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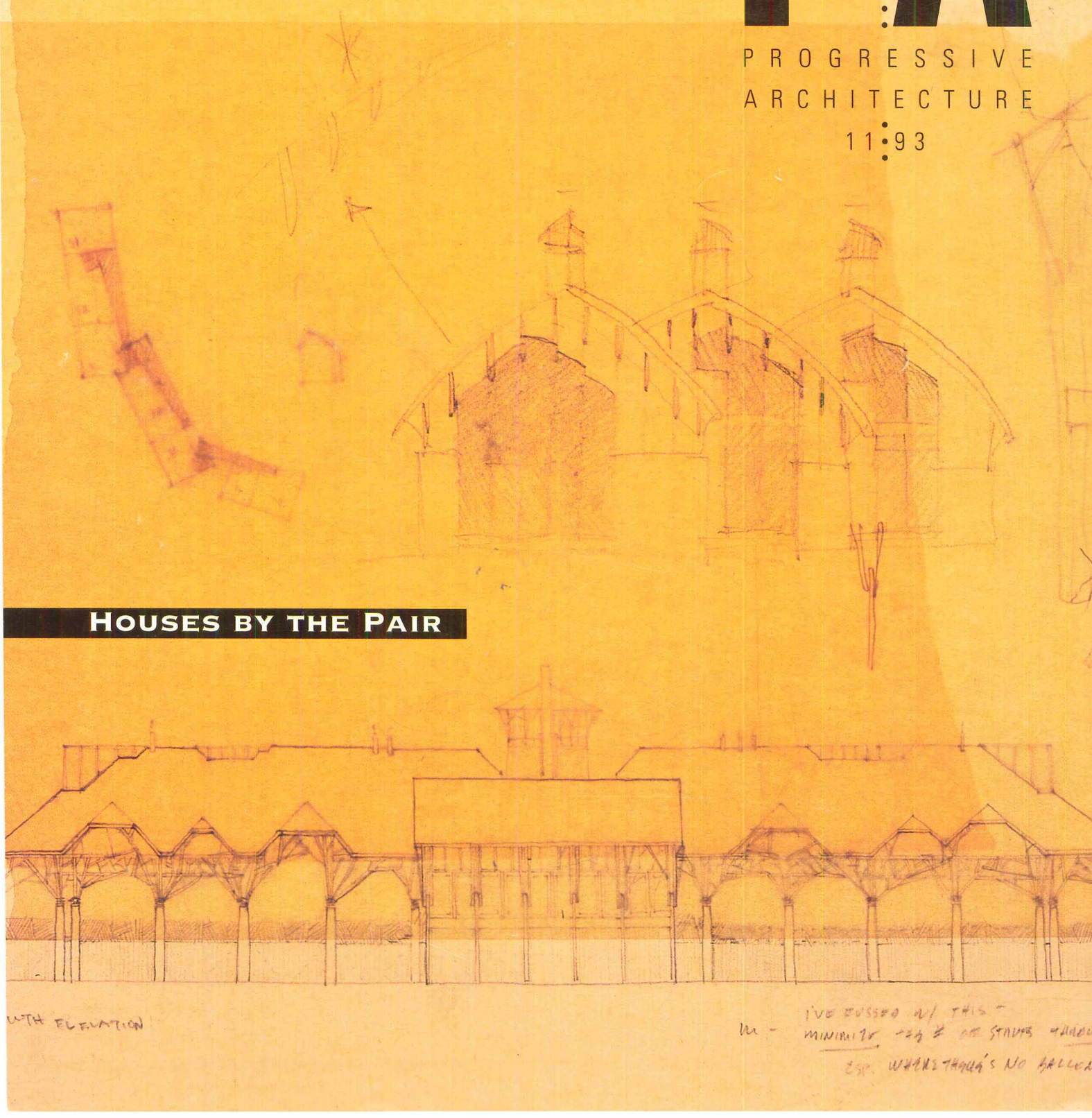
HOUSES BY THE PAIR



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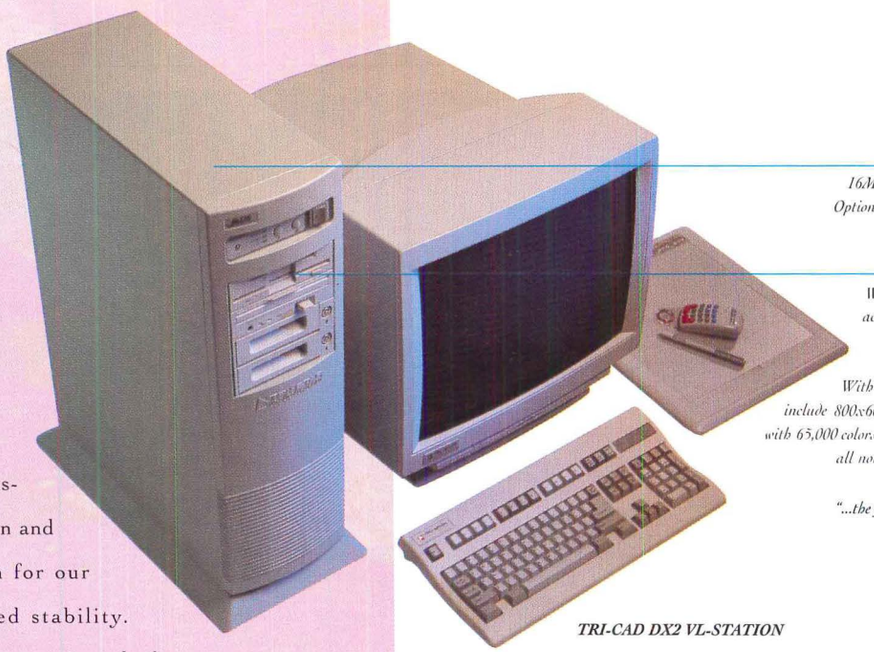

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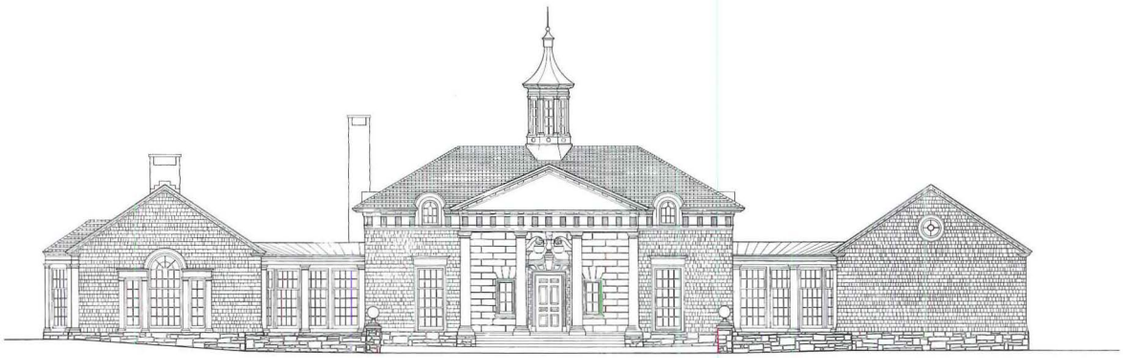
Cover: *Preliminary sketches of the Marsh Estate and the Pond House by Mark Simon, James Childress, and Mahdad Saniee of Centerbrook Architects, Essex, Connecticut. Cover design by Julie Anne Yee.*

Progressive Architecture November 1993

P/A

Editor in charge: Mark Alden Branch



Elevation, Palladian House, Connecticut, by Allan Greenberg Architect.

Departments

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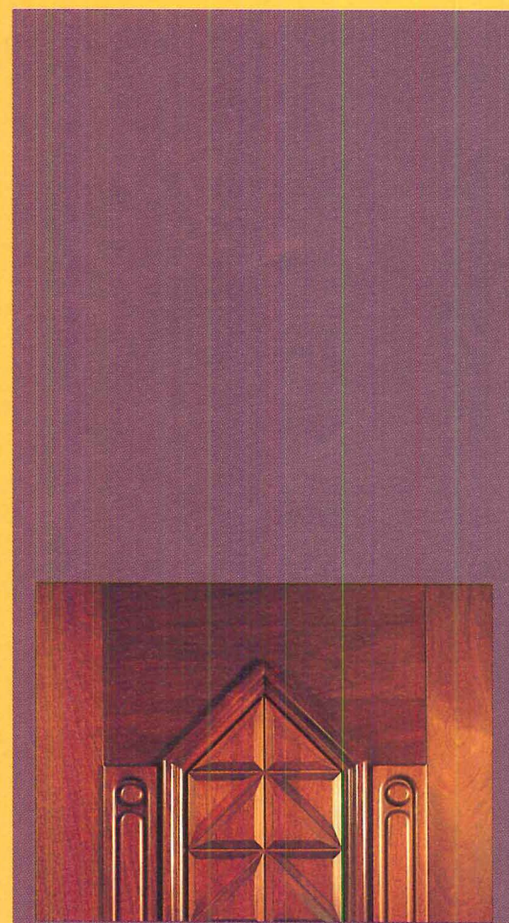

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Editorial | One House at a Time

The profession's impact on industrialized housing has never been realized, but new paradigms offer opportunities to influence the design of housing on a mass scale.

The past century has proffered the dream that, with industrialized housing, everyone in this society would have proper shelter. It has also presented architects with an opportunity to shape this housing, if only they could become participants in the manufactured housing process. Now, at the close of the industrial revolution, neither has come to pass. Homelessness is only one sign of our society's failure to provide decent shelter for everyone. And the architect's absence in the design of mass housing for the middle class is evidence that the profession has yet to make an impact by becoming part of the housing industry.

Most houses today are still stick-built, but the pieces of the housing package have become industrialized, with preengineered and prefabricated structural systems, cladding, windows, kitchens, bathrooms, wiring, plumbing, finishes, etc. Modular housing has also grown more common, as manufacturers have found ways to make their products look like stick-built houses, thus removing the trailer park stigma of cheap, "prefab" housing.

More than 20 years ago HUD's Operation Breakthrough invited architects to shape the factory-made house. Hundreds of design and distribution strategies modeled on auto production were proposed, but in the end President Nixon pulled the rug out from under the program by declaring a moratorium on subsidized housing.

The idea of building houses as we build cars is not conducive to the involvement of architects. Most of us don't understand industrial processes. Designing manufactured housing demands that we view the house as a reproducible product, made by machines that require large capital investment. But we've been educated in a system that encourages one-off, novelty design. We value the carefully designed, single artifact (such as the houses presented in this issue) over millions of carefully designed, identical widgets. This is in conflict with a desire we architects have: to extend the benefits of good design to as many people as possible. And the greatest impact we can have is through the design of housing, where people's lives are shaped.

A new paradigm of industrialized housing, which promises greater involvement for the architect, is found in the work being done at Rensselaer Polytechnic Institute's Architectural Research Center (p. 93). Construction is underway on a prototype house, designed by an architect and made from a kit of parts. The difference is that the pieces of the kit already exist. The parts are not specially designed, which in turn requires a new factory and a distribution system. The parts in RPI's Home Erector System (HES) are already manufactured and sitting in hardware stores and home centers around the country. Walter Kroner, the architect behind the system, has scoured the existing market of products for home building and improvement and chosen those that can be constructed or installed by people with no prior building experience. Thus, the HES house not only eliminates the need for a new factory to produce the kit of parts, it also by-passes the construction industry by appealing directly to the people who will live in the house. The HES house taps into the energy and creativity of people who choose to build their housing, who produce 15 to 20 percent of all the single-family houses constructed in the U.S. each year. A well-designed kit of parts would surely appeal to even greater numbers. The HES house is an example of how architects can influence housing form through the design of a system of preexisting elements.

The next step is to put architects right in the home centers, dispensing design services to the hundreds of thousands of people who pass through stores like Home Depot every day. This captive audience, interested in giving shape to their own homes, would welcome design consultation from architects. Such stores already have interior decorators and contractors available for advice. Why not architects? Our involvement would give us direct access to the people affected by the benefits of good design.

Another model of how architects can influence the design of housing is the Yestermorrow Design/Build School in Warren, Vermont, on whose board I serve. For the past decade, architects at Yestermorrow have taught prospective do-it-yourself home builders the elements of design. Architects work in a classroom setting with people of all ages and walks of life to help them design their own houses. Students learn skills that serve them indefinitely, and raise their consciousness to the qualities of good design. Hundreds of schools like this would give people greater access to design services.

The key to expanding our profession's influence on the design of housing, I think, is not the factory model, but in finding ways to plug into the distribution system that feeds the market of amateur home builders, and to translate our design expertise so that it can be implemented by the public, one house at a time. **Michael J. Crosbie** ■

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Views

JAMES A. MURPHY FUND
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Contributions may still be made in memory of P/A's Profession and Industry Editor James A. Murphy, who died suddenly in May. Please send to The James A. Murphy Fund, The University of Nebraska Foundation, 1111 Lincoln Mall, Suite 200, Lincoln, Nebraska 68508. The fund will provide annually a scholarship for a student of architecture with an interest in writing.

Wal-Marts

While I found the article ("Where Do Wal-Marts Come From?" P/A, September, p. 66) interesting, I feel that the comments attributed to me are misleading in that they seem to indicate that I or McDonald's Corporation may be critical of the architects BSW International or of the Wal-Mart Corporation. Neither is true.

As an officer of the National Organization of Minority Architects (NOMA), I have found virtue, as the article indicates, in the concept employed by McDonald's of utilizing local architects in addition to its staff architects, especially as this creates opportunities for minority design professionals in both places. I find McDonald's expression of interest in increasing minority participation commendable as well, having been welcomed for a role in this process.

The extent of my knowledge of BSW's involvement with Wal-Mart is limited only to what I have learned through P/A. In fact, of all the individuals I know of firsthand who have performed architectural services on Wal-Marts, a significant percentage are women and minorities, which I certainly am always glad to see.
Michael Rogers, Design Supervisor
McDonald Corporation
Oak Brook, Illinois
Vice President, NOMA

Public Distrust

The editorial in the September issue of P/A is most sensitive and most welcome at a time that architecture is in deep transition. Daily the design practice is becoming more difficult and dangerous when measured by the forces of litigation, owners' demands, and public acceptance. Furthermore, environmental and economic tides are threatening our very existence because we, as a profession, have failed to anticipate these trends. Now that it appears that we have finally awakened to what is happening around us, I cannot help wondering is it too little, is it too late?

As important as design is (it is *very* important and the common denominator which unites all architects), it is not the thing which is necessarily the primary focus of concern for most clients. As Zaha Hadid's building brilliantly demonstrates, architects are not lacking in courage or imagination, but we have probably OD'ed on that which most concerns *us*, and now, thanks to a generation of self-indulgence, we may be faced with having to play what might be a losing game of catch-up.
James A. Gresham, FAIA
NBBJ Architecture Design Planning
Tucson, Arizona

The Avant-Garde

Your editorial, "The Avant-Garde, Past and Future" appeared most appropriately and timely in the August issue. May I offer another known definition of the "avant-garde": it was a military strategy before the 19th Century. "Avant-garde" was that special, small military unit which was sent ahead in front of the main military force to provoke an opponent to reveal its position and gun power. This unit was not expected to survive and, in most cases, was sacrificed, but it allowed the main force to succeed.
Gunnar Birkerts, FAIA
Birmingham, Michigan

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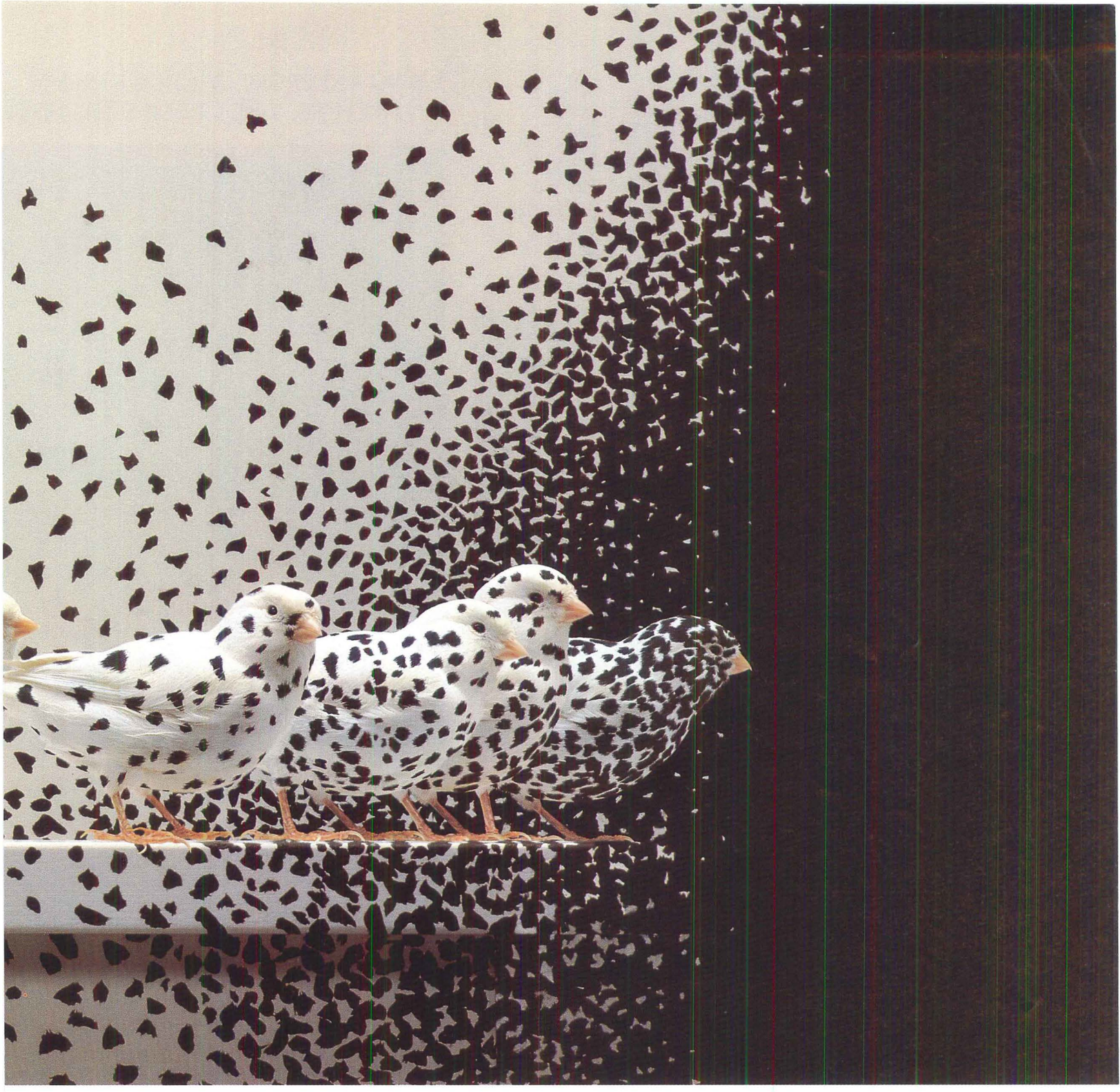

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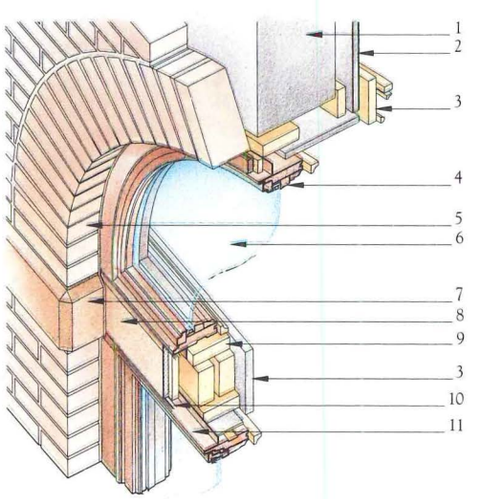

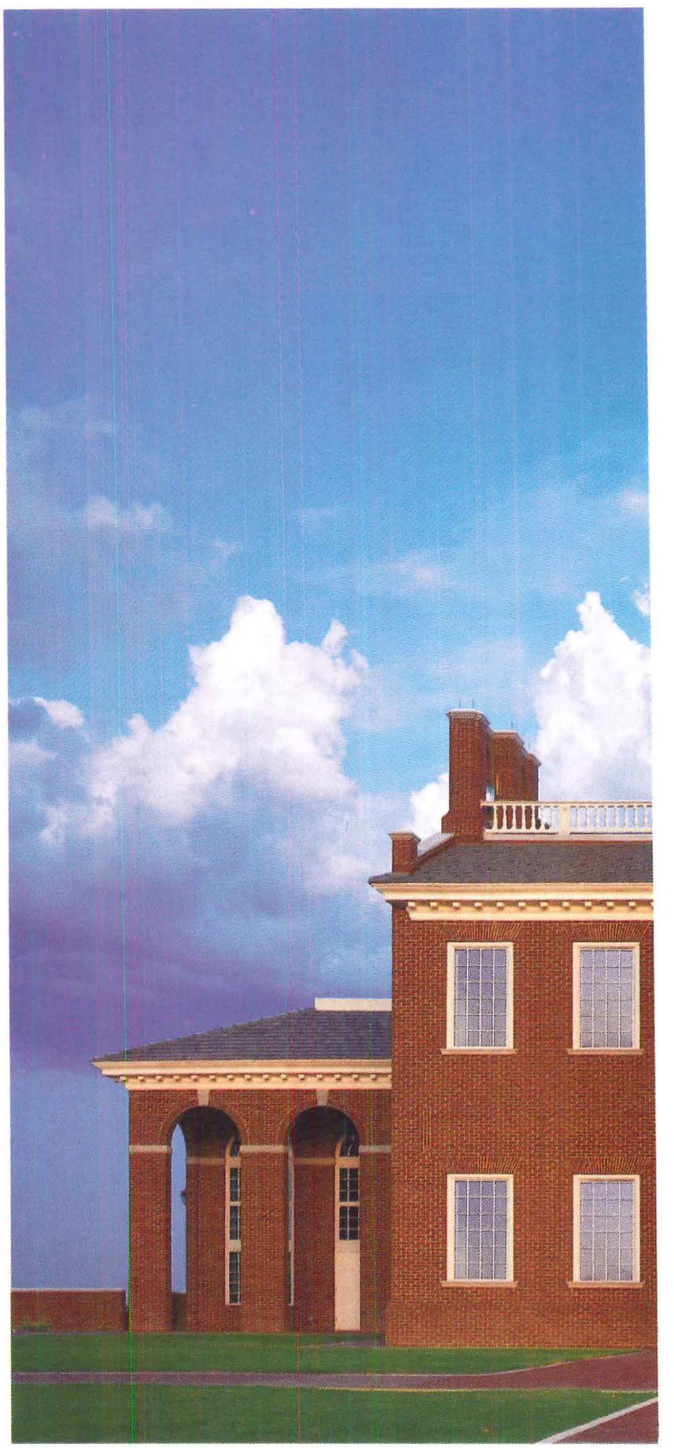

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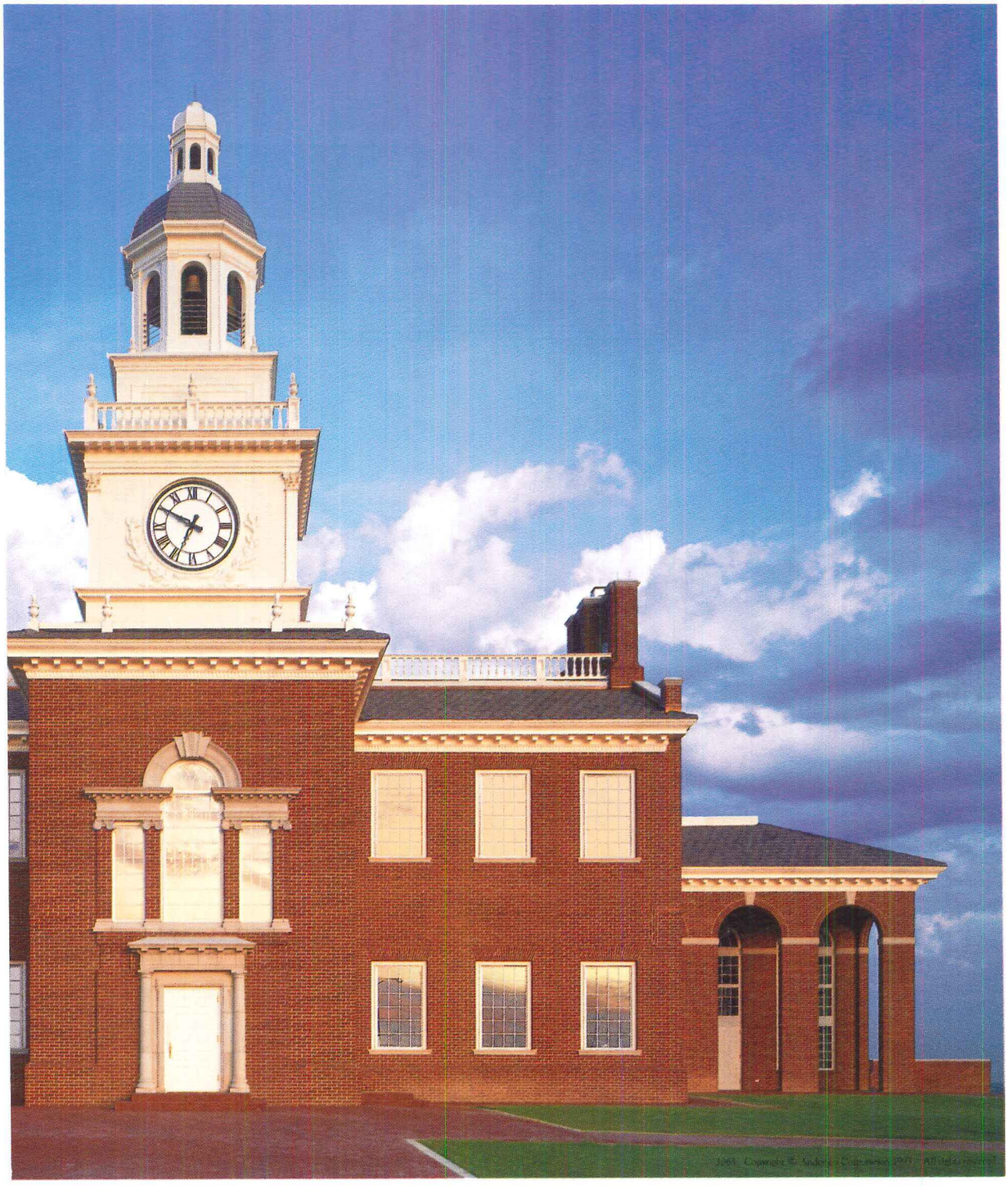
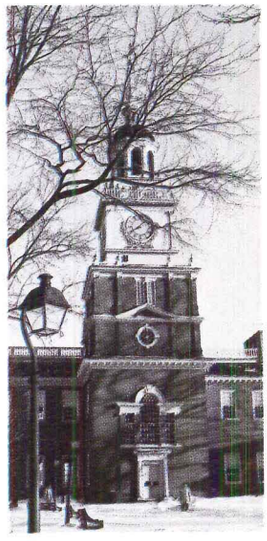


Independence Hall, Philadelphia



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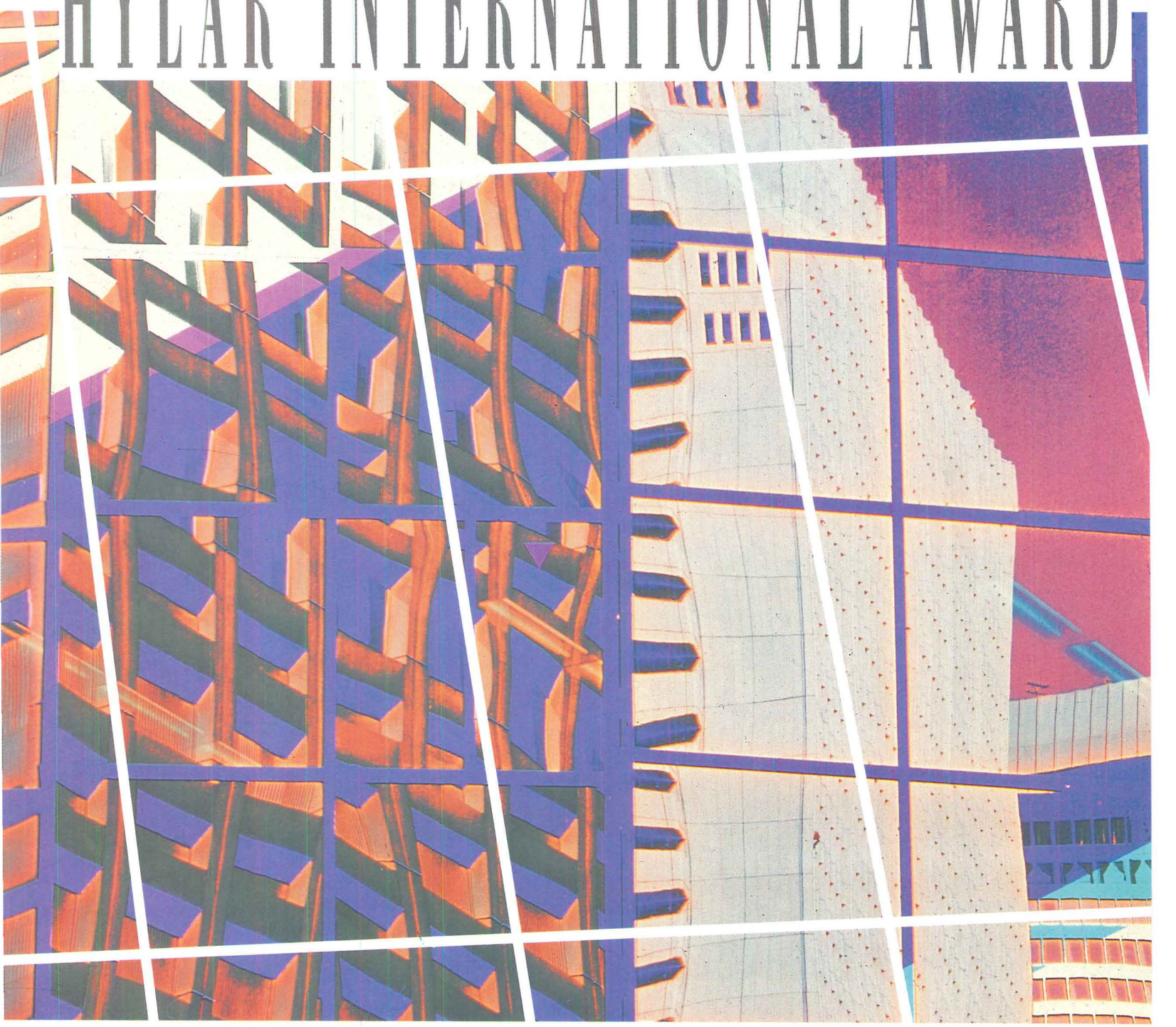

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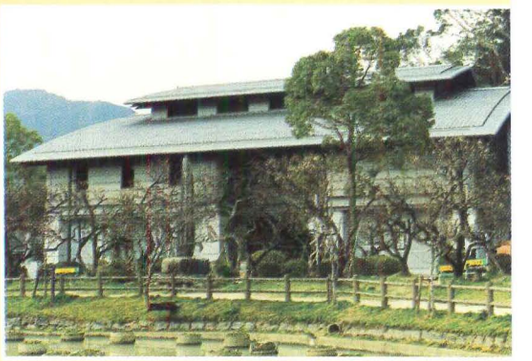

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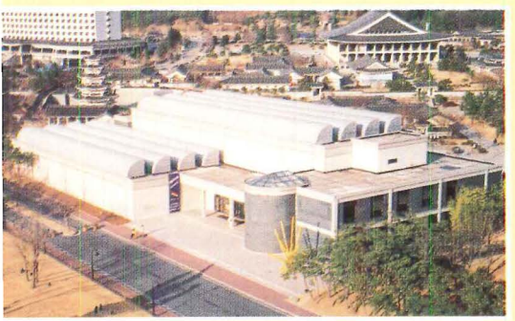

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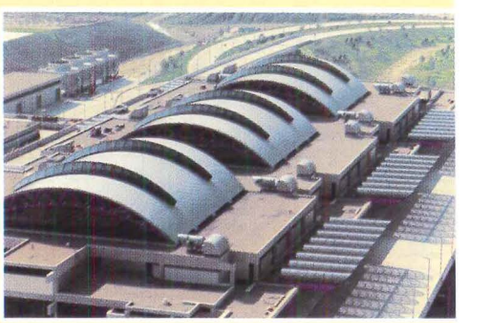
Seoul, Korea

UNITED STATES



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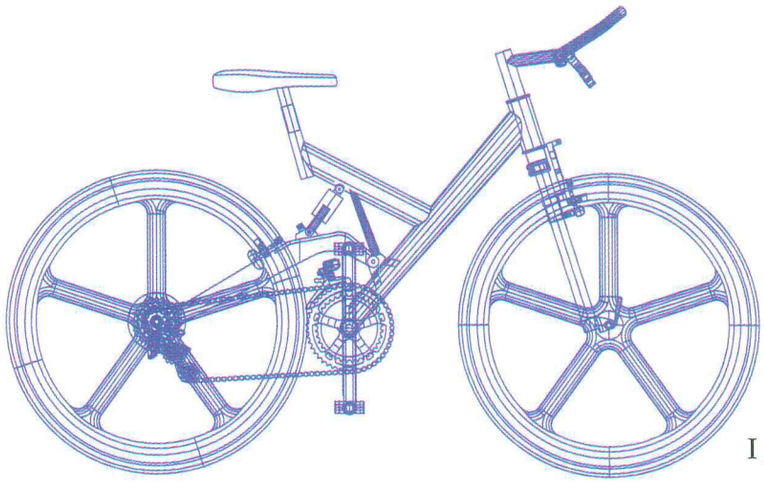

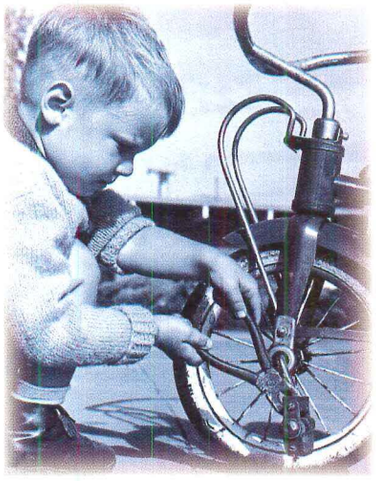

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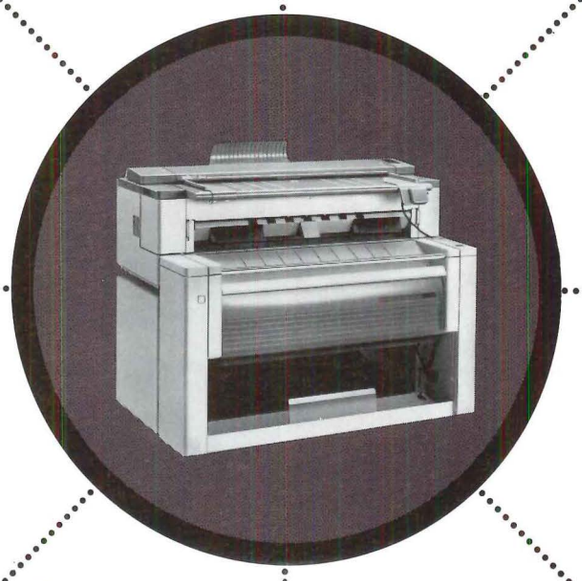

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Foaad Farah

Atrium of HHPA's addition to the L. A. Central Library.

Los Angeles Library Comes Back to Life

The Los Angeles Central Library opened its doors on October 3, after seven years of renovation and new construction. The result, which cost $213.9 million, is a handsome refurbishment of the original 1926 building by Bertram Goodhue and an impressive new wing by Hardy Holzman Pfeiffer Associates of New York.

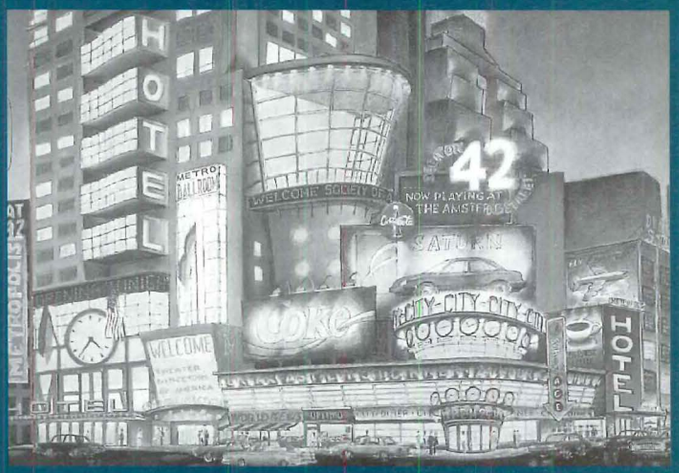
The library building, which most remember as a cramped, yellowed building stuffed with makeshift shelving, has been transformed almost beyond recognition. Some visitors may feel they have never fully seen the building before, particularly its fine Beaux-Arts spaces, murals, and stenciling, as well as the abundant natural light that Goodhue provided.

The original Goodhue building has a cross-shaped plan, with a stark, pyramid-topped tower at its center and entrances in all four directions, to dramatize the democratic nature of a public library. Norman Pfeiffer, project architect for the renovation and expansion, said Goodhue was influenced by his own design for the Nebraska State Capitol, with its prominent tower. (Indeed, Goodhue wrote in a 1924 letter that the library design was "almost as radical and just as logical" as his Nebraska building.)

But if the library was impressive as sculpture, it functioned poorly as a library. Goodhue's carefully proportioned spaces became hard to discern amid the crowded furniture and narrow fire corridors. The lack of air conditioning and fire sprinklers became conspicuous. Goodhue's small park on the library's West Lawn was paved over for parking. By the late 1970s, the city was seriously considering demolishing the outmoded building. A last-minute preservation blitz saved the library, while seed money for the renovation came from the sale of air

P.26 In Projects: From Sir Norman Foster, a museum for American aircraft in Britain.

11.93 News Report



P.23 A new revitalization plan maintains that 42nd Street is almost all right.

P.22 Hugh Newell Jacobsen performs discreet surgery on the U.S. Capitol's west terrace.

P.25 At a Seattle conference on "Reshaping Cities," former Curitiba mayor Jaime Lerner stole the show.

Pencil Points

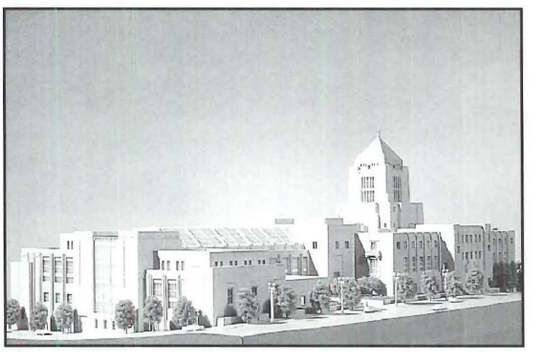
Recipients of the first annual Chrysler Innovation in Design Award, sponsored by Chrysler Corporation to honor "forward-looking, socially engaged designs and designers" in the U.S., include John Hejduk and Gaetano Pesce, architects; Ellen Lupton and J. Abbott Miller, curators, writers, and graphic designers; Paul J. MacCready, aircraft inventor; Cross Colours, a clothing company based in south central Los Angeles; and Apple Industrial Design Group.

Benjamin Thompson & Associates, Cambridge, Massachusetts, has announced several organizational changes. Benjamin Thompson, the 1992 AIA Gold Medalist, has retired as President of BTA; he will serve as chairman emeritus. The firm will now be led by MacGregor Freeman, Henry Haff, and Thomas Green. Former BTA principals Jane Thompson and Benjamin Wood have established their own firm, Thompson & Wood.

Skidmore, Owings & Merrill has also altered its firm structure. The office of chairman, held by David Childs since 1991, has been discontinued; the firm will now be headed by a chief executive officer. Adrian D. Smith began a one-year tenure as CEO last month. Childs will remain a design partner in SOM's New York office.

The University of Oklahoma College of Architecture has named Deborah W. Dalton as its new dean. Dalton, a landscape architect, has taught at the University of North Carolina and at Temple University.

Minoru Yamasaki's Eastern Airlines Terminal at Logan Airport in Boston is slated for demolition; it will be replaced by a new terminal by Leers, Weinzapfel of Boston. Yamasaki's design, which placed a parking garage atop a seemingly lightweight pavilion, has been plagued by structural problems since it was completed in 1970, writes Robert Campbell in the *Boston Globe*.



Model of library, with addition at left.

rights to developers of office buildings on surrounding parcels.

In Hardy Holzman Pfeiffer's functional redesign, a new eight-story wing (four stories high and four stories underground) holds most of the collection, while the older library wing is devoted largely to popular items like magazines and bestsellers. The added space and efficiency of the new library make available to the public about 50 percent of the library's total collection, in contrast to 15 percent under the old system.

Chosen in a national competition in 1983, Hardy Holzman Pfeiffer soon found itself buffeted in the rough weather of design review. Pfeiffer's first scheme in 1987 failed to pass muster with the city's tough watchdog of historical buildings, the City Landmarks Commission, which forced a redesign that was more subservient to the Goodhue building.

The library renovation, like most large public projects, has had its share of budget and political squabbles. The final cost of the library ran $85 million beyond the original budget, reflecting, in part, the added costs of cleaning up the library after two devastating arson fires in 1986. A further controversy, involving new Mayor Richard Riordan's attempt to sell the library to a private corporation (the historic tax credits are the lure), remains unresolved.

The library's good reception suggests that the public may put these problems out of mind. In the eight-story atrium of the new wing, Pfeiffer has given the city what is arguably the best public room in downtown Los Angeles since the opening of Union Station in 1940. But the original Goodhue building steals the show: the *tour de force* of the restoration work, and indeed of the entire library, is the newly restored rotunda, seen to best advantage in the late afternoon, when sunlight streaming through the west window gives the murals an almost hallucinatory, Southwestern brilliance. At such moments, cost overruns don't seem to matter so much. **Morris Newman** ■

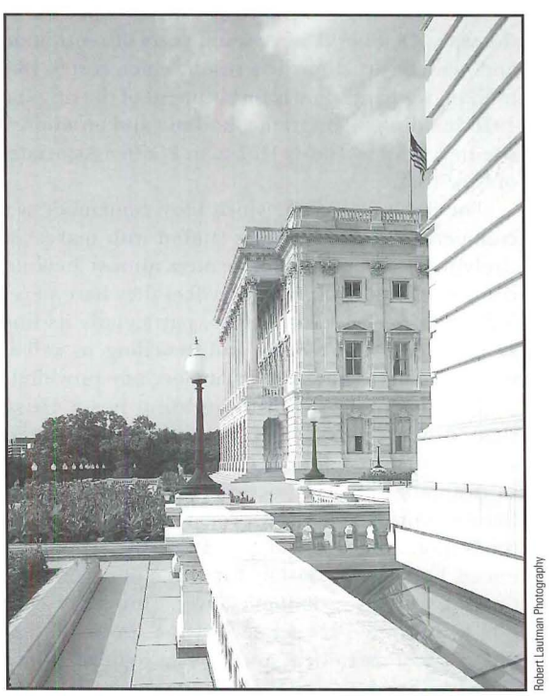
U.S. Capitol Alterations by Jacobsen

With all the attention surrounding the temporary removal of "Freedom," the statue atop the U.S. Capitol dome, a much more significant alteration to the building went largely unnoticed. Earlier this year, a 19,500-square-foot addition, designed by Hugh Newell Jacobsen and comprising meeting rooms, offices, and television studios, was completed under a redesigned and expanded west terrace.

Frederick Law Olmsted, Jr.'s, original 1885 west terrace was separated from William Thornton's west façade and Charles Bulfinch's central addition by sunken spaces intended as gardens but never planted. Architect of the Capitol George M. White hired Jacobsen to fill in the wells with office space, to redesign and repave the existing terrace, and to design integrated wheelchair ramps for Thomas U. Walters's north and south façades.

Jacobsen's surface intervention is discreet. Postwar precast concrete paving has been replaced by granite and imitation-granite precast in the original Neo-Classical ashlar. The pink granite-trimmed parterres replicate the granite of Olmsted's original linear parterres, and their distinctly Neo-Classical arrangement could easily have been created in the 19th Century. The wheelchair ramps (replacing aged gray wooden ones) have been tucked neatly into Walters's north and south arcades, with railings cribbed from Bulfinch.

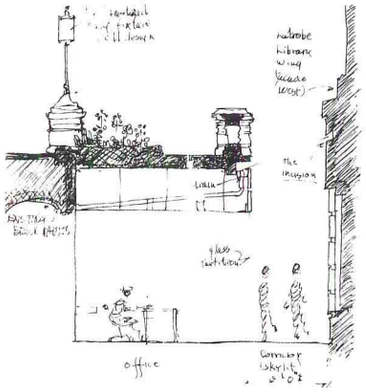
The centerpiece of Jacobsen's design is the sloping glass roof of the corridor separating the Bulfinch block from the underground office space. The intention behind this move was not only to provide natural lighting for the offices, but also to reveal the original rusticated base from above. To achieve maximum transparency, Jacobsen has used structural glass rafters, neoprene joints, and concealed drains.



Robert Lautman Photography

West terrace of the Capitol, with glass-roofed corridor at right.

The underground addition for which all this was undertaken is less satisfying. The off-the-shelf quality of the fittings is a sign of fiscal restraint, and the overall effect is at best anonymous. But these spaces were designed to accommodate technology rather than to



Section by Jacobsen through new underground space.

display the grandeur of the state.

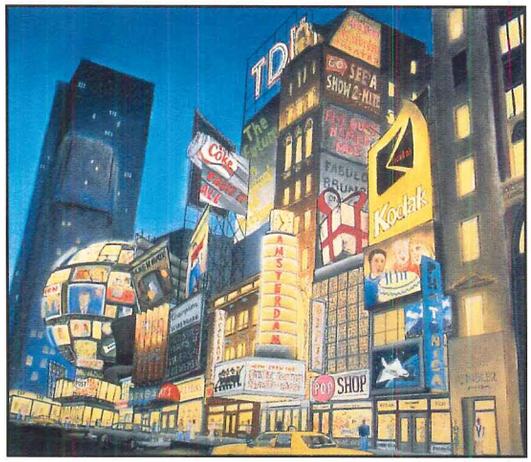
What is most surprising about this project is the total lack of publicity it has received in the three years of its construction. The extension of the east front in the 1950s was much debated in the architectural press and by the public. In this case, although the project was a matter of public record, both White's office and Jacobsen's kept a low profile. Jacobsen told me he believes many architects have become too protective of a building that has been often and greatly changed since 1793. Nevertheless, his intervention is so comfortable and unobtrusive it has gone mostly unnoticed. **David Gruber** ■

The author is a former Editorial Assistant at P/A.

42nd Street: Almost All Right

Now that New York's real estate slump has stymied plans to build four behemoths at the south end of Times Square, the City has made yet another proposal (the fourth in 15 years) for Manhattan's tarnished emblem. What's in store? "42nd Street Now!" an interim plan released this September, will render the block between Seventh and Eighth Avenues a jazzier version of the Times Square we already know, with more signs, stores, and restaurants. This will be a place to take the kids, to sample New York's glitz, but not its pretensions, where (almost) wholesome entertainment has banished sleaze, but not the risque.

The plan, sponsored by a partnership of private real estate interests and the City and State of New York, and developed by Robert A.M. Stern Architects, M & Company, Haverson/Rockwell Architects, Fisher Marantz Renfro Stone, and the Tishman Corporation, doesn't supplant developers' plans for the mega-buildings designed by Philip Johnson and John Burgee a few years ago (P/A, Oct. 1989, p. 25); it is assumed they will rise after a decade or so. In the meantime, 42nd Street Now! makes use of low-rise buildings owned by the City to the west of Times Square. Ultimately, the tax revenues from swanky (and voluminous) new buildings may be too lucrative for the City to resist: in 1984 it collected $5 million in taxes from Times Square, but envisioned tax revenues of $860 million once the area is built out. When demand for office space picks up, there will be nothing to stop the construction of bloated office buildings in the vicinity.



Rendering of 42nd Street area released as part of plan.

On the other hand, the creators of 42nd Street Now! may win the popular vote. If their guidelines survive public hearings and new venues take hold on this street, the hundreds of thousands who pass through each day will be surrounded by a not quite honkytonk collage of neon signs, videos, and places to spend money – a pleasure zone no longer surrendered to the *demimonde*. Both New Yorkers and tourists might find the effect intoxicating enough to embrace a place they've written off for decades. **Philip Arcidi** ■

Piano to Design New Pavilion for Menil Collection

In the new Cy Twombly Pavilion in Houston, architect Renzo Piano promises to provide a variation on the theme he created in the mid-1980s with his design for the Menil Collection, again using an elaborate, light-shaping roof to cap a building with a simple plan and subdued, unornamented elevations.

A joint project of the Menil Collection, the Dia Foundation of New York, and the expatriate American painter Cy Twombly, the $3.5-million Twombly Pavilion will house a permanent display of Twombly's paintings, sculpture, and drawings dating from 1954 to the present. Piano's design promises to be a minimalist foil to the work on display.

Piano's 1986 Menil Collection building, (P/A, May 1987, p. 87) with its long planes of gray clapboard set in a frame of white-painted steel, is so restrained that the late critic Reyner Banham once appreciatively said made it him think of "the world's biggest UPS depot." But the building is crowned by a baroquely complex canopy of wave-like ferrocement "leaves," suspended, under a roof of angled glass panes, from bolted-together cast-iron trusses.

The Twombly Pavilion, located across a quiet residential side street near the southeast corner of its mother ship, will be a windowless single-story Palladian cube constructed of overscaled concrete

(continued on next page)

IFRAA Awards for Religious Structures

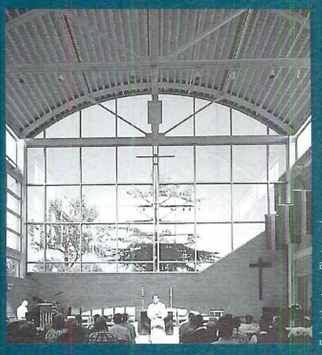
A jury convened by the Interfaith Forum on Religion, Art, and Architecture (IFRAA) has selected 13 winners from among 144 entries in its 1993 Architectural Design Awards Program. Jurors for this year's program were The Very Reverend James Parks Morton, New York, and architects E. Fay Jones, Fayetteville, Arkansas, and Cynthia Weese, Chicago. Winning Honor Awards for new construction are:

- Seamen's Church Institute, New York, by James Stewart Polshek & Partners, New York;

Thomas Stephen Turpack

St. Nicholas Chapel.

- St. Nicholas Chapel, Beaver, Pennsylvania, by Thomas Stephen Terpack & Associates, Pittsburgh;
- Mille Lacs Ceremonial Building, Onamia, Minnesota, by Cunningham Hamilton Quiter Architects, Minneapolis;



Robert Lautman Photography

Metropolitan Community Church.

- Metropolitan Community Church, Washington, D.C., by Suzane Reatig Architecture, Kensington, Maryland;
- Class of 1959 Chapel, Harvard Graduate School of Business

(continued on next page)

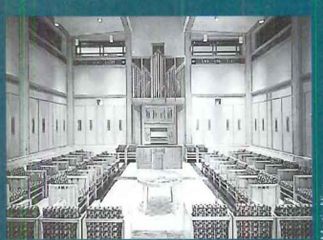
IFRAA Awards

(continued from previous page)

Administration, Cambridge, Massachusetts, by Moshe Safdie & Associates, Somerville, Massachusetts;

- Chapelle de l'Amitié, Montreal, by Lemay & Associates, Montreal (P/A, Feb. 1993, p. 102);
- St. Andrew Presbyterian Church, Sonoma, California, by William Turnbull Associates, San Francisco;
- Temple Beth El, Charlotte, North Carolina, by Michael Landau Associates and Kehrt Shatken Sharon Architects, Princeton, New Jersey.

Winners for renovation are:



Martin Nixon

Presbyterian College Chapel.

- The Presbyterian College Chapel, Montreal, by Gersovitz Becker Moss Architects, Montreal;
- Cathedral of the Madeleine, Salt Lake City, by Beyer Blinder Belle, New York;
- The Falls Church, Episcopal (renovation and addition), Falls Church, Virginia, by Cooper-Lecky Architects, Washington, D.C.

Honored unbuilt projects are:

Tim Tivoli Steele

Starr King Unitarian Church.

- Starr King Unitarian Church, Hayward, California, by Tim Tivoli Steele, Oakland, California;
- Memorial Garden/Cathedral in the Woods, St. Elizabeth's Episcopal Church, Sudbury, Massachusetts, by Hoyle, Doran & Berry, Boston. ■

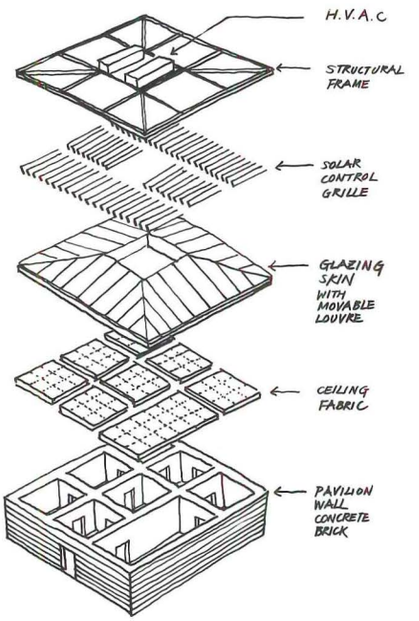
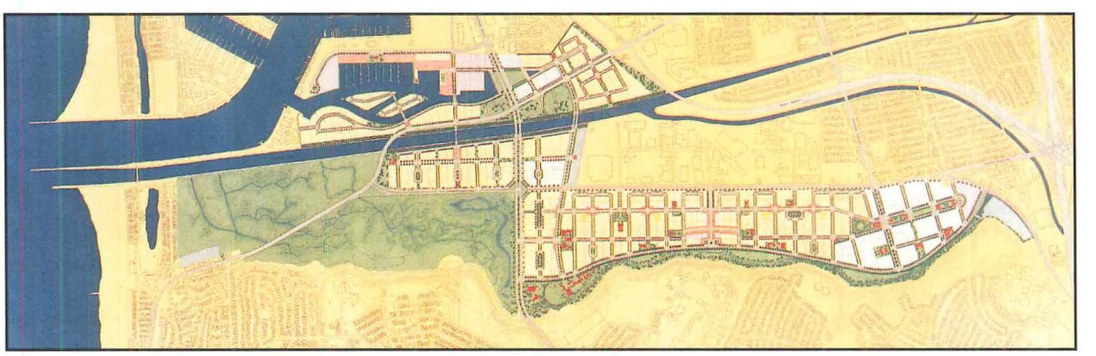


Diagram of roof structure for Piano's Cy Twombly Pavilion.

Piano *(continued from previous page)*

block, making it call to mind the world's neatest Seven-Eleven. The roof, by contrast, will be like "a butterfly lighting on a firm surface," according to Piano. It will consist of a steel frame set with solar-control grillework; beneath that will be a pyramidal glazed roof with movable louvers set over a fabric ceiling for each of the eight galleries. Menil Collection Director Paul Winkler says the light will be filtered by the system, but not flattened, so that visitors should be able to sense its passage through the different layers.

Perhaps the most remarkable aspect of the new pavilion is its urbanistic role. Client and architect have paid careful attention to the scale of the surrounding 1920s-era bungalows, many of which house offices for the museum and other Menil enterprises. In fact, the roof of the pavilion was lowered to approach the level of its humble neighbors. As other inner-city neighborhoods in Houston are being transformed by tear-down mania, it is touching to see an international art foundation and an architect treat its historic fabric so respectfully. **Joel Warren Barna** ■



Site plan of proposed Playa Vista development.

L.A.'s Playa Vista Plan Approved by City

In September, Los Angeles city officials approved the first phase of Playa Vista, a 1,087-acre project in the city's coastal area. The project has been described as the largest current development project within a major U.S. city. According to its developers and designers, the oceanfront project represents an advance in the practice of city design in its application of codes and design standards.

The site, a few miles south of Santa Monica, is a sandy finger of land formerly owned by Howard Hughes, who bought the land as a test site for experimental aircraft. The land remains in the hands of Hughes's heirs, who control Summa Corporation of Los Angeles. After an earlier version of Playa Vista was attacked by community leaders for proposing dense commercial development, Summa formed a partnership in 1989 with developers Maguire Thomas Partners of Los Angeles and JMB Realty Group of Chicago. The first-phase entitlements allow the developer to build 1.25 million square feet of office space, 3,246 residential units, 35,000 square feet of retail, and 300 hotel rooms.

The team responsible for the master plan includes town planners Andrés Duany and Elizabeth Plater-Zyberk, architect Charles "Buzz" Yudell of the Santa Monica firm Moore Ruble Yudell, and architects Elizabeth Moule and Stephanos Polyzoides of Moule Polyzoides, Los Angeles. Although the developers have shunned the Neo-Traditional label, the project features such earmarks of that movement as broad boulevards, low-scale housing, and more restricted turning radii.

The designers are quick to say, however, that Playa Vista is not intended as an exercise in either nostalgia or design control. Although some design critics took issue with conceptual sketches prepared for public hearings that pictured banal "Spanish" stucco houses, project director Doug Gardner of Maguire Thomas said the design team was not endorsing any particular style. "The issue of style is not even relevant to the type of planning we have been involved in," he says, adding that instead, the issues are "the making of place and the relationship of pedestrians and traffic."

In addition to physical planning, the design team spent much of its time creating design standards. In contrast to existing zoning, which merely specifies density on a given parcel, the Playa Vista design standards control massing by maintaining a street wall

and requiring a set amount of open space. (The city has codified the design standards in its tentative vesting tract map.)

Opposition to Playa Vista, which set off one of the most contentious land-use fights in Los Angeles, centered on fears of increasing traffic and diminishing air quality. This plan – a low-rise residential community designed for pedestrians, with plentiful public spaces – is a conceptual leap for Los Angeles, where auto mobility and privatism are deeply held cultural values. Another stumbling block was the presence of the 270-acre Ballona Wetlands on the site. Environmentalists sued an earlier development team to preserve the wetlands; the current team agreed in 1990 to set aside the wetlands property.

The developers plan to begin construction next fall, although funding for the project is not yet fully in place. **Morris Newman** ■

Reuse Plan for Massachusetts Military Base

A group of 140 people gathered in late April for a four-day charrette at Fort Devens, Massachusetts, a military base 35 miles northwest of Boston. Multidisciplinary teams of volunteer professionals, graduate students, and residents of surrounding towns produced conceptual plans and guidelines for long-term reuse of the base, which will close next year.

Fort Devens was set up in 1917 to train troops for World War I; at its peak it housed more than 40,000 soldiers. The site contains 9,000 acres, 2,500 buildings totaling 8 million square feet, 90 Superfund sites, an airfield, a railroad station on top of a major aquifer threatened with pollution, wetlands and forests inhabited by several endangered species, and ten miles of river frontage. Sustainable development was the charrette's theme. Within the context of that approach, four alternative plans were produced, each showing the site 5, 25, and 100 years from today. Common goals that emerged were to keep the land as a block, to reuse structures wherever possible, to encourage mixed use, and to investigate industrial ecology and sustainable agriculture as new approaches to economic development.

Organizing the charrette were the Boston Society of Architects, the Boston Society of Landscape Architects, the Massachusetts Chapter of the American Planning Association, and the Joint Planning Board of Ayer, Harvard, Lancaster, and Shirley, Massachusetts. Lee Cooke-Childs and Andrew St. John cochaired. **Jonathan Hale** ■

The author, an architect in Watertown, Massachusetts, writes frequently on architecture and design.

Seattle Conference on Reshaping Cities

There was an empty chair at the opening session of the international conference on "Reshaping Our Cities" sponsored in early October in Seattle by the city government, the University of Washington College of Architecture and Urban Planning, and the Institute for Urban Design. The chair was to have been occupied by HUD Secretary Henry Cisñeros, who had agreed to be a keynote speaker but canceled at the last minute.

Paul Schell, dean of the college and moderator of the session, saw the empty chair as symbolic of the Federal government's virtual invisibility in the effort to solve urban problems, as did the two mayors who spoke. One of these, Seattle's Norm Rice, described the city's innovative plan to channel growth into a series of "urban villages," new or expanded neighborhood centers linked by light transit.

Rice sounded several themes that were to run through the two-day conference. One was the need for linkages, especially between physical and social planning and between transportation and land use. Another was the need to involve the community in planning decisions, to find out what its values are and then to shape plans accordingly. Rice described his task and that of other mayors as a new form of "public entrepreneurship," trying to anticipate problems rather than simply reacting to them.

The next speaker described what must be the ultimate in mayoral entrepreneurship. He was Jaime Lerner, an architect who served three non-consecutive terms as mayor of Curitiba, a provincial capital in southeastern Brazil. Lerner recited an astonishing list of accomplishments that he said were achieved "in partnership with the people" of his city (see sidebar at right).

Allan B. Jacobs

Children painting on one of Curitiba's pedestrian streets.

After the opening session, the conference broke into a wide-ranging series of often concurrent lectures, seminars, and case studies of urban design. The latter varied in scale from Hong Kong, where the average new building height is over 40 stories and where new satellite cities of up to 600,000 population are sprouting up, to tiny growth-threatened Snoqualmie, near Seattle.

Some sessions dealt with reshaping cities in terms of healing the wounds of past patterns of development. San Francisco architect Dan Solomon described himself as a "repairman" and wondered if any species had fouled its habitat as much as the urban American. But more of them focused on shaping the urban development process itself to achieve results like those demonstrated in Curitiba. **Donald Canty** ■

Curitiba Mayor Describes Innovative Urban Solutions

At last month's conference on "Reshaping Our Cities," in Seattle (see article at left), Jaime Lerner, an architect and former mayor of Curitiba, Brazil, shared his recipe for some remarkable urban achievements, and demonstrated why the city has become an important symbol in environmental circles.

In the 20 years spanned by his terms of office Curitiba grew from 500,000 to 1.5 million. When he took office in 1971, growth was clearly out of control, the automobile was "in charge of the city," and large segments of the population suffered poverty and neglect.

He first moved to "make citizens aware of an ecological city," drafting and winning public support for a master plan that "gave priority to mass transport over individual transportation." Since the city could not afford a rail system, he turned to buses, building a citywide system incrementally. By 1974, the buses were handling 25,000 passenger trips per day. They are now handling 1.3 million, four times the number in Rio de Janeiro's subways.

Through use of double-articulated buses carrying 300 people each and glazed "loading tubes," where passengers prepay fares and enter the vehicles without stairs, the lines run on headways as frequent as one minute. The quality of the system has lured 28 percent of car owners to use buses instead. The results have been enormous savings in energy and reduction of air pollution.

Environmental education pervades Curitiba's school system. Every pupil, Lerner says, can tell his parents that "recycling 50 kilos of paper per day saves 1200 trees." Seventy percent of the city's population now participates in recycling.

Lerner's hallmarks are cre

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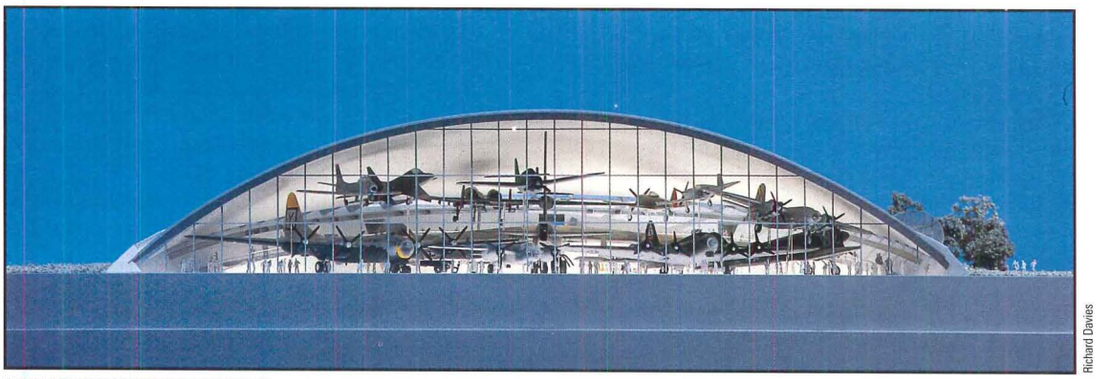
Projects



Richard Davies

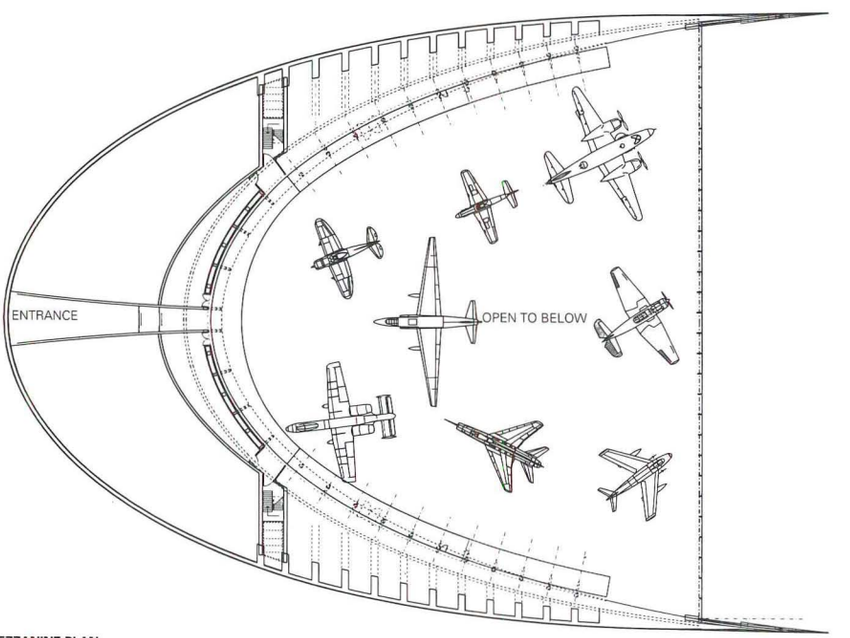
MODEL VIEW OF SOUTHWEST ELEVATION

American Air Museum

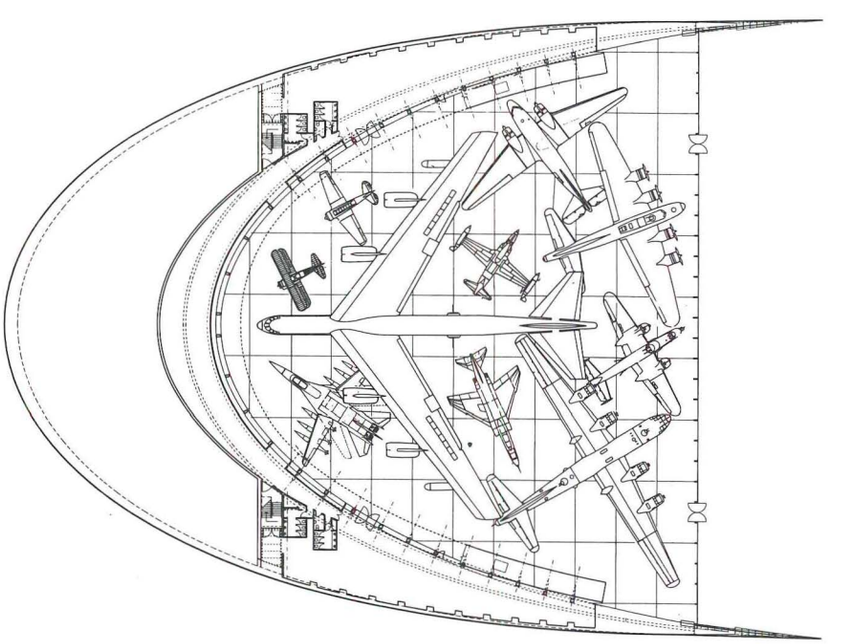
Sir Norman Foster and Partners have designed an elegant pavilion for the American Air Museum, a collection of American aircraft at the Imperial War Museum in Duxford, England. With structural engineers Ove Arup & Partners, Foster developed a concrete roof "derived from the stressed skin structure commonly employed in the construction of aircraft themselves." The curved roof defines a space 295 feet wide and 60 feet high. An arched glass wall using the "largest single-glazed laminated panels in manufacture" will provide sufficient daylight to light the space, the architects say.

Visitors will enter on the opposite, bermed side of the building, emerging onto a mezzanine level and viewing the planes from a ramp that connects the mezzanine with the ground level.

But one wonders how visible this remarkable space will be if it is to be as chock-full of airplanes as the drawings indicate (18 are shown – 10 on the floor and 8 suspended). The $10.9-million project is awaiting fundraising.



MEZZANINE PLAN

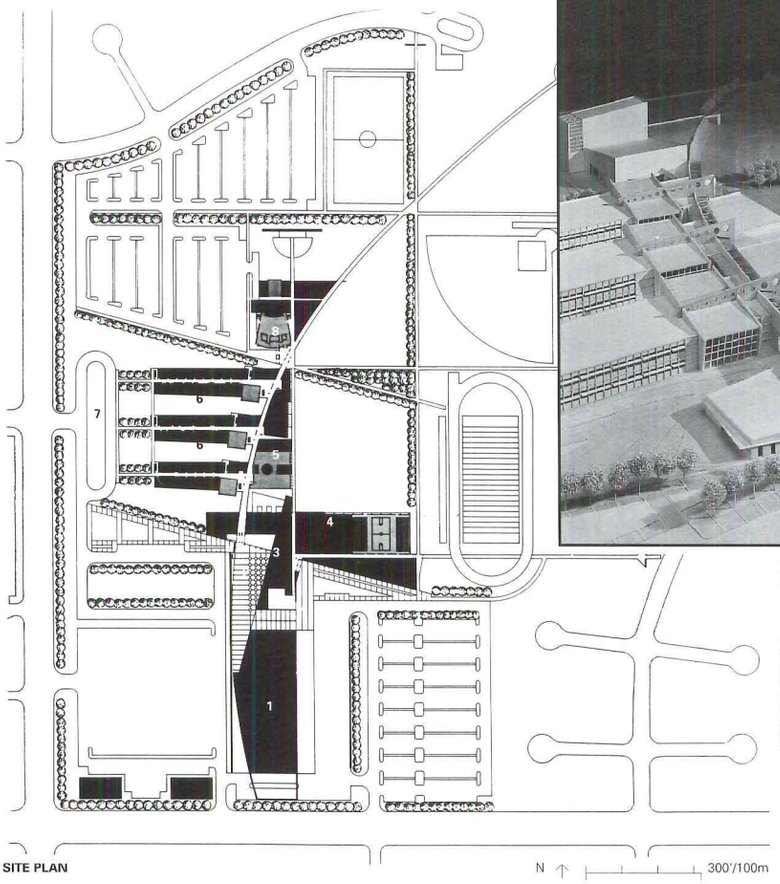


FIRST FLOOR PLAN

Fort Collins High School

Perkins & Will's design for the new high school in Fort Collins, Colorado, is intended to "evoke an urban experience in a suburban environment." The project creates a public plaza, makes school facilities accessible to both students and the community, and, most unusually, includes commercial retail space. Project designer Vojo Narancic says the shops "will draw the public on a daily basis and provide the students with a convenient opportunity for practical work experience."

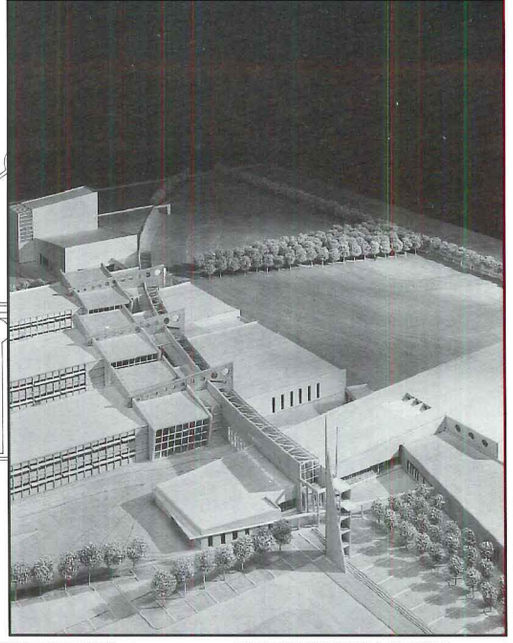
The complex is organized along a curvilinear spine, with the shops nearest the street and a plaza separating shops and school. Materials include brick, split-face concrete block, insulated glass, and corrugated metal. The project is under construction; associate architects are Architectural Horizons of Fort Collins.



SITE PLAN

N

300'/100m



Mark Ballogg/Steinkamp Ballogg

AERIAL VIEW OF MODEL LOOKING NORTHEAST

1 COMMERCIAL SPACE
2 PLAZA
3 FOOD COURT
4 GYMNASIUM
5 MEDIA CENTER
6 CLASSROOMS
7 BUS ENTRANCE
8 THEATER

New Use for Biosphere

Since its acrylic cladding burned in 1977, Buckminster Fuller's Biosphere in Montreal has been an empty (though well-preserved) ruin. Now the City of Montreal is turning the structure into an "environmental awareness center" with an emphasis on water. Two Montreal firms, Blouin Faucher Aubertin Brodeur Gauthier Architects and Desnoyers, Mercure & Associates, won a competition for the job; their plan leaves the dome untouched and uses the building's existing steel platforms to enclose 50,000 square feet of exhibition and service space.

The project, with an estimated cost of $9 million (U.S.), is under construction, with a 1994 completion date scheduled.

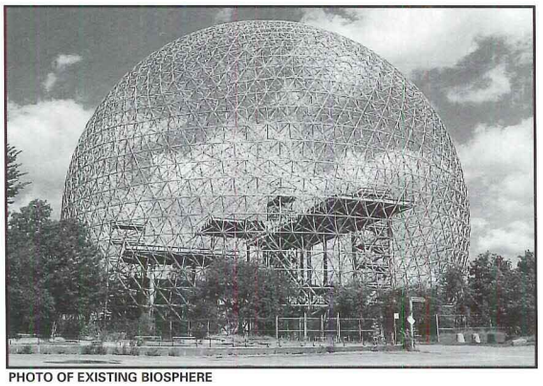
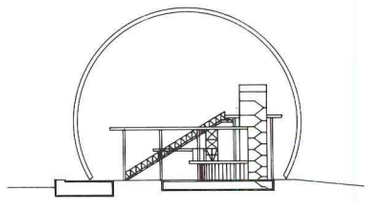


PHOTO OF EXISTING BIOSPHERE



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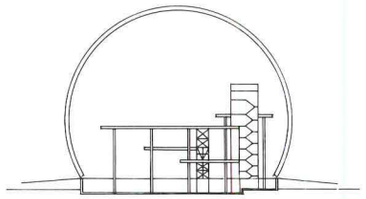
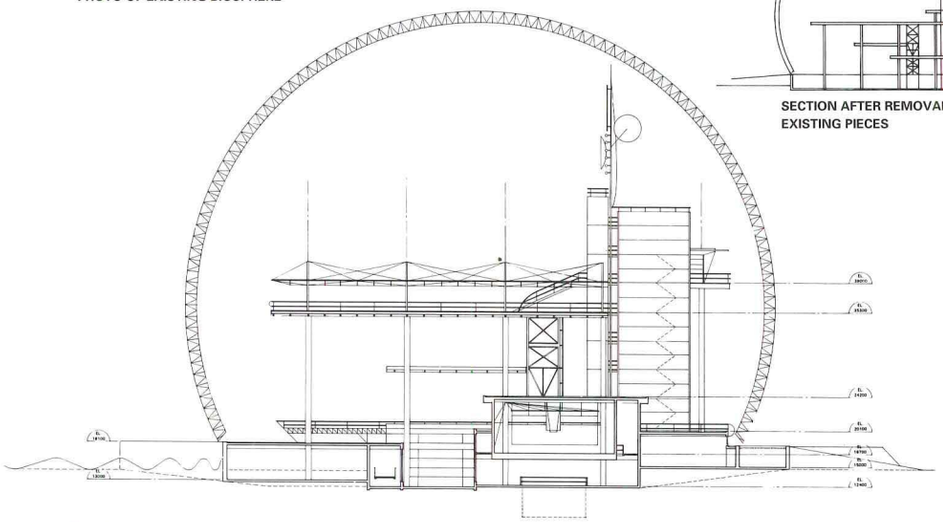


SECTION AFTER REMOVAL OF SOME EXISTING PIECES



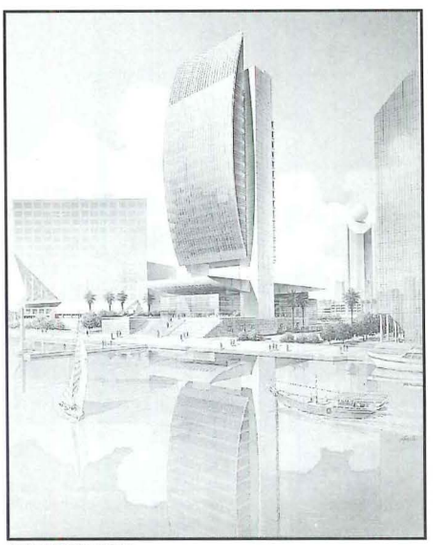
PROPOSED SECTION

40'/12m

National Bank of Dubai

In recent years, Southeast Asia seems to have overtaken the Middle East as the world capital for audacious North American highrises, but this 20-story tower is the headquarters for the National Bank of Dubai, in the United Arab Emirates. Designed by NORR Partnership of Toronto (architects of the Bastille Opera – see P/A Dec. 1989, p. 22) in association with Dubarch of Dubai, the building has a curved section on one side and a curved plan on the opposite side; both façades are clad in gold reflective glass. The architects cite the indigenous *dhows* (fishing and cargo boats)of Dubai Creek as their inspiration.

Construction of the project began in September; cost is estimated at $50.6 million (U.S.).



VIEW FROM SOUTH

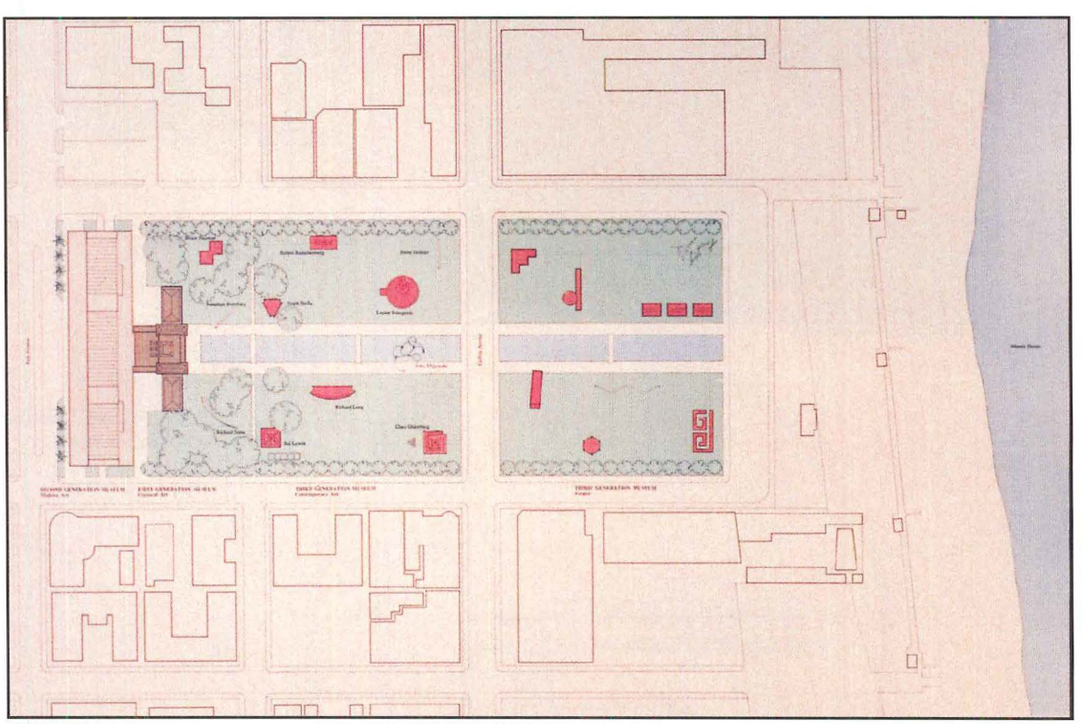
SECTION

Bass Museum Expansion

Competing with Venturi Scott Brown Associates and Michael Graves Architect for the $18-million expansion and renovation of the Bass Museum of Art in Miami Beach, Arata Isozaki & Associates won with a bigger idea than the 68,000-square-foot addition called for in the program.

Isozaki does provide the addition, placing a three-story linear building for Modern art behind the existing Art Deco museum. But the plan also calls for turning the museum's lawn into a "third-generation museum" populated with "gallery pavilions designed in collaboration with living contemporary artists." While the garden is not within the financial scope of the expansion, Isozaki's office explains that it is a "visionary idea that would inspire potential donors."

Spillis Candela & Partners of Miami are executive architects; Martha Schwartz is landscape architect. ■



MUSEUM SITE PLAN, WITH NEW ADDITION AT LEFT AND GALLEY PAVILIONS AT RIGHT

Curitiba

(continued from page 25)

ativity and action. Despite his environmental program, garbage was piling up in the city's slums, creating health and morale problems, because streets were too narrow for garbage trucks to enter. Lerner's solution was to "buy the garbage." Residents bring their trash to the trucks in exchange for transit tokens and, in times of agricultural surplus, food.

Old buses are brought into low-income neighborhoods as classrooms and job training centers. In Lerner's administration, the city has built 200 daycare centers, 82 health care centers, and 60 "informal schools" designed to bring dropouts back in.

There is a network of downtown pedestrian malls and also an active program for adaptive use of old buildings worth saving. A gunpowder depot is now a theater, a glue factory a cultural center.

When Lerner took office, there was half a square meter of city park per resident. There are now 50 square meters, and citizens have planted 1.5 million trees in the city.

None of this is primarily a matter of money, Lerner says. The municipal budget is only $250 million a year. It is rather a matter of "proposing a scenario – an idea, a project – desirable for everyone, and one that everyone can help realize." He speaks of citizens and the private sector taking "co-responsibility for the city's well-being." But he warns that citizens will only do so "if they are shown respect."

Donald Canty ■

Calendar

Exhibitions

Los Angeles Central Library
Through December 18

Santa Monica. "Building, Art, and Text: The Los Angeles Central Library," part of a citywide celebration of the library's reopening last month, examines the building's design history and iconography. Getty Center.

Holocaust Memorial Museum
Through January 29, 1994

Chicago. "The Architecture of Remembrance: The United States Holocaust Memorial Museum" is a traveling show documenting James Freed's design (P/A, Feb. 1993, p. 60). Athenaeum.

P/A's New Public Realm
November 2–28

Boston. This traveling exhibition of visionary public works proposals submitted to P/A's ideas competition (Oct. 1992, p. 73) is supplemented by photos of neglected spaces, substandard housing, and decrepit infrastructure. Boston Public Library. (Note: The show will be in New York at the Parsons School of Design next month; the opening reception is December 7, from 6 to 8 p.m.)

Austrian Cultural Institute
November 5–December 1

New York. Raimund Abraham's competition-winning scheme for the Austrian Cultural Institute in New York will be on view along with a selection of other entries. Architectural League of New York.

Libeskind's Jewish Museum
November 10–December 8

New York. "Between the Lines: The Jewish Museum in the Berlin Museum" includes drawings, plans, and models of Daniel Libeskind's design. A lecture by the architect is scheduled for November 9 at 6:00 p.m. Cooper Union, Houghton Gallery.

Louis I. Kahn
November 14–January 23, 1994

Columbus, Ohio. This is the last stop of the international tour of "Louis I. Kahn: In the Realm of Architecture" (P/A, Dec. 1991, p. 17). Wexner Center.

Paul Rudolph
November 16–February 12, 1994

New York. Love it or hate it, Paul Rudolph's work has almost always provoked discussion. This show covers the years 1976 through 1993, arguably the most tumultuous of his career. National Institute for Architectural Education. (Note: A second Rudolph exhibition focuses on the Concourse Building in Singapore; it is on view at the Cooper-Hewitt from November 9-February 13, 1994.)

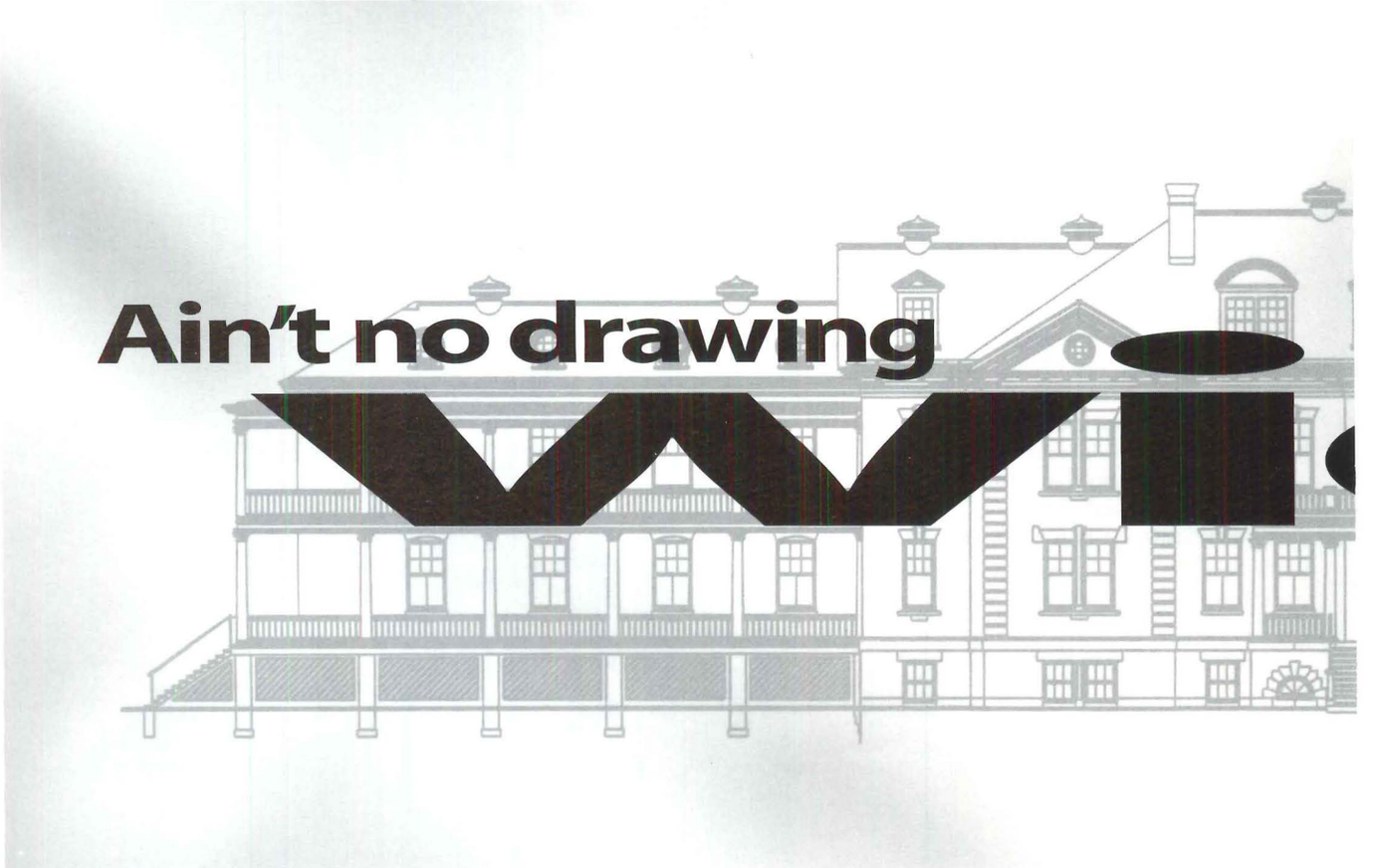
Dream Houses
November 19–January 21, 1994

Cincinnati. "The Architect's Dream: Houses for the Next Millenium" includes proposals by 11 architects invited to design houses to respond to their own lifestyles or a lifestyle they envision for succeeding generations. A twelfth house was selected from entries in a national competition. Contemporary Arts Center.

Competitions

Public Space in the New American City
Registration deadline December 3, submission deadline March 1, 1994

Atlanta. The "Public Space in the New American City/Atlanta 1996" competition, sponsored by the Architecture Society of Atlanta/Corporation for Olympic Development in Atlanta International, is part of a design initiative for the creation of public space/installations in Atlanta; projects are expected to be completed prior to the 1996 Olympic Games. Contact ASA/Competition, PO Box 19861, Atlanta, GA 30325 (404) 723-7210.



Design Arts Program Grants
Application deadline
December 10

Washington, DC. The Design Arts Program of the National Endowment for the Arts awards $3.5 million in grants ranging from $5,000 to $50,000 to individual designers and design organizations. The grants support projects that advance design and benefit the public on a local, state, regional, or national level. (Guidelines for next year's grants will be available in January) Contact Wendy Clark, Christine Gill, or Eddie Whitehurst, NEA, Nancy Hanks Center, 1100 Pennsylvania Ave., NW, Washington, DC 20506-0001 (202) 682-5437.

A Virtual Building
Submission deadline
December 10

Chicago. Forum/America is a new interactive magazine in need of a virtual building. Learn Television, the competition sponsor, invites proposals for a virtual assembly space that can seat at least 2000 people, where each participant can present ideas and debate current issues. Select entries will be published in P/A Contact Forum/America Competition, Learn Television, 1807 W. Sunnyside Rd., Ste. G1, Chicago, IL 60640 (312) 275-5444.

GOOD DESIGN™
Submission deadline
December 15

Chicago. "Made in the USA" is the theme of the GOOD DESIGN™ 1993 Awards Program and Exhibition. Any consumer or business product (office furniture, lighting, etc.) produced and/or designed in the U.S. since January 1, 1992 may be submitted. Contact Jeffrey W. Chiedo, Chicago Athenaeum, 1165 N. Clark St., Chicago, IL 60610 (312) 280-0131 or FAX (312) 280-0132.

Tucker Awards
Submission deadline
January 31, 1994

Purdys, New York. New commercial and residential buildings, renovations, restorations, interiors, and landscape projects that incorporate the use of natural stone may be entered in the 16th Annual Tucker Architectural Awards program. Contact Building Stone Institute, Tucker Architectural Awards Committee, 85 Yerkes Rd., Purdys, NY 10578.

Conferences

Bugs, Mold, and Rot II
November 16–17

Alexandria, Virginia. "Bugs, Mold, and Rot II: Control of Humidity for Health, Artifacts, and Buildings" is the second symposium organized by the Building Environment & Thermal Envelope Council on the subject of international humidity standards. Contact BETEC, c/o National Institute of Building Sciences, 1201 L St., #400, Washington, DC 20005.

Restoration '93
December 6–8

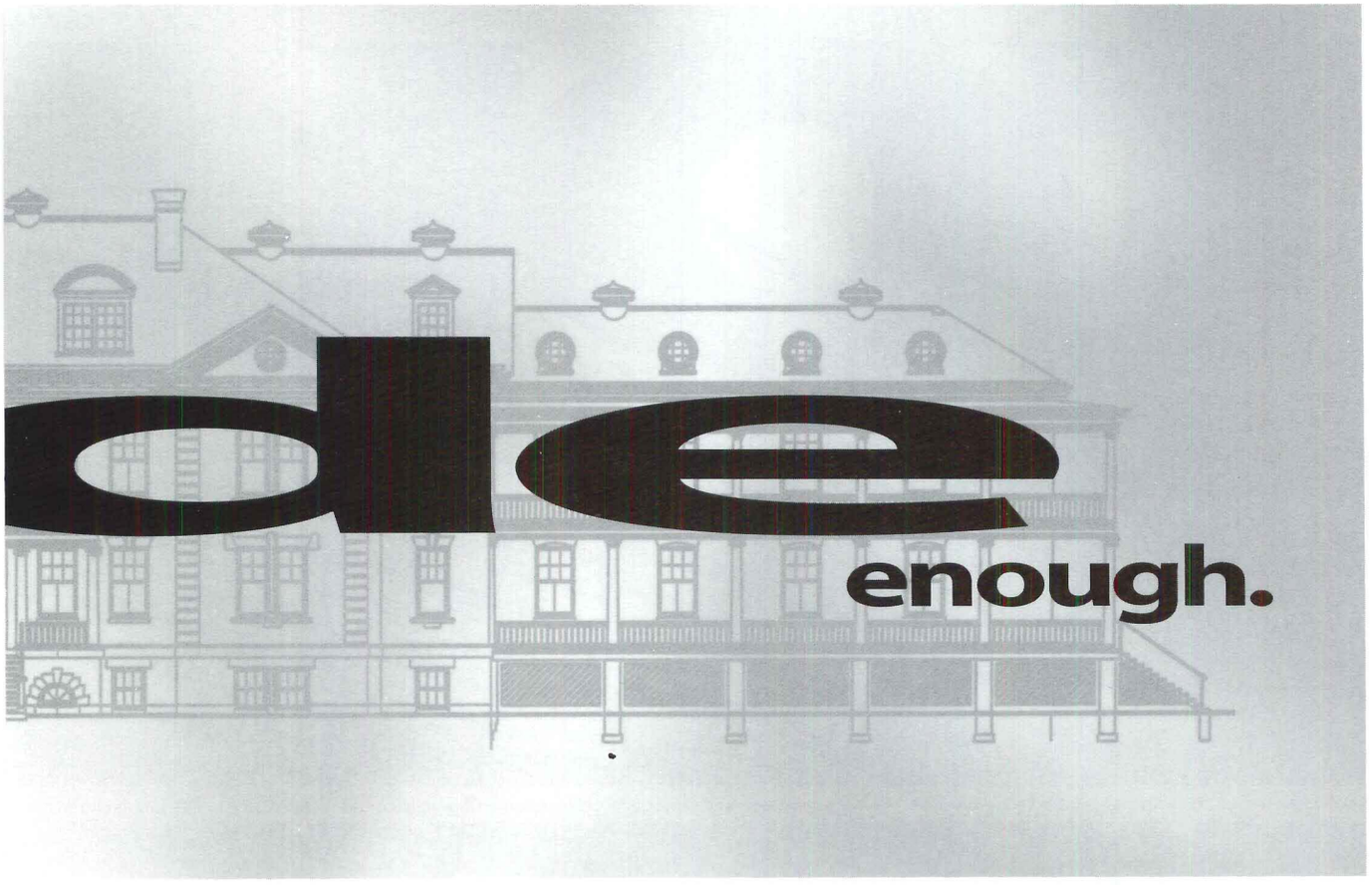
Boston. This conference and trade show will address the restoration of building exteriors and interiors, monuments, public structures, parks and landscaping, decorative arts, books, and cultural artifacts. Contact E. Glew International (617) 933-9699 or FAX (617) 933-8744.

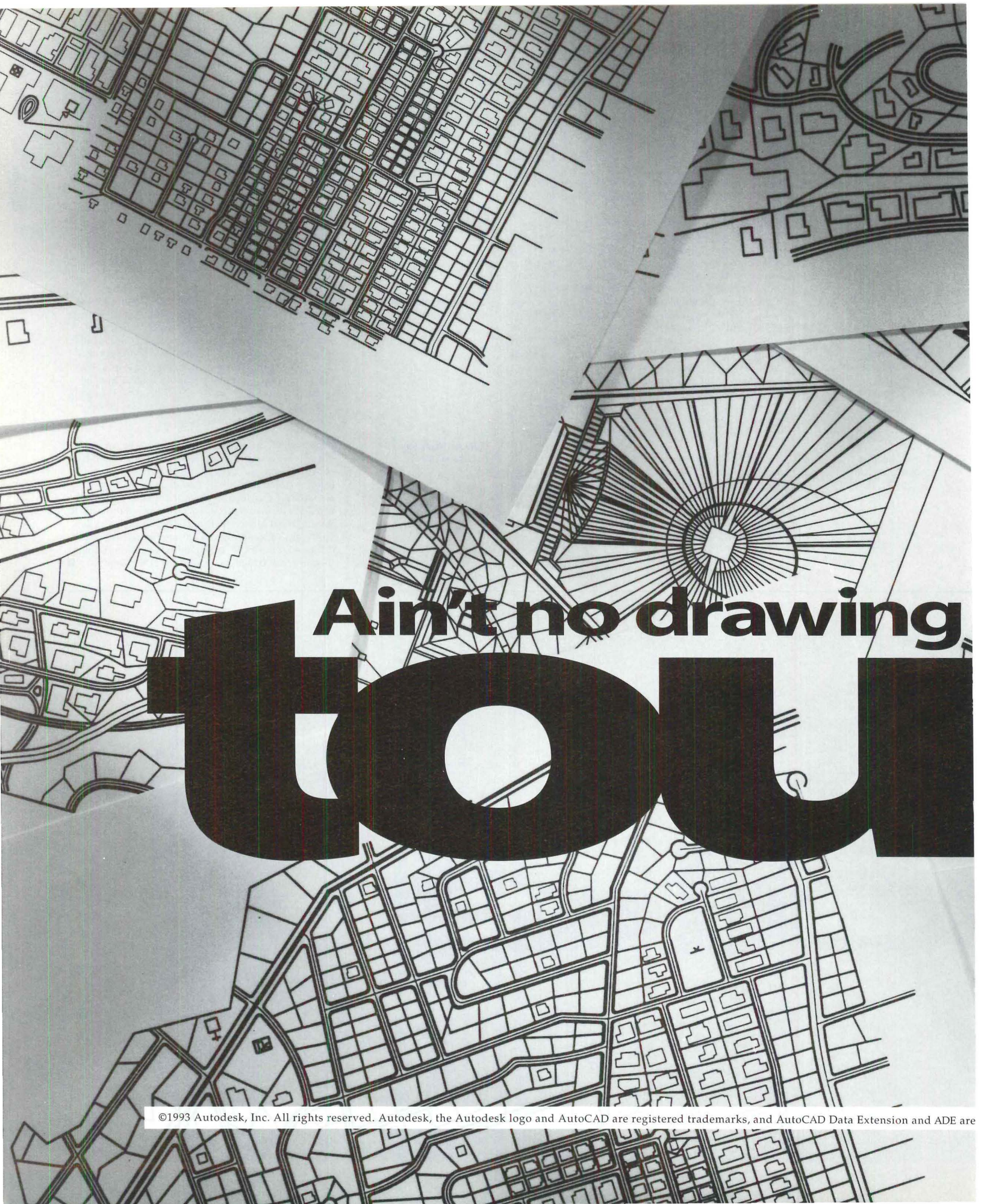
Crime Prevention by Design
December 9–11

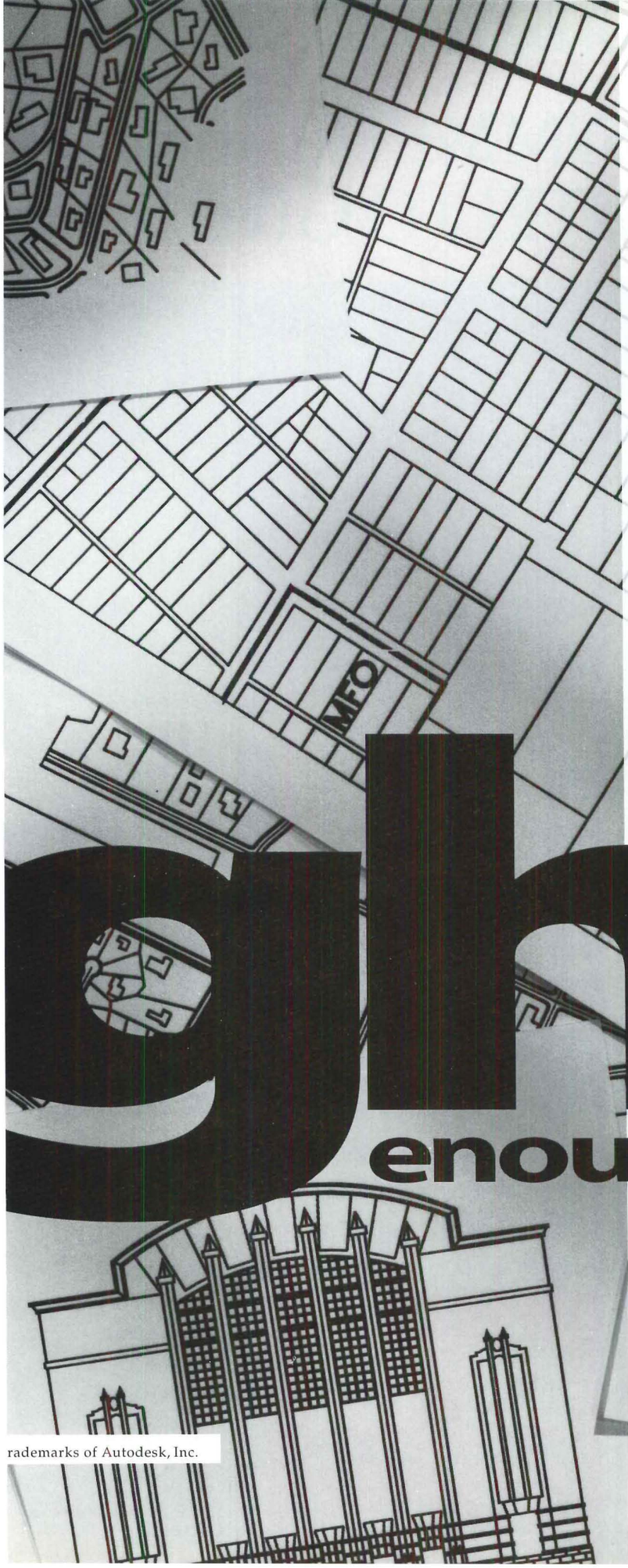
Washington, D.C. "Secure and Livable Communities: Crime Prevention Through Environmental Design," organized by the AIA/ACSA Council on Architectural Research and sponsored by the National Institute of Justice, will address how buildings and communities can be designed and managed to reduce crime and improve quality of life. Contact Pradeep Dalal, AIA/ACSA Council on Architectural Research, 1735 New York Ave., NW, Washington, DC 20006 (202) 785-5912.

New Art Museums
December 10–12

Minneapolis. The relationship between the art museum (its mission, programs, and collections) and its contexts (museum visitors, location, exterior, and interior functions) will be explored in "New Art Museums: Revis(ion)ing Architecture, Art, and Culture." Frank Gehry, architect of the new Frederick R. Weisman Art Museum (P/A, Jan. 1992, p. 74) at the University of Minnesota, is among the participants. Contact Frederick R. Weisman Art Museum, Robert Bitzan, (612) 625-9678 or FAX (612) 625-9630. ■







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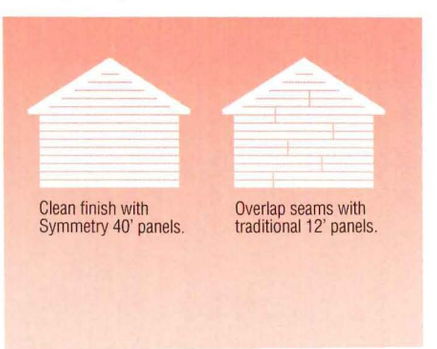

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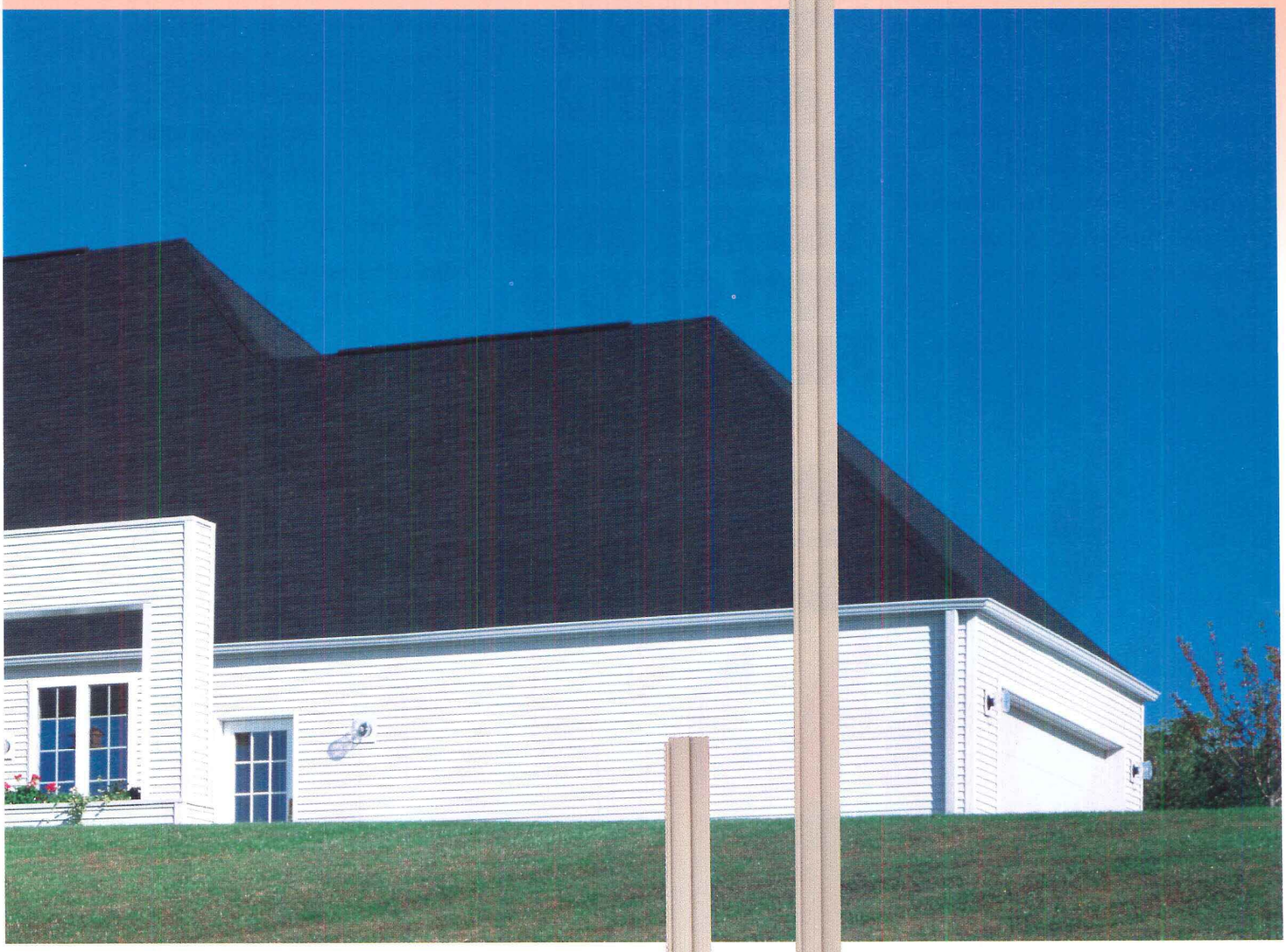

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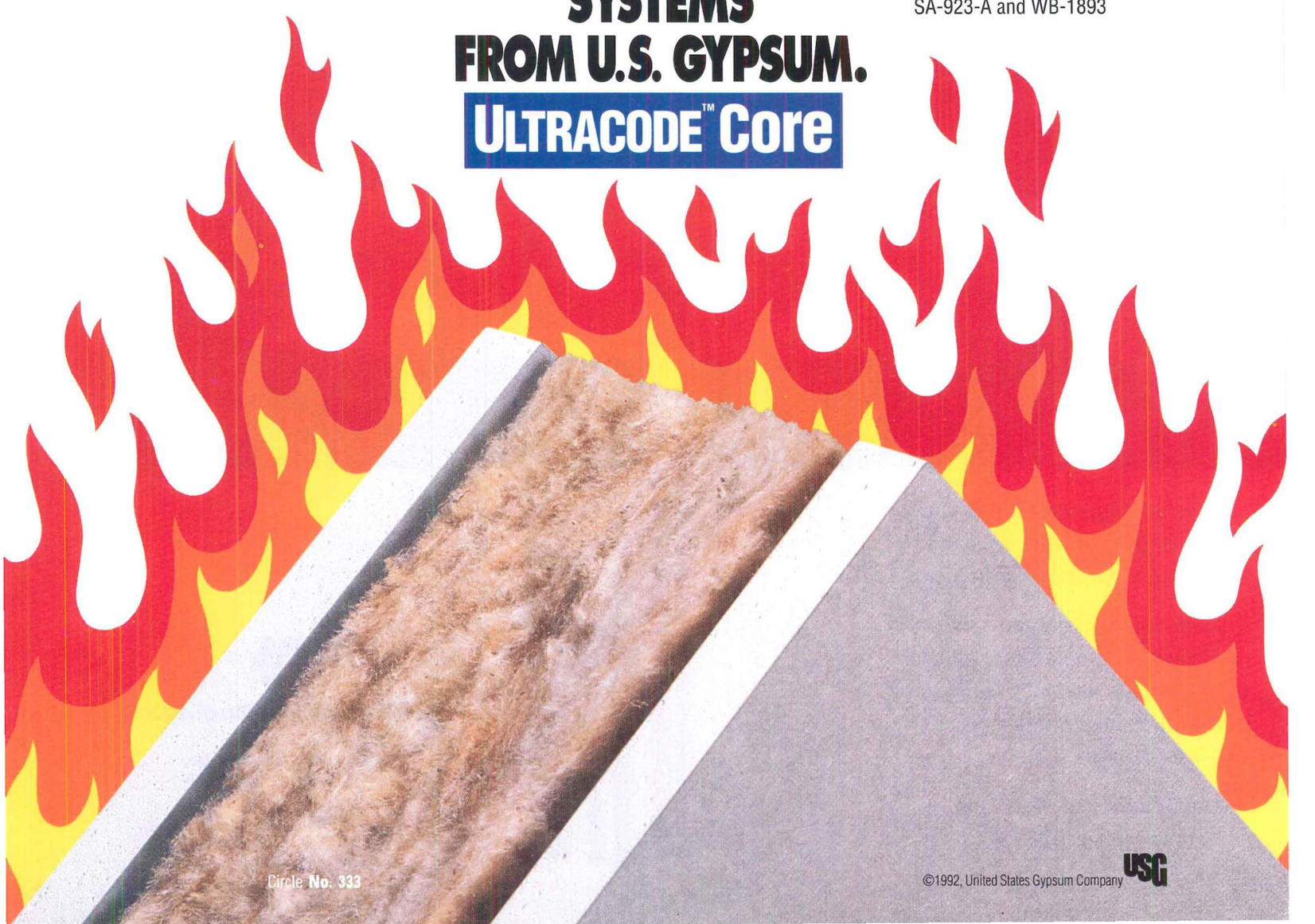

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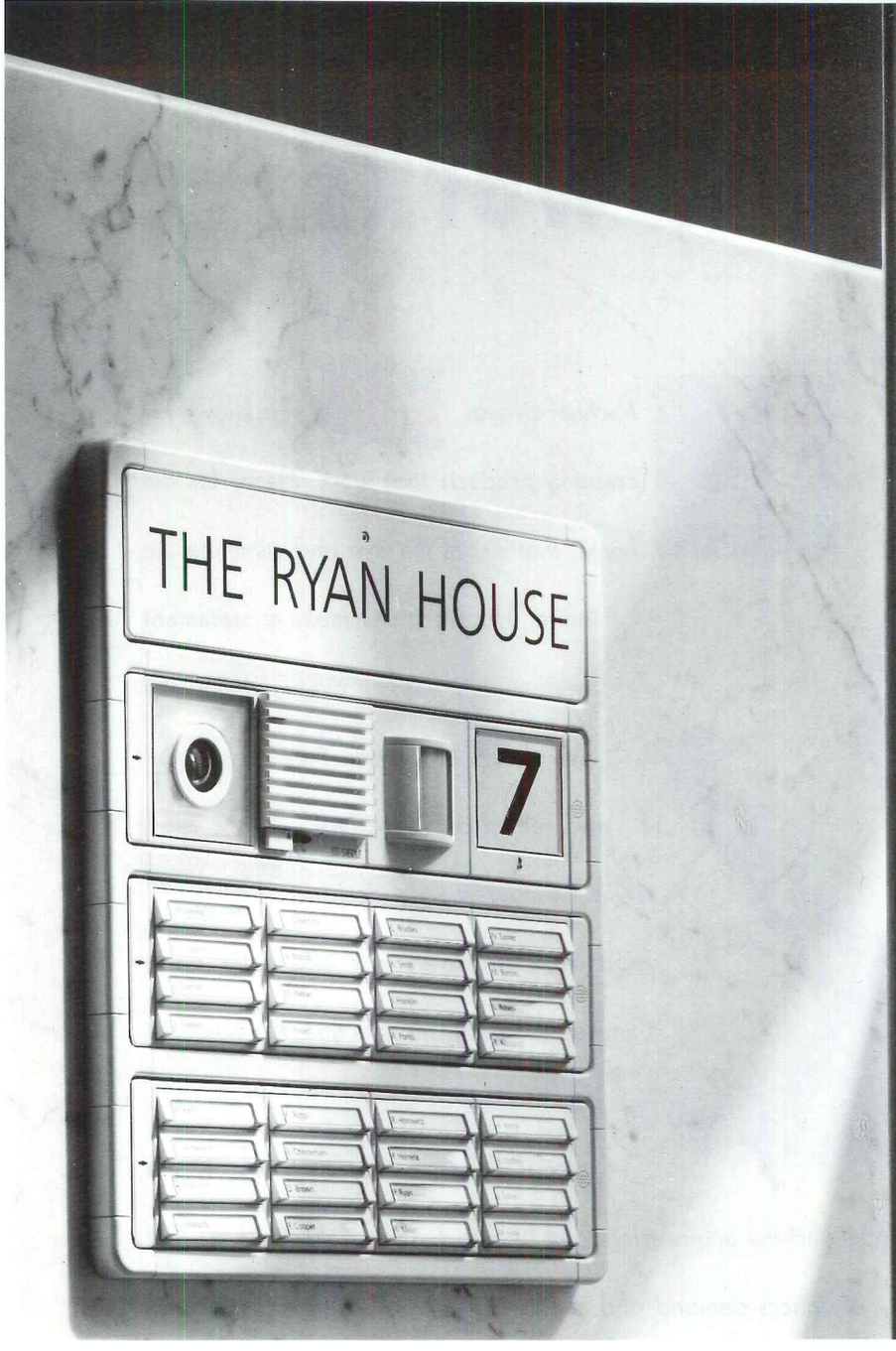

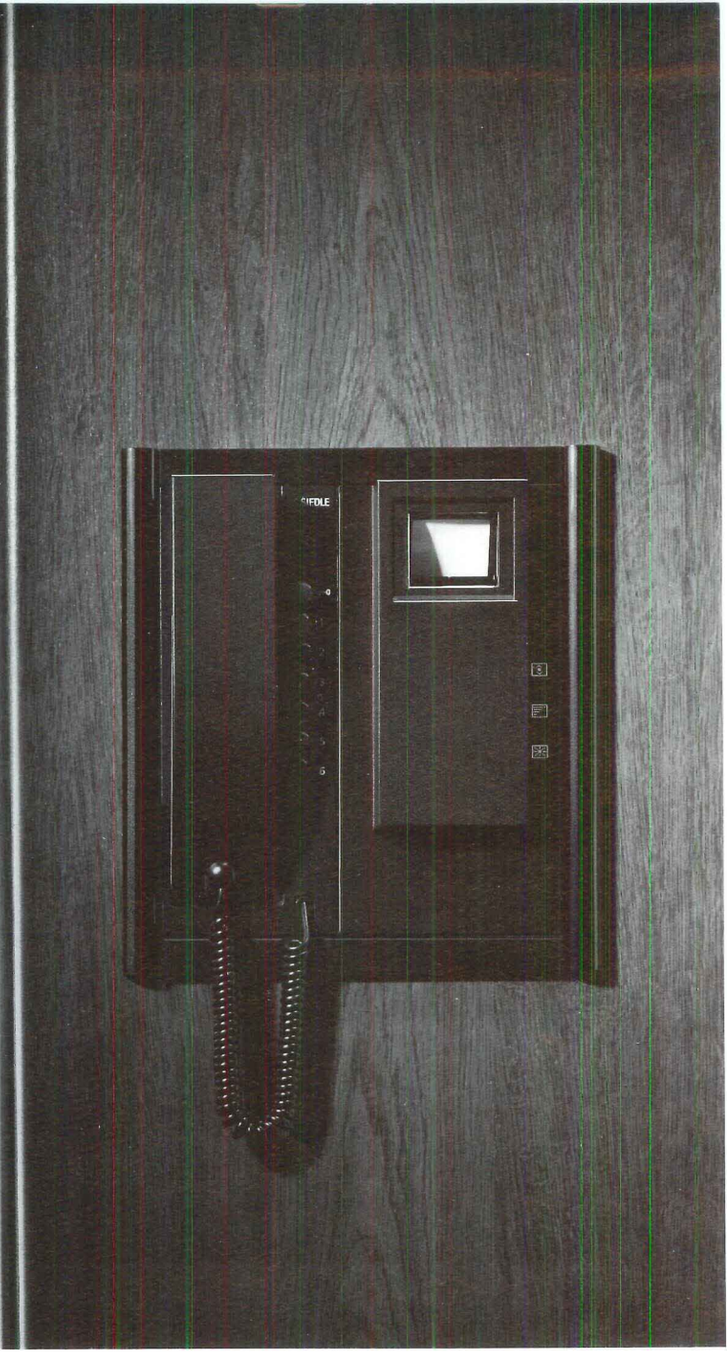

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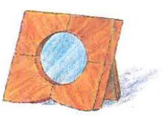
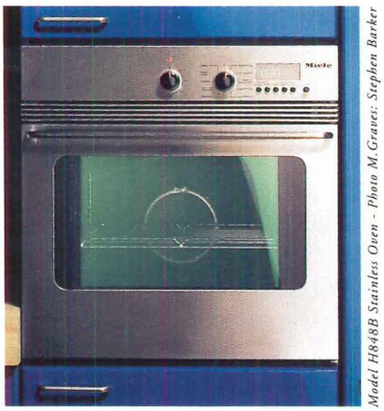
Michael Graves  *is known for creating products that work. Pieces for the home, that excite the eye and stimulate the mind. His creations make a statement aesthetically without overwhelming the overall look of a room. They complement and reflect an individual*  *style. Of course each design must work effectively and efficiently. Form never compromises function. Because the appearance of any functional object is negated if it does not operate flawlessly, the materials used have to meet the highest standards. And the engineering must be exact. The result? Products that deliver the kind of performance and durability designers demand and clients expect. So it's no surprise that* ***Michael Graves specifies Miele*** *appliances for the kitchens he designs, including the one in his own home. Because in*   *both appearance and performance Miele appliances are designed to work.*



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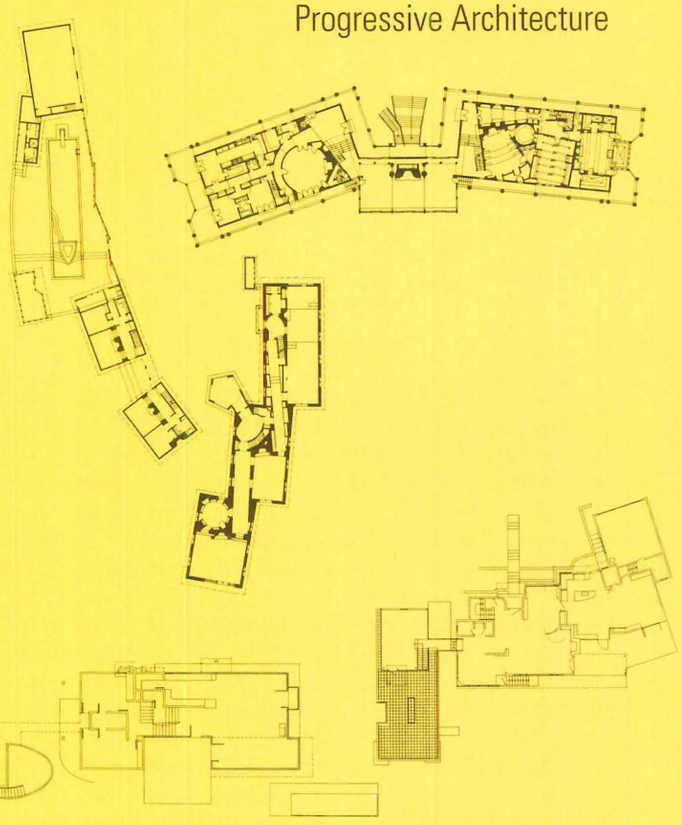
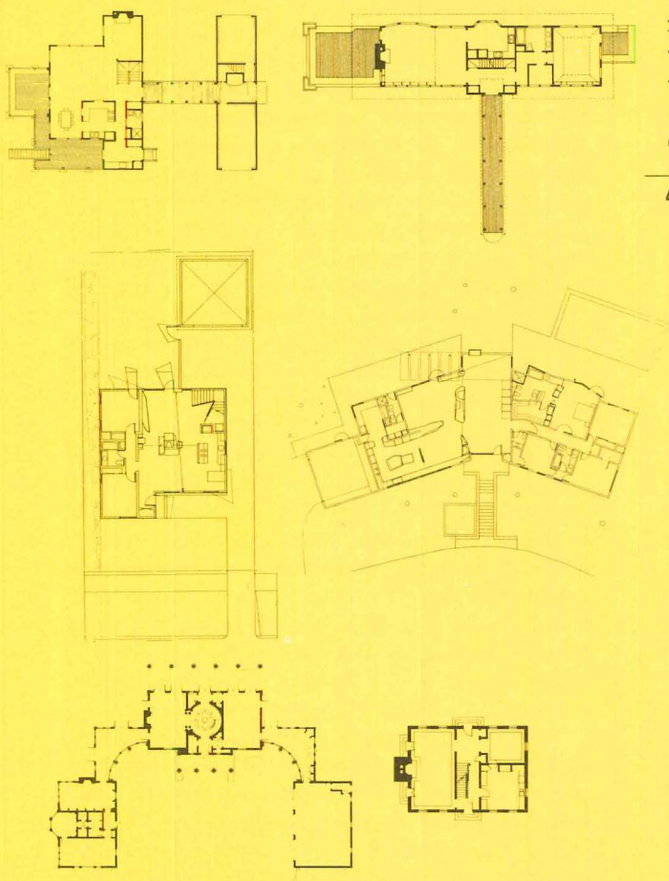
In our previous issues on houses, we have shown you a wide array of projects, one at a time. But we've come to believe that an article on a single building, no matter how interesting the building may be, has its limitations. This year, we are presenting five pairs of houses, each pair by a different architect.



Houses by the Pair

This way, we can find the answers to questions beyond the specifics of a single building. How do differing clients, budgets, and sites change the way an architect works? How do strategies developed for one project show up in others? What principles remain constant in each architect's work? We hope you will find this approach as refreshing as we did.



American Gothic

Two houses by Centerbrook Architects mix the modern and the medieval with uncommon humor.

To the modern mind, the Gothic conjures up pointed vaults and piety or dungeons and derangement. But Mark Simon and his colleagues at Centerbrook, in these two houses, have shown how the Gothic can be a rich source of architectural ideas and an apt reflection of clients' desires.

Each of these houses emphasizes a different aspect of the Gothic. The Pond House, located on the island of Martha's Vineyard and designed by Mark Simon and James C. Childress, draws upon the 19th-Century Gothic Revival. Its bowed roofs recall the inverted boat-hull roofs of old Cape Cod structures, and its pointed-arch windows and board-and-batten siding bring to mind the Gothic cottages of the nearby Oak Bluffs campground. The loose assembly of buildings – a primary residence, two guest houses, a pool enclosure, and a garage around a lozenge-shaped courtyard – looks like a Potemkin village. Inside, the living room, with its vaulted ceiling and huge, stone fireplace, combines the character of a backwoods chapel and a baronial hall.

The Marsh Estate – designed by Simon and Mahdad Saniee – draws instead from an offshoot of the Gothic: the rustic Adirondack lodges of the late 19th Century. Used primarily as a weekend retreat and hunting lodge, the house has a broad, wood-shingled roof and perimeter balconies that wrap around two wings – one for guests and one for the owner's family – separated by a large living room and a tower. Throughout, there exists a rustic quality, with an an Edwardian sense of scale: logs for stair rails, antlers for the dining room chandelier, actual trees arching above rooms, stuffed animals peering down from on high in the living room.

The English author Max Beerbohm once said that "humor must have its background of seriousness" – a statement that is true of both houses. They are full of witticisms: arched windows whose pointed tops don't meet, as if in some fractured fairy tale, or log columns to which lumber branches are lashed with rope, like some seafarer's version of a tree. They are also rife with visual puns: an outside "face" of a wall that has a fireplace for a mouth and windows for eyes, or a "drunken" stair that staggers off at an angle from a main entertainment space.

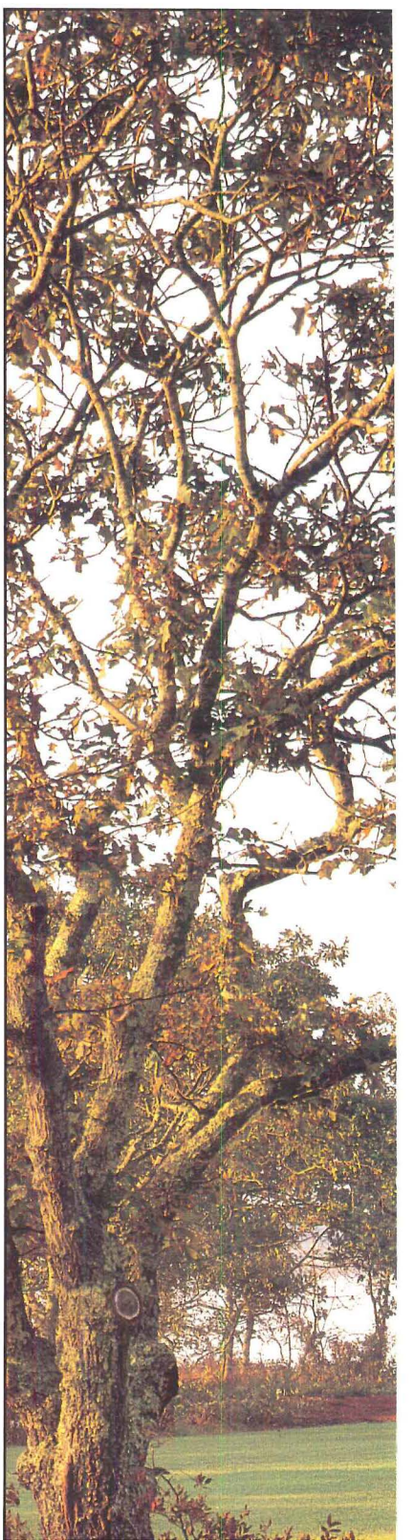
But this work also has a serious side. Both houses, for example, are solidly built and beautifully crafted. The Pond House features massive bluestone and granite fireplaces, chimney caps of lead-coated copper and bronze, integrally colored plaster walls, and a cherry-paneled library, while the Marsh Estate has wormy chestnut paneling, birch-bark wallcoverings, hand-carved railings, and marble bathrooms. Granted, the sizable budgets of these houses allowed the use of such substantial materials. But the quality of the construction also reflects a sense of craft central to the Gothic idea. As John Ruskin put it, "A foolish person builds foolishly, a wise one sensibly."

There is, however, more to the Gothic than sound building. These houses also recall the Arts & Crafts movement of the late 19th Century, which expanded the social as well as the aesthetic implications of the Gothic. Its adherents believed in natural materials, honest expression, functional directness, flowing space, connection to the outdoors, all of which were later embraced by Modern architects. In a sense, the Gothic Revival, through the Arts & Crafts, prepared us all for Modernism, and thus suggests a way of reconciling the division between historicism and Modernism in our own time.

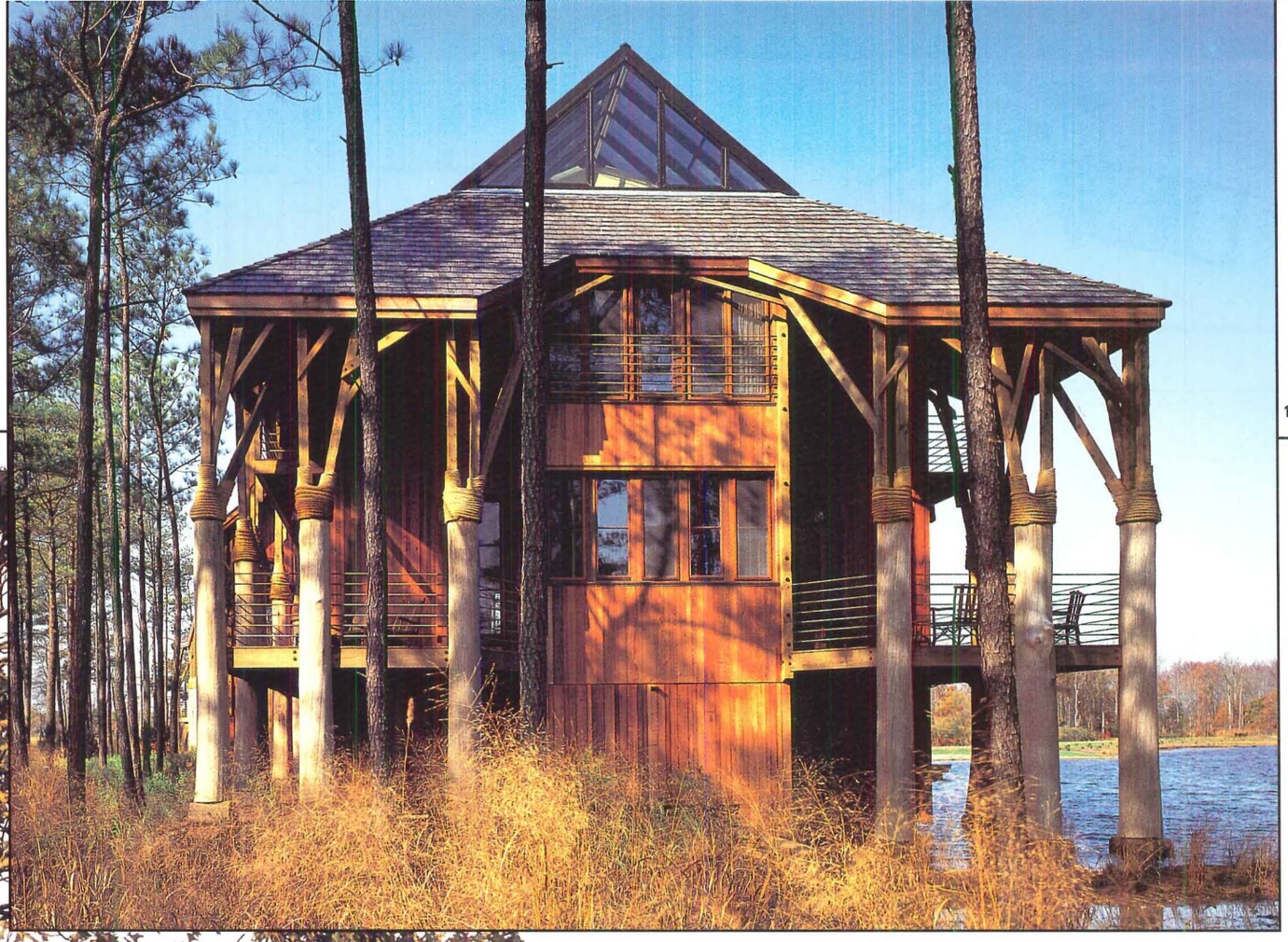
The Gothic idea has also, historically, offered people a form of relief from the pressures of modern life. Beginning in the mid-19th Century, wealthy urban people would flee to their Gothic cottages and rustic lodges for rest and relaxation, and these two houses are no different in that regard. In both cases, the clients live and work in cities and use these residences for weekend getaways or holiday destinations. And, as has always been the case with such retreats, people go to play at roughing it, with every modern convenience.

It is the extent of such conveniences that give the humor of these houses a certain ironic twist. Imagine, for a moment, John Ruskin visiting these two projects. He might admire their materials and craftmanship, but would no doubt sneer at their display of conspicuous consumption. Ruskin, of course, never much liked the big Gothic-style houses built in his own day. But the conflict between the Gothic's social function as a form of retreat and the high moral seriousness of its proponents becomes the basis for humor here, with a Gothic pool cabana and a rustic multimedia room.

Whether we are more covetous of such luxuries or just more willing to be amused is hard to say. But I think the real wealth in these houses lies not with each owner, but with their richness of ideas and abundance of invention. To that, even the humorless John Ruskin might have agreed. **Thomas Fisher** ■



The Marsh Estate (1) and the Pond House (2).



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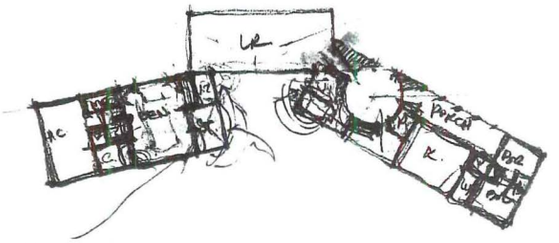
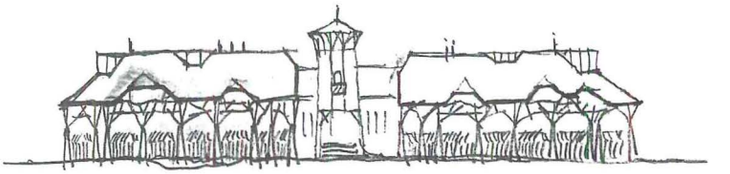
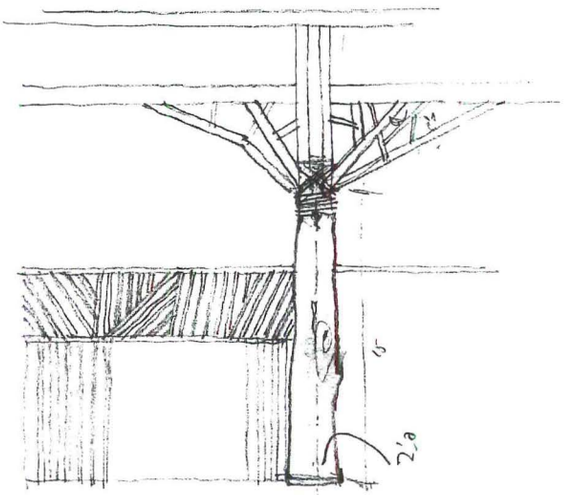


3 PRELIMINARY SKETCH OF PLAN



4 ELEVATION SKETCH



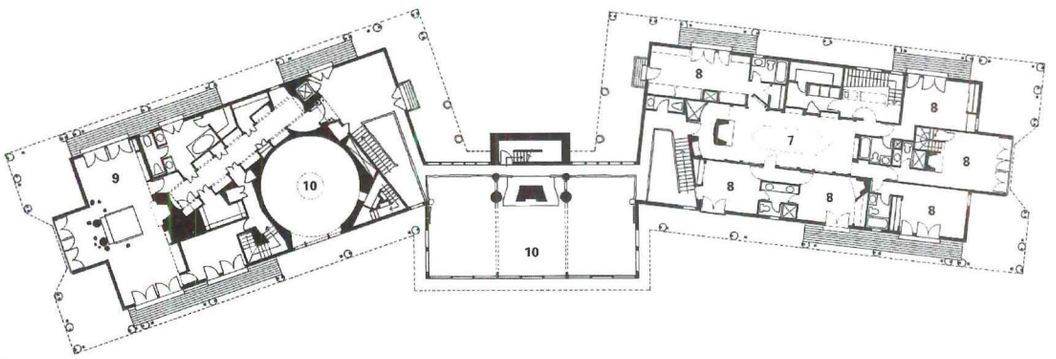
5 EARLY STUDY OF COLUMNS AND RAILINGS

Schematic Design and Design Development

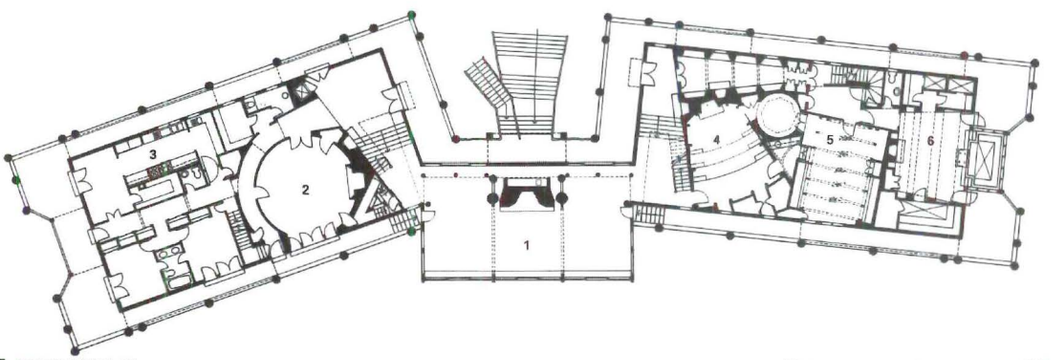
The basic plan of the Marsh Estate was arrived at early on (3), but the elevations came more slowly. The original schematic design called for wrapping the house in a lattice shell, but when the client rejected the idea, the design team returned to an earlier notion of the roof and columns as a canopy of trees (4). A tower was added at the entrance since the setback living room seemed to create a void at the center. The client wanted the tree columns to be all natural, but the architects prevailed in joining natural trunks to skewed pieces of lumber bolted to the columns (5). The final plans (6, 7) retain the flavor of the original sketches, including the idea of geometrically shaped rooms askew in a box.

The Pond House also went through a major rethinking early on. The initial idea called for one large shingled house (8), but the landscape architect successfully argued that it did not fit the site well. So the architects broke down the house into smaller units, with bracketed eaves and bowed roofs (9). Windows were also visually broken by the battened siding (10), giving the Gothic references an Expressionist twist. During design development, the plan evolved into a three-part main house with two guest houses stretching out to a pool and garage (11). The final plans retain that basic configuration, with many refinements, including an elliptical entry and skewed corridors (12, 13).

1 LIVING ROOM
2 DINING ROOM
3 KITCHEN
4 MULTIMEDIA ROOM
5 GAME ROOM
6 EXERCISE ROOM
7 LIBRARY
8 GUEST ROOMS
9 MASTER BEDROOM
10 OPEN TO BELOW

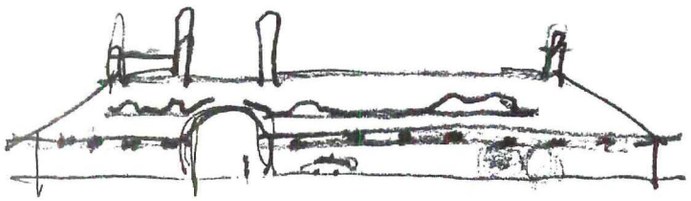


6 SECOND FLOOR PLAN

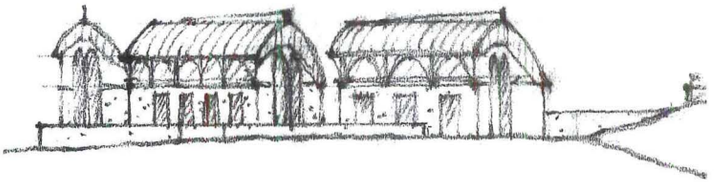


7 FIRST FLOOR PLAN

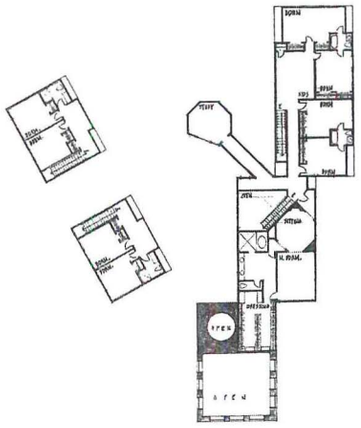
N 40'/12m



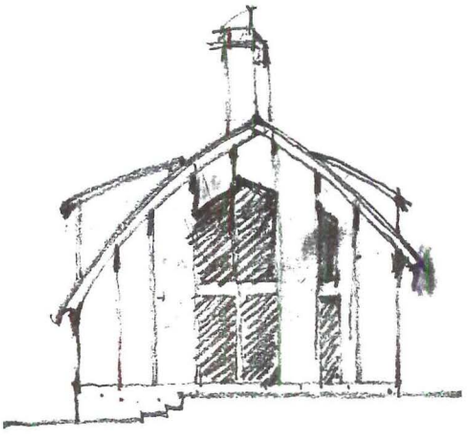
8 INITIAL DESIGN SKETCH AS A SINGLE BUILDING



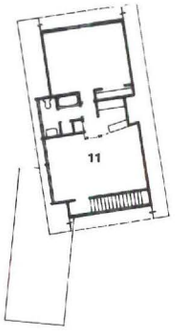
9 LATER SKETCH OF VILLAGE IDEA



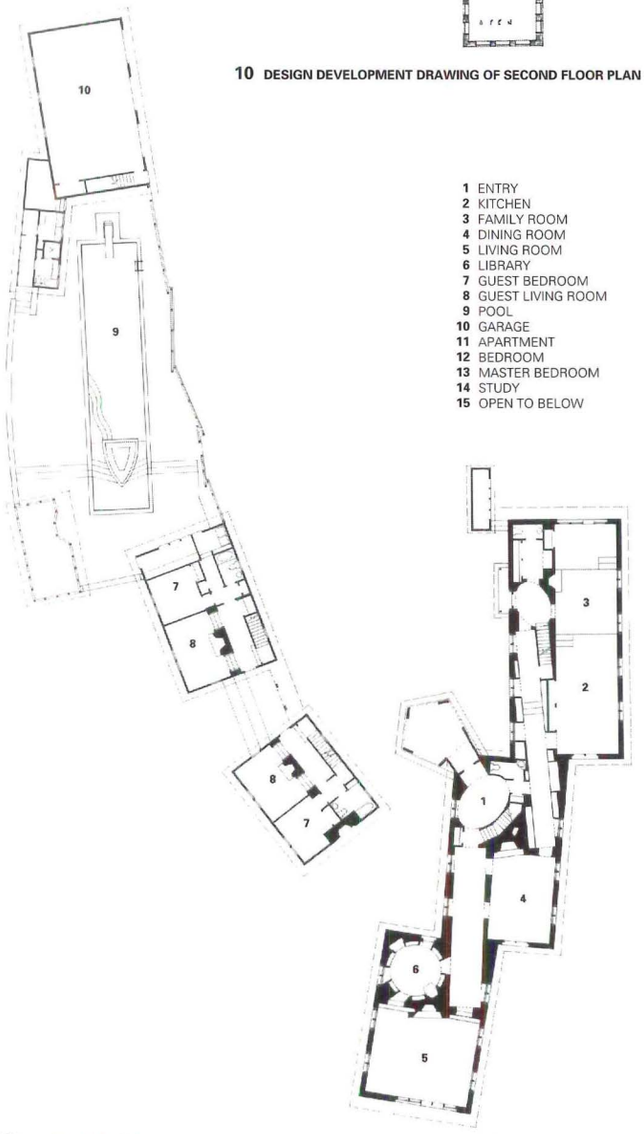
10 DESIGN DEVELOPMENT DRAWING OF SECOND FLOOR PLAN



11 SCHEMATIC STUDY OF SIDE ELEVATION

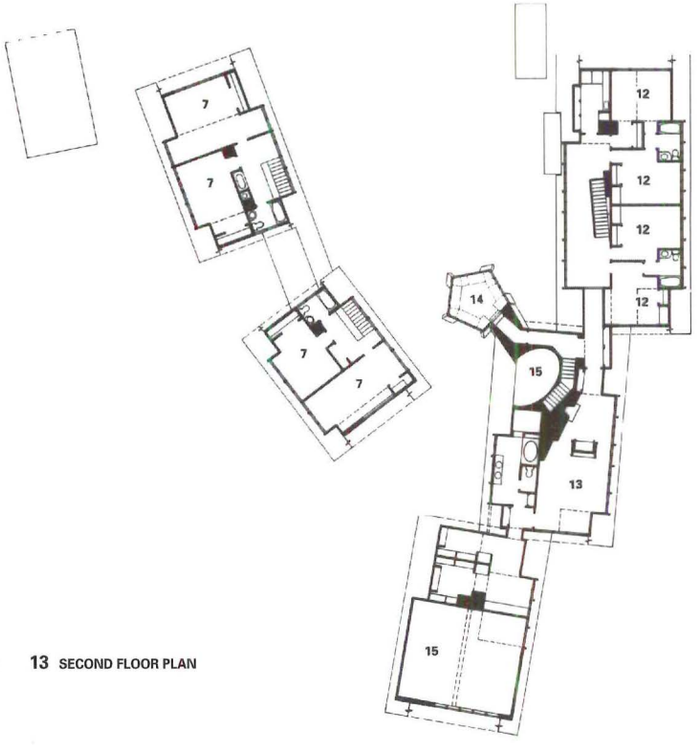


1 ENTRY
2 KITCHEN
3 FAMILY ROOM
4 DINING ROOM
5 LIVING ROOM
6 LIBRARY
7 GUEST BEDROOM
8 GUEST LIVING ROOM
9 POOL
10 GARAGE
11 APARTMENT
12 BEDROOM
13 MASTER BEDROOM
14 STUDY
15 OPEN TO BELOW

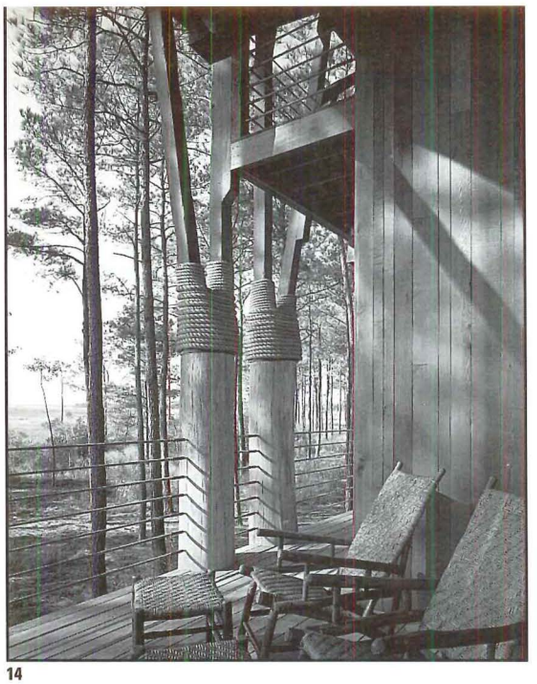


12 FIRST FLOOR PLAN

N 40'/12m



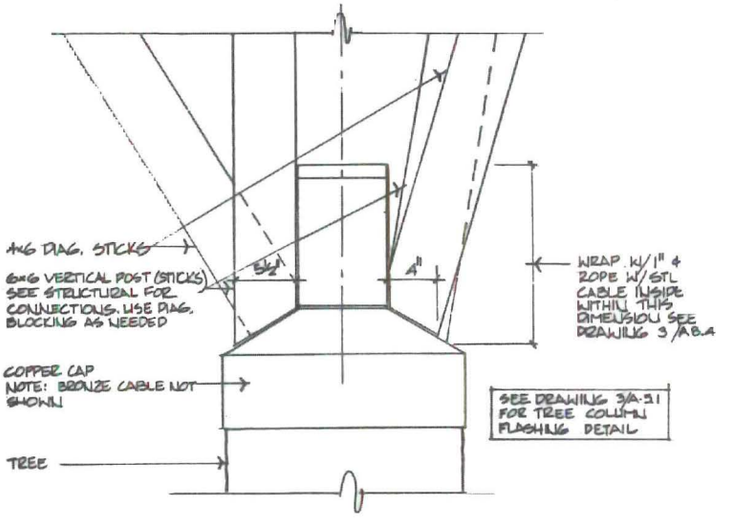
13 SECOND FLOOR PLAN



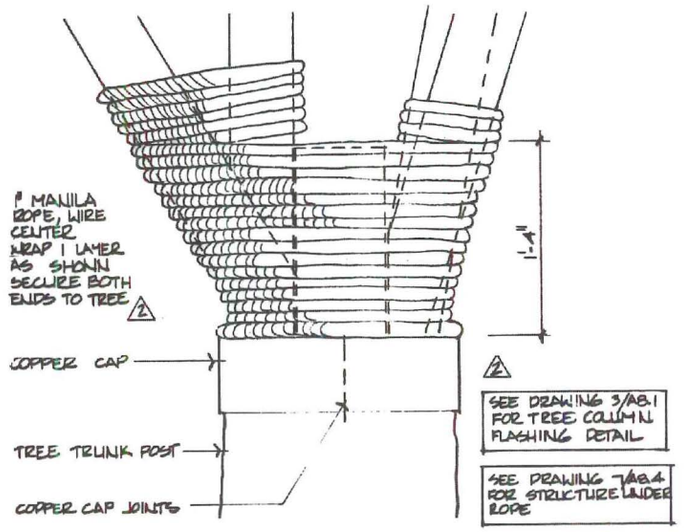
14

15

Balconies and decks wrap around the Marsh Estate house, providing an elevated view of the surrounding forest and wetland (14). The combination of the rustic and the refined is found on both the outside of the house, with the tree-like columns supporting timber branches (16,17), and inside, with unsawn rails and balusters along sawn steps (15).



16 COPPER CAP AT INTERSECTION OF TREE-TRUNK COLUMNS AND STRUTS



17 DETAIL SHOWING COLUMN WRAPPED IN ROPE

The Collaborative Process

The design process at Centerbrook is highly collaborative, with partners and associates often sharing design credit. Partner Mark Simon worked with associate Mahdad Saniee on the Marsh Estate, and principal James C. Childress on the Pond House. Simon says that one of the most important lessons he learned from his former teacher and partner, Charles Moore, is that architecture by its very nature is a collaborative art. "I like the camaraderie of the studio," says Simon, "and the support I get from collaboration." Simon adds that collaboration is the best way he knows of to generate lots of ideas.

How do these two houses reflect Simon's collaboration with Saniee and Childress? Aside from differences in site, program, clients, and budget, a few distinctions emerge. Childress believes that he tends to simplify Simon's design ideas, and makes the architecture crisper and lighter. "I favor brighter colors and simpler detailing," says Childress, adding that the Pond House interiors might have been "darker and moodier" without his design input. In an earlier version of the Pond House the stone chimneys were also transformed by Childress, who urged

18

The exterior of the Pond House (18) has an intimate scale, achieved by bringing the eaves of the roofs down to almost head height and by creating a datum at about eye height with the stone facing. Backing up this richly layered exterior is standard platform framing, evident in the wall section (19).

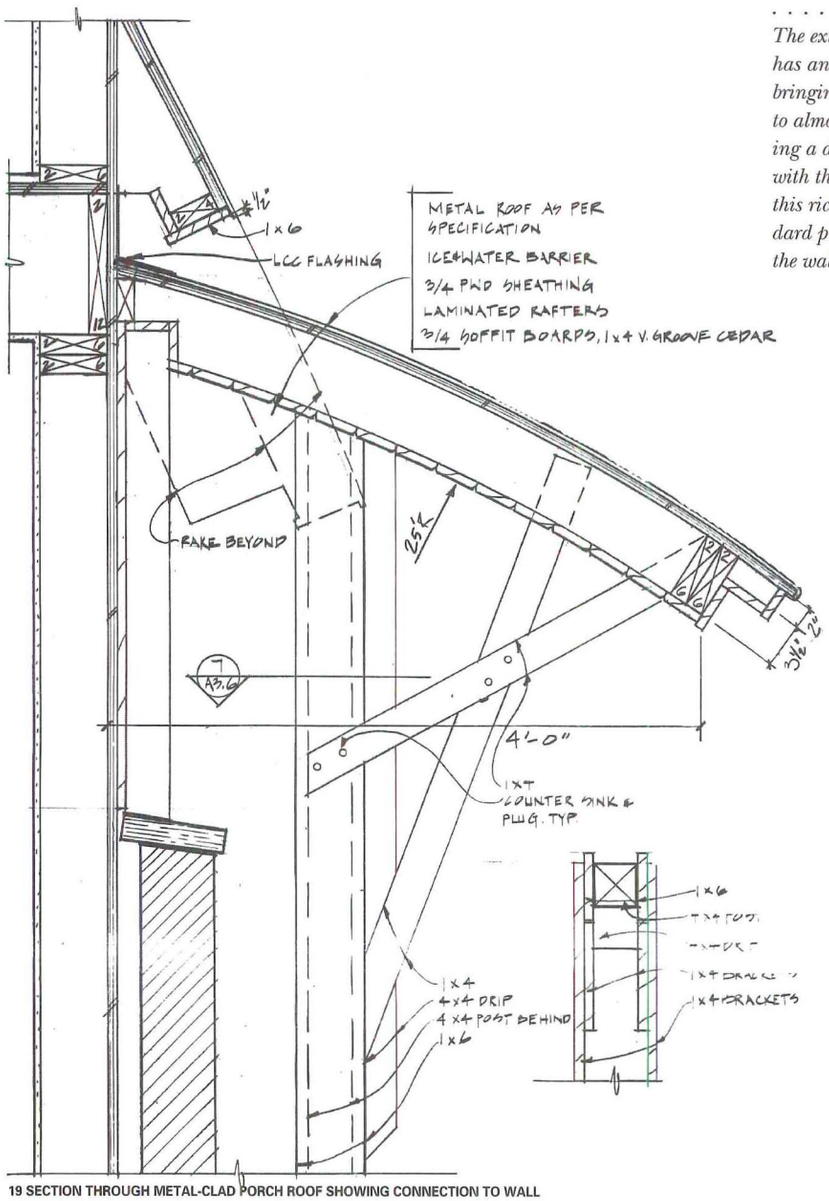
that they become more slender and delicate.

On Marsh, Saniee sees his role as one of giving Simon's ideas more structure and order. The plan's tight enclosure and simple rectangular wings are examples. "Mark's plans were much looser," notes Saniee. He adds that Simon often takes an idea from a collaborator and gives it a spin or a twist. The marching twigs on the Marsh staircases are examples. Early in the design they were upward Y-shapes. Saniee suggested turning them down, to resemble legs. Simon took it a bit further by using twigs that actually looked like legs passing each other, in a rustic homage to Duchamp.

Simon views his collaborators as more alike than dissimilar, but characterizes Childress as having a calming influence on his design, while Saniee pushes for more elaboration. Says Simon: "Jim tends to favor tidy order, and questions things that are unresolved. Mahdad likes to provoke me to flamboyance, to let my hair down, but he also cares about rigor."

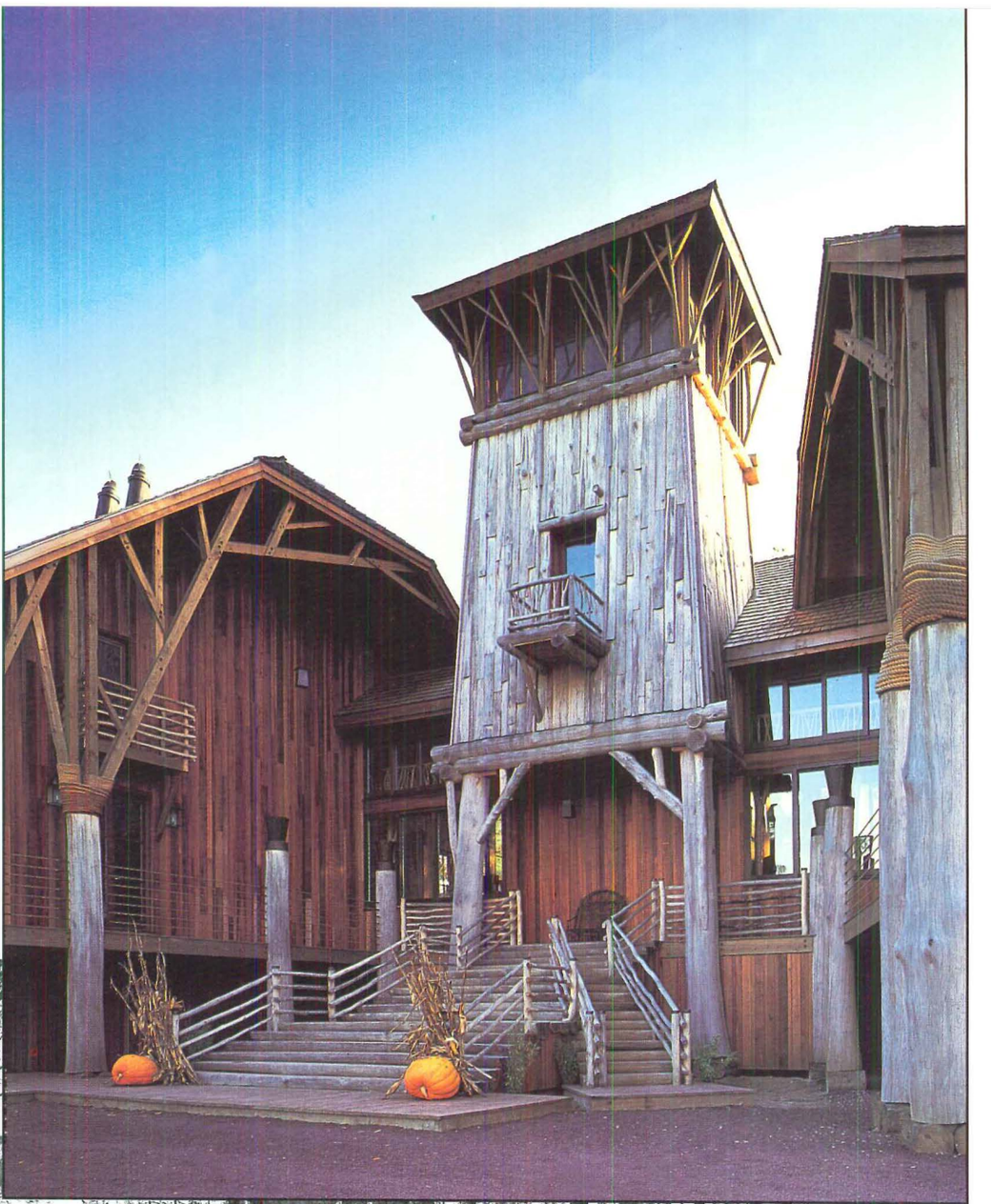
Michael J. Crosbie ■

The author practiced at Centerbrook from 1987 to 1992.

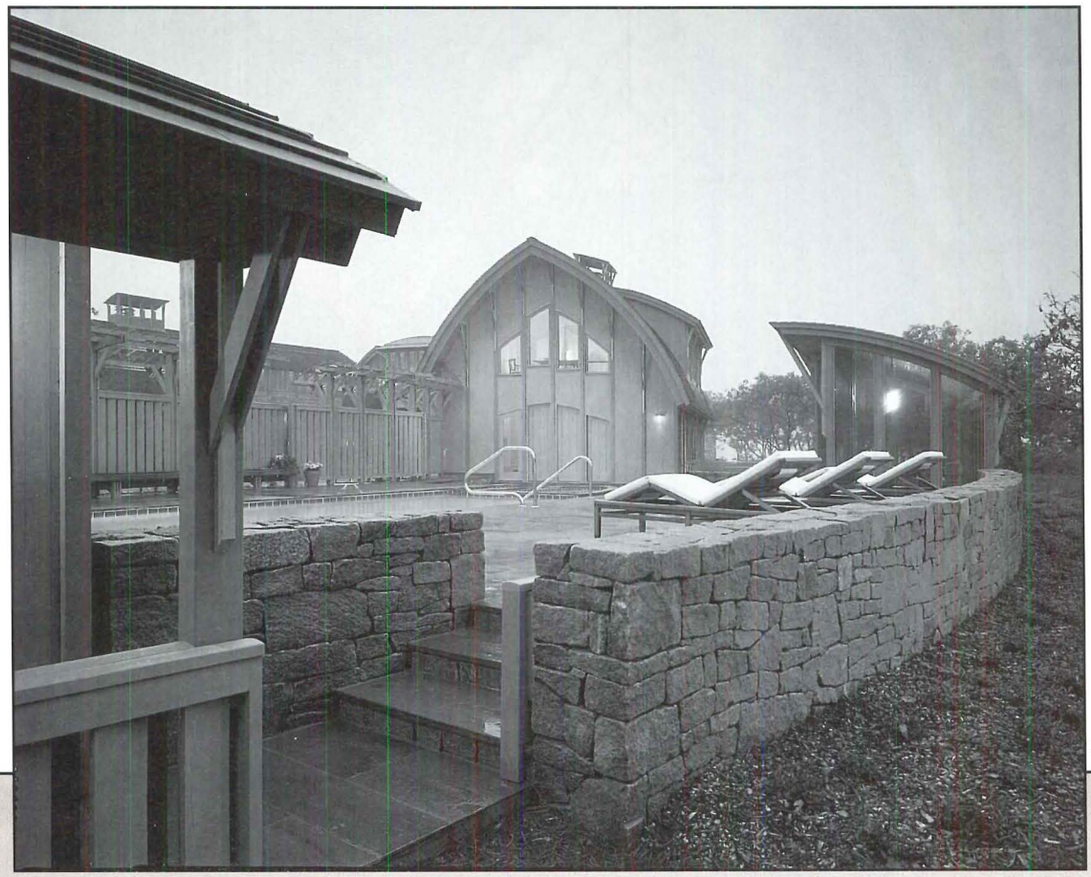


19 SECTION THROUGH METAL-CLAD PORCH ROOF SHOWING CONNECTION TO WALL

The entry to the Marsh Estate (20) is marked by a tower clad in vertically-laid logs. The main stair, and the "drunken" stair aligned with the driveway, lead to a balcony and two entry doors. The wood-shingled roof, the tree-like columns, and the naturally stained wood siding help the house blend effectively into the surrounding forest (21).



20, 21

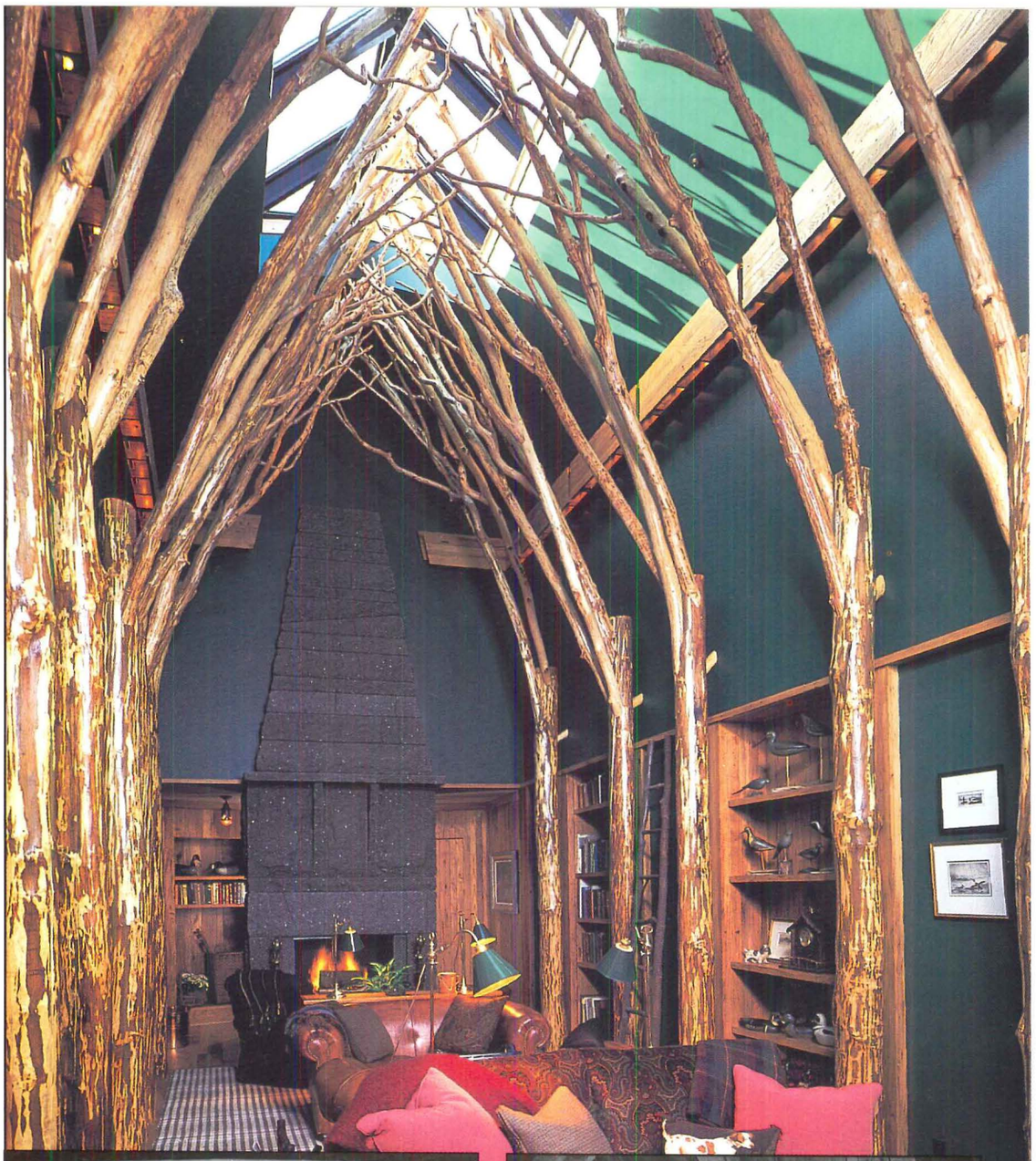


The Pond House's main entrance is under a pentagonal study tower, which projects into the unpaved automobile court at the pivot point between the main house to the left and the guest houses to the right (23). The end elevations, such as the side of the guest house facing the pool (22), have an animistic quality, as if the windows were the arched eyes of a face.

22, 23

Project: *Marsh Estate, East Coast, U.S.*
Architects: *Mark Simon and Mahdad Saniee of Centerbrook, Essex, Connecticut (Howard Langner, Robert Coolidge, Sheri Bryant Lucero, Todd Delfosse, Jonathan Parks, Ann Patterson, Wan Wanradzi, Jean Smajstrla, Evan Markiewicz, William H. Grover, design team).*
Client: *name withheld at owner's request.*
Site: *3,000 acres of marshland, forests, salt water inlets, fresh water ponds, and wildlife sanctuary.*
Program: *16,000 gross-square-foot lodge for a family of four with up to 34 family and business guests, kitchen, pantry, monumental dining room and living room, entry halls , gun/mud room, mini-theater/TV room, game room, spa, storage.*
Structural system: *wood piles, Douglas fir wood frame, white oak tree columns, partially-exposed bracing.*
Major materials: *red cedar siding, white oak logs, reclaimed wormy chestnut and yellow pine paneling (see Building Materials, p. 106).*
Mechanical system: *Ground water source HVAC system.*
Consultants: *(the late) Lester Collins, (initial planning), Oehme van Sweden, landscape; Mariette Himes Gomez, Gomez Associates, interiors; Spiegel Zamecnik & Shah, structural; J. E. Berning Consulting Engineers, mechanical; Systems Design, lighting.*
Artists and artisans: *James Richmond, muralist; Daniel Mack, Jerry Farrel, Chris Anna, John Wilson, Mario Rodriquez, natural woodworking; Joel Schwartz, Ira DeKoven, wrought iron; James Richmond, Michael McLeod, sculpture.*
General contractor: *E. A. Baker.*
Costs: *not available.*
Photos: *Norman McGrath.*

The Marsh Estate has some spectacular interiors, such as the cathedral-ceiling living room (26), with its stone fireplace and wood trusses, and the two-story, drum-like dining room (25), with its antler chandelier and mural painted by James Richmond. The most memorable interior, however, is the second-floor library (24), with its large stone fireplace and it tree columns branching up to a central skylight, looking like some primitive Gothic chapel.



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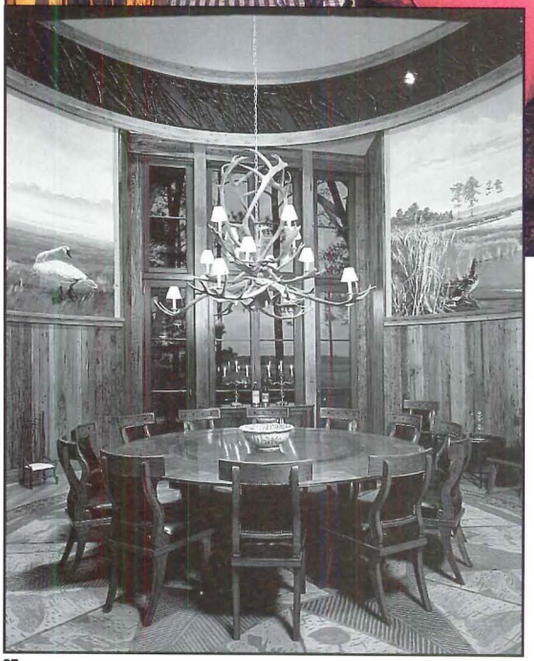

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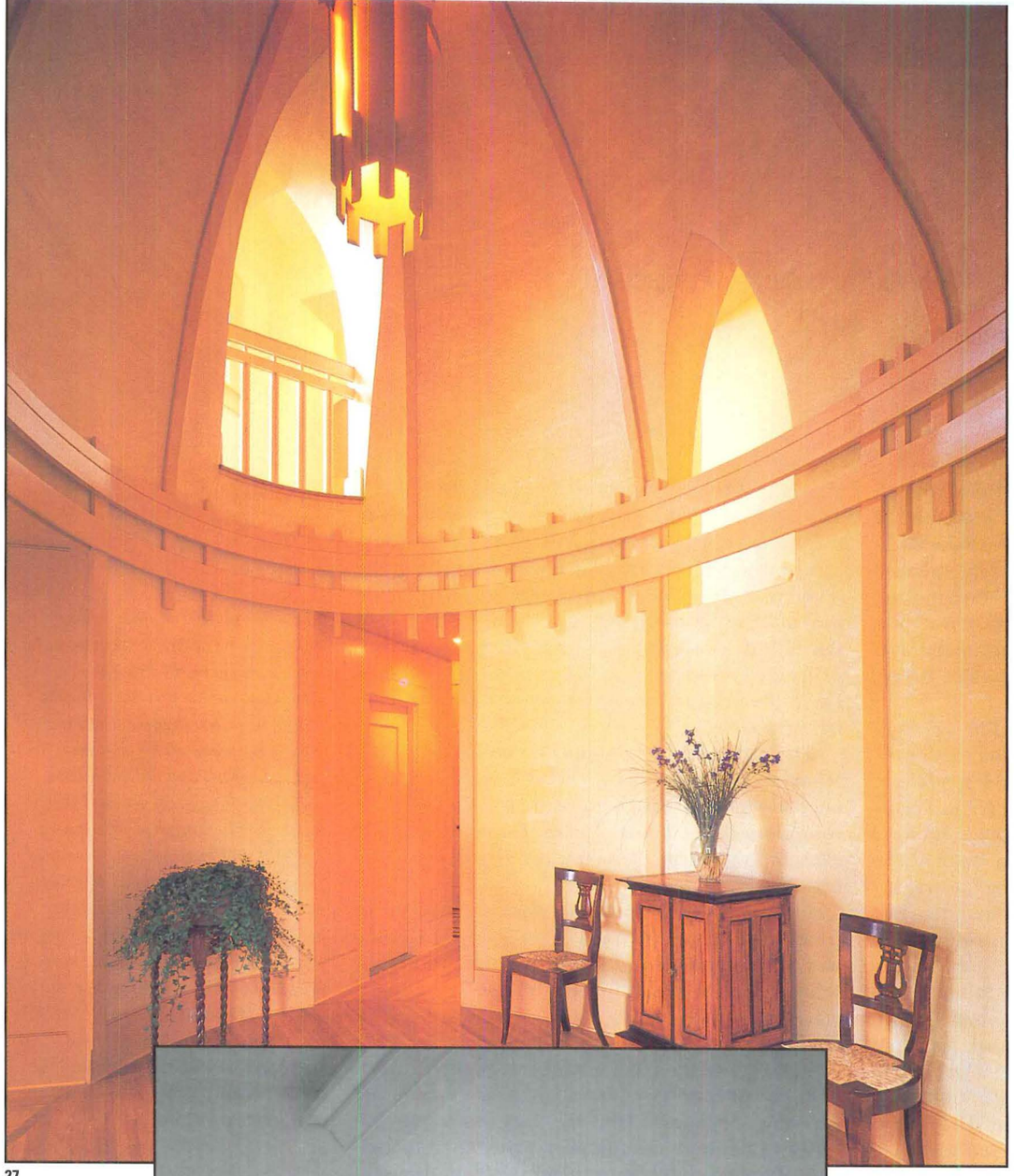
26



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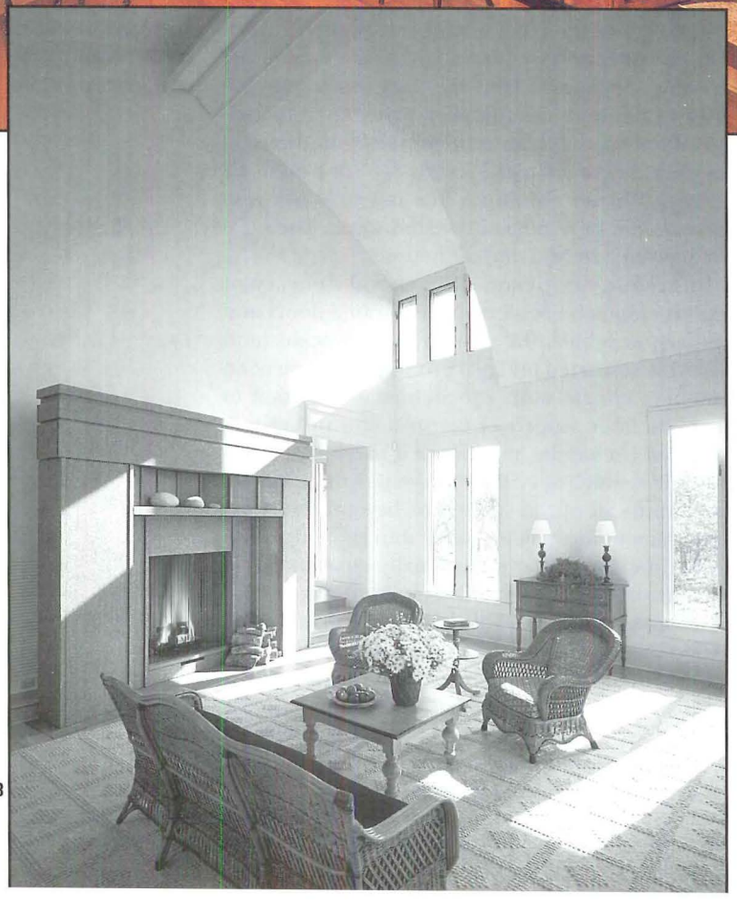


28

Project: *Pond House, Martha's Vineyard, Massachusetts.*
Architects: *Mark Simon and James C. Childress of Centerbrook, Essex, Connecticut (Paul Shainberg, Stephen Holmes, Kevin Hensen, job captains).*
Client: *Name withheld at owner's request.*
Site: *a peninsula along a fresh water pond with long views to the ocean.*
Program: *main house with five bedrooms and two baths; two three-bedroom guest houses; and a garage, with caretaker's apartment, pool, tennis court, screen pavilion, for 15,000 gross square feet.*
Structural system: *wood frame, laminated, curved wood roof rafters, concrete foundation with spread footings.*
Major materials: *granite wall facing, cedar board and batten siding, wood roof shingles, lead-caoated copper roofing, oak flooring (see Building Materials, p. 106).*
Mechanical system: *oil-fired forced air system; return air system with inlets located at high spaces for summer cooling.*
Consultants: *(the late) Lester Collins, landscape; Michael LaRocca, interiors; Besier Gibble Norden, structural; Savage Engineering, mechanical.*
General contractor: *Doyle Construction.*
Cost *not available.*
Photos: *Jeff Goldberg/ESTO Photographics*

The Pond House's interiors are more modest. One of the more memorable spaces is the oval entry hall, with its off-centered dome and its integrally colored plaster walls (27). The living room (28) has a wonderful airiness, with a high vaulted ceiling and a clerestory window lighting the massive fireplace.

Speaking Volumes

Two California houses by O'Herlihy + Warner Architects illustrate a progression towards increasingly articulate construction.

By the architects' own admission, the Freund-Koopman and Miller residences mean less individually than as a pair. "The two houses have to be taken in chronological order," says principal Richard Warner, "and understood as part of an evolutionary process in our architecture." "We think of it as proceeding toward breaking down the constituent parts of the building," explains Lorcan O'Herlihy, "trying to clarify the pieces."

Both houses are on hilly sites. The Freund-Koopman project preceded the Miller design by about three years: starting out as a modest addition to a 2,400-square-foot wood-sided duplex in Pacific Palisades, the commission grew in scope, requiring the demolition of all but the second floor of the existing house, and eventually engulfing the original structure with an array of new attachments. The Miller House was built from scratch on an unevenly steep site in Malibu, facing the ocean – an orientation the clients wished to exploit to the full.

At the outset of the Freund-Koopman design, O'Herlihy and Warner (whose early work appeared in P/A's Young Architects issue of July 1990) examined existing types for hillside houses, looking at Schindler and other California Moderns. They found that the dominant approaches offered a choice between "adhering" and "hovering" – between anchoring the building to the slope, or suspending the structure above it.

As the "later" project in the architects' progression, the Miller House embodies the melding of their evolving design sensibility with site-specific strategies: the building's stereometric staggering of volumes was generated by the desire to articulate the diverse parts of the house programmatically and structurally; the particular cadence of roof and floor planes was developed in response to a "map" of the site's rugged topography.

The differentiation of volumes is already discernible in the Freund-Koopman House: the box housing the guest quarters above the rebuilt garage, for instance, is purposely set back to distinguish it from the ground-level structure. In the entirely new master bedroom wing, the lower-level suite is largely opaque, thus in stark contrast to the virtually transparent study above it.

The logic of the glazing in the Miller residence is different to the extent that it was dictated by the clients' desire for ocean vistas. The house was conceived as "transparent" towards the front, and growing more solid as it moved back up the hillside. Thus, the double-height living room at the front of the house occupies a crystalline volume with a canted front wall of clear glass, while the guest studio at the rear of the site is a predominantly solid, elliptical mass, with caisson foundations buried 26 feet in the hillside. Using a steel moment frame to construct the entire forward portion of the house eliminated the need for shear walls in any of the ocean-facing spaces.

The proximity of neighbors on both sides of the Miller lot, coupled with the clients' request for "thorough daylighting," led to the use of translucent walls, comprising three kinds of glass: U-shaped channel glass imported from Germany, laminated, and sand-blasted panes.

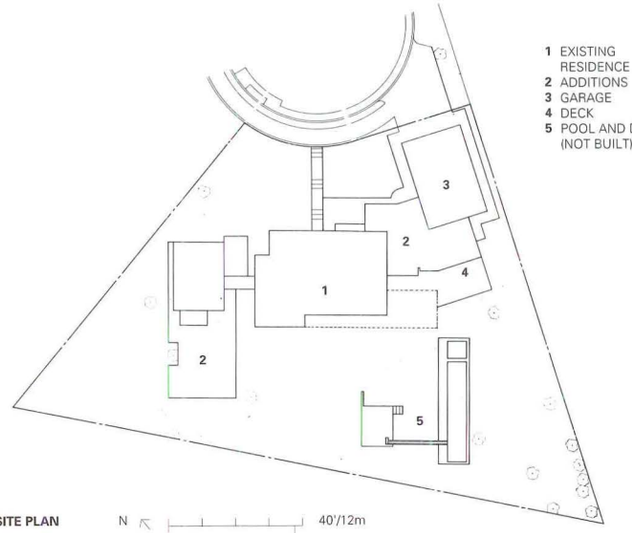
In both houses translucent glass is employed to create "ambiguous partitions," reflecting O'Herlihy and Warner's desire to "rattle the definitions" of solid and clear walls. But this consistent experimentation is balanced by a key difference between the two projects: because of its incremental nature, rather constricted scale, and relatively higher budget, "the intrigue of Freund-Koopman was in the detailing," explains O'Herlihy. The house cannot be seen in its entirety, its footprint twists to accommodate old pines that had to be preserved on the site, and none of the ceilings exceeds 8'-6" in height. By contrast, Warner continues, the larger Miller residence "could be about volume and space. The scale of it allowed it to be a simpler house."

In Freund-Koopman, the general delicacy of detail is enhanced by slender steel frame doors and windows; at Miller, the more generous scale (and somewhat restricted budget) promoted the use of an aluminum curtain wall. The architects' ambition to articulate finer aspects of construction in Freund-Koopman ("a handle, the turn of a handrail, or how glass meets wall") is evident in the way the channel-glass front wall of the study slips beyond the structural frame to meet an elegantly thin roof edge – an illusionistic detail that intentionally confounds the conventions of glass infill. Its counterpart, the canted glass wall of the Miller living room, also slips beyond the steel frame, but more simply.

Certainly, the construction of Freund-Koopman is in many parts refined. But, as befits a next-generation project, the Miller House is on the whole more lucid – not only as a building, but as a reflection of a maturing design sensibility. **Ziva Freiman** ■

The effort to differentiate among diverse building parts is common to both projects. In the Freund-Koopman House it is particularly apparent in the treatment of the new master bedroom wing (top, near right), with its opaque lower-level suite and the glazed, recessed study above it. The staggered volumes of the Miller House (bottom, near and far right) reveal a similar programmatic articulation; the architects' mapping of the site's uneven topography is reflected in the house's modulation of levels, including five different roof planes. The models of both houses provide a glimpse of the architects' early intentions regarding the orchestration of solid, translucent, and transparent walls.

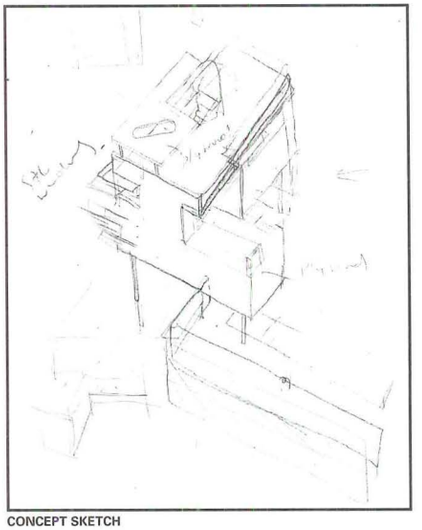
Tom Bonner (top left), Conrad Johnson (above), model photos: O'Herlihy + Warner



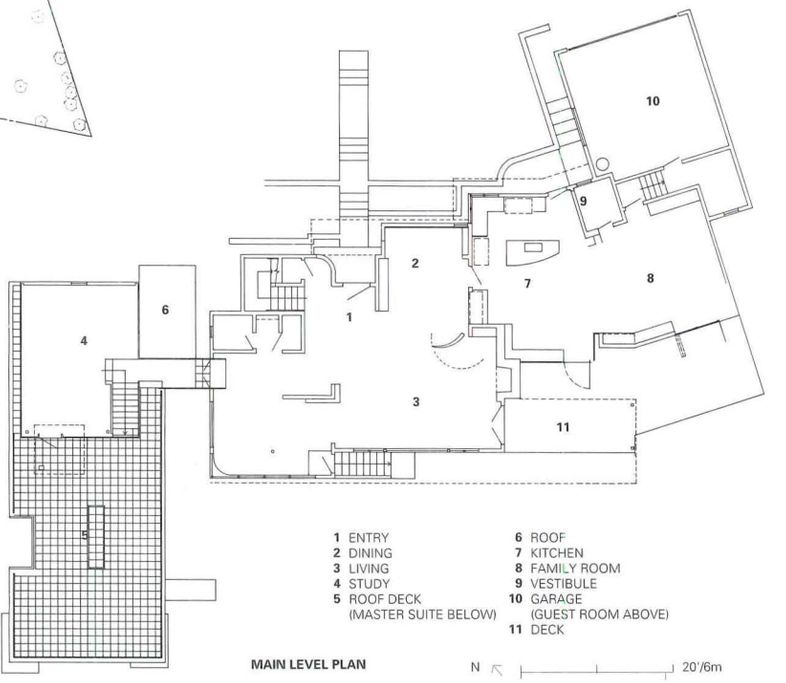
1 EXISTING RESIDENCE
2 ADDITIONS
3 GARAGE
4 DECK
5 POOL AND DECK (NOT BUILT)

SITE PLAN N 40'/12m

The conceptual sketches for both houses (Freund-Koopman at left, top center, and the Miller residence below it) neatly summarize two dominant approaches to hillside houses, as they emerged from O'Herlihy and Warner's investigation of works by fellow Californian Modernists. The Freund-Koopman House's new master bedroom wing was conceived as "hovering" above the slope, supported on slender pilotis*; by contrast, the Miller House's masses (seen in the sketch as a serial drawing of elevation, plan, and reverse elevation) was to be largely "anchored" in the hillside, and the architects' intention to cantilever portions of the structure was never realized. Instead, protruding eaves were used to create an illusory impression of suspension.*



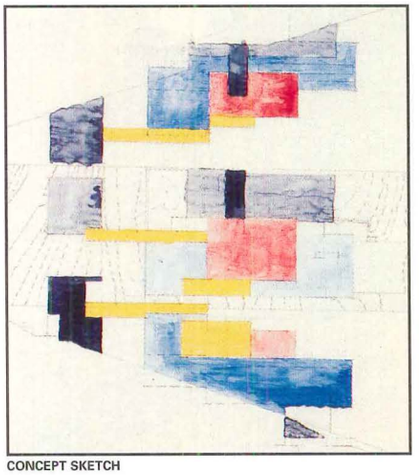
CONCEPT SKETCH



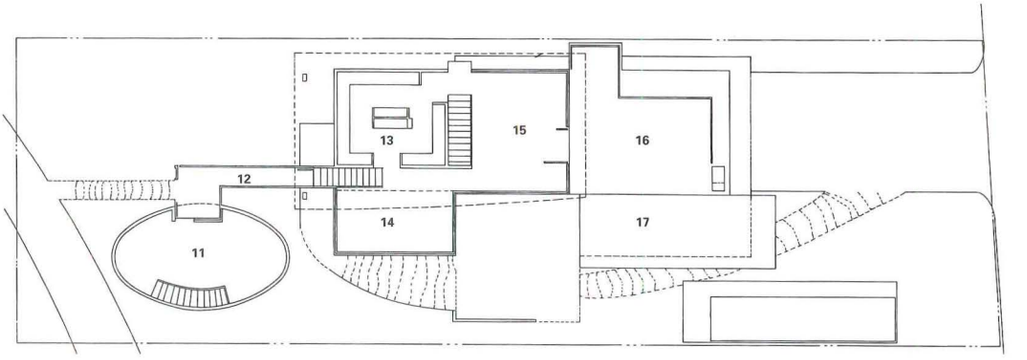
1 ENTRY
2 DINING
3 LIVING
4 STUDY
5 ROOF DECK (MASTER SUITE BELOW)
6 ROOF
7 KITCHEN
8 FAMILY ROOM
9 VESTIBULE
10 GARAGE (GUEST ROOM ABOVE)
11 DECK

MAIN LEVEL PLAN N 20'/6m

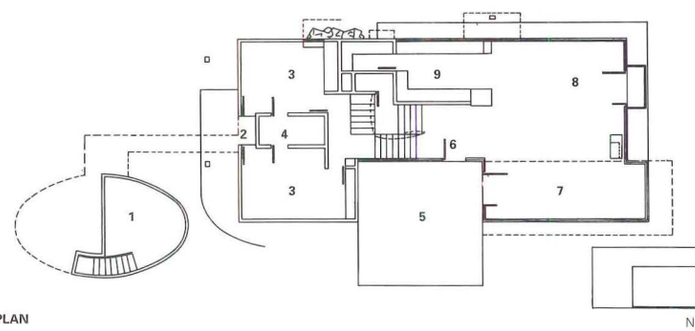
Freund-Koopman Miller



CONCEPT SKETCH



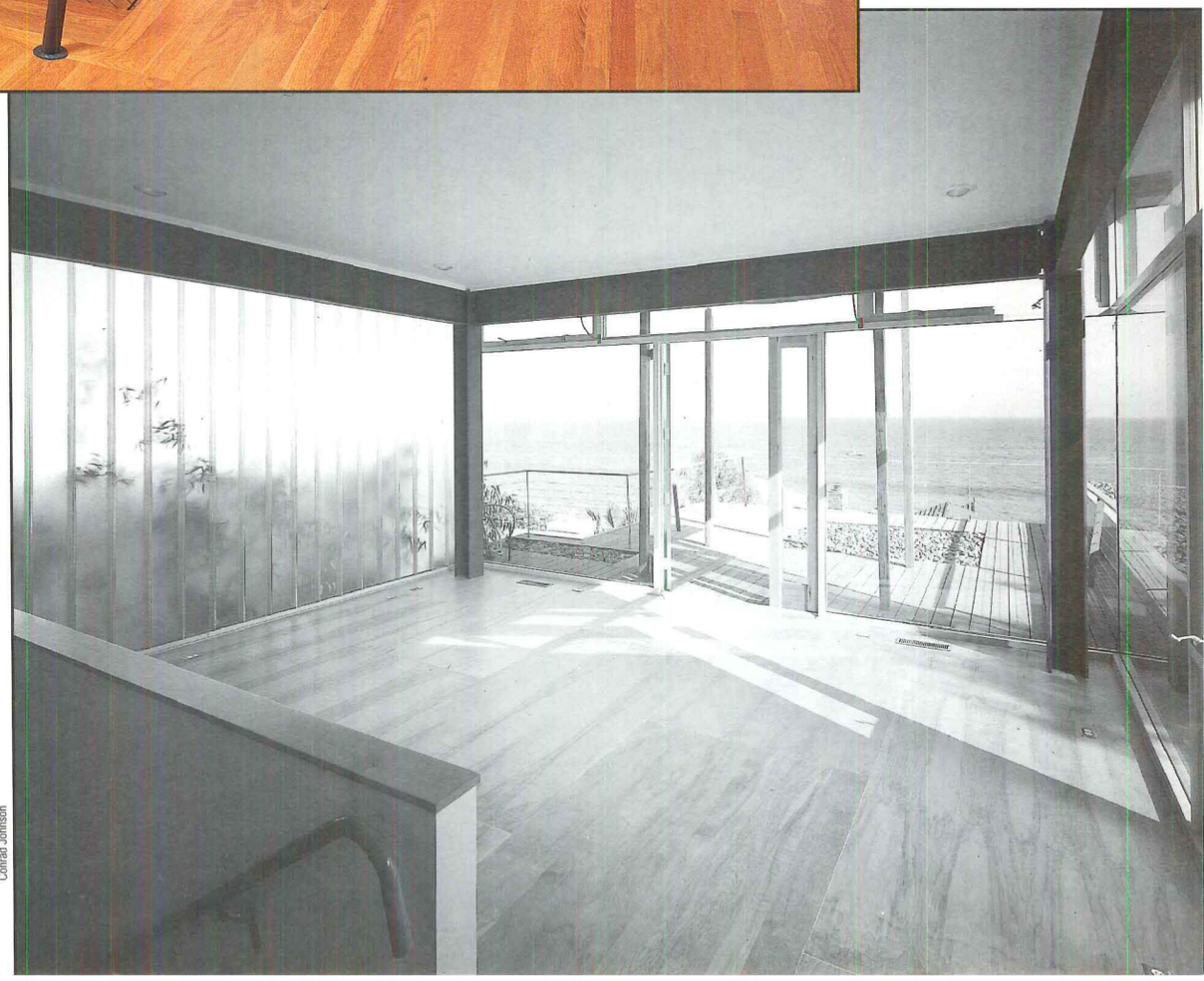
UPPER LEVEL PLAN



1 GUEST/STUDIO (LOWER)
2 ENTRY
3 BEDROOMS
4 BATH
5 COURT
6 MAIN ENTRY
7 LIVING
8 DINING
9 KITCHEN
10 POOL (NOT BUILT)
11 GUEST/STUDIO (UPPER)
12 BRIDGE
13 WARDROBE
14 MASTER BATH
15 MASTER BEDROOM
16 TERRACE
17 ROOF

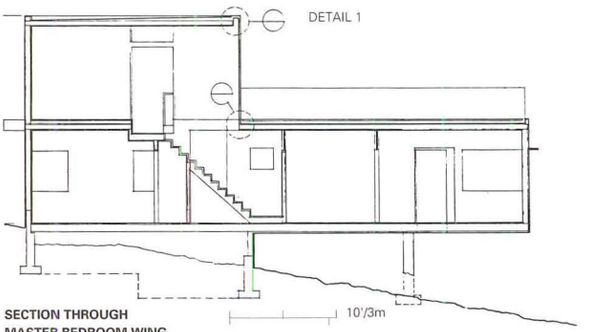
MAIN LEVEL PLAN N 20'/6m

Tom Bonner

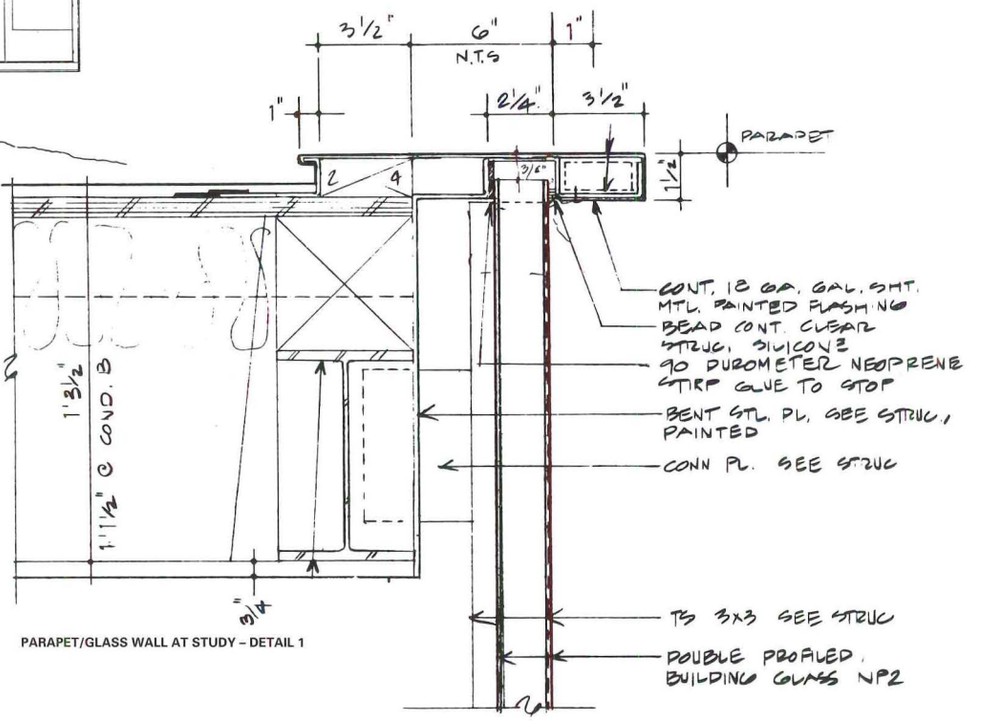


Conrad Johnson

The different architectural emphases in both houses are evident in the interiors, where the Freund-Koopman residence's intricate, customized detailing (above) stands in contrast to the Miller House's less elaborate construction, and greater emphasis on spatial clarity and sweep. The Freund-Koopman project was the first time O'Herlihy and Warner applied imported U-channel glass *to create translucent walls; in the Miller House, this channel glass forms one wall of the master bedroom (right). Elsewhere in the house, the palette of tranlucent glazing was extended to laminated and sandblasted glass (the latter, easily stained, being employed in less accessible areas).*

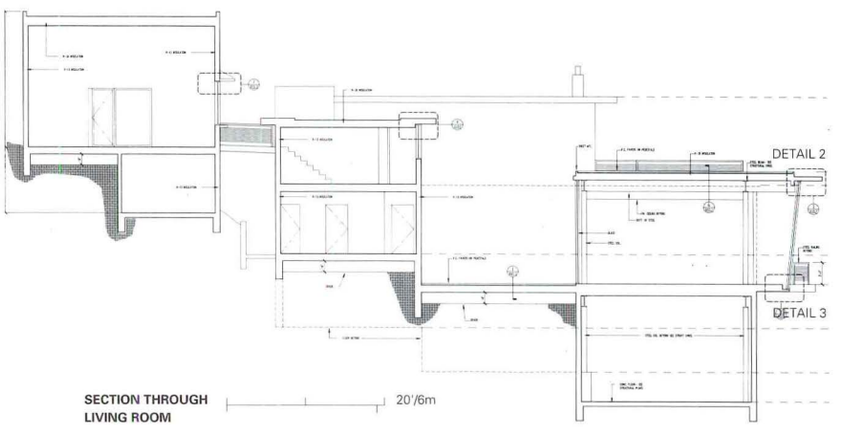


SECTION THROUGH
MASTER BEDROOM WING

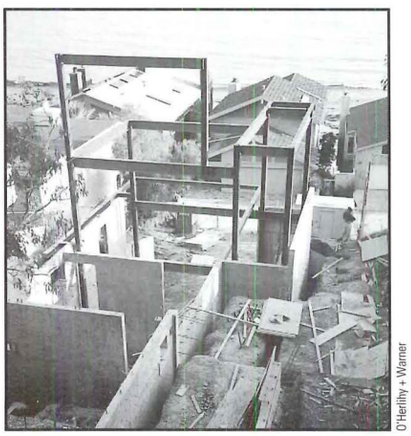


PARAPET/GLASS WALL AT STUDY – DETAIL 1

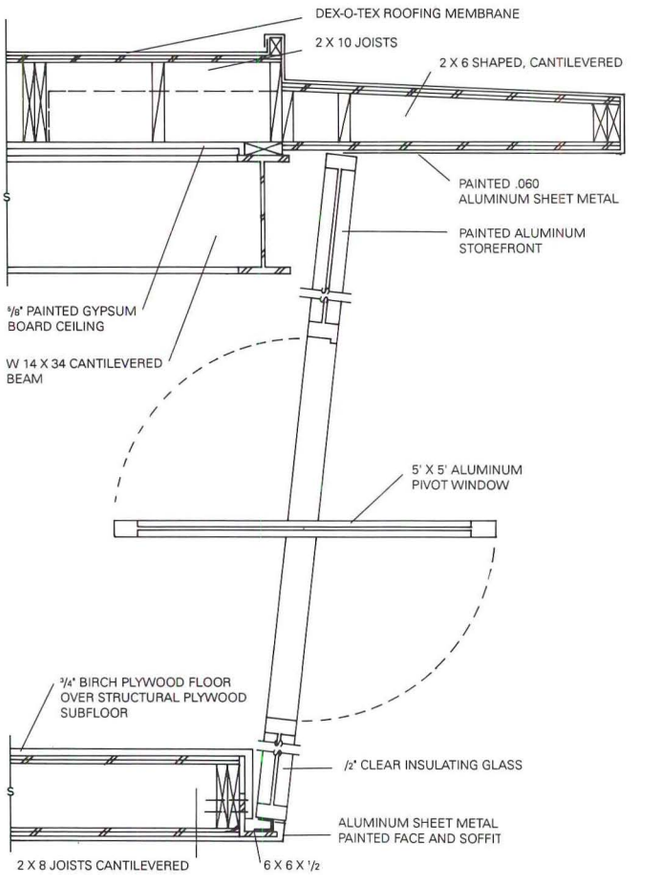
Freund-Koopman Miller



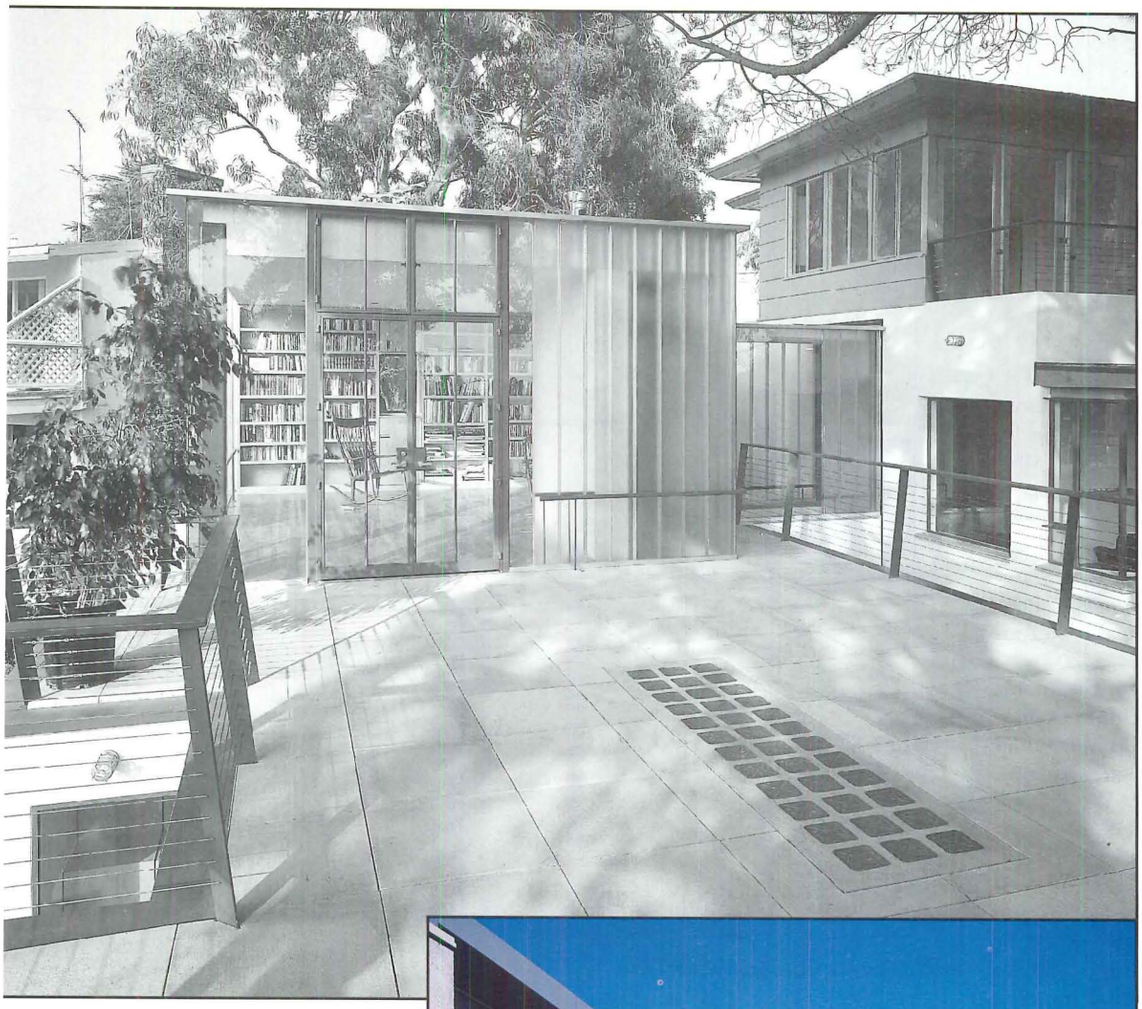
SECTION THROUGH
LIVING ROOM



O'Herlihy + Warner



SLOPED GLASS WALL AT LIVING ROOM – DETAILS 2,3



Tom Bonner

Conrad Johnson

A comparison of fenestration details, specifically roof/wall junctures in both houses, underscores the elaborate approach taken at Freund-Koopman (near left, top) as opposed to the more standardized treatment at Miller (near left, bottom). In both cases, the glass planes slip past the structural frames: at Freund-Koopman, this device gives the study an illusory lightness, with an impossibly thin "mock" roof edge framing (and sealing) the top of the double-glazed façade. This "transparent" volume (above), commands a 500-square-foot concrete-paved deck, which admits light into the suite below via inlaid glass block.

In the Miller House, a kindred lightness was somewhat easier to accomplish, thanks to the construction of a steel moment-resisting frame (far left) in lieu of shear walls. Taller volumes than were possible at Freund-Koopman allowed the architects to use aluminum curtain wall (right), without significantly diminishing the house's "dematerialized" effect.

Project: *Freund-Koopman Residence, Pacific Palisades, California.*
Architects: *O'Herlihy + Warner Architects, Santa Monica (Lorcan O'Herlihy, Richard Warner, principals; Jennifer Jardine, Brad Maddalena, assistants).*
Client: *Mark Freund and Beatrice Koopman.*
Site: *an irregularly shaped, double residential hillside lot of approximately 19,000 sq ft, with an existing 2,400-sq-ft house, and an old pine tree that had to be maintained.*
Program: *a 4,000-sq-ft residence with 500-sq-ft deck for married couple with two children. Four bedrooms, four bathrooms, and guest quarters above garage.*
Structural system: *steel floor structure with caissons, wood platform framing over concrete foundations.*
Major materials: *steel window system; channel and laminated glass; painted gypsum board; painted and integrally colored plaster; oak flooring; birch cabinetry; concrete pavers; wood canopy; painted steel handrails (see Building Materials, p. 106).*
Mechanical system: *gas-fired central forced air heating.*
Consultants: *Miguel Castillo, structural; Nick Williams and Associates, landscape; Mark Madison, Title 24 analysis.*
General contractor: *Chris Cowden.*
Costs: *withheld by request.*

Project: *Miller Residence, Malibu, California.*
Architects: *O'Herlihy + Warner Architects, Santa Monica (Lorcan O'Herlihy, Richard Warner, principals; Brad Maddalena, assistant).*
Client: *Michael and Patricia Miller.*
Site: *a narrow, steeply sloping lot, approximately 50' x 160' facing the Pacific Ocean.*
Program: *a 5,400-sq-ft residence for a married couple with two children, with four bedrooms, four bathrooms, and a separate guest studio, and including 1,200 sq ft open deck area.*
Structural system: *steel moment frame and wood platform framing on poured concrete foundations.*
Major materials: *aluminum window system; channel, sandblasted, and laminated glass; painted aluminum sheet metal; painted gypsum board; integral color plaster; birch flooring, doors, and cabinetry (see Building Materials, p. 106).*
Mechanical system: *gas-fired central forced air heating.*
Consultants: *William Koh, structural; Hartley Nursery, landscape; Tim Campbell, CAD; Mark Madison, Title 24 analysis.*
General contractor: *Fred Hammond, Pat Smith.*
Costs: *$750,000 ($139 per sq ft).*

Shingles Preferred

For two seaside houses, James Volney Righter takes cues from his 19th-Century neighbors.

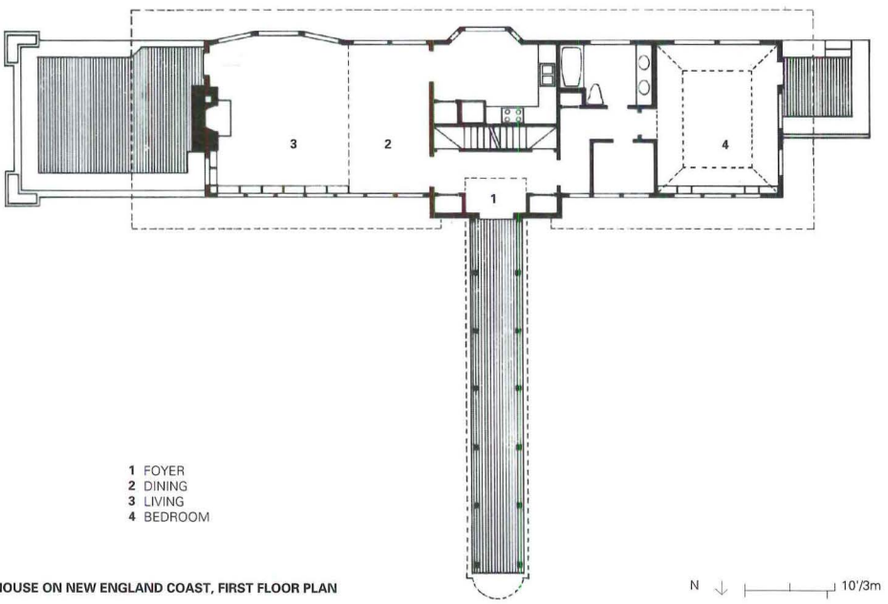
When you talk with James Volney Righter about the houses he designs, he'll frankly say that they're not works of theoretical import. That's fine. Most good architecture never appears in any scholarly treatise. But the timing of Righter's career seems more noteworthy: he studied architecture some 20 years ago, when his teacher, Charles Moore, and Robert Venturi were propagating the seeds of Post-Modernism. Righter has never had any qualms about using historical forms literally.

On the other hand, Righter doesn't want his houses to appear "academic," that is, clones of their predecessors. "I wouldn't be able to do more than refine something already established," he explains. He doesn't make full-bodied copies of the Shingle Style houses in his environs; he prefers to experiment with unconventional plans and massing. When I visited a house he designed on the New England coast (1), Righter showed me an inspirational photograph of a suburban train station by Henry Hobson Richardson, a low-slung structure flanked by a gabled tower. Frank Lloyd Wright has a share in the house's patrimony, as does Charles Moore: the light monitor above the foyer has the extruded proportions and the sharp-edged profile Moore uses in his vaguely traditional houses.

At other times Righter and his associates let the quirks of a site steer the design process: in a house on Long Island (2) they made its two-car garage a forebuilding that screens a formal front garden. The garage and house frame an outdoor room rarely found in American suburbs. It's a pleasant space, the dividend of a sloping lot that makes a backyard garden infeasible; the living spaces are on the higher (street) level to capture views of Peconic Bay.

The axis that leads you to the front door is thoughtfully modulated, but once you enter the house, it disintegrates rapidly: living and dining spaces share a large, irregular room. The gabled ceiling aligns with that of the garage, but the plan is a compromise between a figural site *parti* and open-plan living. The walls of the kitchen, designed like façades, are a house-within-a-house, a bit clichéd. Some of the proportions are infelicitous (the lattice seems overscaled), perhaps because several associ-

In the house on the New England coast (1), the roof and walls are massive – weightier, yet smoother than their Shingle Style precursors. Seen from the driveway, the house on Long Island (2) is impressive in its simplicity: the entry is framed by a two-car garage, with a studio upstairs.

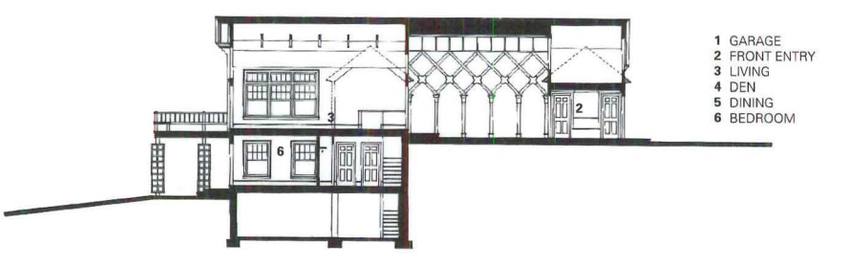


HOUSE ON NEW ENGLAND COAST, FIRST FLOOR PLAN

N 10'/3m

HOUSE ON LONG ISLAND, FIRST FLOOR PLAN

N 10'/3m



HOUSE ON LONG ISLAND, SECTION A-A

20'/6m

1, 2

Photos, top: Nick Wheeler/Wheeler Photographics

ates worked in succession on the project.

The house on the New England coast is more refined. The shingles are tactile, a corrugated skin stretched over the low façades. The massive roof, raised by sprockets at the eaves, floats above the seamless walls. Inside and out, cornices are customized; window panes are horizontally extruded; likewise, the chimney is stretched laterally (beyond the flue) for horizontal emphasis. Landscape and architecture are integrated: in the front yard, hedges form a screen analogous to the garage on the Long Island house; on the ocean side, wild rosebushes complement the sleek profile of the façade.

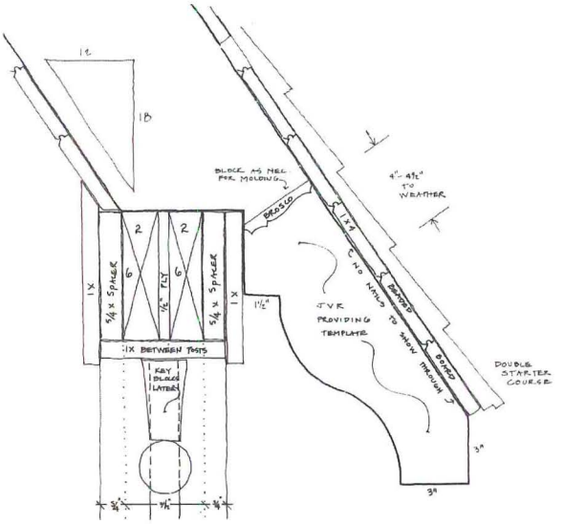
The plan is well resolved, with private and public rooms on opposite sides of the double-height foyer. But the covered walk that leads to the front door (the strongest part of the Long Island house) seems extraneous. You can't drive up to the covered walkway with your car; any protection it offers from the elements is compromised. While the canopy is beautifully detailed – a Classical/Gothic hybrid, according to Righter – it blocks the handsome façade as you approach the front door. From a distance, the canopy is a well-crafted allusion to Richardson's stations on the Boston & Albany line. But it's more than the site calls for. Besides, the house is powerful enough to stand on its own.

Philip Arcidi ■

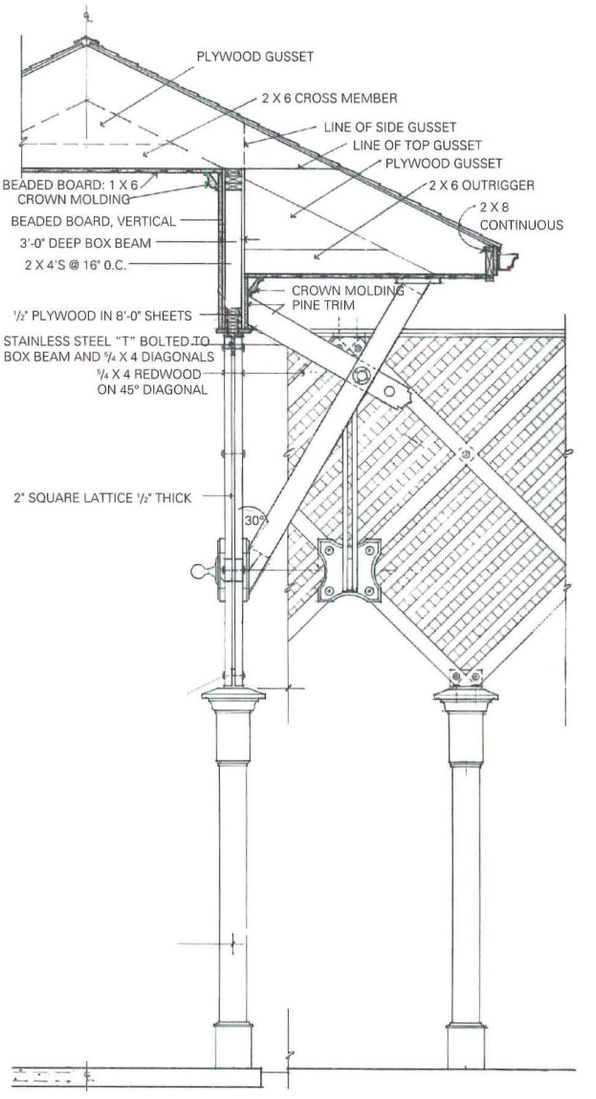
The molding and windows of the New England house (3) have a Richardsonian heftiness, complemented by the lancet arches of the entry canopy. The foyer (4), with its striking blend of warm and cool colors, is daylighted by a monitor; five Italian lire coins are set in the white frieze. On the Long Island house (5), a formal garden is bisected by a latticed walkway. It is an urbane space, quite unexpected in a town of vacation houses.

Project: *house on Long Island.*
Architects: *James Volney Righter Architects, Boston (James Volney Righter, Jacob Albert, Craig Gibson, design team; Craig Gibson, project manager; Lisa Gray, Terry Dwan, project team).*
Site: *a sloped lot in a rural setting, with distant views of Peconic Bay.*
Program: *a three-bedroom vacation house.*
Strucural system: *wood-stud frame on reinforced concrete foundation.*
Major materials: *red cedar shingle exterior walls; asphalt shingle roof; gypsum board interior surfaces; oak floors; fir decking (see Building Materials, p. 106).*
Mechanical system: *oil-fired warm air heating system.*
Consultants: *John Born Associates, structural.*

Project: *house on the New England coast.*
Architects: *James Volney Righter Architects (James Volney Righter, project architect; L.T. Thorn, project manager; Jacob Albert, Kimo Griggs, Alec Stuart, Christine Wolfe, Lisa Gray, project team).*
Site: *a lot adjacent to freshwater wetlands, with a harbor beyond.*
Program: *a one-bedroom main house, with an adjacent two-bedroom guest house.*
Structural system: *wood-stud frame on reinforced concrete foundation.*
Major materials: *red cedar exterior walls and roof; gypsum board interior surfaces; fir beaded board paneling in foyer; yellow pine floors; fir decking, (see Building Materials, p. 106).*
Mechanical system: *oil-fired warm air heating in main house; electric baseboard heat in guest house.*
Photography: *Nick Wheeler.*



ARCADE EVE DETAIL, HOUSE ON NEW ENGLAND COAST



SECTION (LEFT) AND PARTIAL ELEVATION (RIGHT) OF LATTICED WALKWAY, HOUSE ON LONG ISLAND

2'/.06m

3

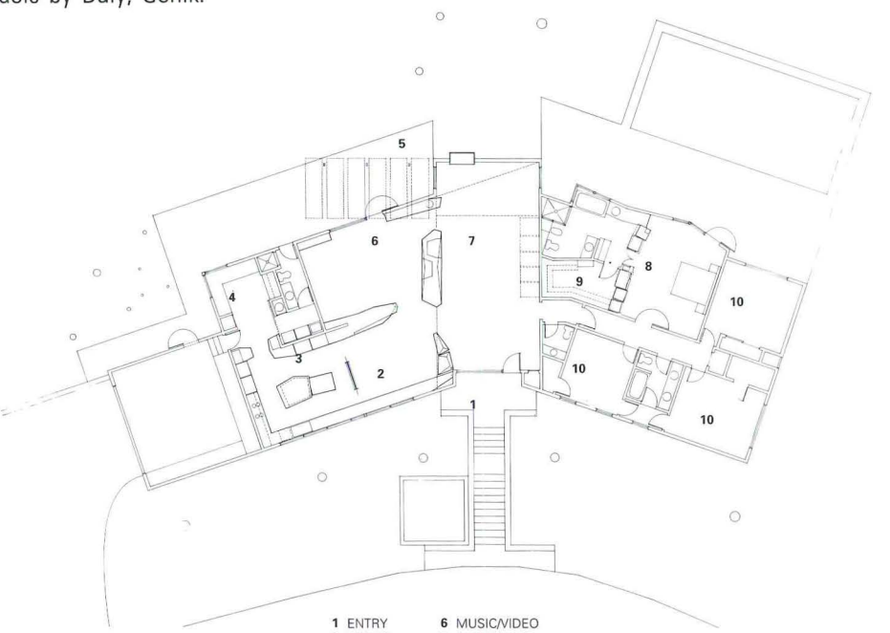
4

5

Photos, above and top right: Nick Wheeler/Wheeler Photographics

Disquieting Dwellings

Sculptural interventions dominate two residential remodels by Daly, Genik.



SITE/FLOOR PLAN, TARZANA HOUSE

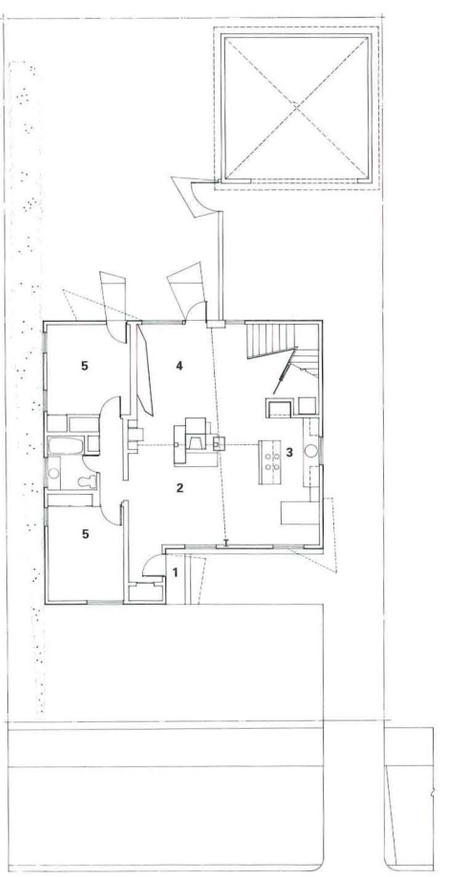
Expressionist tensions govern the designs of two residential remodels by Daly, Genik of Santa Monica, California; images of stress appear at important moments of transition in previously unremarkable houses. The architects acknowledge tension as one of the hallmarks of their design strategy when they write: "We are interested in the idea of consonance and its corollary, dissonance....we enjoy the obvious, the banal, and the surprise of unexpected relationships among materials, forms, and circumstance." The confrontational contextual relationships and the imposition of freestanding sculptural objects employed in two houses in Santa Monica and Tarzana, California, reflect the architects' strategy and, sometimes bring its validity into question.

Though Kevin Daly's and Christopher Genik's remodeled interiors employ similar spatial strategies, the two houses have vastly different relationships to their streets. While the Tarzana house conforms to the inward-looking nuclearity of its suburban Los Angeles neighborhood, the Mooser-Avakian house in Santa Monica asserts its presence on the street with disquieting force. In the latter, a corner window protrudes, like a ship's prow, from the new, second-story master bedroom. This bold move is designed to set up a tension between the pedestrian's intruding glance and the owner's almost voyeuristic vantage. (For all of its powerful imagery, this inoperable, south-facing window ignores the effects of solar gain in a climate where the sun shines almost constantly.)

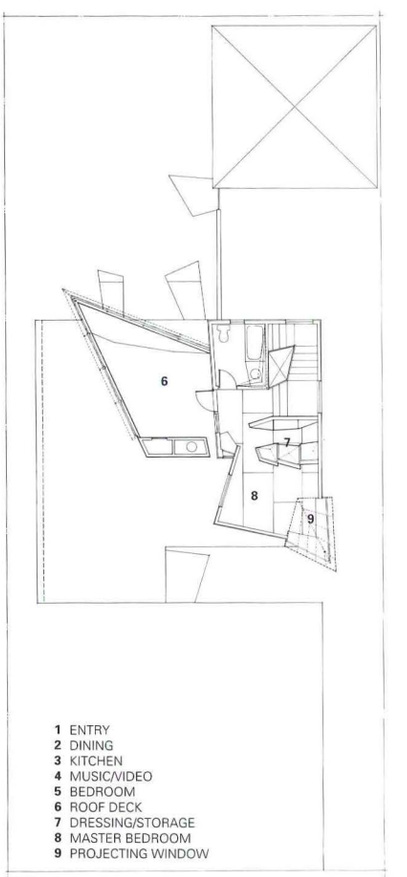
Within the two houses, sculptured objects – not walls and doors – are introduced as new ways to negotiate space. By removing many of the 1960s-era walls of the Tarzana house, for example, the architects have provided open, flowing spaces separated by monolithic forms; a freestanding cabinet separates the kitchen from the den, and an exquisite wood sculpture, kinked, angled, and mounted on a hinge, separates entry and dining areas. Likewise, a freestanding walk-in closet in the new bedroom overwhelms the tiny, 427-square-foot addition to the Mooser-Avakian house. Although the architects' stated goal is to impose "dissonance" and "unexpected relationships" between objects and spaces, these expressionistically designed elements do not discipline space as much as dominate it.

The houses' fireplaces also invite comparison. The massive fireplace in the Tarzana house is a magnificent object, wrapped in aluminum panels. Cut,

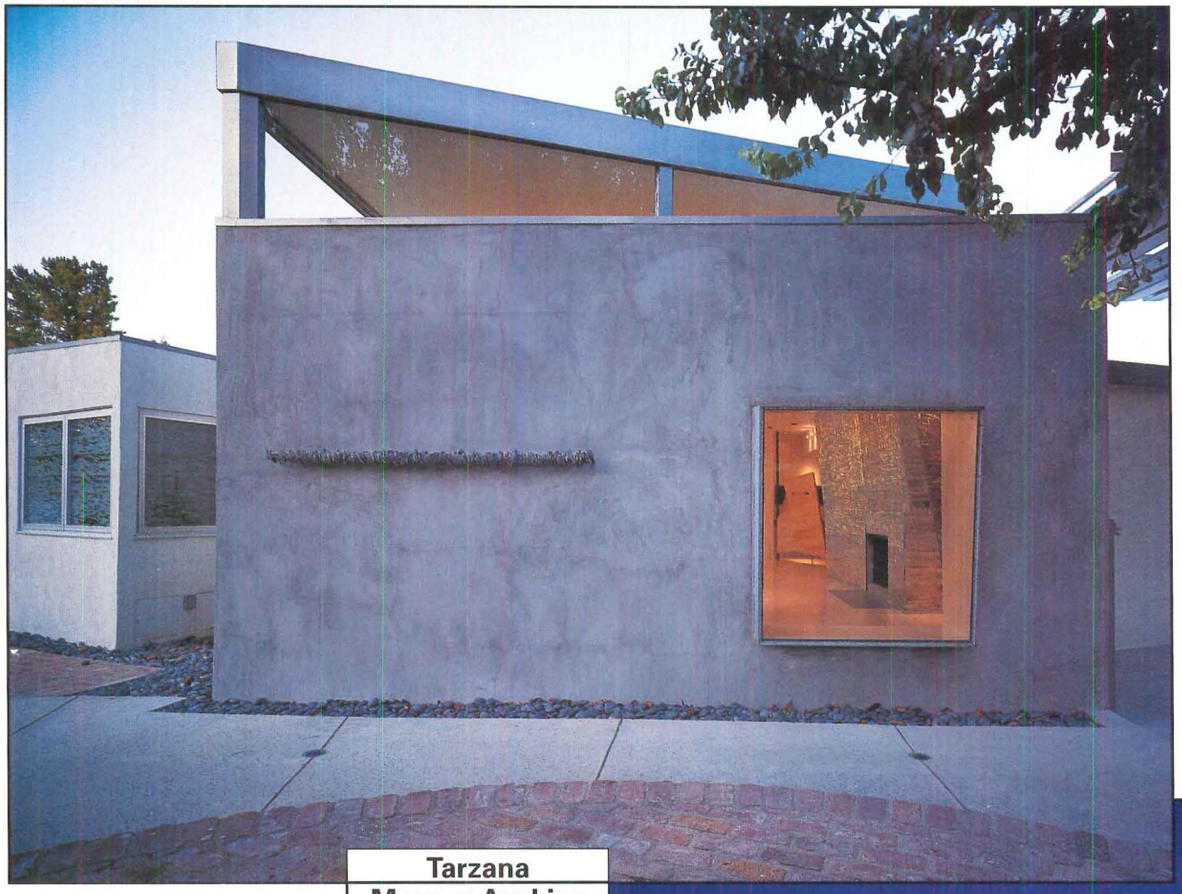
(continued on page 68)



SITE/GROUND FLOOR PLAN, MOOSER-AVAKIAN HOUSE



SECOND FLOOR PLAN



1

Tarzana
Mooser-Avakian

In the Tarzana residence, the architects left untouched the uniform banality of the front elevation, acknowledging the inward-looking nature of its suburban Los Angeles neighborhood; they focused their attention on a new rear elevation (1) where they created a series of small, discrete volumes. The house's central volume – containing the entry area and living room – acts as a pivot between the two wings. The large living room window provides a carefully framed visual connection between the interior and the paved patio, underscoring one of Daly, Genik's favorite themes: "voyeurism." The Mooser-Avakian residence (2), located on an active pedestrian street in Santa Monica, also reflects the architects' voyeuristic interests. Here, they reverse their strategy with a dramatic front elevation. The large corner window juts aggressively toward the street, setting a tension between the homeowner and the passerby.

2

3

Tarzana
Mooser-Avakian

Daly, Genik divide and create spaces with sculptural objects. In the Tarzana residence (3), a monumental fireplace is clad in aluminum sheets that have been distressed and anchored with rivets. A butterfly-like window screen, mounted on a hinge, divides the entrance from the dining room. In the Mooser-Avakian residence (4), a seat nested against the "voyeur's" corner window on the second floor becomes a tiny room unto itself, with the skeletal shell of the window's canopy acting as its ceiling.

(continued from page 66)

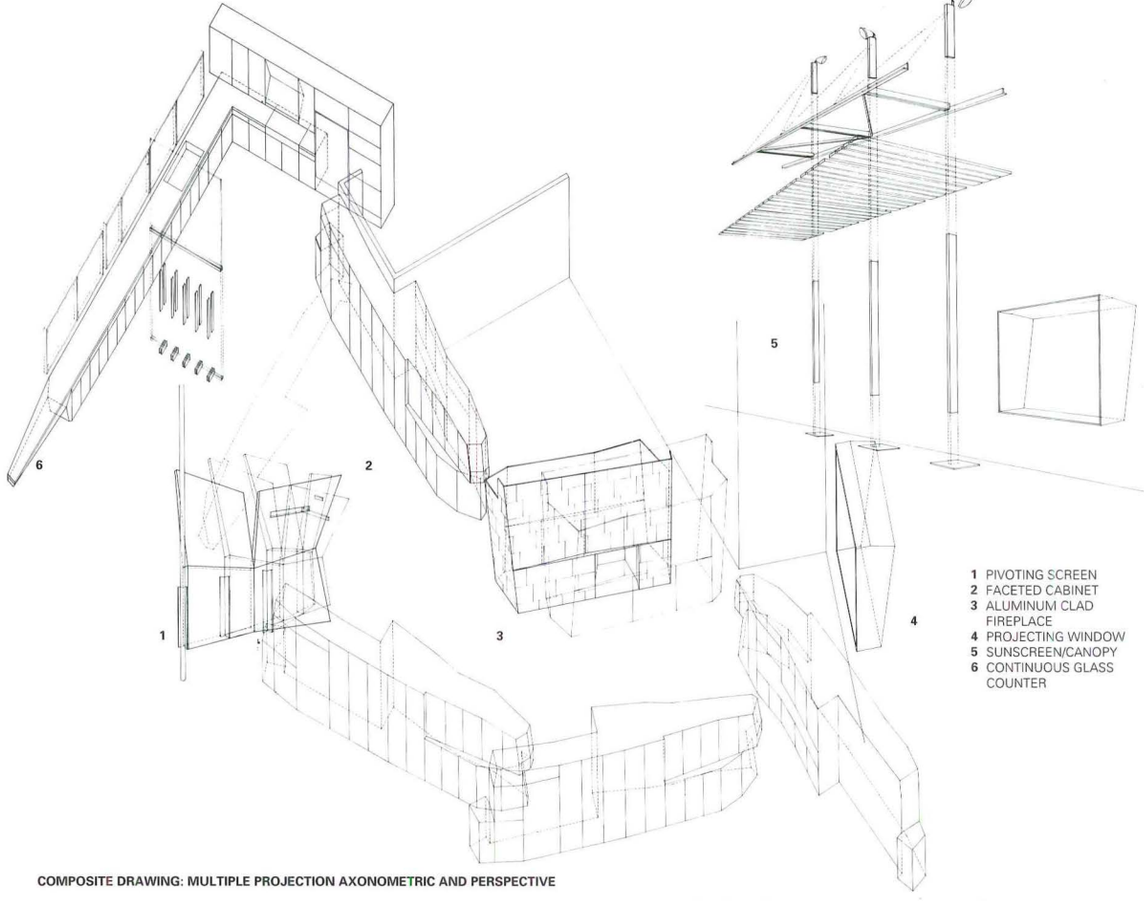
bent, and distressed by the architects, the aluminum has been transformed into something akin to draped cloth. In contrast, the existing brick fireplace in the Mooser-Avakian house is crowded in by stacked particleboard storage boxes; the lack of hierarchy has led to a muddled effect.

In both houses – understandably in the work of young, ambitious architects – the making of spaces is subservient to the making of forms. The most satisfying resolution will be revealed in projects where Daly and Genik design spaces as carefully as their extraordinary objects, where understatement need not be interpreted as weakness.

Barbara Lamprecht and **Morris Newman** ■

Barbara Lamprecht is a regular contributor to the Architectural Review *and Morris Newman is P/A's Los Angeles correspondent.*

4

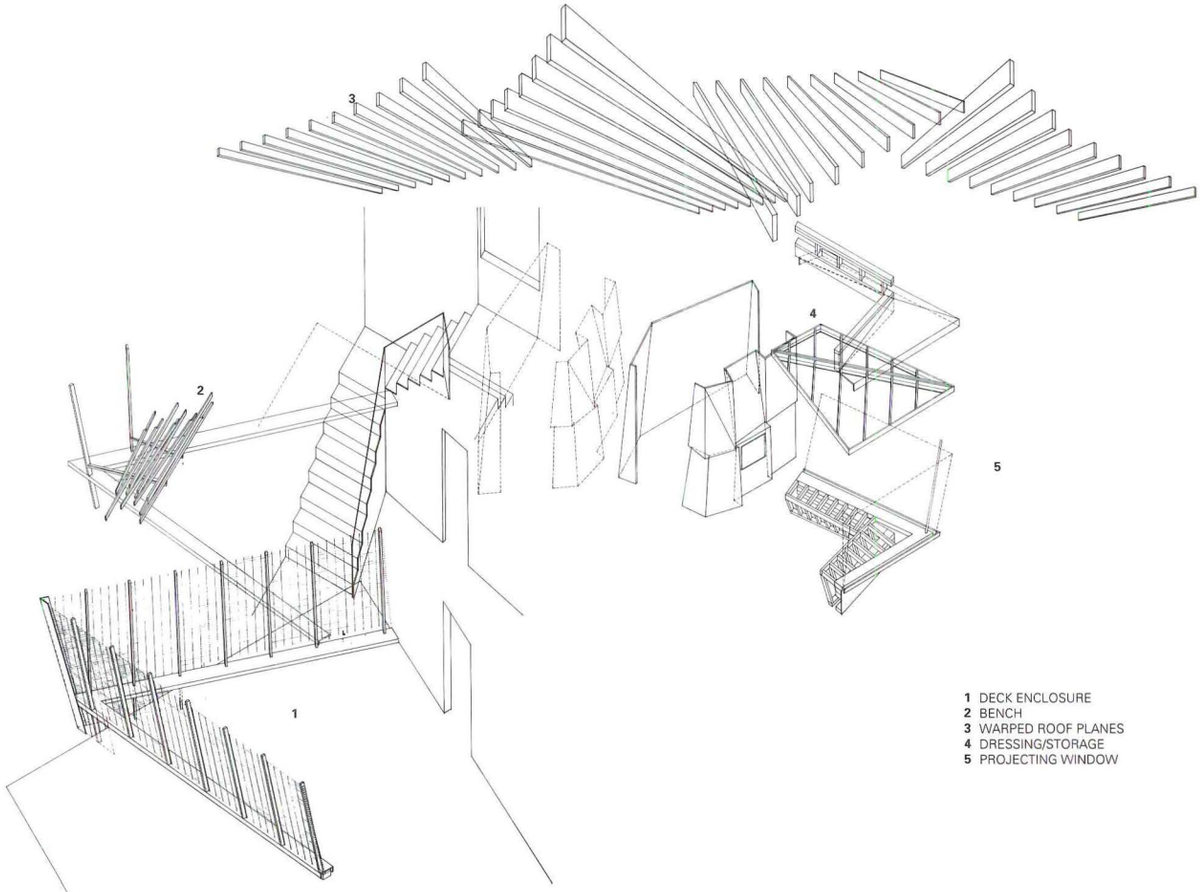


1 PIVOTING SCREEN
2 FACETED CABINET
3 ALUMINUM CLAD FIREPLACE
4 PROJECTING WINDOW
5 SUNSCREEN/CANOPY
6 CONTINUOUS GLASS COUNTER

COMPOSITE DRAWING: MULTIPLE PROJECTION AXONOMETRIC AND PERSPECTIVE

Project: *Tarzana Residence, Tarzana, California.*
Architects: *Daly, Genik (Kevin Daly, Christopher Genik, Janet Simon, Jacki Hah, Padraic Cassidy).*
Site: *large suburban lot with 1960s tract house.*
Program: *renovation of existing 3,298-sq-ft house and 99-sq-ft addition.*
Structural system: *wood frame; moment frame at clerestory windows.*
Major materials: *plaster; steel-troweled plaster; galvanized steel sunshade; birch manufactured flooring; aluminum; fir plywood cabinets; slate floors (see Building Materials, p. 106).*
Mechanical system: *forced air heat and air conditioning.*
Consultant: *Parker/Resnick, structural.*
General contractor: *San Filippo Construction.*
Cost: *withheld.*
Photos: *J. Scott Smith.*

Project: *Mooser-Avakian Residence, Santa Monica, California.*
Architects: *Daly, Genik, Santa Monica (Kevin Daly, Christopher Genik, Jacki Hah, project team).*
Client: *Greg Mooser and Tania Avakian.*
Site: *A 50′ x 150′ urban lot with an existing 1948 bungalow.*
Program: *renovation of existing 1162-sq-ft house and 427-sq-ft addition.*
Structural system: *plywood shear wall perimeter; steel moment frame carrying roof deck and second story.*
Major materials: *steel-troweled plaster; bar grating; drywall; MDF; exposed roof framing (see Building Materials, p. 106).*
Mechanical system: *forced air heat.*
Consultant: *Parker/Resnick, structural.*
General contractor: *Grendel Construction.*
Cost: *withheld.*
Photos: *J. Scott Smith.*



1 DECK ENCLOSURE
2 BENCH
3 WARPED ROOF PLANES
4 DRESSING/STORAGE
5 PROJECTING WINDOW

COMPOSITE DRAWING: MULTIPLE PROJECTION AXONOMETRIC AND PERSPECTIVE

Up-to-the-Minute Classicism

Architect Allan Greenberg and his clients for two recent houses in Connecticut believe there is plenty of room for creativity within the Classical tradition.

Allan Greenberg sees Classical architecture as a living tradition that must never stop evolving. Clients come to him, he observes, because Classicism enables them to enter into a dialogue with him, in which the terms are familiar and comprehensible. And for him, designing a house is a demanding kind of dialogue for those on both sides of the table. While not all his clients are initially sophisticated about design, they all have a commitment to expand their perspectives and the fortitude to pursue the process.

For both Greenberg and the clients of these two Connecticut houses, Classicism is seen as a link between buildings and their sites, their region, and the traditions of their country. Though born in South Africa, Greenberg has an almost encyclopedic knowledge of American institutions and a strong attachment to the "Republican simplicity" of our Georgian, Federal, and Greek Revival houses.

The design freedom the architect finds within this tradition is visible in the strong differences between these two houses. The Palladian house (1) was designed for a bachelor client, as a retreat for himself and a setting for entertaining. He had visited some of Palladio's villas, as well as some American interpretations of them, and admired their five-part symmetrical compositions of central mass, links, and dependencies; such a compound of linked blocks also fitted his program.

The clients for the second house (2) – let's call it Georgian for convenience – had limits on their budget, within which they needed to accommodate a classic family of four. Fortunately, their tastes fitted their means: they liked the inherently economical, compact volume of the familiar tall "Colonial" and understated elegance found in the burghers' houses of the Georgian period, both in Britain and in America. While even this house as built is hardly "affordable" for most Americans, it could be adapted to upper-middle means (and is less costly than some spec-built houses in its vicinity).

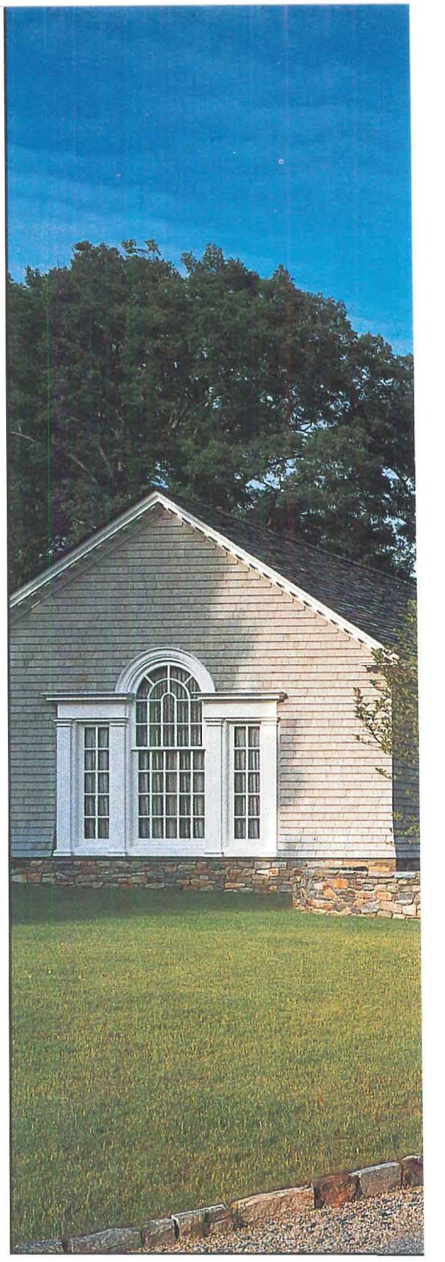
Greenberg feels the give and take with clients enriches his work. In the Palladian house, for instance, the client's insistence on attic bedrooms for guests contended with the architect's vision of a one-story central block, producing the little round-topped dormers that, Greenberg feels, "make the house." In the Georgian house, some key decisions were made after construction began. Designed for wood siding, the house acquired its brick veneer when additional funds became available, requiring some adjustments to foundations already in place. Also during construction the full-width terraces at both the front and the back were added, superseding a scheme that adhered more closely to the site's original steep contours.

As a meticulous designer, Greenberg would love to have more to say about the interiors of his houses, where decorators sometimes undermine his intent. He is particularly pleased about the rooms in this Georgian house, not because he had control, but because the clients shared his preference for spare furniture and undraped windows, allowing a full appreciation of his room proportions and details. Ideally, he would orchestrate a "dialogue between building, room, and furniture," designing some of the latter himself.

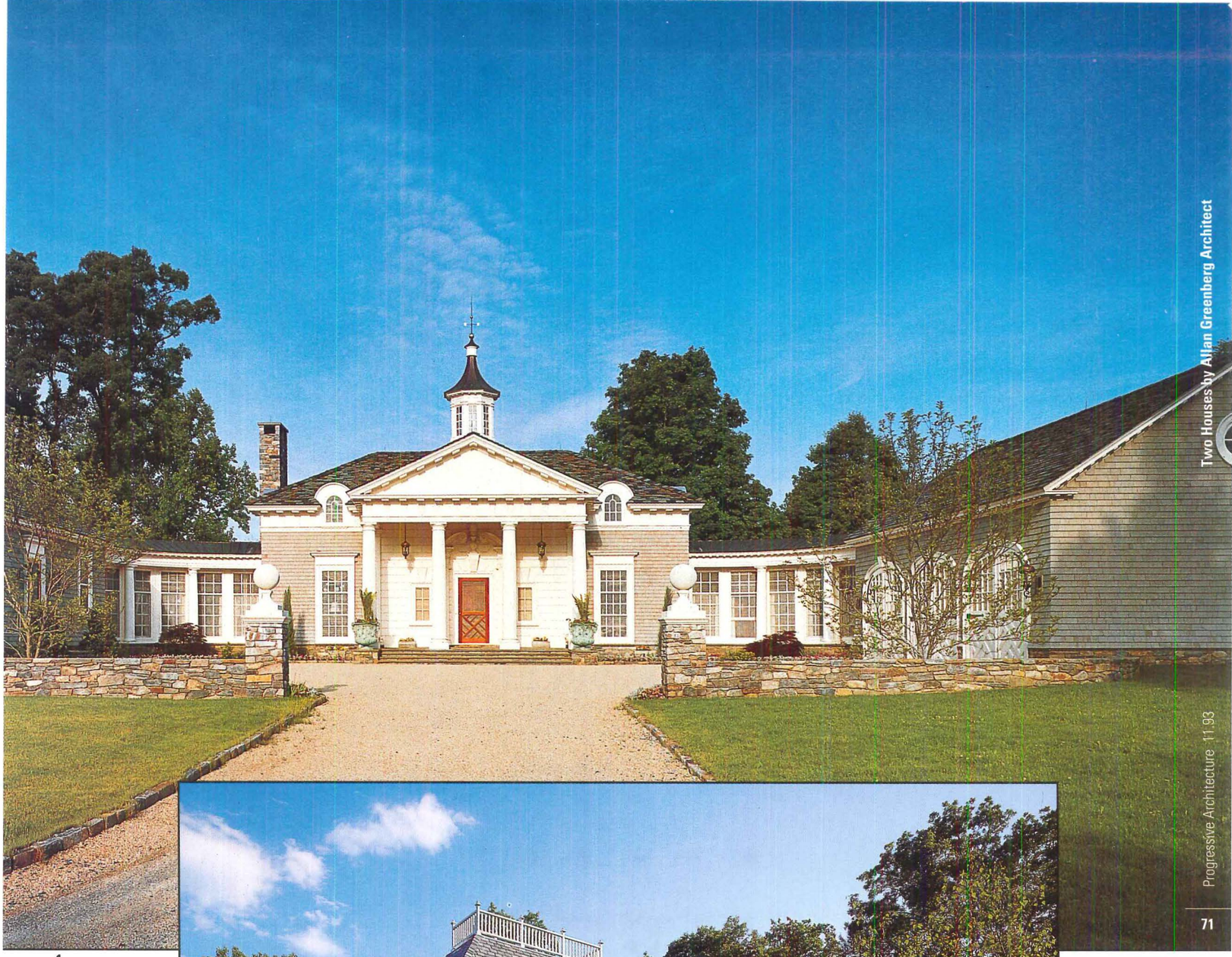
While Greenberg's design innovations adhere closely to Classical canons of proportion and detail, his construction technology is strictly contemporary. While the brick walls of this Georgian house display bond patterns developed for bearing walls, he has no qualms about applying the brick as a mere veneer over wood framing. Such a superficial reference to historical building methods might offend purists such as the British Classicist, Quinlan Terry, but Greenberg praises this impure system – a time-honored practice in American homebuilding – for its superior durability and dimensional stability. Freed of masonry masses, Greenberg uses the thicknesses of Classical *poché* to enclose today's ducts and conduits; his ample chimneys on these houses contain few fireplace flues, but carry numerous plumbing vents, thus keeping the handsome slate roofs clear of them.

Above all, Greenberg wants his work to be clearly of his own time; he wants these houses to say they were completed in the 1990s. Without indulging in Post-Modernist irony, he hopes it is apparent that these buildings are by an architect who has learned from Wright and Corbu, as he has from Hawskmoor and Lutyens. The specifics of these two houses, explained on the following pages, demonstrate Greenberg's way of grasping the Classical tradition and "making something new and immediate within it."

John Morris Dixon ■

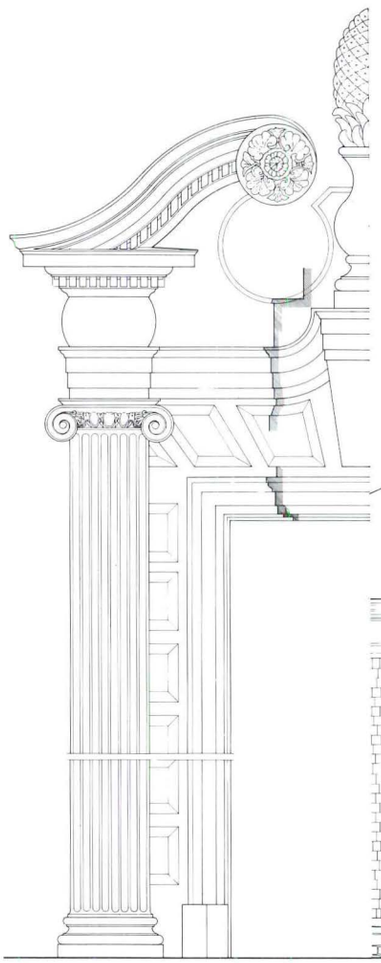


One of two houses recently completed in Connecticut, is based on a five-part Palladian composition (1). The low-eaved central block is made to seem smaller than it is by its massive portico and cornice. The two dependencies at the ends of the composition are equal in volume but totally different in functions. The focus of the house on a graveled auto court with stable-like garage doors projects a rural image, which is reinforced by fieldstone foundations, shingled walls, and rugged slate roofs. The compact Georgian house (2) is a more consistent rendition of a historical prototype, in this case Virginia burgher's house. Mediating between the Classical structure and the steeply sloping terrain are formal terraces to the front and rear, supported by brick retaining walls.

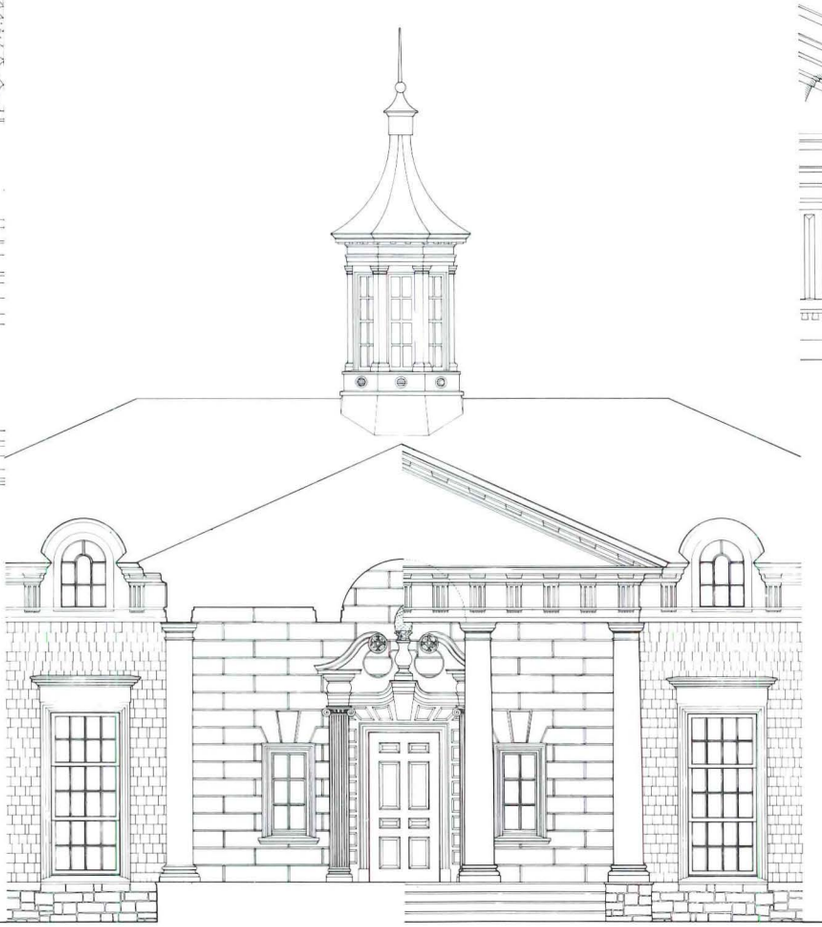


1

2

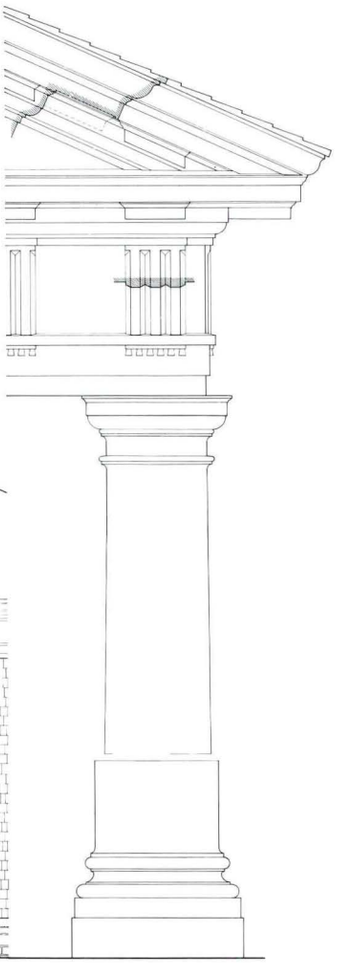


DOORWAY DETAILS
PALLADIAN HOUSE



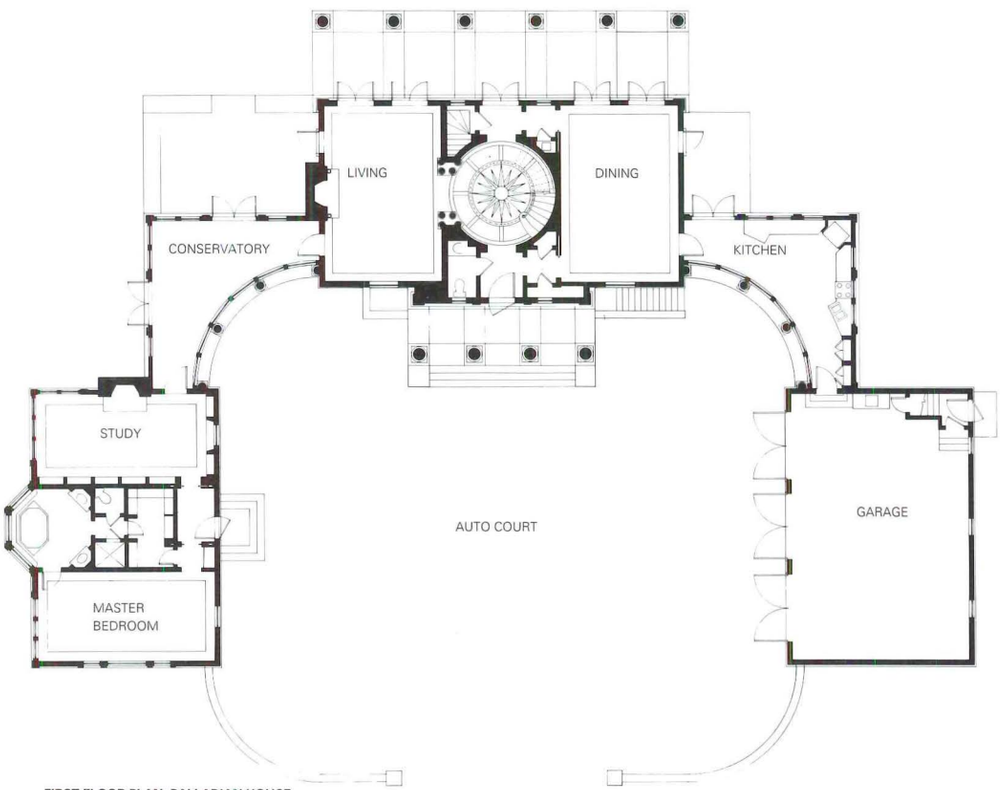
SECTION THROUGH PORTICO

FRONT ELEVATION



PORTICO
DETAILS

10'/3m



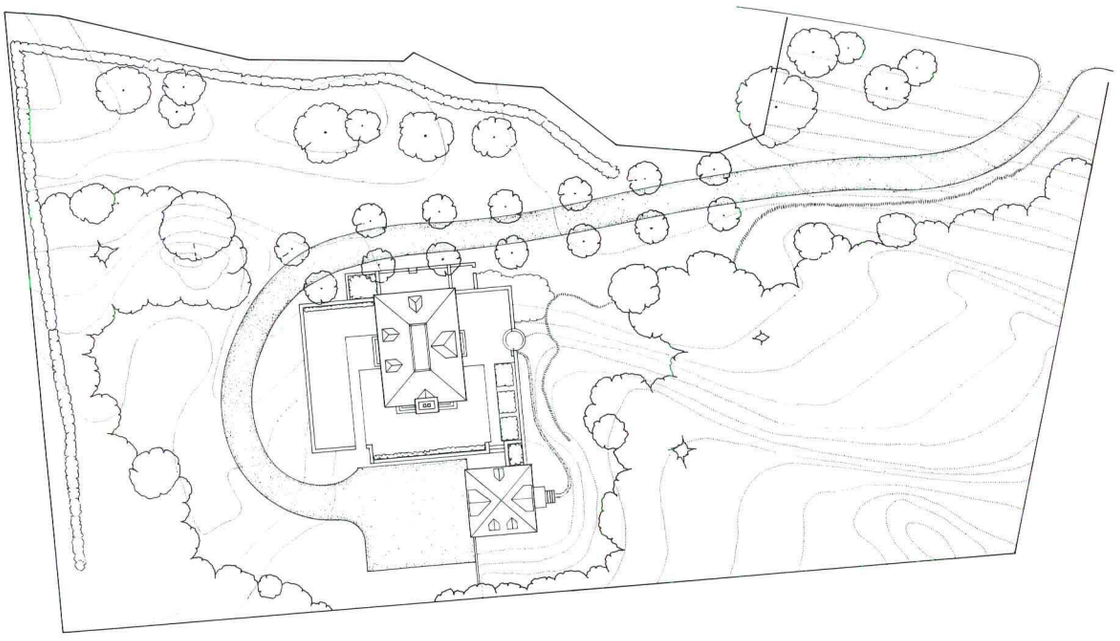
FIRST FLOOR PLAN, PALLADIAN HOUSE

N

20'/6m

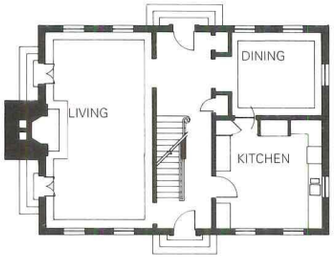
Composite drawings of the Palladian house façade (facing page) show the elaboration of details at the entrance portico and around the eaves; the extravagance of the front door frame is tamed somewhat by its background of white-painted false rustication and by the constant shade of the portico. The plan shows how the main rooms of the central block slip behind the oversized portico; to the rear, a full-width porch overlooks a pond at the foot of a long slope. The curved "hyphen" links have been squared off to make actual rooms - a possibility suggested by an unbuilt scheme of Venturi Rauch & Scott Brown.

The Georgian house has been fitted onto a site previously thought unbuildable by slipping a steep driveway up to an artificial platform aligned with the house's symmetrical mass. The two main floors follow a time-tested center-hall plan, with contemporary adjustments: a kitchen larger than the formal dining room and an expansive master dressing-bath suite. The top-floor studio has a skylight and a big, ahistorical dormer that admits ample daylight to the central stairwell.



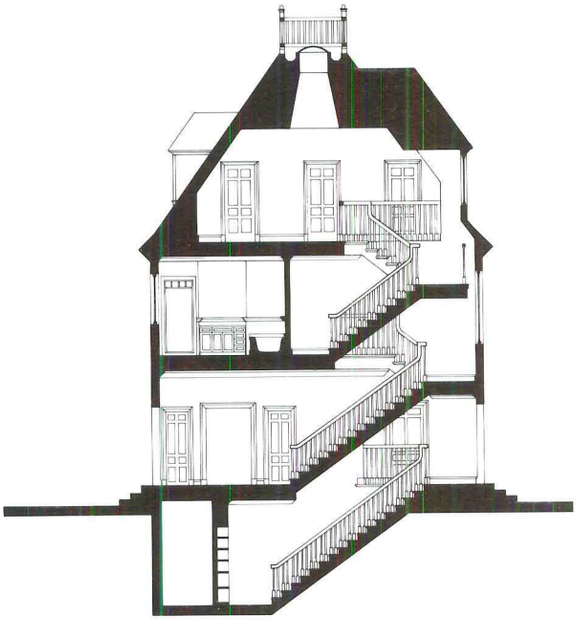
SITE PLAN, GEORGIAN HOUSE

N ← 40'/12m



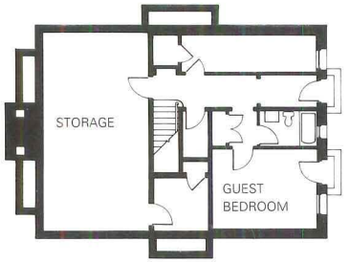
FIRST FLOOR PLAN, GEORGIAN HOUSE

ATTIC FLOOR PLAN

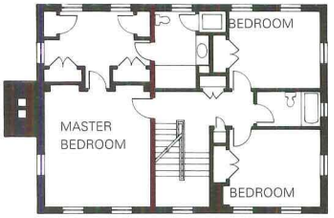


SECTION LOOKING EAST, GEORGIAN HOUSE

10'/3m



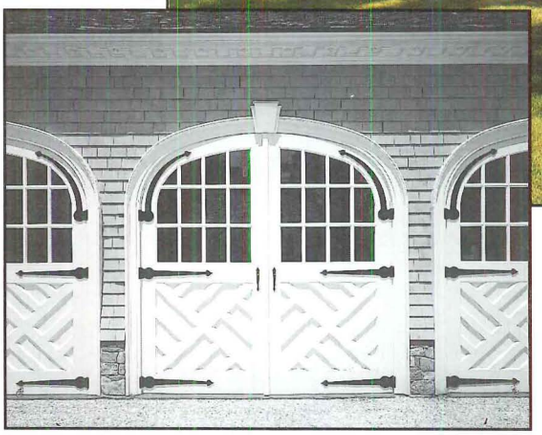
BASEMENT FLOOR PLAN



SECOND FLOOR PLAN

N ↑ 20'/6m

3



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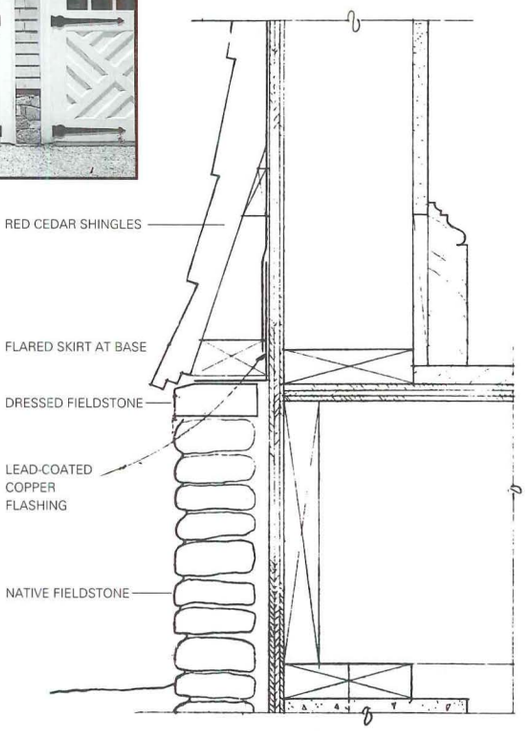
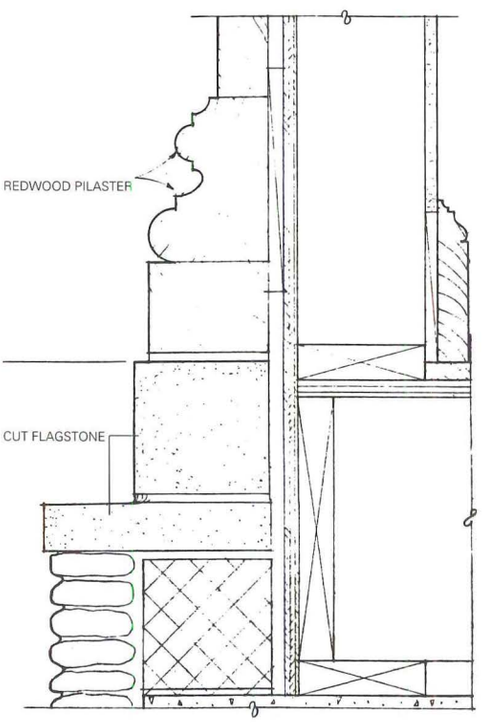


WALL SECTION AT BASE, PALLADIAN HOUSE

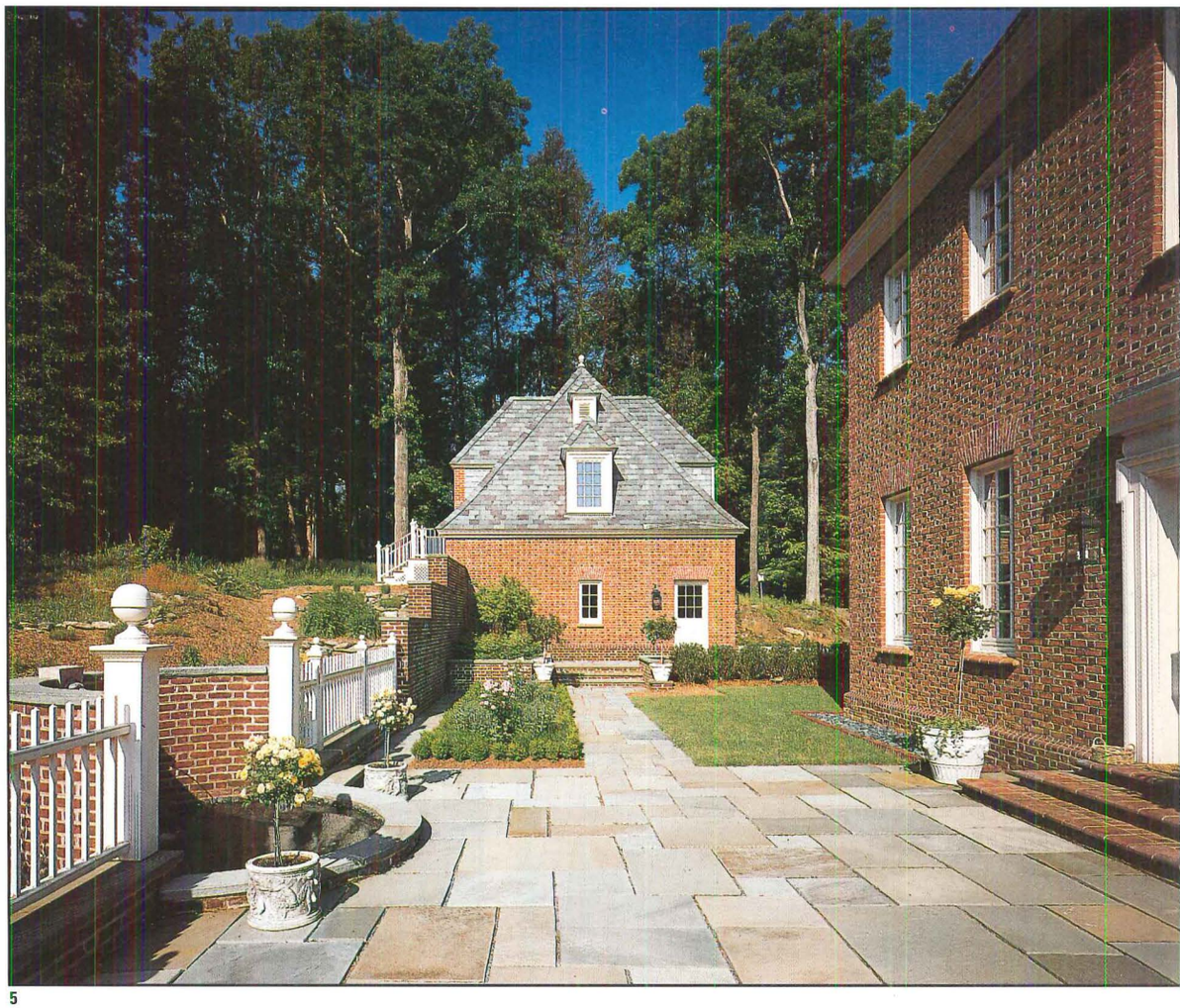


SECTION AT BASE OF PILASTER, PALLADIAN HOUSE

6"/0.15m

At the back of the Palladian House (3), rough-textured materials and studied asymmetry are juxtaposed to the turned concrete columns and elegant cornice of the colonnaded porch. The small-paned glazing of the low-roofed conservatory (right in photo) continues around much of the master suite wing (see floor plan). Garage doors (4) have meticulous proportions, paneling, and hardware befitting their position on the entry court. Wall details show how all exterior materials are applied as veneers.

Mediating between the Georgian house and its steep site (5), the back terrace is a miniature formal garden; its circular pool has a simple splash fountain. The garage (background) is topped by an attic study for the husband. Flemish bond (6) walls are built of standard brick units; soft-contoured brick in sills and in stair treads contribute an almost primitive austerity, while the front door treatment counters with a note of opulence (7).



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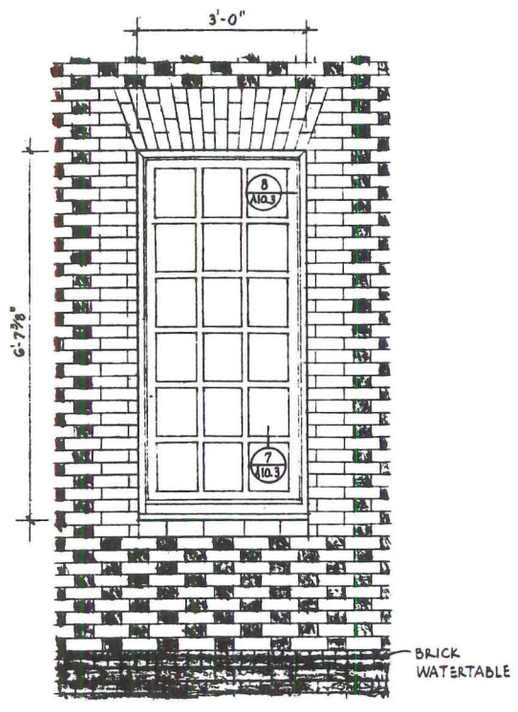
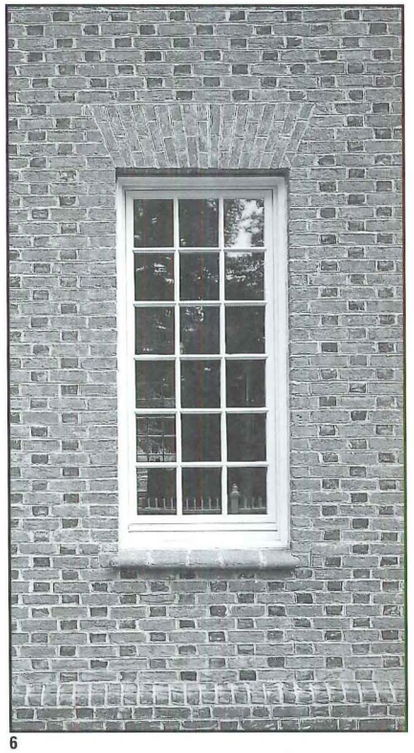


TYPICAL WINDOW, GEORGIAN HOUSE

2'/0.6m



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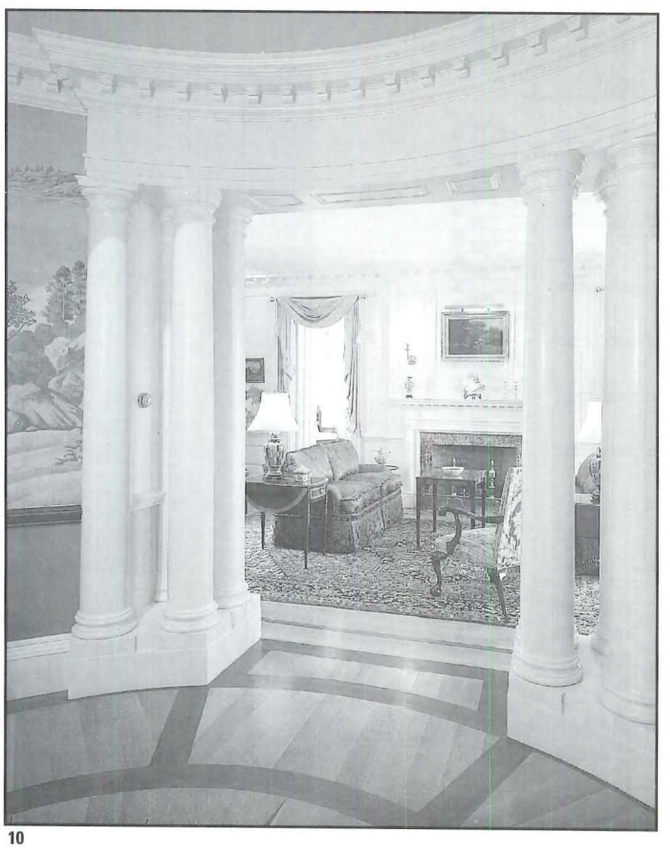
8

9

At the center of the Palladian house is a circular stair (9) that Palladio would not approve of, but it provides house guests with a dramatic approach to their rooms under the eaves; note the graceful S-curve at the balcony's end. From this cupola-lighted rotunda, a portal with clustered columns (10) leads into the living room; entry to the equally large dining room is by smaller-scaled doorways (see plan). Linking the living room to the master suite is the conservatory (9), occupying a somewhat unsettling scooped-out square of floor area, equal to that of the kitchen on the opposite side of the house.



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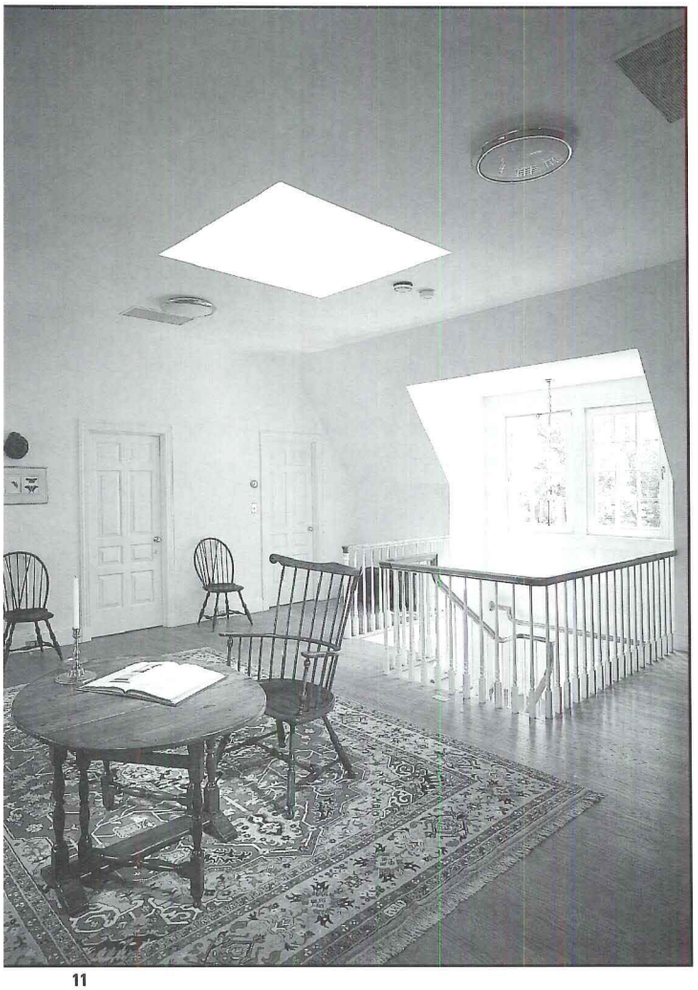


11

12

Project: *Beechwoods ("Palladian house"), Connecticut.*
Architects: *Allan Greenberg, Architect, Washington, D.C. and Greenwich, Conn. (Allan Greenberg, Kurt Dubbe, Defne Veral, Sandra Vitzthum, project team).*
Site: *5-acres of rolling terrain; house sited on flattened knoll, overlooking several ponds.*
Program: *private residence, including conservatory, master bedroom/study suite, three-car garage. 5,000 sq ft, including basement and garage; 700 sq ft, porticos.*
Structural system: *concrete foundations; wood frame.*
Major materials: *native stone base, cedar shingles, slate roofs, with standing-seam copper on "hyphens," wide-plank oak and mahogany floors, marble floors in bathrooms, linoleum in kitchen; mahogany paneling in study and vestibules; plaster and gypsum board walls and ceilings (see Building Materials, p. 106).*
Mechanical system: *Multizoned hydronic V.A.V. HVAC; oil-fired boiler.*
Consultants: *Thune Associates, structural; Tucker Regis Associates, mechanical; landscape by architects.*
General contractor: *Grunow Construction Corp.*
Costs: *withheld.*
Photos: *Tim Buchman.*

13

Inside the Georgian house, the central hall (13) is lighted by a large south-facing window, plus an ample dormer and a skylight in the wife's studio on the third floor (11). Details throughout are understated but distinguished from the merely conventional by careful proportioning and alignments. The dining room (13) is represents Greenberg's ideal of a chaste, well-proportioned room; he is gratified that these clients have left the windows undraped and chosen furniture of the same restrained Classical character.

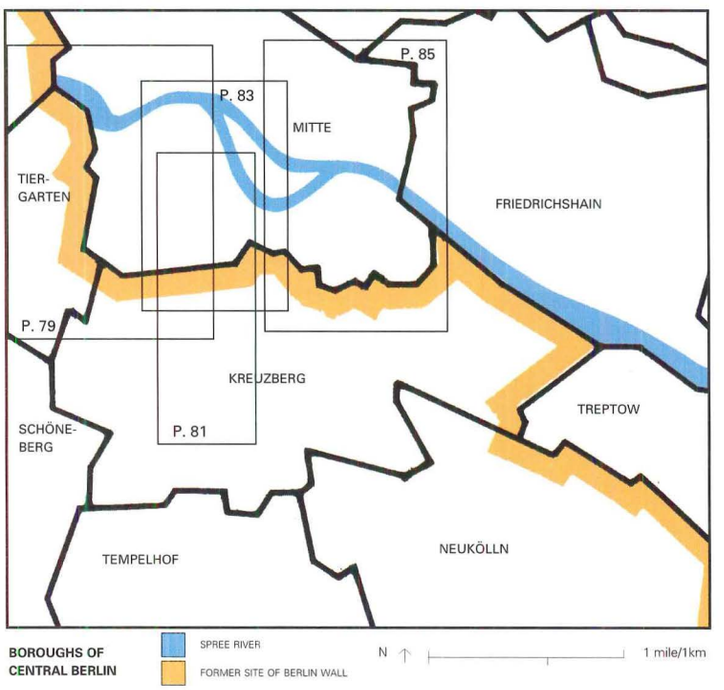
Project: *"Georgian" house, Connecticut.*
Architects: *Allan Greenberg, Architect, Washington, D.C. and Greenwich, Conn. (Allan Greenberg, principal; David Parisi, project manager; Thomas Noble, project designer).*
Site: *wooded, steeply sloping 2-acre tract, requiring major excavation for access drive.*
Program: *conventional 3-bedroom family accommodations; studio in attic; guest suite in basement; detached garage with study above. 3,800 gross sq ft, house; 700 gross sq ft, garage/study.*
Structural system: *concrete foundations, wood frame.*
Major materials: *handmade brick, slate roofs, gypsum board interior walls, red and white oak floors (see Building Materials, p. 106).*
Mechanical system: *gas-fired boiler, fancoils.*
Consultants: *Martin-Horton & Associates, structural; Lois Roberts, mechanical; landscape and interiors by architects.*
General contractor: *Meinke Associates.*
Costs: *withheld.*
Photos: *Tim Buchman.*

Perspectives | Report from Berlin

Mary Pepchinski describes the planning confusion in a city that has lost one of its defining characteristics: The Wall.

As Berlin embarks on an estimated 141.5-million-square-foot building boom, the city seems unable to state clearly how it will be – or should be – affected by this activity. On one hand, Berliners are struggling to define who they are, and by extension, what their city should become, now that division no longer lends this metropolis its impetus. Yet Berlin is hardly in a vacuum, and the turmoil that has ravaged Germany following unification continues, rendering projects that appear certain one day questionable the next.

The violence against foreigners, culminating in the murders at Mölln and Sölingen did little to help Berlin's bid for the 2000 Olympics. The weak economy has halted other projects. And the tensions between Easterners and Westerners, the "wall in the head," persist: former East Berliners were outraged by Foreign Minister Klaus Kinkel's plans to tear down the *Palast der Republik* – a 1970s "house of the people" in East Berlin containing restaurants, auditoriums, and the GDR's parliament, the *Vallis Hammer* – and replace it with his ministry. "We should ask ourselves," demanded the East German writer Kurt Schlesinger, "why don't they begin the tearing down with their own buildings?"

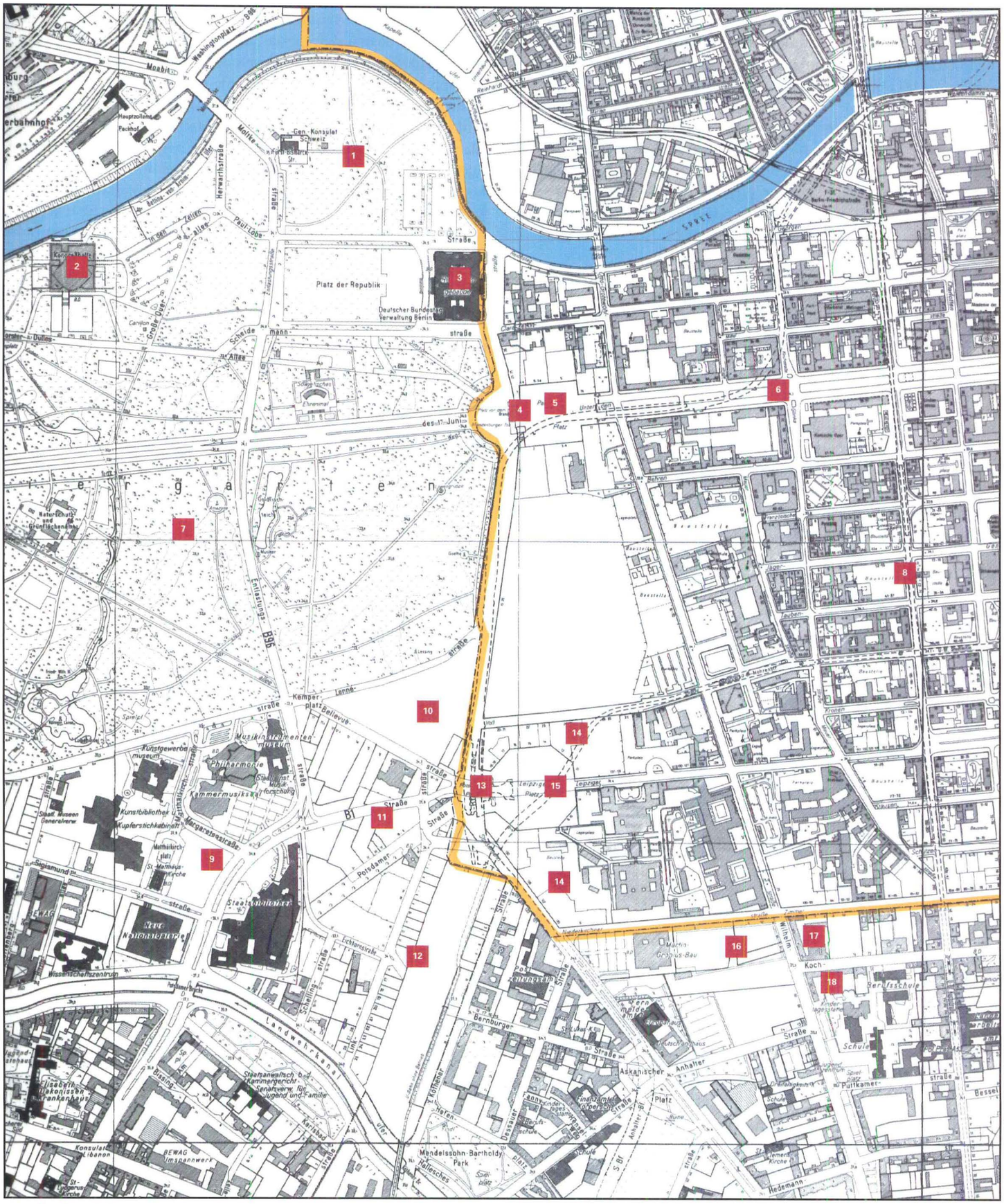


With division ended, Berlin is searching for a concept to govern its process of rebuilding and repair. Several have been proposed – "Olympic City," "Capital City," "Service Center," "East/West Link," "World Metropolis" – and elements of all these will be found in the Berlin of the future. Yet despite numerous public forums, debates, and exhibitions, no single concept has inspired a consensus throughout this city. Arguably, this is the result of the planning process, where few possibilities exist for grassroots ideas to be integrated into official strategies; public participation is relegated to *Bürgerinitiativen* (citizens initiatives) organized in reaction to official policy. On a larger scale, no one individual or group enjoys complete authority, as Berlin's first post-unification government, a coalition of Social and Christian Democrats, divides planning. Social Democrats control the Senate Administration for Construction and Housing, while Christian Democrats oversee Transportation and Urban Design/Environmental Protection. Although Berlin has reestablished the position of Senate Building Director (Dr. Hans Stimmann, a Social Democrat), he is more a coordinator than a designer, engaged in balancing aesthetic, economic, political, and bureaucratic interests. There also exist numerous federal and local authorities who lobby for the concerns of the offices they represent.

While identity remains elusive, a strategy for post-unification planning does exist. As the newspaper *Die Wochenpost* observed: "Berlin, in the West as in the East, accustomed to the parasitic life as a Metropolis of foreign favors, has again given its destiny to foreign hands." Whether unable to adjust to change or feeling their options limited, Berlin's politicians have permitted two external bodies, the International Olympic Committee (who, it was hoped, would grant Berlin the 2000 Games), and the federal government in Bonn (whose relocation is still expected within the decade) the power to determine their city's future.

The first variable in this equation, an East/West Olympics in the year 2000, was suggested in 1985. Following the events of 1989, planners from both Berlins met to develop scenarios for the Games and, coinciding with unification in October 1990, the city committed to a formal application. Berlin's concept, the "Urban Games," intended to improve inner-city infrastructure. Olympic villages were to be located in East and West, and a high-speed, east-west metro line, the "Olympia Express" would unite the athletic venues. As sufficient stadiums exist in the West, the East would have received four, located in different neighborhoods.

Yet in light of the rise of the far right on the political spectrum and increased antiforeigner violence throughout Germany, Berlin's most disturbing intention was to reuse the surviving 1936 Olympic Stadium as the main venue for the 2000 Games. While organizers argued that a new stadium would be too costly, they emphasized that they did not plan "to put history aside." Ironically, the 2000 games, which were conceived as a way of instigating an East/West dialogue, seemed only to have polarized Berliners, many finding the Olympic expenditures wasteful and of little benefit to Berlin. Some Olympic improvements will be realized, including the Olympic Village, a 5,400-unit residential complex in East Berlin planned by Brenner/Thomanek of Berlin with Herman Hertzberger and Martorell Bohigas Mackay. Also surviving the



SPREEBOGEN, POTZDAMER PLATZ AND VICINITY

1 SPREEBOGEN – SITE OF FEDERAL GOVERNMENT
2 CONGRESSHALLE
3 REICHSTAG – RENOVATION BY NORMAN FOSTER
4 BRANDENBURG GATE
5 PARISER PLATZ – SITE OF U.S., FRENCH, AND U.K. EMBASSIES
6 UNTER DEN LINDEN
7 TIERGARTEN
8 FRIEDRICHSTRASSE
9 CULTURE FORUM
10 POTSDAMER PLATZ – SONY SITE (MURPHY/JAHN)
11 POTSDAMER PLATZ – DAIMLER BENZ SITE (PIANO, ET. AL.)
12 POTSDAMER PLATZ – ASEA BROWN BOVERI SITE (GRASSI ET. AL.)
13 POTSDAMER PLATZ
14 LEIPZIGERPLATZ (HILMER & STATTLER)
15 LEIPZIGERPLATZ
16 SITE OF W.W. II MUSEUM (PETER ZUMTHOR)
17 IBA HOUSING (VARIOUS ARCHITECTS)
18 IBA HOUSING (ROSSI)

Maps courtesy of Vermessungsamt Kreuzberg

failed bid are Dominique Perrault's Swim/Bicycle Stadium in Friedrichshain and an adjoining park/marketplace by Moscow architects Bukov Busch Tschouklov. But without the games as a catalyst, other projects will require decades to complete.

Bonn's Reluctant Move

The second element in post-unification planning, the relocation of eight federal ministries from Bonn to Berlin (ten ministries are to remain in Bonn), will affect the physical design of the borough of Mitte, Berlin's geographic, cultural, and historic center, formerly in East Berlin. Although Mitte has traditionally housed the capital city function (having most recently accommodated the government of the German Democratic Republic), the present marriage of city and state has been marred by contention. Despite the 1991 vote in favor of Berlin, Bonn has infuriated Berlin with its reluctance to move. While Bonn is really a provisional capital, a recent poll in *Der Spiegel* revealed that 59 percent of all Germans are against relocation. Conceptually, Bonn prefers the creation of a high-security, off-limits zone, while Berlin proposes that public functions, such as shops, culture, libraries, cafés, etc., be interspersed among ministries and offices. Technically, Berlin has limited powers, having relinquished to Bonn control of urban design in the areas where the federal government will locate (the Spreeinsel and the Spreebogen).

"Despite numerous public forums, debates, and exhibitions, no single concept has inspired a consensus throughout this city."

At times, Bonn appears to be oblivious of the fact that its planning is to accommodate future governments, not just the one currently in power. Following the Spreebogen Competition (concerning the design of land north of the Tiergarten and bounded by the Spree), Bonn rejected the first prize design by Berlin architects Axel Schultes and Charlotte Frank (P/A, Apr. 1993, p. 19), which proposed a bar of buildings extending through the city, symbolically linking east and west. While Bonn felt that Chancellor Helmut Kohl's offices were not sufficiently prominent and that the overall concept was too rigid, Berlin politicians supported the Schultes/Frank design, finding its clear formal idea compatible with the surrounding urban fabric. Although Bonn instigated a runoff competition (between first, second, and fourth prizes), a reconvened jury, meeting in June 1993, reconfirmed their initial decision and the Bundestag then accepted the Schultes/Frank proposal.

"Berlin's most uncomfortable intention was to reuse the surviving 1936 Olympic Stadium as the main venue for the 2000 Games."

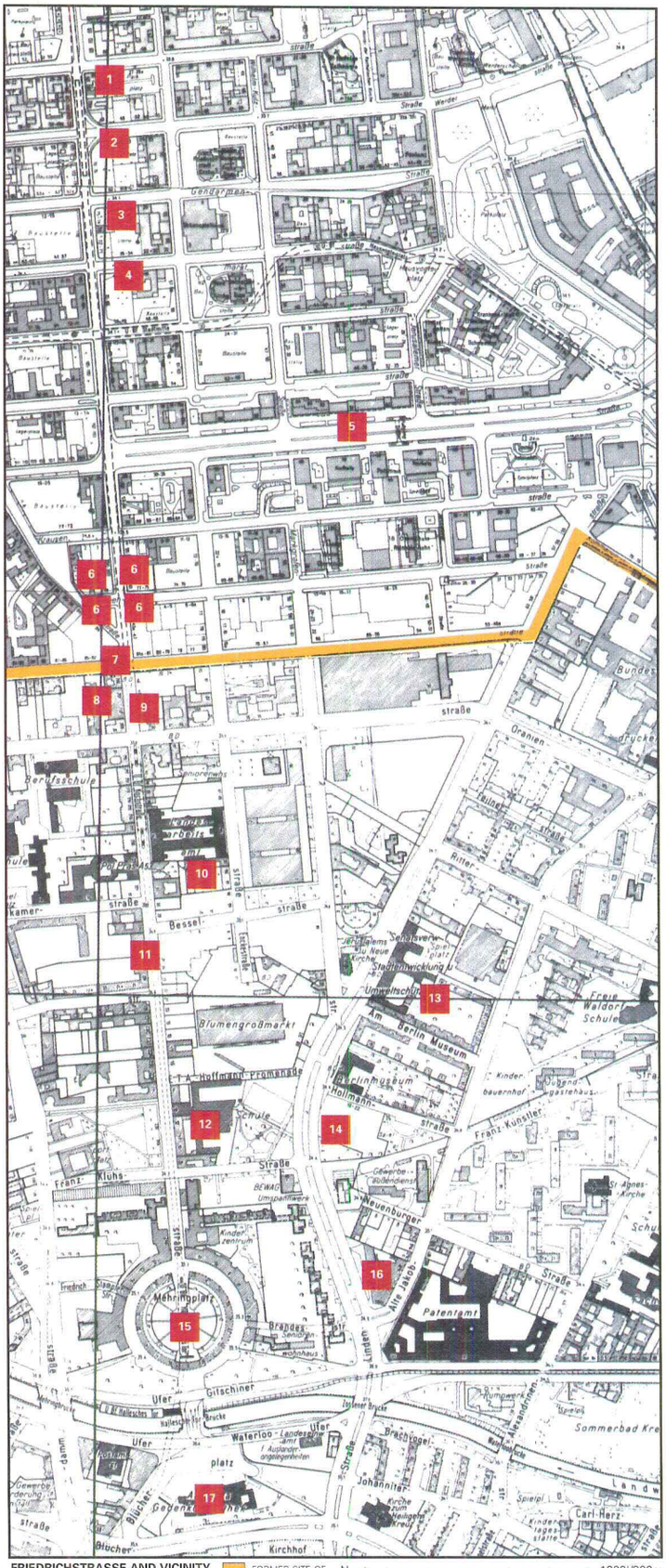
At other times, Bonn has exhibited little understanding of the complexities of Berlin and the sentiments of its population. Lately, the Federal Building Minister, Irmgard Adam-Schwaetzer, has been advocating that, to alleviate traffic, an east/west tunnel be constructed under the famous Brandenburg Gate, with entry ramps beginning on Unter den Linden, thus destroying this elegant boulevard. While no one is taking this proposal very seriously, the conflicts between local and national interests are at the heart of the discussion surrounding the Spreeinsel (the island, created by a split in the Spree, where the Foreign, Interior, and Justice ministries will locate). The Hohenzollern Schloss (the Prussian imperial palace) once occupied this island's center, and Schinkel's Bauakademie (Building Academy) stood across the Spree. Both survived the war only to be demolished by the East Germans, who replaced them with the GDR's government buildings. While a competition, to be judged in March 1994, will determine the island's master plan, the most important decision has already been made, as the Palast der Republik will be demolished, purportedly because of its high levels of asbestos. Although a majority of Berliners want to preserve this admittedly unattractive structure, the real issue is not merely retention of one positive memory of Socialism, but rather continued public access to the city's center, something East Berliners enjoyed and which may vanish if Bonn erects its government-only ghetto.

With East Berlin's industries collapsed and West Berlin's now devoid of subsidy and exiting *en masse*, Berlin's politicians have been vocal in their conviction that the government's relocation is crucial to attract private business, which is projected to provide 60,000 jobs. Since the rejection of the Olympic bid, this scenario has become critical, as it is estimated that a move after the year 2000 could cost Berlin an estimated 21 billion marks ($13 billion) in lost revenues. Sony, for example, has recently postponed its building start on Potsdamer Platz to 1995 (from 1994).

A Projected Commercial Boom

Because Berlin's urban structure is polycentric, the new commercial architecture will be located throughout the city (39 million square feet in the West, 25.9 million in the East), varying to suit differing urban contexts. Near the ruined Kaiser Wilhelm Memorial Church, in the center of former West Berlin, several small towers are planned; where the traditional height (70 to 100 feet) and block structure predominate, new office buildings remain low and respect the street patterns. Along the city's rural edges, industrial parks are forming a *Speckgürtel* (literally a "bacon belt"). Other developments are to create urban qualities where little prevails: in the East Berlin borough of Hellersdorf, a nine-acre development will be organized around a square, inspired by the design of Madrid's Plaza Mayor, like a piece of the traditional European city inserted into a forest of prefabricated blocks.

The new commercial development, however, will most profoundly alter Berlin's traditionally low-scale inner city. At the Potsdamer Platz (P/A, Nov. 1992, p. 17), the initial master plan by Hilmer and Sattler of Munich organized 11.6 million square feet of gross space into ten-story blocks, designed to evoke the area's pre-1945 street pattern; in a reworked design, several 25-story towers will accent the design. (Murphy/Jahn of Chicago, Renzo Piano of Paris, Giorgio Grassi of Milan, Diener and Diener of Basel, Hans Kollhoff of Berlin, Rafael Moneo of Madrid, and Josef Paul Kleihues of Berlin have been commis-



FRIEDRICHSTRASSE AND VICINITY FORMER SITE OF BERLIN WALL N 1000'/300m

1 COMMERCIAL BLOCK BY KOLLHOFF, KLEIHUES, DUDLER, SAWADE
2 FRIEDRICHSTADT PASSAGEN (NOUVEL)
3 FRIEDRICHSTADT PASSAGEN (PEI COBB FREED)
4 FRIEDRICHSTADT PASSAGEN (O.M. UNGERS)
5 LEIPZIGERSTRASSE
6 AMERICAN BUSINESS CENTER (KLEIHUES, SOM, JOHNSON, LAUBER SWOHR, BENDER & GLASS)
7 CHECKPOINT CHARLIE
8 IBA HOUSING (KOOLHAAS)
9 IBA HOUSING (EISENMAN)
10 IBA HOUSING (HEJDUK, ABRAHAM)
11 FRIEDRICHSTRASSE
12 SITE OF "OLYMPIC VILLAGE"
13 IBA HOUSING (VARIOUS ARCHITECTS)
14 JEWISH MUSEUM (LIBESKIND)
15 MEHRINGPLATZ
16 METAL WORKERS BUILDING (MENDELSOHN)
17 AMERICAN MEMORIAL LIBRARY (ADDITION BY KAREN VAN LENGEN)

sioned for various parcels.) At the Alexanderplatz, situated at the easternmost edge of Mitte and surrounded by buildings by Peter Behrens and the GDR collective Näther/Schweitzer, a 13.7 million-square-foot development will take the form of twelve 40-story skyscrapers (whose massing and stone cladding were inspired by New York's classic Art Deco towers) integrated into a grid of lower blocks. Hans Kollhoff won the recent competition for the master plan. (Construction will start on Potsdamer Platz in 1994 and on Alexanderplatz in 1995.)

Between the Spreebogen and Potsdamer Platz to the west and the Spreeinsel to the east, commercial development is being carefully orchestrated in the westernmost edge of Mitte, known as the Friedrichstadt. To foster architectural quality, the Architektur Werkstatt (Architecture Workshop), sponsored by the Senate Administration for Construction and Housing and the Senate Building Director, established ambitious zoning guidelines entitled "Critical Reconstruction." Because unification threw East Berlin's planning apparatus into chaos (zoning codes became invalid, local bureaucracies faced staff shortages, and property rights were unclear), this agency was created to coordinate competitions, commission studies, and advocate design guidelines for this half of Berlin. While they oversee commercial development, their goal is to preserve the physical qualities of the extant city.

The term "Critical Reconstruction" is recycled, having been used in the 1950s to describe the GDR's rebuilding of East Berlin and later, in the 1980s, the work of West Berlin's inner-city housing program, the IBA. In the 1990s, it is again applied to the inner city, this time to the use of commercial architecture to preserve the Friedrichstadt's Baroque plan, scale (height is limited to 30 meters), and detailing. As sites vary, construction is unified by a typical section: two below-ground levels are used for parking, the first two above-ground for shops, four levels above for offices, and the top two, set back from the street line, for housing. To prevent the proliferation of anonymous-looking curtain walls, architects are encouraged to employ sandstone as an exterior cladding to complement the area's surviving, pre-1945, stone façades. Additionally, the Friedrichstadt's squares, the octagonal Leipziger Platz (adjacent to Potsdamer Platz) and the square Pariser Platz (east of the Brandenburg Gate), once eradicated by the *Todesstreifen* (or "death strip," the space occupied by the Wall), will be reinstated. Seven-story blocks will be inserted along Leipziger Strasse (an east-west street widened to 60 meters in 1970, and now lined with 20-story prefabricated housing blocks) to reduce the street's width to 28 meters, minimize the block's vertical impact, and thus evoke the area's prewar scale and character.

A Contextual Conservatism

In the early decades of this century, when seminal architecture ensured Berlin a reputation as a preeminent center of Modernism; now, city authorities support less adventurous, more traditional urban design and architecture. There is talk of an emerging "Berlin School" characterized by architecture that is simple in conception, Neo-Rationalist in appearance, and faced in brick or stone. In one block in Friedrichstadt, four Berlin architects (Hans Kollhoff, Josef Paul Kleihues, Max Dudler, Jürgen Sawade) integrate their new buildings with existing ones so that it is impossible to identify any of the new designs: they all look alike. Likewise, although the recent northern Friedrichstrasse competition included provocative ideas – Lohan & Associates's proposal to build Mies's famous unbuilt, 20-story glass tower on its original triangular site; Peter Eisenman's horizontally cantilevered, 100-foot-high, Möbius-formed buildings; Steven Holl's collection of towers and urban fragments – all were rejected in favor of a

design by Berlin architects Nalbach and Nalbach that respected the 30-meter height limit and proposed more traditional urban details (simple blocks, glass-covered passages).

In the coming decade, 80,000 to 100,000 units of new housing will be constructed on the city's periphery. In the far west, along the Havel (a bay to the north of Spandau) a *Wasserstadt* ("water city") for 11,000 to 15,000 housing units is being planned. Along the eastern city limits, three *Vorstädte* (suburbs; this is to distinguish them from the word *Siedlungen*, given to the modern housing estates of the 1920s), each containing 5,000 units, will be built. As they will not be sponsored by housing companies (as the *Siedlungen* were) but realized by numerous developers (and numerous architects), design codes will require specific detailing (pitched roofs, front gardens) to create visual uniformity. Two garden cities, Bruno Taut's Falkenberg (1913), in the East, and Paul Schmitthenner's Staaken (1913–1917), in the West, will receive extensions as well. Existing housing stock will be improved: 465 million marks ($291 million) have been allocated to renovate 280,000 *Plattenbau* units (prefabricated housing) in East Berlin. Largely symbolic, this sum (averaging less than $1,250 per unit) will be supplemented by local funds. A projected 4.2 billion marks ($2.6 billion) will underwrite improvements in 39 urban renewal districts (27 in the east, 12 in the west). The single major injection of inner-city housing (3,500 units), part of the Alexanderplatz development, remains controversial, as existing *Plattenbau* will be eliminated to accommodate the new.

"There is talk of an emerging "Berlin School" characterized by architecture that is simple in conception, neo-Rationalist in appearance, and faced in brick or stone."

"It is not surprising that urban planning sometimes appears chaotic and decisions create more problems than they resolve."

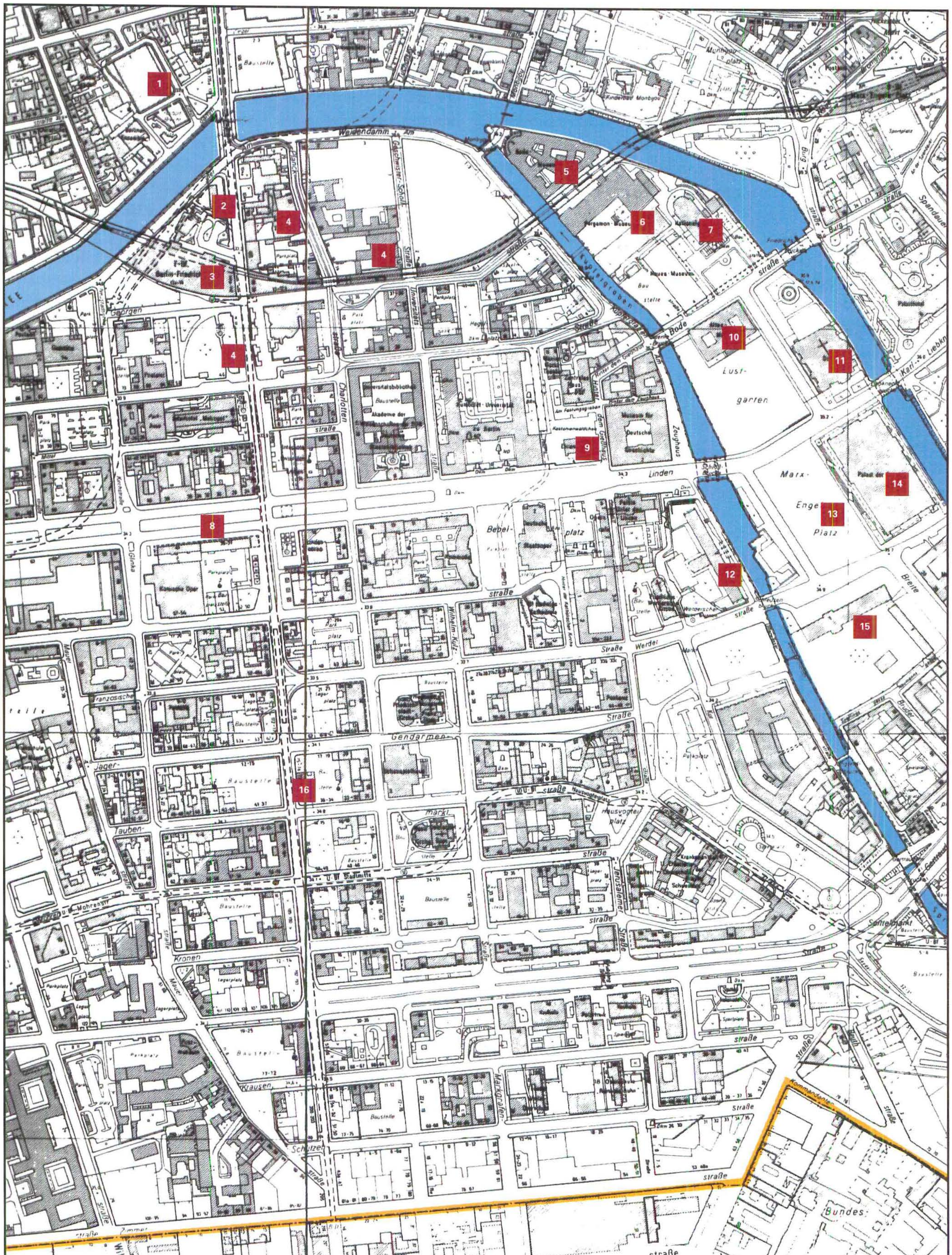
A Mirror of European Confusion

In Europe today, chaos and order perpetually collide as borders open, monetary systems unify, nationalism rises, recession runs rampant, and talk of reducing the largesse of the post-war welfare states prevails. Berlin is experiencing with particular intensity the turbulence in the wake of the Cold War's demise. Post-unification planning is entangled in a climate of conflict, insecurity, and unease. For much of this past year, this mood was rampant, as daily changing reports made it impossible to develop a clear image of the Berlin of the future. Would skyscrapers arise on Alexanderplatz? Would the Palast der Republik survive? Would Bonn reject the Spreebogen? Would the Olympics come? Indeed, no complete drawing integrating all the agreed-upon proposals for Berlin exists, although both the Administration for Housing and Construction and the Administration for Urban Planning/Environmental Protection have built massive working models of the inner city, which are altered when projects are announced.

It is not surprising, then, that urban planning sometimes appears chaotic, and decisions create more problems than they resolve. For example, the competition for the redesign of the Reichstag, the former (and future) seat of the German parliament, was initiated at the same time as the Spreebogen competition (P/A, April 1993, p. 19). As a result, two of the three first-prize solutions for the Reichstag proposed extensions; if built, they would have collided with the Schultes/Frank Spreebogen proposal. (Norman Foster has been named the Reichstag's architect; his scheme, minus the dramatic glass roof, has been reduced to an interior redesign.) Early this spring, plans for a major train station (Lehrter Bahnhof), directly north of the Spreebogen, were unveiled. Had the Olympics taken place, the planned east/west traffic connections would have been disrupted by the station's massive construction site. Finally, a north/south auto and rail tunnel, connecting the train station to the government center and passing under the Tiergarten to Potsdamer Platz, is to be in construction this fall. It is critical to the planning of Berlin's center, as building on the Spreebogen and Potsdamer Platz cannot commence until the roof of this tunnel is sealed. Planners want construction to start this month but technical plans are not complete, financing is unsure, and details – "Will the tunnel's exhaust stacks blow into Daimler's penthouses?" asked one daily newspaper – are still undecided.

The practice of architecture is changing as well. In the West, architects find they must address new construction problems, such as the renovation and repair of the *Plattenbau*. In the East, younger architects can start private practices (something unthinkable before 1989), while many of their older counterparts, who worked on the rebuilding of East Berlin's center, now witness the destruction of their life's work. Unification has not benefited women professionals from the East: more than 50 percent of East Berlin's borough building councilors and their deputies were women; since the restructure women in this influential position have become a minority. Some old habits persist: although architects and intellectuals in East and West now can associate freely, the generation in middle age, which is directing the current boom, remains divided. Architects from the East find themselves closed out of many invited competitions, curated exhibitions, and discussions organized by their Western colleagues. An exhibit of alternative designs for the Spreeinsel, organized by the West Berlin Galerie Aedes, featured only architects from West Berlin and Western Europe; the closing debate of the annual Berlin Building Week, entitled "Berliner Architecture: Illusion or Motivation?" using "Critical Reconstruction" as a theme, included architects from former West Berlin, Zürich, London, and Vienna, but none from the East. No Easterners will build on Potsdamer Platz. The students from East and West, who are studying together for the first time, provide the exception, and this generation may eventually transcend the differences that mark their parents.

The center city, specifically the borough of Mitte, is transforming, as



NORTHERN FRIEDRICHSTADT, SPREEINSEL, AND VICINITY

N ↑ 1000'/300m

1 SITE OF MAX REINHARDT HAUS (EISENMAN)
2 SITE OF MIES'S GLASS TOWER
3 FRIEDRICHSTRASSE TRAIN STATION
4 SITE OF NORTHERN FRIEDRICHSTRASSE COMPETITION (NALBACH)
5 BODE MUSEUM
6 PERGAMON MUSEUM
7 OLD NATIONAL GALLERY
8 UNTER DEN LINDEN
9 NEUE WACHE (SCHINKEL)
10 ALTES MUSEUM (SCHINKEL)
11 BERLINER DOM CATHEDRAL
12 GDR FOREIGN MINISTRY
13 SITE OF HOHENZOLLERN SCHLOSS
14 PALAST DER REPUBLIK
15 GDR PRIVY CHAMBER
16 FRIEDRICHSTRASSE

SPREE RIVER
FORMER SITE OF BERLIN WALL

monuments are revived, created, or eliminated. The restoration of the Berliner Dom (Berlin's main cathedral) was completed this spring, and the rebuilding of the Oranienburger Strasse Synagogue, Berlin's central reformed Jewish house of worship, is to be completed in 1995. Schinkel's Neue Wache (new guardhouse) on Unter den Linden will reopen in November 1993, restored to an interior design by Heinrich Tessenow dating from 1930. The Hohenzollern Schloss, destroyed in 1950, has come back to life: since unification a group has lobbied for its permanent reconstruction and, during the summer of 1993, they oversaw the erection of a partial, full-scale replica of the palace façade on its former Spreeinsel site (P/A, Sep. 1993, p. 29). Another group wants to destroy the GDR'S Foreign Ministry and rebuild Schinkel's Bauakademie. The 365-meter East German television tower, which dominates Berlin's skyline, is being transformed into a high-tech media center. An underground library, visible through a skylight, will commemorate the massive 1933 book burnings. Located at the entrance to Humboldt University on Unter den Linden, it is designed by the Israeli architect Micha Ullman. Construction for a new plaza at the Rosa Luxemburg-Platz, designed by the Brazilian landscape architect Roberto Burle Marx, will start in 1995.

Yet the transformation of Berlin's center is marked as well by an aggressive "victor's mentality," the triumph of the West over the East: many of the GDR's public buildings, and other structures which came into being during the Cold War, will soon disappear. When "Critical Reconstruction" is completed, the *Todesstreifen*, Checkpoint Charlie, and the department stores, hotels, offices, and restaurants constructed by the East Germans in the Friedrichstadt will vanish, replaced by commercial architecture. Over the next 20 years, the Alexanderplatz's Socialist architecture will be dismantled, and skyscrapers will rise in its place. At the Spreebogen, two populist memorials to the legacy of the Wall, (a collection of handmade crosses near the Reichstag and, on the *Todesstreifen* across from the Spreebogen, a group of trees planted in an ad hoc action in 1990) will disappear when the government builds. Work by architects from the West will vanish as well: the Reichstag's postwar interior renovation, completed by Paul Baumgarten in 1959, will become history.

"Architects from the East find themselves closed out of many invited competitions, curated exhibitions, and discussions organized by their Western colleagues."

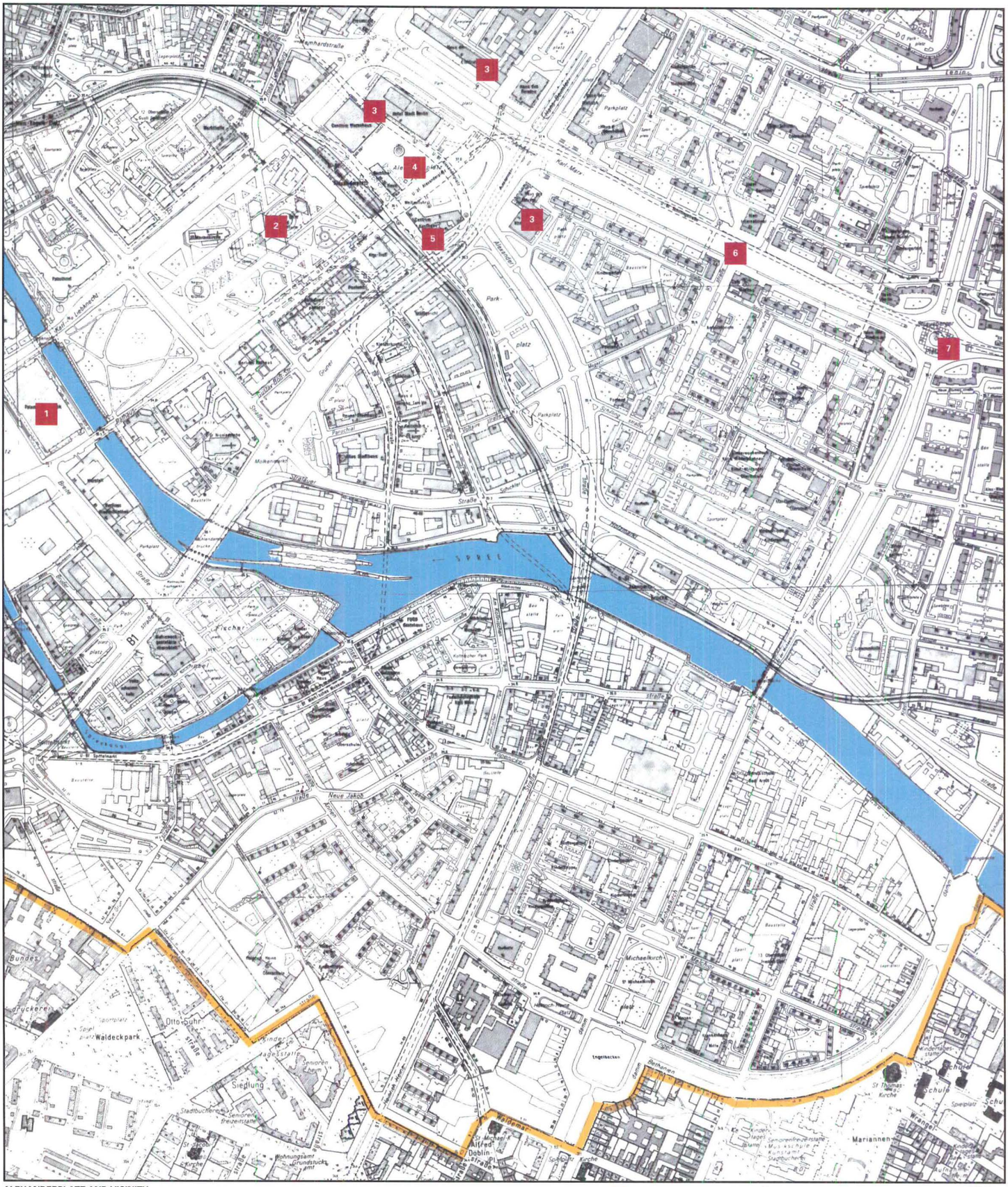
Unsettling Signs, Unraised Issues

If turbulence is the backdrop, then a prevailing mood of conservatism has taken over in the foreground. The nation, now larger by 16 million citizens, has, since unification, moved to the right. Abortion and asylum laws are now more restrictive, the federal army can venture off to foreign soil, and far-right-wing political parties have made substantial gains in recent elections. The conservative trends in architecture and urbanism reflect the surrounding city: looking toward tradition, permanence, or tried solutions is a secure strategy, while favoring the shared collectivity of a "school" can be understood as protection against the dog-eat-dog world of increasing competition. It is unsettling to observe a confluence of factors – a worsening economy, the rise of the far right, violence against foreigners, even the intention to reuse the 1936 Olympic stadium for a future Olympics – occurring simultaneously with support for more conservative design strategies: taken together these conditions parallel those found in Germany in the early 1930s. At present, there is little discussion inspired by these recent developments in architecture and urban design and the concurrent economic, societal, and political tendencies. Indeed, there is a dearth of critical discourse. No one protested, for example, when, after his well-publicized criticisms of the first Potsdamer Platz competition, ex-jury member Rem Koolhaas was banned from further competitions in Berlin, as either a jury member or a participant. Likewise, when Giorgio Grassi won the Asea Brown Boveri site for Potsdamer Platz this spring, his stark, unadorned buildings, with their repetitive fenestrations, were defended by some for their spatial and architectural qualities; no one seemed capable of reflecting that such buildings, appearing at this difficult moment, might have uncomfortable associations with Fascism, or even that history appeared to be (potentially) repeating itself.

Before 1989, the city with a wall running through its center, symbol of the divided world, was, by its existence, a vital place. This is no longer so. And to lend rebuilding a logic that will prevail despite upheaval, change, and setbacks, this city is realizing it must develop and maintain an identity for itself as compelling as the one which ruled it for the past 40 years. With the Olympics barely supported by 50 percent of the population, (and it is suspected that this was one factor that made the IOC look elsewhere for a venue), those in power in Berlin will also be forced, in the coming years, to listen more closely to the sentiments of the Berliners, so that the rebuilding of this city can become a collective, populist undertaking as well.

Berliners still do not perceive their city to be a whole, unified entity, but understand it as a collection of disparate fragments. How else could they so easily hand off pieces to the federal government, or permit extensive strategies to rest on a gamble for the Olympics, without realizing that if something is eliminated or poorly executed, then the whole will be compromised? Indeed, it is becoming clear to all that the conceptual understanding of a place, formed by 40 years of division, will not vanish as quickly as the wall did in 1989. This is one final reason why planning in Berlin has become so contentious. It is not surprising to learn that 30 percent of East Berliners continue to vote for the reformed Communist Party, or that 80 percent of all Germans are "lukewarm" concerning Bonn's relocation to Berlin. What everyone realizes, now that unification's euphoria has subsided, is that the repair of this city, split during the Cold War, will be longer and more difficult than anyone had imagined. **Mary Pepchinski** ■

The author, a professor at the Hochschule für Technik und Wirtschaft in Dresden, writes about architecture and urbanism for European and American publications. *She would like to thank Karen van Lengen and Michael Cullen for their thoughts when she was preparing this article, and Ulla Luther for her descriptions of the Architektur Werkstatt.*



ALEXANDERPLATZ AND VICINITY

1 PALAST DER REPUBLIK
2 TELEVISION TOWER
3 ALEXANDERPLATZ – GDR BUILDINGS TO BE DEMOLISHED
4 ALEXANDERPLATZ
5 ALEXANDERPLATZ – BUILDINGS BY PETER BEHRENS
6 KARL MARX ALLEE
7 STRAUSBERGER PLATZ

SPREE RIVER
FORMER SITE OF BERLIN WALL

N 1000'/300m

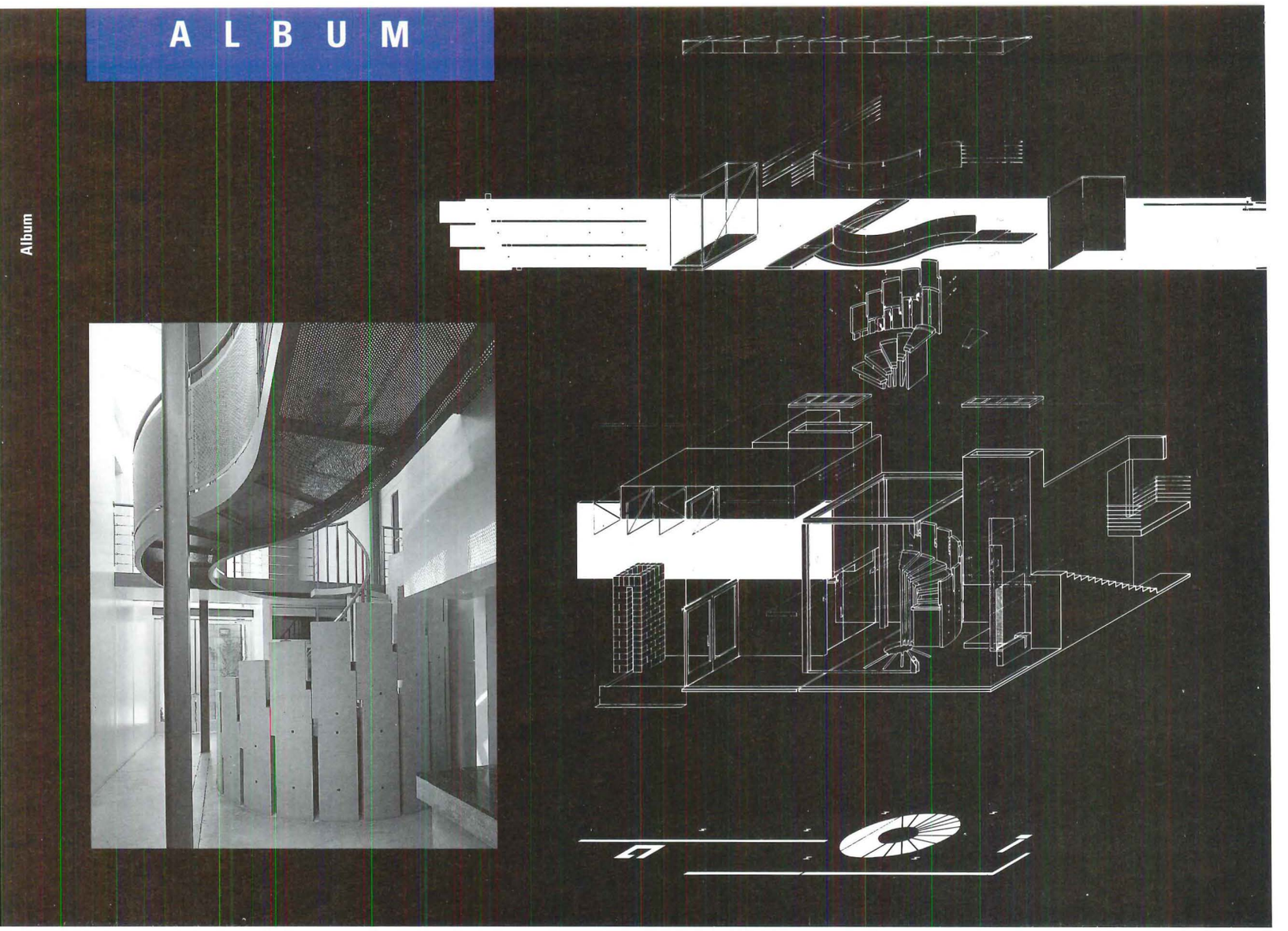
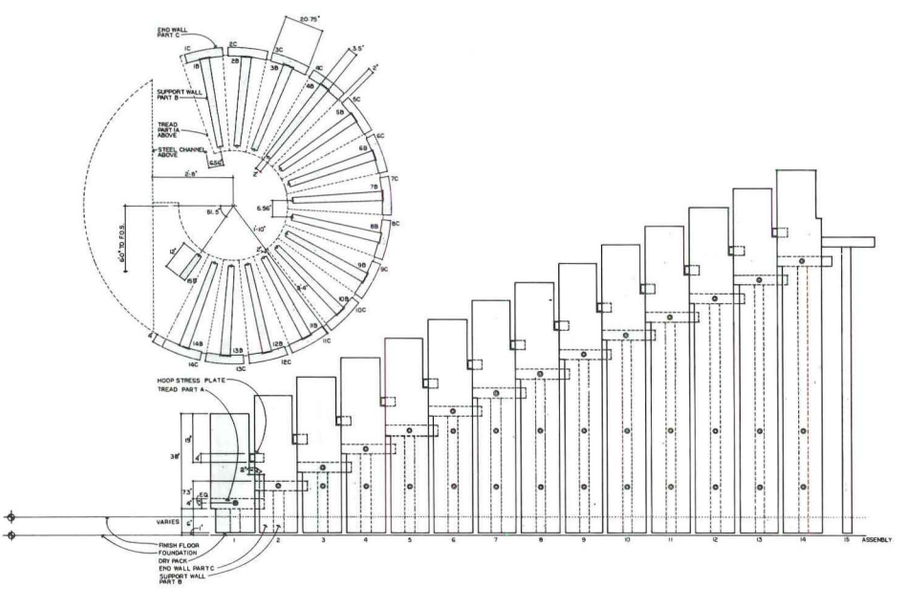


Photo and exploded axonometric of lobby.

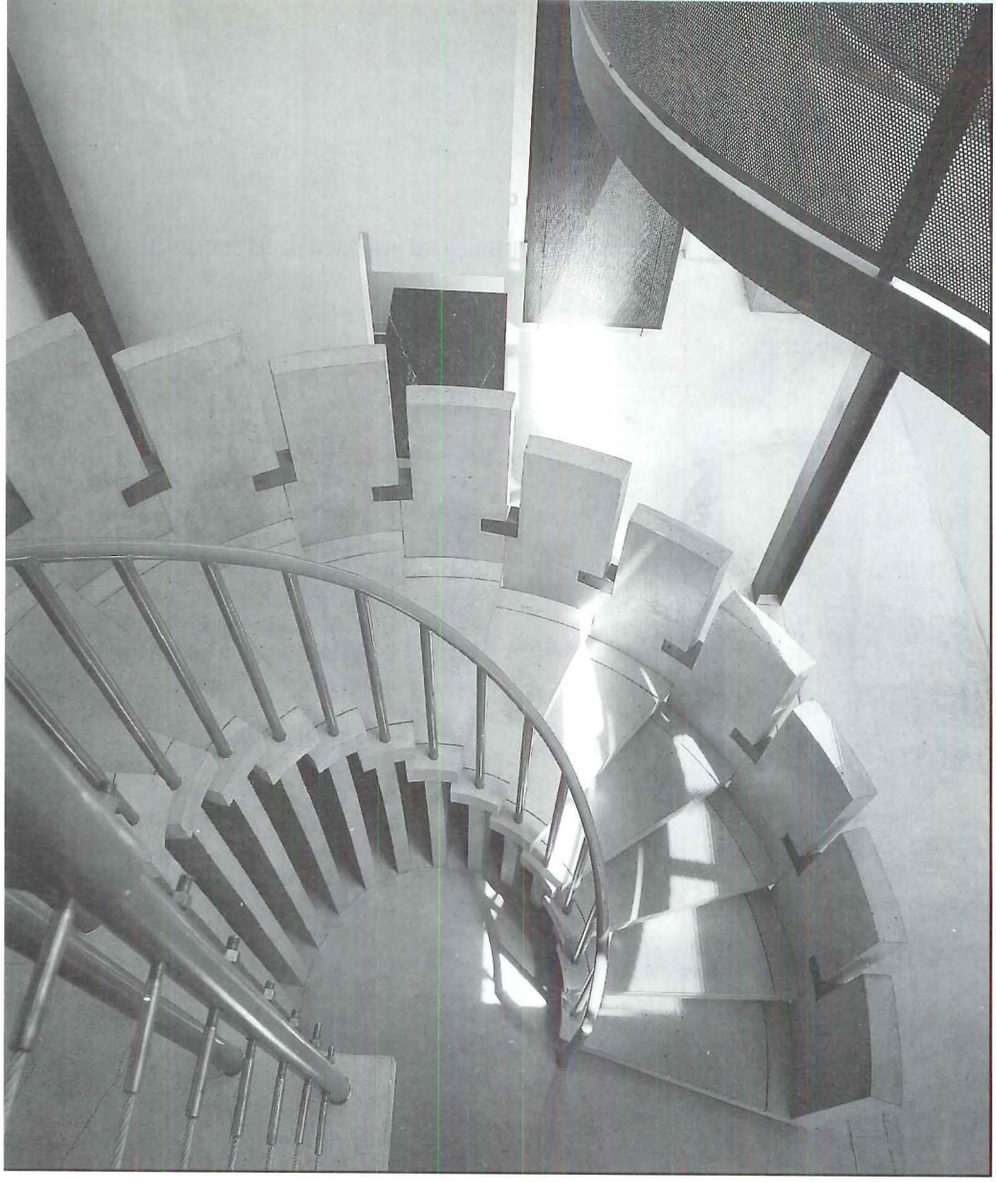
DEKTOR HIGGINS FILM STUDIO

In Hollywood, important people make grand entrances. And so, architect Lawrence Scarpa of the Santa Monica firm of Pugh & Scarpa put 80 percent of his renovation budget for a Hollywood film production studio into creating just that: a grand entrance. The new lobby, called out from the street by a billboardlike projection of the wall, has a glass front and a continuous skylight that illuminate the interior space. Inside, the lobby opens up to reveal a massive, concrete spiral stair leading up to a sinuous, steel-framed bridge. The stair, designed by Scarpa, engineered by Gwynne Pugh, and fabricated by David Hertz of Syndesis, contains 72 precast pieces, with three basic parts – a tread, a support wall, and an end wall – bolted together and standing on steel leveling plates. The bridge, in contrast, is all lightness and air: two curved steel channels span 22 feet, with welded channels supporting a perforated metal deck. Used by actors and models who come to the building for casting, the sweep of the stair and the flow of the bridge contribute to putting the best foot forward. **Thomas Fisher** ■



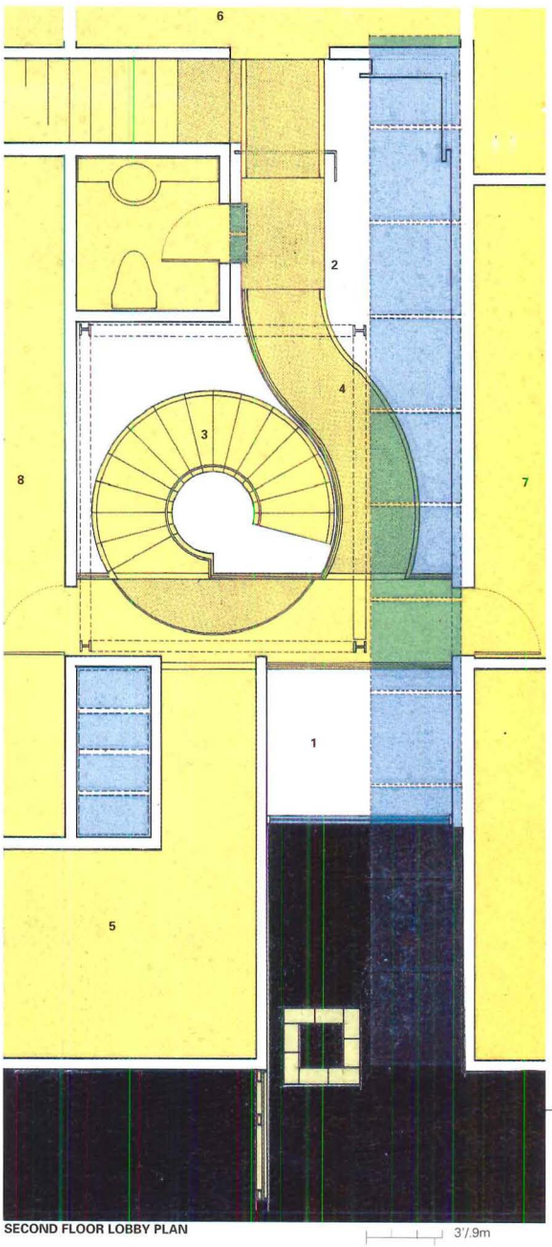
LOWER PLAN AND SECTION OF STAIR

3'/.9m



Concrete stair from above.

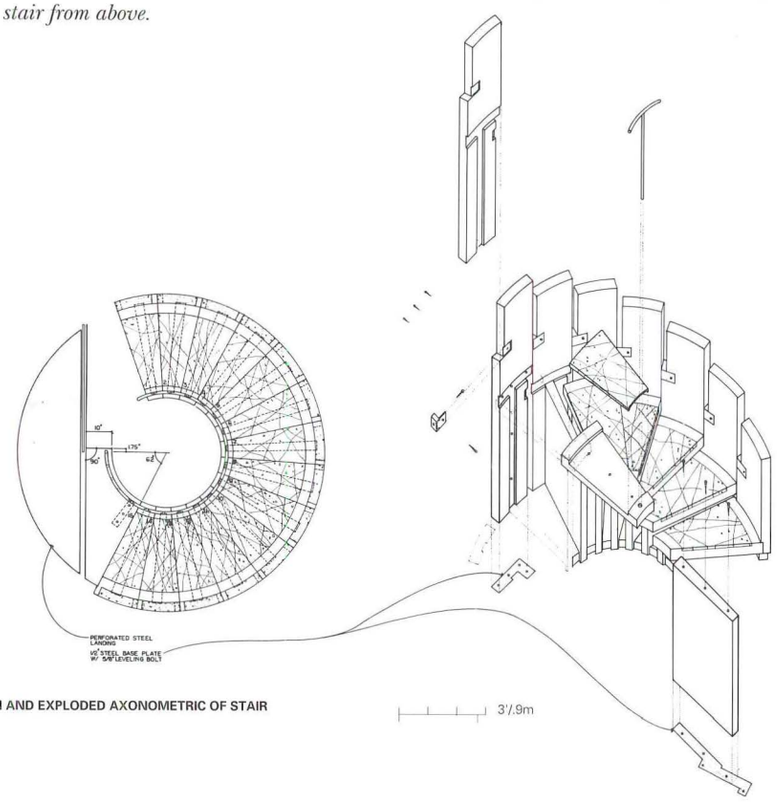
Photos: Marvin Rand



SECOND FLOOR LOBBY PLAN

3'/.9m

1 ENTRY BELOW
2 LOBBY BELOW
3 CONCRETE STAIR
4 BRIDGE
5 CAST WAITING
6 HALL
7 WARDROBE
8 CASTING



UPPER PLAN AND EXPLODED AXONOMETRIC OF STAIR

3'/.9m

Technics Focus

Building with Panels

Architectural consultant **Steven Winter** discusses the technical and design issues involved in structural insulated panel construction.

Abstract

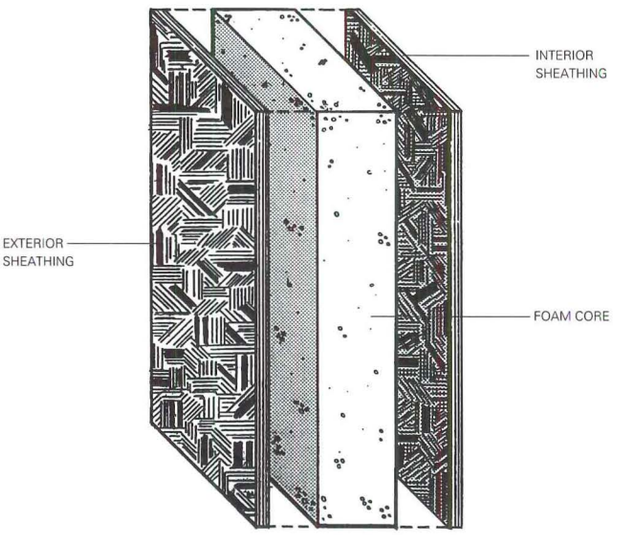
Structural insulated panels are being used increasingly for the roofs and walls of lowrise buildings. Characteristics of this technology are reviewed, including structural performance and energy efficiency.

Structural insulated panels (SIPs), also known variously as foam-core panels, stressed-skin panels, and sandwich panels, are an alternative to conventional "stick-built" systems for constructing the building envelope.

SIP technology is not new. It was utilized in residential construction as early as 1952, when architect Alden B. Dow, son of the founder of the Dow Chemical Company, began designing SIP homes. The first of these (2), built in Midland, Michigan, utilized SIPs for exterior walls, interior partitions, and roofs; they are still occupied today.

According to a recent study prepared for the Structural Insulated Panel Association (SIPA), a trade association representing about 100 companies, SIP production in the U.S. in 1991 was 15 million square feet, equivalent to all the walls and roofs of about 4,000 homes. This rate is expected to grow, according to the study, to levels ranging from 50 to 112 million square feet by the year 2000, depending on the aggressiveness with which the industry markets its products.

The SIPA study surveyed more than 100 architects around the U.S. to determine their attitudes about specifying SIPs. Most respondents said that they would consider using SIPs but had concerns about product availability, design limitations, and high first costs. Manufacturers maintain that these concerns are unfounded, and that architects need to be better informed about SIP availability, design flexibility, and life-cycle cost effectiveness.



1 STRUCTURAL INSULATED PANEL COMPONENTS

Alden B. Dow Archives

2 *Structural insulated panels were first used in housing by architect Alden B. Dow in the early 1950s for prototypes constructed in Michigan, which are still occupied.*

Although product types vary in the industry, all SIPs have two exterior skins adhered to a rigid plastic foam core (1). Panels are available in a variety of sizes and thicknesses depending on application requirements, from two inches to eight inches thick, and in sizes from the standard 4 x 8 feet to 8 x 24 feet. This is ideal for their primary application: exterior walls and roofs of low-rise residential and commercial buildings.

The skins of a panel can be of the same or differing materials. The faces are usually oriented strand board, waferboard, plywood, sheet metal, or gypsum board. The foam cores are composed of expanded polystyrene (EPS), extruded polystyrene, or polyurethanes/polyisocyanurates. Expanded polystyrene is most commonly used because of its low cost and simple manufacturing process; however, EPS cores must be made thicker to compete with the higher insulating properties of other foams.

SIP Construction

Panels are used in construction either as generic elements or as parts of a packaged unit. "Generic" panels are produced in varying thicknesses and with different material combinations, but in standard sizes, such as 4 feet by 8 feet. Each panel has explicit physical properties and strength characteristics, and the manufacturer sells them to builders and others without knowledge of the end application. This is quite similar to the way plywood panels are sold to builders. Material strength and properties are provided with load tables and other standards, but the builder is responsible for cutting the material and properly installing it.

When a manufacturer sells a precut building package or unit, the procedure is quite different. The plans of the entire building are analyzed and panels are specifically designed for each wall, roof, or other application. The manufacturer, often with CAD-generated shop drawings, cuts each panel to precise dimensions, including openings and odd geometries. Edges, angles, and all other configurations are cut in the factory. All the panels required for an entire building are then packaged and shipped, as much as 800 miles or more, to the construction site.

When architects design buildings based on SIP construction, whether or not panels are precut

is immaterial. As long as panel thickness, connections, and other details are spelled out on plans the builder can decide how and where panels will be cut.

Panels are quite light in weight, generally under four pounds per square foot of 4 ½-inch-thick panel, and most are hand-installed, particularly for walls (3). Panels can be lifted into position by crane, hoist, or other equipment. Walls and roofs made of SIPs are erected quickly and allow for early closing-in against inclement weather.

The exterior finishes of walls, applied to OSB or other sheathing, can include the entire array of materials available, such as wood siding or stucco. Sloping roof panels can be finished with shingles, tile, metal, or other materials. Flat roofs typically utilize tapered insulation and membrane roofing.

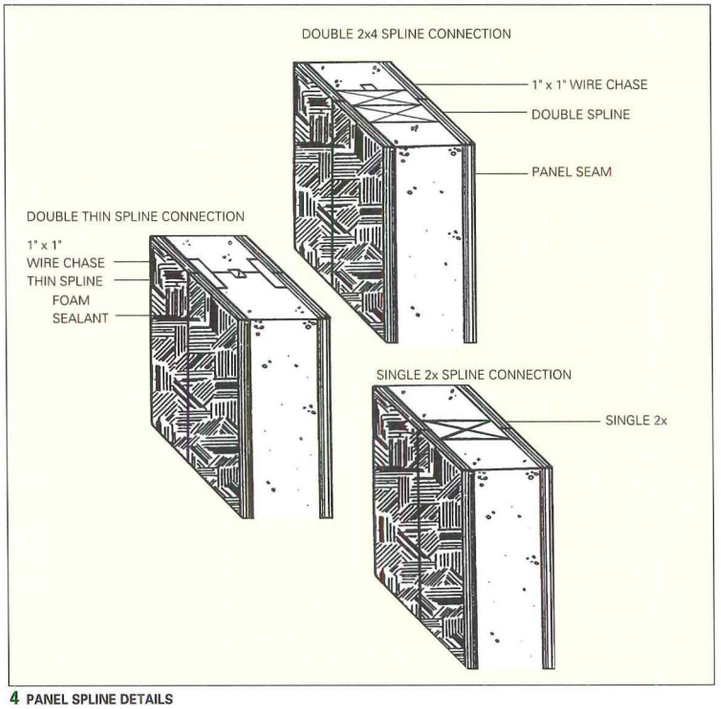
SIPs are readily accepted by building codes, both national and local, provided the manufacturer can provide documentation to verify that panels meet structural and quality control requirements for their intended application. Most producers have completed testing and/or calculations to satisfy these requirements, and these strength characteristics are readily available to engineers for verification of a building's structural performance.

Strength Characteristics

SIPs are capable of sustaining loads typically imposed on walls, floors, roofs, and other load-bearing elements. Being stressed-skin panels, their cores of rigid plastic foam provide shear strength, and the exterior skins of structural materials provide tensile and compressive strength. A panel's structural composition can be compared to that of an I-beam. The panel skins are analogous to the flanges of an I-beam, while the foam core is comparable to its web. The complete assembly, with exterior and interior faces laminated to the core with glue under pressure, allows for a system that is structurally comparable to and straighter than conventional stud frame structures.

Courtesy of Vermont Stressskin Panels

3 *Construction workers lift a 4 x 8 panel into place, after which it will be splined to the adjacent panel. Panels are placed manually or with hoists, depending on size.*



4 PANEL SPLINE DETAILS

SIPs exhibit other desirable structural/strength characteristics. They are highly resistant to local loading. This is evident when one "thumps" a wall panel. The SIP will exhibit a uniform solid sound across the whole panel. This means that fastenings for railings, cabinets, fixtures, wall-mounted brackets, etc., can be made anywhere in a SIP wall.

The structural performance of SIPs is as beneficial in roof applications as it is for walls. Roof panels, flat or sloping, can, like wall panels, be stand-alone structures or can span between framing members, like rafters. In bending, the thickness of the foam core, together with its shear strength and its bonding to sheathing, dictate and limit the spanning distance, just as the depth of the rafters limits conventional roof spans.

The horizontal loads imposed on buildings, by earthquakes or extreme winds, can be effectively resisted by the roof and walls acting as diaphragms. This two-dimensional structural continuity provides rigidity and stability to the building and creates an uninterrupted layer over supporting beams or bearing members. Because SIPs provide the bending strength necessary to withstand live (snow) and dead (roofing and equipment) loads, they can span freely, in most instances, from the ridge beam to exterior walls or between widely spaced beams or purlins.

Connections and Joints

SIPs provide excellent structural performance because of tight connections at the joints between panels, and between panels and adjacent structural elements such as beams, purlins, and columns.

There are several common wall panel connection methods used by SIP manufacturers today (4). A conventional approach involves fitting a 2x spline, having the same depth as the foam core, between panels and securing it to the facing material. Each panel edge is prerouted to fit half of the width of each spline. With the double 2x connection approach, the splines themselves

bear the building loads, making the system, with appropriate headers installed, a cohesive post-and-beam structure.

The thin-spline approach involves fitting two thin splines, approximately 1/2-inch to 3/4-inch thick by three to four inches wide, laterally into prerouted grooves in each panel edge. Each spline is usually double glued, stapled, or nailed, and then caulked at the seam between panels. Other approaches include using a premanufactured, laminated, thermally broken spline; a premanufactured locking arm built into each panel; and a roll-formed steel joint. No one connection method has proved to be superior to others; each has its pros and cons. Panel manufacturers recommend the method most suitable for their system.

Openings and Inserts

Rough openings for doors and windows can be precut at the factory or cut on site. Headers must be installed for window or door openings of more than about four feet but can usually be eliminated for smaller openings. Routing out approximately one inch of foam around the perimeter of all rough openings for 2x framing installation is the normal technique. The framing works effectively as both a fire-block and a nailing surface. When nailed to panels above rough openings, the framing provides a box beam effect.

To accommodate electrical wiring, most panels come with electrical wiring chases prerouted through the foam core to create a network of chase space through which wiring can be run from the building exterior or basement up through walls and floors to the attic. Chases are predrilled vertically at panel edges or horizontally at predetermined locations above the finished floor. Receptacle outlets and switch boxes are attached to panel splines or hung on brackets attached to the interior facing material.

Energy Efficiency

The foam core of an SIP provides its insulating properties.

5 *Two identical houses, one with stick-built framing (left) and the other with SIPs, were constructed by the Florida Solar Energy Center to compare energy consumption.*

With R-values ranging from approximately four to seven per inch of foam thickness, depending on the type of foam used, this results in superior energy performance characteristics in walls and roofs. A 4 1/2-inch-thick SIP wall is often used as a substitute for a 2 x 4 stud wall. Both have 3 1/2 inches of insulation. The SIP wall has insulation R-values of 14 to 25, whereas the stud wall with fiberglass or mineral wool has R-values of 11 to 15.

SIPs can outperform the conduction resistance of conventional walls even if they are statistically the same in R-values. This might be due to the differences between solid foams and deficiencies in fibers from gaps, moisture, dust, and settling. This was illustrated in a recent field test conducted by the Florida Solar Energy Center (FSEC) under sponsorship of the U.S. Department of Energy. Two identical houses were built side by side in Louisville, Kentucky (5). One had conventional framing, the other was built with SIPs; they were built simultaneously by the same builder. However, wall and roof thicknesses were adjusted so that both had the same theoretical R-values.

The houses were monitored for heat loss, and the SIP house outperformed the frame house with measured energy savings of 12 to 17 percent during the test duration. More important, efforts to forecast seasonal heating energy savings showed a 14 to 20 percent savings for the SIP house in Kentucky's climate.

Further testing and analysis is clearly necessary to shed light on these unaccountable differences, and it has begun in long-term collaborative programs established between SIPA and such institutions as the National Renewable Energy Laboratory in Golden, Colorado. Douglas Balcomb of the lab has recently specified SIPs for prototype park ranger housing for the National Park Service on the rim of the Grand Canyon, and has plans for further side-by-side testing of structures with and without SIPs.

SIPs form structural envelopes that are extremely tight against infiltration of air – a major source of energy loss. This is primarily due to the large uninterrupted areas of insulation in panels. In the FSEC test in Kentucky, the SIP house proved to have a natural infiltration rate of 0.21 air changes per hour. This compares remarkably well with the average for new houses, in the range of 0.5 to 0.7, and is even lower than the recommended minimum of 0.35 (according to the ASHRAE Standard 62-1989).

But an SIP house may require a fresh air ventilation system to provide make-up air, according to FSEC researchers. Some architects may question why one would build a very tight house and then install a fan to ventilate it. It is important to understand that random leaks in the building and unknown pressure forces from wind and temperature changes do not assure adequate ventilation, or may lead to over-ventilation and high energy bills.

Foam Core Performance

Since EPS cores do not contain chlorofluorocarbons (CFCs) they are not subject to "thermal drift," or "out-gassing" from foam cells, which causes the R-value to change over time. The R-value of EPS cores remains constant.

Urethane and extruded polystyrene cores, although greater in heat resistance, do contain CFCs (more recently, HCFCs) in the cells and are subject to thermal drift. As a result, the R-value of urethane cores falls with time, but slows after a while, so that by about the third year there is little further degradation. Most urethane panel manufacturers quote R-values at the fully aged rate, but such values should be confirmed.

Most, if not all, urethane and extruded polystyrene producers have now switched from CFCs to HCFCs, with substantially reduced environmental impact.

Unlike fiberglass batts, SIPs are resistant to moisture absorption. Although every attempt should be made to ensure that the panels are kept dry, foams will retain their R-value even if some moisture absorption does occur. **Steven Winter, AIA** ■

The author is a specialist in architectural research, including energy conservation and environmental quality research. His firm, Steven Winter Associates, Norwalk, Connecticut, has received three P/A Awards for Research, and provides technical and management support to SIPA.

Further Information

Structural Insulated Panel Association, 1511 K Street, NW, Suite 600, Washington D.C. 20005, (202) 347-7800.

Society of the Plastics Industry, EPS Division, 1275 K Street, NW, Suite 400, Washington D.C. 20005, (202) 371-5227.

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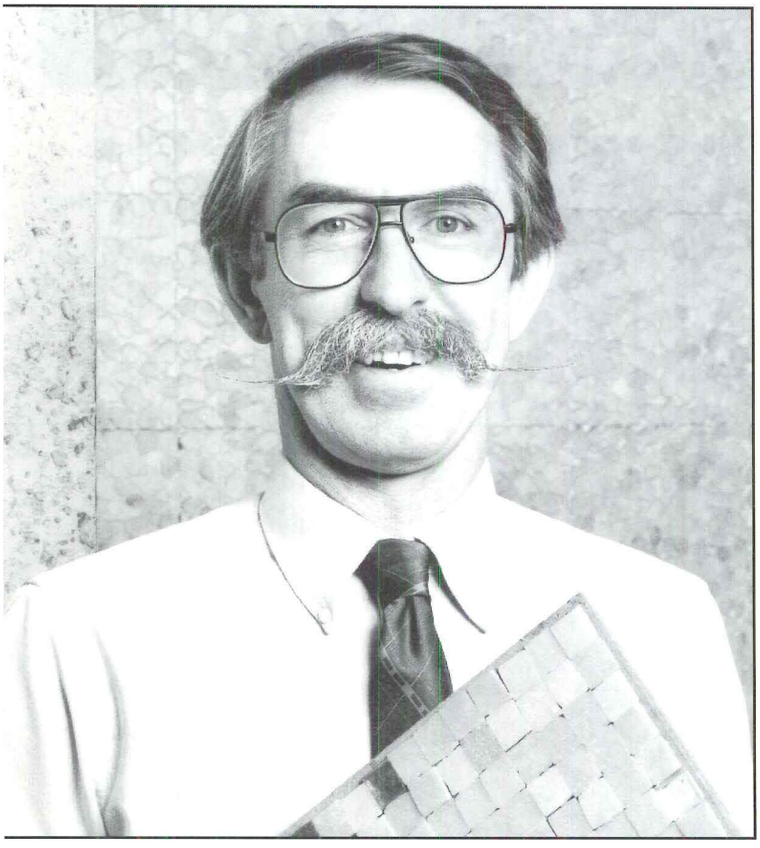

Tom Zartl is principal of Heaton/Zartl & Associates, a 44-year-old architectural firm based in Pasadena, California. He has been president of the Pasadena and Foothill chapter of the AIA and is a director of the California Council of the AIA. We value our relationship with his firm and appreciate his willingness to talk to you about us.

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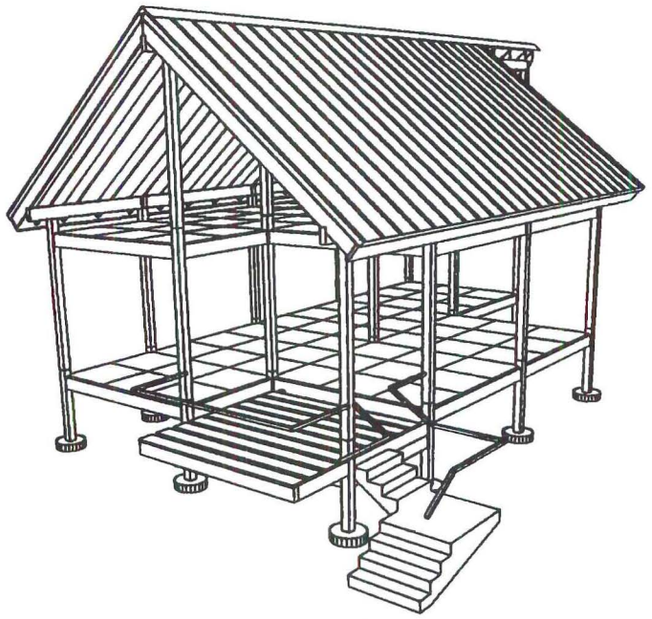
Some Assembly Required

A prototype house taking shape at RPI is designed for the do-it-yourselfer. **Michael J. Crosbie** reports.



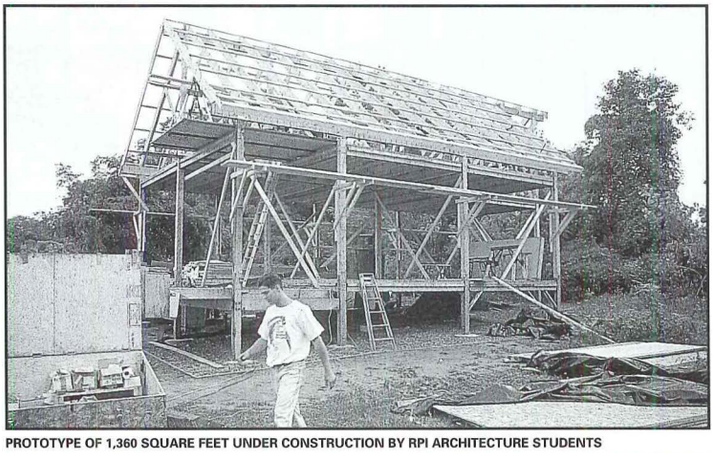
COMPUTER MODEL OF HES HOUSE, SHOWING STRUCTURE, FLOOR PANELS, AND ROOFING SYSTEM

Most single-family houses in this country are built without the involvement of architects. Can the profession play a greater role by designing housing as a kit of parts that anyone can build? That's the thesis behind the Home Erector System, an experimental project under construction at Rensselaer Polytechnic Institute's Center for Architectural Research in Troy, New York. According to Walter Kroner, director of the center and the progenitor of the HES house, "The guiding force behind the house's technology is: can an unskilled person build it?"

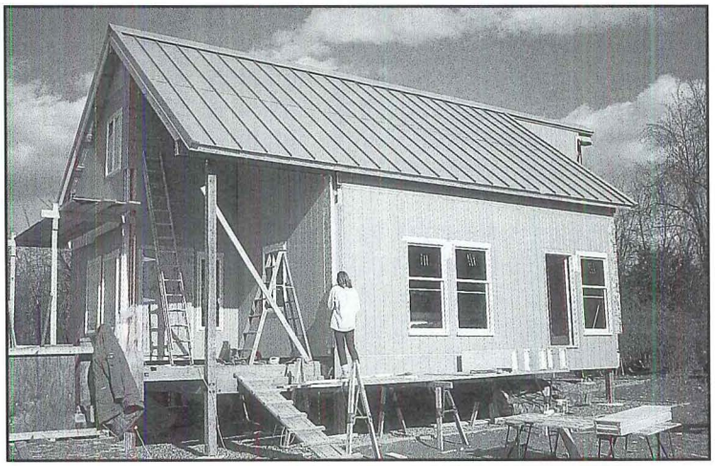
By saving labor costs through their own sweat equity, people willing to build a house themselves can reduce the initial cost of home ownership by 20 to 30 percent, Kroner maintains. According to census data, as many as 20 percent of all the single-family houses in the U.S. are currently owner-built by people acting as their own general contractors, or actually pounding their own nails. Thus, there appears to be a ready market for the HES house, which would simplify construction and provide variable floor plans occupants could adapt to their lifestyles.

Because the HES house is also designed to be easily disassembled, it can shrink as well as expand, making it responsive to changes in family size. The HES house can range from a single-story studio residence of 770 square feet to a two-story house of 2,020 square feet. The plans can also accommodate shared housing arrangements.

The HES house is designed so that it can be assembled by two people, from existing off-the-shelf components. No special tools are needed for construction. To demonstrate that the house can be built by novices, the prototype is being constructed by RPI architecture students.



PROTOTYPE OF 1,360 SQUARE FEET UNDER CONSTRUCTION BY RPI ARCHITECTURE STUDENTS



STRESSED-SKIN PANEL SHELL ENCLOSED, WORK CONTINUES ON INTERIOR SYSTEMS AND FINISHES

Kroner explains that the HES house being built is more than a demonstration project because research on materials, finishes, and mechanical and electrical systems is ongoing. Most of the materials and equipment for the demonstration house were donated by manufacturers. The frame is six-inch post-and-beam on a 12-foot module. The structure is purposely redundant so that a second floor can be added to a one-story house. Floors, walls, and roofs are stressed skin panels. All of the connections are screwed and bolted so they can be easily undone. Predrilled connection plates for the timber frame are not a standard item, but are designed, says Kroner, so they can be easily manufactured by low-skilled labor.

Interior walls are untaped and painted gypsum board. Electrical conduit is routed above plenum ceilings through plastic troughs that are actually exterior gutters put to a new use, or through steel studs used as channels. Hollow baseboard containing electrical conduit is also used. Plumbing is a flexible plastic pipe system, with plastic couplings akin to garden hoses. On the day of my visit to the HES house, project manager Jean Stark-Martin and students were installing a veneer hardwood floor that fits together in sheets and is held down with removable baseboard. With completion of the HES prototype RPI will test its performance and will investigate marketing the system.

Michael J. Crosbie ■

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Open Building for Housing

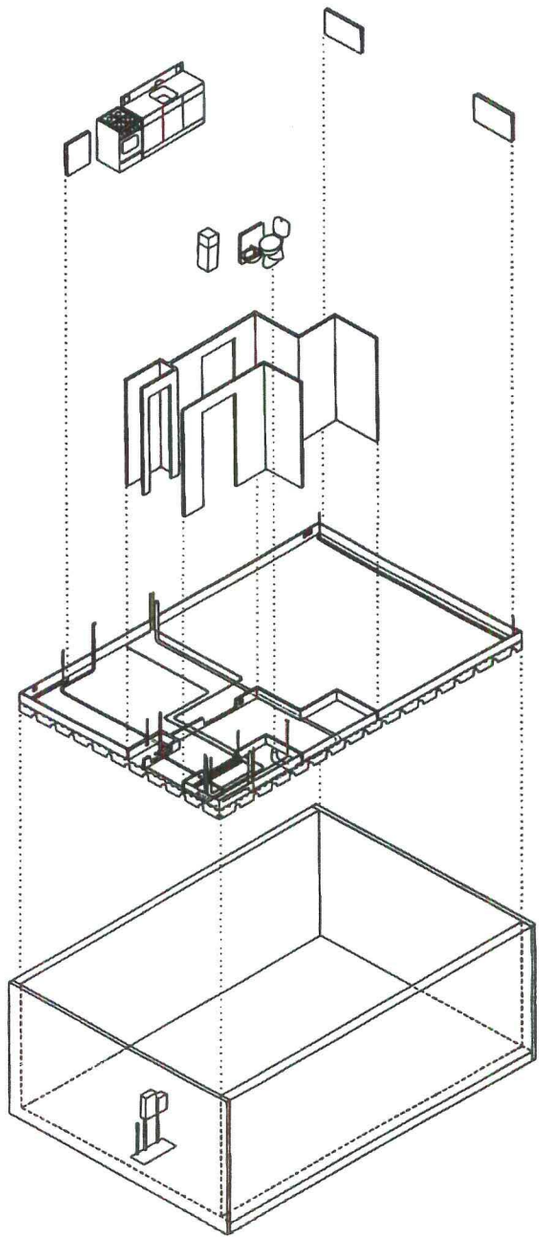
Architect **Stephen Kendall** discusses an approach to multifamily housing design and construction that allows more home-owner choice.

Abstract

In "Open Building" housing projects, a residential "base building" is constructed and then fitted out to meet, rather than anticipate, the needs of varied households. This is accomplished by the off-site preparation and on-site installation of a prefabricated "fit-out" package for each dwelling. The author argues that this method, used successfully in the Netherlands, should be adopted in the U.S.

At a meeting of the AIA's Housing Committee last May, William Devereaux, principal with the Burkus Group, voiced several concerns. Prospective home owners are asking for one thing, he said, and are being sold something else. Furthermore, he said, because of the way housing is delivered in the U.S., most architects don't work for the actual households. Marketing consultants and architects at the meeting explained that when designing "product," as some call houses, they face increasing difficulties, including new and changing household types, new technology and regulations, as well as financing, legal, and development processes that are beyond their control. For architects balancing community and individual housing goals, entangled regulations and processes are impediments to personalized design.

These are the main issues "Open Building" aims to resolve. Open Building is an approach to housing processes and technology that has been taking root in Europe, particularly in the Netherlands. Despite differences in architectural practice and the building industry there and in the U.S., Open Building offers practical alternatives to help solve some of our housing problems, and can help improve the marginal participation of architects in the housing process.



1 DIAGRAM OF A SERVICED SPACE WITH "FIT-OUT" OF UTILITIES, PARTITIONS, FINISHES, AND EQUIPMENT.

Open Building In Practice

Regardless of architect, developer, or technology, whether rental or owner-occupied, developed by a public authority or in the private market, Open Building projects follow certain common processes. A residential base building is designed and built, or made by renovating an existing building (1). A base building will have a set footprint and relation to the urban fabric, and common interior spaces and mechanical systems. What is not determined are the unit mix and unit layouts.

When a household is ready to buy or lease a dwelling, agreements are reached about costs, allowances, finances, and design guidelines. Each new occupant may hire a designer, or the developer may provide design services. Plans and specifications are finalized, and about two weeks later, following well-organized off-site preparation and the rapid on-site installation of a "fit-out" or "infill package," the household moves in and takes up living in and improving the dwelling as households do everywhere.

Future alterations made to the dwelling will not disturb neighbors since no parts of the fit-out package are dependent on other units. Within the dwelling itself subsystems are disentangled and organized. For example, drain pipes and duct work serving one unit are not placed in the ceiling of the unit below, and wiring is not spread in a spaghetti tangle through all the walls and floors.

The main aspect of this approach – distinguishing a base building and tenant improvements – is a familiar process in other building types. Most office buildings undergo this process all the time; it's called "churn." Some banks and chain stores are moving toward nearly complete prefabricated fit-up packages for each project, organized off site to suit the particular requirements of each space, and installed rapidly by an installation crew. Combining interior construction and FF&E (furniture, finishes, and equipment) represents a major evolution of single-source control and responsibility and of efficient customization.

The first large-scale Open Building project (2) built in Papendrecht, the Netherlands, in 1977, designed by Frans van der Werf of Kokon Architects, contains 122 units, each different. A conventional apartment complex (3) built in the 1960s in Voorburg, the Netherlands, was retro-fitted by Reijenga, Postma and Haag into a base building. Shaded area in plan (4) shows extent of one base unit. Units were fitted out with floor layouts determined by tenants.

Stephen Kendall

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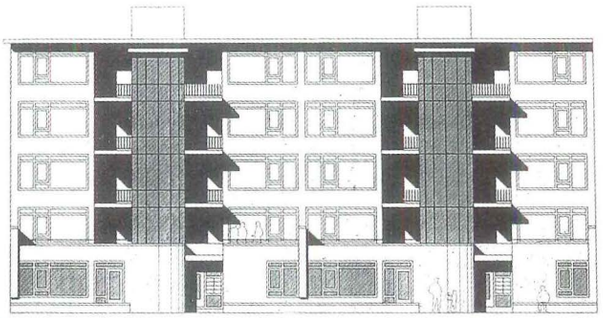
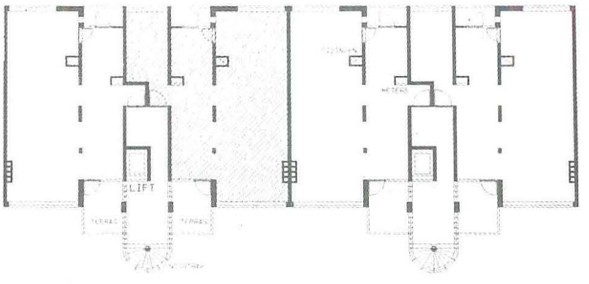


3 VOORBURG BUILDING ELEVATION



4 VOORBURG RETROFITBASE BUILDING PLANS

The Keyenburg Open Building project (6, 7), designed by van der Werf, was built in 1987 in Rotterdam with 152 units, each with a different plan, including those for the disabled and the elderly. Retail uses are found at street level. Its cost was 10 percent less than a comparable building with identical units constructed in the traditional fashion, and resident satisfaction is high.

This "fit-up" or "fit-out" process is more difficult to organize in housing than in other use types because there are more parties; a space with many households would hold fewer office tenants. Further, the resource distribution systems serving these households (electrical, plumbing, heating, air conditioning and ventilation, sprinkler lines, central vacuum, and so on) are more complex and have become completely entangled as more are introduced to support new regulations and lifestyles.

Making Variety Efficient

In most countries large multifamily housing design has assumed that technical and management efficiency and affordability require uniform plans and integrated management. This meant that user input in housing design had to be eliminated.

When centralized housing efforts stalled in the early 1980s, a new paradigm was needed. Open Building, first conceived in 1960, provides proof of a new approach.[1] The idea coming to be recognized is that if certain processes are realigned, it can cost the same or even less to have users decide their dwelling plans. In multifamily housing this is a particularly radical concept. In the U.S., the pressing issue is to organize efficiently and coherently the housing variety we have grown to expect. Open Building allows us to do this without diminishing peoples' control over their household.

By dividing a residential project into base building and fit-out, a developer can defer unit decisions until time of purchase or lease, rather than try to forecast demand many months or years in advance – a notoriously risky business. Too many projects end up with units difficult to lease or sell, or with the wrong mix of unit sizes because, between the time of the commitment-to-build and occupancy, market conditions change. Changing plans and specifications midstream in housing production – as often happens – is the cause of cost overruns and lawsuits. Open Building helps resolve these problems.

Open Building also defers substantial costs. Given the increased costs of dwelling unit interiors, with as much as 50 percent of total costs in the "fit-out" category – the ability to control and defer this large cost package makes sense (5). It is also a way to manage uncertainty by building with great efficiency what is permanent and repetitive – a base building, devoid of all the particularities of unit layouts – and organizing fit-out as "just-in-time" products.

Fit-Out Packages

Organizing a fit-out package for each individual dwelling is very different from conventional practice. In a conventional high-rise, we stock each floor with all the materials needed for that floor. Materials are hauled from one place to another. Waste is a problem until it is carted off. Some parts are damaged as hauling takes place, and must be repaired. Each trade sometimes has to undo what the previous one did, with little incentive for quality because the next trade in line will have to deal with it. The construction manager has too much to supervise. There are usually too many of some building elements and not enough of others because plans change during construction, as marketing consultants, having the developer's ear, suggest changes in the mix and amenities to maximize return on investment.

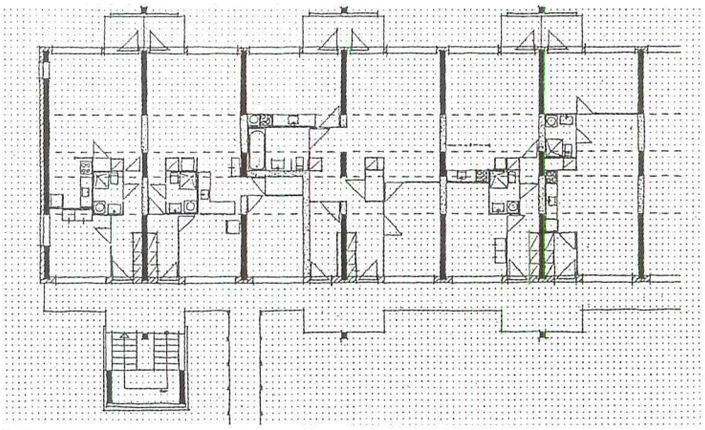
Fit-out packages solve many of these problems. Parts for each unit, small enough to go through a door, come to the job in containers and are loaded directly into the unit to be fitted out. Containers are stocked offsite at a distribution center, which orders in quantity and serves as a terminus for the suppliers of all the subsystems (over 25) found in any unit.

CONSTRUCTION COST SHARE FOR WOOD-FRAME DETACHED HOUSE

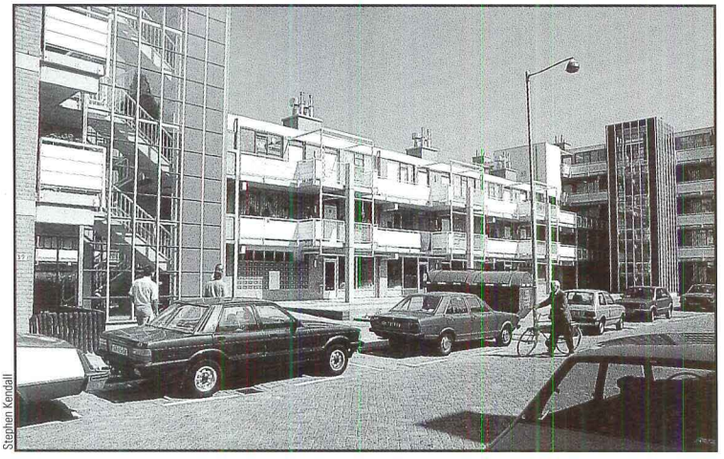
	BASE(%)	FIT-OUT (%)
PRELIMINARIES	.5	.5
FOUNDATION	10.2	
ROUGH STRUCTURE	16.6	
FULL ENCLOSURE	15.1	
FINISHING TRADES	3.0	9.8
FLOORING		7.0
INTERIOR TRIM CARPENTRY		3.0
INTERIOR DOORS		1.6
CERAMIC TILE		.7
CABINETS AND VANITIES		4.2
APPLIANCES		1.7
ROUGH AND FINISH PLUMBING	1.2	5.0
ROUGH AND FINISH ELECTRICAL	1.3	2.3
LIGHTING FIXTURES		1.0
COMPLETION	4.8	
SPECIALTIES	3.6	3.2
OTHER	1.1	1.0
TOTALS	**57.4**	**42.6**

Source: NAHB, 1991 - The Future of Homebuilding, 1991-1993 and Beyond

5 COST BREAKDOWN ACCORDING TO BASE BUILDING AND FIT-OUT ELEMENTS



6 KEYENBURG PARTIAL FIT-OUT PLAN



Stephen Kendall

7

The plumbing supply house, for example, palletizes all the fixtures for a given unit, and this pallet is placed in the container with the pallet of HVAC equipment, ducts and so on (7). Once the containers are on site, the parts go into the unit in the sequence required, and are installed. There is minimal cutting, minimal waste, and no need for "borrowing" from one unit's package for another. Several teams can work in different units at once, each responsible for its own fit-out packages.

Trade sequencing, one of the most obsolete characteristics of the building industry, is also changed. If the automobile indus- try can use teams, each responsible for a given car's assembly from start to finish, why can't the building industry install fit-out using teams? Doing things this way may change on-site skills requirements as well as the preparation done off site.

The Open Building concept clusters approvals on two levels in a divided building permit process. Essentially, community requirements are built into the base building. These have to do with local zoning, design review, public utilities, and transportation. If there are targets for numbers of units, particularly related to parking, public utilities, and impacts on other public services, the developer must demonstrate the capacity of the proposed base building to meet those targets, knowing that requests for regulatory approval of unit mix and plan layout adjustments are normal during project implementation and are usually approved if they are reasonable.

Requirements for the fit-out are essentially the same as UL-approved products, or products approved by the National Conference of States on Building Codes and Standards. That is, fit-out can follow national, not local, standards for product and systems performance, making true mass production of such parts feasible. The unambiguous technical and legal disentanglement of parts belonging to each household from the community "part" makes this possible. What is private is really private, of no concern to others. It can be insured, financed, altered, and maintained without burden or dependence on the neighbors, just as in a single-family house. What is shared – the base building – is subject to home owner or condominium association rules and community regulations.

Open Building Technology

The basic concept of Open Building is disentanglement of physical systems according to two levels of decisions: the community level and the individual level, which translate to the base building and the fit-up. The principle is to put physical systems together in an unambiguous way with the party controlling them and not to mix base building parts with fit-out parts. Once this concept is understood, technical choices at each level can be made according to design and market criteria suitable for the time, place, and people making the decisions.

Building product manufacturers, using their strengths in research and industrial mass production, can begin to make products that match the market of fit-out buyers. Architects and interior designers already working this way in nonresidential projects can adapt their attitudes and the software needed to support their work in the residential market. Contractors can build base buildings with greater efficiency and quality without the entanglements of specific unit elements. New residential fit-out companies, one of the most important innovations of Open Building, can organize to compete for fit-out contracts for base buildings of any plan type or construction. Applications to date in France, Japan, and the Netherlands are concrete slab construction. But system entanglement in wood-frame construction makes Open Building attractive for this type as well.

In the Netherlands early Open Building projects of the late 1970s and early 1980s used ordinary building technology but reorganized systems and decisions in accord with the new concept. In time, conditions in the market evolved, and now there are four different fit-out companies. One provides fit-out made entirely of stock products available to anyone. This company hopes to profit by good organization of suppliers and on-site

For phase three of a residential project in Boca Raton, Florida (8), the author worked with Richard Heapes of Cooper Cary and Associates on preliminary studies using Open Building. The studies demonstrated that, even in the smallest, variation was possible in units above and below each other. The fit-out design can be determined by the occupants or recommended by the developer.

8 DESIGN STUDIES, PHASE THREE, MIZNER PARK, BOCA RATON, FLORIDA

installation crews. Another company uses an inexpensive raised floor, first developed and applied in the office market, under which certain ducts and pipes are routed above the normal concrete floor slab. Everything else used for fit-out is conventional. Another provider, a consortium of companies, is developing many new plumbing, ventilation, electrical, partitioning, and kitchen cabinet systems for its fit-out packages. A fourth company has introduced two new elements that organize piping and wiring and expedite technical design and installation: a 10-cm-thick floor element within which drain and supply pipes are routed, and a partition base in which wiring is run. All other parts this company uses are stock products already common in Dutch housing. All four companies are currently fitting out units in both retrofit and new projects, with more projects in the pipeline.

In the U.S., after this new approach is understood and applied, new building parts may be needed to make the Open Building concept practical and easier to accomplish. Recent studies done with two Washington, D.C., architectural firms, CHK Architects and Cooper Carry and Associates (8), have shown that it is not necessary to introduce new systems to make the process work at the design stage. In the first, a residential tower by CHK was examined to understand the merits had the building structure and HVAC risers been consolidated and positioned to allow variation in unit plans above and below each other, something that the traditional approach does not allow. Cooper Carry's study led to preliminary design using Open Building for housing in a new town center in Florida.

Architects, contractors, and developers pay close attention to the realignments needed on the organizational side. However, most recognize that improvements in certain technical systems will make it easier to customize individual fit-out and accomplish rapid, high-quality installation.

Conclusion

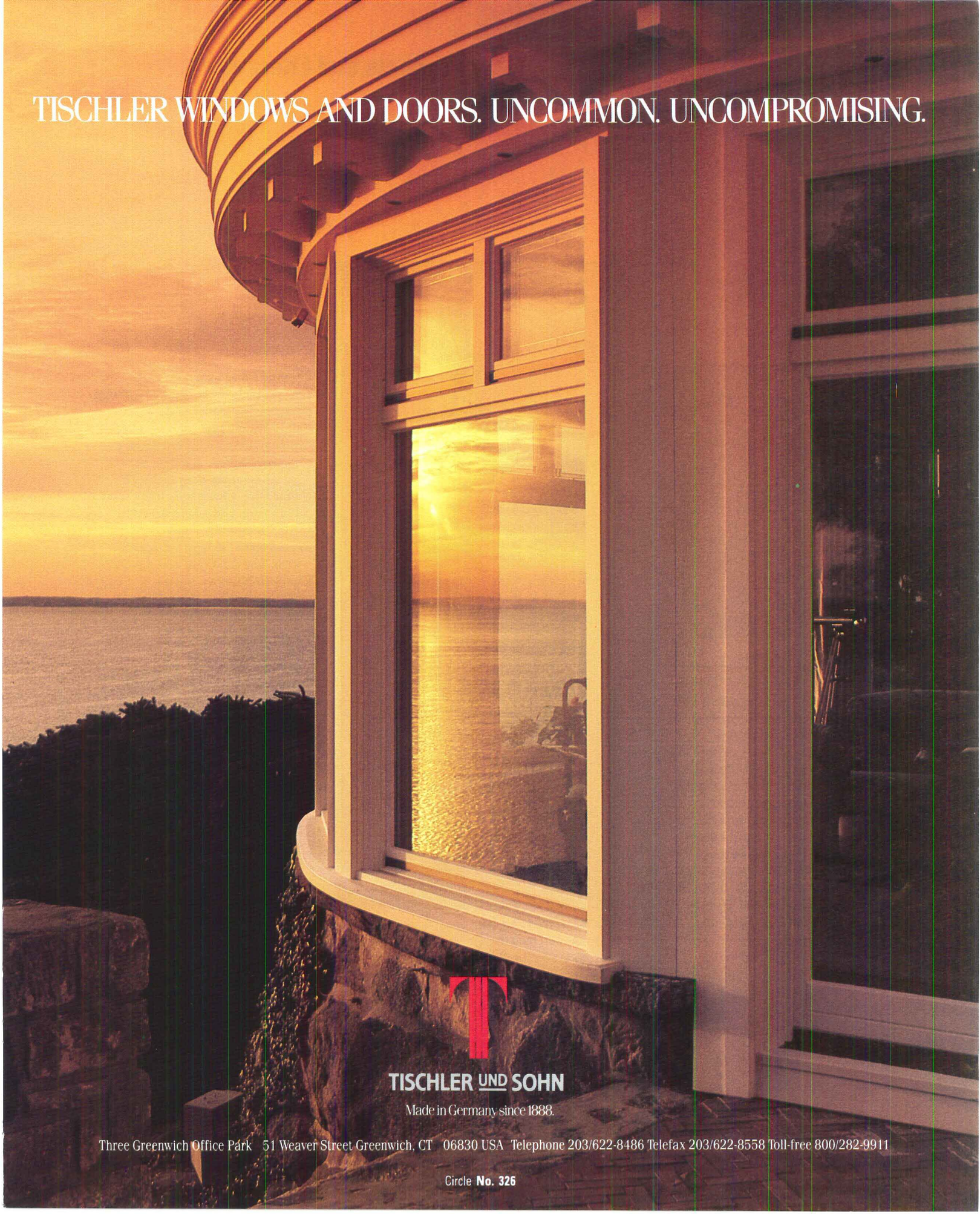
Housing is not simply a technical "product" but a balancing of individual households and community – a matter of the distribution of control over physical technology and territory. Open Building demonstration projects should be undertaken to examine financing, regulatory approvals, off-site preparation of fit-out packages, new building elements, fit-out installation teams, and software to manage the Open Building process.

Stephen Kendall, AIA ■

Dr. Kendall is associate professor of interior design at Marymount University in Arlington, Virginia. He encourages readers interested in Open Building to contact him at 604 Winona Court, Silver Spring, Maryland, 20902 (301) 649-6803.

Notes

1. Habraken, N. John, *Supports: An Alternative to Mass Housing*, The Architectural Press, London, 1972.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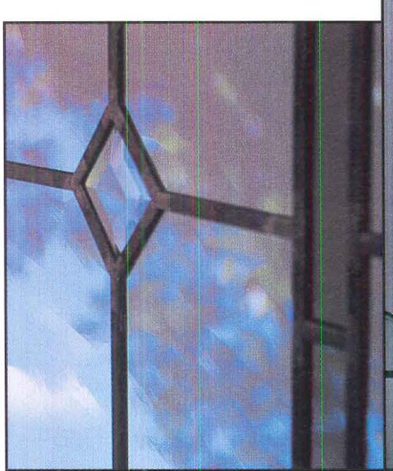
New Products and Literature



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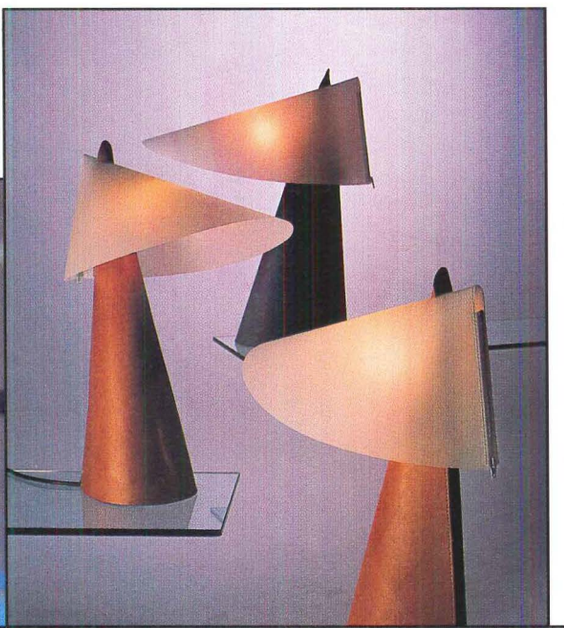

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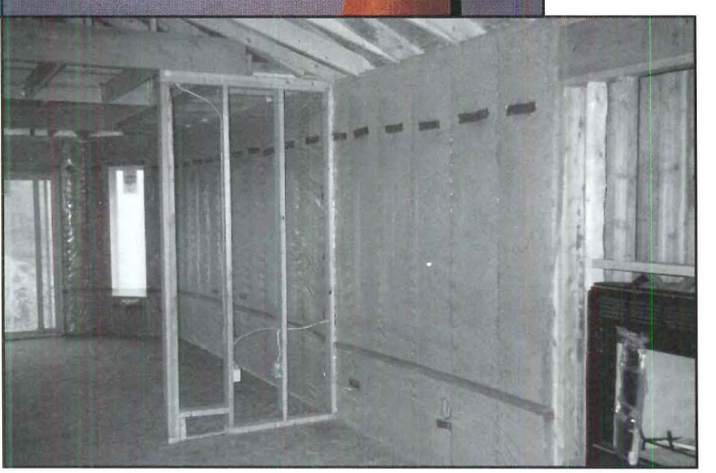

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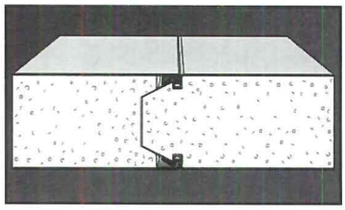

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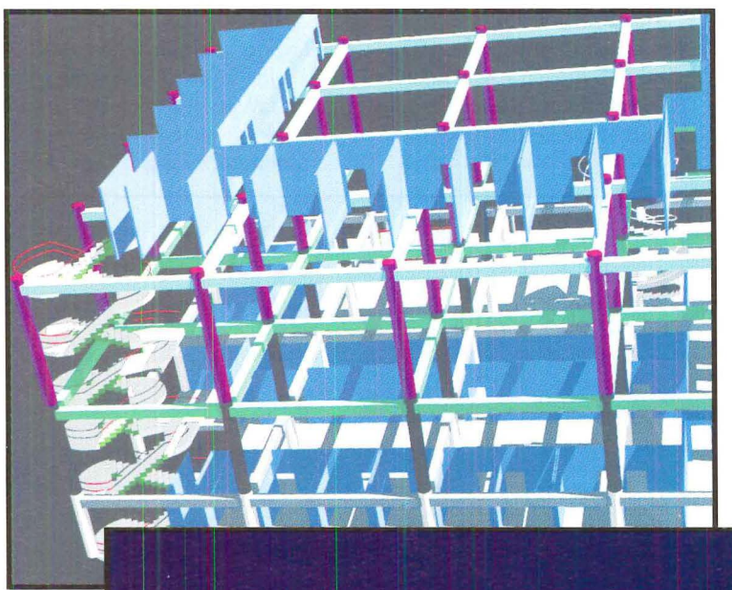
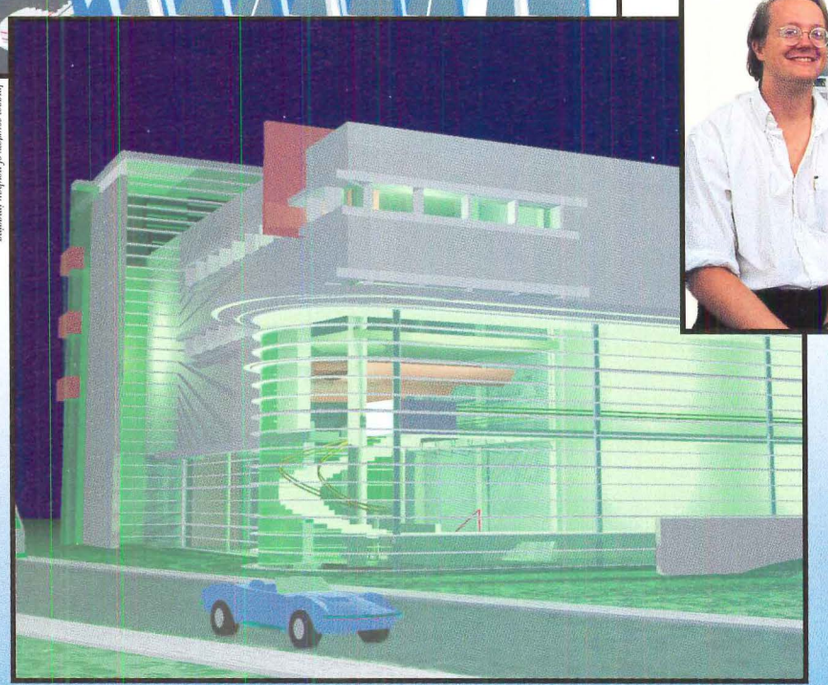
(continued on page 103)

"What sells clients is 3D modeling. With DesignWorks, I can automatically generate 3D models from floor plans."

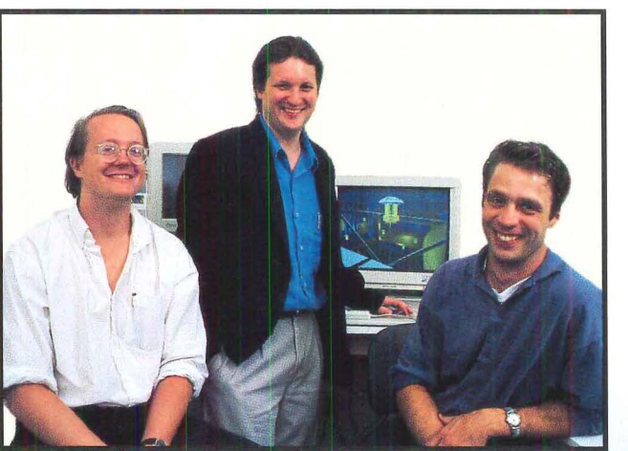
— *David Bader,* president
neubau imaging



To complement MicroStation's powerful production capabilities, architects and designers are turning to DesignWorks. For designers at neubau imaging, MicroStation and DesignWorks are the perfect 3D tools. "Once the plan is made, only a few steps are needed to transform the work into a 3D model. This brings life to any space-planning concept, and provides a vivid spatial understanding for our clients." — *Curt Dilger,* designer



Images courtesy of neubau imaging



Combining MicroStation and DesignWorks, Curt Dilger, David Bader, and Steven Johns enjoy increased productivity at neubau imaging.

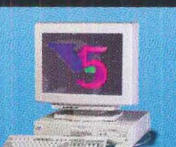
Art museum rendered using Intergraph's ModelView software.

INTERGRAPH

Solutions for the Technical Desktop

DesignWorks and MicroStation — giving you the designing edge.

MicroStation



Have a look at MicroStation and DesignWorks on Intergraph's Technical Desktop Series personal workstations.

Call 800-345-4856 for free brochures and demo disks on MicroStation and DesignWorks.

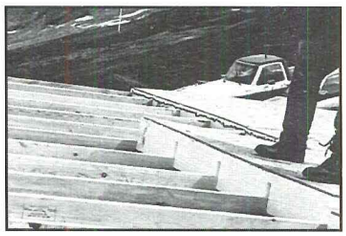
Circle **No. 311**

(Continued from page 101)

Alvar Aalto Chair Reissued

The 63 Upholstered Chair, designed by Alvar Aalto in 1933, is 15 3/4" wide, 19" deep, and 29 1/8" high and may be ordered with Unika Vaev fabrics and leathers. ICF.

Circle 107 on reader service card



Non-Structural Foam Roof Panel

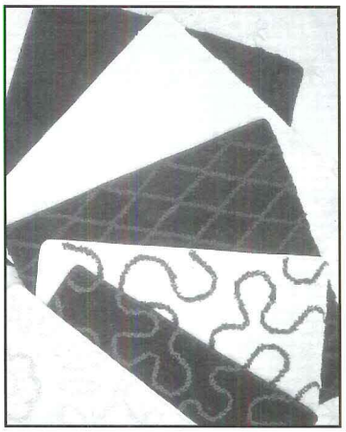
Redi-Roof nonstructural foam roof panels have expanded polystyrene foam cores and 1/2" waferboard sheathing. Available in two standard panel thicknesses (7 3/8" or 5 5/8"), the foam is slotted to fit over truss top chords or rafters. According to a report in *Energy Design Update*, the use of the roof as a "semi-heated space" is advantageous because it eliminates the need for air and vapor retarders in the ceiling, but, the report also notes, EPS foam is permeable to water vapor; the company has not received any reports of moisture problems, however. Enercept.

Circle 108 on reader service card

Insulated Foam Core Panels

Fiberfoam insulated foam core panels may be specified with any of three standard core materials: polyurethane foam for maximum thermal efficiency; PVC foam for increased impact resistance, adhesion, and thermal stability; or fiberglass reinforced for use in heavy duty applications. A USDA-approved gel coat is applied to exterior and interior panel surfaces for weathering and vapor penetration, respectively. Fiber-Tech.

Circle 109 on reader service card



Overtufted Broadloom

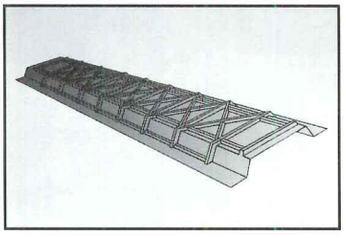
Christine Van Der Hurd, best known for custom-designed, handtufted rugs, has recently introduced machine-made, cut pile, loop, and overtufted broadloom for residential and commercial interiors. With the capacity to accommodate custom specifications, the new collection includes five abstract patterns in wool and nylon; the minimum order is 13 yards. Christine Van Der Hurd.

Circle 110 on reader service card

Handcrafted Chest of Drawers

Michael Maxwell's and John Kelly's M1 Series Furnishings, including a spindle bed, night tables, two chests of drawers (the version shown above is 47 inches high, 38 inches wide, and 22 inches deep), a blanket chest, dressing mirror, and quilt rack, are handcrafted from solid, premium-grade American Black Cherry with American Black Walnut pegs, slides, and pulls. Hand-rubbed tung oil finishes are used. Maxwell & Kelly.

Circle 111 on reader service card



Recycled Plastic Attic Vents

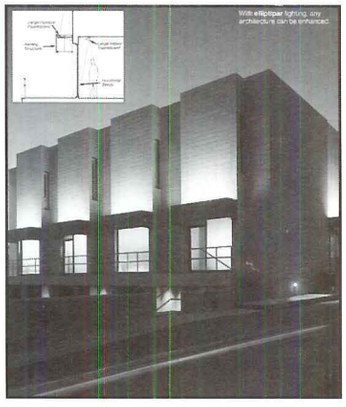
ProVent Attic Ventilation chutes are designed to help maintain an unobstructed air channel over insulation installed between attic rafters. Made with recycled plastic, the chutes will not rot or warp and are suitable for retrofit and new construction projects. ADO Products.

Circle 112 on reader service card

Underlayment for Ceramic Tile

Glas-crete® is a new family of water-safe, interior/exterior backerboards for ceramic tile. The family includes Max-Board™ (a fire- and sound-rated underlayment for tile, marble, slate, thin brick veneers, and other finish materials that is said to exceed all applicable ANSI standards for exterior applications); Multi-Board™ (a medium-duty product recommended for interior residential applications); and Floor-Board™ (a backerboard for ceramic tile flooring and countertop materials). Custom Building Products.

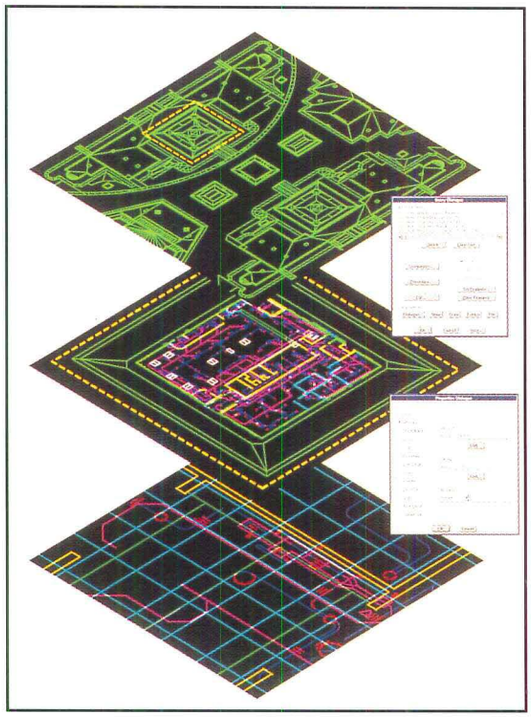
Circle 113 on reader service card



Outdoor Lighting Brochure

An overview of Elliptipar's architectural lighting systems is published in this brochure. The company's luminaires incorporate compact, high-efficiency asymmetrical reflectors to achieve uniform illumination, eliminating hotspots, scallops, and striations. The luminaires are designed to hold tungsten halogen, H.I.D., or fluorescent lamps. Elliptipar.

Circle 202 on reader service card



AutoCAD Data Extension

Autodesk has released add-on software called the AutoCAD Data Extension (ADE) that will expand the capabilities of AutoCAD Release 12 for both the CAD neophyte and the power user. ADE can be brought up quickly to provide additional features such as a fast-drawing preview and simultaneous access to multiple drawings, making it highly applicable to users in the project-oriented, networked CAD environment increasingly found at design firms. Advanced power is available to expand and refine access to externally saved data and to query data in more than one drawing. ADE maps multiple drawings and their associated data elements (such as different floor plans of a single building) together into what appears to be a single database, and makes all of the data available to networked users simultaneously. Password control, read-only access, and full compatibility with standard network file security systems guarantee that only appropriate users will edit important information; entity level locking ensures specific entities of a drawing are edited by one user at a time. **Larry Yu** ■

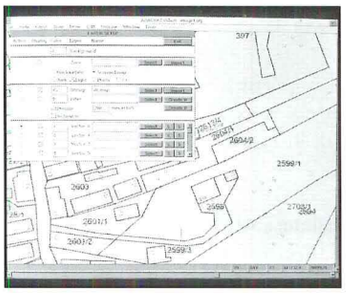
The author is a freelance writer living in Boston.

Circle 114 on reader service card

Space Control Mouse

Space Control Mouse is a new pointing device designed for CAD, modeling, and virtual reality software users. It includes nine programmable buttons that allow users to assign tasks such as panning, zooming, changing into 2D-mode, and altering baud and report rates and tone generation. Users can operate the mouse with all six degrees of freedom or can set it to respond to only the most dominant axes. It was designed ergonomically to help relieve fatigue. Logitech.

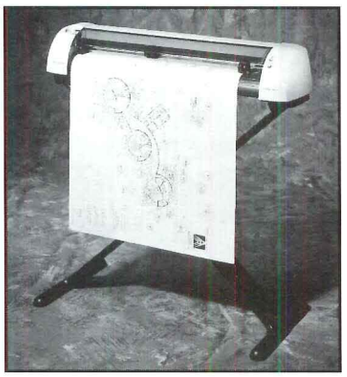
Circle 115 on reader service card



Adacta Editor

A new raster to vector conversion package, called the Adacta Editor, performs interactive, semiautomatic and fully automatic vectorization of scanned drawings and images. It runs in Windows and does not require a CAD package. Users can select parts of a drawing to be automatically converted and choose other parts of the same drawing to be vectorized interactively. Color or black and white photos can be edited. BMP, TIFF, PCX, RLC, and MSP files can be imported; output DXF files are compatible with any CAD program.
Nth Graphics.

Circle 116 on reader service card



E-Size DesignMate Plotter

The new DesignMate Model 3036 provides professional quality plots in up to eight colors in sizes A through E. The plotter is designed for a variety of applications, including structural designs, building elevations, and schematics. It can plot as fast as 42 inches per second at an acceleration of up to 2.8 g. Resolution is 0.0005 inches. The plotter comes with an eight-pen turret.
CalComp.

Circle 117 on reader service card

IntelliDraw 2.0

Aldus has introduced IntelliDraw 2.0 for Apple Macintosh and Microsoft Windows, an upgrade to its cross-platform drawing program. Enhancements include new drag-and-drop templates, expanded file support and connectivity, and responses to user requests, such as new special effects for objects and text.
Aldus.

Circle 118 on reader service card

Building Materials

Major materials suppliers as they were furnished to P/A by the architects for buildings featured this month.

Project: Pond House, Martha's Vineyard, Massachusetts. (p. 46). *Architects: Centerbrook, Essex, Connecticut.* Foundation: poured-in-place concrete. Structure: wood framed. Exterior walls: cedar siding and granite. Interior walls: gypsum wallboard, veneer plaster, plaster. Windows: Duratherm. Garage door: Overhead Door. Exterior paving: bluestone. Interior floors: white oak. Tile: American Olean. Roofing: red cedar shingles and lead-coated copper. Dampproofing: troweled-on asphaltic. Insulation: fiberglass batt. Roof and deck drainage: lead-coated copper. Paint: Devoe. Hinges: NorthEast Hardware. Communications: AT&T. Kitchen: Keyland Kitchens. Lighting: Gillander Brothers, Enchanted Glass Works, Lori Voller. Exterior lighting: B.K. Lighting. Tubs, lavatories, and water closets: American Standard. Plumbing fittings: Dornbracht.

Project: The Marsh Estate, East Coast U.S. (p. 46). *Architects: Centerbrook, Essex, Connecticut.* Foundation: wood piles. Siding: shiplap cedar boards, white pine columns, vertical log boards. Interior walls: GWB, chestnut paneling. Windows and doors: Tischler. Decks: P. T. southern pine. Paving: gravel, pine bark chips. Interior floors: Lilac bluestone, southern pine, chestnut, cherry, cork. Ceilings: GWB with plaster skimcoat, chestnut, cherry. Roofing: Western red cedar shakes. Hinges: Ball & Ball. Kitchen cabinets: Custom. Range: Viking. Refrigerator: SubZero. Granite fireplace: Cathedral Stone. Blinds: Blintek, Lee Miller. Audio-visual: Thalia. Elevator: Cemcolift. Copper lanterns: Lights-Up. Interior fixtures: Appleton Fixtures with copper

shades by Ken Champlin. Tubs, lavatories, and water closets: American Standard. Sauna: Nespa.

Project: Freund-Koopman House, Pacific Palisades (p. 56). *Architects: O'Herlihy + Warner Architects, Santa Monica, California.* Profilite channel glass walls: Bauglasindustrie, GMBH, Germany. Steel windows and doors: Torrance Steel Window Co. Glass block skylight: Circle Redmont Skylights. Concrete pavers on roof deck: Envirospec Inc. Slate tile exterior paving: American Olean Slate Tile. Painted gypsum board: U.S. Gypsum; Sinclair Paints. Fiberglass batt insulation: Manville. Gas-fired forced air heating system: Lennox.

Project: Miller House, Malibu (p. 56). *Architects: O'Herlihy + Warner Architects, Santa Monica, California.* Structural steel frame: Airport Iron Works. Integral color plaster: La Habra Stucco. Aluminum curtain wall, aluminum casement and awning: United States Aluminum Corp. Profilite channel glass: Bauglasindustrie, GMBH. Perforated steel roll-up overhead garage door: Wayne Dalton. Liquid applied roofing: Dex-O-Tex, Crossfield Products. Fiberglass batt insulation: Manville. Gas-fired forced air heating system, air conditioning cooling coil to site-located condensing units: Lennox.

Project: House on Long Island (p. 62). *Architects: James Volney Righter Architects, Boston.* Wood double-hung windows: Marvin. Wood paneled doors: Morgan. Asphalt roof shingles: GAF.

Project: House on New England coast (p. 62). *Architects: James Volney Righter Architects, Boston.* Wood custom windows and Dutch door: Nassetta Brothers. Interior foyer doors: Morgan. Exterior trim paint: Kyanize. Brass hinges and locksets: Baldwin. Dull chrome hinges and locksets: Schlage. Recessed lights, entry canopy: Lightolier

(continued on next page)

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(1) ☐ Has Not Changed During Preceding 12 Months (2) ☐ Has Changed During Preceding 12 Months (If changed, publisher must submit explanation of change with this statement.)

10. Extent and Nature of Circulation (See instructions on reverse side)	Average No. Copies Each Issue During Preceding 12 Months	Actual No. Copies of Single Issue Published Nearest to Filing Date
A. Total No. Copies (Net Press Run)	65,150	62,621
B. Paid and/or Requested Circulation 1. Sales through dealers and carriers, street vendors and counter sales	674	822
2. Mail Subscription (Paid and/or requested)	53,361	53,643
C. Total Paid and/or Requested Circulation (Sum of 10B1 and 10B2)	54,035	54,465
D. Free Distribution by Mail, Carrier or Other Means Samples, Complimentary, and Other Free Copies	2,342	2,415
E. Total Distribution (Sum of C and D)	56,377	56,880
F. Copies Not Distributed 1. Office use, left over, unaccounted, spoiled after printing	8,773	5,741
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G. TOTAL (Sum of E, F1 and 2—should equal net press run shown in A)	65,150	62,621

11. I certify that the statements made by me above are correct and complete. Signature and Title of Editor, Publisher, Business Manager, or Owner: Sal F. Marino, Chairman and CEO

PS Form 3526, January 1991 (See instructions on reverse)

Building Materials
(continued from previous page)

Project: Mooser-Avakian Residence, Santa Monica, California (p. 66). *Architects: Daly, Genik, Santa Monica, California.* Windows: Western Window. Doors: Cobb Manufacturing. Interior lighting: Halo by Cooper Lighting. Tub, lavatories, water closets: American Standard.

Project: Tarzana Residence, Tarzana, California (p. 66). *Architects: Daly, Genik, Santa Monica, California.* Clear anodized casement and awning windows: Metal Window. Curb mount skylight: Lane-Aire. Aluminum storefront door: Animal Fronts. Sitka spruce pivoting screen: John Burke. Exterior flood lighting: Hubbell. Interior lighting: Lightolier, CSL. Tubs, lavoratories, water closets, sauna/whirlpool: Kohler.

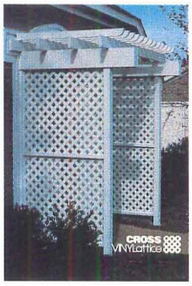
Project: "Palladian" house, Connecticut (p. 70). *Architects: Allan Greenberg Architect, Washington D.C. and Greenwich, Connecticut.* Custom wood windows and doors: Eisenhardt Mills. Interior doors: Drexel Enterprises. New York bluestone paving: Tyman & Son. Wide plank oak and mahogany flooring: Scandinavian Concepts. Copper and slate roofing: Pana Roofing. Exterior painted trim: Poxycoat. Interior paint: Benjamin Moore. Hinges and locksets: Baldwin. Chrome plumbing fittings: P. E. Guerin.

Project: "Georgian" house, Connecticut (p. 70). *Architects: Allan Greenberg Architect, Washington D.C. and Greenwich, Connecticut.* Brick: Glen-Gery. Gypsum board: U.S. Gypsum. Wood windows: Tischler und Sohn. Roof access hatch: Bilco. Custom doors, interior and exterior: Gunther Mills. Non-fading green and purple slate roofing: Barrett Roofing. Fiberglass insulation: Johns-Manville. Paint, exterior and interior: Benjamin Moore. Door hardware: Baldwin. Panic exit: Rixson. Kitchen appliances: Sub-Zero, Gaggenau, Amana, Kitchen-Aid. Custom exterior lighting: Ned James. Bathroom fixtures: Czeck & Speak, London.

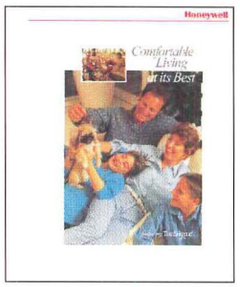
Residential Products Literature Digest

The *1994 Buchtal product catalog*, with the company's triangle motif on its cover, is now available. Inside, Buchtal's extensive line of ceramic products is depicted through dramatic installation and color palette photos. There are also pages devoted to new product introductions, including the Old Stone Porcelain Series, and technical information.
Buchtal Ceramics. Circle No. 351

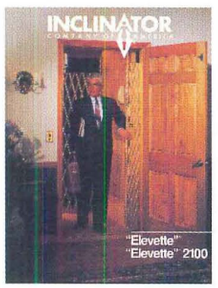
Aquafleck® is a water-based, multicolor finishing system that consists of a 100 percent acrylic latex basecoat and an acrylic latex finish coat containing colorful flecks. The Aquafleck® system is VOC/VOS-compliant, virtually odorless, seamless, quick-drying, extremely durable, easy to clean, and requires no hazardous waste disposal.
California Products Corporation. Circle No. 352



CROSSVINYLattice has the appearance of a fine wood product with a flat enamel finish. Several standard sizes, patterns, weights, and colors are available; custom panels may also be ordered. The products never need to be painted. They are easy to install and impact-resistant. The joints are welded. Matching vinyl accessories and aluminum frame and rail systems are also available.
CROSS VINYLattice. Circle No. 353

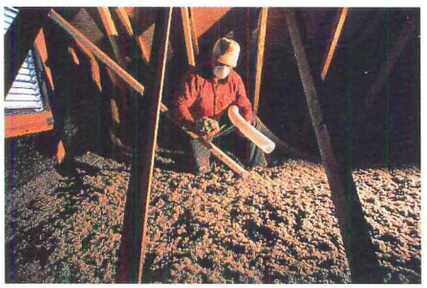


Honeywell offers comfortable living at its best with the most precise electronic thermostats and zoning systems; security systems that provide piece of mind; controls that improve indoor air quality; whole-house audio/video, surround sound, and intercom systems; and the TotalHome Home Automation System that brings it all together.
Honeywell, Inc. Circle No. 354

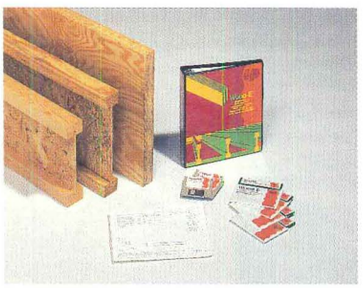


"Elevette," the residential elevator manufactured by Inclinator Company of America, is a custom-built unit that can be adapted to any existing space requirements. It handles loads of up to 500 or 750 pounds, and can be fitted with up to three gates, permitting access to different floors from different sides of the car.
Inclinator Co. of America. Circle No. 355

LATICRETE International manufactures a complete line of ceramic tile and marble installation systems. Remodeling with tile and marble can be accomplished over a variety of surfaces including old tile, vinyl, plastic laminate, and wood surfaces.
LATICRETE International, Inc. Circle 356

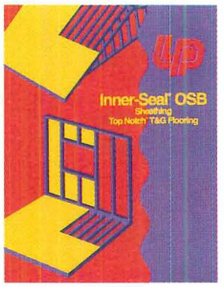


Made of 100 percent recycled newspaper, Nature Guard insulation costs less than fiberglass and has a 3.8 R-value, the highest available. Its fluffy, natural fibers completely seal the wall cavity for lower air infiltration and greater sound absorption. Nature Guard helps to keep our environment clean.
Louisiana-Pacific. Circle No. 357

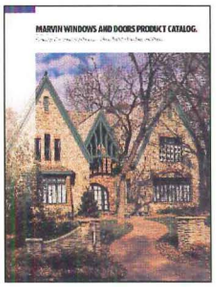


Louisiana-Pacific's engineered wood products are designed to eliminate the common problems of solid-sawn lumber. Gang-Lam LVL and LPI™ Joists are stronger, more stable, and easier to handle than solid-sawn lumber. L-P also offers complete in-house design capabilities with Wood-E® engineering software and engineering review services.
Louisiana-Pacific. Circle No. 358

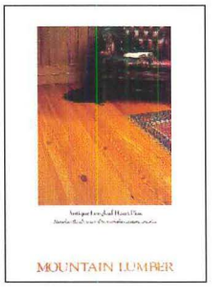
ADVERTISING



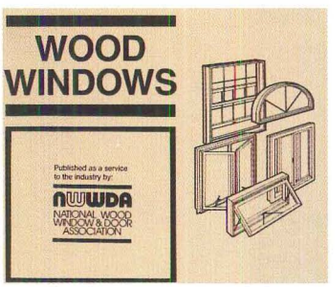
Long after construction, L-P's Inner Seal Top Notch™ T&G flooring stays flat. Water on the job site is drained through vertical notches in the tongue and panel ends, preventing damage to the panel surface. The performance of our moisture-retardant sheathing is consistently trouble-free. The panel is sound on both sides; it is edge-sealed and easy to cut and nail.
Louisian-Pacific. Circle No. 359



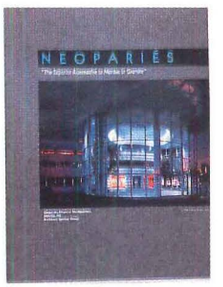
This full-color, 128-page catalog features Marvin's complete line of residential wood and clad windows and doors. It includes more than 150 photographs; information on Marvin products, from double-hungs and curved glass to corner windows and French doors; and easy construction details and standard sizes are provided for each product.
Marvin. Circle No. 360



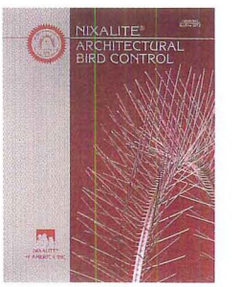
Mountain Lumber Company's distinctive Antique Heart Pine, Antique American Oak, Antique Chestnut, and Antique French Oak flooring and millwork may be used to create unique interiors in homes. The beauty and durability of our antique wood products, remilled from timbers reclaimed from demolished buildings, make them ideal for restoration projects and new construction.
Mountain Lumber Company. Circle No. 361



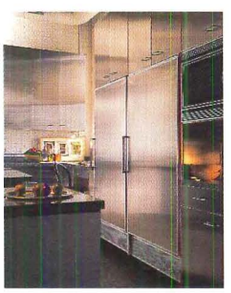
The National Wood Window and Door Association has created the Certification Program to guarantee the quality of wood window units meeting the rigid requirements of "Industry Standard for Wood Window Units." The program provides the means of identifying units produced in conformance with this standard, verified through third party inspection and testing. **NWWDA.** Circle No. 362



Neoparies, a wall cladding that is as practical as it is beautiful, is introduced in a four-color, four-page brochure from N.E.G. America. The brochure provides valuable information concerning Neoparies's stunning appearance, superior weather resistance, durability, zero water absorption rate, amazing design flexibility, and product specifications.
N.E.G. America. Circle No. 363



Nixalite of America Inc., specialists in bird and climbing animal control, manufacturers a stainless steel bird barrier called Nixalite. A new, four-color, eight-page brochure provides information about Nixalite's five models of bird barriers. The brochure includes model specifications, estimating procedures, mounting systems, accessories, and special services.
Nixalite of America Inc. Circle No. 364



Sub-Zero, the most trusted name in built-in home refrigeration, is commited to excellence in its refrigerator design and performance. There are 13 beautiful and dependable models to choose from. Look to Sub-Zero's award-winning products when only the best will do.
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Supra-Slate II® is an environmentally friendly fiber/cement slate; it is the only manufactured slate with an unpainted, "quarried slate" finish. It will provide UL Class A security, freeze-thaw protection, and maintenance freedom. Manufactured with beveled edges, it is available in Bangor Black, Pennsylvania Gray, Vermont Green, Rutland Red, and Granville Purple, a new color.
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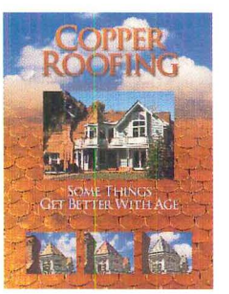
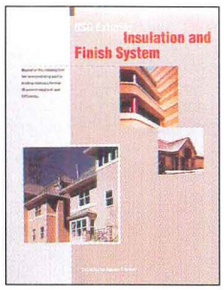
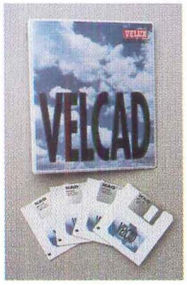


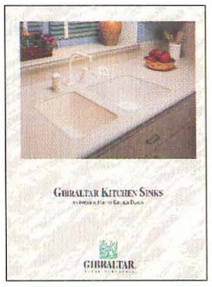
Tegola Canadese S.p.A. of Italy is the exclusive manufacturer of a unique copper shingle. Copper is bonded to the surface of fiberglass-reinforced asphalt shingles to produce these shingles. They are light-weight, easy to install, and waterproof. Due to chemical agents in the atmosphere, the copper's patina will vary in color. The shingles come with a 30 year warranty and a Class A ASTM E108 fire rating.
Tegola of North America. Circle No. 367



This brochure from United States Gypsum Company describes the new USG Exterior Insulation and Finish System, a high-quality exterior wall system suitable for a wide range of projects. The brochure provides a description of system components, design and construction practices, a manufacturer's specification section, and a list of USG sales offices and phone numbers. **United States Gypsum Company.** Circle No. 368



Velux has introduced the first design software created exclusively for roof windows and skylights. Designed in Microsoft Windows™ 3.0 and operable in or out of AutoCAD®, VELCAD can also generate and receive DXF files. VELCAD users can print detail drawings and specs and, interfacing with AutoCAD, can manipulate elevations, drawings, and schedules. **Velux-America, Inc.** Circle No. 369



GIBRALTAR® solid surfacing, available in 16 solid colors and 16 stone-like patterns, features unprecedented color consistency, matched exactly to WILSONART® solid color laminates. Integral bowls in eight sizes and a range of solid colors are also available. New matching strips in widths and lengths for aprons, backlashes, and window sills have been introduced. **Wilsonart.** Circle No. 370

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Candidates should send curriculum vitae, a maximum of ten photocopied samples of design work (not to be returned), a statement of interest and goals, and the names of at least three references, by Friday, December 31, 1993 to: Chair, Faculty Search Committee, 103 Slocum Hall, School of Architecture, Syracuse University, Syracuse, NY 13244-1250. Ethnic minority and women applicants are encouraged to apply. AA/EOE.

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Applications and nominations are invited for the position of Head of the Department of Landscape Architecture. Candidates must have MLA or terminal degree in related field, and qualify as tenured full professor of landscape architecture. Submit letter of application to Daniel Nadenicek, Search Committee Chair, 111 Arts Bldg., Box AR, University Park, PA 16802-2900. Applications received by Dec. 1, 1993 will be assured consideration; however applications will be considered until position is filled. Starting date, July 1, 1994.

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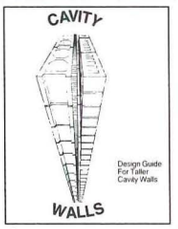

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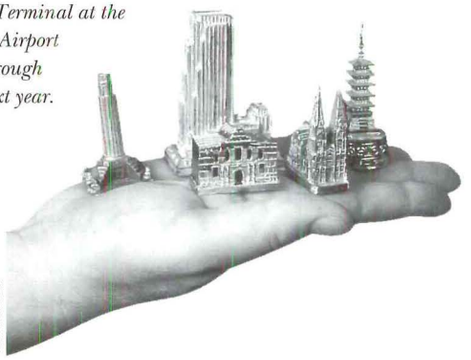
Furthermore . . .

Small Wonders *David Weingarten and Margaret Majua of Ace Architects in Oakland, California, have amassed a collection of 1,400 souvenir buildings (below). Weingarten says this world of miniature design has its advantages. "The most brutish and boring buildings are, somehow, benign," he says, "and it's extraordinary to hold the Empire State and Chrysler buildings in the palm of your hand." Indeed. Stick to this scale and you can cancel your liability insurance tomorrow.*

Weingarten's collection includes pieces dating from the 1870s through the present in a variety of materials (mostly metal). There are the classics (the Statue of Liberty and the Eiffel Tower), plus some surprises (where else can Graceland and Monticello stand side by side?). A sampling of Weingarten and Majua's collection goes on exhibit at the United Airlines International Terminal at the San Francisco Airport this month, through February of next year.



Alan Weintraub

Can I Call You Back? My Firm Is Sinking
After seeing the "drawing office boat" (below) of the Danish architectural firm Dissing + Weitling in a recent issue of Arkitektur DK, *we wondered if maybe they're on to something. While their boat seems to be permanently moored in Copenhagen, we began to envision a floating architecture firm, sailing up and down coastlines and across oceans in search of the brightest spots in the global building economy. We'll grant that this approach would rule out vast inland opportunities, but who's to say it couldn't be a Winnebago instead?*

Dissing + Weitling

Peter Borgemeister

A Civil Overpass
When we asked you for your favorite piece of civil engineering in July, the responses didn't exactly pour in. While our own staff thought of Roman aqueducts, Los Angeles freeway interchanges, and any number of bridges, only one reader sent in his choice. Peter Borgemeister of Providence, Rhode Island, sent photos of the new Route 291 bridge in Windsor, Connecticut (above). Borgemeister says he wants to "encourage such efforts in the future," citing the stone facings that "make this large structure more compatible with the historic town of Windsor." The Connecticut Department of Transportation built the bridge, which was designed by Hayden-Wegman, an engineering firm in Hartford.

Rob Carter

The Michelin Guide Gives it Four Paws
In our undying search for new applications for the skills of architects, we give you the "Hotel Purrfecta" (above), a project in Hong Kong that architect Neil McLaughlin of PMA Projects calls "Asia's smallest luxury hotel." The premises include 21 split-level rooms for feline guests, a gymnasium, and, perversely, a giant bird cage that "provides the usual range of hotel reception facilities." The hotel is an offshoot of a veterinary clinic founded by McLaughlin's wife, Anna.

P/A in December

To some, Classicism is merely a style linked to bourgeois tastes. But next month, we will consider another view: that the Classical tradition still represents a way of making good buildings and good cities. We'll look at buildings and town plans by American and British architects, noting differences between the polemical British approach and the more pragmatic American take on Classicism. Also in the issue:

- **a Critique of two housing projects that sit side by side in Bridgeport, Connecticut. One is Georgian, the other Modern. One works, the other doesn't;**
- **a feature on a remarkable set of government-sponsored daycare centers in Frankfurt, accompanied by a look at American daycare;**
- **our annual list of information sources and manufacturers' literature.** ■