating the tasks in separate drawings for subcontractors. Architecture students and recent graduates often work on his crews. This working model not only enables Joy to control the quality of building craft, but also keeps building costs down.

Joy's design derives strength largely from the bold, sharply defined masses, and from

Weathered steel-clad garage and guest house and rammed-earth main house (right) lie close to surrounding landscape of native cacti and shrubs. Canted corrugated and weathered steel roof planes (far right) shield main house and garage, which face each other across informal courtyard; projecting window (at right) on west facade of garage lights workshop. V-shaped, weathered-steel scupper (center right) projects from east facade of main house. Doorway (center, far right) in south facade opens to porch and view of Santa Catalina mountains; small window lights kitchen. Architect tucked entrance (bottom) in gap behind south facade; rammed-earth walls sit on reinforced-concrete stem wall.



In living room (above), Douglas fir-board ceiling slopes up to window supported by glass mullions. Rays from skylight rake irregular surface of living room's rammed-earth northwest wall, which is punctured by niches, cooler duct, and fireplace.

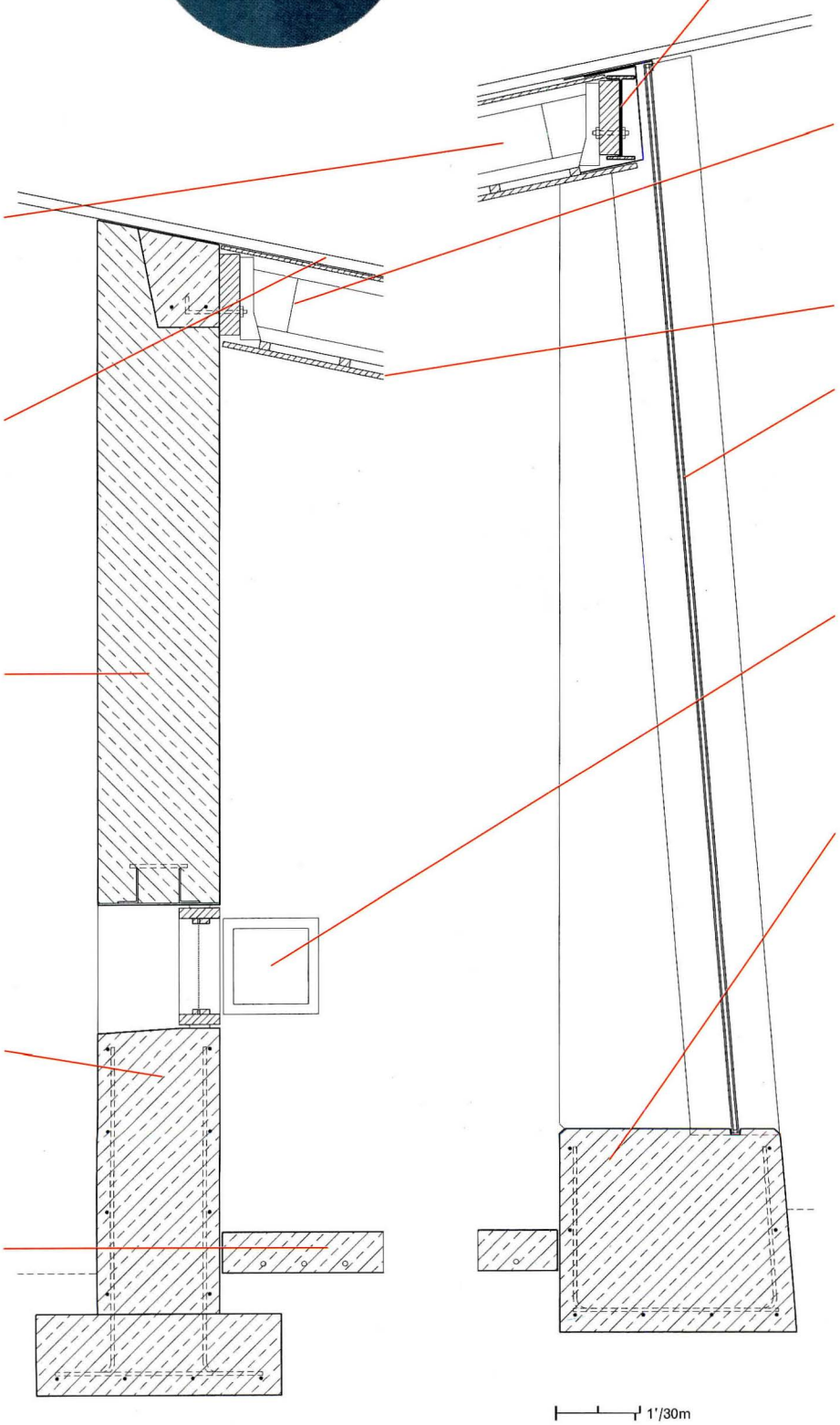


North-south section

WALL SECTIONS

Sections of two rammed earth walls explain the architect's handling of different window types: A cut through a bedroom wall shows the insertion of a small casement window into the massive earth wall (below right), while a slice through the north-facing living room wall reveals the assembly of a large structural glass wall panel (far right).

05 DETAIL



Wood I-joists support 1/2-inch-thick plywood roof sheathing. The ceiling is furred down with 1-by-3s to provide proper nailing for Douglas fir ceiling boards, which run parallel to the joists and corrugated metal roofing.

The roof is made of 20-gauge corrugated cold-rolled steel, which oxidizes naturally, and fastened to plywood sheathing. Because the rammed-earth walls cannot receive screws, Joy attached the roof to a wood ledger; the screws' location allows the roof to cantilever up to 4 feet beyond the ledger.

The architect cast rammed earth walls, composed of a custom-blended mixture of sand, aggregate, and small amounts of cement and iron oxide pigment, in reusable steel and plywood formwork. The heat absorbed by the monolithic walls during the day radiates into the interior at night. By day, steel cooler boxes (low-cost versions of mechanical air-conditioning that work on the principle of evaporative cooling) blow cool air onto the earthen walls to prevent heat gain.

Reinforced concrete stem walls at the base of each rammed earth wall are poured in the same forms as the walls. The stems extend a minimum of 6 inches above grade to provide a stable, moistureproof base.

The concrete floor slab's 6-inch depth adds thermal mass for the radiant heating system cast into the floor.

Joy concealed a W12 x 22 steel beam, supported on 3-inch diameter pipe columns, in rammed earth wall. Through-bolts attach the ledger to the steel beam, and standard joist hangers support the wood I-beams of the roof rafters. A cold-rolled, 22-gauge steel fascia placed behind the glass masks the construction of the ceiling.

A 3-by-12-inch wood ledger is anchored with a 3/4-inch bolt to the concrete bond beam at the upper edge of the rammed earth wall. The bond beam counteracts wind uplift on the roof.

Clear 1-by-8-foot Douglas fir boards form the ceiling.

Two layers of glass comprise the canted glazed wall: insulated 1-inch glass units with a tinted coating on the exterior surface, and a 1/4-inch clear tempered glass with low-e coating on the interior. Glazed mullions join the panes of glass.

A custom casement window in the exterior wall is made of a 2-by-12 foot Douglas fir frame screwed into the rammed earth. Above the casement window is a hidden lintel constructed of 4-by-10-inch steel tube with gussets on a 1/4-inch plate.

Stem wall broadens at picture-window aperatures to serve as seating.

PALMER/ROSE HOUSE, TUCSON, ARIZONA
CLIENTS: John Palmer and Annabel Rose **ARCHITECT:** Rick Joy Architect, Tucson, Arizona—Rick Joy (principal), Franz Buhler, Chelsea Grassinger, Andy Tinucci (design team) **LANDSCAPE ARCHITECT:** Michael Boucher Landscape Architect **ENGINEERS:** Southwest Structural Engineers (structural); Roy T. Otterbein (mechanical) **CONSULTANT:** Rammed Earth Solar Homes (rammed earth walls) **GENERAL CONTRACTOR:** Rick Joy Architect **COST:** Withheld at owners' request **PHOTOGRAPHER:** Timothy Hursley

the expression of the visual and tectonic character of rammed earth. But the architect's use of the material also raises questions. The massive walls imply that they are supporting something substantial, but Joy uses the corrugated metal roof—a traditional architectural motif in the Southwest—as thin planes rather than as volumes. He may have put mass back into the house's cubic volume, but by transforming the gable roofs often built atop local adobes into a butterfly, he subverts and deflates the volume, making it appear too light for the heft of the wall. The building's thick walls and glass facades also mask the fact that buried in parts of the earthen structure is a steel armature: Pipe columns support the steel beams necessary for the long spans. While emphatic about the proper detailing and expression of rammed earth, unfortunately, Joy's honest expression of materials refrains from giving the building's secondary structure convincing visibility.

Joy insists that he's a Modern architect, but his Modernism, so reductive in its simplicity, is the kind that makes a strong connection with the primitive. Charles and Ray Eames furnished their famous off-the-shelf steel house with vernacular toys and utensils, emphasizing that their home and the anonymous objects shared an economy of means and a directness of expression. The timelessness of the Palmer/Rose House resides in the fact that it is simultaneously contemporary and ancient.

Many Arizonans have built with rammed earth, but what distinguishes Joy's work in the same material is the rigor and vision of its application. Suburbs may occupy that middle ground between the city and nature, but Joy's use of rammed earth sites his design in a provocative middle ground between culture and nature—between the art of fabrication and raw matter. This is a design with an intelligence that does not separate the house from the land.

Master bedroom (above left) looks northeast to mountains; small custom casement window (at right) admits breezes. Steel lintel (below left) supports clerestory above front door, which pivots on steel pipe. Steel-plate core prevents Douglas-fir door from warping.

Fireplace in massive rammed-earth pier warms porch (above) during winter. Pivoting glass door (right) connects kitchen with porch.

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San Francisco International Airport's new international terminal, designed by Joint Venture Architects, features winglike truss system that straddles airport access road. Adhering to strictest seismic requirements ever imposed on U.S. airport, building is largest base-isolated structure in world.

ABBY SADIN PHOTOGRAPHY

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Winged Victory

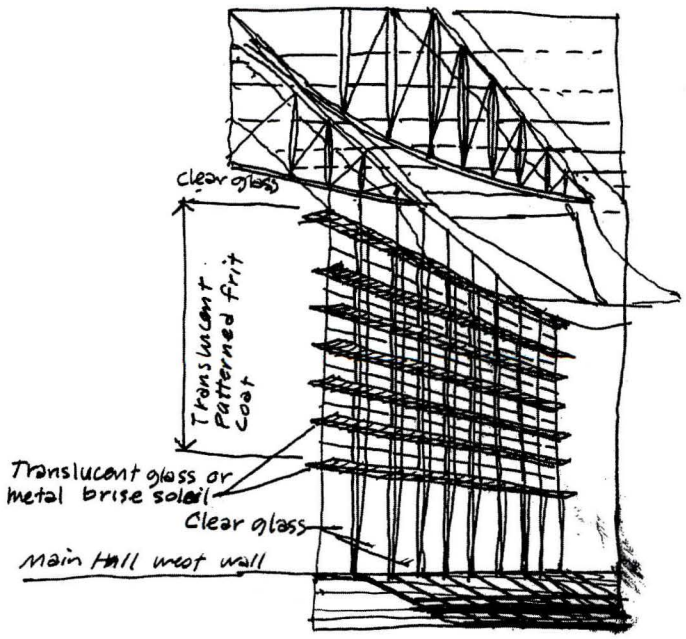
In San Francisco, JVA's double-cantilevered, base-isolated airport terminal roof is a study in structural poetics.

By Lisa Findley

The design of a modern international airport terminal ranks among the most complex tasks any architect can face. But for the group of architects who designed the new international terminal for San Francisco International Airport (SFO)—now under construction and slated for completion by spring of 2000—the usual challenges of efficient airline operation, passenger check-in, baggage handling, immigration, customs, security, and concessions were further complicated by a site that straddles a 360-foot-wide airport access road, and a 1.7-million-square-foot program that dictated a midrise building on the constricted site.

If all that weren't enough, the program also mandated that the terminal serve as: a gateway to the airport and, therefore, its signature building; an intermodal transfer point for not only airplanes and traditional ground transportation, but for the light rail line that connects the domestic terminals and the long-awaited Bay Area Rapid Transit (BART) subway station; and, finally, an "essential services" building that must continue to operate in the event of a major earthquake.

The Joint Venture Architects (JVA), comprised of Skidmore, Owings & Merrill (SOM), Del Campo & Maru, and Michael Willis and Associates, won the 1993 competition for the building with a proposal that resolves the myriad challenges. The goal of the design, according to Peter Lee, a senior structural engineer at SOM, is to provide "a strong identity combining esthetic form and economy—not unlike the great train stations of Europe."



New centerpiece

The glass and metallic aluminium-clad international terminal is the $400 million centerpiece of a massive $2.6 billion upgrade program underway at SFO. Construction is also underway on 26 new international arrival gates; the BART station and the interterminal light rail system; three new parking garages; and a complete redesign of the access and connector roadways.

JVA looked to flight metaphors for inspiration when designing their terminal. The result is a dramatic, 860-foot-long winglike roof that caps the 700-foot-long, north-to-south-oriented building and presents its arcuated profile to cars arriving on the access road while soaring 60 to 90 feet above the floor of a cavernous ticketing hall.

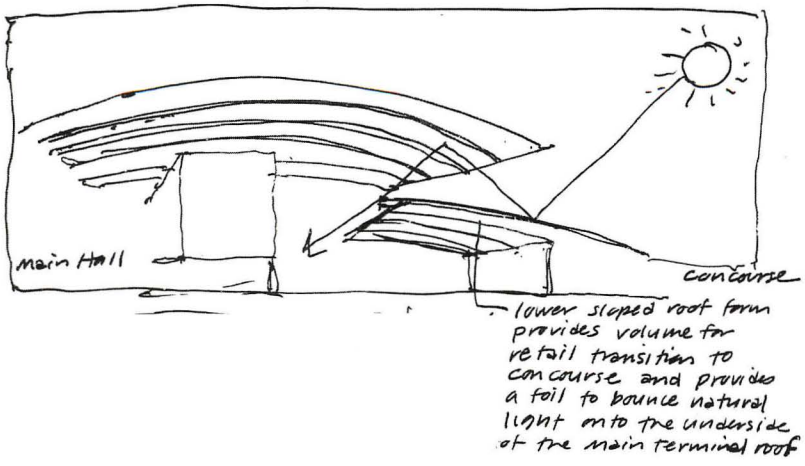
The roof structure bridges the entry road with five steel truss spans, each made up of three linked tubular steel trusses. At the extreme ends of each span, a 340-foot, 215-ton, one-way truss rests on two columns spaced 80 feet apart. Each of these trusses cantilevers off the columns 160 feet toward the outside of the building and 100 feet toward the center of the building, where they are linked with cast-steel pin joints to a 180-foot-long bowstring truss. The 102-ton center truss has three main chords—two in the plane of the roof and the third below the plane—creating a roughly triangular section.

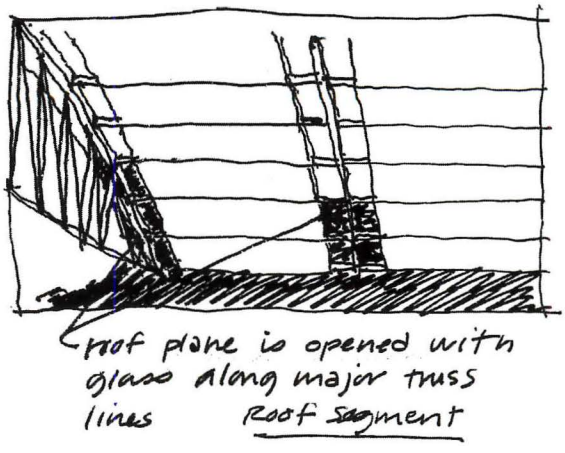
The spaces between the top chords of the bowstring trusses hold skylights that run the length of the trusses and wash the ticketing hall with daylight. Their top and bottom chord steel sections range in diameter from 12 to 20 inches and in wall thickness from .84 to 2 inches. The engineers shaped and tapered the sections until they were as delicate and lightweight as possible.

Gestural icon

The soaring building creates a memorable gestural icon while containing the terminal's functions in an efficient manner. Inside the ticketing hall, the underside of the 4½-inch-thick metal deck roof is kept clear of HVAC and lighting by the inclusion of those systems in the ticketing islands that occupy the floor. Acoustics are controlled by a large expanse of wood panels on the eastern wall and perforated acoustic panels on the ceiling.

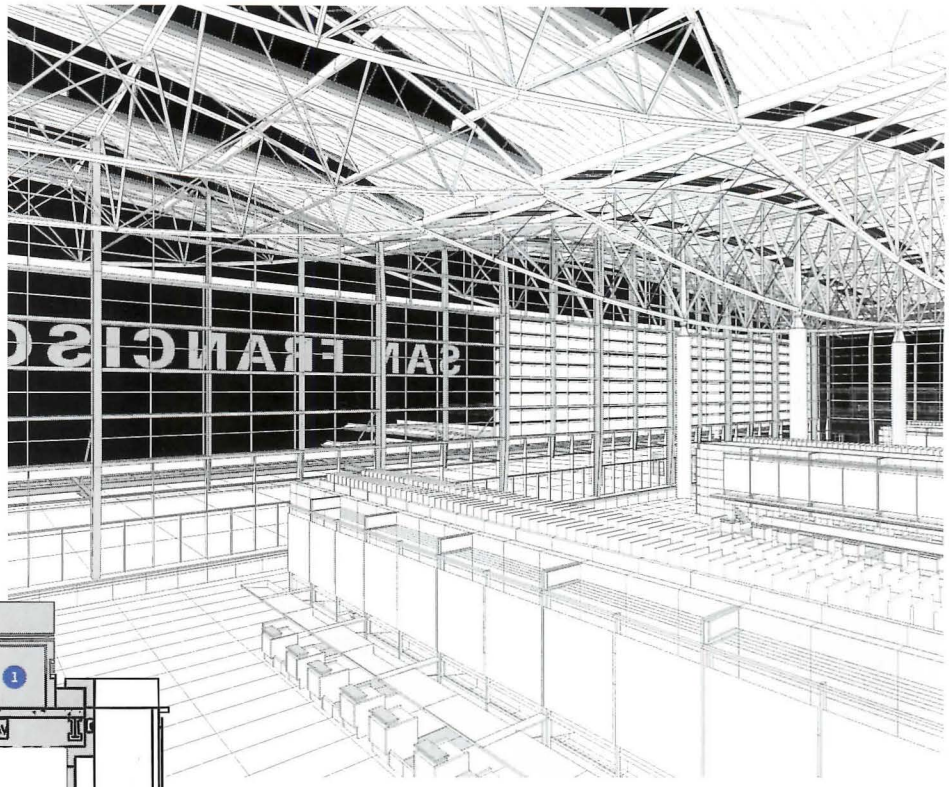
Truss system of new airport terminal, now under construction (above), spans 840 feet across main hall and roadway. Daylighting control includes skylights along main roof truss lines (below right); light reflected off sloped lower roof of concourse into terminal (below left); and, on west-facing window wall (facing page), clear glass, translucent patterned fritted glass, and metal brise-soleil.

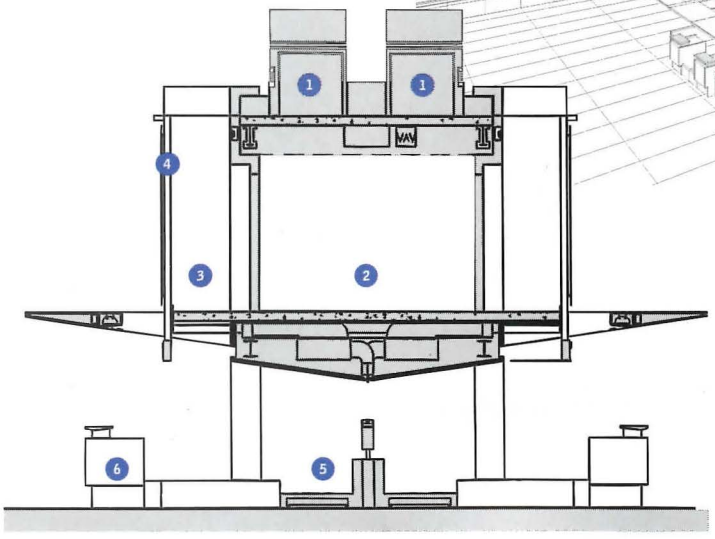




CRAIG HARTMAN SKETCHES; ABBY SADUN PHOTOGRAPHY

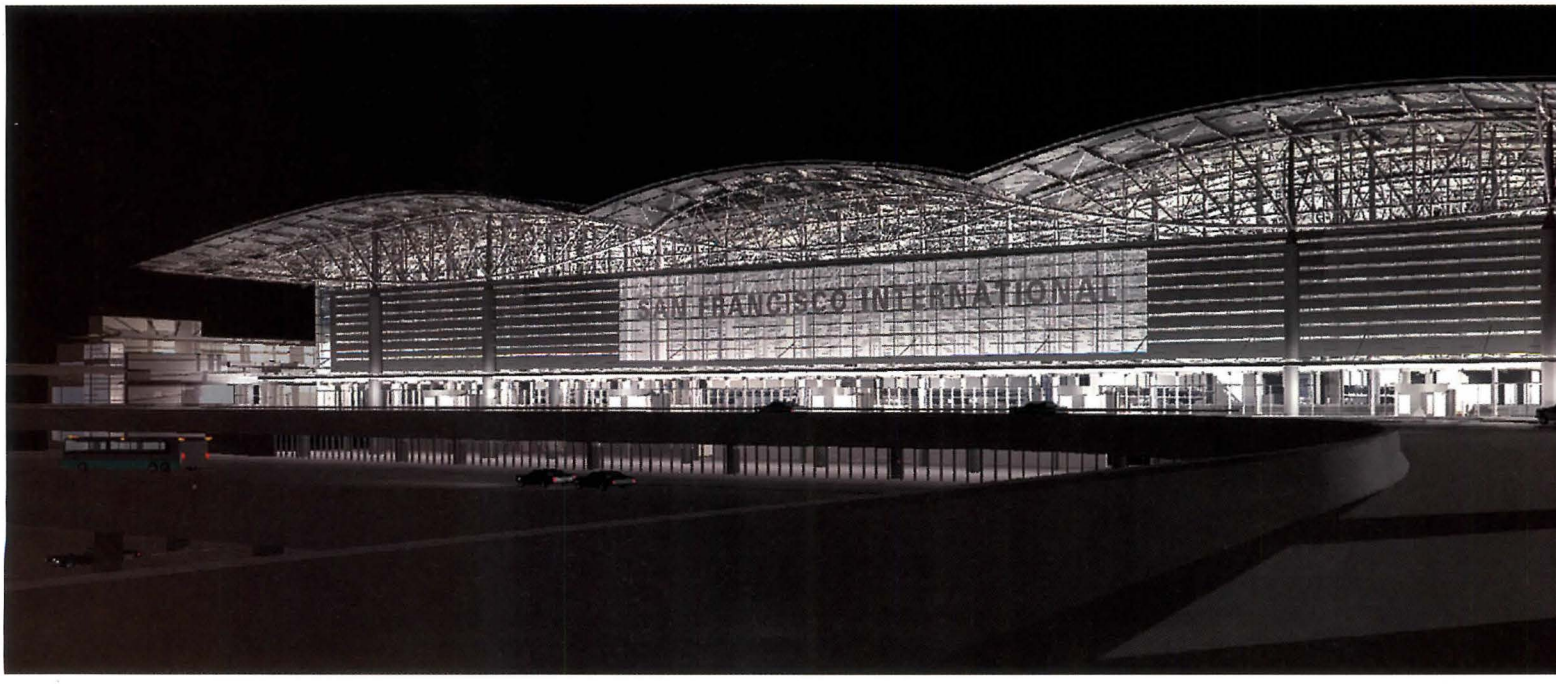
1. uplights and HVAC
2. office space
3. corridor
4. translucent glass wall
5. baggage conveyor
6. ticket counter

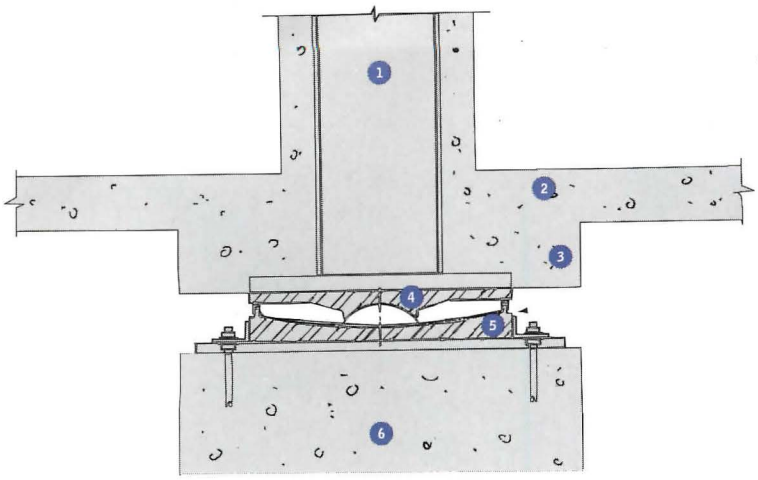




Ticketing island section

4'/1.2m





Base isolation section

1'/30cm

1. steel structural column
2. steel slab
3. column base plate
4. teflon-coated slider
5. steel dish-shaped base unit
6. concrete pile cap

In departure hall interior (facing page), exposed trusses and skylights float above ticketing islands. Interior lighting silhouettes metal brise-soleil and fritted glass shading and signage (below) on departure level approach.

Glare and overheating from skylights and the glazed west wall are a major concern. To reduce sun penetration, translucent tensile structures edged by dichroic glass by artist James Carpenter hang in the bowstring trusses. The west wall is protected by a metal louvre system and insulating, low-E ceramic fritted glass. The fritted glass not only provides sun protection but becomes what SOM Design Partner Craig Hartman describes as an "opera scrim, allowing views out during the day, and revealing a stage of activity inside at night."

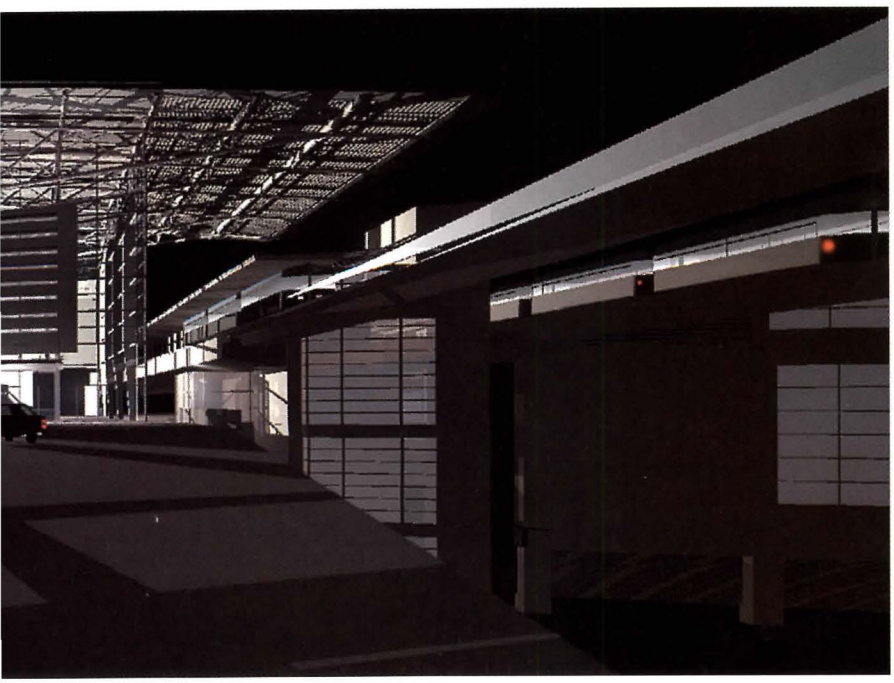
Shaky ground

The expanse of glass on the west wall of the departure hall also presented a challenge in terms of seismic design. The glazing wall had to accommodate an overall movement between the roof and the floor of 11 inches without glass breakage. The architect devised a system of clips that allows each 9-by-20-foot glazing panel in-plane horizontal movement of 1.5 percent and the ability to slip past one of its neighbors like fish scales in the event of a major earthquake.

Because the terminal will provide "essential service" and spans a major access road, it became subject to the highest level of seismic safety requirements ever placed on a U.S. airport terminal. This level stipulates that in a "upper bound" earthquake—an 8.0 or higher magnitude seismic event—the building can have only minimal nonstructural damage, must be able to continue operation, and can have no damage at all to its structural systems.

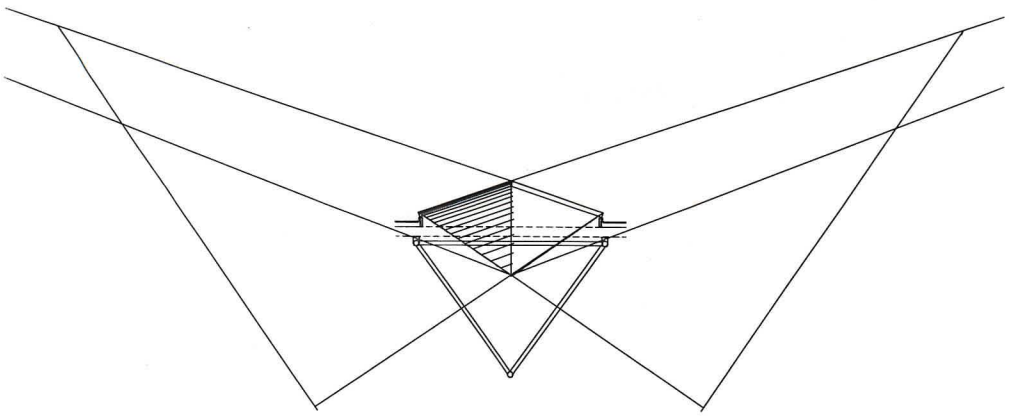
The fact that the terminal is built on liquifaction-prone bayfill mud increases the already high potential for earthquake damage. To counter that, the building's foundation is comprised of more than 6,000 precast, prestressed

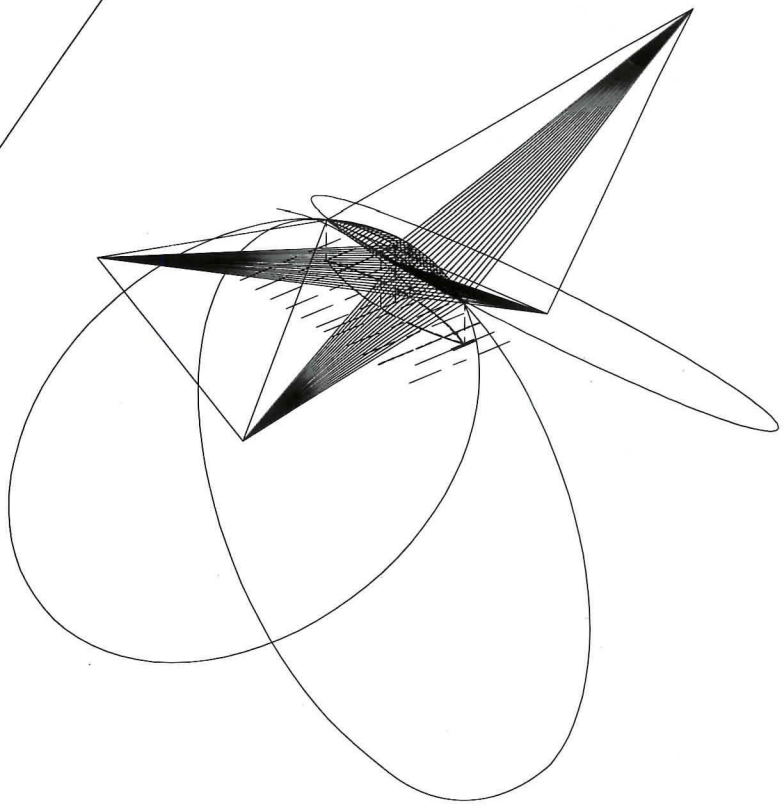
THE EXPANSE OF GLASS ON THE WEST WALL OF THE DEPARTURE HALL PRESENTED A CHALLENGE IN TERMS OF SEISMIC DESIGN.



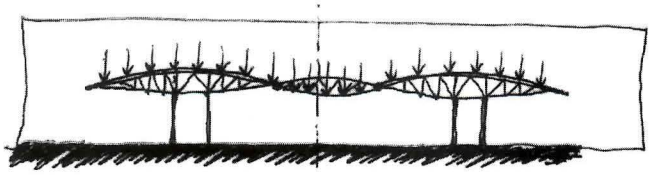
concrete piles ranging from 80 to 140 feet in depth to bedrock. These transfer seismic forces through their connection to cast-in-place concrete pile caps and interconnecting grade beams. The early designs for the steel frame of the building's main structure employed a combination of concentric moment frame and braced frame strategies to resist earthquake damage. The project was in its construction document phase when engineering analysis of the 1994 Northridge earthquake prompted serious reconsideration of generally held assumptions about moment frame structures. Redesign using new information showed that the frame strategy would be prohibitively expensive and would allow unacceptable movement of the roof structure and west window wall.

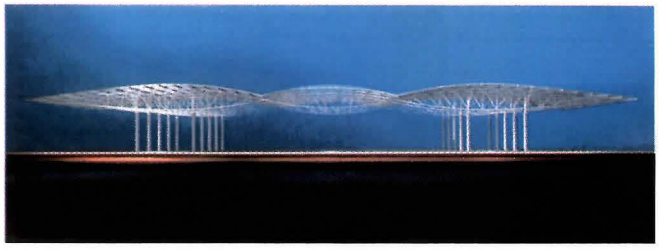
The project engineers switched strategies to base isolation, a seismic design strategy in which a building's structure is separated from its foundation by a mechanism that allows the ground to move separately from the building. The system employs the building's weight to





Studies of solar angles and gain through skylights (above and right) aided integration of shading devices and James Carpenter's tensile light diffusers. Schematic diagram of moment forces on truss system (below) portrays bridgelike structure; model of system (bottom) exhibits wing-shaped profile.





JVA LOOKED TO FLIGHT METAPHORS FOR INSPIRATION WHEN DESIGNING THE TERMINAL.

provide inertia and dampening against earthquake forces, so the energy of an earthquake is dissipated by movement rather than absorbed by the structure. Several base isolation systems exist; JVA designed for, specified, and sent out to bid three different, but equal performance, systems. The contractor selected a "friction pendulum" system for its cost and lower steel usage.

The terminal has 267 friction pendulum base isolators. Each consists of a 5-foot-diameter, polished stainless-steel, dish-shaped base unit bolted directly to the top of the pile cap. Completing the ball-and-socket configuration, a companion unit with a curved Teflon-coated slider is bolted to the bottom end of each column, which in turn rests in the center of the base unit's dish. The weight of the building keeps the column in place except in the event of an earthquake, when the slider is free to move across the dish. The motion of the building in an earthquake is that of a pendulum, with each isolator allowing up to 20 inches of horizontal movement in any direction. The columns are interconnected above the plane of isolation by steel beams and reinforced concrete to compose a rigid diaphragm.

In the event of an earthquake, the ground will move, but the inertia of the building tends to keep it stationary as the sliders move across the surface of the dish. This design allows for an overall building period of 3.0 seconds, reduces earthquake force demands on the building up to 70 percent, and confines lateral movement at the roof to an acceptable 11 inches.

Poetic form

The elegant integration of engineering and architecture that gives the San Francisco international terminal its operational efficiency, poetic form, and seismic safety is the outcome of what Peter Lee identifies as "the commitment to collaboration between architects and engineers." Working back and forth between programmatic demands, engineering vision, and design desires, the JVA, led by the example of SOM, has employed technology in straightforward service of architectural goals. The result is a project where complex demands are so skillfully resolved that it makes designing an international terminal look easy.

Oakland, California-based architect Lisa Findley teaches at the California College of Arts and Crafts.

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Winners will also be featured in the May 1999 edition of ARCHITECTURE magazine.

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Practice

Joining Forces

Mergers can create stronger firms, or alphabet soup. Careful planning and clear objectives can help firms avoid the most common pitfalls.

By Michael J. Baker

In 1990, a New England-based engineering firm approached Dennis Kamber, president of a 165-person engineering firm in Gaithersburg, Maryland, and proposed a merger. Eager to expand his capabilities, Kamber accepted the offer and diligently pursued the deal for six months. Two weeks prior to closing, however, the New England firm backed out with no explanation. Kamber lost more than $100,000 in transaction costs and several key employees who became disillusioned after the process. In addition, his relationship with his bank, which had been good, became strained. Kamber ultimately had to sell his company to a Pittsburgh environmental engineering firm. He left two years later and now works for Long Beach, California-based environmental engineer Earth Tech.

Although Kamber proceeded with the merger in an attempt to expand his company and make it more competitive, his efforts, through no fault of his own, proved disastrous. His experience offers a cautionary tale to those companies who see a merger as an easy way to grow: There are no guarantees.

This is not to say that mergers can't be successful. They can, when approached with caution and a clear set of specific objectives. There have been many successful mergers in the architecture and design industry in recent years: For example, Charlotte, North Carolina-based HLM Design recently merged with Dallas-based JPJ Architects; Houston-based Pierce Goodwin Alexander Linville (PGAL) merged with Prime Design, Inc., of Tampa, Florida; and Detroit-based SHG merged with Keyes Condon Florence (KCF) of Washington, D.C.

Firms considering a merger should keep one overriding principle in mind: The new entity they envision must be more than simply the addition of two client bases and payrolls. Instead, it must be a well-structured integration of talent, experience, and expertise. If not, the resultant firm may be less efficient and, ironically, not nearly as profitable.

Coming to terms

Although terms for combining companies are often used interchangeably, there are distinctions between mergers, acquisitions, and consolidations. A merger is a combining of two businesses in which one survives and the other loses all or part of its identity. Acquisition generally comes about when one firm gains effective control of another through a financial transaction. Consolidation is the complete fusion of two or more entities into a new company.

The potential objectives of a design firm merger are similar to those in any other professional services industry—increasing market share by expanding services; expanding markets geographically; and bringing in previously unavailable leadership capacity to the new firm. The real key is to find two compatible firms. One architecture firm that merged to increase market share was PGAL. The firm recorded a growth from $5 million in billings in 1988 to $34 million by 1994, but was searching for ways to continue growing. PGAL's founder, Jack Linville, was the lead designer for virtually every building at Houston International Airport, but the firm had no experience designing airport runways, and subsequently merged with Prime Design, Inc., an engineering and architecture firm with that expertise. The merged firm earned its largest fee ever, $40 million, to be associate architect for design architect Cesar Pelli & Associates' new terminal at Washington, D.C.'s Ronald Reagan National Airport, while its work at Tampa International Airport expanded from civil work to include the design of a $50 million parking garage. "This was a merger of building and runway expertise," Linville says of the new firm's successful combination of purpose and experience. "It took us to a new level in the aviation business, plus we were no longer just a local Texas firm."

Best advice? Be prepared.

Any firm seriously considering a merger must first evaluate its own finances, clientele, practice specialization, and internal culture. If this evaluation, which is most likely conducted by principals familiar with the company's general condition, leads to the conclusion that the firm is a good merger candidate, the next step is to prepare a profile of the firm with which it may ultimately merge. This should include consideration of potential acquired specialties, mar-

ANNE KATRINE SENSTAD

ANY FIRM SERIOUSLY CONSIDERING A MERGER MUST FIRST EVALUATE ITS OWN FINANCES, CLIENTELE, PRACTICE SPECIALIZATION, AND INTERNAL CULTURE.

OFTEN OVERLOOKED IN THE BEGINNING OF MERGER NEGOTIATIONS, THE NEW ENTITY'S NAME BECOMES MORE IMPORTANT AS THE TALKS BEGIN TO MOVE TO A CONCLUSION.

ket position, and potential for market expansion—geographically, or by virtue of expertise or services.

Once the evaluation of both merger candidates has been completed, analysis then must be directed toward the new entity. Practical business concerns must be addressed, such as joint bank accounts, company insurance, operations, and personnel. Denys H. Oberman, of the Newport Beach, California, merger and acquisition consulting firm Oberman Associates, says that although firms can invest up to $500,000 on acquisition costs, they often have not planned for business integration.

Major pitfalls

While there are many good reasons to consider a merger, there are times when the wrong reasons drive the process. Among poor merger motivations is the urge to grow as a way of overcoming profitability problems a firm might be combating, or high operating expenses. While the firm may secure more projects as it grows, getting larger doesn't mean the firm will be more profitable. In addition, the transactional cost of completing a successful merger deal further depletes bank accounts.

After these concerns are confronted, there are still more issues that need to be discussed early in the merger process:

Firm name. A firm's principals and founders often see their company's identity as a function of its name. Thus, choosing the name can disrupt even the smoothest of merger talks. Some firms simply combine their names into a single identity, often resulting in alphabet soup. When SHG, a subsidiary of The SmithGroup, merged with KCF, for example, it became KCF-SHG. Another way the name issue can be handled is illustrated by the recent merger of Bengtson, DeBell & Elkin, Ltd. (BDE) a Chantilly, Virginia-based engineering, surveying, and landscape architecture firm, with Burgess & Niple (B&N), a Columbus, Ohio-based architecture and engineering firm. BDE will continue to operate under its own name as a subsidiary of B&N. John DeBell remained president of BDE, and John Elkin remained executive vice president, while both also assumed the roles of partners.

Liabilities. During merger negotiations, there must be a complete evaluation of known and potential contingent liabilities, such as operating expenses, current and future business prospects, and any pending legal matters that the new entity might inherit. Under the laws of most states, the surviving corporation becomes liable for all obligations of the merged or constituent corporations. All parties should have available to them competent specialists to evaluate known or unknown, current or future liabilities. In addition, there are some specific measures that the parties can take to provide protection in these areas, including: securing personal guarantees or warranties of transferring shareholders to ensure that the transferring shareholder will make good on payments to the surviving company should anything go wrong; reaching agreement by all parties to set aside some stock or money in the new company as security against future and unknown liabilities (once these liabilities either become known, or no longer exist, the stock could be canceled, or money withheld could be released); and arranging for a final professional audit of the merged or constituent corporation's books just before closing.

Differences between firms. Successful mergers occur when no dominant party, or its customs, systems, or organization, is imposed on the other party. Because mergers generally involve a smaller firm joining a larger one, participants ought to monitor acceptance of the dominant firm's culture—management, philosophy, personality differences, corporate structure—to ensure these don't threaten the new entity's functionality and productivity.

Matching technologies. Just as the personality of the companies must be addressed, so too must technology. Software, including CAD applications, databases, and financial and timekeeping records should be examined to determine how compatible existing systems are.

Money issues. An open examination of all financial matters is essential. Issues such as tangible and intangible assets, accounts receivable, future commitments of clients, salaries, and accounting policies must have a serious airing.

Overall objectives

If, after careful analysis, principals determine that a merger is in the best interest of all parties, they must first, before closing any deals, agree on overall growth objectives of the new company. Mergers can be profitable, and they seem to be the order of the day. But firms must have a well-conceived plan, or growth and prosperity will quickly slip away.

Michael J. Baker is a Costa Mesa, California-based attorney specializing in design, engineering, and construction law.

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Preservation

Lofty Ambitions

Converting historic office and industrial buildings into livable spaces constitutes one of preservation's greatest challenges—and pleasures.

By Michael Maynard

After years of disinvestment and abandonment, America's downtowns are steadily drawing people back. Developers have discovered that suburban consumers will venture to cities for the urban experience: museums, nightclubs, diverse restaurants, urban scale. Some of the same developers are also realizing that many of these consumers are eager to immerse themselves fully—by relocating to the city.

Revived interest in urban living, coupled with a vast inventory of vacant warehouses and offices in former industrial areas and central business districts, presents a variety of opportunities for architects to create new living spaces. Among these, lofts have become the hot ticket—and not just in New York City and San Francisco. Once the lowly stepchild of apartments—suitable only for struggling artists in seedy neighborhoods—lofts are developing cache in urban centers around the country.

The prospect of clean, modern, and livable open-floor spaces in such immense, roughhewn, and often historic buildings is, in many cases, striking. "You can't get the big beams and the structures anywhere else," says architect and loft-conversion veteran Joel Marquardt of Gastinger Walker Harden (GWH) Architects in Kansas City, Missouri. Marquardt, who himself resides in a downtown loft, says such features are big draws for consumers.

A former millinery warehouse in downtown Dallas, 2220 Canton (above) features rooftop water tower now employed as signage. Concrete and brick exterior needed no restoration except for cleaning.

"I live in what used to be a diaper factory," he says. "You can't build that kind of history."

Preserving historic fabric

Part of what makes loft conversions attractive to architects is the challenge of making livable spaces in buildings never intended to be lived in, while simultaneously preserving their historic value. "We look at the best items that a building has to offer and work to unite the design and concept from what is left of the historic fabric," says Lyle Burgin, a principal with Dallas-based Corgan Associates, who has converted 10 downtown Dallas buildings into lofts.

In the renovation of the 1913 Kirby Building, a 17-story U-shaped structure that was formerly a department store and office building in the heart of Dallas, the architect retained only the historic marble corridors; the original interior offices, which also could have been converted, were demolished and renovated into modern office space in the mid-1970s. In the renovation, which will be complete this spring, Burgin gutted and replaced the offices that made up the 6th through the 17th floors, as well as four of the five floors of retail space below, with 156 residential units. The first floor is reserved for retail, apartments are on floors two through five, and the lofts are on the upper floors. Eighty-five percent of the units, which have 11-foot-high ceilings, retain the original maple floors and the oak trim along the base of the double-hung windows. Contractors installed a T-1 cable for high-speed Internet access throughout the building and each unit is wired for four telephone lines. In addition, the original oak office doors will be restored and used in individual units.

When Burgin first surveyed another project, a former Dallas millinery warehouse and manufacturing building built in 1922 and currently known as 2220 Canton, he noted the building's concrete columns. "The columns became organizational elements in the units," he says. "They divide the kitchen and the living area or they create passageways and library space. These columns may be 3 feet in diameter—they dominate the space."

The architect softened the demeanor of the rectangular concrete building, which includes brick and steel casement windows, by introducing "welcoming elements." For example, a curvilinear oak veneer wall added to the large lobby "brings warmth into the space and contrasts with the stark industrial esthetic of the concrete," Burgin suggests.

Fourteen-foot steel-framed structure (above) atop 2220 Canton contains ducts for dryers and bathroom exhausts. Architects added steel checker plate and pipe-rail balconies. Corner unit (top right) with wood floors and steel-casement windows adds warmer tones to industrial traits. Swimming pool and jogging track (bottom right) coexist with mechanical systems on roof.

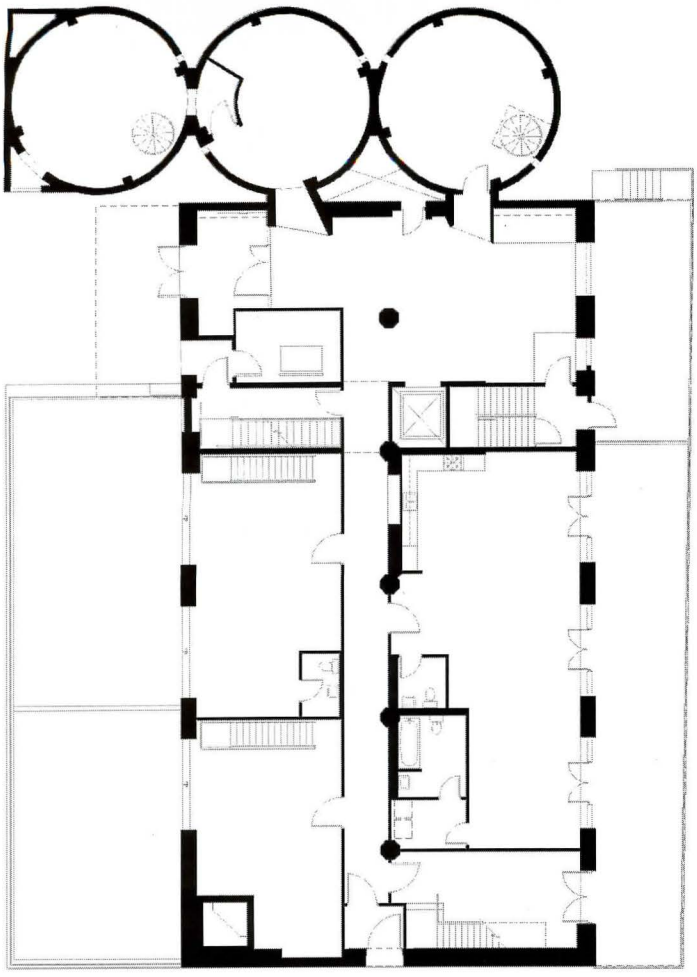
Industrial chic

Denver architects Ann Cuthbertson and J.V. DeSousa, of Cuthbertson + DeSousa Architects, did little to soften the industrial esthetic when they created lofts from a flour mill and its three attached silos. "Time and neglect had reduced the building to its barest essence: a concrete frame, metal window sashes, and brick spandrel panels," notes DeSousa. "The appeal for us was the materiality."

Located on the edge of downtown Denver in an area that was once filled with mills, the long-neglected and vandalized structure, originally the Pride of the Rockies Mill (1921) but renamed Flour Mill Lofts, required extensive repairs: cleaning and repointing the brick walls and mortar joints, repatching cracked plaster, and sealing cracks in the silos with epoxy. The architects are quick to note, however, that their repairs do not erase the building's history. "The units are still pretty industrial, with the exception of the nice wooden floor finishes," remarks Cuthbertson. "The market is looking for that authenticity."

Cuthbertson + DeSousa created dramatic living areas from the sleek, rounded rooms of the 10,000-square-foot silos, and the larger, industrial spaces within the 45,000-square-foot mills, which feature large casement windows and irregular patterns of sandblasted plaster walls. The hollow silos required extensive engineering to transform them into livable rooms: The architects inserted a steel-frame structure into the silos along with a steel-beam floor system and metal-backed floor assembly. They also replaced a concrete-slab roof with rigid-board insulation and an EPDM membrane.

The plans at Flour Mill are larger than those of other lofts: Most of the apartments, which are being sold as condominiums, are between 2,200 and 3,000 square feet. The northern units on the upper floors include space in the main building and the three silos. The architects installed full-sized windows in the northern silo and



Typical floor plan

250'/75m

Located in former industrial area adjacent to downtown Denver, conversion of seven-story Flour Mill Lofts (facing page) included insertion of livable space into silos. Lofts on south side of building (above) have no silo space, but are bigger and feature large windows on three sides.

smaller, narrower windows in the other two silos. The outer silos are designed as bedrooms and/or office space, while the middle silo houses the bathroom and utility closets. The rest of each floor contains living areas and kitchens. The original steel sash windows for the building were badly deformed and could not be salvaged, Cuthbertson laments. In their place are aluminum windows that she claims are "faithful in proportion and scale" to the originals.

CUTHBERTSON + DESOUSA CREATED DRAMATIC LIVING AREAS FROM THE SLEEK, ROUNDED ROOMS OF THE 10,000-SQUARE-FOOT SILOS.

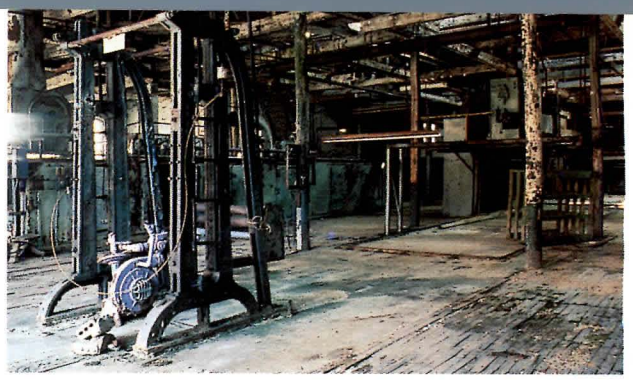
Ceding to codes

That the Denver flour mill could survive fire, storms, and vandals testifies to the powerful construction of such buildings. Similarly, in the Fulton Cotton Mills, nine mill buildings in a neighborhood east of downtown Atlanta, the heavy timber beams and concrete construction sustained the "benign neglect" of the previous owner, according to Joseph League, a principal of Atlanta-based architect Jova Daniels Busby. While some columns, floor decks, and roofs had to be replaced, the architect created most of the lofts from the original materials.

But surviving the elements is sometimes not enough; the Atlanta mills almost didn't meet local building code requirements. Two of the mill buildings are five floors, two floors above the limit for which heavy timber construction in residential buildings is allowed. League says that working closely with the local building officials and employing mitigation measures, such as concrete floors and additional fire sprinklers, were enough to win a variance for the project, allowing the timber to remain in place.

The building's wide-board floors, however, could not be refinished because hundreds of dime-sized metal discs that the cotton-spinning machines spit out remained embedded in the wood. "The floors were impossible to sand," says League, who reluctantly covered them with a two-inch concrete topping.

While League successfully secured a variance, other architects have faced more stringent codes requiring plans to be reworked. In converting a Kansas City warehouse into lofts—the Landmark Lofts—Marquardt of GWH had to contend with only one staircase in a four-story, 42,000-square-foot building. A second stairwell was necessary, so the architects took advantage of a large, three-story vault on the eastern side of the building and cut into the floor space above to design a square staircase with an open center.



DAVID SOUTHARD PHOTOS

Jova Daniels Busby, architect of Fulton Cotton Mills, a multiphase project now under construction in downtown Atlanta, is resurrecting complex of 116-year-old mill buildings (above) into neighborhood of lofts. Long-abandoned buildings contained little internal construction (above right). Renovated exterior (right) features new balconies and restored facades. Large window frames (below right) that reveal ongoing construction outside are created from original openings.

Landmark Lofts is actually two buildings, both of which are four stories. To make them feel less industrial, Marquardt installed vertical strips of glass block on the side of the exterior doorways of three street-level units. "When lights are on inside, the glass blocks become a beacon and a sign that there is habitation," Marquardt asserts. "This humanizes the entry and lends it a smaller scale." But the architects did not want to soften the space completely: They kept the interiors minimal to lower costs, allowing residents to customize their space and retain the industrial flavor. The architects left wood floors uncarpeted and brick walls exposed, and they sandblasted wood columns and beams. No interior walls were inserted except for closets, kitchens, and bathrooms.

MANY CITY OFFICIALS ENCOURAGE LOFT CONVERSIONS BY OFFERING TAX CREDITS, GRANTS, AND OTHER FINANCIAL INCENTIVES.

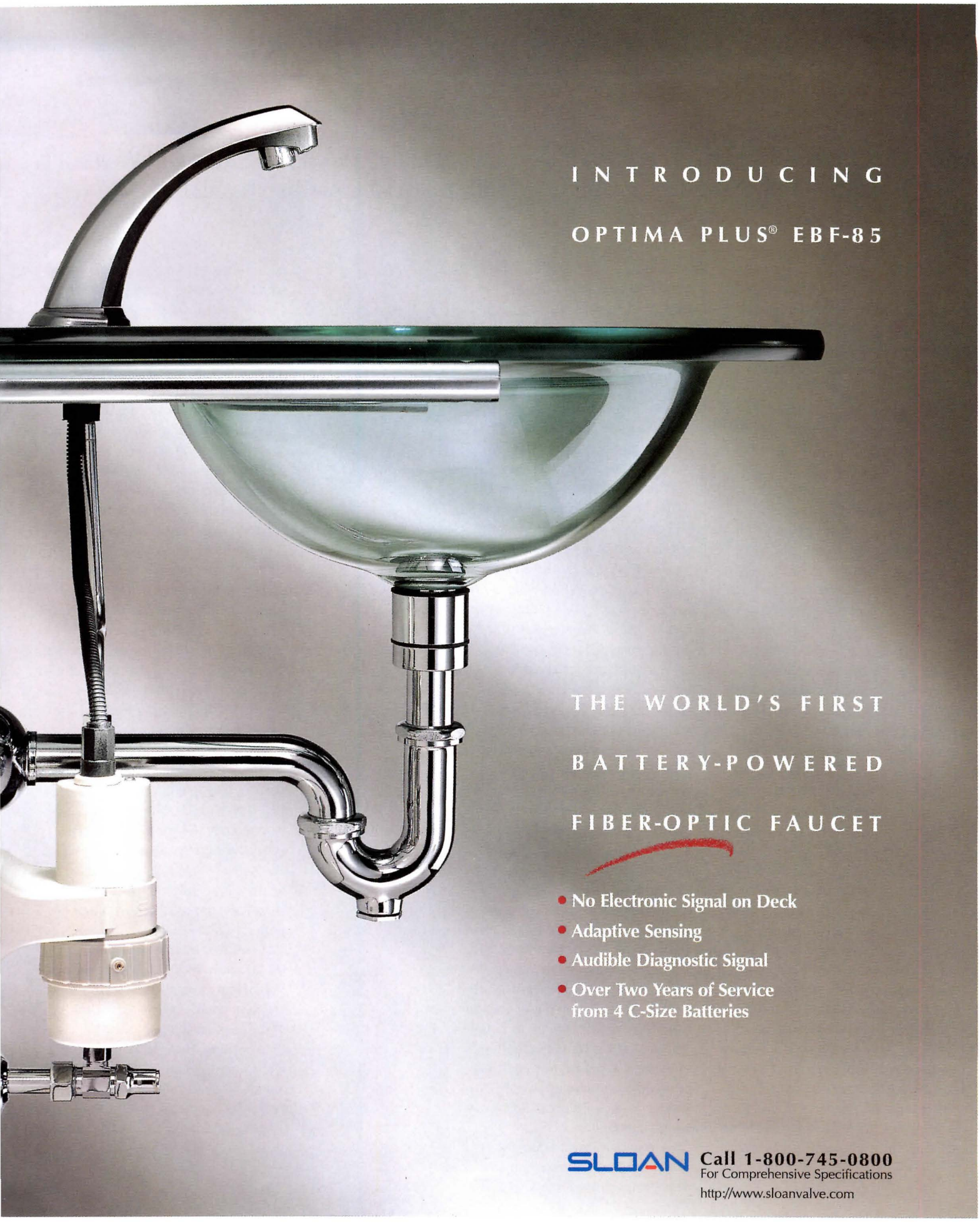
Sustained interest?

A recent survey conducted by the Hall Financial Group, which is developing the Kirby building, found that 50,000 people in the Dallas-Fort Worth area would like to live downtown. A similar study by the Downtown Housing Council in Kansas City concluded that there was a market for 8,000 units of downtown housing. Whether this pace can be maintained is a matter of some debate.

Nevertheless, developers have shown an interest in revitalizing older buildings, and the response of many city officials has been to encourage them through tax abatement, tax credits, low-income housing grants, and other forms of financing. Says Burgin: "The 1990s have brought on a trend to try not to lose any more of the [buildings] that we have left."

In many instances, architects can find ways to retain a building's original spirit. Architects Cuthbertson + DeSousa plan to leave as much of the existing machinery from the flour mills as possible as design elements, while the steel vault doors from Kansas City's Landmark Lofts are visible in several of the units. Invoking such historic details of the past century, while wiring the units for the next one not only links past and future, but makes for some spectacular living spaces.

Michael Maynard is a Providence, Rhode Island-based freelance writer.



Circle 131 on information card

Computers

SPEC-tacular Conversion

Manufacturers are steadily replacing bulky product binders with CD-ROMs and Web sites. Has paperless media matured enough to actually make spec-writing easier?

By Bruce B. Palmer

Virtually every architecture firm in the country has the familiar, green 16-volume set of Sweet's catalogs. The set, containing tear sheets from thousands of architectural product manufacturers, weighs more than 100 pounds and hoards over five linear feet of shelf space. On top of this, most product manufacturers also produce their own binders with photographs, details, and technical information that won't fit in the encyclopedic versions, and, occasionally, actual samples.

Because these resources are crucial to every practice, considerable office real estate is dedicated to storing them. Larger firms typically have staff devoted exclusively to their product libraries whose job is to constantly update the materials. But it's a never-ending effort: Manufacturers can modify and create new products at a staggering rate.

Fortunately, manufacturers, averse to the rising cost of paper, postage, and personnel, are rapidly turning to digital media to deliver product information. CD-ROMs and Web sites are quickly supplementing, if not altogether replacing their printed predecessors. Although the shift is potentially invaluable to architectural spec writers, the quality of electronic materials available today varies considerably. An informal survey of digital manufacturers reveals that some of their product selection systems are so skillfully designed that they dramatically ease the spec-writing process and make their paper counterparts obsolete, while others are merely redundant or even fall short of the printed version. This underscores that the transformation to digital formats, while far from complete, is showing promise. Eventually, office bookshelves may be cleared of these space-consuming volumes forever.

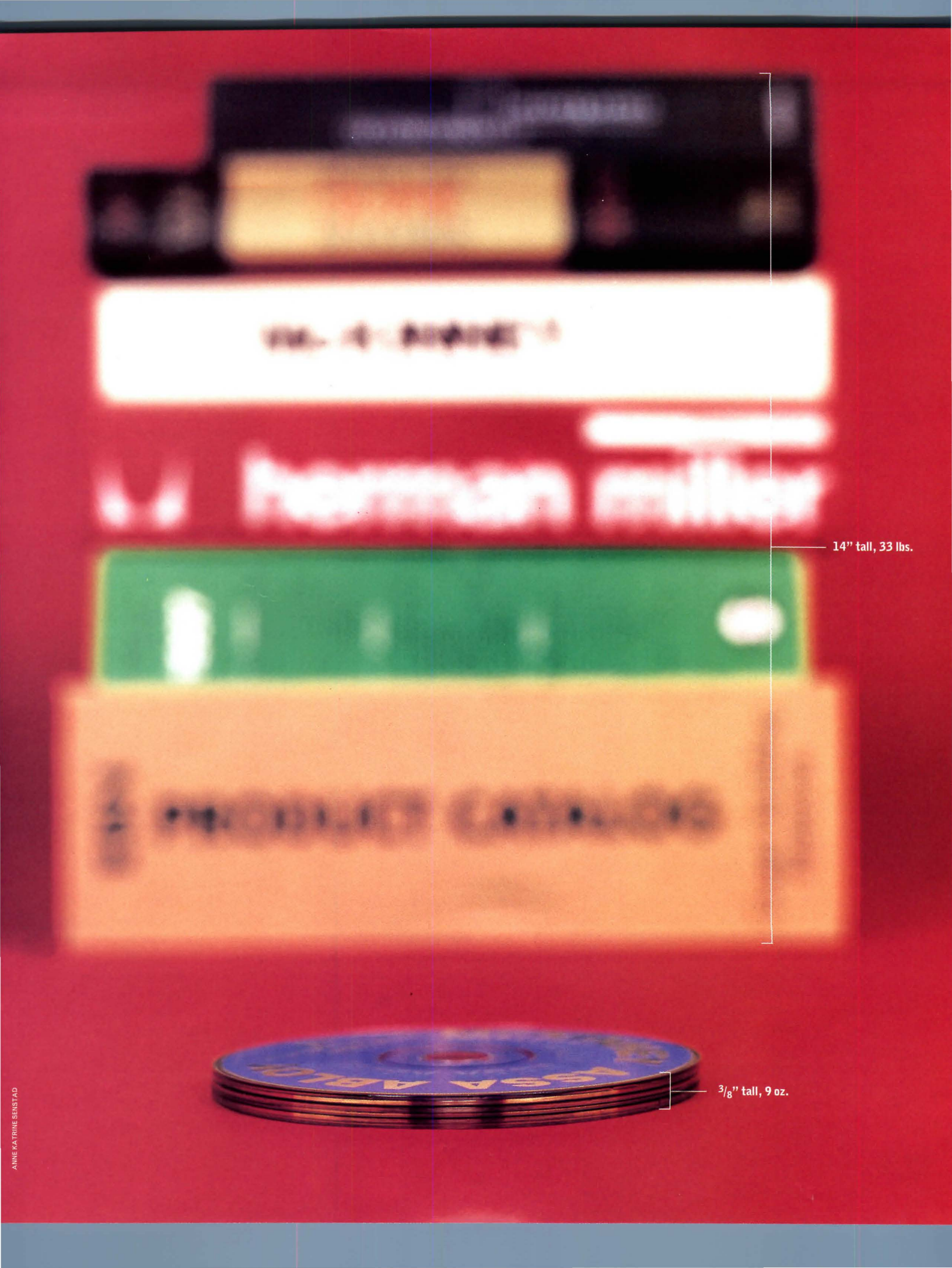
Electronic catalogs

The types of material available fall into two general categories: Information provided by manufacturers that is distributed free via CD-ROMs and (increasingly) Web sites, and condensed product-selection resources that are compiled and sold, also on CDs and through the Internet, by third parties. While Web formats will likely dominate as Internet speed and accessibility improves, CD-ROMs are the current vogue, and their existence is a key part of the evolution of electronic product catalogs.

Initially, many vendors simply scanned their existing catalogs and marketing materials and packaged them with document-viewing software. Others went further and developed complex interactive catalogs with software such as Adobe Acrobat. With Acrobat, documents can be distributed and viewed on any computer, regardless of whether it is equipped with the software used to create the document. This has enabled manufacturers to develop digital catalogs that include sophisticated graphics and high-resolution photographs. Acrobat can also be used to develop more sophisticated methods of viewing information: for example, digital buttons that bring up desired information when clicked with a mouse can be added in an index.

Andersen Corporation, the window manufacturing giant, includes Acrobat-produced assembly, installation, and detail guides along with their current commercial catalog in a three-disc set. The centerpiece of the suite is the WindowStudio software application. This computer-aided program simplifies the design of window and patio door combinations using Andersen's products. Product assemblies are constructed in elevation in a special view that is referred to as the "workbench." Plans, elevations, and details can be reviewed in separate windows and then exported in either DXF or DWG formats directly into CAD construction documents. The program goes beyond simple graphic representations of windows: The software "knows" the properties of each of the fenestration types and can aid the user in ensuring that the products are used appropriately, such as recommending joining techniques for different window types.

Carpet vendor Collins & Aikman, working with fabric designer Jhane Barnes, has also included a design tool with its CD, along with a multimedia introduction to the line and an interview with the designer. PreVIEW, an easy-to-learn CAD program by Designer Software of Syracuse, New York, simplifies the design of flooring patterns using Bharnes' line of geometric carpet tile. Although the program facilitates the manipulation of individual tiles in order to create intricate patterns, the quality of the graphic representation of the tiles is poor. This highlights a major shortcoming of all electronic catalogs: Color reproduction will always vary from computer to computer. Even the most expensive monitors



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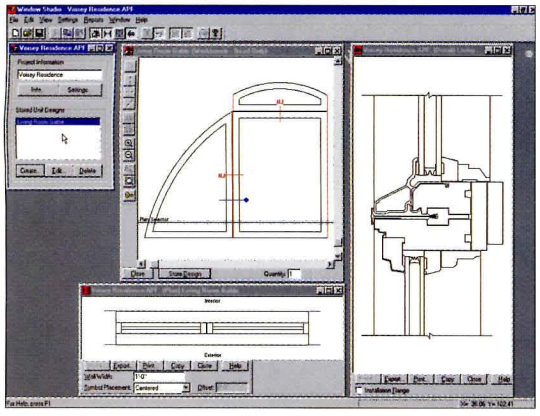
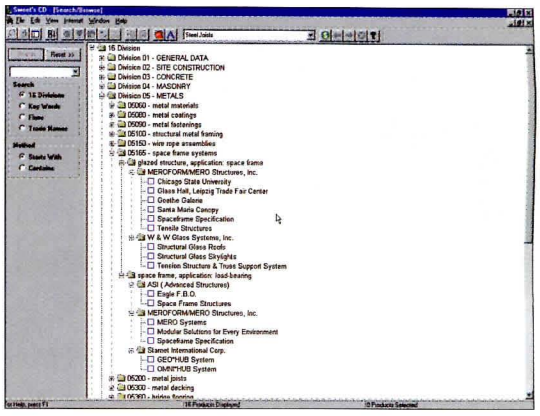




McGraw-Hill's Sweet's CD-ROM (left) uses standard CSI Divisions to organize product information. Andersen's WindowStudio (far left) lets architects create window assemblies and export sections, elevations, and details to CAD programs.

SOME OF THE PRODUCT SELECTION SYSTEMS ARE SO SKILLFULLY DESIGNED THAT THEY DRAMATICALLY EASE THE SPEC-WRITING PROCESS AND MAKE THEIR PAPER COUNTERPARTS OBSOLETE.

running on the best graphics workstations cannot always faithfully recreate the colors and textures of architectural components.

Reference materials

Third-party specifications information publishers are also making headway in the conversion to digital formats. In December 1992, McGraw-Hill began distributing a CD-based version of its ubiquitous Sweet's catalog. The CD also includes CAD details not shown in the print version, as well as specification data for most of the products listed. Information pertaining to specific projects can be saved as a series of bookmarks so architects can easily access the information later.

The newsletter Environmental Building News (EBN) produces the E Build Library CD-ROM, a listing of environmentally sensitive building products and information resources for sustainable design. The CD, which includes back issues of EBN since its inception in 1992, is a tremendous resource for architects interested in pursuing green design. The building materials section is organized around the 16 familiar CSI divisions and is also crossreferenced alphabetically by product name and manufacturer. Although Web addresses are listed when applicable, there are no live links and the information provided is not as comprehensive as Sweet's. Nonetheless, The E Build Library is a unique source of information on environmentally responsible products.

Last March, publisher John Wiley & Sons released the second electronic version of the venerable Architectural Graphic Standards (AGS). Its CD should quickly establish itself as a standard in much the same way that the 96-year-old print version has. This resource starts off where the bound version ends: Every page of the ninth edition has been scanned and is included in raster format and, more important, over 5,000 of the technical drawings can be accessed in vector format by simply double-clicking the illustration. (Raster data differs from vector data in that the elements of a vector file can be manipulated individually, like a CAD file, whereas raster information is simply a digital image.) The vector files included with AGS can be saved in both MicroStation and AutoCAD formats. The details can also be saved in the generic DXF format for use in other CAD and illustration programs. Drawings that have not been supplied in vector format can still be saved in their raster form via the popular tagged image file format (TIFF). Although more cumbersome to modify, TIFF files can easily be placed in CAD drawings, word processing documents, and on Web pages.

The AGS CD-ROM features an intuitive interface that enables the user to find the desired information by several methods, the most innovative of which uses cut-away illustrations of the most common building construction techniques. As the cursor glides over the illustration, it highlights individual building subsystems. A click of the mouse produces the index of the topics relating to that particular subsystem.

Still to come

CDs are definitely the media of choice at the moment, but the Web continues to gather momentum, as evidenced by the AGS's readiness to link its CD-ROM with manufacturer Web sites. For their part, those manufacturers are beginning to realize that the Internet may render third-party resources such as Sweet's obsolete. The Web provides the same sort of "one-stop shopping" as Sweet's without having to leave your desk. Prospective customers are drawn to manufacture's Web sites for the most up-to-date information.

The digital product information formats that are available to specifications writers today offer a mere glimpse of what is to come. Architects' acceptance of digital catalogs will grow as the quality and usefulness of those references improve. In the meantime, the best electronic resources only augment the information still cramming our library shelves.

Bruce B. Palmer is the director of technology at Gensler in New York City.

Presidential Design Awards 2000

Call for Entries

To recognize excellence in Federal design, the White House is pleased to invite entries for the Presidential Awards for Design Excellence.

Categories
Architecture
Landscape Architecture
Engineering
Industrial and Product Design
Graphic Design
Historic Preservation
Interior Design
Urban Design and Planning

Eligibility
Works that have been sponsored, authorized, commissioned, produced, or supported by the United States Government are eligible.

Works must have been completed and in use between January 1, 1989, and January 1, 1999.

Who May Enter
Current Federal employees, former Federal employees, Federal contractors, state and local governments, and nonprofit organizations that have completed design works for the Federal Government. ***No entry fee is required.***

Special Presidential Millennium Design Awards
Nominations are requested for Federal design projects completed in the 20th century that have made a significant contribution to the environment and quality of life in the United States.

Any individual may submit a nomination for this special award.

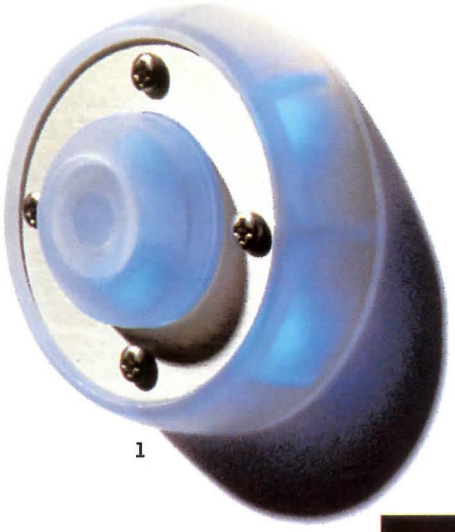
Deadline
Entries and nominations must be received by 4:00 p.m. E.S.T., Thursday, April 8, 1999.

For Further Information
For an entry and/or nomination form, contact Thomas Grooms at 202-501-1888 or thomas.grooms @gsa.gov.

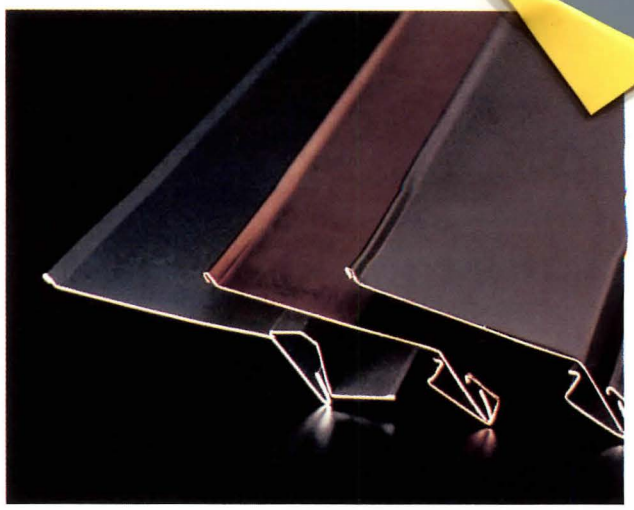
The Presidential Design Awards program is administered by the U.S. General Services Administration and the National Endowment for the Arts.

Products

High-Tech House



1



3

2

4

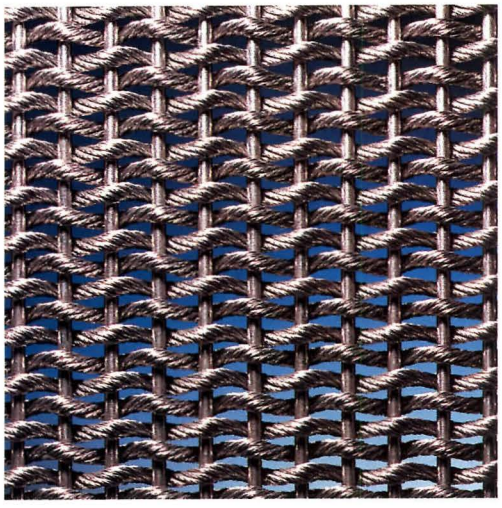
1 Hot Button
Seattle-based Spore has spawned R2 to add to Round and Square, their distinct line of doorbell buttons. These soft, illuminated buttons are made of UV-stable resin and durable anodized aluminum, and can be used with existing hardware. Round, Square, and R2 consume one watt of power and are available in green, amber, and blue.
Circle 294 on information card.

2 Pop-Up Screen
For as long as cubicles have been an office presence, furniture companies have explored solutions to make spaces more comfortable. Canadian architect Norman Richards has designed an innovative solution with origins in Japanese design. Reminiscent of a pop-up tent, the translucent, white, nylon-and-aluminum structure sets up in three minutes, allowing for a space to be configured as needed. The screen stands six-feet high by seven-feet wide and weighs less than three pounds.
Circle 295 on information card.

3 Holding Down the Fort
Fry Reglet introduces a new flashing system that has passed a two-hour 110-mph wind test. Springlok Flashing System snaps in under the reglet and provides a positive air-break, preventing water from getting under the flashing. This flashing is available in 10-inch lengths with reglets designed for specific surfaces such as masonry, concrete, and stucco. Available finishes are galvanized steel, copper, aluminum, and stainless steel.
Circle 296 on information card.

4 Master Switch
Lutron Electronics introduces RadioRA, a lighting-control system that is powered by a radio frequency. Available without rewiring, the master control communicates with up to 32 switches at one time, providing the flexibility to control a single light or a group of lights from both inside and outside the home. RadioRA integrates with other home systems such as security or time clocks.
Circle 297 on information card.

6



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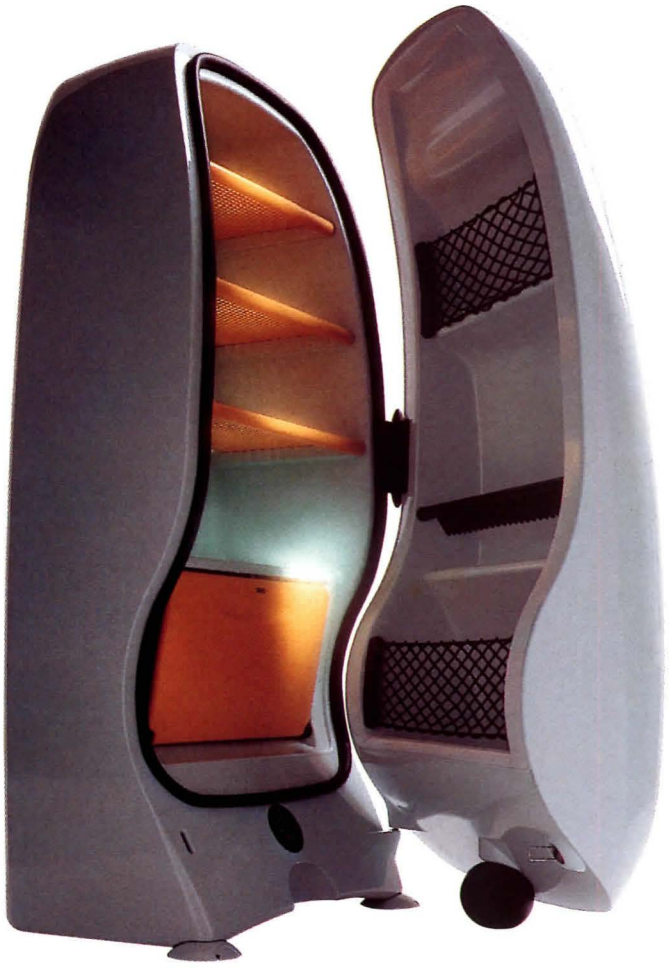

7

5 Surface Textures
Three new designs have been added to the Düren, Germany-based GKD wire-mesh product line. Lago, Congo, and Kiwi were developed in response to specific functional needs: Lago, with its delicate weave, for interior finishing; Congo, for areas that require extensive covering with a stronger material; and Kiwi for floor coverings, wall cladding, and suspended ceilings. These nonflammable meshes are recyclable and are available in a variety of surface textures and metals.
Circle 298 on information card.

6 Office Accessories
Ad Hoc, Vitra's solution to changing office environments, introduces to its already existing line new accessories to enhance office adaptability and use. The Uni Table, Mono Wall, Pick-Up, Caravan, and Technic Box (above), can be moved, stored, or adjusted in tandem with workers' changing needs. Surface colors are available in blue, orange, green, and off-white.
Circle 299 on information card.

7 Cool Contours
Conceived and designed by Roberto Pezzetta with Zanussi Industrial Design Center, The Oz refrigerator breaks away from the white, boxy form with its new organic shape. Its cocoonlike exterior elicits smiles; the interior reveals innovative space planning. The 5 1/2-foot-tall Oz is not just charming in appearance, however: It is environmentally friendly using isobutane R600A gas in its refrigerant circuit and the shell is made from recylable rigid polyurathene. The Oz is currently only available in Europe.
Circle 300 on information card.

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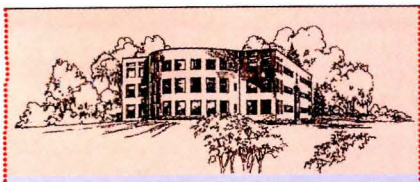
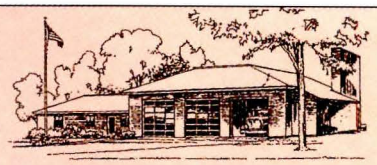
CONSTRUCTION COST COMPARISONS PER SQUARE FOOT • DECEMBER 1998



COLLEGE CLASSROOM
2 story building with 12' story height and 90,000 square feet of floor area

PARKING GARAGE
5 story building with 10' story height and 145,000 square feet of floor area



FIRE STATION
1 story building with 14' story height and 6,000 square feet of floor area

	3rd Q 1998	3rd Q 1997	3rd Q 1998	3rd Q 1997	3rd Q 1998	3rd Q 1997
Atlanta	$ 74.04	71.56	23.19	22.50	76.94	76.73
Boston	98.27	96.25	30.78	30.26	103.29	103.21
Chicago	93.29	90.66	29.22	28.50	97.29	97.22
Dallas	72.96	70.83	22.85	22.27	76.03	75.95
Kansas City	81.34	78.20	25.48	24.58	84.53	83.85
Los Angeles	93.38	91.23	29.25	28.68	97.91	97.82
New York City	112.96	110.01	35.39	34.59	117.99	117.96
Phoenix	75.86	73.91	23.76	23.24	79.33	79.25
St. Louis	86.32	83.78	27.04	26.34	89.96	89.84
San Francisco	104.50	102.16	32.73	32.12	109.63	109.54
Seattle	87.98	86.37	27.56	27.16	92.66	92.62
Washington, D.C.	80.68	78.20	25.27	24.58	83.95	83.85

Each month Architecture takes a snapshot of U.S. construction – looking at average costs and upcoming projects for different building types. News on projects is provided by Construction Market Data and cost information by R.S. Means – both CMD Group companies.

NOTE: Cost comparisons shown here are for the basic building without sitework, development, land, specialty finishes or equipment. Actual square foot costs vary significantly from project to project based on quality, complexity and local economy.

UPCOMING PROJECTS

Sherman College Reginald Gold Building
Location: Spartanburg, Spartanburg County, SC
Project Value: $4 million
Size: 30,000 sq ft, 2 floors above grade, 1 structure
Contract Type: Invited Bidders
Current Project Stage: Planning; Design Development
Status: Design Development in Progress; Bid Schedule Not Set
Project Scope: Classrooms, Cafeteria
Owner: Sherman College; David Koch; PO Box 1452; Spartanburg, SC 29304
Phone: 864.578.8770
Architect: McMillan Smith & Partners Architects; Donza Mattison; 110 Garner Road, Suite 14; PO Box 5331; Spartanburg, SC 29304
Phone: 864.585.5678; **Fax:** 864.542.9451

Music Facility
Location: Bucknell University, Lewisburg, Union County, PA
Project Value: $4 million
Size: 30,000 sq ft, 2 floors above grade, 1 floor below grade, 1 structure
Contract Type: Invited Bidders
Current Project Stage: Planning; Design Development
Status: Design Development in Progress; Working Drawings To Begin 11/98
Start Date: 4/1/99
Project Scope: Practice Rooms, Classrooms, Faculty Studios/Offices, 175 Seat Recital Hall
Owner: Bucknell University; Moore Avenue; Lewisburg, PA 17837
Phone: 717.514.1911; **Fax:** 717.524.3529
Architect: Schmidt Associates; 320 East Vermont Street; Indianapolis, IN 46204
Phone: 317.263.6226; **Fax:** 317.263.6224

Tacoma Dome Trransit Ctr Parking Garage
Location: Puyallup Avenue, Tacoma, Pierce County, WA
Project Value: $15 million
Size: 360,000 sq ft, 7 floors above grade, 1 structure, 1,200 parking spaces
Contract Type: Open Bidding
Current Project Stage: Planning; Schematics
Status: Schematics in Progress; Bid Date To Be Set Approx. 7/99
Start Date: 8/1/99
Project Scope: PT & Cast-in-Place Concrete
Owner: Pierce Transit Administration; Mike Meadows; 3701 96th Street SW; PO Box 99070; Tacoma, WA 98499-0070
Phone: 253.581.8080; **Fax:** 253.581.8075
Architect: Arai Jackson Architects; Cliff Jackson; 1601 E John; Seattle, WA 98112
Phone: 206.323.8800; **Fax:** 206.323.8518

Parking Deck
Location: South Tryon Street & Third Street, Charlotte, Mecklenburg County, NC
Project Value: $5 - $8 million
Size: 11 floors above grade, 1 structure, 500 parking spaces
Contract Type: Negotiated
Current Project Stage: Planning; Working Drawings
Status: Working Drawings in Progress
Start Date: 11/1/98
Project Scope: Retail/Hotel Lobby (Ground Floor), Parking Deck (Floors 2-11)
Owner: Pace Commercial; Ralph Falls; PO Box 34069; Charlotte, NC 28234
Phone: 704.333.4244; **Fax:** 704.333.6092
Architect: Wagner Murray Architects; Mike Murphy; 437 South Tryon Street; Charlotte, NC 28202
Phone: 704.372.8603; **Fax:** 704.335.0361

Stamford Fire Facility #2
Location: Washington Boulevard & Atlantic Street, Stamford, Fairfield County, CT
Project Value: $1.4 million
Size: 10,000 sq ft, 1 floor above grade, 1 structure
Contract Type: Open Bidding
Current Project Stage: Planning; Working Drawings
Status: Working Drawings; Pending Site Aquisition
Project Scope: 3 Bay Facility, Double Deep
Owner: City of Stamford Department of Public Safety; 888 Washington Boulevard; Stamford, CT 06109
Phone: 203.977.5771
Architect: Schoenhardt Architects Inc.; Jay Willerup; 1 Massaco Place; Simsbury, CT 06070
Phone: 860.658.4496; **Fax:** 860.856.5280

Fire Station #124
Location: Stevenson Ranch Road & Hemingway Avenue, Santa Clarita,Los Angeles County, CA
Project Value: $900,000 - $1 million
Size: 5,600 sq ft, 1 floor above grade, 1 structure
Contract Type: Open Bidding
Current Project Stage: Planning
Status: Architect Selection
Owner: Los Angeles County Fire Department; Randy Gomez; 1320 N Eastern Avenue, Room 118; Los Angeles, CA 90063
Phone: 213.881.6121; **Fax:** 323.881.3025

Viva the Tent!

For Andrei Codrescu, technology's hegemonic grip on our lives gives rise to the unthinkable in housing—permanence is transient and mobility, permanent.

I'm for portable houses and nomadic furniture. Anything you can't fold up and take with you is a blight on the environment, and an insult to one's liberty. I believe in the tent, the card table, and the trailer. The past two decades have witnessed a huge increase in nomadism. For every housing development that carves up the land, a flock of houses on wheels and pontoons takes off somewhere else. Where is the great literature of the mobile home, the trailer park, the perpetual camper, the floating boat house?

American society has become mobile, yet it still depends, for the most part, on stationary dwellings. But while stationary, most new American houses are impermanent. Although a house in a subdivision is not portable, it is certainly interchangeable with any other house in any other subdivision—and the subdivisions themselves often evaporate. This evaporation is sometimes brought about by company relocations, or by the city moving closer to what was once almost country. Quite often, suburbs become the abodes of new immigrants who have come to America in search of stability, after leaving behind old houses that will long outlive their new homes. The house in Sibiu, Romania, where I was born, was built in the 17th century and still stands. Nearly every American house I've lived in has long ago been demolished to make room for some other building. There is a delicious (though painful) paradox here: Americans long for stability, but all they get is stationary impermanence. No wonder, then, that many of us long to become permanent nomads, snails with houses on our backs, Touareg tribesmen, and Gypsies.

We certainly cannot indulge in nostalgia for home because most American houses are not homes. Grownups will rarely revisit the places where they grew up because nothing remains of their first home, their grade school, or their tree house. The nuclear family has long ago scattered, buying new houses every few years, always putting down shallow roots. Paradoxically again, then, a moving house becomes more permanent than a stationary house, and it is a better means of keeping connections between family members and thus a sense of rootedness: In your mobile dwelling you can visit your family all the time.

Today, the workplace is moving into the home, thanks to decentralizing computer technology. A new definition of the house is in the works. Once an exclusively domestic domain, the house of the future will have to allow for work. There will be no escape in the work-connected house from paging devices, telephones, and surveillance equipment. The predictions of science-fictioneers will doubtlessly come true: The house will become a work-farm prison with limited opportunities for escape. Since everyone will then always be at home, what is the point of keeping the house in one place? It will matter little where the plugged-in house is. Since it is always present in the global, decentralized hyperspace of function, its location will be irrelevant. You can take your physical reality practically anywhere, without fear of losing either your job or your community. You will always encounter new people and visit old friends.

A long time ago, the word "house" was the best argument for the impossibility of translation. An American house was not a French *maison* or a Spanish *casa*, which was evident to anyone who'd been inside a Mediterranean villa or a walled-in Moorish *casa* in Cadiz. Houses embodied local culture more than anything else, even more than human beings themselves. Humans adapted more easily to new conditions and had more "universal" mechanisms than houses, which, in their commitment to geography, weather, history, and the humans who lived in them, were utterly and wholly specific. This will no longer be the case in our global, decentralized, portable world. You will be able to transport your skeuomorphs, your nostalgias, and your roots to wherever you wish. *Andrei Codrescu*

Andrei Codrescu is a New Orleans-based poet and essayist, and a regular commentator on National Public Radio's All Things Considered.

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MiniCAD 7

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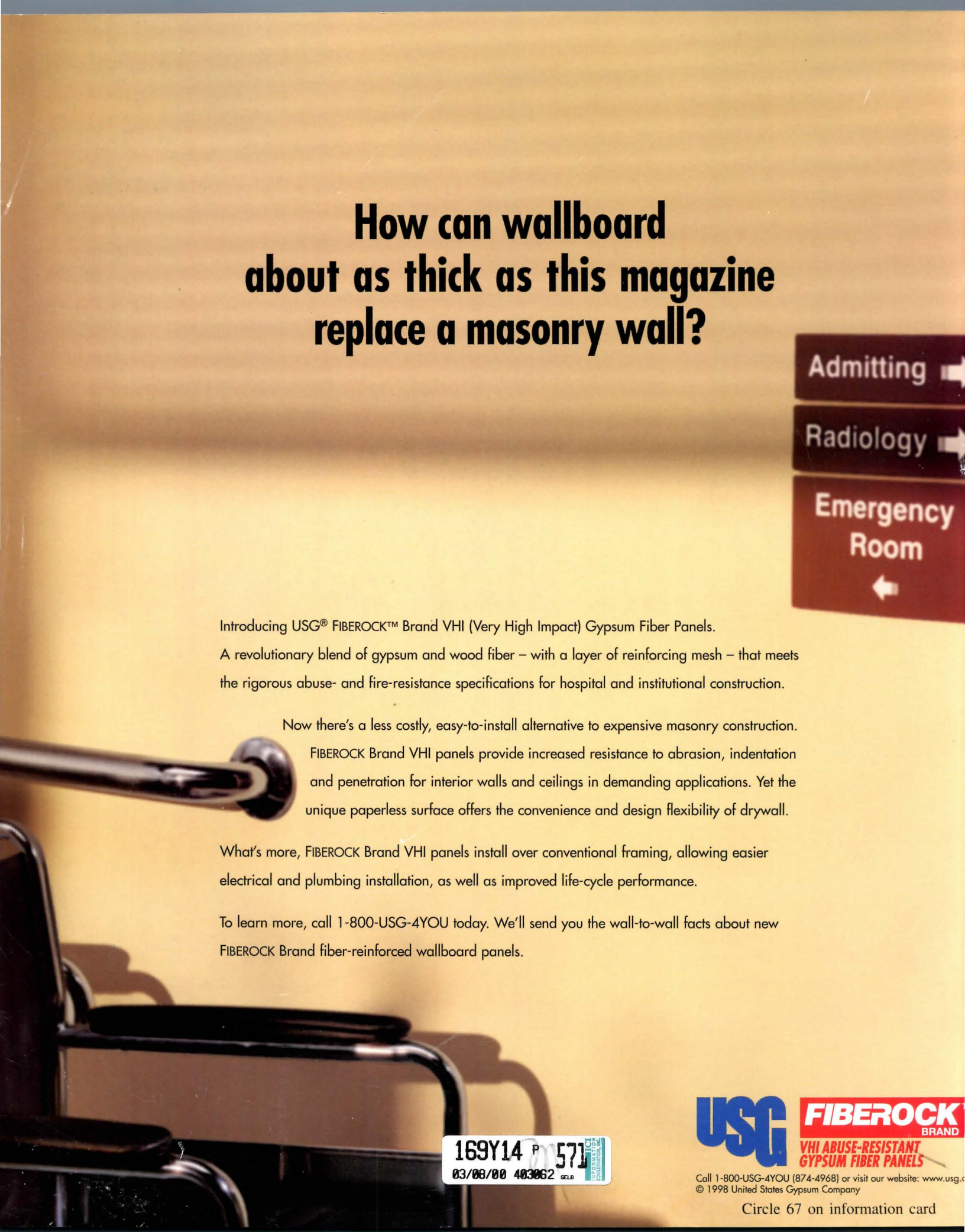
How can wallboard about as thick as this magazine replace a masonry wall?



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