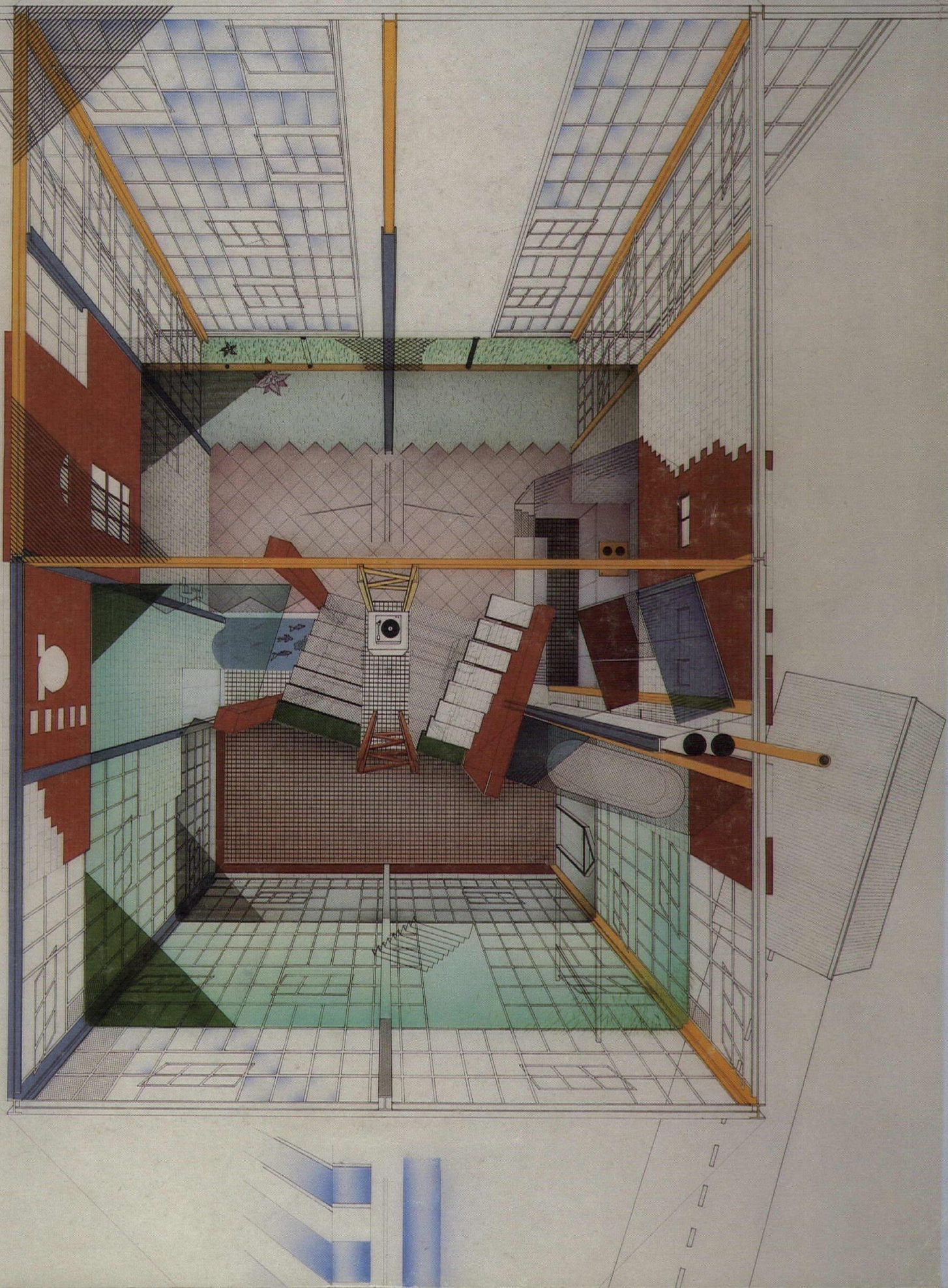


# Progressive Architecture

March 1982







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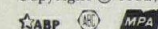
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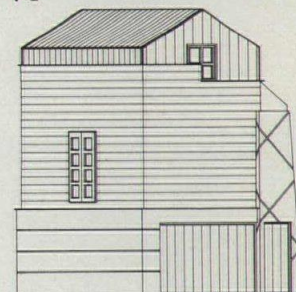
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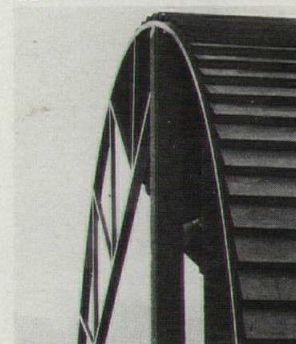
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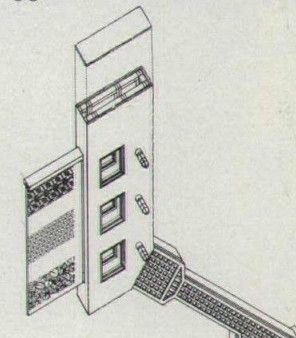
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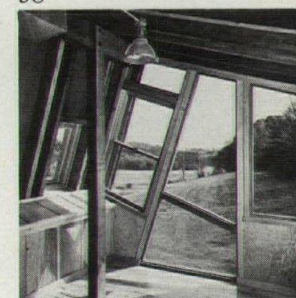
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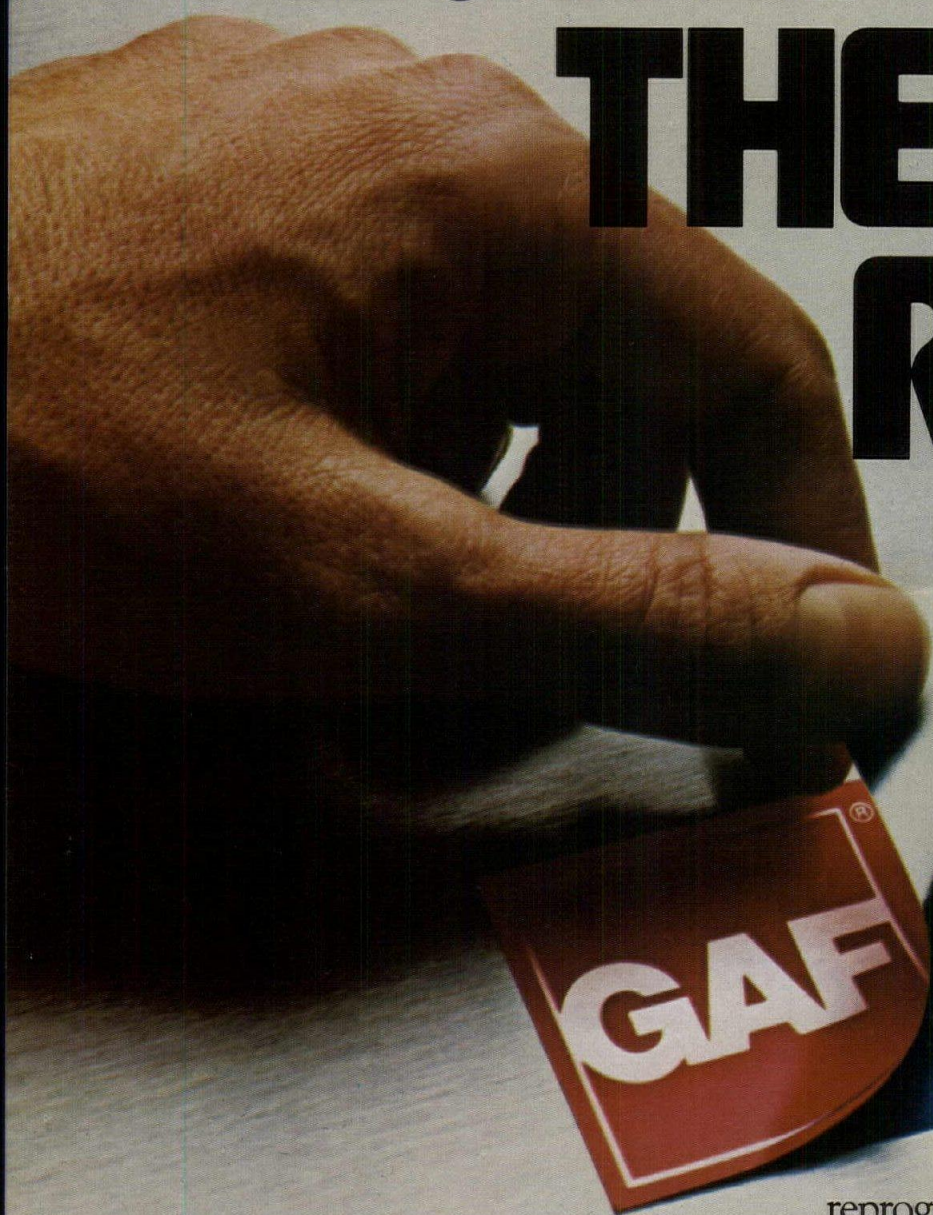


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Cover: Exploded plan view of Norman Catherine house in Transvaal, South Africa, by Stanley Saitowitz.



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# And introducing...

**In its quest for examples of design worth the attention of other professionals, P/A frequently publishes work by firms whose output has never before been presented in the U.S. architectural press.**

Featured in this issue of P/A: works by Rob Quigley, Stanley Saitowitz, and Maurice Smith! Who? Most of you have never read about their work before—certainly not in the nationally circulated U.S. magazines. Like such architects as Charles Moore, Robert Venturi, Charles Gwathmey, and Michael Graves, they are coming to the attention of a nationwide audience for the first time in the pages of *Progressive Architecture*.

The architects introduced in this issue, along with others whose work is better known, are exploring design concepts that we see as embodying a timely commentary on the whole process of architectural composition and construction. We feel that their ideas can be influential, but for the present most of the work included represents an extreme position. Little wonder that several of the architects involved are not yet widely known.

We are not, however, just introducing a collection of wild-eyed experimenters. Some of the architects represented here have a considerable body of built work—and satisfied clients—behind them; some have long been respected as teachers.

For decades, P/A's January Awards issue has been known for introducing new firms to readers of architectural journals. This January, P/A introduced such names as Olcott & Schliemann, James Gillam, Lerner and Reid, Robert Doran, Lawrence Speck, and L.E. Dieckmann. Interspersed among them were well-known firms such as Gwathmey/Siegel, Smith Hinchman & Grylls, Davis/Brody, and Venturi Rauch & Scott Brown. Award-winners Shope Reno Wharton had been published previously only in P/A's September 1981 interior design issue.

That September 1981 issue introduced several other "new" names: Hong and Sorkin, Giuseppe Zambonini, Mostoller & Wood. The October 1981 features on the New Classicism brought nationwide exposure to several architects with many years' experience with the once-scorned Classical vocabulary, among them Allan Greenberg, Thomas Gordon Smith, and the late John Barrington Bayley (p. 27). December P/A, with no particular theme, introduced to the professional world the elegant design accomplishments of Krueck & Olson and of Theodore Ceraldi.

Next month, when the magazine turns its attention to the different frontier of energy-conscious design, there will be work by firms made familiar to you through three of our previous annual issues on the subject. But also among the firms represented will be some new names: Colyer/Freeman, Hawkweed, Mutlow/Dimster, Giattina & Partners.

## **The same old avant-garde?**

Obviously, those whose work is featured in P/A constitute a small minority of all design professionals. Given the volume of work produced, the scale of the magazine, and your limited reading time, that is inevitable. And if we can publish only a fraction of what is done, few of you would want to slog through a random sampling—of average quality—to find a few instructive examples.

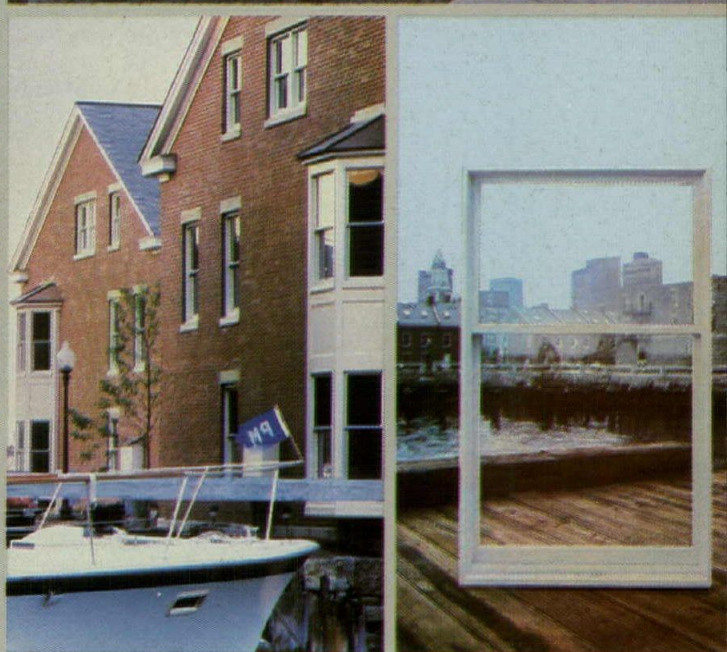
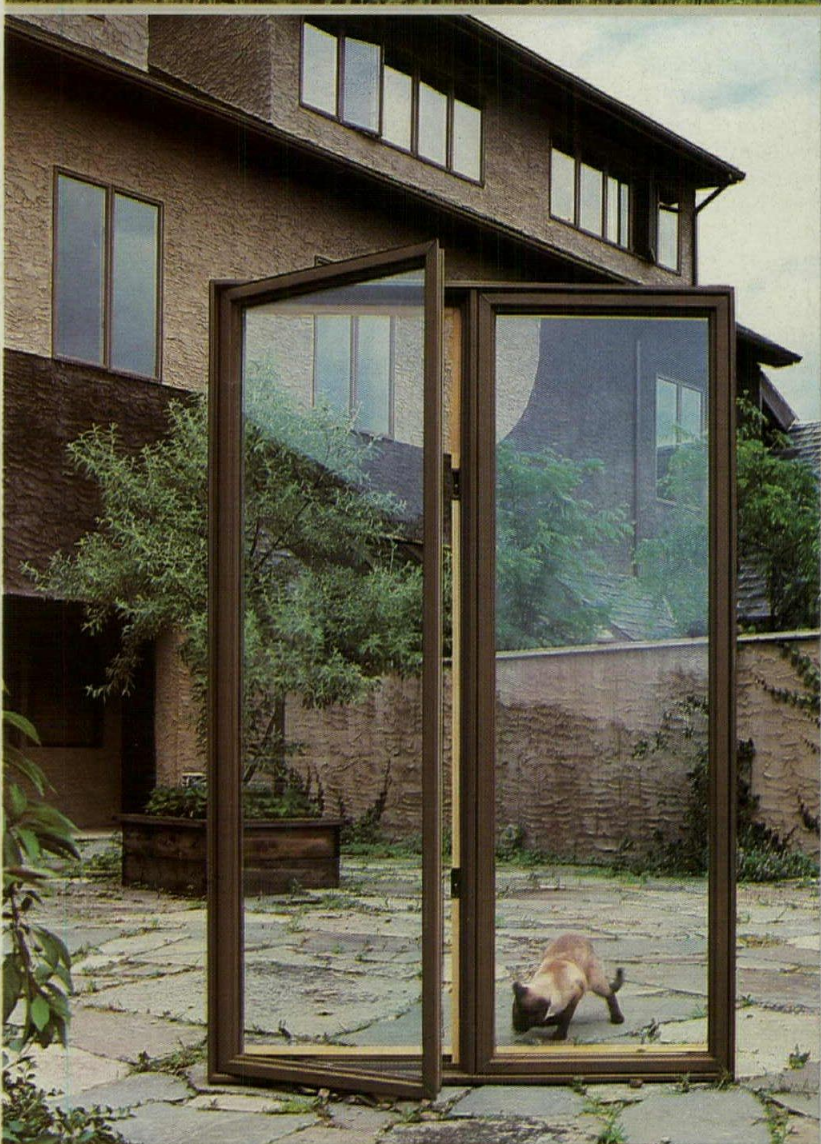
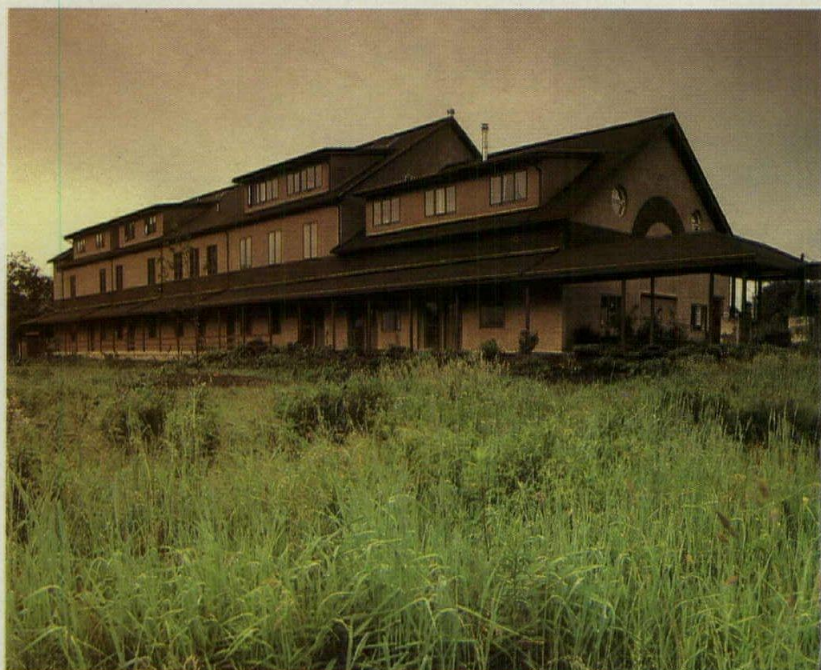
Our selectivity is seen by some readers as evidence of elitism. Occasional letters accuse us of limiting our attention to a small circle of friends or, alternatively, to powerful firms that can afford high-powered public relations. PR alone will get you nowhere with the architectural press, as principals of some of our largest firms could tell you. The elitism question, however, is more complex, because we want to place before you work that constitutes some kind of departure—in quality, in scope, or in concept.

New ideas in the arts, throughout history, have been developed by small coterie of creators and patrons—initially at the periphery of the cultural world (though often centrally located, geographically). One thinks of the small band around Brunelleschi that heralded the Renaissance, the circle of Lord Burlington and William Kent that launched the Palladian movement in England and her colonies, the Gothic Revival devotees who rallied around Pugin. Even such figures as McKim and White, who were at the very center of turn-of-the-century American cultural aspirations, got there by taking an unpopular elitist position on Classicism in the 1880s. And their Classical reign was in turn disrupted by the pioneer band that promulgated the International Style, through a process thoughtfully delineated in last month's P/A.

P/A has, for decades, taken pride in identifying the developing waves of architectural design thought, long before they have crested. And we take particular pleasure in finding outstanding work—whether innovative or just exceptionally well done—by designers not previously known to our audience. We are glad to introduce "new" names when we can, not for sheer novelty, but to broaden your view—and ours—of the creativity within our profession.

*John Morris Diefen*

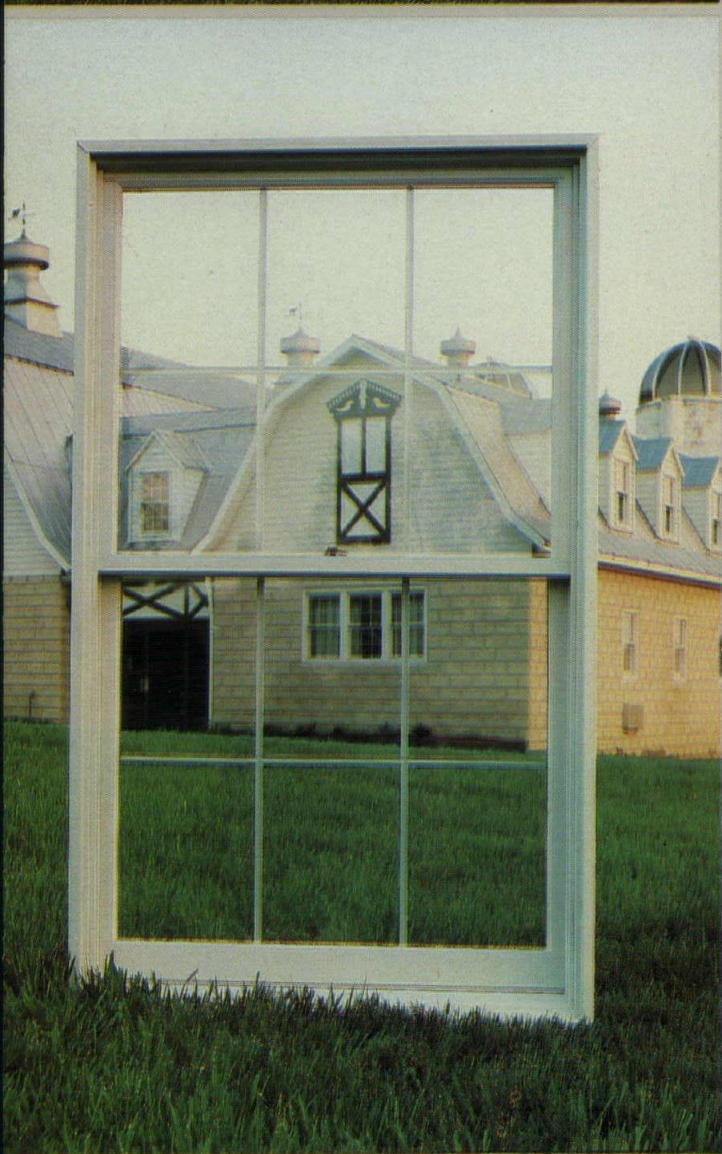




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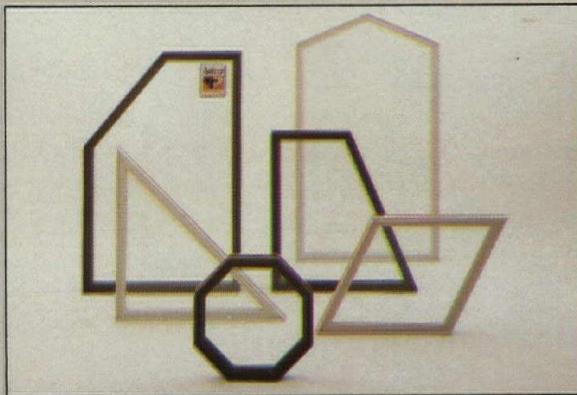
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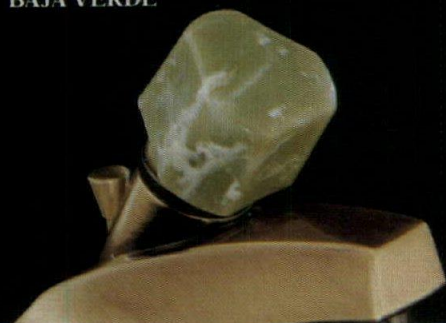
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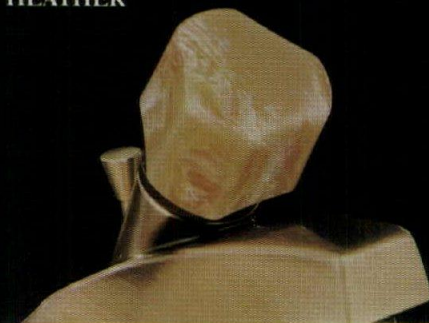
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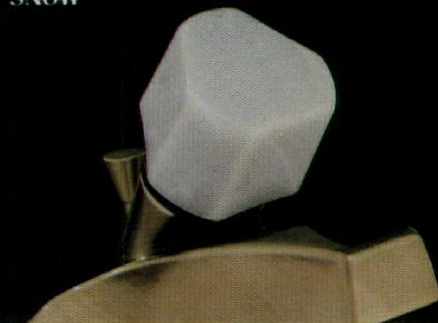
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## P/A Awards: 29th annual reactions

As I flipped through the pages of the January 1982 P/A Awards Issue I was relieved to discover that the energy crisis had suddenly disappeared. After all, only three projects out of the fourteen recognized dealt with energy in any serious fashion. Upon closer observation it became clear that the jury did not even address energy-conscious design in their criteria or discussions. When Drake, a member of the Applied Research jury, voiced this concern, Graves responded by stating, "every problem is difficult . . . I based my concern on architecture." Well what is architecture then, if it ignores energy, location, and society?

The following day, as I sat pondering this question, we received a letter from Robert Lawrence, President, FAIA, informing us of the Spring 1982 Energy

in Architecture Workshops sponsored by the AIA. The opening line reads, "You may not need to know how to design for maximum energy efficiency today." I was absolutely appalled that such a statement could be made by the supposed "spokesman" of our profession. It also became clear to me why American architecture continues to be, generally, unresponsive to climate, location, and energy.

The sooner we begin to recognize the efforts and the directions of the *real* innovators in architecture today, the sooner we will develop an architecture which responds to our society . . . today.

David E. Coleman, Designer  
Circus Studios Ltd., Architects  
Waitsfield, Vt

[By our count, four of the architectural design winners showed more than usual energy consciousness—projects by Gillam, Booth/Hansen, Dieckmann, and Speck. Juror Drake's comment on the "virtual exclusion of energy considerations" referred to discussion by the architectural design jurors.—Editor]

I would like to express my concern over the "sameness" of the presentation format for your 29th Annual Awards Program, the January 1982 issue.

In most cases the floor plans for projects in the Architectural Design Category appear to be from the same hand. Why? I believe it is important to see the original graphics submitted, as you did

with the HYL International Training Center (pages 132–135), but failed to do with, say, the Metz House (pages 152–155). Without question, the integrity of the proposed design is better served with the architects' drawings.

I also wonder about the choice of graphics for some of the projects. For example, Villa Vasone (pages 128–131) shows the entry view four times. It is difficult to ascertain the merits of this project with redundant information and partial floor plans. With this particular project it would have been better to include more of the thumbnail sketches. Moreover, an expanded graphic format would enhance the work and the jury's comments.

Lastly, I would like to commend the jury for their diverse selections.

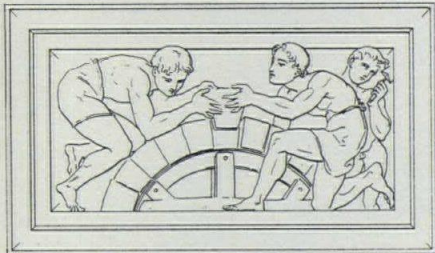
Joseph P. Martinez, AIA  
San Diego, Ca

[Actually, all the Metz house drawings, diverse as they may seem, came from the architect. Some of the "sameness" stems from a spreading understanding of what will reproduce in print, which we as editors can only welcome.—Editors]

Your January Awards issue certainly does very little to facilitate our task of teaching architectural students in the creation of environments that are responsive to human needs.

When we read an evaluative state-  
[Views continued on page 15]

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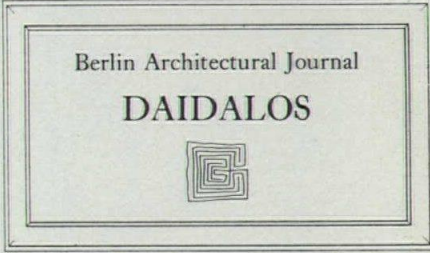


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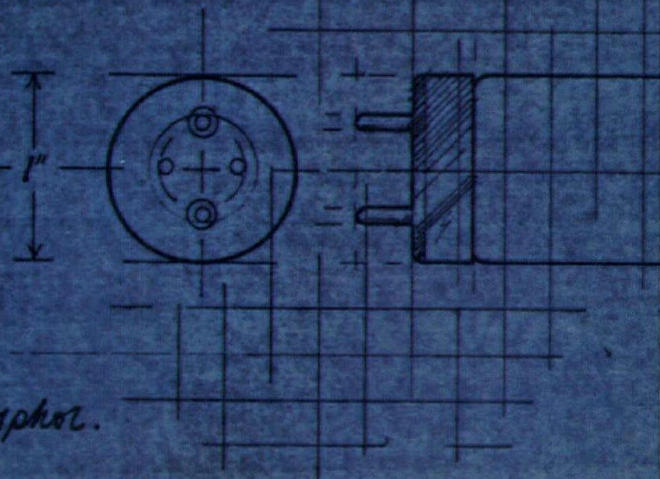
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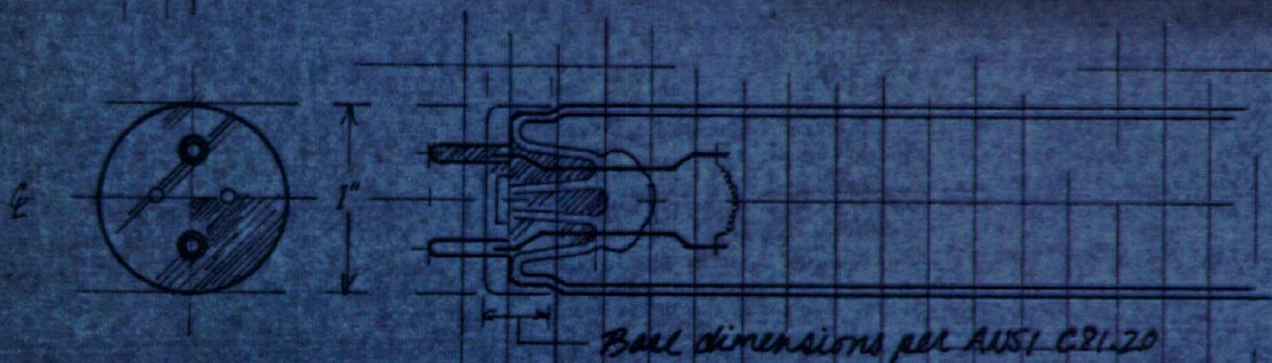
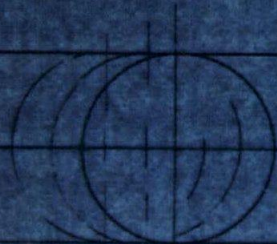


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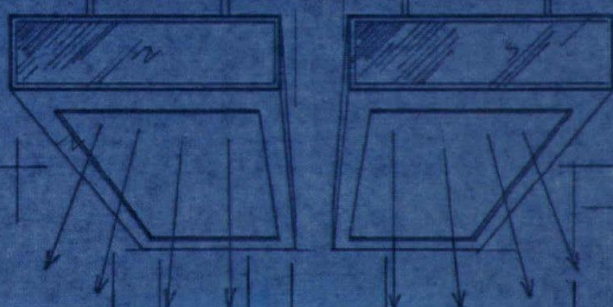
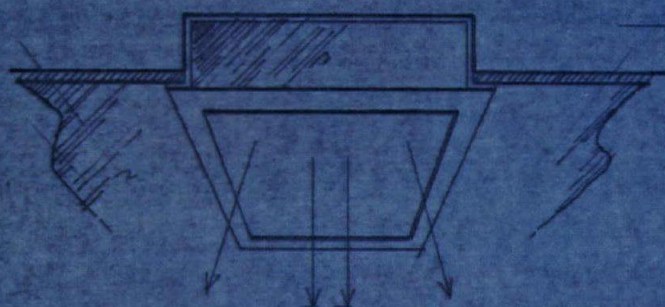
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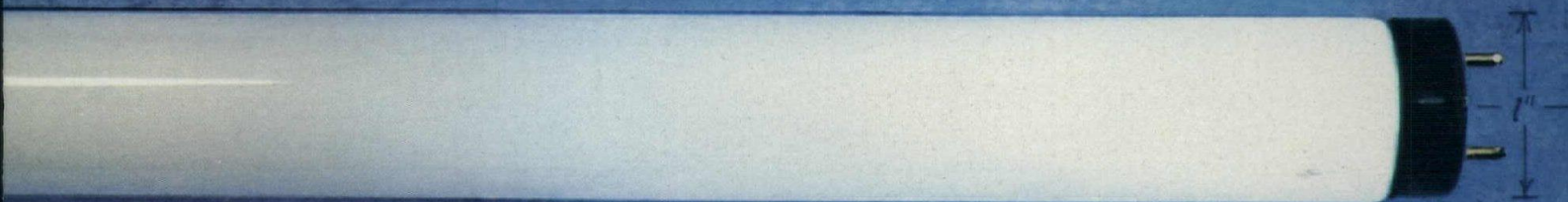
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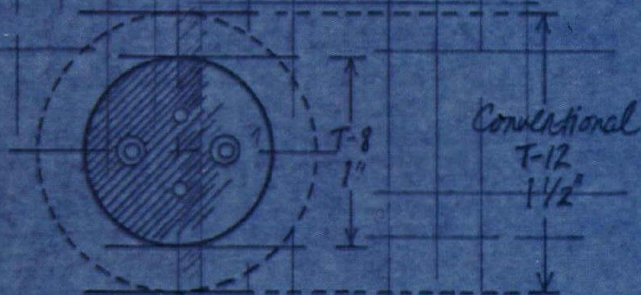
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## Manville

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ment such as "it's homely and bizarre and quite masterful" we identify our awards criteria as elitist, irrational, egocentric and totally unrelated to the serious environmental needs of the real world.

If the built environment is to have purpose and meaning for its user one of the major criteria for excellence must be the articulation of space to facilitate human behavior on a broad scale, structures that attempt to address social and environmental issues. Yet six of the fourteen awards and citations went to unique single family detached residences. Most comments focused solely on a visual, often highly personal aesthetic. Pathetically little of the discussion addressed such vital contemporary issues as energy conservation, contextual appropriateness, behavioral factors or accessibility for all potential users.

As Brent Bolin so aptly notes in *The Failure of Modern Architecture*, "we need to acknowledge, without fear of losing our individuality, that values other than the architects deserve first consideration."

The Progressive Architecture Design Awards exert a considerable influence on the profession and particularly on impressionable students of architecture. But unless man (and woman and child and seniors and disabled) becomes the standard unit of measure by which we

judge our works we shall be forced into repeating the alienating errors of the not too distant past and continue to widen the chasm between the built form and the responsive environment.

*Paul M. Wolff, Professor  
Architecture Department  
California Polytechnic State University  
San Luis Obispo, Ca*

#### Wolfe defrocked

It is indeed a rarity, when one has read a book and was totally confused by its message, if indeed there was one, and then read a review that erased all doubt. I am so delighted with the incisiveness of David Greenspan's review of Wolfe's *From Bauhaus to Our House*, that I have not the words of praise that the reviewer deserves. Not the book, but the review, which lays the groundwork of what perhaps can be called a paranoid look at the world of architecture.

A book such as it is does stir and boggle the mind, requires the reader to don hip boots, and unfortunately makes absolutely no contribution to the world of architecture. The opportunity was there, too bad it was missed.

*F.L. Bernheim, FARA  
Bernheim, Kahn & Lozano, Architects  
Chicago, Ill*

#### Source acknowledged

A portion of the News Report item on the San Antonio Museum (P/A, Nov. 1981, p. 30) was based on observations in an article by Michael Benedikt in *Texas Architect*, July/Aug. 1981. Other

sources were drawn upon for additional, substantive observations in our News Report, but the author and P/A regret the lack of attribution for certain passages similar to parts of the longer Benedikt piece.—Editor

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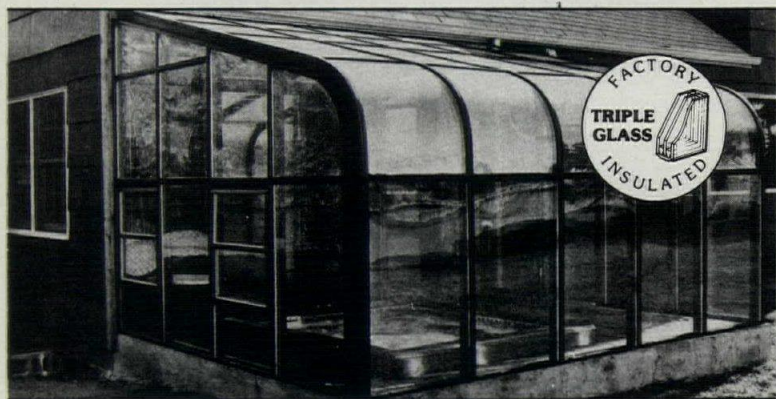
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Stage shelter at the University of Miami, Florida  
Architect: Todd Jonas, AIA  
Photo: © Steven Brooke



## Pencil points

### Museum addition addition

Richard Meier is one of two architects being considered to design an addition to the Des Moines Art Center. The original building, designed by Eliel Saarinen, already has an addition by I.M. Pei. Decision is imminent: watch this column.

### Museum de-addition

Harvard's Fogg Art Museum, having considered de-accession of some of its artworks to help pay the operating costs of a new James Stirling-designed wing (P/A, June 1981) had regretfully cancelled plans for the addition in early February.

¶ The issue, however, aroused such controversy that \$1 million in pledges soon poured in, and alumni organized to raise the remaining \$3 million necessary for a "stabilization" fund for operating costs.

### School/museum renovation

Michael Graves will be renovating a Henry Hornbostel-designed building at Emory University in Atlanta. Present use: classrooms. New use: art history department and museum.

### Museum jeopardized

The plans for a new building for the Museum of American Folk Art on 53rd Street (same block as MoMA) in New York may be stymied by zoning subdistrict changes. While the proposed zoning does not involve preservation issues, its blockage of the Folk Art building may prevent the street's steady decline from its brownstone character.

### Art museum roundup

Recognizing the astonishing wave of new American art museums, the Whitney Museum's main branch in New York will be holding an exhibition on the subject this summer (June 24–October 10). It will include eight buildings now being planned or under construction across the country:

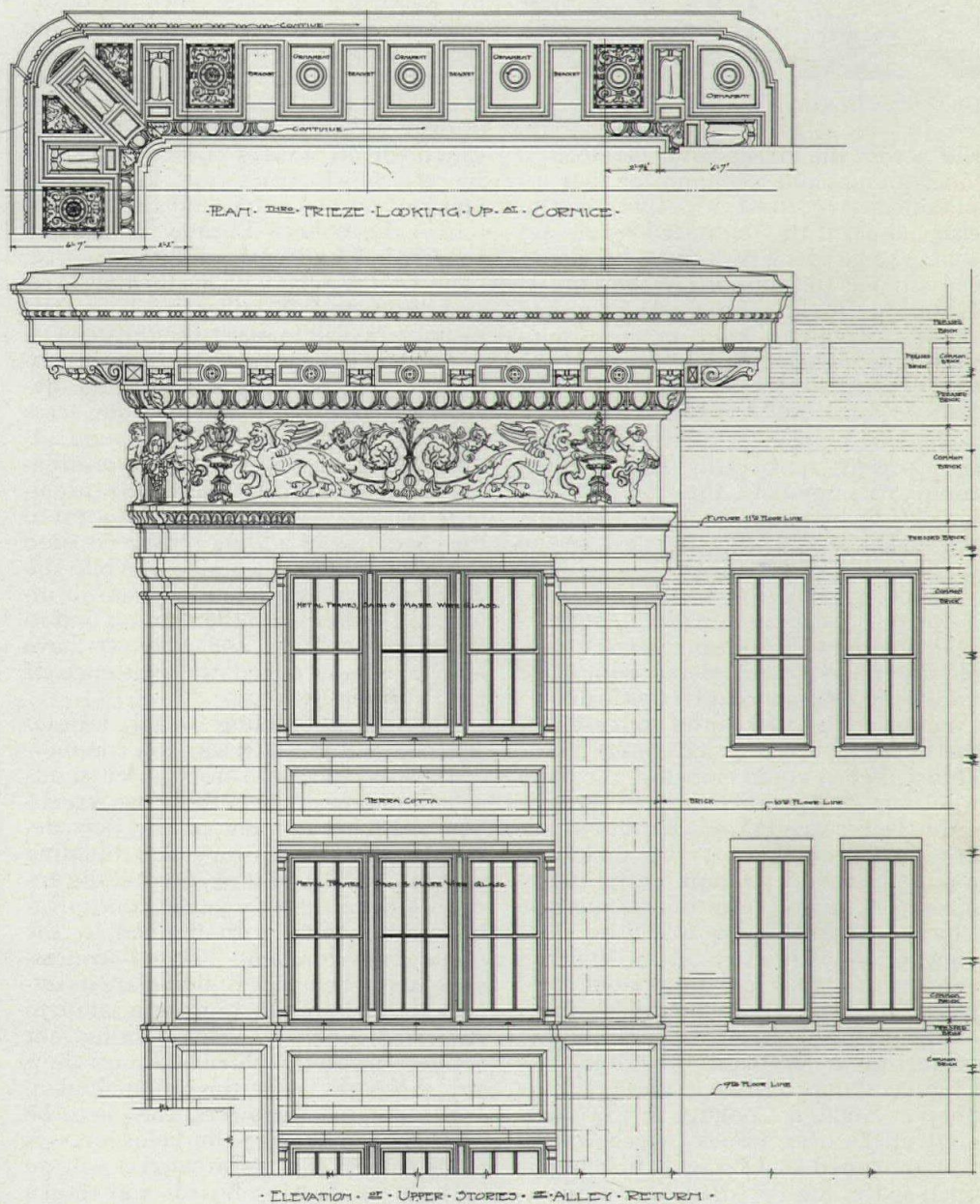
- ¶ the Dallas Museum of Fine Art, by Edward Larrabee Barnes;
- ¶ the High Museum in Atlanta, by Richard Meier;
- ¶ the Hood Museum at Dartmouth College, by Moore Grover Harper;
- ¶ the Museum of Contemporary Art in Los Angeles, by Arata Isozaki;
- ¶ the Museum of Modern Art in New York, by Cesar Pelli;
- ¶ the Joseph Price Collection in Bartlesville, Ok, by Bruce Goff;
- ¶ the Portland Museum of Art in Maine, by Henry Cobb of I.M. Pei & Partners; and
- ¶ the Virginia Museum of Fine Art in Richmond, by Hardy Holzman Pfeiffer & Associates.

### DOE dismantles

As the ship sinks,

- ¶ John Cable, director of the Buildings Division at DOE, is joining the Ehrenkrantz Group's Washington office;
- ¶ architect Robert Shibley is moving into private practice in Blacksburg, Va;
- ¶ architect Richard Menge and mechanical [Pencil points continued on page 36]

# PA News report



## Chicago Public Library: magnificent pragmatism

Detail from original Holabird & Roche drawing.

The City of Chicago has announced plans to move its expanding public library into a magnificent unused commercial building on State Street in the South Loop. Designed by Holabird & Roche in 1911 for Rothschild and Company and until recently operated by Goldblatt's Department Stores, the building forms part of an incomparable piece of urban fabric along with William LeBaron Jenney's second Leiter build-

ing. The polished granite base, gleaming terra cotta, and striking cornice almost transcend its thoroughly predictable detailing, even though it was designed as a "background" building to help define the important public space of State Street.

In the spring of 1981, the city solicited competitive proposals from developer/architect teams for a mixed-use development, including a new library, on a





Goldblatt's Department Store.

site across the street from Goldblatt's. The questionable economy of that arrangement received widespread criticism; none of the interested teams was willing to go along with the City's financial scheme for supporting the library. Historian Douglas Bukowski proposed the less expensive, more practical solution of remodeling Goldblatt's to fit the library. Architect Jean Bellas of Holabird & Root (successors to the original architects) helped to convince the City by stressing how easily the building could accommodate the 550,000-sq-ft mixed-use program, pointing out that the structure was originally designed to carry several extra stories.

While eagerly convincing the City, however, Bellas also inadvertently revealed some of the project's questionable aspects: "We found the design for merchandising not so different from . . . a library." For those who suggest that the building needs to look more like a library, Bellas would embellish the front with flags and modify the entrance arcade. Unfortunately, it's harder to address the problem of the building's nonmonumental location in the urban fabric. A major institution like the Chicago Public Library would be more appropriately housed in a building erected for that purpose alone and placed freestanding in the urban fabric.

But then, Chicagoans have always preferred a practical solution. The Chicago Public Library, designed by Shepley Rutan & Coolidge in 1897, covered up Dearborn Park, which was all that remained of Chicago's first public open space, the Fort Dearborn reservation. By that time, of course, the City had filled in the lake shore to create Grant Park, but the library was on the edge of that huge space, unable to assert its importance except through its detailing. The library will keep that peripheral position in its new home on State Street, which will be renovated by Holabird & Root and Lester B. Knight, Architects. Addendum: the library board has now approved the purchase of the store for the new library.

[Anders Nereim]

Anders Nereim is an architect practicing in Chicago with Stuart Cohen and teaches at the University of Illinois, Urbana.

## Update on Wilshire Boulevard

In November 1980 (pp. 27-28), P/A reported on threats to two endangered historical buildings on Wilshire Boulevard, the Pellissier Building, with its celebrated Art Deco Wiltern Theater on the ground floor, and the Streamlined Moderne Broadway Department Store. Today, the fate of both buildings has been determined with mixed results.

### The Pellissier Building

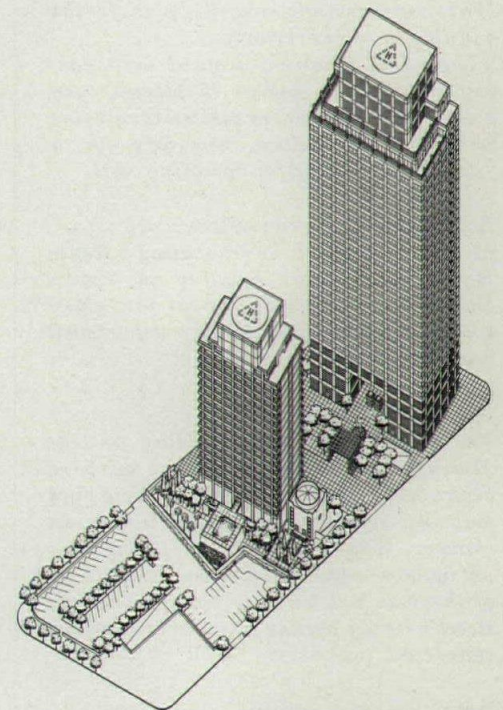
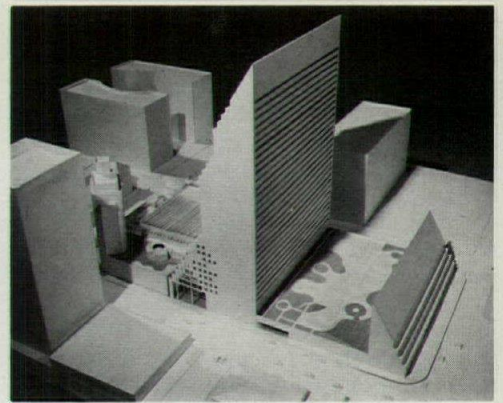
The Pellissier Building has been saved by Ratkovich Bowers, Inc., local developers who were responsible for the sensitive restoration and adaptive reuse of the Art Deco Oviatt Building in Downtown Los Angeles. Their plans for the Pellissier Building include the renovation of its towers and commercial spaces, which flank the kitty-corner building on two sides, and the restoration of the Wiltern Theater for use as a concert hall and performing arts space. (The UCLA School of Performing Arts and Wolf and Rismiller, rock concert promoters, will manage the theater.)

The bad news is that although the restoration will save the building, the developers have approximately four acres of space behind it on which to build additional office, commercial, and residential spaces. Unfortunately, the architects, Rosetti Associates, were not up to the challenge of adding sensitively onto the older building complex. While the developers' stated intention was "to integrate the new with the existing and to create *one* identity," the architects have hardly acknowledged the existence of the Pellissier Building.

The older building wraps around Wilshire and Western with low commercial spaces, and its 13-story tower stands at a 45-degree angle to those two streets. The main component of the new development is a 30-story slab building parallel to Wilshire and running the entire width of the site, totally contradicting the diagonal path implied by the original development. The only concessions to the Pellissier Building are its setbacks interpreted by some as a salute to Art Deco. Neither its shape, siting, nor connections to the older buildings show any sympathy with the original plan. While Ratkovich Bowers, Inc., is to be praised for restoring the Pellissier, it is to be hoped that its architects will go back to the drawing boards and return with a far more sensitive scheme.

### Intercontinental replaces Broadway

The Broadway Department Store was torn down shortly after P/A published the fact that it was endangered. It was to have made way for a building by A.C. Martin & Associates. The job went to William L. Pereira Associates, however, whose offices are coincidentally across the street from the site. The scheme Pereira has proposed attempts to recreate certain features that have been traditional themes along Wilshire Boulevard in such buildings as Bullocks Wilshire.



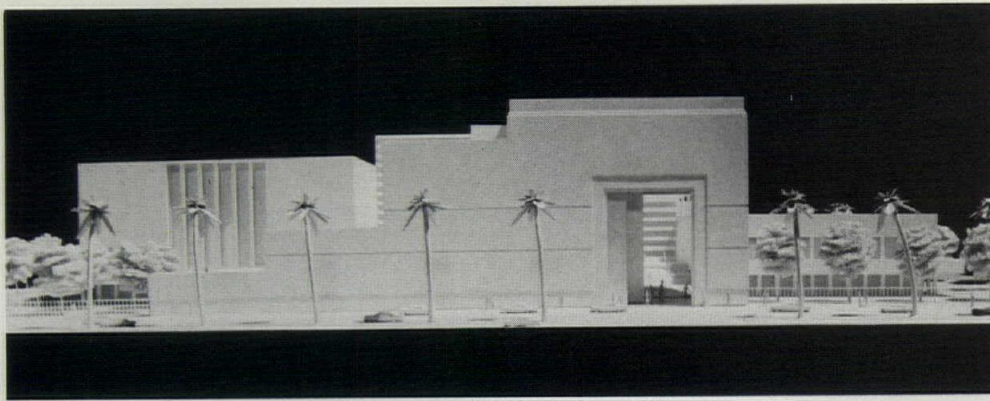
The International Centre building by Pereira Associates (above). The Pellissier area development (top).

The Intercontinental Centre by Pereira Associates is a 30-story tower building with a stepped profile, roof terraces on the top floors, a monumental door, and a rear entrance via a motor court. The original two-phase plan calls for a smaller sister building, perhaps a hotel or a residential building, to sit on the back of the site, echoing the shape of the tower and creating an edge for the proposed motor court. The front building, like many of the older buildings on Wilshire, will have retail spaces at ground-floor level. Ornate elevator lobbies will also recall traditional buildings.

The Intercontinental Centre will be the tallest building in the immediate area, and it is to be hoped that the architects will continue to develop the detailing of the skin, portal, and roof line to soften the impact of its height and to give the building real character.

The first step in creating a new model for the street was the evocation of earlier forms; the next step will be the refinement of the scheme. As William L. Pereira Associates now plan to move their office across the street into this building, it is to be expected that they will take extra pride in its refinement. [Barbara Goldstein]





Los Angeles County Museum of Art.

## LACMA expansion, ARCO wing

At the end of January, the LA County Museum of Art approved in principle Hardy Holzman Pfeiffer Associates' phase one plans for the reorganization and expansion of the museum. The design, which reverses the basic concept of the original museum by William L. Pereira, takes what was essentially a group of pavilions in a park and reorganizes them into a continuous ring of buildings surrounding a central, enclosed courtyard. The linchpin of the plan is the placement of the new Atlantic Richfield Gallery for Modern Art directly on Wilshire Boulevard. The new building, as shown on the model, is a continuous monolithic structure, featuring a stepped profile on the west side and a 65-ft portal penetrating through to the new courtyard.

There are many who applaud the plan as the most sensible way of reorganizing a group of diverse and confusing exhibition areas, curatorial facilities, and administrative offices. There are others who have praised the placement of the new wing on Wilshire Boulevard as a more urban approach to museum design than the former grouping of setback buildings. The Atlantic Richfield Gallery as presented, however, is merely a sketch; its design is not complete. As a significant piece of architecture occupying a site that was formerly used as a public plaza and sculpture court, it should at least aspire to give the city as much as it's taking away. One hopes that the building will evolve with the design development. Construction begins later this year. [Barbara Goldstein]

## Resign and retort

Architect Nathaniel A. Owings, who has shepherded the revival of Pennsylvania Avenue in Washington, DC, since its Kennedy-era beginnings in 1962, quit in January as vice chairman of the Pennsylvania Avenue Development Corporation. In a letter to President Reagan and an interview with *The Washington Post*, the 77-year-old Owings blasted the current chairman, Washington lawyer Max N. Berry, and PADC's direction, saying that economics had supplanted design and planning.

Retorted Berry, in a reminder of the original plan championed by Owings, "There's a basic difference in philosophy between [us]. . . . We're talking about a man who recommended tearing down the Willard Hotel, the Washington Hotel, and the Old Post Office Building. We're very carefully trying to save all of our great older buildings and even our mediocre buildings. These are the heart of the avenue, our link to the past." [Carleton Knight III]

## Energy and historic buildings

Projects from eight U.S. schools of architecture were selected for further development by the National Building Museum in its "Saving Energy in Historic Buildings" program. Termed by its director Bates Lowry as "the Museum's first and a most important involvement with the architectural education community," the program is designed to encourage innovative solutions for adaptive reuse of existing buildings, blending energy concerns with historic considerations. Teams of architecture students and faculty will work to prepare final submissions due in May 1982, when program advisors Cloethiel Woodard Smith, James Marston Fitch, and Richard Stein will help to make final awards. The schools selected to participate in the second phase of the program are Ball State, North Carolina State, SUNY-Buffalo, the universities of Arizona, Kansas, Cincinnati, and Oregon, and Virginia Polytechnic Institute. The program is sponsored by the Association of Collegiate Schools of Architecture, the American Institute of Architects, the U.S. departments of Energy and Housing and Urban Development, the Brick Institute of America, the National Institute of Building Sciences, the National Park Service, and the National Trust for Historic Preservation. [Thomas Vonier]

## The Salon d'Automne: Parisian developments

Twentieth-century Paris was the subject of the architectural section at the 1981 Salon d'Automne, held into December at the Grand Palais, Paris. The section consisted of two parts. The first, a photographic presentation of important

landmarks in the history of Modern architecture in the city, showed major buildings by the familiar early 20th-Century designers Guimard, Perret, and Sauvage, as well as more recent works such as the Maison de la Radio by Henri Bernard. The second part, an exhibition of current projects that are changing the face of Paris, displayed two large-scale models of the vast urban renewal projects around the Gare de Lyon and Les Halles in central Paris.

The models, supplemented by photographs of plans and drawings, provided a forceful means for demonstrating to the general public the extent and character of the soon-to-be-achieved contributions to the Halles complex by architects such as Ducharme, Willerval, Lalanne, and Paul Chematov. Projects that relate to major renovation zones, for example the velodrome designed by Andrault and Parat for the Gare de Lyon area bordering the Seine, gave a comprehensive picture of what Paris is becoming.

The exhibition clearly demonstrated a generation gap between the older, entrenched offices and the younger generation of Grumbach, Bofill, and others, a gap in approach if not necessarily in quality. Unmistakably exposed were the ambiguous, if not downright contradictory, policies of public authorities. One found them supporting small, sensitively done pilot projects for urban development, as well as gross, surgical operations that leave little or no traces of the ancient fabric: a clear revelation of the two-sided developments in Paris today. [Brian Brace Taylor]



"The Original (Incomparable) Hildegarde."

## Nationwide Art Deco society celebrates

Big bands played swing on the porches of oceanfront Art Deco hotels. Antique cars paraded up Ocean Drive, closed to other traffic to accommodate crowds attending the street fair held under brightly striped tents along the ocean. With the help of perfect weather, the fourth annual Art Deco Weekend opened on Jan. 13 in Miami Beach, the world's only Art Deco historic district and this country's first 20th-Century district. Most of the participants stayed at the Victor and Cardozo Hotels, beautiful. [News report continued on page 27]



# Two office buildings. One new, one renewed. **ELEVATORS BY DOVER**

Rising above the Vancouver waterfront are two prominent Dover Elevator installations—the new Daon Centre and, mirrored in its facade, the Marine Building across the street. The 21 floors of the Daon Centre are served by 4 Gearless Dover elevators. The Marine Building, a 50-year landmark in downtown Vancouver, has been enhanced by a modernization program incorporating the advanced Dover Traflomatic 2000 I.C. computer control. For more information on Dover Elevators or Dover Modernization Programs, write Dover Corporation, Elevator Division, Dept. 680, P.O. Box 2177, Memphis, Tennessee 38101. In Canada: Dover Corporation (Canada) Limited, Elevator Division, 126 John Street, Toronto, Ontario M5V 2E3.

Daon Centre

*Architect:* Musson Cattell & Associates

*General Contractor:* Dawson & Hall Ltd.

Marine Building

*Architect:* McCarter and Nairne

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fully restored by Margaret Doyle and Leonard Horowitz. The Cardozo now sports a new café that has become *the* spot in old Miami Beach, and it has a new Deco gift shop in its Glass Block room.

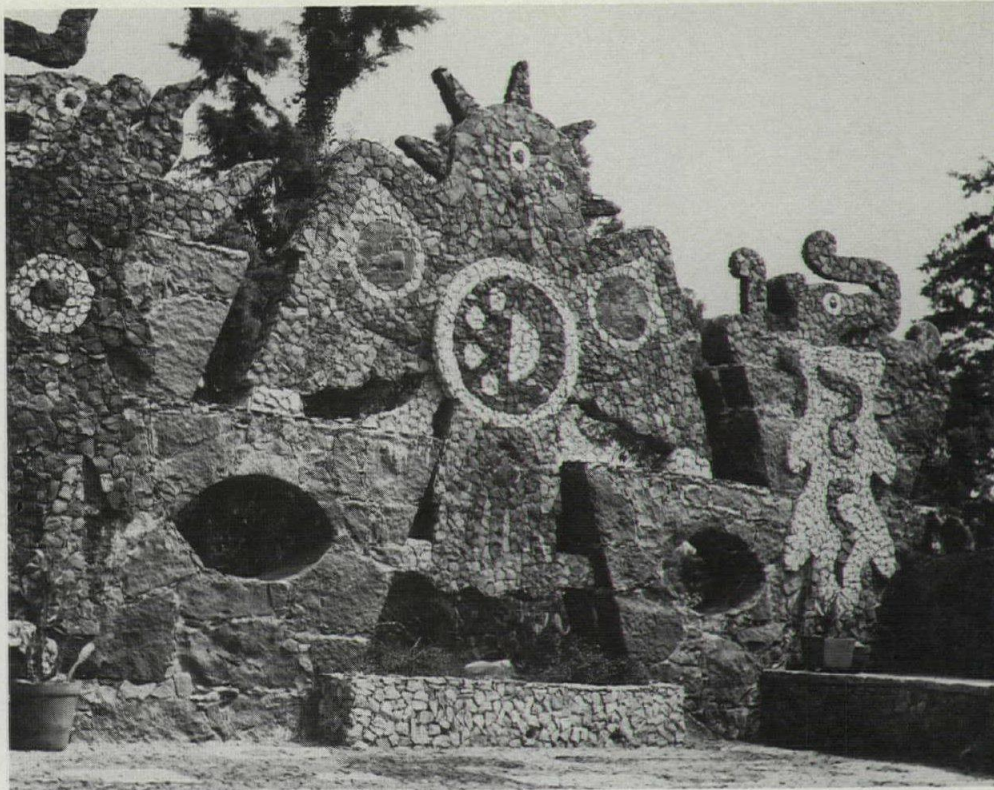
Among those attending the festivities were delegates from the newly formed Art Deco Societies of America, gathered together for the first time. Barbara Capitan, organizing president of the ADSA, explained that "our organization will unify the various Art Deco groups that have already formed in New York, Chicago, Los Angeles, San Francisco, Seattle, Minneapolis-St. Paul, and Cincinnati." Others, she added, are now being organized in Boston, Washington, DC, New Orleans, and Tulsa. Public relations director Hank Kaufman pointed out that "we will organize a national data center to house archives, photos, and all manner of research/source material, as well as facilities to aid in legislation, lobbying, and dispensing of legal advice. Our society will be the fulcrum for all matters connected with early 20th-Century culture and industry, for which these (Art Deco) structures form the background and stimulus for revival." In order to support these activities, ADSA has embarked on an ambitious fund-raising program.

The Miami Design Preservation League, the weekend's host, had architect Andres Fabregas redecorate the ballroom of the Victor Hotel with hundreds of shimmering hanging stars and an "Art Deco" moon, for an especially glamorous "Moon over Miami" ball. The highlight of the evening was Hildegard, who is now called "The Original Hildegard." But for those old enough to remember, she used to be called "The Incomparable," a name most agreed she should revive. [David Morton]

## Juan O'Gorman: 1905-1982

Juan O'Gorman, Mexican architect, painter, and muralist, took his life in San Angel, Mexico, on Jan. 18 because of failing health.

Of all his work, he prized the fantasy house built in a lava flow in the Pedregal development at the edge of Mexico City. The living room was half cave, half grotto, and interior and exterior walls were covered with mosaics of many-scaled figures drawn from ancient and folk cultures. From an eye-shaped window in the tower was a view of the two volcanos in the distance, and between them, in landscape colors, the mosaic-covered library he designed for National University. In his house he tested the colors of the rock and the scale for the figures on the library walls. The house attracted thousands of architects and devotees of folk art. Sold in 1969 to the director of the art gallery of the school of architecture with the verbal agreement that it be preserved, it was



*O'Gorman house in Pedregal, detail.*

demolished by the end of the year, a blow to O'Gorman who called it "the only creative work I have done."

Born in 1905 in Coyoacan, he learned painting from his father, a Sunday painter born in Dublin and educated in England in mining engineering. Both father and son had retrospective shows at Bellas Artes, 30 years apart. While studying medicine at the university, Juan stopped often to watch Rivera and Orozco painting frescoes on the courtyard walls; soon he abandoned medicine to try one himself on a *pulqueria* wall. Persuaded to study architecture, he embraced Le Corbusier, and in 1927-29 designed four houses, the first Modern ones in Mexico. As head of a rural school program, he built 30 schools, his last work in the International Style. He moved easily from architecture to easel and mural painting, painting walls for the Mexico City airport, the Patzcuaro library, and the first of many walls for Chapultepec Palace.

When he took up mosaics at age 45, he searched Mexico for his palette of 12 colors in sedimental and volcanic rock. Only his blue was not a natural mineral. Besides his house and the library, he executed mosaic walls for the Communications and Public Works Building and others. [Esther McCoy]

## John Barrington Bayley: 1914-1981

John Barrington Bayley, organizing member and first president of Classical America and designer of a recent addition to the Frick Collection, New York (P/A, October 1981), died in December.

Mr. Bayley studied at the Harvard School of Design and at the American Academy in Rome, and in the 1960s worked for the New York Landmarks

Preservation Commission, designing, among other projects, the Susan Wagner Wing of Gracie Mansion. He was also involved in the restoration of the Fraunces Tavern block in Lower Manhattan.

In 1977-78, he worked for DeWitt, Poor & Shelton, designing a new West Front for the National Capitol.

In his involvement with Classical America, the society for encouraging the Classical tradition in the arts, Mr. Bayley participated in several symposiums. His photographs of New York formed an exhibit in 1981 titled "The Classical Flourish." He contributed introductions to books in the Classical America Series in Art and Architecture, including William R. Ware's *The American Vignola*. At the time of his death, he was working on a student's edition of Paul Letarouilly's *Edifices de Rome Moderne and Le Vatican*.

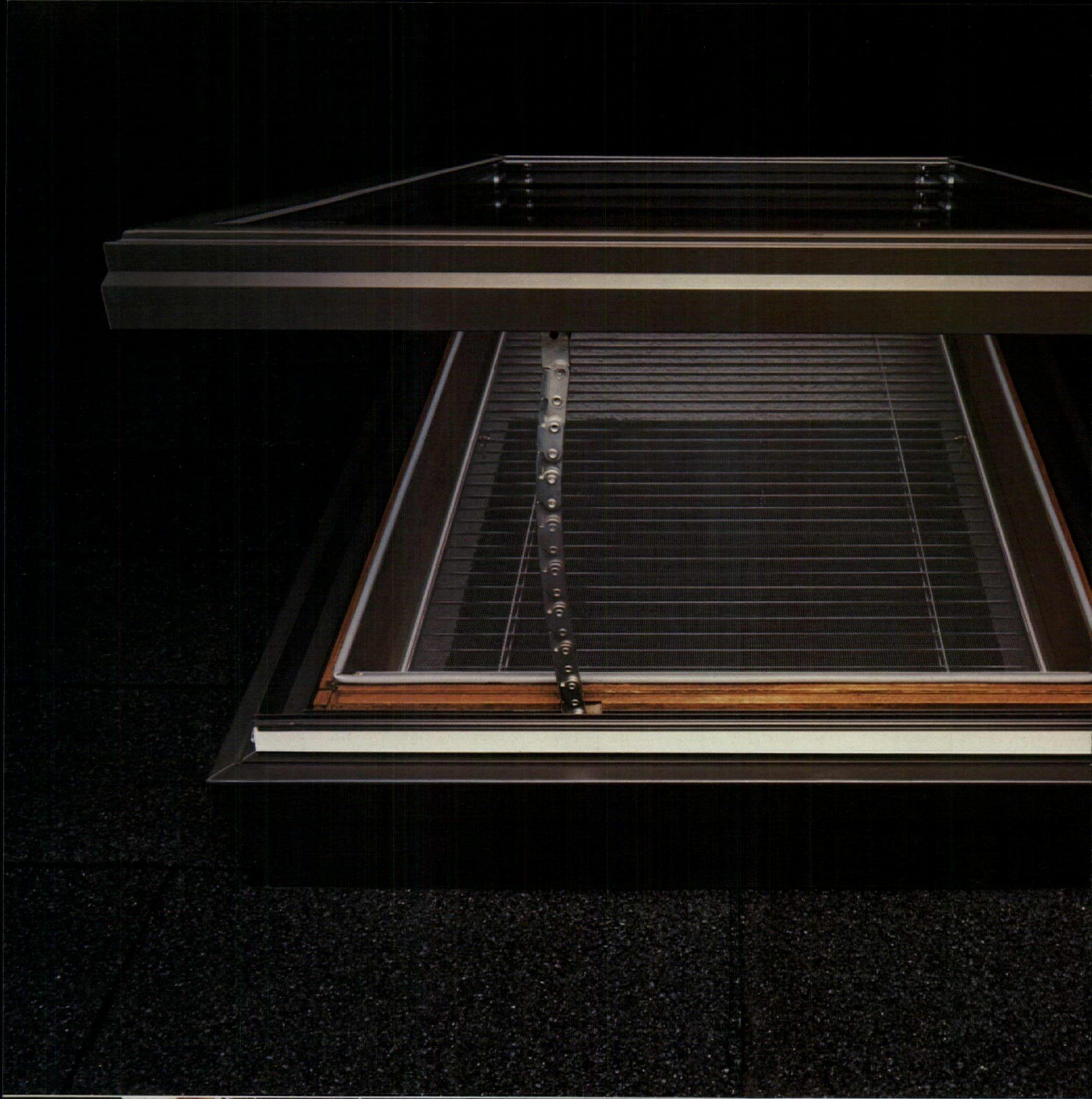
## AS/ISES: The Renewable Challenge

Over 3000 professionals from the U.S. and abroad are expected to attend the annual meeting of the American Section of the International Solar Energy Society in Houston, June 1-5. This year the members will address themselves to "The Renewable Challenge" in an effort to promote solar energy in this era of diminishing government support.

The conference will emphasize that solar active and passive, wind power, and alcohol fuels must take on a greater share of the world's total energy resources in the 1980s. The conference will conclude with an exhibition of the latest solar technology, which is expected to draw up to 10,000 people. This exhibition has received "Internat-

[News report continued on page 30]







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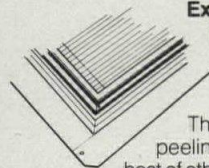
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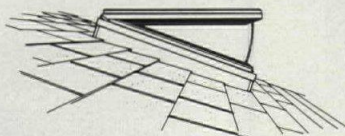
## **Exterior cladding that can survive constant exposure.**



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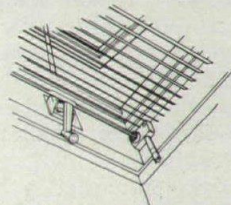
This tough coat resists fading, peeling, blistering, chipping and a host of other plagues. Plus, the dark brown finish blends well with just about any roof covering and matches other Pella Clad products.

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tractive narrow-slat metal blinds are installed inside the frame and can be adjusted directly by hand or with an aluminum extension pole. Slimshade®, available in Oyster White only, is a desirable option for both ventilating and fixed Pella Skylights.

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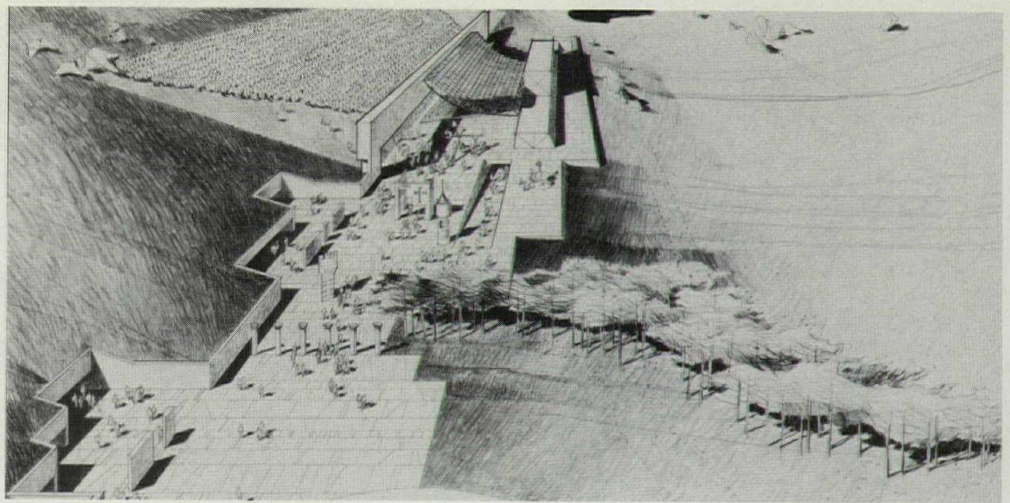
tional Trade Show" designation and is important to the expanding American solar technology export business.

"The Renewable Challenge" and following exhibition will be held at the Albert Thomas Convention Center in Houston. For more information contact Russell Smith, Texas Solar Energy Society, 1982 AS/ISES Conference Coordinator (512) 472-1252, or Griff Ellison, The Energy and Communications Group, 1415 Larimer Square, Denver, Co 80202 (303) 629-5449.

## Rancho Bernardo arts center competition

Last fall, the Rancho Bernardo Symphony on the Green sponsored a design competition for a \$15 million performing arts center near Lake Hodges in the San Diego area. Funded by the Design Arts Program of the NEA and grants from local corporations, the competition called for permanent-roofed seating for 5000 and outdoor blanket seating for an additional 10,000. Theater requirements included a maximum thrust stage for opera, ballet, theater, civic light opera, and symphony performances, along with accommodation for smaller, more intimate presentations.

The competition included a five-day on-site design charrette requiring competitors to prepare both site and build-



*Rancho Bernardo winning scheme.*

ing models. Competition judges were Thomas Aidala, architect and urban planner; Francis H. Dean, a local landscape architect; architect Tony Lumsden; R. Barry McComie, president of Avco Community Developers, Inc.; and Robert McTyre, general manager for the outdoor Greek Theater in Griffith Park, Los Angeles.

Most of the schemes, including those by four of the finalists, took advantage of the site contours and view by forming a natural amphitheater which used the lake as a back drop. The four finalists were Mitchell/Giurgola Architects, Martinez-Wong & Associates, Gary Allen, and Robinson, Mills & Williams.

The winning scheme, designed by

Kenneth Neumann & Associates of Southfield, Mi, took an entirely different direction. The architects arranged the theater and its seating perpendicular to a linear axis that leads directly to the lake. Therefore, it is upon entrance to the theater that the audience obtains the most dramatic view of the lake and the mountains beyond. Once one is within the theater facility, the lake is in the wings. The covered seating for this scheme consists of a draped space-frame structure dipping down from the rear of the covered seating area to the stage and opened at the sides for breeze and views. Outdoor seating is situated on the slope above the main covered seating [News report continued on page 34]

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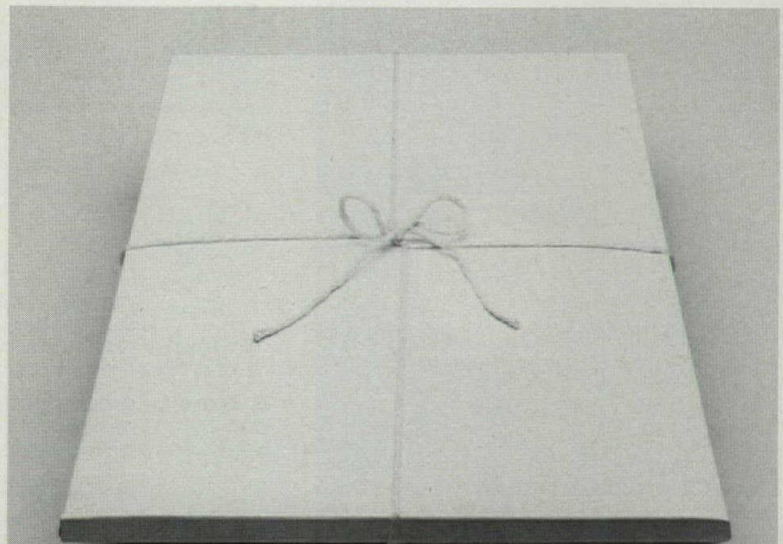
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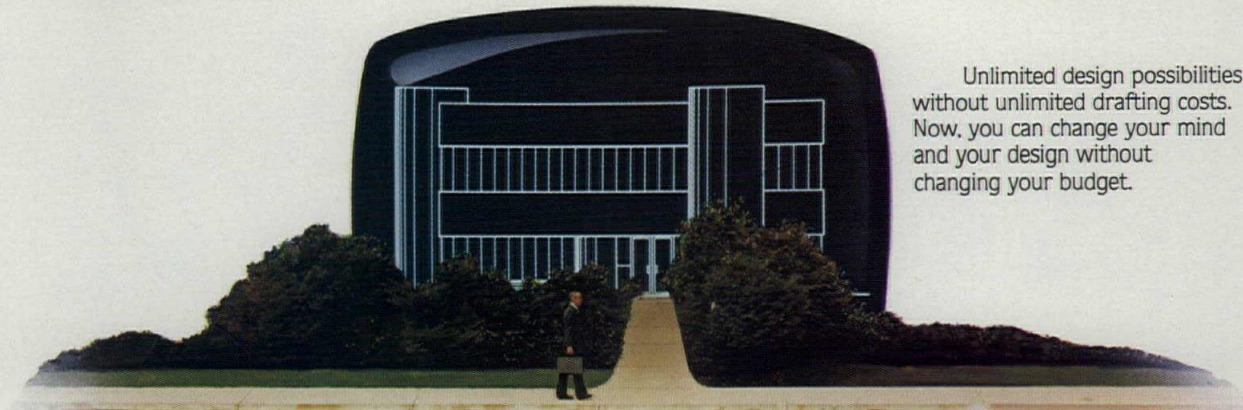
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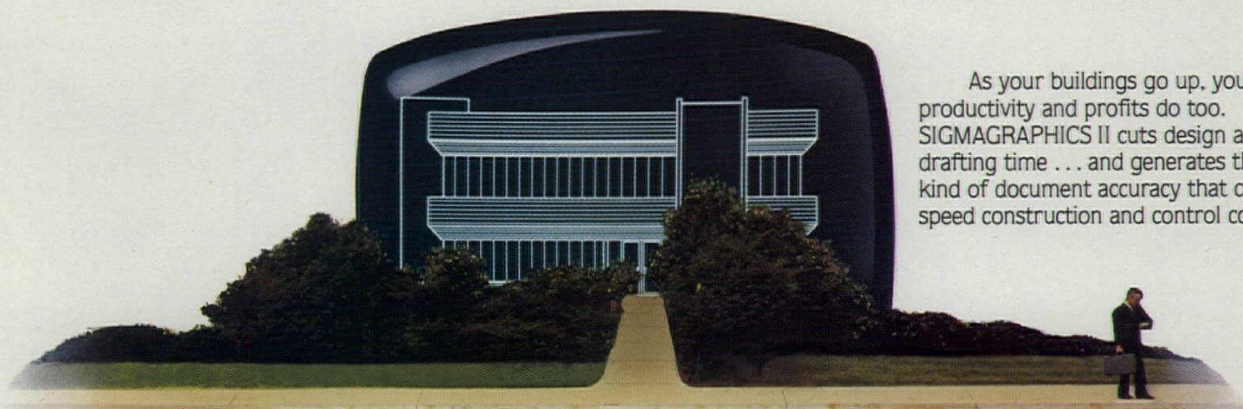




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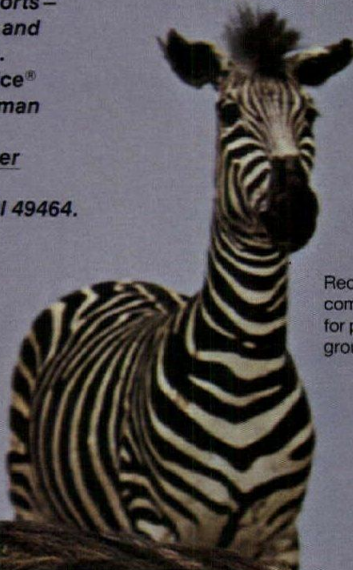
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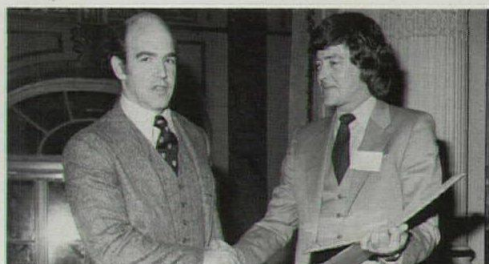
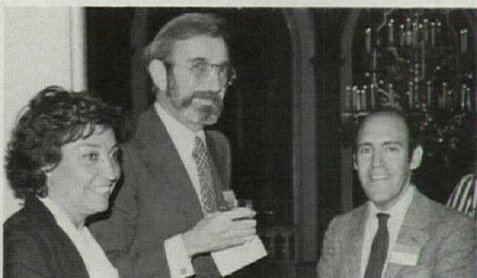
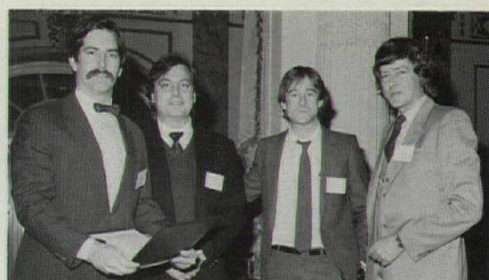


area. The stage can be adapted for a variety of theater functions.  
[Barbara Goldstein]

## P/A honors award winners

The P/A Awards luncheon, honoring winners in the 29th P/A Awards program, was held at the Plaza Hotel, New York, on Friday, January 22. Representatives of all 23 winning teams, as well as a large number of clients, attended the event, which took place in the dramatic Grand Ballroom. Six of the eight jurors—Thomas Beeby, David Childs, Pleasantine Drake, James Ingo Freed, Michael Graves, and Gary Moore—were present (Jeffrey Cook and Dolores Hayden could not attend). The 300-plus guest list included past jurors, contributors to P/A, journalists, museum curators, heads of local architectural schools, and architectural organizations.

On Thursday evening, Jan. 21, also at the Plaza Hotel, P/A hosted winning advertisers and their agencies at the seventh annual AdAwards dinner. The AdAwards are given annually for outstanding advertisements published in P/A during the year, and are selected by a jury of architects. [Barbara McCarthy]  
[News report continued on page 36]



P/A guests Paul Goldberger, Ted Liebman, Lisa Taylor (top); Rosaria Piomelli, James Freed, Stuart Cohen (middle); Gino Valle, James Rossant (above).

Jim Murphy presents awards to Bernard Wharton, Allan Shope, and Robert Reno (top), Charles Gwathmey (middle), and Richard Reid and Ralph Lerner (above).

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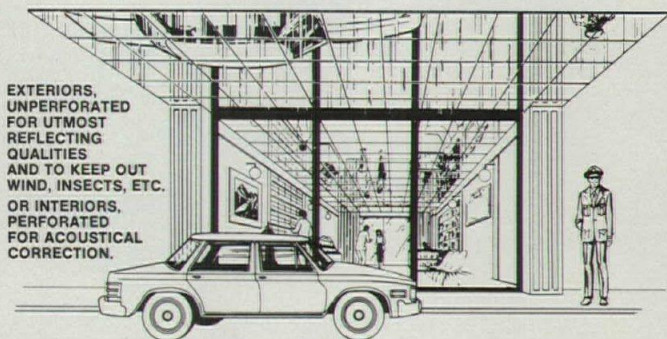
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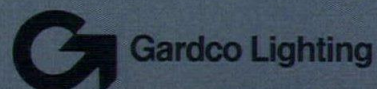
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## Urban waterfronts

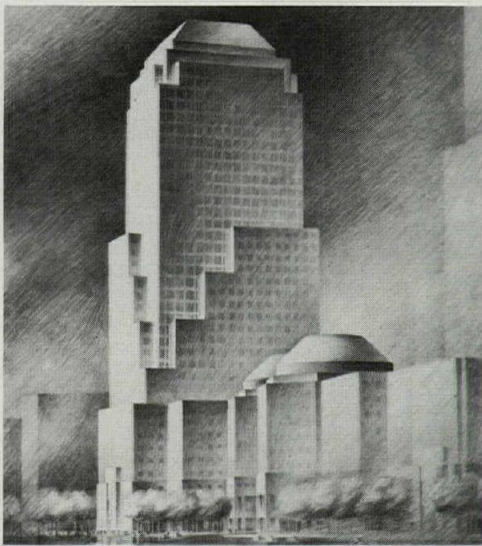
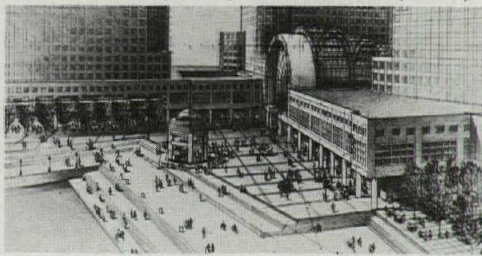
On San Francisco's waterfront, at the foot of Market Street, a three-story World Trade Center will be built, the 1915 Agricultural Building (part of the the Pan-Pacific International Exposition) reconstructed as a Food Hall, and as focal point, the 1892 Ferry Building, with its tower modeled after the Seville Cathedral's Bell Tower, will be renovated for shops, restaurants, and offices. Architects: I.M. Pei & Partners, with Gensler Associates.

300 years after Penn landed, construction will begin, just north of Penn's Landing in Philadelphia, on a project to be built over 15 years, intended to include 6000 dwelling units, 400,000 sq ft of commercial space, and 500,000 sq ft of office space, replacing deteriorating and defunct piers. First phase: two low-profile buildings with 278 luxury condominium units, offices, and retail space, and a marina between. Architects: Alesker & Reiff.

In New York, the latest drawings for Cesar Pelli's Battery Park City Commercial Center have been released. And along the edge of the Battery Park City site, adjacent to the Hudson River, a 1.2 mile walkway is being built. Designed by BPC master planners Cooper, Eckstut Associates, the esplanade will have pavers, lighting fixtures, benches, and railings similar to New York City's traditional waterfront parks.



San Francisco (above) and New York (below).



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engineer Ervin Bales, both responsible for major DOE conservation programs, are also moving on.

¶ And, to mix metaphors, that is only the tip of the iceberg.

### Shaky Inland shuffles

As the deficit of the Chicago-based magazine the Inland Architect mounts towards \$60,000 a year, chairman of the board of the I.A. Press, Harry Weese, is reconsidering his participation, which involves a heavy financial burden for his firm. Possibilities:

¶ SOM Chicago, among others, is considering assuming Weese Associates' role;

¶ a new board is being assembled, involving businessmen, bankers, and developers;

¶ a new fund-raising and circulation drive is being planned.

But, says editor and board member Bill Marlin, "The rumor of our demise is grossly exaggerated."

### Awards, honors

Edward Larrabee Barnes has been presented a New York Mayor's Award of Honor for Arts and Culture. Presenter: I. M. Pei. Others similarly honored include Tennessee Williams, artist Frank Stella. Other prizes, other winners:

¶ Walt Disney World/Reedy Creek Improvement District near Orlando, FL, has received the Urban Land Institute's Award of Excellence for 1981;

[Pencil points continued on page 40]

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for peaceful moments of solitude.*

*Within these spaces  
men and women trace intricate patterns  
between their thoughts, their objects and each other.  
Space.*

*To give it is to provide that diversity of form  
which allows for  
individual aesthetic and functional expression,  
fulfilling for each of us, a deep, inner need.  
People, sometimes silent, sometimes sharing,  
but always sensitive to that critical distance  
created by the boundaries that define our spaces.*

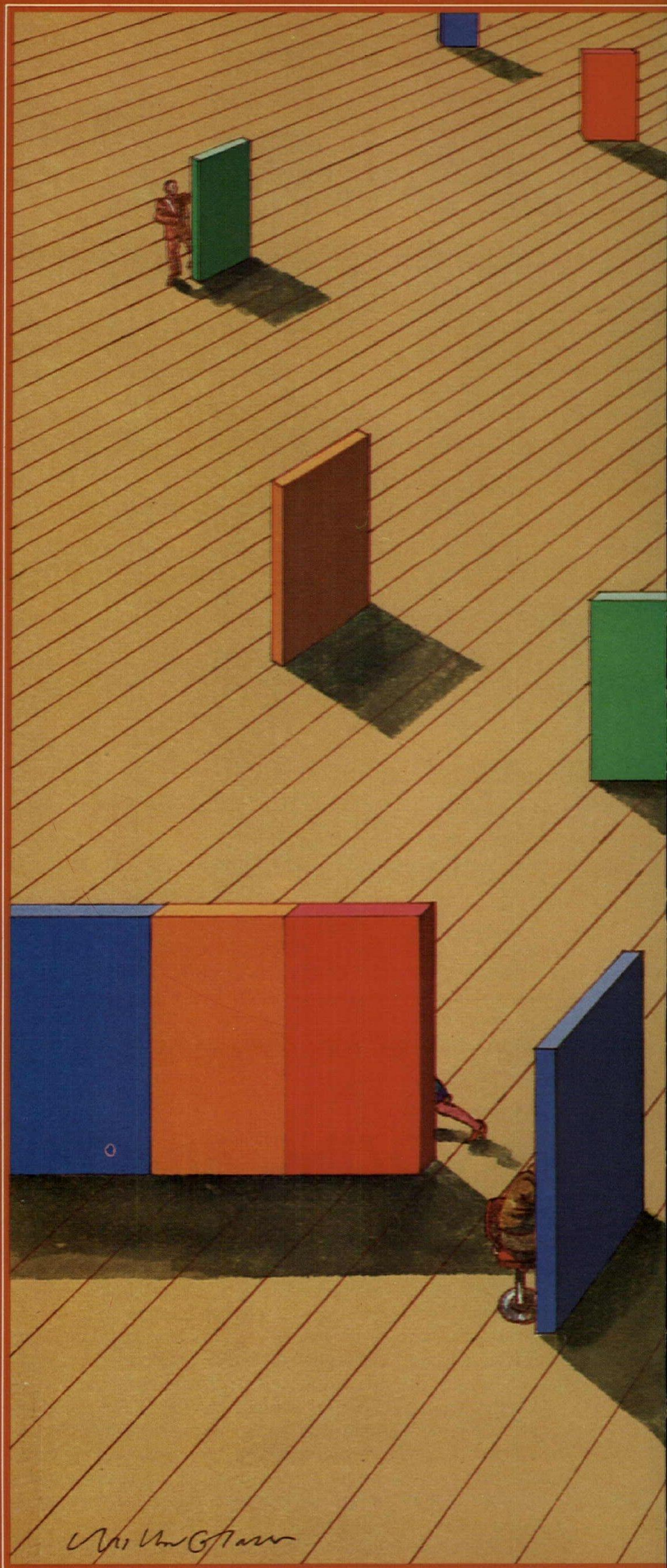
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*Space: the diversity of form.*

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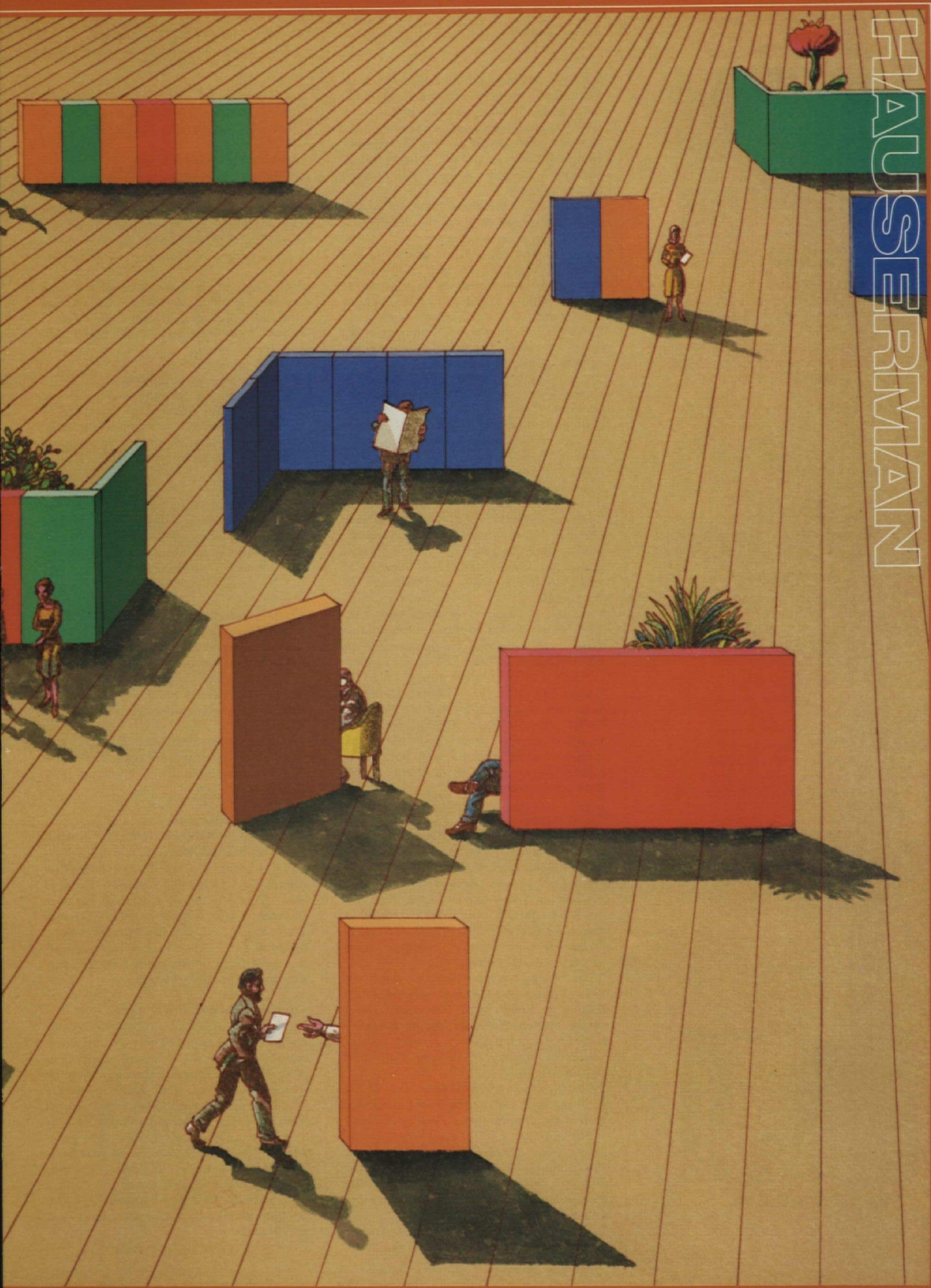
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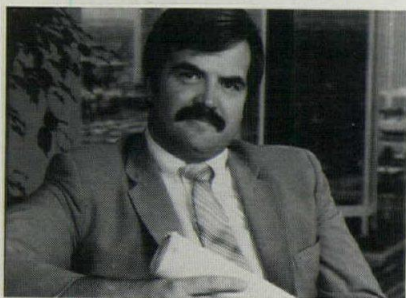


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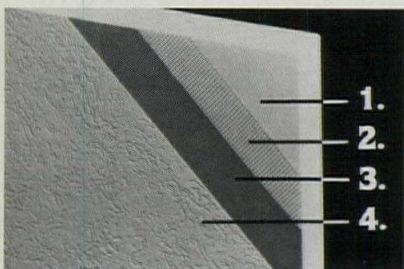
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Pencil points continued from page 36

¶ **Kimmo Sahakangas** of California State Polytechnic University, Pomona, took first prize in the Walker/Group National Student Design Competition for the design of a sporting goods/clothing store. Three retailers and three architects (Hugh Newell Jacobsen, Charles Gwathmey, Ken Walker) formed the jury.

¶ **Recipients of the Rome Prize** will be officially announced at the end of March. But inside sources reveal that:

¶ **mid-career fellowships**, providing six months of independent study at the American Academy in Rome, will be awarded to Tod Williams, Eugene Kupper, Barbara Stauffacher, and Stanley Abercrombie;

¶ **and junior fellowships** for one year at the Academy will be presented to James Timberlake and Celia Ledbetter.

**Competition, competition, competition** Humana Inc., a Louisville, Ky, hospital management corporation, has "hired" Foster Associates, Michael Graves, Murphy/Jahn, Richard Meier, Ulrich Franzen, and Cesar Pelli to design its Louisville headquarters. Design due end of March. Selection by late spring. Other competitions:

¶ **Eduardo Contini** of Urban Innovations Group is the organizer of a limited competition for an office building on an important site in Los Angeles, the present location of Ships Coffee Shop on Wilshire in Westwood.

¶ **Shades of Portland** in Anchorage, Ak. The State of Alaska has announced a design/build/developer competition for an office complex. In lieu of Philip J., Vincent J. Scully is adviser to the jury.

¶ **More IBA (P/A, Jan. 1982) competitions** have been held for sites in Berlin. Cooper Union director John Hejduk has been awarded special prize for a block on Wilhelmstrasse; and winners have been selected for an extension to Mies Van der Rohe's National Gallery.

### Event upcoming

On April 16 and 17, a conference titled "International Style in Perspective" will be held in Gund Hall at Harvard University:

¶ **The first session:** "Architecture in 1932: International Style and its Legacy." Papers by Kurt Forster and David Handlin. Panelists: Richard Meier, Arthur Drexler, Joseph Rykwert, Helen Searing. Moderator: Lewis Mumford.

¶ **The second session:** "Architecture Since 1932: From Avant-Garde to Official Style." Papers by Robert A.M. Stern and Rosemarie Bletter. Panelists: Eduard Sekler, Bruno Zevi, William Hewitt, Peter Smithson. Moderators: Harry Cobb and Gerald McCue.

¶ **Final session:** "Architecture Since 1932: Meaning and Abstraction in the Language of Modern Architecture." Papers: Anthony Vidler and Neil Levine. Panelists: Thomas Beeby, Peter Eisenman, Alan Colquhoun, Paul Rudolph. Moderator: Philip Johnson.

¶ **Having the final word** at all the sessions: Henry-Russell Hitchcock, Philip Johnson, Lewis Mumford.

¶ **Additional perks:** the annual Walter Gropius lecture, by Robert Venturi. A re-

ception. A luncheon. An exhibition.

¶ **The six papers** will be published as a book by MIT Press.

¶ **Cost:** \$75.

¶ **Additional information:** International Style Conference, Gund Hall, Room 506, 48 Quincy St., Cambridge, Ma 02138.

### Architectural furnishings

Architects Michael Graves, Aldo Rossi, Ettore Sottsass, Alessandro Mendini, and Emilio Ambasz are among those asked by the Alcantara fabric company to design spaces using fabric in any way, to be exhibited in Milan in September. In a similar vein,

¶ **19 designers**, including Graves and Alan Buchsbaum, have designed room settings using Italian ceramic tile for Casa Tile '82, shown in early March in New York's Italian Trade Center.

### And furniture by architects

The Whitney Museum of American Art is organizing an exhibition of furniture by American architects, to be held November 12, 1982-January 26, 1983 at its Fairfield County branch in Stamford, Ct.

### Wright news

The Hannas have given Stanford University archival material—200 sketches and plans, 500 photographs—of the honeycomb house designed for them in 1935 by Frank Lloyd Wright. The house itself was given to the University in 1974. And in St. Paul, Mn,

¶ **a full-scale mockup** of Wright's "Fire-proof House for \$5,000," designed in 1906 and never executed, forms part of the exhibition "Prairie School Architecture in Minnesota, Iowa and Wisconsin" at the Minnesota Museum of Art (see Calendar). Other reconstructions can be seen here as well:

¶ **a teller's area**, Sullivan's Farmers' and Merchants' Bank of Owatonna; and

¶ **a corner of Purcell and Elmslie's** 1912 Decker House.

### More reconstructions

Nearby, at the Walker Art Center in Minneapolis, the exhibition "De Stijl: 1917-1931, Visions of Utopia" re-creates Piet Mondrian's 1926 Paris studio, Rietveld and Huszar's room designed for the Greater Berlin Exhibition of 1923, and Piet Zwart's Celluloid Manufacturers' Stand of 1921. The exhibit includes paintings, drawings, architectural models, furniture, and graphic designs.

### Dropping Johns, adding Janes

To put it simply, Johns-Manville is now known as Manville. The name change represents a corporate structure reorganization, with a new parent company, Manville Corporation, and five wholly separate operating subsidiaries. Some architectural firms have made structural changes as well:

¶ **Stanley Tigerman's** wife Margaret McCurry, AIA, ASID, has become his partner; the new name: Tigerman Fugman McCurry Ltd. Architects; and

¶ **Cesar Pelli's** wife Diane Balmori is now a partner in Cesar Pelli Associates, as is Fred Clarke. [SD]

[News report continued on page 44]



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Circle No. 326





# Four-acre skewed space truss tops Reunion Arena in Dallas.



---

## Credits:

**Owner:** City of Dallas, Texas

**Construction Manager:** Henry C. Beck Co., Dallas, Texas

**Architect/Engineer:** Harwood K. Smith & Partners, Inc., Dallas, Texas

**Consulting Engineer (Space Truss):** Dr. Paul Gugliotta, New York, N.Y.

**Steel Fabricator:** Mosher Steel Co., Dallas, Texas

**Steel Erector:** John F. Beasley Construction Co., Dallas, Texas

---



## Project Facts: Reunion Arena, Dallas, Texas

**Cost:** \$24 million

**Roof Dimensions:** 420 ft x 420 ft

**Steel Truss Weight:** Approximately 2,600 tons

**Unit Weight:** 27 lb/sq ft

**Steel Grades:** ASTM A572 Grade 60 and A36

**Steel Supplier:** Bethlehem furnished more than 2,000 tons of structural shapes



*The Arena's 176,400-sq-ft space truss is supported on eight 6-ft-diam columns. The roof has a 412-ft clear span and overhangs the substructure by 4 ft on each side. The frame's corners cantilever 70 ft from the column line.*

*Back-lit at night, the space truss appears to float above the seating substructure. Nearly 1,900 steel members were erected individually to complete the roof structure.*



*Steel box sections embedded in 5-ft-high column caps are bolted to the space truss with 3-in.-diam anchor bolts. Four-foot-square elastomeric pads accommodate rotation at each connection.*

Reunion Arena, a 17,200-seat sports and show place in Dallas, Texas, is housed under the largest space truss in the world. Located at Reunion Place, a theme area reflecting the city's mixture of old and new, the new arena joins the 50-story Reunion Tower and mirrored glass-clad Hyatt Regency Hotel.

### Skewed space truss covers 176,400 sq ft

According to the space truss consulting engineer, Dr. Paul Gugliotta, "The skewed space truss is more efficient than a two-way truss system for spanning long distances. With the space truss, the loads are spread more evenly over many members rather than just a few. The two-way truss system tends to concentrate loads in the nearest trusses.

"Skewing the space truss grid 45 degrees in plan stiffens the corners and reverses the stresses across them, effectively reducing the midspan moments and deflections. This action is similar to that in continuous beams with cantilever end spans that reduce the midspan moments. Member forces are correspondingly reduced."

### A hybrid structure

The space truss, having a unit weight of 27 lb/sq ft, is based on a 36-ft 5-in. module and an 18-ft 10-in. centerline depth. Top and bottom chords are parallel and staggered from each other in plan one-half module in each direction. The nodes (shop-welded joints of wide-flange members) allow the chords and diagonals to be field bolted in place without any reduction in section area or strength.

The top and bottom

chord members are fabricated of A572 Grade 60 wide-flange sections ranging from W14x34 to W14x233. Truss diagonals, fabricated mostly of A36 steel, vary from W10x33 to W12x79 sections. All field connections are shop bolted with 1 1/4-in. A490 high-strength bolts. Connection plates are fabricated of both A572 Grade 50 and Grade 60 steels.

### Floating effect

The entire perimeter of the space truss is enclosed in glass. Back-lit at night, the frame appears to float above the arena floor and seating substructure.

The Reunion Arena seats 17,200. Its action area includes a 200 x 85-ft playing floor which is designed to accommodate a wide variety of activities including boxing, rodeos, ice shows and musical concerts.

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## Calendar

### Exhibits

**Through Mar. 14.** American Landscapes: Organized by the Museum of Modern Art, New York. Akron Art Museum, 70 E. Market St., Akron, Oh.

**Through Mar. 18.** Black American Landmarks. Gallery at the Old Post Office, 120 W. Third St., Dayton, Oh.

**Through Mar. 19.** America's Architectural Heritage. Fitchburg State College, Fitchburg, Ma.

**Through March 21.** Kandinsky in Munich: 1896-1914. Guggenheim Museum, New York.

**Through Mar. 21.** New Chicago Architecture. Museo di Castel dell'Ovo, Naples, Italy. Subsequent dates: **Apr. 3-May 9.** Accademia di S. Luca, Rome.

**Through March 21.** Transformed Houses. New Jersey State Museum, Trenton, NJ. Subsequent dates: **Apr. 10-May 9,** Lehigh University Architecture Department, Bethlehem, Pa; **Oct. 23-Nov. 21,** UCLA School of Architecture and Urban Planning, Los Angeles.

**Through Mar. 28.** Visionary Drawings: Architecture and Planning. Dallas Historical Society, Dallas, Tx.

**Through Mar. 28.** De Stijl: 1917-1931, Visions of Utopia. Walker Art Center, Vineland Place, Minneapolis, Mn. Subsequent dates: **Apr. 18-June 27,** Hirschhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, DC.

**Through Apr. 3.** "Daily Mail" Ideal Home Exhibition. Earls Court, London.

**Through Apr. 10.** Prairie School Architecture in Minnesota, Iowa, and Wisconsin, featuring Frank Lloyd Wright's "Fireproof House for \$5000" in full-

scale mock-up. Minnesota Museum of Art, Landmark Center, St. Paul.

**Through Apr. 11.** "Robert Adam and His Style." Cooper-Hewitt Museum, 2 E. 91 St., New York.

**Through Apr. 17.** Original furniture of the Modernist period. Max Protetch Open Storage, 214 Lafayette St., New York.

**Through April 18.** "Form and Function: Proposals for Public Art for Philadelphia." Pennsylvania Academy of the Fine Arts, Broad and Cherry Sts., Philadelphia.

**Through April 18.** Innovative Furniture in America. Minnesota Museum of Art, St. Paul.

**Through May 2.** Architectural Fantasy and Reality." Cooper-Hewitt Museum, 2 E. 91 St., New York.

**Through May 9.** An exact replica of a Viking townhouse in "The Viking World" exhibit. Museum of Science and Industry, Chicago.

**Mar. 11-13.** Condes '82, contract/design show. Dallas Market Center, 2100 Stemmons Freeway, Dallas, Tx.

**Mar. 11-Apr. 3.** "OMA/Rem Koolhaas/Elia Zenghelis Projects, 1972-1982," Architectural Drawing. Max Protetch Gallery, 37 W. 57 St., New York.

**Mar. 13-May 23.** "Shelter: Models of Native Ingenuity." The Katonah Gallery, Katonah, NY.

**March 15-27.** "Context," an exhibition of recent work by Moshe Safdie. Harvard University School of Design, Gund Hall, 48 Quincy St., Cambridge, Ma.

**April 5-18.** "The International Style in Perspective: 1932-1982." Harvard Graduate School of Design, Gund Hall, 48 Quincy St., Cambridge, Ma.

### Competitions

**Mar. 31.** Deadline, Architectural Design's Doll House Competition. Contact Andreas Papadakis, Architectural Design, 42 Leinster Gardens, London W2, England.

**May 31.** Submission deadline, The Monroeville Area Civic Center Architectural Competition. Contact Gary Naktin, Westinghouse Building, Gateway Center, Pittsburgh, Pa 15222 (412) 255-3800.

### Conferences, seminars, workshops

**Mar. 26-28.** Third Annual Monterey Design Conference: West Coast Design from Baja to B.C. California Council of the AIA, Doubletree Inn and Monterey Conference Center, Monterey, Ca. Contact Kathy Atkinson, CCAIA, 1414 K St., Suite 320, Sacramento, Ca 95814 (916) 448-9082.

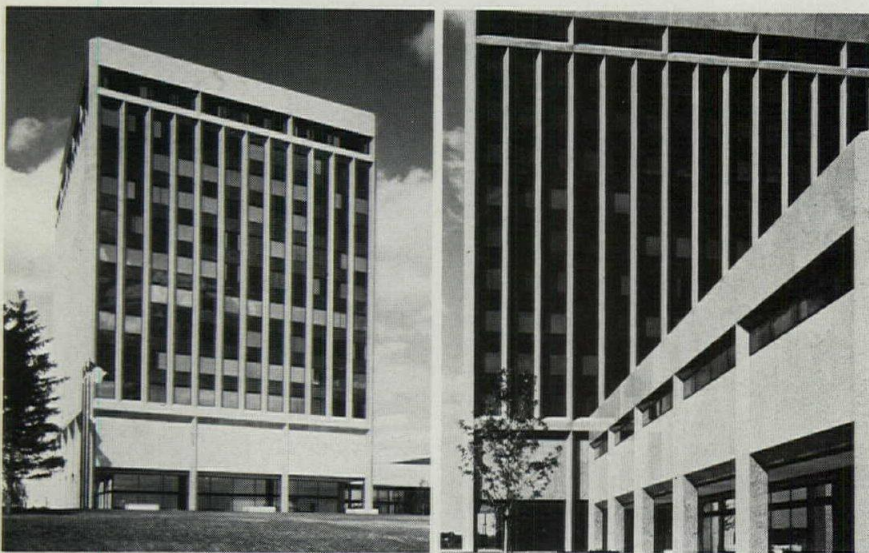
**Mar. 27-28.** "Artists/Architects: Humanism Rediscovered" conference of AIA Design Committee. New York, N.Y. Panel discussions with prominent artists, architects, critics; tours. Contact John Gaillard (202) 626-7363.

**Apr. 16-17.** "The International Style in Perspective" Conference. Harvard Graduate School of Design, Gund Hall, Cambridge, Ma. Contact: Yvonne Chabrier, Office of Public Information (617) 495-4122.

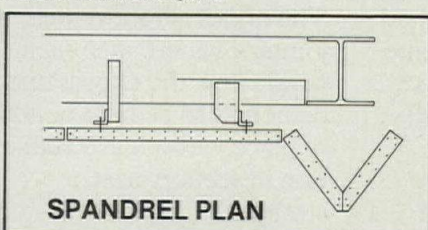
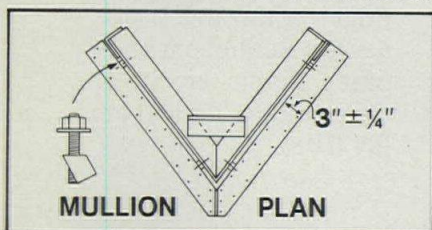
[News report continued on page 47]

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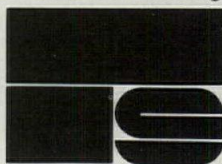
Architect: Graham Anderson Probst & White, Chicago, IL



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## Perspectives

### Orlando: Boomtown 1981

A sleepy little Central Florida town until two years ago, Orlando is awakening to become a city of the 21st Century. The renaissance is paced by airport expansion—the recently opened 48-gate, \$250 million “destination” airport will connect directly with Europe and Latin America, and the tourist and business implications are significant. A feud has already begun with Miami to the south, with local correspondents trading words in each other’s dailies.

Orlando is more than just Disney World, Sea World, and Circus World: it is fast becoming a commercial, banking, and industrial sales center—Westinghouse is creating a New World Headquarters in Orlando, combining its Steam Turbine and Generator Divisions at present in Pennsylvania—serving not only the obvious Latin American market, but Europe as well. Miami would do well to keep an eye on this growing neighbor.

Already having completed \$200 million of construction in its downtown area, Orlando has an additional \$300 million planned growth. This includes 2.4 million sq ft of office space, 140,000 of retail space, 2200 hotel rooms, 1800 housing units, anywhere from 9000 to 12,000 parking spaces, and up to 100,000 new jobs created by all of the above.

The plans for growth incorporate aesthetic measures, as local designers Herbert/Halback work with Wallace, Roberts & Todd preparing prototype “streetscapes,” recently completing Orlando’s first pedestrian mall “Wall Street,” and a historic district has been defined by the Downtown Development Board.

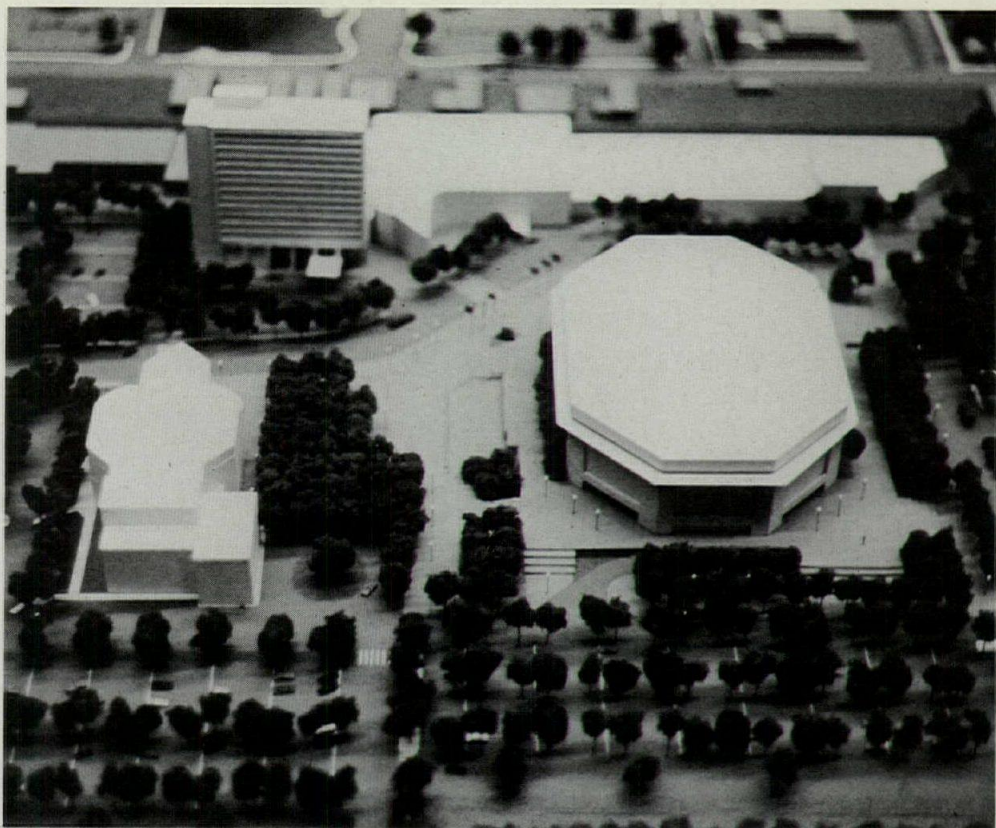
Orlando has embarked on the following in its downtown: improved pedestrian movement by widening sidewalks, amenities of planting, street furniture, and sidewalk textures; remote parking combined with transit systems; encouragement of “active” ground-floor areas in major commercial developments; mixed uses around downtown lakes—office and residential; and preparation of a new development code to allow greater flexibility for the city to accommodate new and innovative developments.

[News report continued on page 48]



Aerial view of Orlando (top). EPCOT center model (above).





*Model of "Centroplex" (top right), theater/hotel/expo complex on the edge of Downtown Orlando. An interior atrium in Centroplex's renovated Carr auditorium (top left). New Orlando airport (middle and left).*

This is Orlando's first real activity since the 1920s and the growth has got to be directly attributable to Disney World and the myriad of ancillary activities it spawned. The city's present boom is probably the harbinger of more to come. Already the Downtown Development Board has had to revise its growth estimates upwards in mid-year, since the last was much on the low side.

Now, with the construction of Disney's EPCOT Center, scheduled to open in October 1982, and the new jetport facility, more people will be coming to Orlando. The jetport will function as a destination location rather than a transfer station for the majority of its passengers, unlike Atlanta's new Hartsfield International, where 76 percent of passengers use the airport only to change planes. Airport design will prepare travelers psychologically for Central Florida's climate by having landscaping, building materials, and interior design reflect the semitropical location.

EPCOT will be a permanent world's fair composed of two themed areas, Future World and World Showcase, the latter a "community of nations" with 12 international pavilions currently on the drawing boards. The 600-acre project (cost \$800 million) is the largest ever undertaken by the Disney Organization.

While overall plans are being formulated, the day-to-day life is not being ignored. The newly renovated Carr Auditorium, for example, had over 220 events scheduled its first year of renewed activity—a good portent of things to come in what looks to have been a sleepy little Central Florida town. [Edward D. Levinson]

[News report continued on page 51]



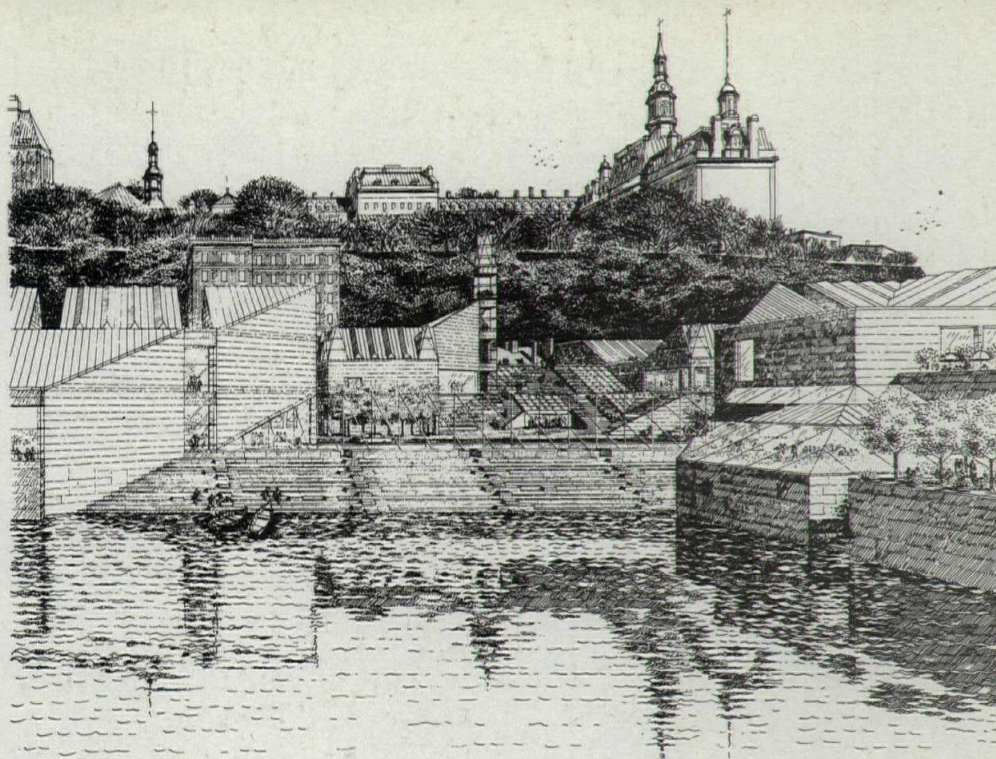
# In progress

**1 Musée Nationale de la Civilisation, Quebec, Que.** Architects: Belzile Brassard Gallienne Lavoie; Sungur Incesulu; Moshe Safdie and Desnoyers Mercure, Architects, Quebec. This design for a national museum of civilization, winner in a limited competition, relates to its waterfront site through terraced steps and gardens leading to the river, in a manner reminiscent of the 18th-Century market on the same site. The terraces and a courtyard, enclosed on its fourth side by an existing building, integrate well into the meandering streets and alley network of old Quebec. Skylit galleries occur beneath the terraces. The copper roof's "modernizing" dormer detail is too active, but the overall profile of the building, punctuated with a tower, blends well with the hilly, steeped city.

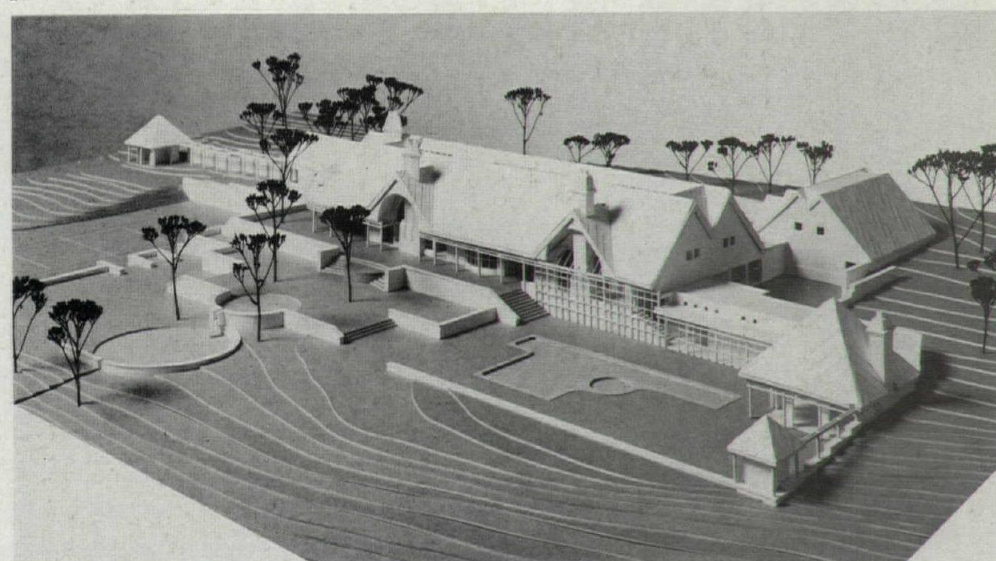
**2 Daniels residence, south of Denver, Co.** Architects: Dominick Associates, Denver. A country residence for a woman and her son is located on a five-acre site with dramatic mountain views. Organization is formal, with a cobblestone auto court, on axis with a reflecting pool, defining the primary entrance perpendicular to the house. Solid massing on the north dissolves into a light framework on the south, maximizing views and controlling solar gains. Central skylights introduce light to the main corridor, and with a heat recycling system, provide a plenum to store heat gain. A greenhouse, shaded from summer gain, wraps around a massive fireplace and over a masonry trombe wall to provide heat to the kitchen. Fireplaces utilize exterior combustion air. Active solar collectors over the skylights provide heat for domestic water and the pool.

**3 Three houses in Georgetown, Washington, DC.** Architects: Kerns Group, Washington. Three adjacent World War II brick townhouses, on a high bluff with panoramic views of Washington, are being renovated, elaborating their "barracks" look. The rear façades are being totally changed, the bases are being extended, and a floor is being added to one of the houses, so that the buildings step progressively in plan and elevation. The strong form of the bases is derived from the nearby Key Bridge arches over the Potomac. At the roofline, the gable-shaped trellises are being eliminated because of judicious recommendations by the U.S. Fine Arts Commission. Construction is of masonry, with brick arches and perma-stone blocks for keystones and cornerstones.

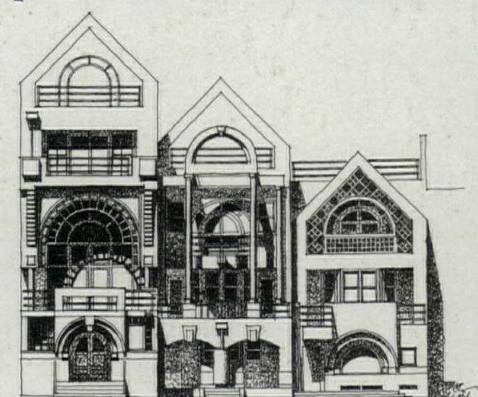
**4 Tampa Financial Center, Tampa, Fl.** Architects: Kohn Pedersen Fox Associates, PC, New York. This centrally located tower contains 21 floors of office space above seven levels of parking and two levels of commercial space, the latter including a mezzanine and first-



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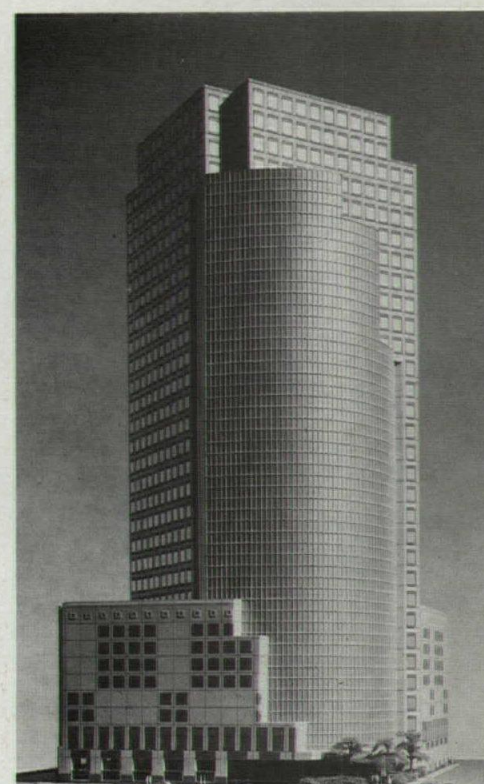


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3

floor banking hall. The building's expression heats up at the southwest corner, where the tower curves and is sheathed in an insulated, slightly reflective green curtainwall, and the punched-card parking structure breaks off in steps to allow trees to sprout from a small corner plaza acknowledging the nearby landmark city hall. The remaining tower façades will be executed in an exposed concrete grid and, like the parking structure, will incorporate panels of green honed granite. The basically square 20,000-sq-ft-per-floor tower will set back at upper floors to provide terraces. [SD]



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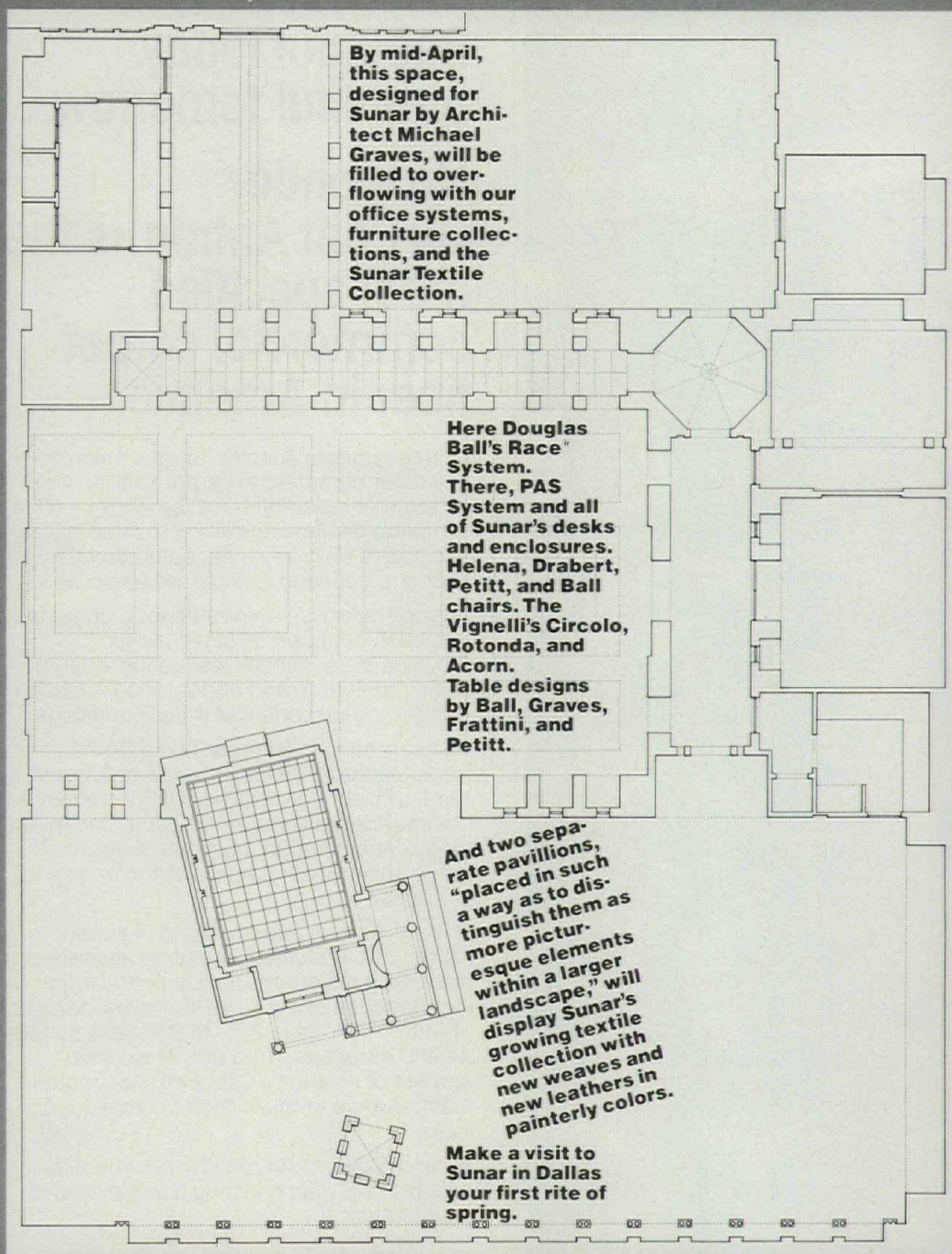
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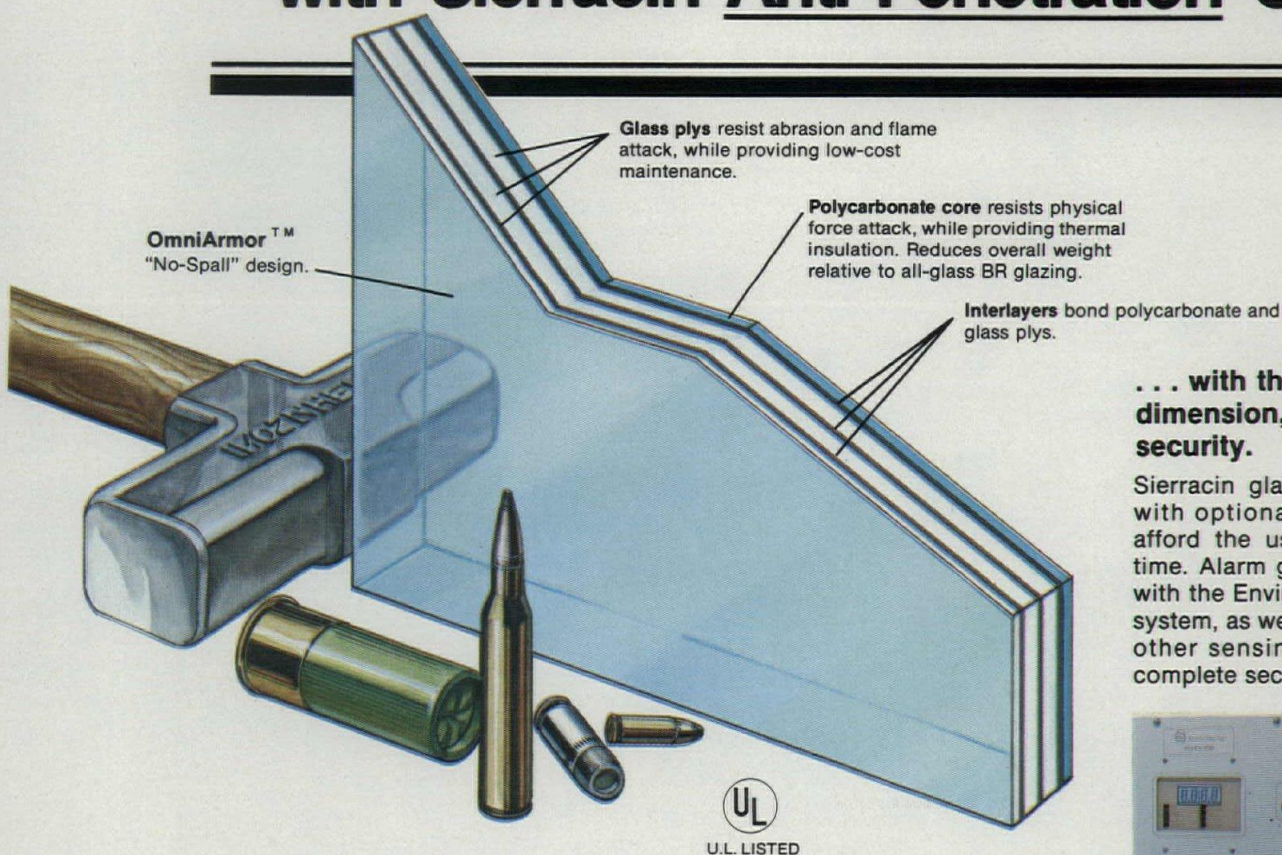
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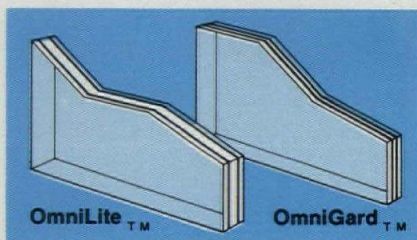
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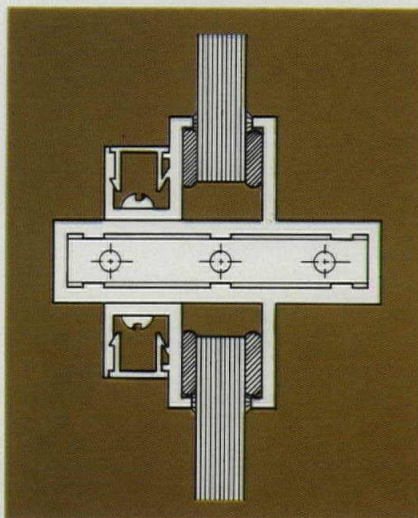


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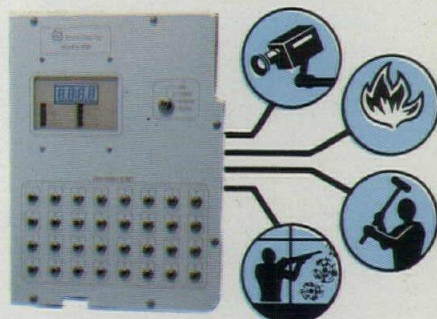
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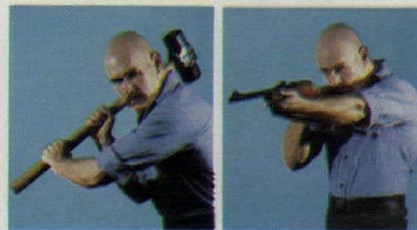
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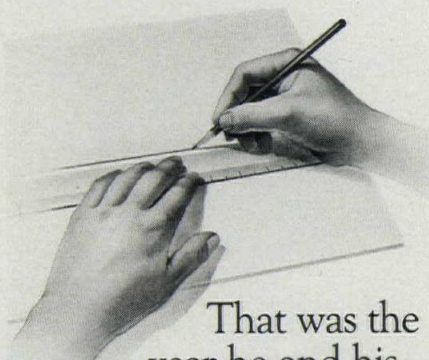
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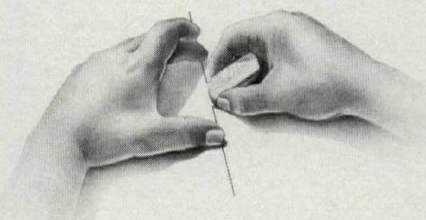
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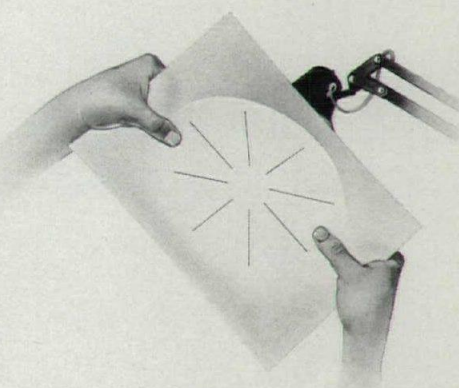
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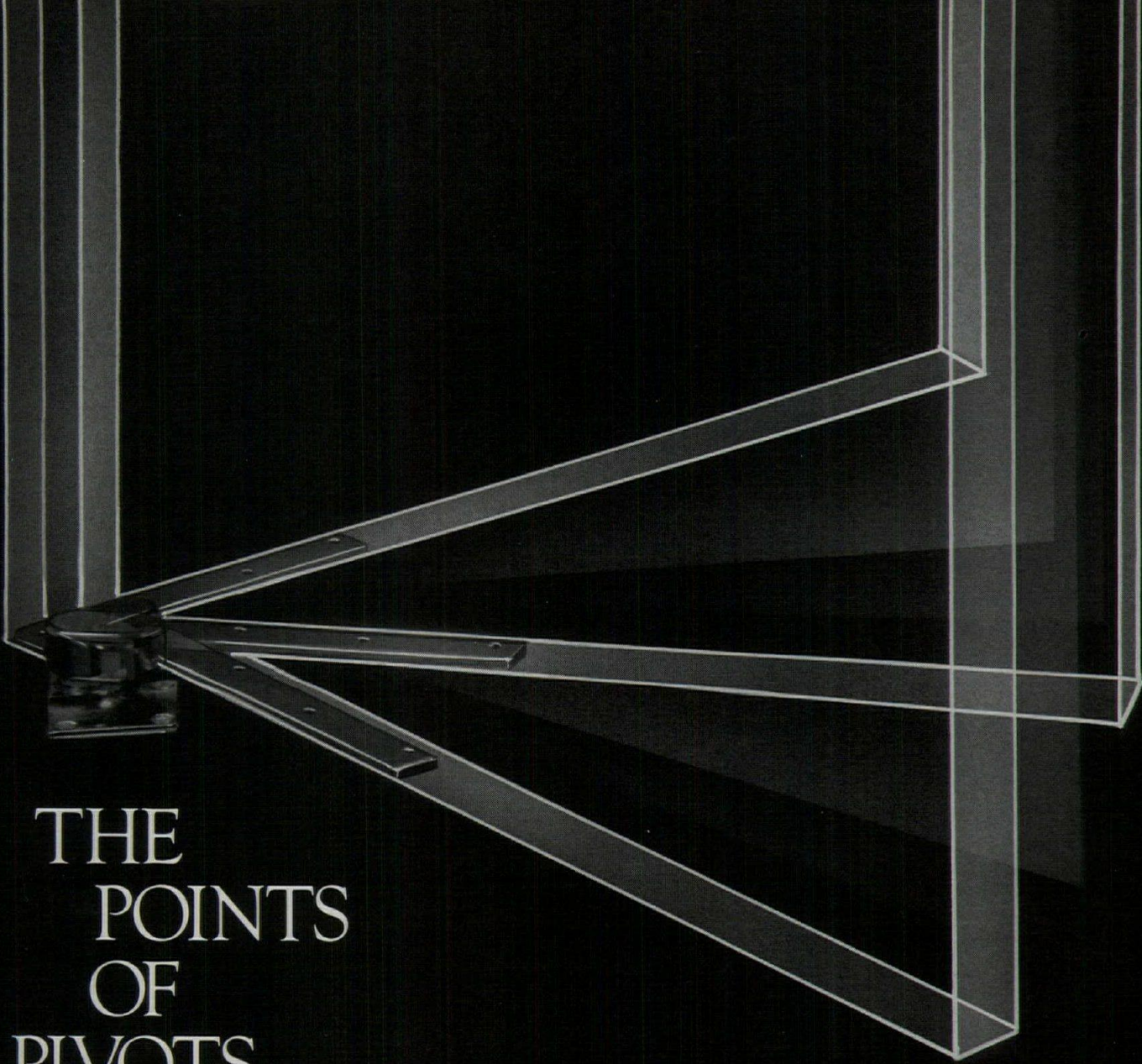
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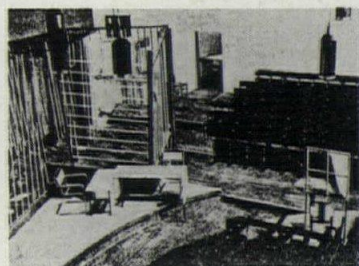
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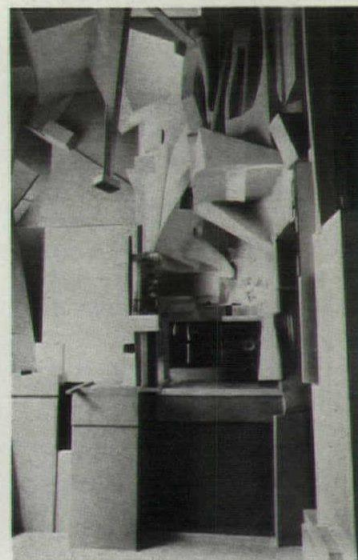


# Agitprop's legacy

Art as provocation, art that jabs at assumptions and unravels belief is endemic to this century. Has the idea been reshaped in the decades since the Russian Revolution, surfacing ultimately in architecture—and there still?



Art that took an active, challenging attitude towards its audience, from left to right: constructivist theater (the set of "Boston" designed by Szymon Syrkus in Warsaw, 1933, a play about Sacco and Vanzetti); Pablo Picasso's "Baboon and Young," 1951, with its toy Volkswagen head; René Magritte's "The Wind and the Song," 1929 (above), labeled paradoxically "This is not a pipe"; Stanley Landsman's "Walk-in Infinity Chamber," 1968 (below), an enterable chamber of partially reflective glass surrounded by an outer chamber surfaced in mirror and 6000 tiny light bulbs; a section of Kurt Schwitters' "Merzbau" in Hanover, 1925.



There is social reform that has to do with physical necessity and reform that has to do with state of mind. If Modern architecture has had more to do with the first, Modern art had much to do with the second. But perhaps somewhere that line was crossed. In the midst of the disillusionments that discouraged everyone—burned-out projects, 9-to-5 downtowns, banal bureaucracies—some architects picked up where some of the directions of Modern art (and literature and theater) left off and began to see architecture as a tool for stimulating individual awareness and thought. It is as if, reacting to the way some of the idealistically conceived new orders have turned out, some architects began to concentrate on the development of people instead.

Tangled threads lead through Constructivism, Dada, Surrealism, Environmental Art, Ad-hocism, and Dutch Structuralists to architects today from opposite ideological wings of the profession, architects who feel little or no connection with the others. There is no simple definition of shared formal characteristics; indeed, the rather portentous title is chosen specifically to discourage the accidental introduction of yet another stylistic label. What the work shares is an assumption, spoken or not, that the role of architecture is to prod the imagination, the senses, the emotions—most of all, to induce doubt, that quintessential inheritance from Agitprop.

We are, of course, a long way from the mad antics of Agitprop, the Russian Constructivists' agitation propaganda aimed at disrupting the feudal order and bringing forth a new political freedom. But their artistic attitudes

and conventions—and the ones that followed and influenced them—are the basis for art and architecture conceived of as psychic bombardment. Breton's "all power to the imagination" was the war cry of the Surrealists, and was taken up again in 1968 by student protestors.

## Time, doubt, and entanglement

In total opposition to the Renaissance ideal of timeless perfection, the simultaneity of analytic Cubism became multilevel, multifocus staging in Constructivist theater. Gabo and Pevsner demanded that time be included as an element in art. The idea developed that a work of art might not be finished, but visibly in process. The idea grew out of collage and assemblage, but was beautifully expressed by Constructivist Iakov Chernikov: "The elements, uniting into a new whole, form a construction when they take root in one another, grapple together, jam against one another—that is, when they manifest active participation in the motion of unification. . . . Each constructive unification is a totality of percussive moments in distinct stages of a developing entirety of impression."

To this, the Dadaists and Surrealists added "a systematic unhinging of all the senses" (Rimbaud). Though chance played a part in collage, it was the foundation of Dada, whose name even was picked from the dictionary at random. Ernst's invented *frottage*, for instance, consisted of drawing inspired by the happenstance rubbings of wood floor boards.



## Introduction

*"One's mind and the earth are in a constant state of erosion, mental rivers wear away abstract banks, brain waves undermine cliffs of thought, ideas decompose into stones of unknowing, and conceptual crystallizations break apart into deposits of gritty reason. Vast moving faculties occur in this geological miasma, and they move in the most physical way. This movement seems motionless, yet it crushes the landscape of logic under glacial reveries. This slow flow-age makes one conscious of the turpidity of thinking. Slump, debris slides, avalanches all take place within the cracking limits of the brain. The entire body is pulled into the cerebral sediment, where particles and fragments make themselves known as solid consciousness. A bleached and fractured world surrounds the artist. To organize this mess of corrosion into patterns, grids, and subdivisions is an esthetic process that has scarcely been touched."*

[Artforum, Vol. 7, #1, Sept. 1968, p. 45—"A Sedimentation of the Mind: Earth Project," from *The Writings of Robert Smithson: Essays with Illustrations*, edited by Nancy Holt. Copyright © 1979 by Nancy Holt and Artforum; published by New York University Press.]

Sheer negation of order gave way to deliberate rearrangement, far beyond the wine glasses of synthetic Cubism, into worlds paradoxical and implausible. Contradiction, ambiguity, anomalies of scale and context were intended to jolt viewers out of their habit-formed banalities and into waking dreams, the rich mine of the subconscious. Theory, vocabulary, even specific images owed an acknowledged debt to Sigmund Freud, an honor the good doctor took pains to deny.

The focus was now on the viewer, his conscious and subconscious mind attempting to order the dissonant and the elusive (expressed brilliantly by artist Robert Smithson, see following page). Techniques to engender greater involvement became a subject of work. With collage, the picture had crawled out of the frame. With Constructivist theater, nonfrontal staging and other schemes sought to confuse the distinction between spectators and performers. With environmental art, the spectator was thrust into center stage. Duchamp's Surrealist exhibitions and Schwitters' Merzbau were followed in the 1960s by a sudden explosion of environmental pieces, both abstract and narrative.

Aspects of the viewers' daily life were also incorporated into art. When collage crawled out of the frame, it crawled into the world. The commonplace, either flauntingly inferior or ironically transformed, became art material. Duchamp's "Readymades" and Picasso's assemblages led the way not only to specific phenomena such as junk sculpture, but to a more pervasive attitude that no longer saw art and precious objects as commutable.

### Decades of discontent

In the decades of reaction against the formality and purism of the Modern Movement, the explorations of the art world became the tools of architectural protest. The messiness and materiality of assemblage, the open-ended processes of Dada, found objects, raw and tacky materials, incongruous juxtaposition, multiple associations—these were translated into architecture in such movements as self-build, ad hoc, participatory design, ironic historicism, hard tech, and even less classifiable work. Not that architecture had previously been untouched by such influence, only that architecture of protest found more use for art of protest than had more utopian models.

The woods and deserts of the U.S. filled up with rough-sawn and recycled junk retreats. Stirling made energy-charged images from industrial parts out of context. Archigram drew animated environments of constant change. Distortions of scale and partial quotations grew familiar in the work of Charles Moore, among others. Team 10 member Pancho Guedes, quoting Dali's "I hate simplicity in all its forms," created twisting, askew forms in some buildings, animalistic ones in others. The chaotic physicality and personal modulations of folk architecture were exalted. Ralph Erskine, also Team 10, broke out of the rigid and hierarchic public housing precedents with his pulsating Byker Wall (P/A, Aug. 1978, pp. 68–73).

Lucien Kroll produced the even more tumultuous student dormitories at Louvain based on both student and worker participation. The riotous patchwork at Louvain and "tornado-struck" department of the Alençon school testify that participation alone was not Kroll's goal. "The present functional method of composing a built environment," he said, "is to clean all traces left by time, to give a homogeneous image where everything seems to have been thought of by one person at one instant. . . . We seek, in contrast, to preciously conserve . . . superimposed levels of readings, a depth owing to time."

The distinction between those who can be considered as Agitprop's heirs and those merely influenced by decades of extraordinary artistic invention rests ultimately on how the work is aimed at the viewer. Thus an important theorist such as Venturi seems very much within this orb in his manifesto of complexity, contradiction, nonsequitur and duality. But his "Main Street is almost all right" suggests, in overt intention anyway, an art of accommodation more than perceptual and psychological agitation.

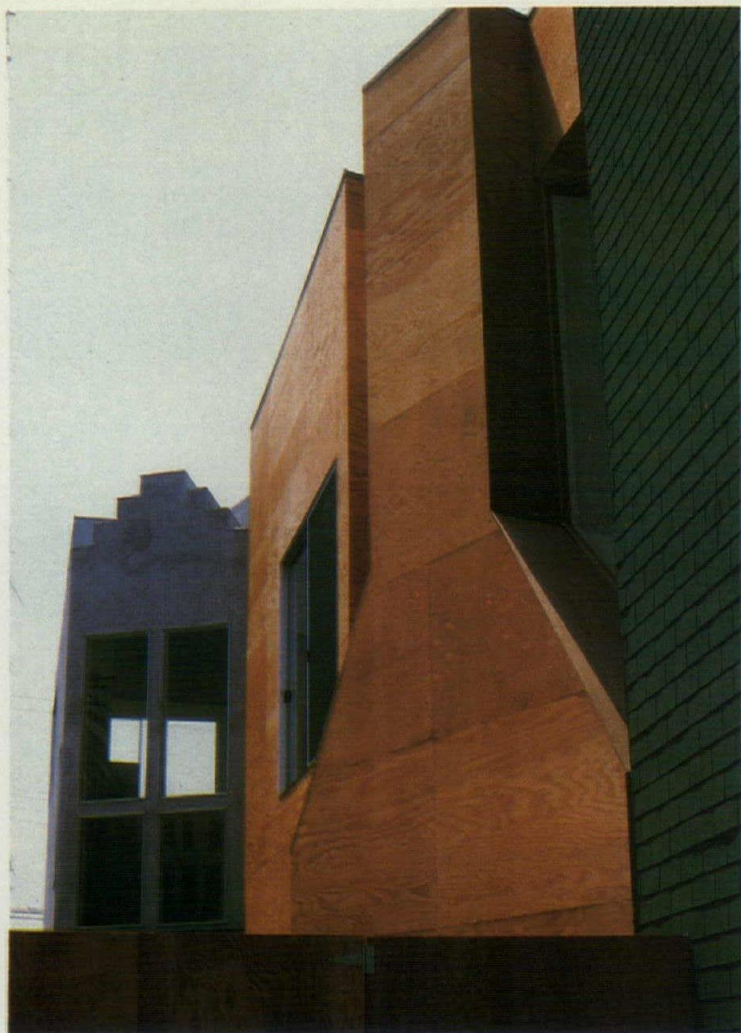
Team 10 member Aldo Van Eyck, in contrast, writes in terms of architecture as a catalyst for the development of the viewer's mental equipment. Constantly admonishing architects to look to the painters, sculptors, and poets, he discusses architectural properties in terms of paradox, ambiguity, reciprocity. The focus is always on the experience of the viewer ("memory and anticipation constitute the real perspective of space").

Meanwhile more contemporary environmental artists, such as Robert Irwin, have been significant influences on Frank Gehry's experiments in sensate awareness (with transparency, reflection, materiality, spatial shifts). Gehry as well courts deliberate political confrontation with unrelentingly déclassé materials (chain link, asphalt shingles, cardboard). His influence on other Los Angeleno architects has been considerable, from Moore's recent enthusiasm for junk materials and forced perspectives to Coy Howard's self-consciously "conceptual" vignettes.

The young firm Morphosis does work that perhaps does not immediately seem related. Yet the cheap builder materials oddly used, the consciousness-raising event of windows that transform the viewer—like Alice—from tiny to huge and seem to send the room rotating (2-4-6-8 House); and the perturbing ambiguity between building and landscape in the Sedlak house are willful challenges to easy understanding.

The architecture included in this issue happens to use vocabulary that is, though associative, nonetheless abstract. Conceivably, recognizable images could be used, as in Surrealist work. Thus far, however, more narrative work has welcomed the sentimental aspects of association. The litmus paper test for Agitprop remains not the form, but the hidden agenda. [Nory Miller]





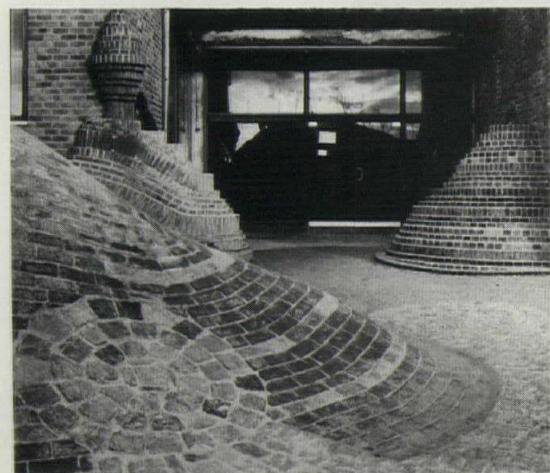
Steve Tomko



Tim Street-Porter



Above: the sketchlike immediacy, impiously banal materials, and wrenched geometries of two recent Frank Gehry projects, the Indiana triplex (left) and Spiller house (interior staircase, right). Gehry considers them open-ended found objects confronting the architectural imagination of inhabitants and their values.



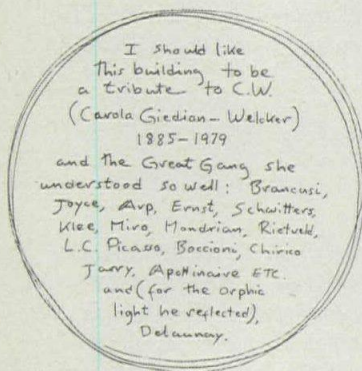
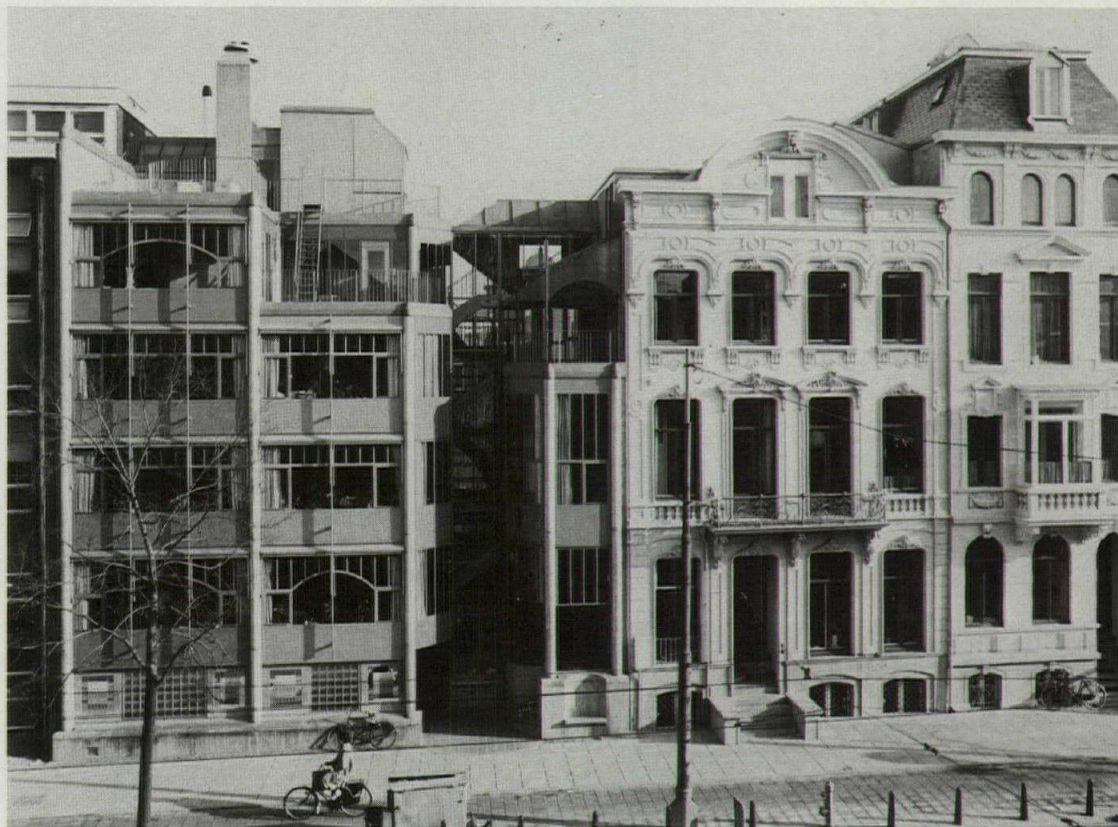
Left: Lucien Kroll's Louvain University Medical Faculty residences outside Brussels (far left, top and bottom) was for the late 1970s a symbol of both user and worker participation. Since then, Atelier Kroll has produced an "exploded" school at Alençon (near left, top) where the architects were brought in as an antidote to the bureaucracy-produced housing complex and the almost organic Alma metro station adjacent to the Louvain dormitory (near left, bottom). For all the work, Kroll maintains: "We are not concerned with an aesthetic theory, but a living, total, political process."



# Weaving chaos into order

In this temporary home for single mothers and their children, the parts of an intricate program are drawn together, loosely, by architect Aldo Van Eyck.

The main façade (right) combines the old Hubertus Association building on the right and the new addition on the left.



Van Eyck dedicates the building (above) to the wife of Siegfried Giedion and to the leading spirits of this century's "pioneer period."

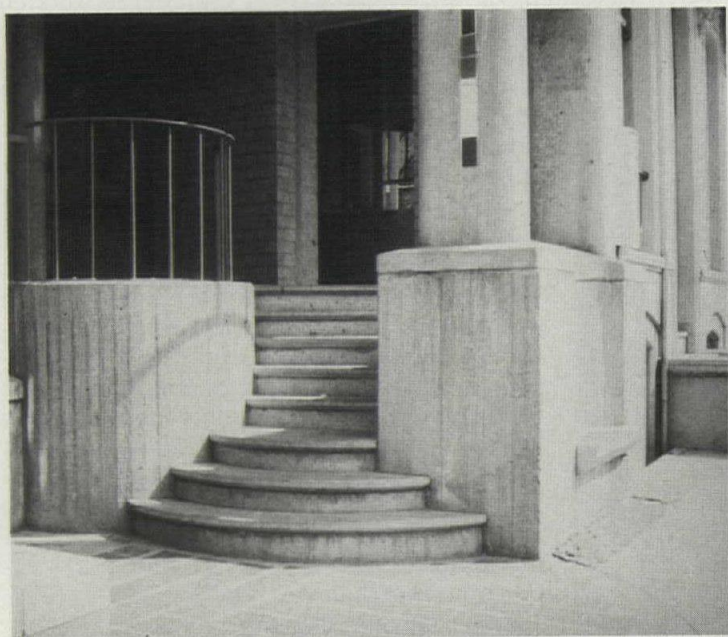
"Order has no function, this side of evil, other than to make what is essentially chaotic work." So wrote Aldo Van Eyck in *L'Architecture d'Aujourd'hui* (Jan.-Feb. 1975), and the statement finds poignant realization in the Home for Single-Parent Families in Amsterdam. Responding to an intricate program, it teeters splendidly on the edge between calming order and stimulating complexity.

The building for the Hubertus Society provides temporary lodging for single mothers and their children until permanent situations are found, usually a matter of months. The building incorporates a renovated 19th-Century structure, containing accommodations for mothers and infants; a new infill structure at the front of the site, with dining room and social services facilities; and a new two-story wing extending into the site, with five apartments for five children each.

The building begins, perceptually, by responding separately to the individual programmatic needs: the provision of clear physical identity for each of the children's apartments, and the basic good planning that locates infants as far from the activity as possible, but close to the mothers.

Most exciting, however, are the ways in which the separate parts are then woven back together, allowing interaction—chaos—to enliven order. The new infill building along the street begins as two prisms: a small one added to the old structure and a larger one hugging the farther end of the site—an Economist Building metaphor, as Francis Stauven points out in *Lotus 28*. But the whirling, weaving process immediately takes over, clarified yet intensified by the layers of transparent material: the entry stairs are in the small new addition, but lead through an opened corner of the old building; and the old building and the two sections of the new building are woven together by the active form of the octagonal hall/stairway, a space overlooking the circular forms of the small inner corner courtyard. The octagonal stair structure, with its formal and functional movement and its overlapping surfaces, gives new meaning and physical embodiment to Van Eyck's expression (used at the 1959 CIAM conference at Otterlo), "the transparency of time."

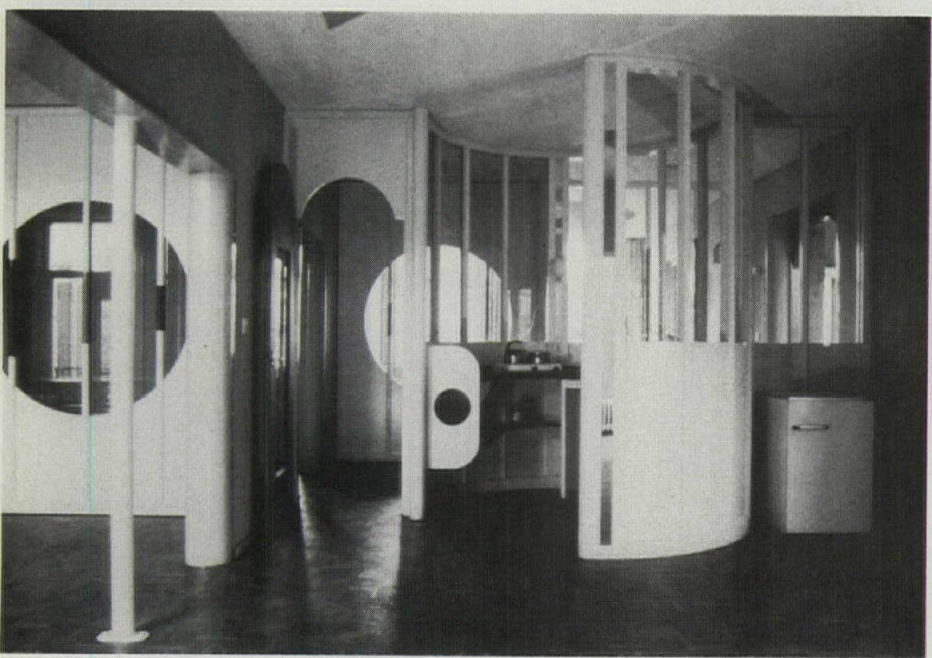




*The children's wing (top) contains living quarters at the lower level, play areas at the upper level. The play area includes a trellised terrace and, at the right, interior spaces with a skylit corridor. Entry stairs (above) occur at the juncture of new and old buildings. Metal-framed windows in the main façade of the new building (right) reflect the neighboring gable, while glass block between tiled, mirrored squares reverse the old basement window motif.*







*The skylit spine (top) of the children's wing brings light to both levels. On the second floor of the old building, the parents' lounge with small circular kitchen (middle) weaves artisan details into an industrial frame. The dining room (right) in the new building is a glazed capsule flooded with light.*

*Opposite page: An arched trellis covers the terrace on the children's wing (top). In the crux of the "L" between new and old buildings, a semicircular balcony overlooks a tiny court with deep curved steps.*



In the context of the street, the weaving sends mixed messages. While the arch of the windows lightly suggests the adjacent gable, and the motif of a windowed semibasement is followed, the new addition does not pick up the opaque nature of the predominantly 19th-Century neighborhood. Even its opaque surfaces are painted in "transparent" colors (see Van Eyck's essay, p. 78). It continues, then, the glazed quality of the modern building immediately to its west, but interrupts, most decisively, the planar front. Instead, it draws inward. It weaves, but not invisibly; it expresses the weaving procedure broadly, like the interlocking of the fingers of two hands. The transparency, a requirement of the program, allows stimulus from the outside world, while the forms invite and enclose the women in their period of transition. It is a palpable action, but more than its modern neighbor on its west, a disruption on the street.

Another weaving, this time quieter, occurs in the two-story children's wing. A glass-lined, skylit inner street ties together the five individual apartments, bringing light to both levels, allowing adults to oversee activities below, introducing a variety of spatial dimensions, and providing a long alley ideal for playing.

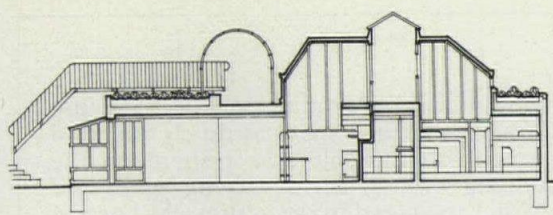
As new interiors weave into the old building, functional, industrial, and artisan idioms overlap. Painted metal rainbows arch concrete-block doorways; circles are cut into metal panels; an arched, shouldered wooden door seems medieval; colored tile strips are pressed into concrete walls. The instinct for order is always there: curves generally remain within the circle's range; surfaces generally remain planar and orthogonal or regularly prismatic; colors stay close to primary/secondary purity; but their free interaction is encouraged.

In its careful response to separate needs, the building realizes—and becomes a lesson in—Van Eyck's dearly held principles, principles he expressed, for example, in his participation in CIAM activities, and maintained even as he saw CIAM policy moving away from his humane approach. He insisted that the timeless needs of people be the basis of all architectural discussion; with other Dutch Structuralists (P/A, Mar. 1980), he emphasized the importance of individual expression; he built for children (P/A, Sept. 1962), believing that the provision for children is fundamental in the planning of cities.

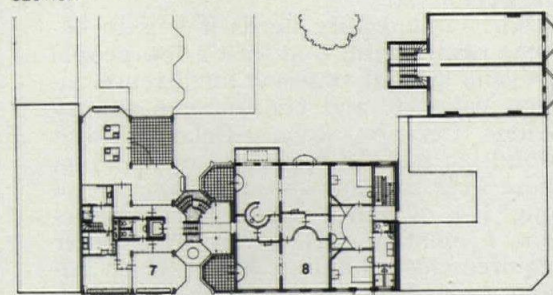
In the Home for Single-Parent Families, possibly because of the variety within the program and a confined site, Van Eyck may have come closest to realizing his principles, allowing individuals to be drawn into a collective, but not too tightly. From spatial organization to detail, the actualized building does not delete the process of its conception. Chaos is subdued, but barely.

[Susan Doubilet]

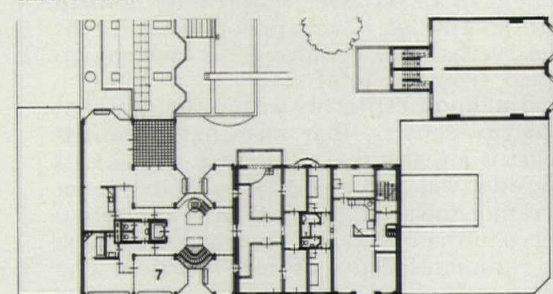




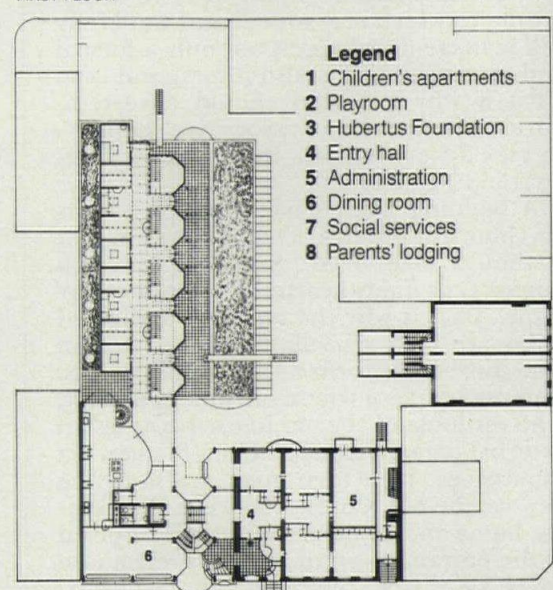
SECTION



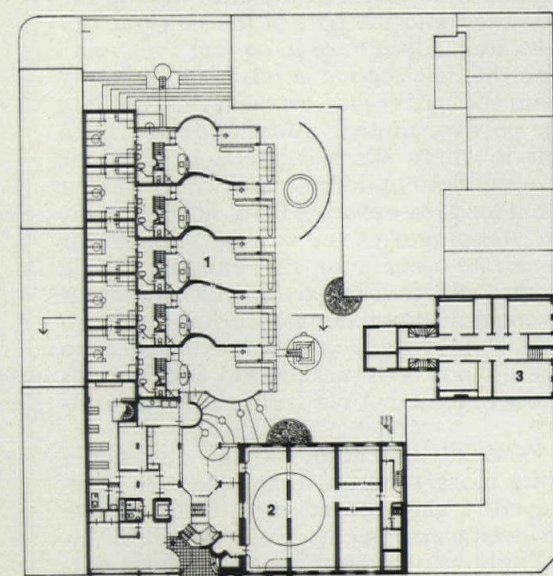
SECOND FLOOR



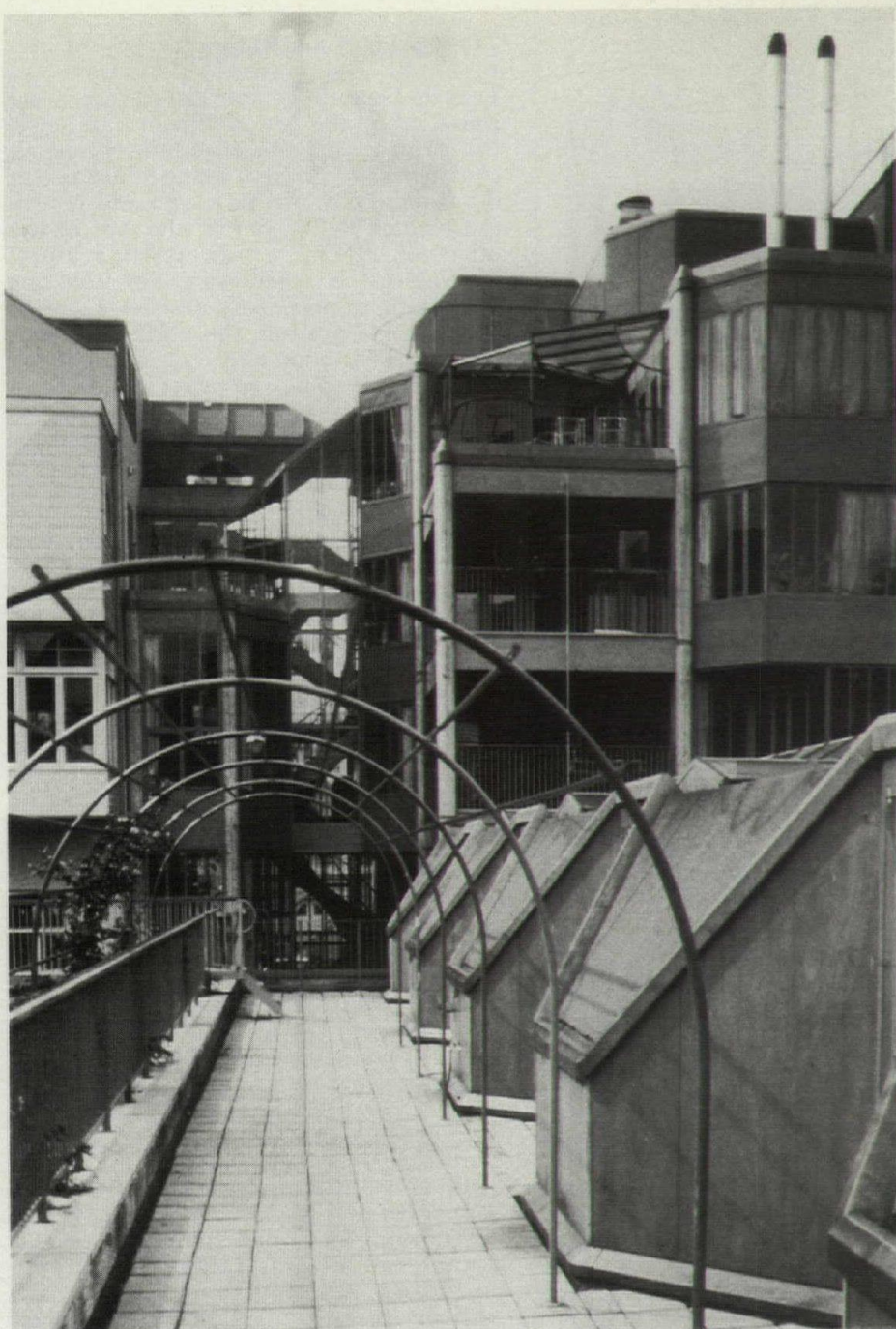
FIRST FLOOR



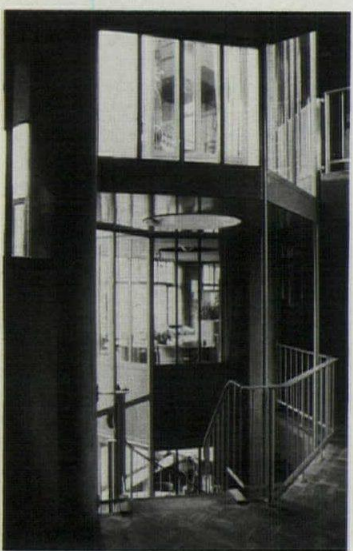
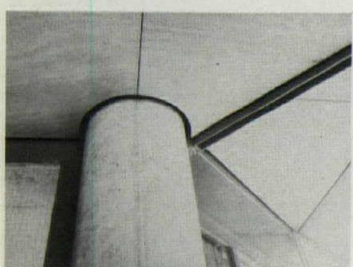
ENTRY LEVEL



GROUND LEVEL







Top to bottom: Terrace meets stairway enclosure high above the inner courtyard; interior column detail; stairway interior.

### Transparency and colors

I have been busy for some years now reevaluating the notion of transparency in the light of that other notion, enclosure, convinced as I am that architecture misses the mark and evades its purpose by reverting in turn to the one at the cost of the other for little more than stylistic reasons; the fact that my client—an admirable one if ever there was one—desired an open house came just at the right moment, nourishing a notion already growing in my mind: that it would be expedient, both in this particular case and in general, to bypass trying in vain to arrive at the right kind of openness (which presupposes the right kind of enclosure and vice versa) in spite of, as it were, transparency.

What is due, now, is to move step by step towards enclosure by means of—or through—transparency. Not for stylistic reasons, no no no, for style comes as a reward, but for what it can still provide on a human level. I say human level intentionally because, with or without Rats, Pests, and other Posts, there is no other level.

It also shows how ill-founded is their renunciation of the Modern movement, which produced an astounding number of gratifying buildings within a few decades that show the way ahead.

To return from momentary darkness to what Robert Delaunay called "l'ombre des ultra-violetts" and from there to the rainbow in the light of which this building's transparency was articulated in depth, the necessary enclosure was defined, and the desired openness brought about.

Steel and paint are closely allied: one tends to forget this, taking it for granted. Ships, railway engines, motor cars, bicycles, bridges—a host of things—are painted and repainted for protection according to custom, tradition or, if they happen to be pipes like those which run up, down, along, and across the Beaubourg, just for fun: so where there are no pipes, there is no fun!

In my case the moment arrived when once again a building, for the most part of exposed steel, was to be painted without there being a known or accepted way; without experience, knowledge, or more than sporadic examples to show what active color, an unquestionable ingredient of space in general, means in terms of architectural space in particular. Miesian steel tends towards blacks, but my steel is anything but Miesian! Now when I think of active color in buildings or cities, I do not see signs, advertisements, vehicles as throw-away material (for that is all that active color, bar some clothes and an occasional front door, amounts to); no, I see a rainbow—one which remains after it has stopped raining or the sun has gone. But when I think of paint and active color together, I think of painters first. And when I think of them I naturally see paintings in my mind's eye—the results of thought, experience, discovery, and artistry. So, via a sort of logic no doubt a little different, and with a steel building standing before me yet unpainted, I tried to think of it as a painting, ending up painting it as though it actually were two dimensionally spatial. Not in front of me, but wrapped around

me. As if I were immersed in it, to use Cézanne's term. I spent as much time and thought on the colors as I spent on the building without them! Trying again and again, I managed to get a little way beyond the beginning.

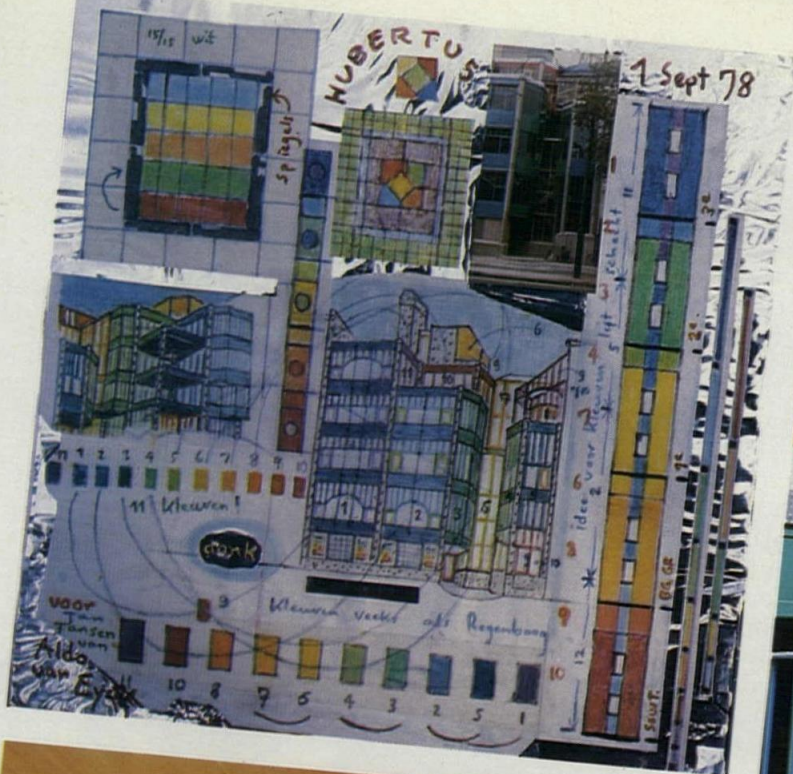
What architecture needs if it is to become really useful is at least a few people with the kind of supreme intelligence, vision, patience, and consummate artistry Seurat, Cézanne, Robert Delaunay, and Mondrian had. In the world of painting, there were so many—so many and for so long! It is of course not because of colors that I mention this. It is those other requirements—the mute kind—which seldom speak from a client's brief that can best goad an architect, sensitive to them, to the design-idea which appropriately fulfills the verbalized requirements which do speak from the brief.

Buildings, especially within the fabric of old city centers, that misbehave towards what is already there, towards what exists outside, will also misbehave towards what is inside, towards what they are expected to serve in the first place. In short, they must be right irrespective of their function. The relationship between a building's interior spatial organization and the exterior urban setting to which it is added, and hopefully will manage to belong, is not only a formal and spatial one; it is also a temporal one. That is why buildings should have temporal perspective and associative depth—so very different, both, from arbitrary historic indulgence!

A building doesn't need to look like its neighbors in order to avoid alienation, but it should take heed. Response through mimicry is faint-hearted, in every way futile. That is why the typology addicts of today are such a liability! Here extension and conversion form a combined process. Entry takes place where old and new meet. The vestibule of the old house becomes an external patio. Accessible from the new via some steps, it in turn gives access to the new via the old. Conflict between the existing home and its new extension is resolved at the entrance—an in-between realm also in an associative temporal sense. The irregular floor levels of the old building are extended into the part of the new one immediately adjacent to it, so that the "split" with the new regular levels is shifted away from the party walls between the two: like the portico, another unifying device, since this is where stairs connecting the floor levels of both buildings occur. By reducing the floor area upwards from floor to floor, i.e., stepping back the volume, sun and air penetrate deep into the building, while loggias and roof-terraces result. Buildings in general (those along an urban street no less) should be populated externally, so that nobody feels tucked away behind walls and windows, cut off from the world outside.

Especially in a home like this one, something more generous than balconies is required. A glass-roofed street feeds the five children's apartments from above, bringing light into the interior. After dark, parents looking from above will see movement along it—and vice versa. [Aldo Van Eyck]





#### Data

**Project:** Home for Single-Parent Families, Amsterdam.

**Architects:** Aldo Van Eyck and Théo Bosch, with H. Liscaliet and Hannie Van Eyck.

**Client:** Hubertus Foundation.

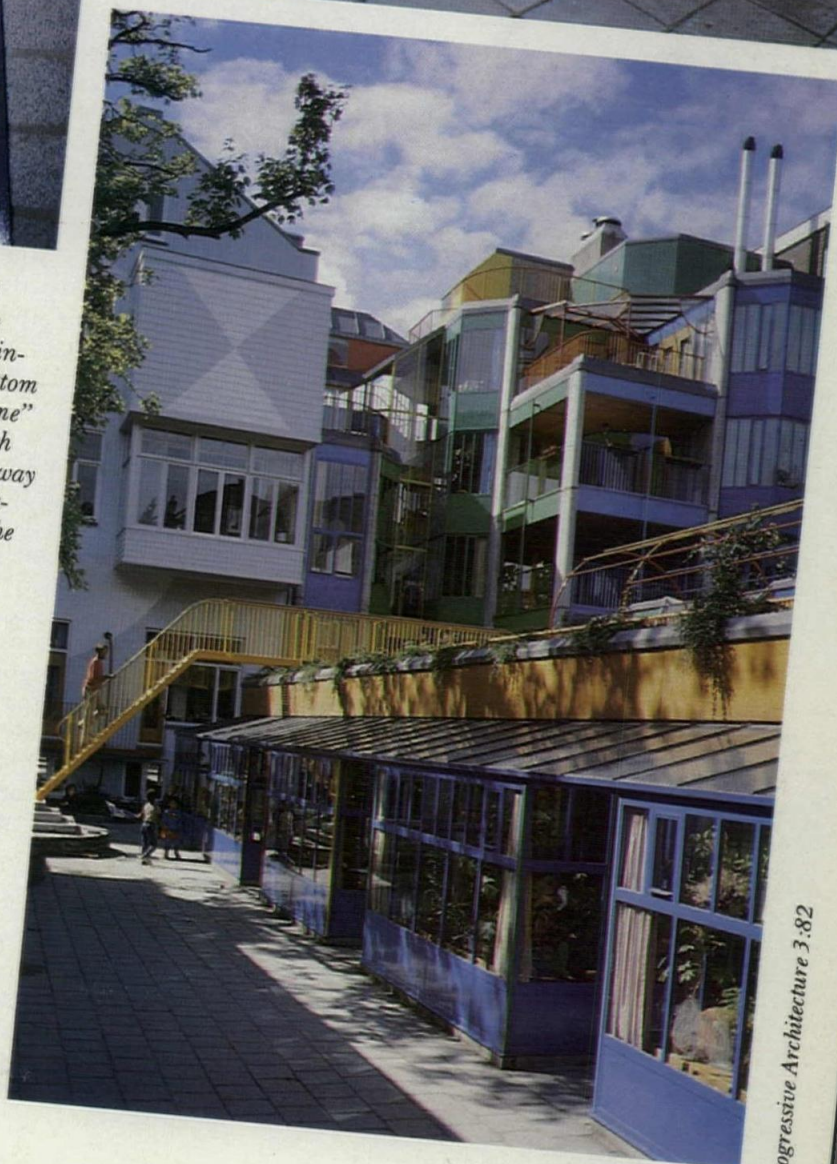
**Program:** an existing building is renovated and a new one added, with temporary housing for single mothers and their children, and social services offices.

**Site:** 47-ft-wide city lot.

**Structural system and materials:** concrete frame, steel frame at upper levels; steel panels, window frames; wood, masonry, glass block. Interiors: concrete block, metal, wood partitions.

**Photography:** Stichting Wonen/G.v.d. Vlugt.

Van Eyck's conceptual color sketch, "The colorways of the rainbow" (top left), and a rainbow arch over a doorway (bottom left). The "transparency of time" realized as the passage through space in a glass-enclosed stairway (top right). The courtyard looking south (bottom right) with the wing of children's apartments along it, the old building in the rear.

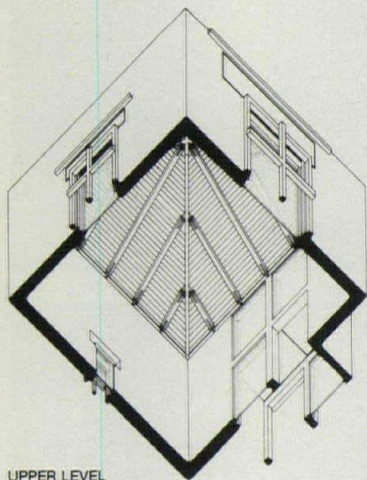




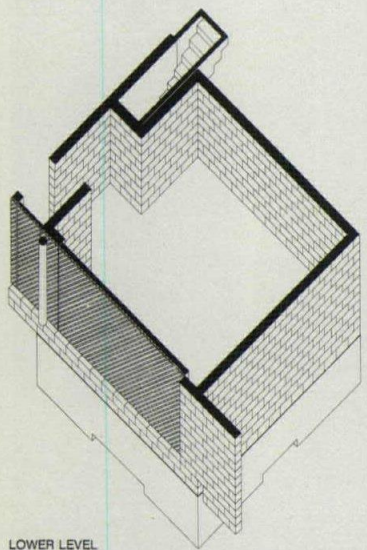
# Retreats in Venice

Esther McCoy

**Morphosis architects have designed two new variations on the alley house type in Venice, Ca.**



UPPER LEVEL



LOWER LEVEL

*Esther McCoy is an architectural historian, critic, and author of several books on architecture; she is a Los Angeles correspondent for Progressive Architecture.*

The alley house in the beach towns around Los Angeles was an endearing tradition. Perched on a garage, it pretended to be the cottage-in-the-lane; it looked out across roofs to telephone poles and Washingtonia palms, nature's telephone pole. Thom Mayne and Michael Rotondi, the principals of the Morphosis firm, have taken the nostalgia out of the type and turned it into an art object on a pedestal.

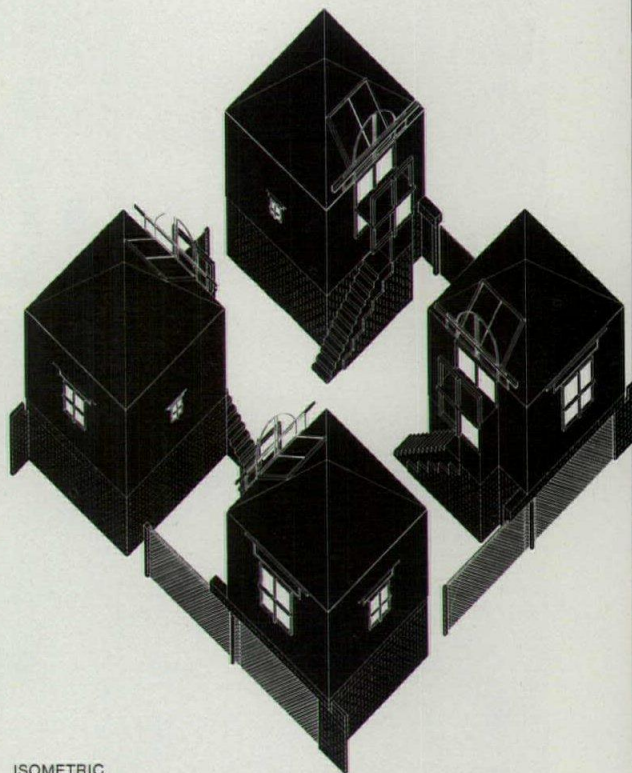
They designed two different versions in Venice, on alleys with the romantic names of Superba Court and Amoroso Place. From Lincoln Boulevard, a thoroughfare that is a glory of mixed use, the houses stab the sky like the revolving Car Wash sign. They have other similarities to the sign. There is neither front nor back; they are self-centered, and there is no visible entry.

These houses resemble the firm's Tijuana housing (P/A, July 1978, p. 76) only in the small area and the narrow lots. They come more out of Mayne and Rotondi's unbuilt projects and their teaching at Sci-Arc, the newest and brightest Southern California architecture school, where the official ideal may be service, but the product tends to be elitist. Typical of a new school with a young faculty is a close association between student and teacher; ideas spark ideas, theory doesn't unseat theory—it adds on. Mayne and Rotondi (and the students who collaborated with them) lavished the care on the small houses that an *in vitro* baby commands.

The owners of both houses use them as retreats and studies while living in bungalows at the front of the lot. The 324-sq-ft house they call 2-4-6-8 (it takes its name from the sizes of the square windows) was started in 1979 and construction completed in 1981. The owner is a designer of software for IBM. The Sedlaks, owners of the other house, are a cultural anthropologist and a linguist, who are now in Africa for the State Department. The retreats are fortresslike in their heavy walls and insulation: "We like to hide stick construction; we use 2" x 8" studs rather than 2" x 4" to create the feeling of permanence," Rotondi said.

## 2-4-6-8 house

The 2-4-6-8 house is a cube resting on the garage and service area, topped with a pyramidal roof. Materials change with each level: the lower one of concrete block and woven slat screen for the garage door wall, the middle level (the only touch of nostalgia)



ISOMETRIC







of asphalt shingles of a serviceable Depression-era color. The roof is of standing rib metal panels.

The window on each of three elevations is a three-dimensional collage made up of a yellow cross superimposed on a heavy window

frame; above it are a blue lintel, which tilts for ventilation, and a red scupper extending only slightly beyond the lintel—a joyous play of colors on a drab surface. On the fourth wall (west), the 8' x 8' window explodes into a balcony entrance, and although it is visible for some distance, its purpose is missed until one is close enough to make out the stairs. Furthermore, the continuous garage/garden

*The 2-4-6-8 house (facing page, and entrance at west side, above) is a study/retreat in the shape of a cube resting on a garage and service area; it takes its name from the sizes of its square windows.*





#### Data

**Project:** 2-4-6-8 house, Venice, Ca.

**Architects:** Morphosis: Thom Mayne and Michael Rotondi, with Joseph Ma, Linda Lee, Luis Perez.

**Client:** Josh Sale.

**Site:** 30' x 30' flat lot.

**Program:** studio and multipurpose room over two-car garage.

**Structural system:** base of load-bearing concrete block, studio of stick wood frame, metal frame roof.

**Major materials:** concrete block, shingles, metal roofing.

**Mechanical system:** no HVAC.

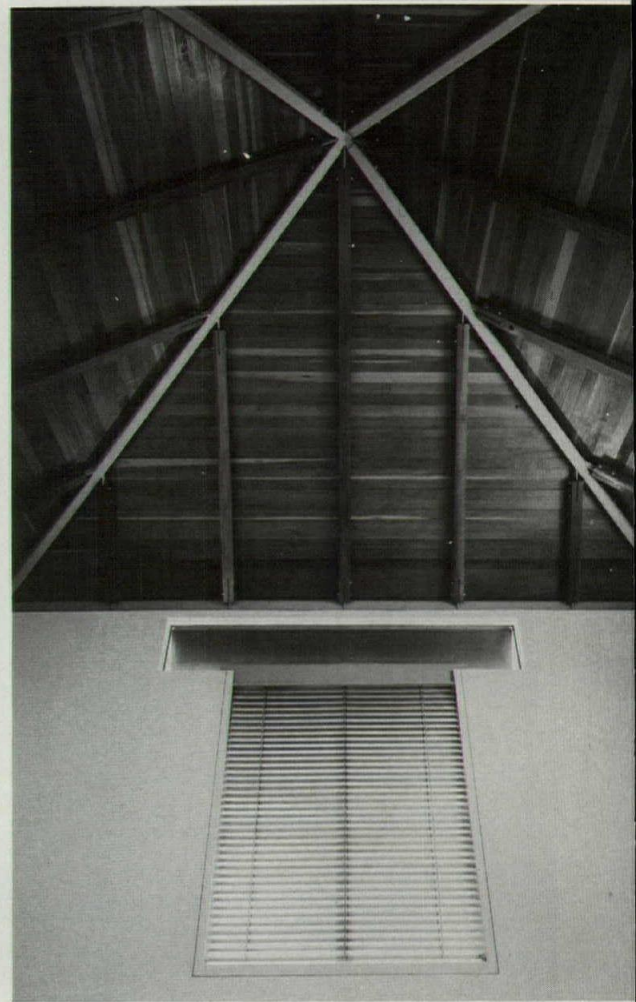
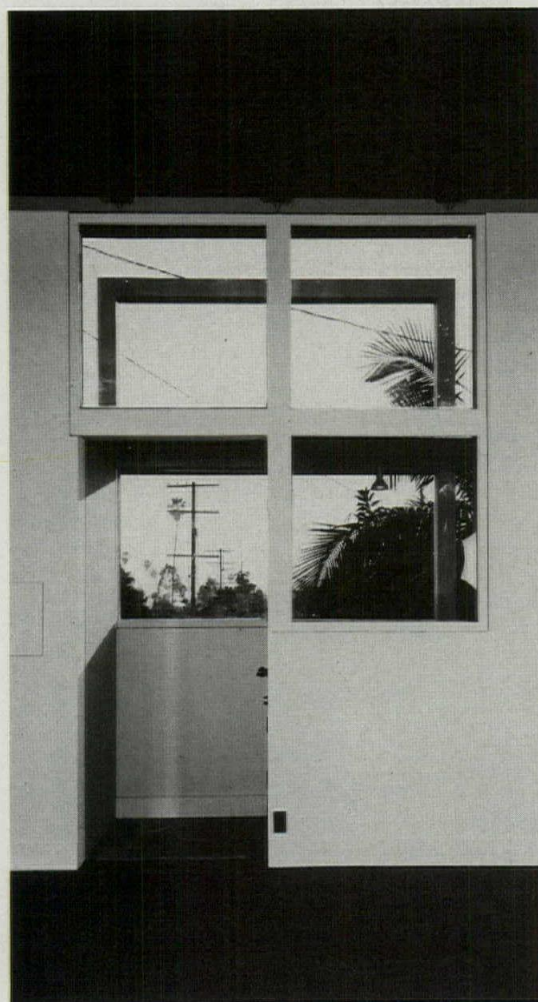
**Consultant:** Brad Graves, structural.

**General contractor:** owner and architects.

**Costs:** \$26,000.

**Photography:** Marvin Rand.

Inside the 2-4-6-8 house, blue "lintels" are actually devices that tilt for ventilation. On the west side of the house, the 8' x 8' window (immediately right) "explodes" into the entrance balcony (seen on previous page). The parts making up the house are delineated on the facing page.



woven wood wall suppresses the opening from the alley.

The interior is totally self-involved. Mayne calls it a piece of furniture. It is handsomely crafted and as calm as a painter's installation at a museum. You stand in a toy fortress with 12-ft walls, rising to 18 ft at the peak, and test the light and view from each window. The variation in sizes now becomes quite important. The views through openings of different size and shape is something the Italians do well—the large and small views of Piero's

Urbino from the various steps or platforms of Giancarlo De Carlo's dormitories; the glimpses of the Rocky Mountains in new contexts from the openings in the outer shell of the Denver Art Museum by Gio Ponti (with James Sudler).

Small considerations, such as the square steel section at the edges of the pyramid ceiling, the graduation in size of rafters and the exquisite connectors between them and the steel bent at the ceiling line, fade beside the pure isolation of the 18' x 18' space.

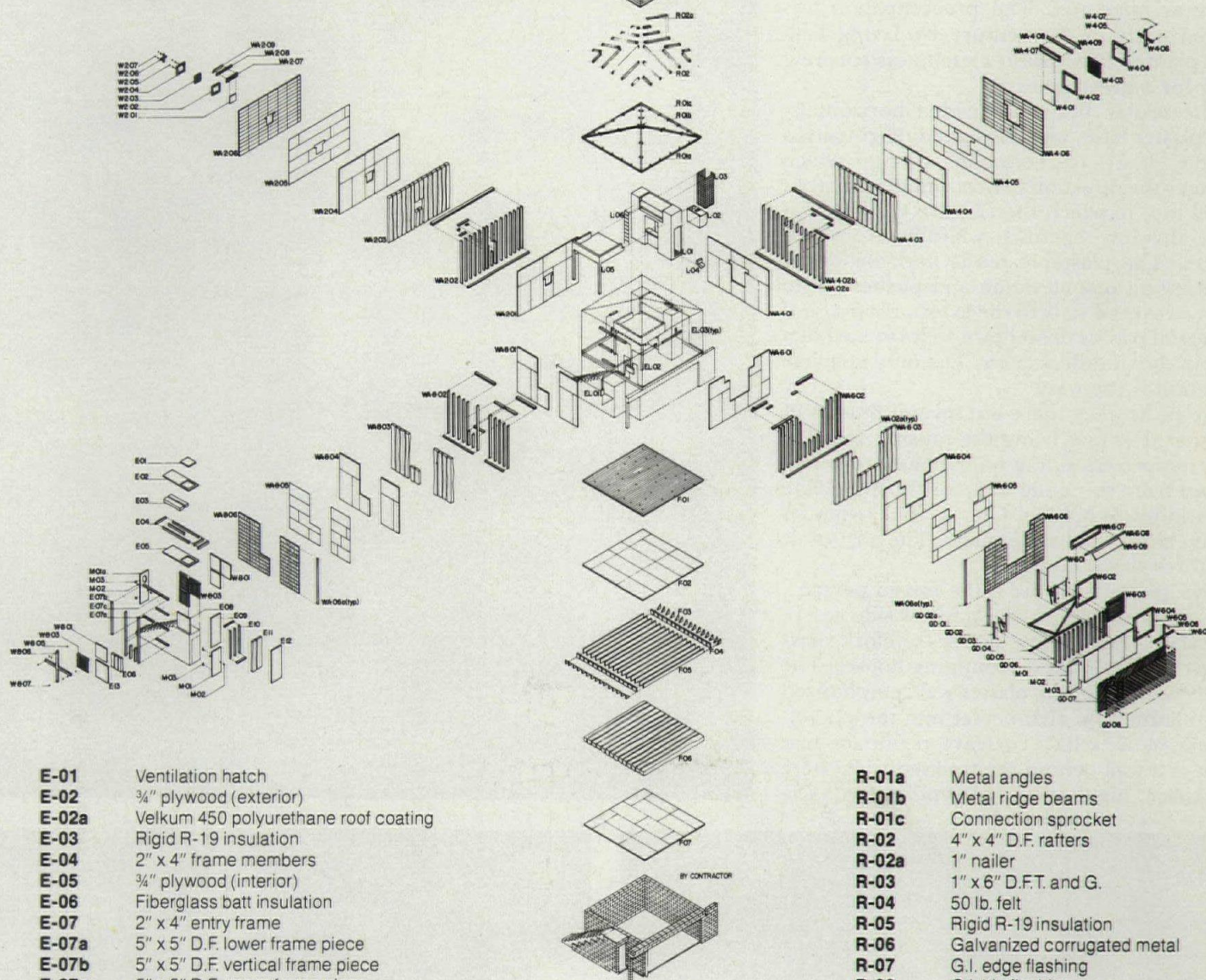


R  
WA  
L  
EL  
W  
E  
F  
GD  
M

## Legend

Roof components  
Wall components  
Loft components  
Electrical system  
Window components  
Entry components  
Floor components  
Garage door components  
Miscellaneous parts

WA-01 3/4" dry wall  
WA-02b 2" x 6" plates  
WA-02b 2" x 6" studs  
WA-03 Fiberglass R-11 batt insulation  
WA-04 3/4" plywood (exterior)  
WA-05 Plastic washer  
WA-06 GAF asphalt self sealing shingles (pink)  
WA-07 Metal vent frame  
WA-08 G.I. scupper  
WA-09 Vent insulation



E-01 Ventilation hatch  
E-02 3/4" plywood (exterior)  
E-02a Velkum 450 polyurethane roof coating  
E-03 Rigid R-19 insulation  
E-04 2" x 4" frame members  
E-05 3/4" plywood (interior)  
E-06 Fiberglass batt insulation  
E-07 2" x 4" entry frame  
E-07a 5" x 5" D.F. lower frame piece  
E-07b 5" x 5" D.F. vertical frame piece  
E-07c 5" x 5" D.F. upper frame piece  
E-08 3/4" plywood (interior side wall)  
E-09 3/4" plywood (interior front wall)  
E-10 2" x 4" side wall frame members  
E-11 Fiberglass R-11 batt insulation  
E-12 3/4" plywood (exterior side wall)  
E-13 3/4" plywood (exterior front wall)

M-01 H/C door  
M-01a H/C front door with porthole  
M-02 Door knob assembly  
M-03 Door hinges  
M-04 5/8" anchor bolts  
M-05 Simpson HD2 hold-downs  
M-06 1/2" hex bolts  
M-07 1/2" x 4" bolts  
M-08 5/8" x 5" bolts  
M-09 1/2" x 9" lag bolts  
M-10 Metal angle bracket  
M-11 1" nailer  
M-12 1" x 6" jamb  
M-13 Door stop  
M-14 G.I. sill flashing  
M-15 Window stop  
M-16 1" trim piece  
M-17 1" x 6" D.F. (milled)  
M-18 3/8" x 2" wood screws  
M-19 1/4" x 3" hex screws  
M-20 Silicone sealant  
M-21 1/4" x 1" metal screws

F-01 1" x 6" D.F. T. and G. flooring  
F-02 4' x 8' x 3/4" plywood  
F-03 Simpson F-22 joist hangers  
F-04 2" x 8" blocking  
F-05 2" x 8" joists  
F-05a 2" x 8" plate  
F-06 Fiberglass R-11 batt insulation  
F-07 4' x 8' x 1/2" dry wall

GD-01 4" x 4" jamb  
GD-02 Metal angle brackets  
GD-03 GD closure hardware  
GD-04 GD cross bracing  
GD-05 GD framing members  
GD-06 1/2" plywood  
GD-07 Redwood lattice  
GD-08 Door handle

R-01a Metal angles  
R-01b Metal ridge beams  
R-01c Connection sprocket  
R-02 4" x 4" D.F. rafters  
R-02a 1" nailer  
R-03 1" x 6" D.F.T. and G.  
R-04 50 lb. felt  
R-05 Rigid R-19 insulation  
R-06 Galvanized corrugated metal  
R-07 G.I. edge flashing  
R-08 G.I. hip flashing

L-01 Interior service unit  
L-02 Efficiency kitchen (mod. ES 48306)  
L-03 Shower assembly  
L-04 Toilet  
L-05 Sleeping loft assembly  
L-06 Ladder

EL-01 Junction box  
EL-02 Switch plate  
EL-03 Electrical outlets

W-01 1/4" float glass  
W-02 Interior frame pieces  
W-03 Perma fased sun control system  
W-04 Wood window frame (exterior)  
W-05 Plastic washers  
W-06 Wood window frame (exterior)  
W-07 1/2" lag bolts with washers  
W-08 G.I. header  
W-09 Fiberglass batt insulation  
W-10 1/8" masonite fascia (exterior)  
W-11 1/8" masonite fascia (interior)



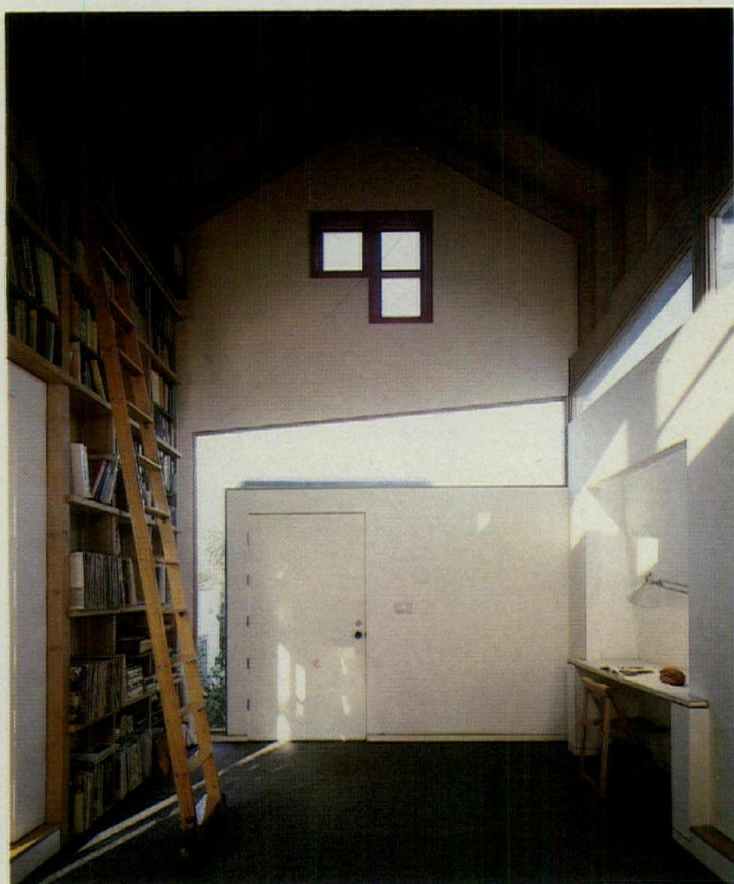
### Sedlak house

The firm's unbuilt projects have been a quarry for ideas for the Sedlak house, which was also started in 1979. The topiary wall, for instance, first appeared in the unexecuted Flores project—an effort to make the garden more architectural. The preoccupation was shared early in the century by Irving Gill, who planted *Ficus repens* close to his concrete walls for a green tracery.

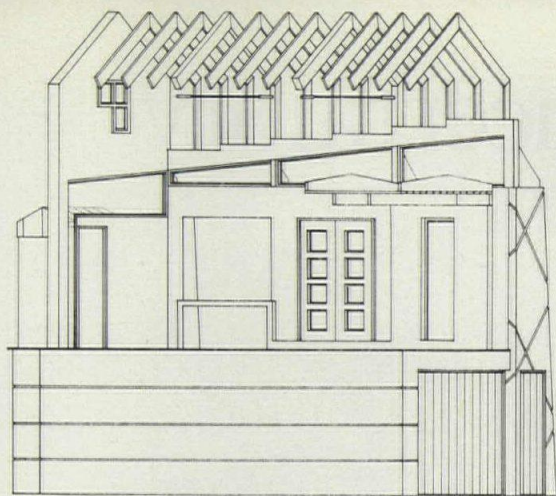
The Sedlak house is divided horizontally into plaster base, which is scored diagonally, a middle level of redwood siding, which changes the direction to horizontal, and metal panel top, in which the ribs are vertical. But each division borrows willfully from the others. The plaster extends into the siding territory on one elevation and pushes out to form a covered walk to the exterior stairs, and the metal panels drop down to form part of a wall in the middle section. The only inviolate elevation is the west.

From the alley there are several flutters of surprise, the first being the missing window. The stepped up siding wall appears to be detached from the metal wall, for the fourth lite in a window is hidden. Untrue. The two walls are on almost the same plane. The answer: it is a three-lite window.

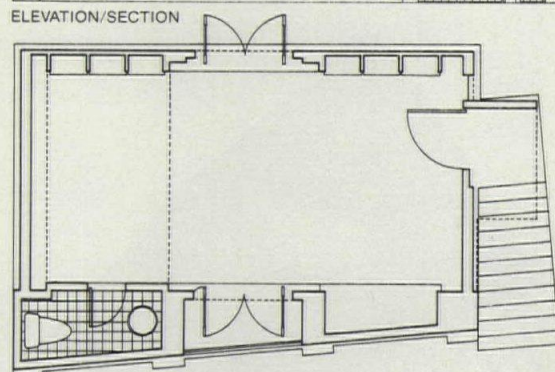
The greater surprise is the forced perspective, most visible on the garden side (east). The wall is twisted five degrees to block views from the interior of surrounding houses. The diagonal lines on the plaster wall, emphasized by an aluminum channel let into the plaster, appear as a trellis. To leave no doubt that there is a wall behind the trellised wall, there are three high openings—undistorted rec-



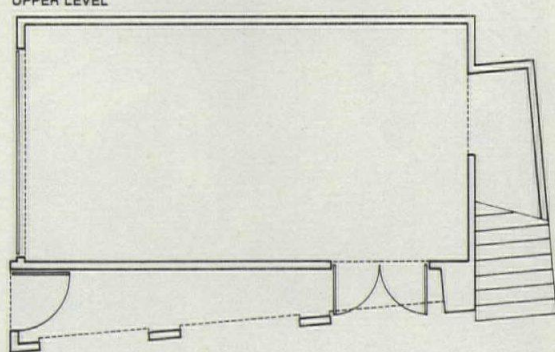




ELEVATION/SECTION

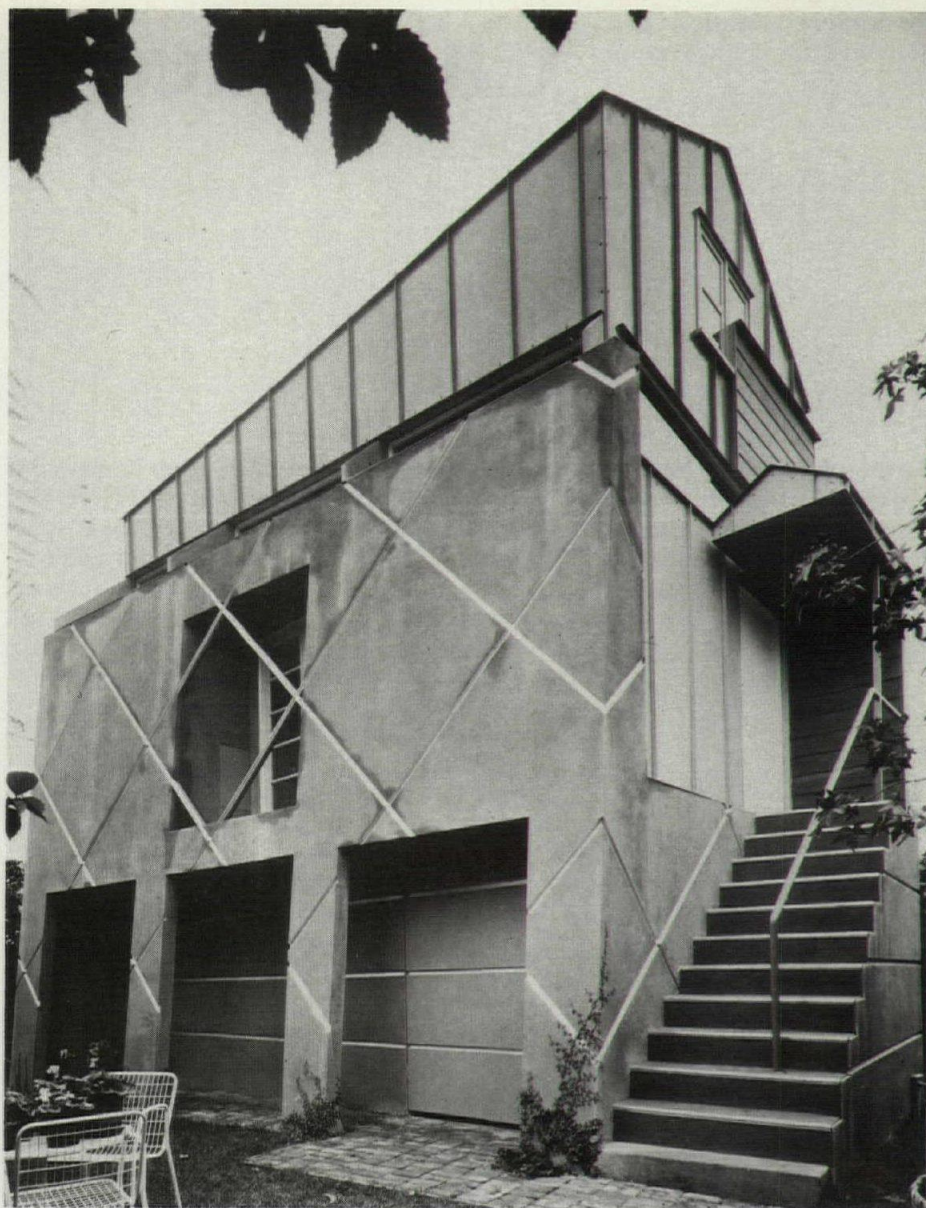


UPPER LEVEL



LOWER LEVEL

N → 10'/3m



tangles on each side of which is a *Ficus repens*. In a few years, *voilà!* the topiary wall—the garden is architectural.

The last exterior view of the distorted perspective is the stair, wider at the bottom than the top, with the pipe rail set normal to the house wall. What distortion there is in the interior has been so prepared for that the room seems calm, easily identified as a study. On the garden side are two projections—one a bathroom with a shower in the ceiling and drain in the floor, the other a study alcove. Between the projections are double doors and a very small balcony, but it has the effect of bringing the garden into the room. A second double door, on the opposite wall, is for cross ventilation.

The walls below the open gabled ceiling are almost entirely filled with floor-to-ceiling book shelves that are a cabinetmaker's delight—as carefully detailed as the interior of the 2-4-6-8 house. A loft at the south end of the room is made simply of 1" x 2" sticks resting on oversize members. The ends are ever so neatly wrapped in steel, with heavy steel pins attaching them to the walls. It is not surprising that the house cost over \$100 a sq ft, but what a pleasure it is to stare at some of that handsome detailing while thinking. One's thoughts might be 5 degrees off if the

eye is fixed on the exterior while thinking. It is this creation of two separate domains, interior detached from exterior, that is the real accomplishment.

The invitation to play with rules came from Robert Venturi. Now, after some two decades of play, there is emerging a new way of seeing. Wright's continuity having given way to Kahn's discontinuity, Edward Larrabee Barnes's Haystack School could predict Frank Gehry's three-part house for John Whitney, in which each part is a different material, color, and shape. Venturi and Rauch's golden antenna on the Guild House led to the gangplank in Eric Moss's 708 house.

The eye is quicker to see play at a distance and on a 100-ft front than up close on a 30-ft one. But there is less of play in the Morphosis houses than there is protest—if it is a protest against a used up language, it is too squeezed in to read easily. As a language of symbolism, 2-4-6-8 stands up better to the restricted site than the overelaborated Sedlak house. Rotondi says that to tailor a house to a client is useless because houses change owners too fast; hence it must have universal values to stand up. And 2-4-6-8 stands up because the exterior symbolizes the artist seeking privacy for work on a mean street; the interior is sanctuary. □

#### Data

**Project:** Sedlak house.

**Architects:** Morphosis: Thom Mayne and Michael Rotondi, with Frank Lupo and Joseph Ma.

**Client:** Phil and Lynn Sedlak.

**Site:** 30' x 30' flat lot.

**Program:** library and studio over three-car garage.

**Structural system:** wood frame.

**Major materials:** stuccoed plywood, metal cladding, and wood siding.

**Mechanical system:** no HVAC.

**Costs:** not available.

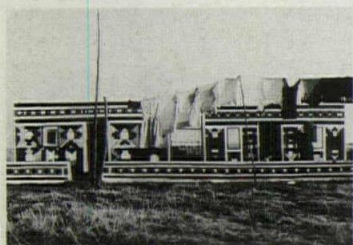
**Photography:** Marvin Rand.

*The Sedlak house (above and facing page) is also a study/retreat above the garage on the alley. Although the small structure is complex in design, its most surprising element is the forced perspective of a wall twisted to block views to neighboring houses.*



# Calculated uncertainty

**Stanley Saitowitz's houses are transformations accosted in progress, taking clues from preexisting landscapes and leaving them for new occupants.**



*The metal-roofed mud houses of the South African Bantu are covered in bold-colored geometric patterns, redone each year. The patterning bears a close relationship to their beadwork, now a basic aspect of the culture though both beads and the architectural forms were European introductions. Saitowitz finds the closeness to the earth yet acceptance of technology, the repetitive systems yet constant change, influential on his own work.*

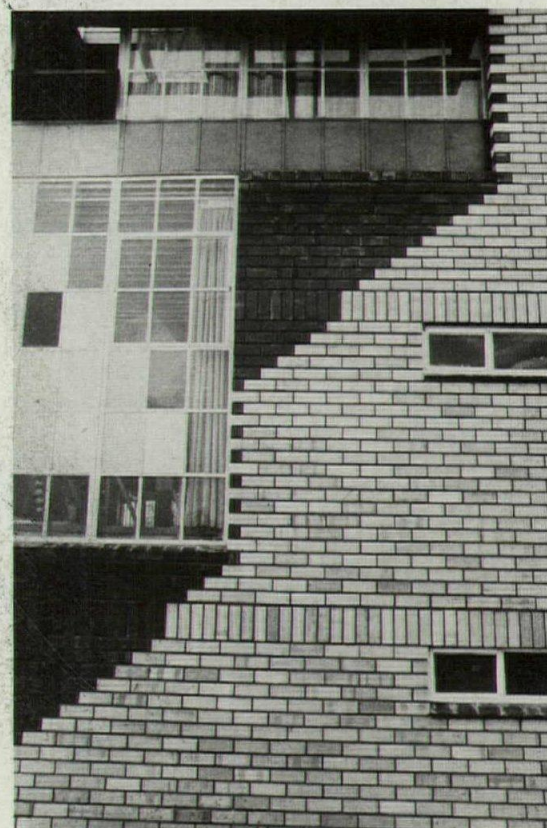
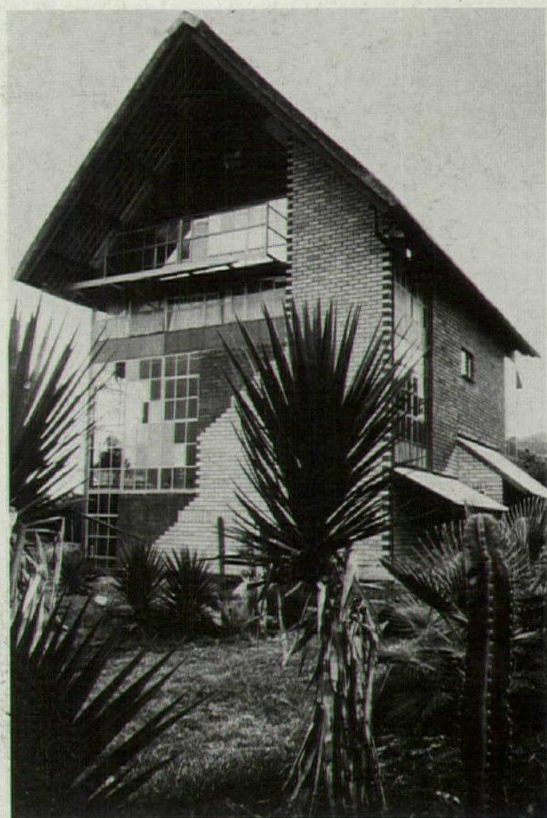
Surrounding Johannesburg, the Transvaal is a vast landscape of high grasses. Here and there, Bantus have settled, with their small compounds of houses made of mud and covered every inch in bold geometric patterning. Each year the bright colors and patterns are redone.

In the Johannesburg of the 1970s, the most famous architect was Martienssen, a respected local hero of the International Style. Amancio d'Alpoim ("Pancho") Guedes had not yet arrived, but Mozambique, where he was still safe, was not far away, and the doubts of Team 10, of which he was a member, as well as his own "architecture of meaning and feeling" were already influential for students. Disillusioned with hygienic Modernism, Guedes denounced "the sunken continent of total function" and called for architects to "become technicians of the emotions, makers of smiles, tearjerkers, spokesmen of dreams; to invent raw, bold, vigorous, and intense buildings without taste, absurd and chaotic—architecture plugged into people, an architecture the size of life." Guedes also defended the primacy of art and was written about by no less than Tristan Tzara.

Schooled and teaching in this Johannesburg, Stanley Saitowitz began his practice with two small houses in the Transvaal (1976–78). Each is an experiment, an attempt at what Van Eyck would call "the in-between"—avoiding the neutrality and static order of much Modernism, but as wary of well-intended "mishmosh." Saitowitz's interests include both continuous and contained space, both Bantu mud houses and factories, both system and idiosyncrasy. In reaction to the classicism of much Modernism, he exorciates "anything that smacks of the military—rows of columns, tiers of steps, or square rooms that kill space." But he is equally disapproving of the other extreme: "I don't like organic architecture, that grovelly thing. I don't like granola builders, wood butchery. I like shiny metal in nature."

## First African house

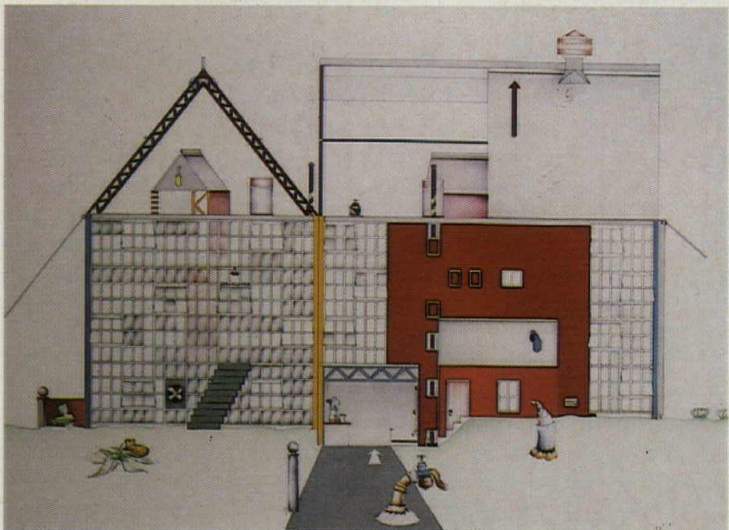
The Norman Catherine house, studio and home for an artist, is an assemblage of off-the-shelf industrial parts, seconds, samples, leftovers, and easy-to-find natural materials. It was built, according to the architect, on the cheap for three-fifths the cost of spec houses with 20 percent more space. Its roof is corrugated metal. Its windows are bottom-of-the-line catalog. Mesh left over from stamping





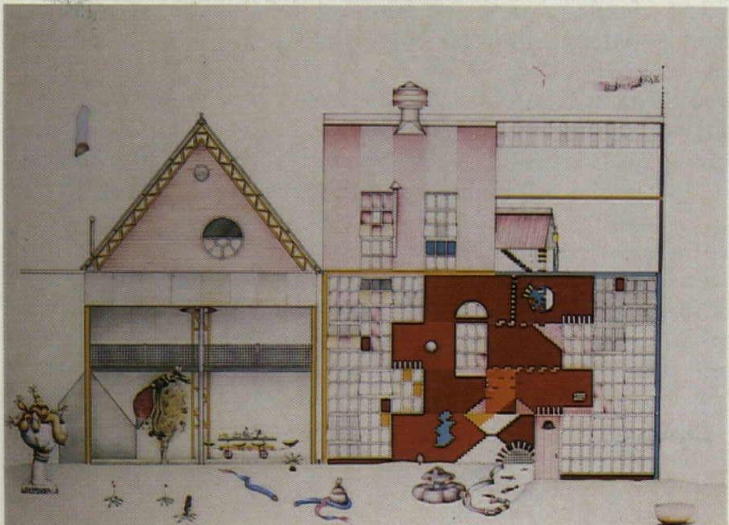


*Saitowitz's first house is a bright-colored open cage. Materials are deliberately ad hoc—rocks from a nearby river, the cheapest industrial components, and a load of bargain bricks mixed in with others. The archetypal silhouette begins to be undermined by a wall of doors that open entirely onto the landscape (left) and the sheds both real and drawn in brick (facing page).*



SOUTH ELEVATION

EAST ELEVATION

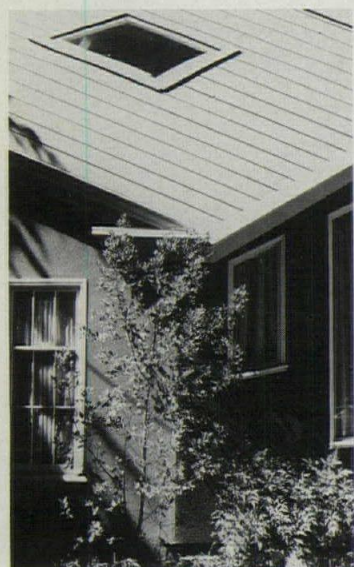
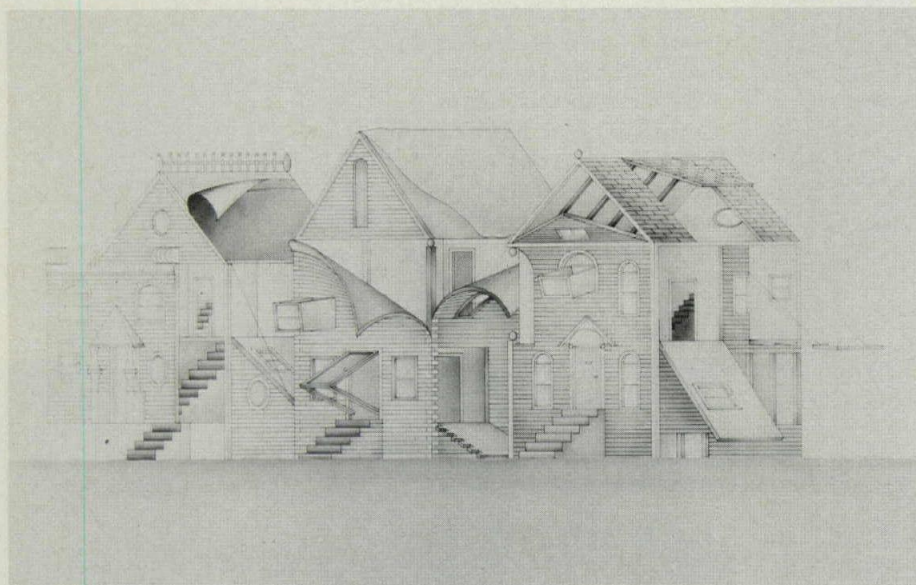


NORTH ELEVATION

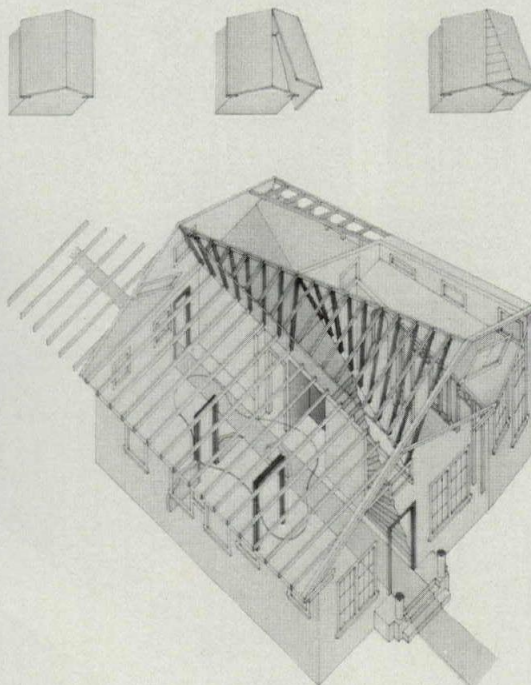
WEST ELEVATION







*A fanciful drawing of a Victorian row being unpeeled, unhinged, and undressed (top) becomes a real project in a Palo Alto remodeling and addition (bottom left and right). The existing house is burst open and stretched into an addition, while inside, solid walls and ceilings are made transparent.*



out nuts (as in bolts) is reused as a balustrade. Its factory-made steel frame was bolted on site. Rocks were carried from the nearby river. And when the bargain brick ran out, another color filled in the rest.

Saitowitz describes the house as a chameleon house of easy changeableness; a patchwork skin made up in many colors. There is a simple design framework—"a tree of gastric pipes," six platforms, a wall wrapping around, each clearly differentiated—but it is a framework in which more particular decisions—kind of wall, color of pipe, number and placement of platforms—are relatively interchangeable. Saitowitz calls it an architecture of calculated uncertainty, "a determined frame in which to make an indeterminate living picture." He likens it to both nature, with its underlying order yet extraordinary variety, and to the Bantu dwellings, where tradition prescribes the basics and availability of material and spur-of-the-moment decision fill in the particulars. Central for Saitowitz is the idea that people will

continue to "design" their house as they live in it. The architect provides a scaffold for theater, a collage into which more can be accepted.

Neither the neutrality of Modernist architecture nor the strait jacket of Victorian, the house is an assemblage begun. As with all assemblages, the discreteness of the elements is critical. It insures an awareness that they were formerly separated and that potentially further alterations may occur. Discreteness is the clue to the building as a fixed moment in time. And also, as with all assemblages, the former "lives" of the parts remain perceptible—like the recognizable toy car head of Picasso's famous baboon or the torn edges in his collages. The sense of the moment, the excitement of transformation, is perpetuated.

Since what precedes architecture is landscape and raw material, it is these that are kept recognizable in the finished building. The Catherine house never entirely emerges from the landscape. The double-story sliding glass wall in back opens completely to the outdoors. The platforms are arranged so that strong landscape features—the dam in front, the mountains to the rear—are dominant views from within the house. The shiny mirror glass and blue coloring on the façade make aspects of the water part of the house, and the green painted mesh balustrade is a kind of mechanical tree filtering light in back. In the belly of this factory-like house is a rock cave (the bathroom). The rawness of the materials, the exposed bolts and cables, undisguised transitions and accentuated contrasts also maintain the aspect of a construction site long into habitation.

Just as the past is kept alive, the future of the assemblage is already begun. Riotous color subsumes structure, edge, connection. Ambiguous repetitions already overlie and obscure the clarity of geometry—the shed extensions to entrance and kitchen, the divisive silhouette within the side façade created by the change in brick colors.

### Crossing the ocean

In 1977, Saitowitz moved to Berkeley, first as a graduate student at the University of California, now an assistant professor of architecture. His first commission there was a remodeling and addition in Palo Alto, a transformation not of landscape, but of a suburban house.

The act of extension became the form of the addition. The house seems burst open, with space stretched and a new edge inserted. Though Saitowitz makes the analogy to palm tree trunks formed of the solidifying stumps of shed leaves, the geometry even in its distortion reinforces the abstraction of perspective.

On the interior, the house has been opened up, but in such a way that what was there before is never out of mind. Walls are removed, but studs are left. The rafters, which once supported the ceiling, replace it. In this process rendered visible there is an inten-



tional message, a criticism of the "corsets of Victorian morality" and its architectural counterpart. There is also deliberate paradox, for instance the reversal of solid and void where the walls are removed, but the doorframes (previously the only openings, now the only barriers) are kept.

### Crisscrossing the ocean

If the Palo Alto addition is a little too close to illustration, the Halfway house, begun before Saitowitz left South Africa and built through extensive commuting, is a rich and complex development of his architectural intentions. The name "Halfway" refers to all the in-betweens of the house. Most direct is its position between landscape and construction. But there is also the in-between of the horizon, neither grass nor sky; in between inside and outside; shaped rooms and universal space; system and accident; cosmic and anthropomorphic references.

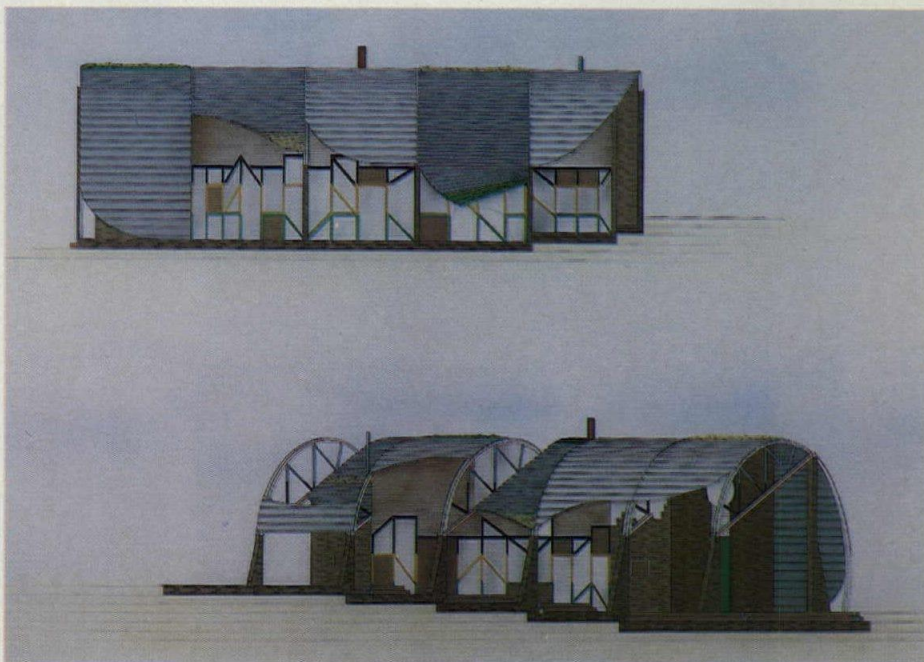
The design of the house grew out of the site, six acres of veld with an outcrop of broad rocks in the middle. Saitowitz thought of the rocks as the first inhabitants and of the house as the second inhabitant, an outcrop that was habitable. The outline of the house is an approximation of a rock formation. Its columns are placed on line with the contours of the site.

Gaping rents in the roof, thought of as erosions in the rock, let light from many directions into each area of the house. Through glass the house is open to the sky, to the sun, to dusk, to the moon rising. The pleated wall of the living area folds completely back so the space of the house and the landscape spill into each other.

The intersection of house and landscape on the other side is obscured by a series of layers, both real and perceptual. The wall edge is one. The roof edge is another. The two form an arcade between. Projected down from the roof edge is a moat, dug one foot into the ground to catch runoff. On rainy days, sheets of water create a second, less substantial, outer wall. On sunny days this suggested wall (completed by the mind) is complicated by a constantly varying overlay of shadows.

The primacy and ambiguity of the horizon line are reiterated by a series of horizontal layers, both inside and out. The roof steps down almost to the ground and can be walked on. As a roof it belongs to the sky; as a staircase, to the ground. Original plans also called for terracing the site for an even more gradual transition. On the interior, horizontality is reinforced by color, earth/grass shades in three strata touching everything. Each color change refocuses attention to the horizon.

The design of the house is based, like the first one, on a simple but variable system, here made up of elements in seeming contradiction. The brick is of the earth. The concrete columns are subtly anthropomorphic. The roof is industrial, made from a standard formwork system but inverted, overlapped, and undercoated with urethane; reidentified—like Duchamp's readymades—as roof



tiles. The columns and trusses—cold rolled U-channels bent into arches—form the skeleton; the seemingly molten roof is built up, in bays, of the galvanized metal tiles, and the low walls are brick.

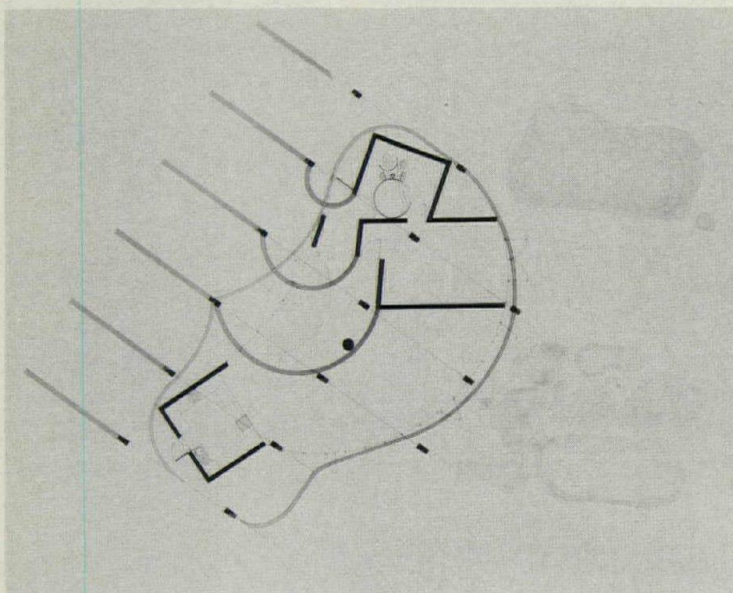
The pleated glass wall of the living room is a two-dimensional system of its own in which the mullions are regular, but horizontal or diagonal divisions are seemingly haphazard. The system allows for small-scale responses as well as abstract composition, and is intentionally reminiscent of the geometric patterning by the Bantu.

Spatial designation within the house was developed in progressively larger ripples from the swing of the front door, a geometry intended to recognize human scale and ren-

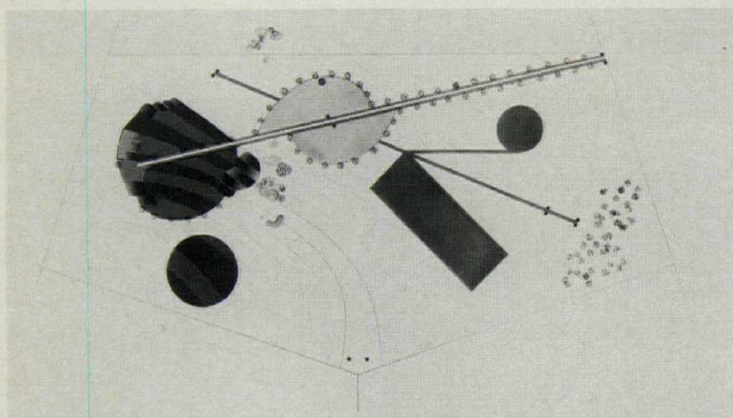
*The Halfway house is thought of as an outcropping of habitable rocks. The edge between house and landscape proliferates in a flurry of wall and column, moat and arcade, eave, step, and shadow (top). The metal roof is sheared off variously, in places dipping almost to the ground from which it becomes a kind of curved outdoor deck (bottom). The pleated window wall, in the colors of the grasses and earth, folds back completely.*



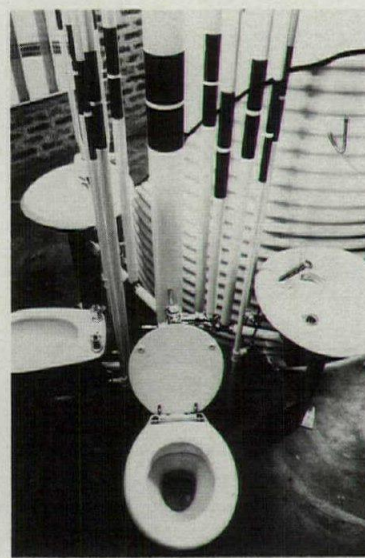
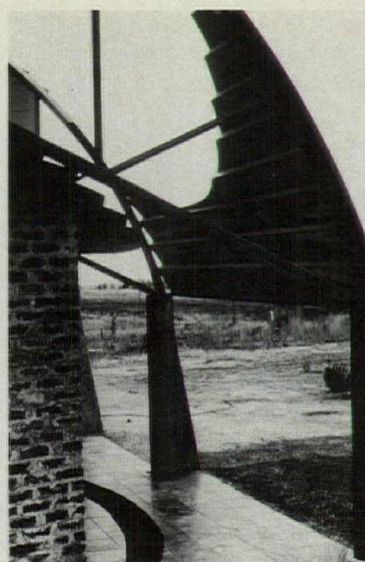
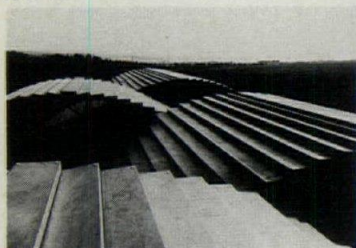
## Halfway house, South Africa



PLAN



SITE PLAN



The overlapping bays of the roof (bottom left) create gaps for light to flood each area from different directions (center right). At the entry and end of the house, the roof begins to be eroded and the truss freed (top right). Bottom center: the living area with wall folded back (Wall in place, facing page, bottom). Bottom right: bathroom fixtures clustered around decorated pipes. Behind, a piece of corrugated water tank shields the bath.

### Data

**Project:** Norman Catherine house, Schoemansville, Transvaal, South Africa.

**Architect:** Stanley Saitowitz.

**Site:**  $\frac{3}{8}$ -acre flat site in rural suburb, with a dam in front and mountains to the rear.

**Program:** 1800-sq-ft house and studio for artist, arranged as loft space on six platforms.

**Structural system:** prefabricated steel framework, concrete foundation.

**Major materials:** off-the-shelf industrial parts and local stone.

### Data

**Project:** House remodeling, Palo Alto.

**Architect:** Stanley Saitowitz.

**Program:** remodeling of original suburban house and 600-sq-ft addition.

**Major materials:** wood frame, stucco.

**General contractor:** Tom & Bill Contractors.

**Cost:** \$30,000 (1977), \$50 per sq ft.

### Data

**Project:** Halfway house, Transvaal, South Africa.

**Architect:** Stanley Saitowitz.

**Site:** six acres of veld with rock outcroppings.

**Program:** 1200-sq-ft house; separate servants quarters; garage/workshop and stables to be completed.

**Structural system:** concrete columns, cold-rolled trusses, inverted cellular metal decking (roof).

**Major materials:** multicolored slate floor, brick, inexpensive off-the-shelf details.

der visible the moment of decision—"each time the door is opened, the generation of the plan is regenerated"). Within there is much subtlety in the elucidation of space. The pathway from the front door is clearly established by solid walls angling slightly outward toward the public areas. At the end, the kitchen is given precise definition on three sides, while the living and dining areas flow together.

The bedroom is more thoroughly walled in (though not as a strict rectangle) and nestled between rock formations so that even views give the impression of shelter. The bathroom is deliberately ambiguous. It can be entered from the public areas through two portals of columns and walls as if it were actually outside the house (an outhouse). The raw brick and exposed pipes reinforce the impression. From this entrance, the bath is shielded.

From the bedroom entry, the bath is the dominant element, sheltered within a bathstall, a slice of transformed white corrugated water tank that makes the tub a room of its own.

### The state of becoming

"Construction," says Saitowitz, "is seen as growth. A display of transformation. A self-descriptive material evolution, momentarily frozen in a state of incompleteness, inviting continuity in the act of habitation."

Highly aware of his personal debts to Duchamp, the Surrealists ("Magritte resensitizes us to language"), assemblage, Robert Smithson ("the greatest artist since Duchamp"), John Cage, Van Eyck ("a hero"), Saitowitz continues, in his way, the role of artist as provoker of the imagination. Content, he says, is "not a message but an invitation to interpretation." The appeal of system for him is not to close options as he feels structural expressionism does, but to open them. "A system is a matrix for the realization of connections, a focus for insight." [Nory Miller]



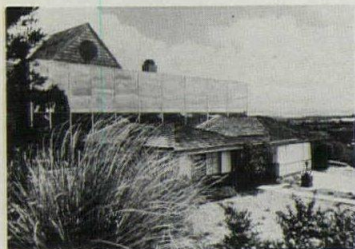




## Sally Woodbridge

**Rob Quigley's work exemplifies its Southern California clients' lifestyles dramatically, but without extra frills or costly materials.**

*A 1960s ranch house (below) was not demolished to make room for the clients' Queen Anne dream house as originally intended; the latter (bottom) was simply added behind a surreal mirrored wall. The Pacifica Townhomes (right) are somewhat reminiscent of African or Spanish walled communities, but are actually inspired by local bungalow court models.*



Rob Quigley



Robert Ward

Sally Woodbridge teaches architectural history, is coauthor of several books on California architecture, and is a contributing editor to *Progressive Architecture*.

Rob Quigley designs buildings in which forms collide and metaphors mix with joyous abandon. But what at first glance may look like the latest "California Crazy" or a set of architectural one-liners reveals, under closer scrutiny, serious concerns for community, context, and clients.

"When I came back from two years in the Peace Corps working in self-help housing in Chile," says Quigley, "I had a lot of ideas that I wanted to test out. I grew up in L.A. in what was still a rural landscape around Rolling Hills and Palos Verdes. I went to the University of Utah because I thought, mistakenly, that I could study architecture and ski at the same time, and ended up with an architectural education that was pretty innocent of gods and heroes. I joined the Peace Corps out of college because I didn't think that going to war for Coca Cola was a good use of my time and because I really wanted to get first-hand experience in construction. The Chilean architects I met argued that there wasn't any American architecture; it was all spun off from Europe. I guess I took that as a challenge. When I got back to L.A. in the early 1970s, it was clear that big things were happening in Southern California. I went to San Diego for a variety of reasons—there were fewer architects there, for one thing. I also hoped that I could develop a regional architecture that would really respond to the environment and use conventional building methods. I believe that buildings should make people happy, but I don't believe in architectural one-liners. They're for other architects, not for clients. If there are any jokes in my buildings, the clients are in on them."

One of the felicitous aspects of Quigley's work is the wit it conveys in the form of puns on form and use. An astonishing example of this is the remodel of a 1960s ranch house located in a typical tract of the period in Del Mar. The clients were research scientists in neurology from Princeton, NJ. Having bought the house for the site, they hired Quigley to do a major remodeling. As it turned out, their cherished dream was to have a turreted, shingled Queen Anne villa like those back home. Although Quigley agreed that they should have their dream house, it went against his considered values to destroy what he viewed as a perfect piece of the recent past. "Besides," he said, "a complicated vertical structure would have blown the neighborhood context away. Research scientists have been wonderful clients for me.

They are used to dealing with what is, without a lot of preconceptions. So we faced the conflict squarely and decided to have our cake and eat it, too, by preserving the ranch house, restoring the landscaping, and building the dream house on the back, where the view is better if you get up high enough. The trick was to keep the new house from literally towering over the old one. What the mirror wall does is to erase the conflict. The structure supporting the mirror wall forms an inexhaustible bookcase on the interior."

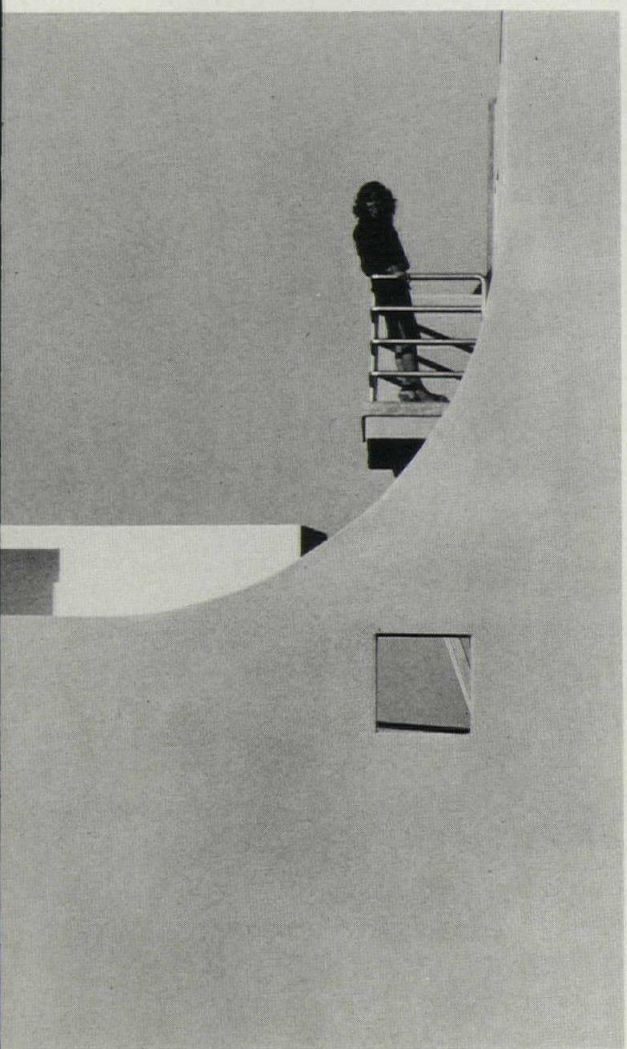
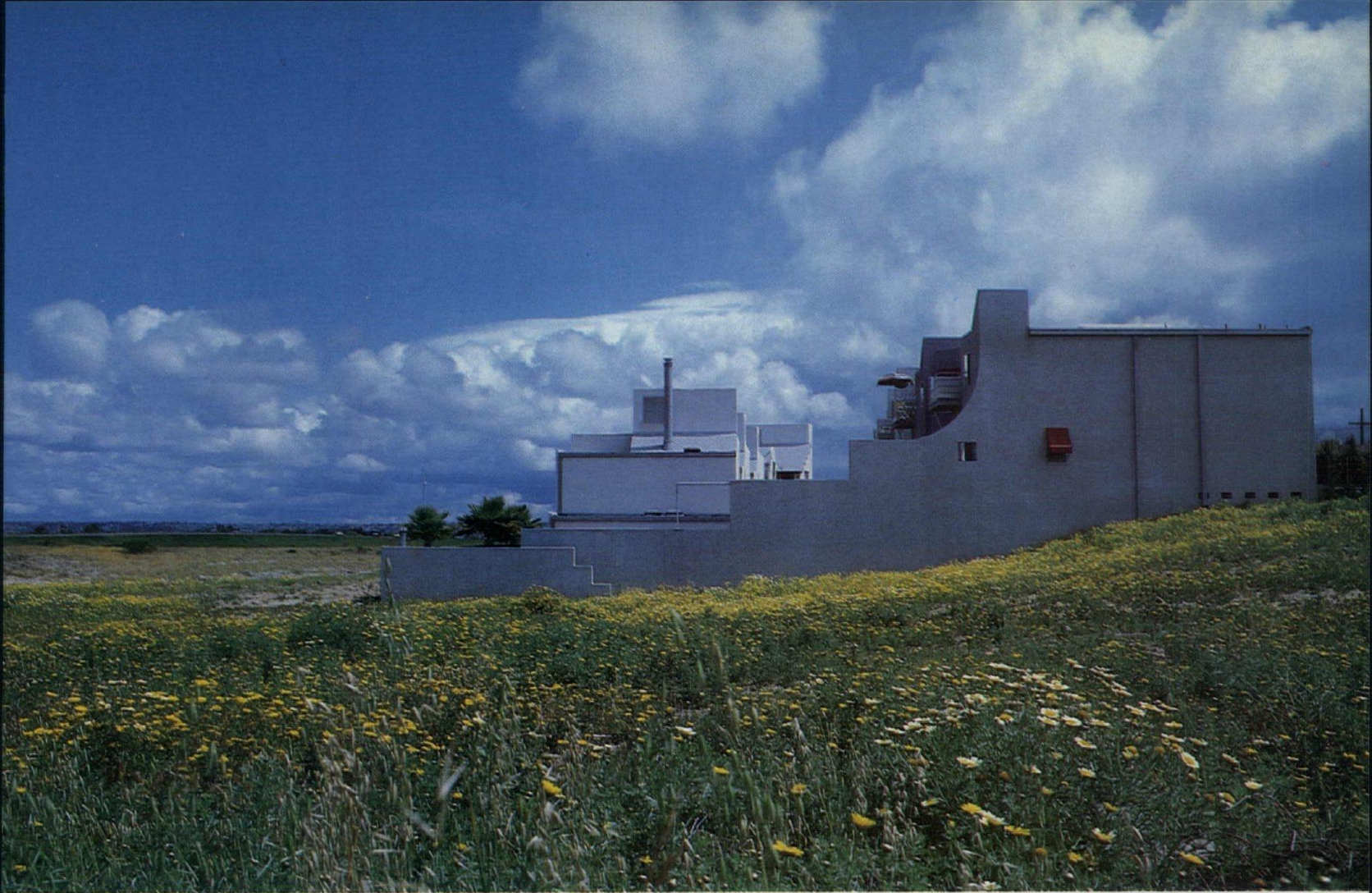
As everyone who has been there knows, the Southern California environment ranges from the varied, densely developed coastal landscape to the monotonous, still developing hinterland. For Quigley, the latter presents the greatest challenge, one which is exemplified by the Pacifica Townhomes condominium project. The intersection of two divided, four-lane arterials gave the condos their address. These noisy concrete rivers crisscross a treeless plain spotted by sand dunes and miscellaneous patches of development. The decibel level of the intersection called for a walled sanctuary; the desolate ambience cried out for a lively composition that would signal across the void. Although the final composition of the compound suggests such international prototypes as North African walled villages and Spanish farmhouses, the local bungalow court furnished a logical model. But whereas the 1920s and 1930s bungalow courts have no on-site parking, here it was required.

For the residents, single 9-to-5 working people, there was little chance for social contact. The architects sought to increase the chances for sociability by incorporating into the court the auto-oriented rituals that usually take place in parking garages and service streets. The single access for people and cars also reduced paving and redundant circulation while freeing more land for private backyard gardens.

To compensate for the absence of a past contextual richness, the architects designed visual layers. As the viewer speeds by on the arterials, the building elevations continuously recompose themselves in a syncopated rhythm. Colored awnings held up on decorative poles convey festiveness and hint at the riches of the Good Life led within.

Some of the variety of the north and south building façades addresses orientation problems. The south side noise level called for increasing the amount of wall area at the ex-

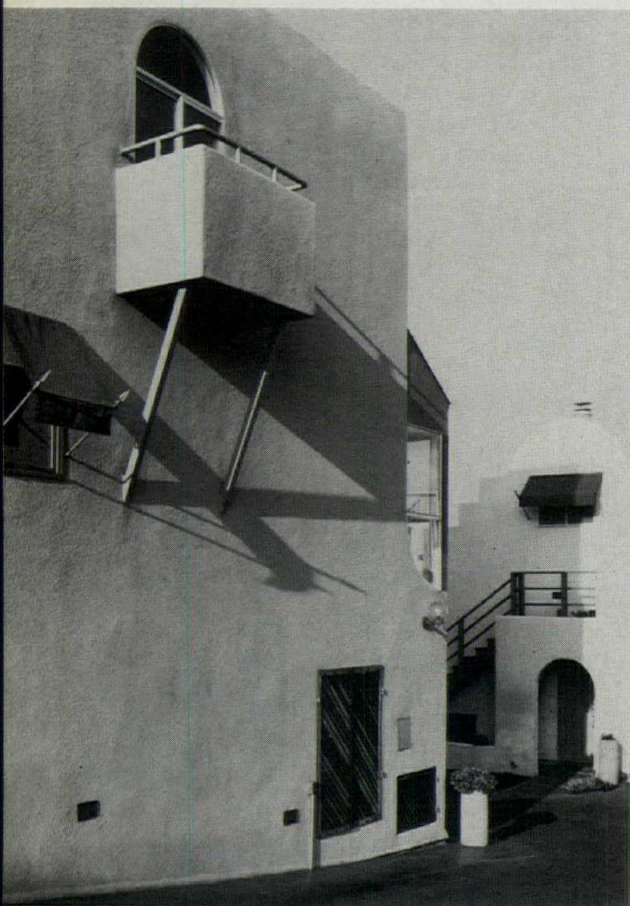
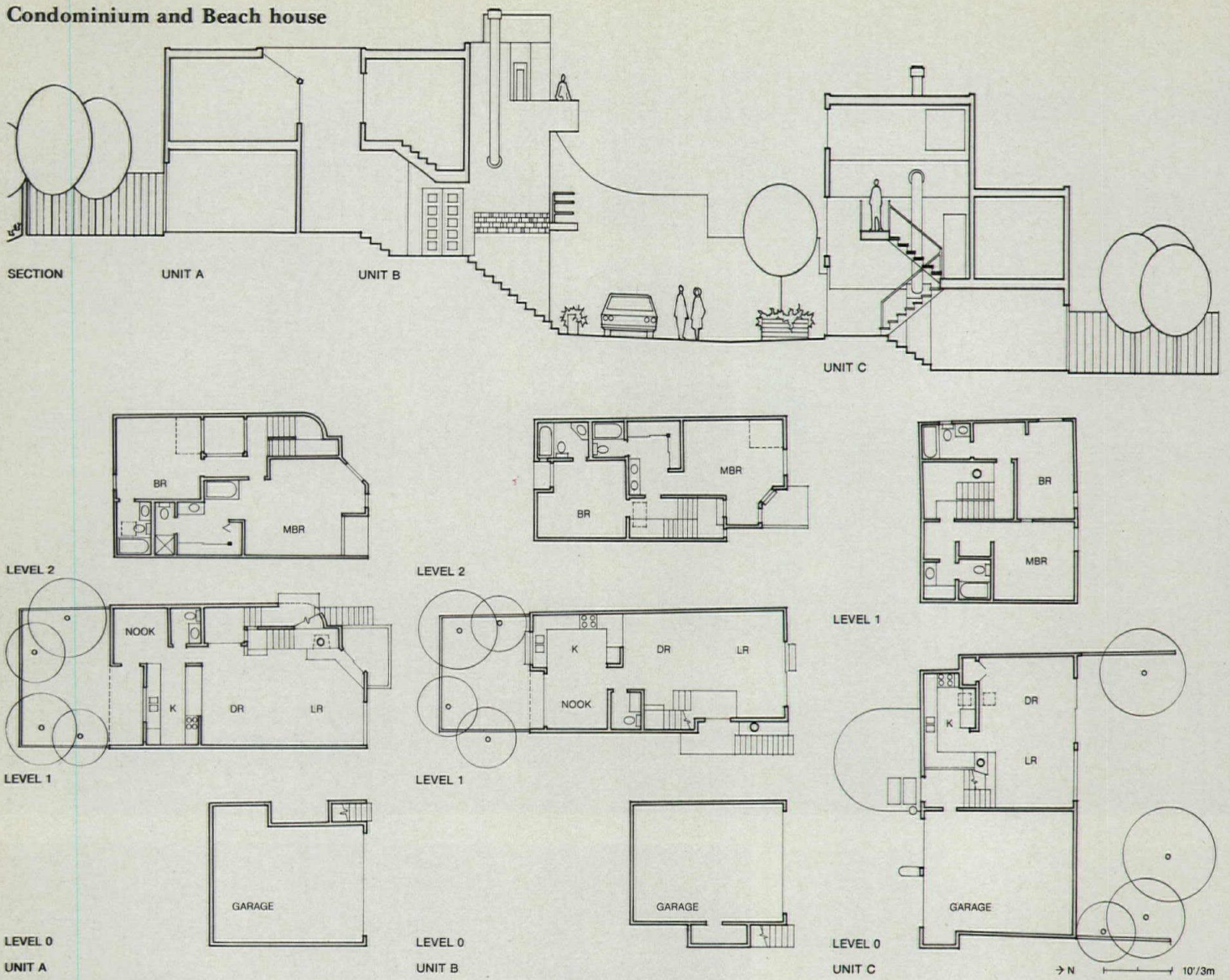




Photos: Rob Quigley

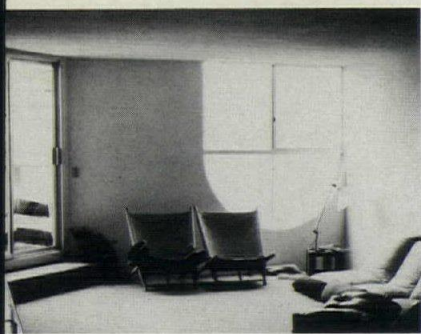


# Condominium and Beach house



Photos: Tim Street-Porter





Sally Woodbridge

#### Data

**Project:** *Pacifica Townhomes, Point Loma, San Diego, Ca.*

**Architect:** *Rob Wellington Quigley; project architect, Lee Platt.*

**Client:** *Bill Houlihan.*

**Site:** *busy corner in urban area.*

**Program:** *a 13-unit condominium project for working single people.*

**Structural system:** *concrete and wood frame.*

**Major materials:** *stucco.*

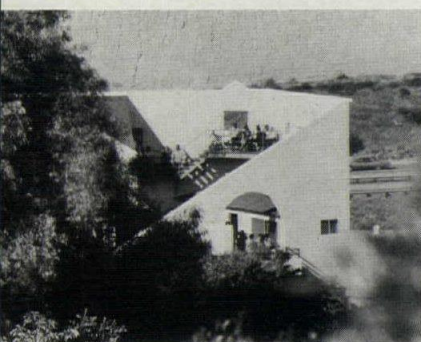
**Mechanical system:** *gas-fired forced air.*

**Consultant:** *Scott Stedman, structural.*

**General contractor:** *Liberty Construction.*

**Costs:** *\$715,500.*

*The Pacifica Townhomes (left) are organized along a street that encourages activity; inside (above), rooms are spacious and airy. A musician's house (below) becomes an outdoor amphitheater, while the Mission Beach house (right) provides an outdoor room overlooking the boardwalk.*



Photos: Robert Ward

pense of sunlight. By putting fenced gardens on this side, the architects were able to maximize ground-floor glazing and let the occupants be warmed by the sun, but not deafened.

The scale of the courtyard and the variety of decks and balconies that overlook it are well calculated to create the intimacy of a community closed off from an alien world. These outdoor projections of the individual units permit the owners to personalize their turf by public display of belongings.

At the University of Utah in the late 1960s, architecture students worked closely with students in the School of Dance on a variety of projects. Quigley recalled that he began to see the rules for composition in dance—theme and variation, patterns, focus points, vistas, rhythms building to a climax—as identical to those for architecture. “The difference,” he thought, “was that in dance the environment moves before the fixed observers; in architecture it’s the reverse. In both, the action takes place between points arranged in space. When I got to designing houses, choreographing my clients’ life-style became a major concern. I sincerely wanted to build *their* dream house, not mine. I used Anne and Larry (Lawrence) Halprin’s and Charles Moore’s work in participatory design to devise a method of scoring. The clients got a 15-page questionnaire to fill out, which we then discussed in great detail. Variations were amazing. Sometimes the process took a week, sometimes two months. But we succeeded in distinguishing between serious dream elements and irrelevant fantasies.”

The musician’s house exemplifies this approach. Isolated on a hillside, the site overlooked a freeway corridor. Though affordable, it was inimical to the client’s life-style. Quigley listened in astonishment as his client described the low-budget dream house where he would hold indoor and outdoor concerts. Clearly, another walled compound was in order, but the logical solution of the Mediterranean courtyard house was too costly because of the number of walls and galleries involved. The solution was to wrap two separate living units with a massive wall and connect them with an open deck. Happily, like true Southern Californians, the clients welcomed the indoor/outdoor circulation.

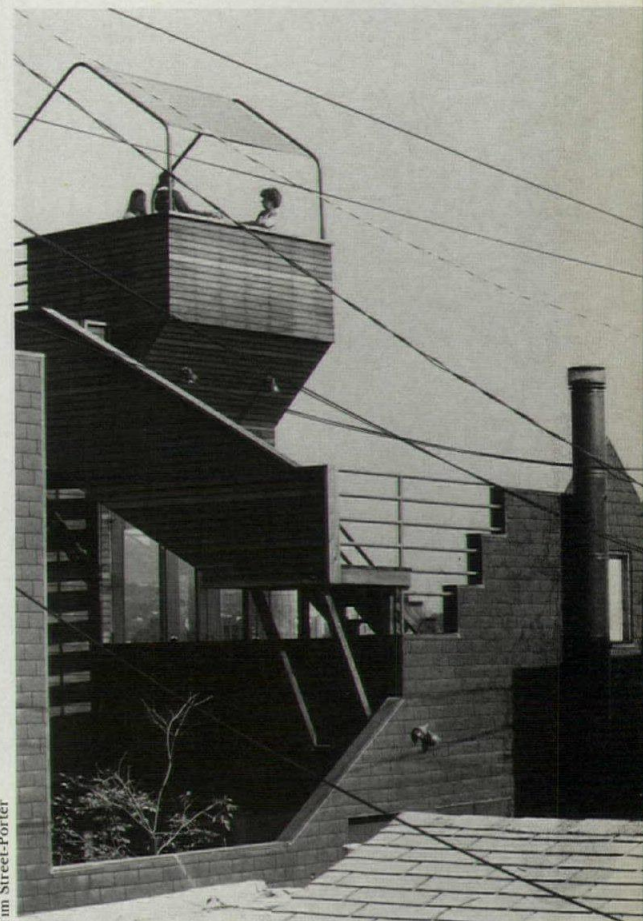
But this was only the beginning of the spatial choreography of the dance of life. To gain a spectator gallery for the musical occasions, the architects designed a stairway to snake across the rear wall of the main living space and emerge on the outside to balcony seating for outdoor concerts. Seats fold down on the stair treads. The wall is also used to tune the space by loading or unloading it with books. Both the dining area and the deck double as living and performance stages.

Because the wall structure consumed a disproportionate amount of the budget, there was not much to spend on architectural refinement. In any case, Quigley is devoted to the struggle to find ways to avoid custom detailing. “Not that I don’t admire fine details, but if you’re working in the trenches instead of the laboratory, you can’t afford them.”

Unlike the condominiums and the musician’s house, the Sayers’ Mission Beach house is embedded in a vital neighborhood centered on Southern California’s most popular life-style, the beach life. Neither swank nor decorous, this is an open and expansive pedestrian world on the boardwalk side. On the landward side, the auto-dependent world takes over; back alley manners and noise prevail.

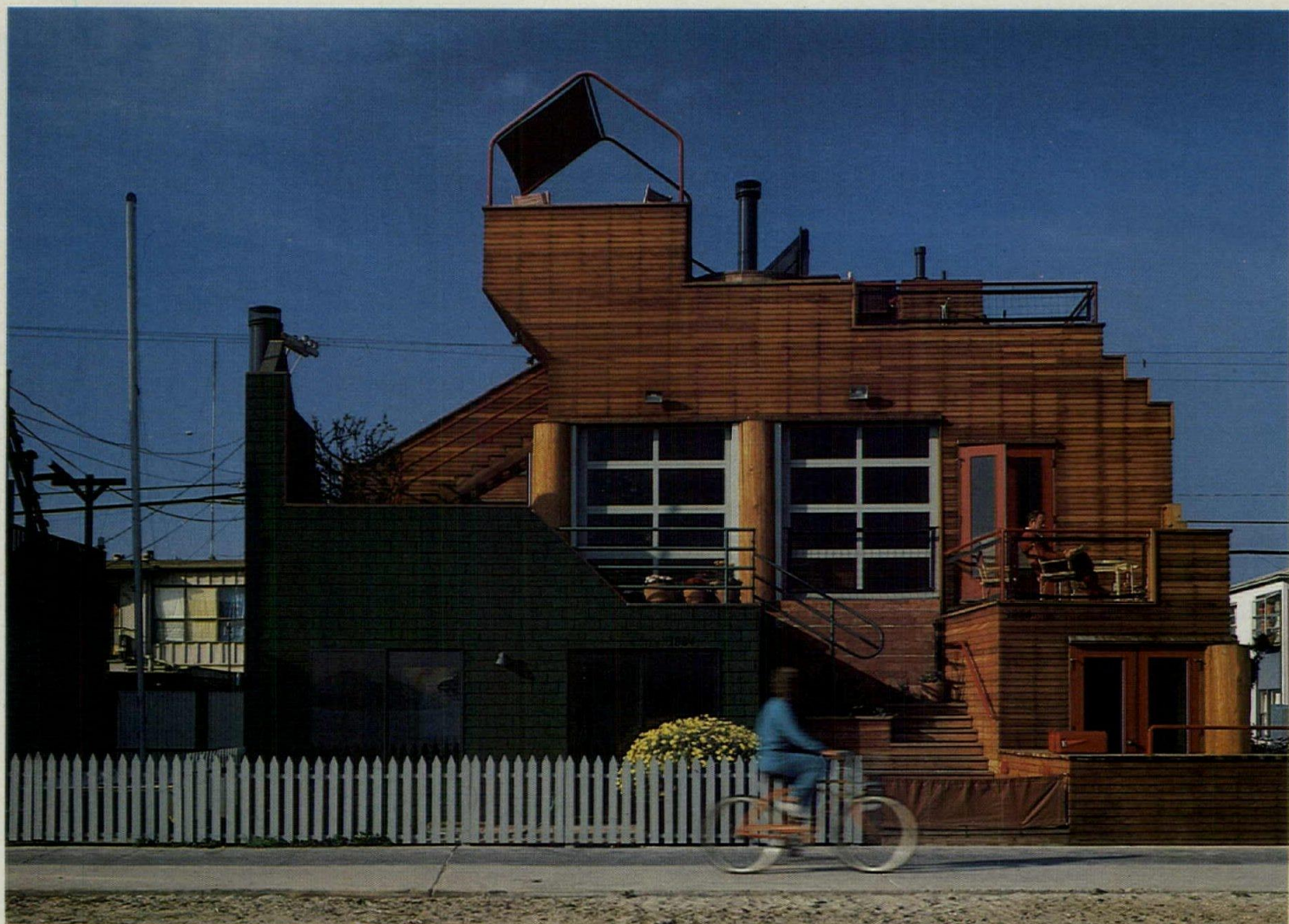
To serve these disparate concerns, the architects created two houses in one. The largely closed-in “alley house” has a palette of materials culled from the adjacent blocks: green asphalt shingles, aluminum windows, and pipe rails. A white picket fence defines the lot line where the garages end. The “beach house” has a more nautical palette of unfinished redwood siding, wood windows, and volleyball nets for safety rails. A three-inch brick floor soaks up and stores the sun’s heat for cooler evening.

It is the celebration of life’s patterns through spatial choreography, however, that most distinguishes the house. The sequence of social settings ranges from the boardwalk level stoop for casual exchange of greetings with passers-by, to the morning breakfast deck suitable for saluting the neighbors and others strolling below, to the south deck, which offers both a beach view and protection from weekend tourists. It wraps around the living room to end in a secluded area warmed by the afternoon sun. From here steps rise to a roof deck of which a piece, like the bridge of a ship, overlooks the beach. In back of this is an outdoor living area equipped with sink, refrigerator, barbeque pit, benches, and hot tub. The guest bedroom behind is sheltered under the roof of the “alley house.” Solar col-



Tim Street-Porter





Tim Street-Porter



Robert Ward



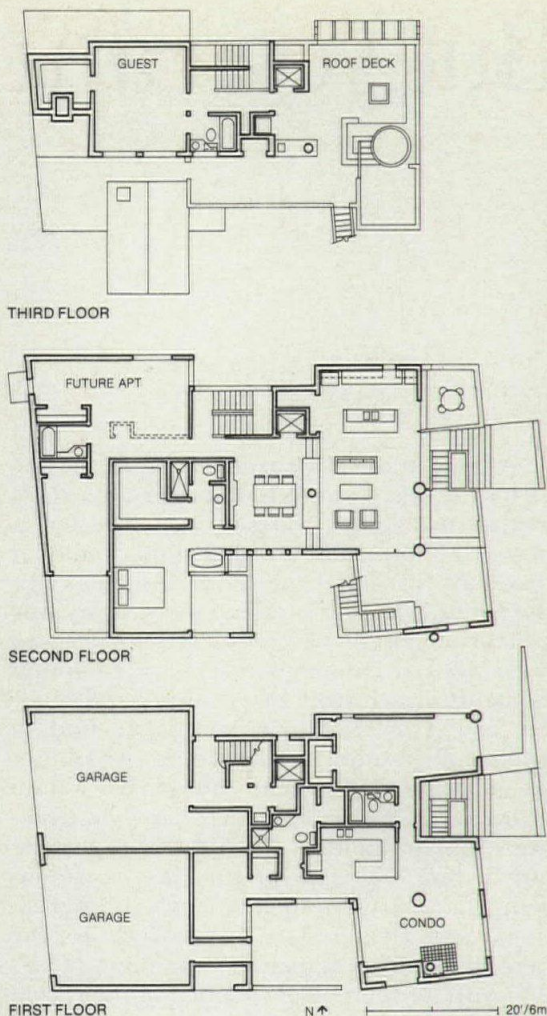
lectors on this roof heat the spa and domestic water system.

The more formal interior living areas on the floor below, though quite private, can be completely opened up to the Bay by rolling up the garage door walls. When one is seated inside, even the narrow beach disappears from view, leaving a peaceful expanse of water.

Since the owners are on the verge of retirement, they wanted a potential income unit for the time when the children finally left home. Then, the "alley house" can be separated from the beach house with regard to both circulation and appearance. In the meantime, Quigley feels complimented when people take the design for a remodeling of one of the typical shanties that compose the neighborhood.

All of Quigley's work is directed to enhancing the users' awareness of the sensual qualities of the environment. "Saving energy," he thinks, "should be the beginning, not the end, of environmentally sensitive design. Besides, the architect should be eager to reclaim the turf he gave away years ago to the mechanical engineer."

The projects presented here have been selected to show the range of Quigley's solutions to residential design. Since the most recently completed project is a theme building for a shopping center in Rolling Hills Estates, a shift to a more diversified practice is predictable. Yet the emphasis on open-ended design will remain as well as—one hopes—the optimism and wit. □



#### Data

**Project:** Sayer house, San Diego, Ca.

**Architect:** Rob Wellington Quigley; project architect, Bob Dickens.

**Client:** Bart and Judy Sayer.

**Site:** bayside lot with two existing beach shacks on property.

**Program:** a summer beach house with both open and controlled correspondence to outside activity.

**Structural system:** slab on grade, wood frame, wood columns 24 in. in diameter.

**Major materials:** new and used brick, fiberglass panels, asphalt shingles, redwood siding, copper, sectional overhead doors, canvas.

**Mechanical system:** gas-fired forced-air heating, solar domestic and spa hot water heating, passive solar gain.

**Consultants:** Steve Adams, landscape; Marsha Paine, interiors; Scott Stedman, structural; Kathy McCormick, colorist.

**General contractor:** Wodehouse & Associates.

**Costs:** \$331,000.

The beach house (left) is oriented to the outside, to which interiors can be opened by raising "garage" doors (below).



Tim Street-Porter



# But you can't dance to it

## John Chase

**Eric Owen Moss's grafting of pop culture onto a 1949 Modernist house makes no effort to hide the seams.**

### Data

**Project:** 708 House, Pacific Palisades, Ca.

**Architect:** Eric Owen Moss, Los Angeles, Ca; project associate, Nick Seirup.

**Client:** Maureen Moss.

**Site:** an existing house in a suburban neighborhood of one- and two-story houses.

**Program:** a 600-sq-ft expansion of a 1949 one-story, wood-frame and stucco house, to include a bedroom, bathroom, and storage.

**Structural system:** stud walls aligned with existing walls on first story; balloon-framed high wall.

**Mechanical system:** gas-fired wall furnace.

**Major materials:** stucco; gypsum board; tile; plywood; tongue-and-groove siding.

**Consultant:** George Kobayashi, structural.

**Contractor:** Howard Newhouse.

**Photography:** Marvin Rand.

In American domestic architecture of the late 1940s, it was considered modern to solve formal problems modestly and directly; a post-war shortage of housing and of building materials furthered the Modernist cause. In the 1980s, when no such economic or stylistic strictures exist, it is considered modern to create formal problems, often by co-opting elements drawn from mass culture and Modern art. This evolution in attitude finds a graphic illustration in Eric Moss's 708 House, an addition to a 1949 house by Milton Caughey in Pacific Palisades, Ca. The deliberate juxtaposition of old and new is particularly telling. While the original house reads as simple, unobtrusive shelter, in which International Style elements are underplayed for the sake of popular domestic tranquility, Moss's 600-sq-ft addition, like so much of the recent avant-garde architecture in Southern California, defines itself by artistic rather than by architectural terms.

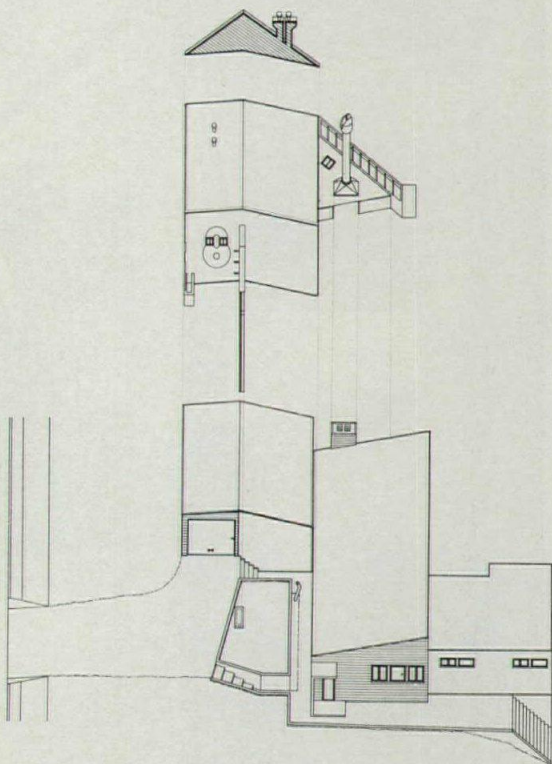
The exterior of the house fights any sense of architectural integration. Its ornament is fragmented, and patched together as a collage of wall paintings and architectural elements, as in the supergraphic numbers, which are part mural and part window; ultimately, the use of the house number as an element of the exterior is purely graphic. The paired steel and wood "flying buttresses" that satirize Modernism's "deification of structure" read as unconnected to the "flying door" above them, with its windows for displaying graphic panels. The sum of these parts is an incoherent whole, a series of episodes connected by personal whim.

Its strongest architectural feature is the emphatic line between the old structure and the new, and the repetition of the old roofline in the peaked "flying wall," a reference to "existing stylistic preferences" in the neighborhood, an affluent suburb of Los Angeles that looks like the setting for a wholesome 1950s TV sitcom. But it is, perversely enough, this lack of integration that is

the project's most exciting aspect. The inversion of accepted meanings, the use of images taken from everyday life and mass culture, the trenchantly vulgar supergraphics, and the cartoonlike elements—Moss trademarks all—obliterate the normal sense of the house as a four-square volume.

The new interior—a stairway, bathroom, and bedroom—is pleasant but unremarkable. The bathroom and walk-in closet are separated from the bedroom by a wall, covered in gridded paper to reiterate the façade's applied grid, and pierced by clerestory openings. The framing of an interior bedroom wall was left exposed, as "the last visible remnant of a beautifully precise framing job." A narrow gangplank, "providing access for pirates," leads to the roof below.

This house may mark the end of the first phase of Moss's work. His designs of the 1970s, made of brightly colored, Japanese-toy-like components, were influenced by Archigram and the Metabolist and Post-Metabolist Japanese architects. It is a style that Moss has now modified, and on which he comments, "When you think about it, it's really a lot of teenage stuff." □



John Chase is currently writing on architecture in Los Angeles.





*A tiled box, extending beyond the house (top), will hold plants to climb the grid above. The glass roof of the stair is visible behind the north wall (above right).*



# Particular associative habitable (built) environments

The following is a selection of notes from a conversation between Richard Rush and Maurice K. Smith. Smith is a professor of architecture at MIT, where he has taught since 1958. He is the architect (and photographer) of the three houses shown on pages three and four of the article.

... While the relationship between material and built form is certainly generative, it is not absolute. Materials have frequently reversed their form-roles. A material that is a continuous surface in one place and time might be a framework in another. Form and material in the natural landscape, however, except for atypical "sights," maintain consistent relationships: e.g., water flows in contours, trees grow "out" from the ground. Families of multiple use form, rather than those generated singularly through engineered materials, are the basis of physical associative use definition. From them we can build up an inclusive, deeply associative vocabulary evincing similarities and lateral developmental transformations in different geographies and cultures. We can understand and relate to the form families directly—history is always *Now* as well as *Then*. We can find a series of assemblages that together come close to a reasonable method of formal projection for now.

The "facts" of physical form are partially independent of the social conditions that nurtured them. If we feel sympathetic toward foreign physical definitions, our relationship with them may differ considerably from the indigens. We can look at a painting or a farmed landscape and feel friendly toward it (associative) although we have contributed not at all to its generation. We don't have to be farmers to enjoy walking in an orchard—its space, screened light, or fruit. Nor need we be Japanese to appreciate (in part) their traditional form-making.

If we believe that no associative choice need be made about formal organization, then we are likely to accept what we perceive to be the current of the time. Because it is possible to do this problem technically this way, we should go with it and see where it takes us. Whatever is current, however, be it isolation and separation, whether it makes environmental sense or not, is certainly going to affect us.

We must decide at every move whether we are appropriately developing continuities and intensifications, or discontinuities and transformations—contradictions. Do we intend the environment to be a series of short-term theatrical events, or should we be contributing to a larger continuity of variables? If we ignore these decisions, we will probably, by default, be led by marketed shallow fashions—decor. Coherent criticism of particular (styles of) building or organization can only follow from recognition of the intrinsic essential generation of physical form. . . .

## Behavioral form families

We have inherited four all-inclusive generative form families. While many contemporary complexes do and should, of course, evince some qualities from each group, in order to orchestrate sympathetically, we must understand the self-defined attributes of each. They are: landscape intensification, landscape transformation, "camping," and short-term theater.

**Landscape intensification:** This means that we live with the friendly harboring landscape and add to the characteristics of what is already there and almost habitable. A fishing village follows the reciprocal form-zone of a land-water bay. The "habitable" landscape is much more extensive than the territories we claim through building. Additive growth-form is almost always directional with water/use/access continuities.







2



3



5



6



7



4



8

1 The quintessential field organization. 2 Landscape transformation. 3 Camping. 4 Landscape intensification. 5 Partial containment. 6 Partial completion. 7 Direction + continuity. 8 Collage.





*Containment is less fierce as defining wall surfaces are transformed from opaque to transparent by frames (top). A building foundation (above) should be able to survive as a landscape definition. Use-form reciprocates with the landscape (right).*



**Landscape transformation:** By contrast, in extremely hot, dry climates, we protect ourselves from the environment. We usually work egocentric form organization. Landscape transformation is polar from intensification. Landscape characteristics are carefully controlled and transformed for survival to alleviate unlivable conditions.

**Camping:** The next two families, comparatively recent in building history, omit the "geo" from anthropogeomorphology and for the most part are ecologically and formally unsound. Camping is "visited" when both intensification and transformation are ignored. Buildings are composed, "solved," even built independent from actual landscape facts/attributes. Land provides merely subdivisional sites for locating real estate; that is

unhappily the largest part of modern building—modern nihilism. "Camping" in itself, where rampant, has destroyed the associative qualities of many world cities, and we understand very well that nothing is being intensified except the population density and the access. "There is no there, there."

**Short-term theater:** In reaction to camping has come short-term "fake" theater. Many "designy" architects attempt to invent occasions, usually through variously misguided histrionics, light or heavy. They try to conjure up events through set design instead of building additively in place, contributing to much larger coherences. Both camping and short-term theater have no real roots traceable to landscape, and they are both therefore not much good. . . .

### Generative form families

The behavioral families delineate further formal principles characteristic of four generative groups: continuity, containment, completion, and collage. Each family involves its operative opposite as extremes.

**Continuity:** There must be enough understandable continuity to make optional discontinuity or change contributively tolerable as part of the ongoing field.

**Containment:** The principle mandates that use stabilities occur only when they are not disturbed by movement. The most completely contained forms are very fierce-closed.

**Completion:** The more nearly "complete and balanced" the physical definition, the more independent it becomes—like a mechanism or a moveable object. Processional buildings are commonly very complete. Simplistic completion (race track) implies singular use. How much completion is appropriate for "recognition" without obviating "reciprocity"?

**Collage:** Not the insubstantial collage of paper gluers or theatrical revivalists, but additive collage in the sense that each different family of form and each method of building is sufficiently self-stable to exist in its own right. The realization of the complex at any given phase must still be coherent. The processes of building can be intrinsically understandable, self-stable, but not complete. A building foundation (ruin?) should be able to survive as a landscape definition. As in any democratic order, this means that each family of buildings is as important as any other—not necessarily as big or as strong, but as important. Each process/action should contribute something additional to the zone defined without it—not totally controlled by it.

So we must observe the generative and behavioral and form families and make collages of appropriateness. That is our job as designers, to be on good terms with the "facts of form." If we choose families of form inappropriate for a particular work—which we are at liberty to do—we will be acting (designing?) irresponsibly. If we choose and work with an appropriate range of form, then we will generate places parallel qualitatively to our model—the habitable landscape and its intensification—the only real challenge and test. . . .

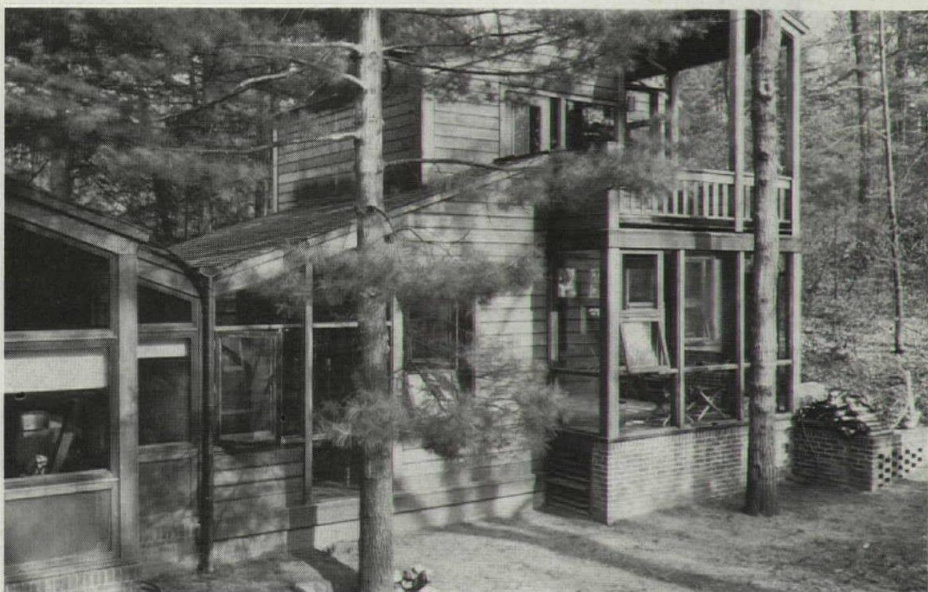




... Totally self-contained form excludes reciprocal "external" relationships by definition. Suitable applications must be of reasonable programmatic necessity. So centrally focused temples and churches, etc., more or less totally self-defined and often processional, contribute to rites and rituals. They are intended to be transformationally counter to daily domestic life including landscape intensification—farming.

In general, then, we must work with field organization—growth form, additive growth form at that (not extendable), and use form that reciprocates with other (use) definitions and the landscape. Everything contextual must be included. The field organizations in many geographically and culturally varied villages and towns exemplify the principles and obey the rules. Processional buildings and roads (not generated by citizens) can only "work" well as a minority. To make houses, housing, schools, streets, commercial buildings, etc. (habitational built landscapes) like the focused designs of palaces and temples is complete associative nonsense. We can observe much of this happening. Designers are deploying separations instead of associative continuity. Relatively isolated and egocentric objects can be part of ongoing variable fields as we find exemplified in the additive growth form of so many associative "indigenous" villages and towns. . . .

So we must sharpen our editorial understanding of form awareness and thinking. We should be sympathetic receivers and generators of form, not egotistical inventors or nihilistic grid packers. Perhaps limited "single-use" objects can be invented, but not particular associative habitable environments. □



*(Top) While the relationship between material and built form is certainly generative, it is not absolute. Materials have frequently reversed their form roles. (Above) Landscape intensification means that we live with the harboring landscape and add to the characteristics of what is already there. (At left) The built environment frames the natural landscape.*



# The MIT connection

**There is a distinct "we-they" in MIT conversation, but that wall may be obscuring significant parallels.**

*Facing page: Richard Tremaglio's 3500-sq-ft student center establishes in composite form and territorial ambiguity a durable home ground for dancing, snacking, reading, television watching, concerts, table games, and pick-up soccer. The center spills out of an operable garage door onto the lawn as spaces within spill into each other around low walls, over level changes, through slitted screens and balustrades and interior windows (bottom). At mezzanine level, tucked under the roof like an attic, a special platform with a bench on only one side of the window looks onto the most perfect view of the landscape; a special bridge leads to the soon-to-be newspaper office, and benches pull out of railings, turning landings and corridors into open rooms (top). Softened surfaces—satin polyurethane on pine wood, epoxy resin on the concrete floor—mollify the effect of the tough materials. Total cost was \$197,000. (See Building materials, p. 163.)*

In the 1960s, MIT was one of many schools caught up in the furor of social consciousness. By the late 1970s, it was among the last. To this day, it remains a place where ideals such as participatory design, public-financed construction, or purposefully invented "Italian hill towns" are often discussed as if experience had not yet complicated the issue.

Behind and beyond the assumption of consistency, however, some professors and ex-students have been wrestling architecturally with the frustrations of those earlier attempts to translate political values into buildings. Neglected in the first flushes of enthusiasm was the discrepancy between a hill town's shared values and limited choices and contemporary America; the chasm between the priorities of public agencies and those of right-minded architects and the visual ill-preparedness of most "users." Or worse, the anguishing discrepancy between the open-ended, anti-money values of reform architects and the often status-minded values of upwardly mobile clients.

Sometimes the rhetoric becomes a little contradictory. The talk is of large buildings and improving the lives of many, especially the poor, but the built work is small and dense, and its experience not so easily magnified as the architects like to suggest. The lengthy slide tributes to vernacular building tend to obscure a deliberate, even voracious, taste for variety and ambiguity, sure anomalies in the conservative societies that generated the supposed prototypes. And the expressed primacy of client wishes occasionally masks the necessity of a selection process that reduces the load to those already sympathetic.

Nonetheless, there are certain shared attitudes in the approaches of architects closely associated with MIT—though clearly one constituent within it—that makes it possible to talk about an MIT connection and interesting to follow its changes. Fundamental to this position is the idea that the architect's real task is the invention of process, systems for decision-making. There is an emphatically expressed antagonism toward the making of things, toward both preconceived image and precious object. Both assemblage and framework with infill are used as organizing principles, with elements drawn from deliberately unglamorous vernacular and generally low-cost industrial forms and materials.

The parallels with the hard tech and regional vernacular of contemporaries is clear, but the key distinction remains the anti-

money bias—barns, not shingle-style resort houses; concrete block, not wire glass tables. As preconception has been devalued, concentration has not been on drawings, but on decision-making during construction, with a lingering mystique to building with your own hands. With an emphasis on process, presumably, the architectural choices are open enough for the inhabitants to be involved in design and to make changes later without "wrecking" the building.

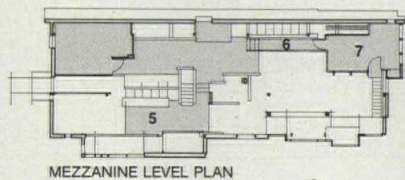
On the other hand, there is the reaction against the neutrality of much International Style. Buildings should welcome people, be formed with an understanding of their behavior and tastes and size. For this, the architects look back to Wright, Aalto, the Greene brothers, Maybeck, Schindler, sometimes even the Japanese—object makers one and all—leading to a kind of tension between building as logical process and building as crafted form.

## Maurice Smith

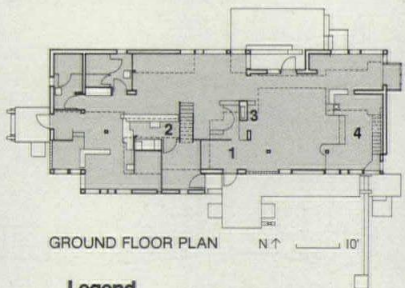
How all this came to be a recognizable aspect of MIT—this amalgam of Team 10, ad hoc, and folk craft—is too large and tangled to try to unravel here. But the impact of the charismatic and eccentric figure of Maurice Smith, interviewed in the preceding article, should not be underestimated. Smith made articulate, from the generalities of concern, a minutely open-ended relationship between buildings and inhabitants that involves a full range of perceptual and emotional interactions.

The associations are communal—landscape, farm buildings, suburban and industrial clichés—the presentations far from ordinary. In recent years, the overlaps, interpenetrations and partial completions have markedly increased in intensity, and it is not surprising that Carlo Scarpa has been added to classroom discussions. (Smith has also long held the 30-year incremental construction by Clarence Schmidt in Upstate New York in high regard.) The range of materials and incongruity of juxtaposition has followed a similar direction even into previously forbidden fine materials such as granite. In describing the kind of experience he is making available, he often quotes poet Charles Olson of Black Mountain College: "One perception





MEZZANINE LEVEL PLAN



GROUND FLOOR PLAN

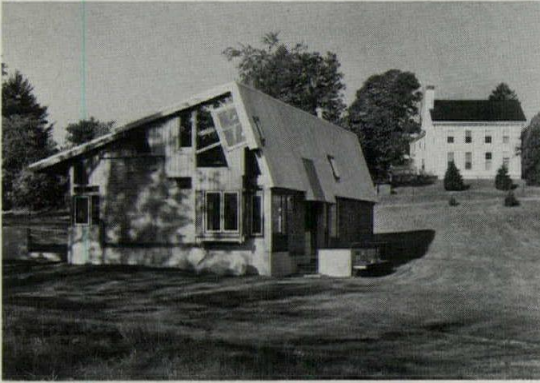
**Legend**

- 1 Entry
- 2 Snack bar
- 3 Russian oven
- 4 Stage
- 5 Landing
- 6 Bridge
- 7 Newspaper office

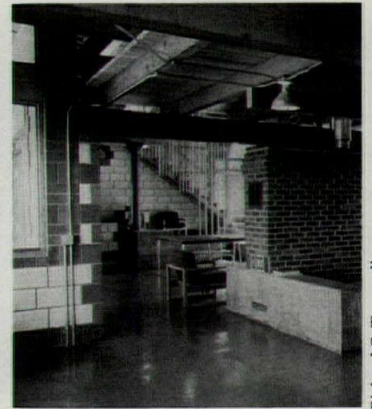




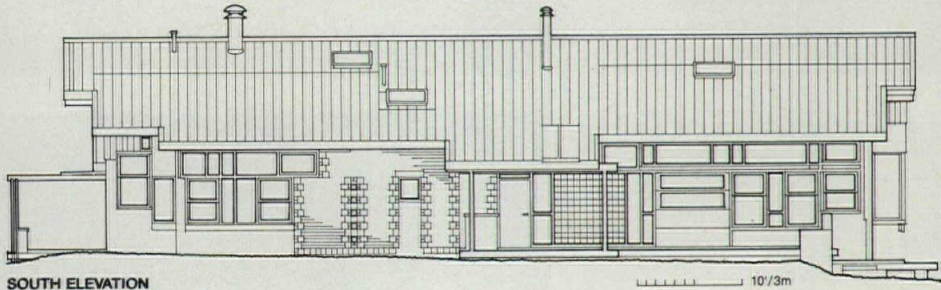
MIT: Student Center, Groton, Ma  
Dormitory, Amherst, Ma



Photos: Herbert Engelsberg

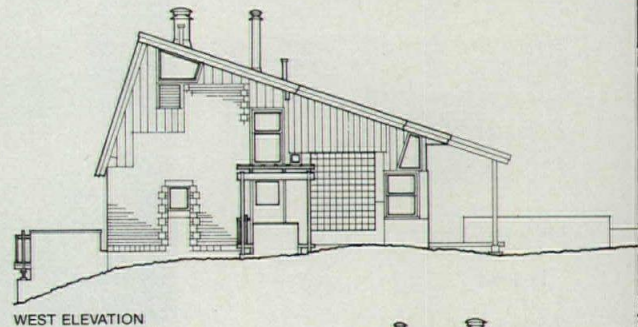


Richard C. Tremaglio

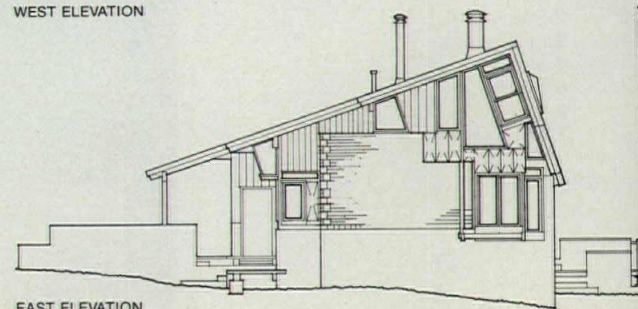


SOUTH ELEVATION

One bay of Tremaglio's student center projects forward (top left). Mezzanine windows knit the geometries of building and roof (center left). The snack bar is a watershed; beyond, spaces become more intimate (bottom left). The center's configuration (top right) was determined from inside, resulting in an awkward silhouette, but a rich weave of planes and openings. Center photo: view toward Russian oven. Center right: detail of passage; note the ambiguity of a light pilaster—belonging to the beam—beginning to emerge adjacent to the dark pilaster at the corner.



WEST ELEVATION



EAST ELEVATION



must immediately and directly lead to a further perception." "Difference in itself," Smith has said, "becomes a virtue. Every possible difference sets up more optional associations. . . . We're helping worlds of definition into existence."

### Richard C. Tremaglio

Smith, however, sees himself as primarily a teacher and has built only a handful of houses in the two decades that he has spent at MIT. Tremaglio, educated under Smith and teaching at MIT since 1970, is committed to building and even doing the building himself. His first house is full of elegant crafted wood details. Another explores the turns, twists, and interpenetrations of geometrically inventive space. A third took on client and worker participation, full of scavenged details and only roughly organized as a series of pavilions along a village street.

Though sharing much with Smith in theoretical terms—he speaks of designing theater, not stage sets—the work shares more a belief in articulation than similar motifs. Tremaglio tends more to large primary gestures that form a framework within which infill is then assembled. There is also a certain hairiness, a laid-back did-it-myself quality reminiscent of the 1960s and a memorylike fondness for Americana—ramshackle farmhouses, fire stations, old schools.

His own background includes being "taken to construction sites since I can remember" by a contractor/structural engineer father and four years as an art major at Brown University (and RISD) before MIT. He did the contracting and even carpentry on most of his buildings, but now feels "I don't have to frame buildings in 30 mph winds. I've learned that." His current ideas on participation seem to have more to do with helping his clients develop an awareness of how they'd like to live than handing out hammers. And as he has experimented with incorporating off-the-shelf and found objects; rectilinear geometry; natural light, wood, glass, and metal; now he says he would be interested in exploring plaster, shaped ceilings, and artificial lighting—"a more gentle vocabulary."

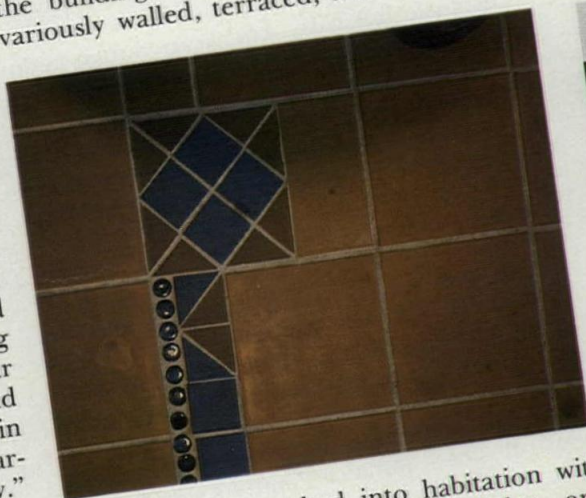
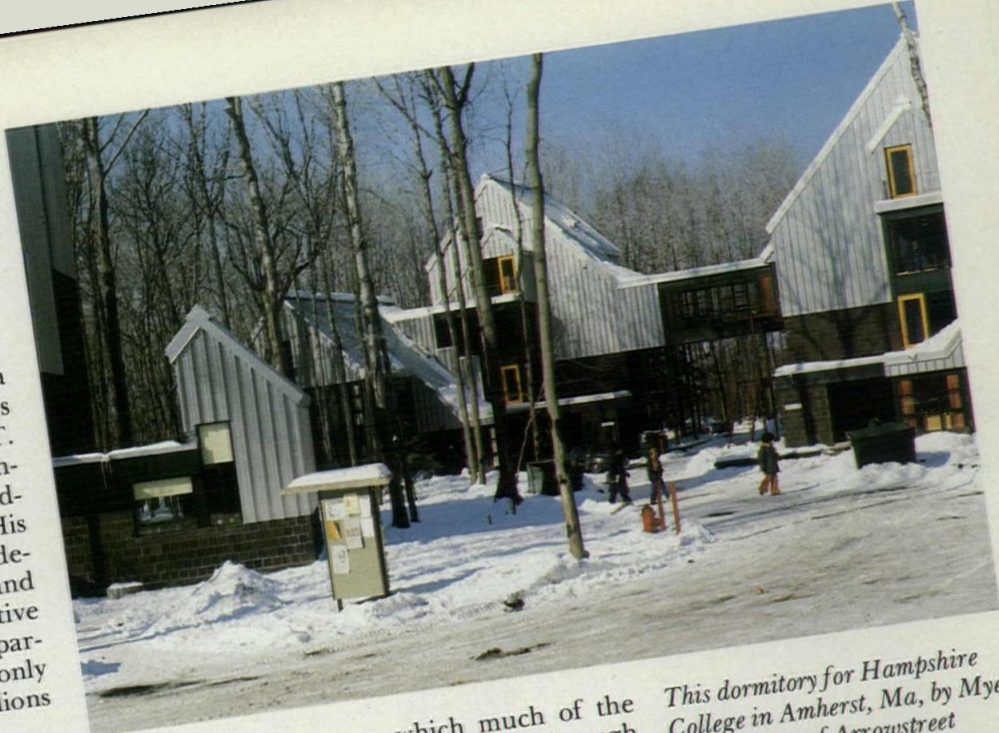
This maturation is evident in his latest project, a student center for Lawrence Academy in Groton, Ma, completed in spring 1980. Though quite within the vocabulary and intention of the earlier work, there is a controlled sophistication. The impression of accidental ambiguity and lucid demarcation has been replaced with the rigor of intentional ambiguity and lucid demarcation.

The school approached him after seeing the remodeled barn, his earlier plunge into complete participation. Legal complications prevented student labor, so that while the center was designed with input from students and intended to be furnished and alterable by them, the actual building as presented was drawn first and supervised in the traditional manner.

The plan is a quilt of individually embroidered privacies moving gradually in a spiral from public to private, but ever maintaining the tension between the openness of a barn and the subdivisions of a house. The entry is a

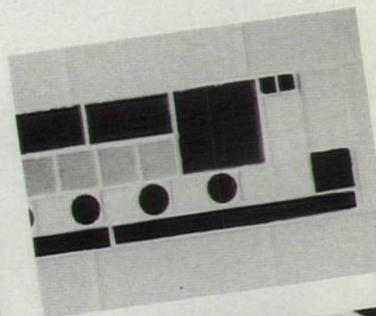
tight space, but one to which much of the building reveals itself—a game room through an interior window, the mezzanine through carved and pipe rail balustrades, and the open half of the building at one end of which a TV area/stage disengages itself with side walls and a level change. At about center point there is a Russian oven—which unlike a fireplace offers heat to all sides—continuing the journey around to the snack concession or with slanted beams like a beach concession or the building's miniature; and sitting areas variously walled, terraced, and lit. Upstairs,

This dormitory for Hampshire College in Amherst, Ma, by Myer and Slattery of Arrowstreet (1973) is arranged as a village street. The apartments vary in size and allow some student control—from cooking to building mezzanines. The "vernacular" metal roof, interlocked forms, and "generated" windows have an affinity with other MIT work of the time.



landings are stretched into habitation with built-in benches, individual skylights, and windows. The area designated to be a newspaper office is elaborately approached by bridge, yet open in every direction.

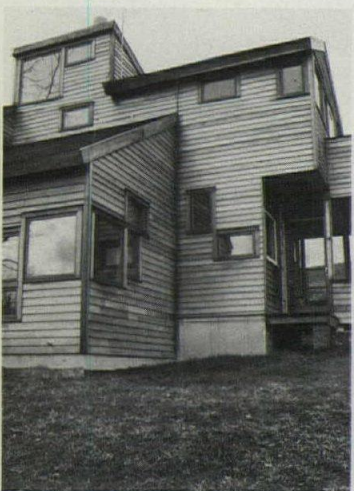
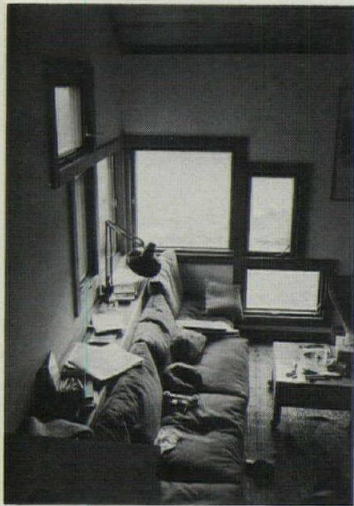
The slipping and sliding extend completely to the outside. Low walls onto the grass (which the architect had wanted high and wild) continue discussions outdoors. One wall section is an operable garage door—"to open easily like a fruit stand." Special windows frame views, and an unusual window seat makes a special room—almost more outdoors than in. The spatial overlaps, says Tremaglio, "are not to force things into motion, but to urge people to it."



Wampler's current neighborhood practice involves a lot of work on craftsmanship, with a special fascination for tilework. Unlike more traditional craft, however, his patterns are invariably traditional as if still growing. In detail above, three tiles in the two floors and columns are the arrival of the column, also as if a mark left by a cruciform column's receding forward.



**MIT: Houses, Bath, Pa,  
Concord, Ma**



*The Conneen house in Bath, Pa (top and center), was built by Michael Underhill in 1969 while he was still a student at MIT and is intended to reflect the additive forms of local farm buildings. Fundamental are the standard components: cedar and redwood left to weather, three exterior exposures for most rooms, and cross-ventilation. The Davenport house in Concord, Ma (bottom), by Underhill four years later explored spatial shifts through level changes, low built-ins, and lofts. Only baths, dressing rooms, and kitchen have doors.*

Similar interlocked definitions exist for materials. Everything that can be distinguished is, and interwoven with the next. Brick on the exterior becomes concrete block on the interior with points of interior intersection bristling with brick tile quoining—recessed at doors, flush at windows, and simplified for “imitation” interior windows. The concentration on the presence of openings has to do with their relation to the size of people and their role in framing views of the landscape.

Balustrades parallel to the building are turned wood (each different); perpendicular to the building, yellow pipe rail. Every kind of glass—double-hung windows, glazed infill, block—is set in relation to each other. Shelves and benches are ambiguously pulled out of sills and balustrades.

Base, mid-zone, and attic are interwoven by level changes, walls, screens, and interlocked window shapes. At the same time, constant verticality and spatial shifting tend to unhinge the various parts as mere chimneys and elevations of an informally arranged village.

### Jan Wampler

Wampler is an emigrant to MIT via the Boston Redevelopment Authority and an education at RISD and Harvard. He calls himself “the most ambitious and least successful” of the socially involved architects at MIT. His particular interests have to do with participatory design of mass housing, frameworks filled in by the people themselves.

Disillusioned with American public agencies and unwilling to spend his life in foreign cultures, he first started teaching (MIT in 1970), then three years later packed it in for a trip around the country looking for private participations. Convinced that people have the ability to make their own environments, he collected examples of modest Clarence Schmidts, which eventually became a book: *All Their Own: People and the Places They Build*. Interestingly, the alternative culture habitats he found “dull and full of clichés.”

By the time he got home, though back at MIT, he was interested in a little hands-on architecture himself. Now operating out of South Boston’s Jamaica Plain, he sees himself as a neighborhood architect happily doing kitchen additions for the middle-of-the-economic-scale community. “I went from solving all man’s problems to saying, if I can make a place for three people to eat dinner and enjoy themselves, it’s okay,” he says. Yet still in conversation he switches back and forth, reluctant to acknowledge what for him, perhaps, seems a kind of giving up (though he is concurrently doing a \$.5 million elderly housing project).

His aesthetic impulses are diagrammatic—linear patterns often in tile (“the last good material”) or stained glass. Patterns and gestures are directional or unresolvedly overlapping in constant implied motion, reflecting that ambivalence toward objectness. He sees his role as giving clues to his clients, spots of definition like a fireplace in an empty apartment, to stimulate a next architectural step by them.

### Moving on

Not all the MIT connections have remained tight, however. John Myer and Robert Slatery of Arrowstreet, for instance, both ex-students and now professors at MIT, produced dormitories in the mid-1970s full of individualized apartments and articulated details, roofs overlapping walls for a verticality conversant with the surrounding forest and finish-it-yourself possibilities. Today the large work of the firm is not so different from that of institutional firms anywhere, while, almost in compensation, there are lovingly crafted houses, but without the insistent syncopation and open-endedness of the earlier work.

Michael Underhill, whose houses as an undergraduate and teacher at MIT in the mid-1970s emulated the informality of farm buildings and the transitions of landscape, now teaches at Rice and works for Taft Associates in Houston, a firm whose work could be called historicist, figurative, even playful.

Underhill, who not only worked for Smith, but was married at his house, now feels that some of what he was taught bears rethinking. “We were against normalcy,” he reflects. “Those houses look too odd. They’re shocking for people. We looked at farm buildings, but we didn’t do them. Farm buildings refer to all the Italian building principles. What we did has more to do with childhood memories, which are in bits and pieces. Adult memories have frontality, wholeness. In my first house I was proud I never drew an elevation, because you were never to study the house as an object. But the thing communicates as an object whether you like it or not.”

### The anti-establishment object

Underhill’s point about oddness is well taken, but so should be his point about normalcy, because normalcy is part of what the unrest in the 1960s was about; and the unrest in Russia in the teens and continuing in some form, at least in the arts, ever since. Interestingly, though Olson was the regent of Black Mountain College when John Cage was beginning his “happenings,” though MIT’s Center for the Visual Arts has been a celebrated center of environmental art, and though acknowledged hero Van Eyck makes constant obeisance to earlier artistic explorations, there are few references to the art world in MIT architectural rhetoric. Indeed, the word “art” is shunned as synonymous with preciousness of objects.

Actually, it is preciousness that these architects hold suspect, and stasis (the status quo) and passivity. If they are drawn to consideration of their inhabitants’ comfort, they are compelled also to its opposite. Buildings are given the ability to change because change, not perfection, is sought. They are packed with incongruity and ambivalence because nothing should be taken for granted. They are attention-demanding at every level, because untapped resources await. In short, it is architecture as propaganda; a personal, evocative kind of propaganda and an interesting alternative among the proposals brought forth by the architectural unrest of the last decades. [Nory Miller]



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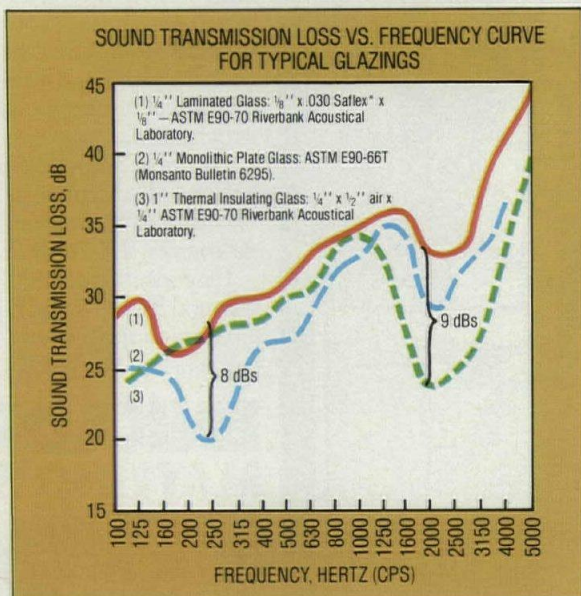
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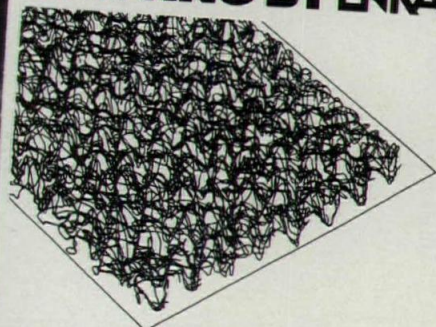
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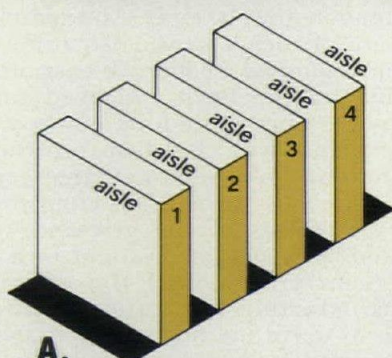


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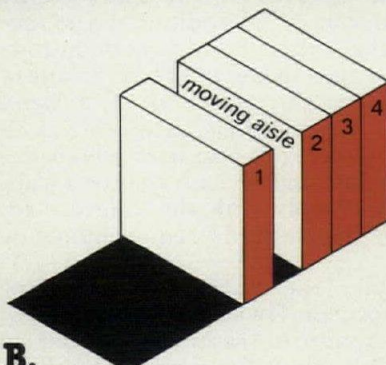
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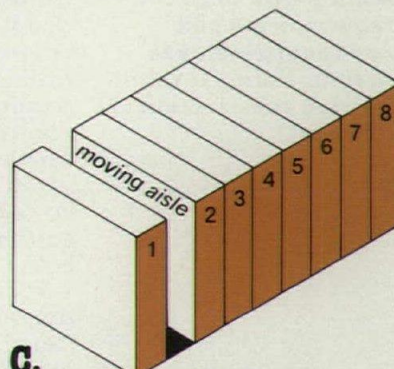
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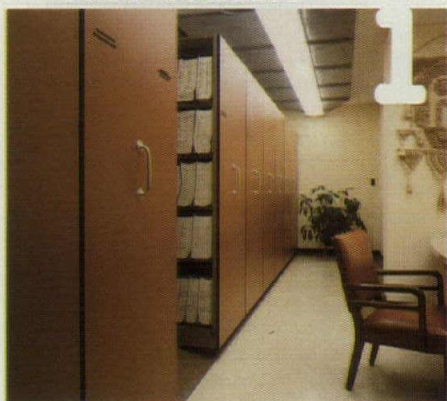


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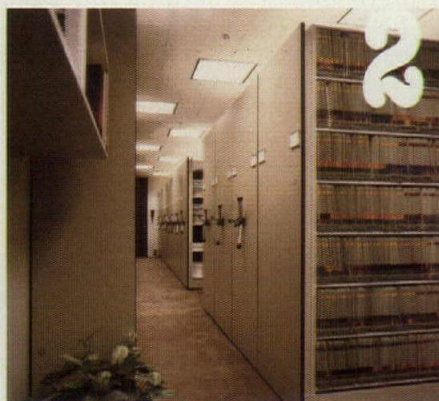


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2. Arthur Andersen & Associates  
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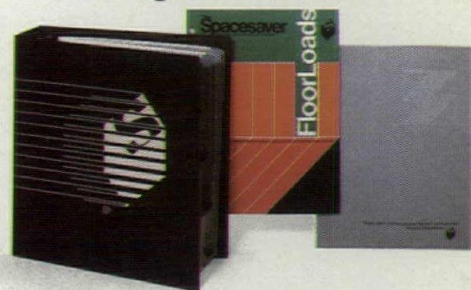
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# Claims involving public works

**Norman Coplan**

**Compliance with both contract requirements and statutory requirements is necessary in claims involving design or construction of public works.**

Contracts for the design or construction of public works generally contain provisions that establish a procedure for the assertion of claims for damages or for additional compensation. On the other hand, most municipalities and states have adopted statutory requirements for the assertion of a claim against them. An issue may then arise as to whether an architect or contractor who is desirous of asserting such a claim against a public body must comply with the contract requirements or the statutory requirements or both.

For example, the "Standard Form of Agreement Between Owner and Contractor" issued by the American Institute of Architects provides that all claims for damage "shall be made in writing . . . within a reasonable time after the first observance." The Education Law of the State of New York provides that any claim against a school district must, as a condition precedent to instituting any legal action, be filed in writing and under oath "within three months after the accrual of a claim." Does a school district waive the requirements of the Education Law by executing the AIA Form, and may a contractor enforce a claim that is made within a reasonable time, but not within the time or form prescribed by statute? This was the issue considered by the New York Court of Appeals in *Geneseo Central School v. Perfetto & Whalen Construction Corp.*, 441 N.Y.S. 2d 229.

The dispute between the parties in this case had its origin in a letter in which the contractor advised the school district of its intention to seek additional compensation for increased costs incurred on account of changed conditions and delays. In accordance with the construction contract, the claim was referred to the architect, who, after investigation and evaluation, rejected it. Thereafter, the contractor served a notice of claim pursuant to the Education Law and eventually demanded arbitration.

The school district moved to stay the arbitration on the ground that the notice of claim had been filed more than three months after the claim had accrued and therefore was not in conformity with the statute. In resisting this motion, the contractor relied on an earlier decision of an intermediate appeals court (*Matter of Florida Union Free School District*) in which the court held that "since the 'claims for damages' provision of the contract is plainly inconsistent with fixed time limitations set out in (the Education Law), it must be presumed that the school district, in executing the contract, intended to waive its rights under the statute."

The school district, on the other hand, relied upon a conflicting earlier decision by another intermediate appeals court (*Board of Education v. Wager*), which held that a claim against a school district must comply with the requirements of the Education Law independent of the provisions of a construction contract unless such contract contains a clear and express waiver. As a condition precedent

to arbitration, this court pointed out, "the parties are free to agree contractually to dispense with such compliance," but such dispensation must be clear. An example, said the Court, of such a waiver of statutory requirement would be a collective bargaining agreement that sets forth a detailed and step-by-step grievance procedure, nowhere requiring compliance with the claim provisions of the Education Law. Such an agreement with its time limitations for proceeding through the various stages of the grievance procedure would be plainly inconsistent with the notice of claim provisions of the Education Law, thus indicating the parties' apparent intention to waive the normal applicability of the Education Law.

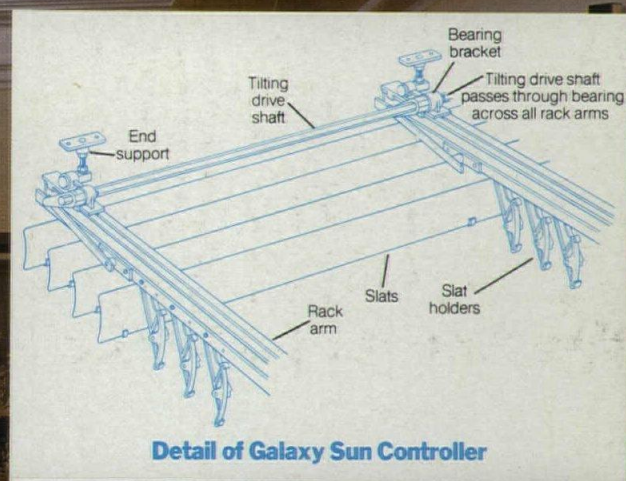
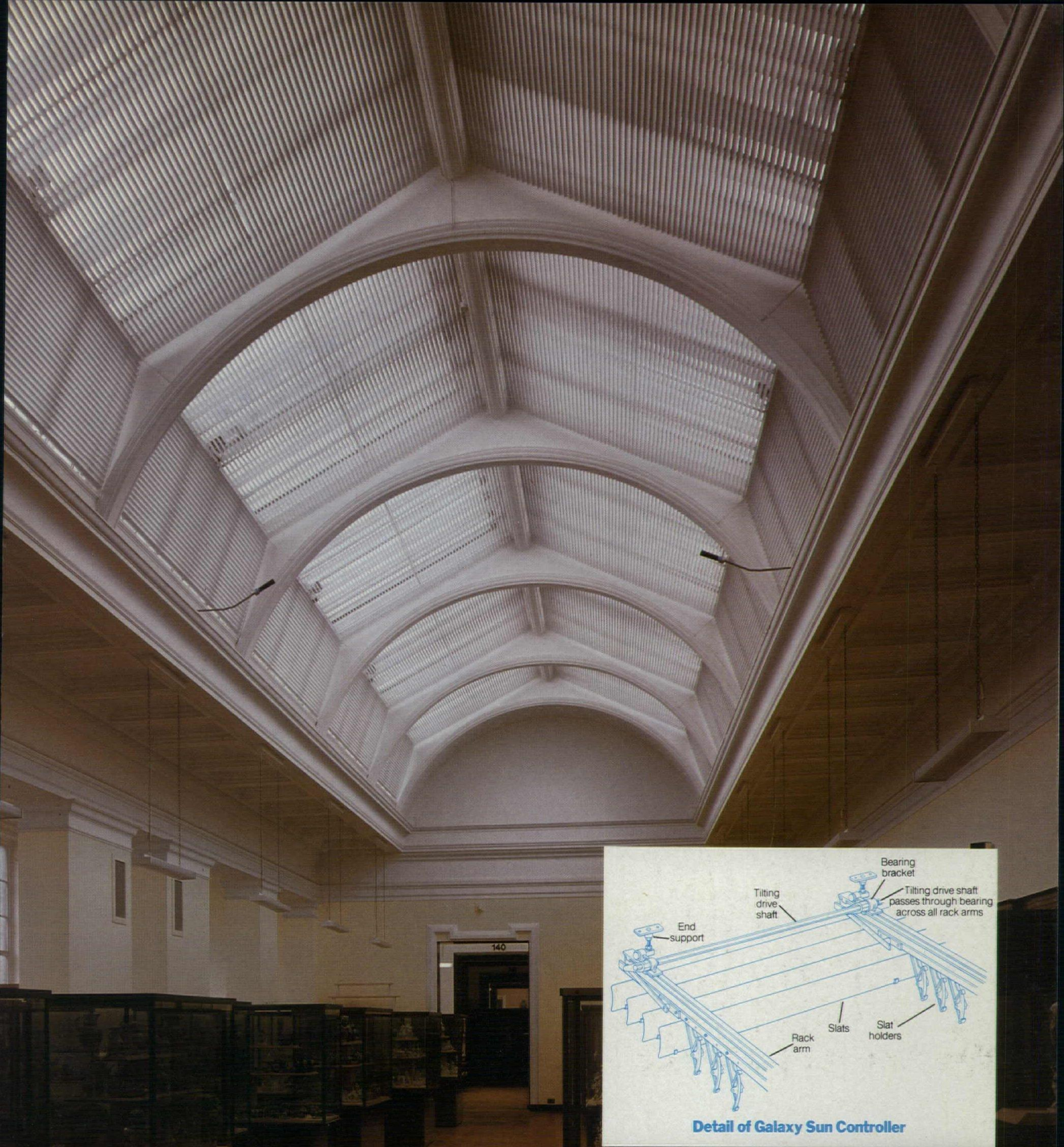
Thus, in the *Geneseo* case, the Court of Appeals, New York's highest court, was called upon to resolve what appeared to be conflicting lower court decisions in the context of the facts before it. It concluded that the appropriate rule, in the absence of a clear and express waiver, was that the contract provision requiring a claim to be asserted within a reasonable time did not constitute a waiver of the statutory requirements that a sworn claim be filed within three months of the accrual of the claim. The Court said:

*"Section 3813 of the Education Law is designed to give school districts prompt notice of claim 'before it is too late for investigation to be efficient.' . . . To that end, in the absence of an agreement to the contrary, compliance with its provisions is a condition precedent to arbitration and, therefore, a matter of judicial resolution. . . . Consistent with this policy, a waiver is not to be presumed. The parties must either affirmatively agree that the statutory notice clause be inapplicable . . . or, at least, set out detailed procedures which are 'plainly inconsistent with those contained in that section.' . . . If they do neither, the provisions of the statute are to be deemed part and parcel of any contract entered into by the district."*

In reaching its conclusion that the Education Law requirements had not been waived, the Court of Appeals placed reliance on another provision of the AIA Standard Form. This provision states that contractual rights and remedies "shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law." This language, asserted the Court, is "to say the least, inconsistent with an intent to relinquish statutory rights" and is "dispositive" of the issue of waiver. Nor, stated the Court, "in light of this article which subordinates the contractual rights and remedies to the provisions of the (Education Law) can the agreement for a 'reasonable time' within which to file a claim be said to enlarge the statutory period."

The foregoing decision highlights the importance of complying with statutory mandates as well as contractual requirements when dealing with a public authority. □





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 Building Owner: Bunnell Construction Co., San Luis Obispo, CA  
 Architect: Ross, Levin & MacIntyre, San Luis Obispo, CA



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 MILWAUKEE, WI  
 Building Owner: Koller Manufacturing Co.,  
 Milwaukee, WI Architect: Birch, Grisa,  
 Phillips, Inc., Brookfield, WI



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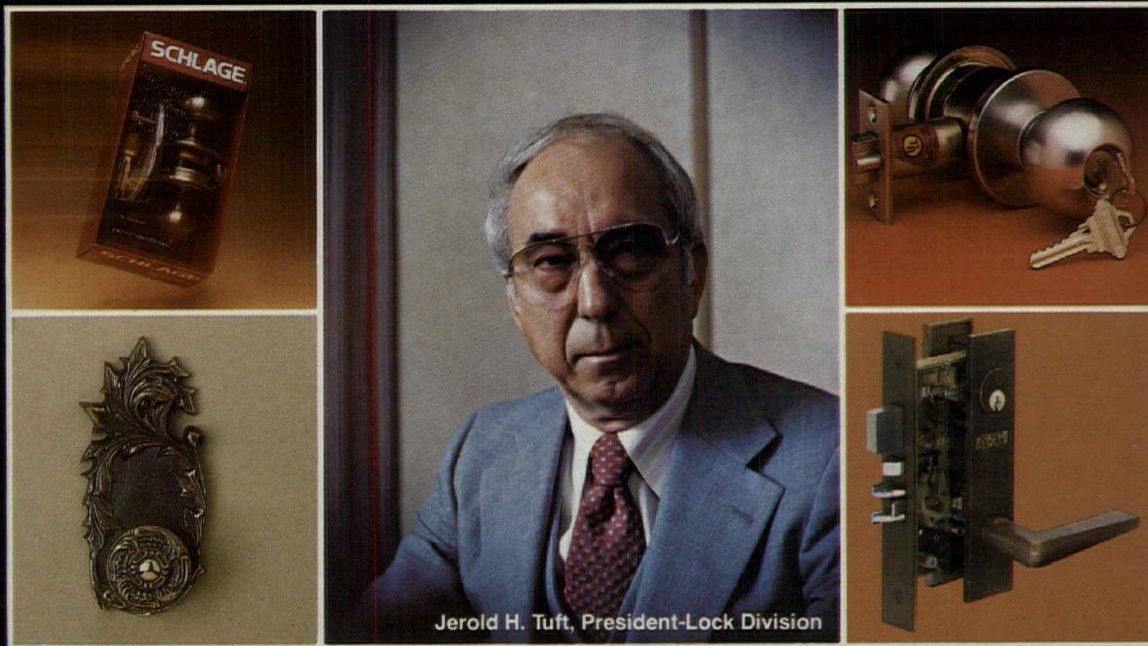
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# Comprehensive specifications services

Walter Rosenfeld

**The specifier is capable of far more than just recording materials decisions. Document quality monitoring and error prevention can also be provided under the proper circumstances.**

Writing down descriptions and installation requirements for materials to be used in the work; preparing precise instructions to bidders and special conditions under which the project will be bid and built; organizing, collecting, and coordinating all the written documents to form the project manual: these are the specifier's ordinary services, basic to his traditional role in the profession.

To perform such services competently, the specifier must know construction practices, materials, and methods, as well as the availability, relative cost, and proper use of each material and its limitations. He needs to know the organization of construction, the interrelation of the different parts of the work, and the roles of the various participants in the building process. He must also understand how buildings are represented in working drawings, how drawings are translated into buildings in the field, and the effect of materials choices and methods of construction on the architectural character of a building.

In addition to eliciting information from the project manager, team members, and consultants, the specifier spends a lot of time studying progress drawings for information about what is to be built and how it will be put together. Since each material indicated must also be specified, a search to identify every item and its use is essential to preparation of technical specification sections. Often the specifier has previously been a draftsman or a project manager himself, but now he views the drawings with a more analytical eye, construction-conscious and trade-oriented. In fact, his view is rather close to that of a contractor preparing a bid, except for the latter's concern with quantities.

Looking at the drawings from this somewhat different viewpoint, the specifier is more likely to see inconsistencies, potential construction difficulties, inappropriate use of materials, and similar problems that might otherwise escape notice until later, when the contractor examines the finished set. Out of this combination of technical knowledge, documentation experience, and construction perspective, usually channeled exclusively into project manual production, arises the potential for significant additional service to the architectural team. The specifier's ability to offer early review of design or working drawings and to help in identifying and resolving materials and construction problems can take him far beyond his traditional role with great resulting benefit to the project.

It should be remembered also that the full-time specifier has probably been through many more projects than the typical job captain of equal years, and may therefore have a better overview of the structure of contract documents for a building. As a result, he is in

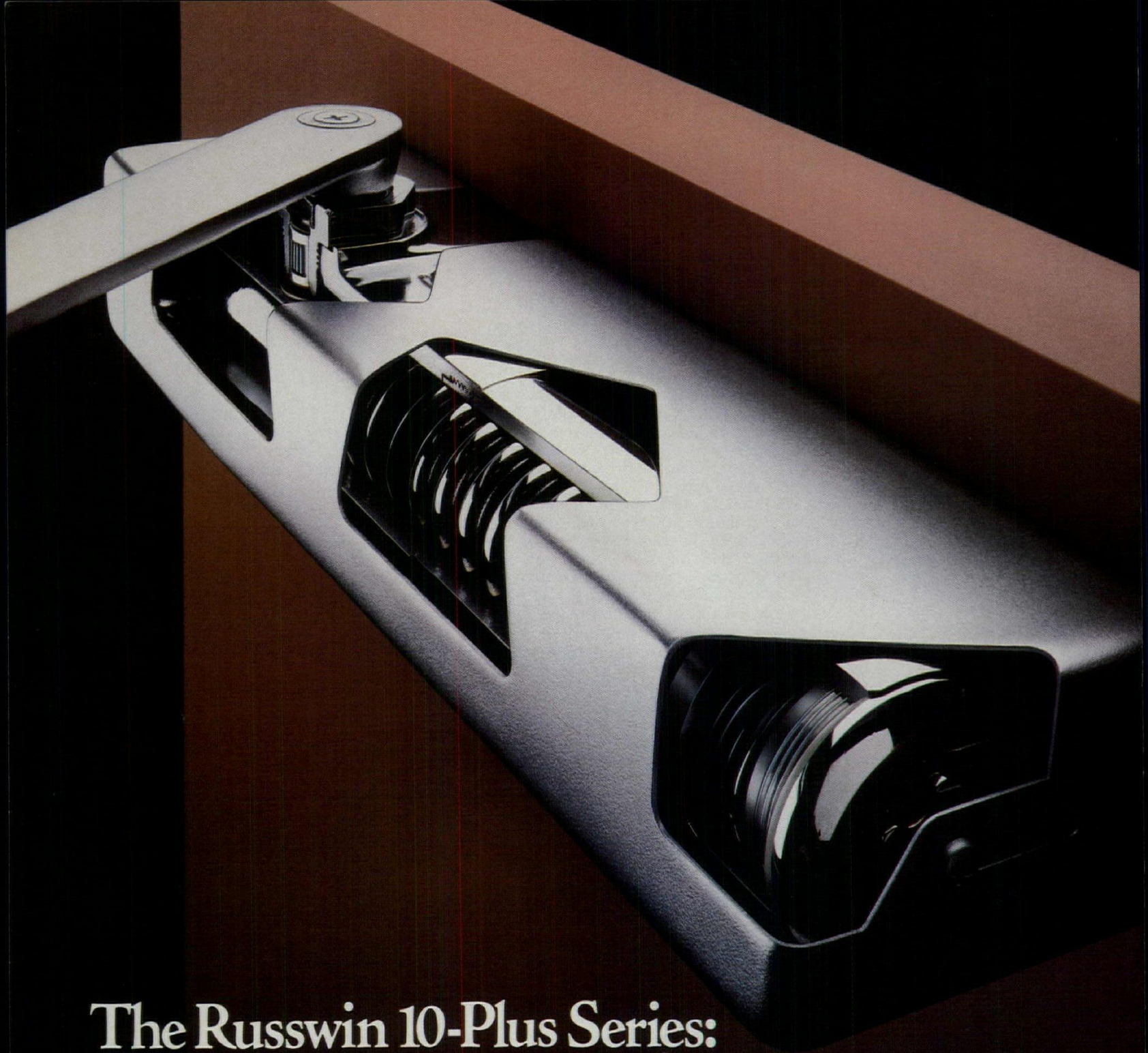
a good position to suggest directions with regard to bidding strategy, choice and extent of allowances and alternates, timing of bidding, and length of bid period when these are being discussed. He is well able to set up the bid form and advise on the advantages of lump-sum versus cost-plus-fee contracts to obtain optimum results for the owner in a particular case. And he is generally the best qualified person to judge what assignment of work to different trades will afford the greatest construction economy.

The extent to which these additional services are offered and used on a project depends to some extent on the relationship between the specifier and team members, particularly the team leader. What appears threatening or intrusive will surely be resisted, so that the specifier's "boardside manner" will either help or hinder the process. Where the specifier is in-house, a full member of the project team, it should be easy to take advantage of this potential help. But enough time must be allowed so that he is not overwhelmed with competing deadlines and conflicting commitments. Under pressure to finish the project manual quickly, the first casualty is usually the time to discuss details and to help work out solutions to construction problems. On the other hand, if the specifier is a consultant, his time is paid for in his fee, which may not be sufficient to allow any but the most narrow interpretation of his responsibilities. Even when time permits, the consultant may not offer comment or constructive criticism unless the architect requests it and provides an atmosphere (as well as a contract) that encourages it.

Little evidence of the inherent capacity to furnish more comprehensive services is apparent in common job descriptions for specifiers, nor is the subject discussed directly in CSI literature to any significant extent. Yet, experienced project managers know how valuable it can be, and experienced specifiers find this aspect of their work the most challenging and often the most rewarding, confirming as it does the centrality of their role in the process of construction documentation. □

Walter Rosenfeld, AIA, CSI, is Managing Director for Professional and Technical Services at The Architects Collaborative in Cambridge, Ma.





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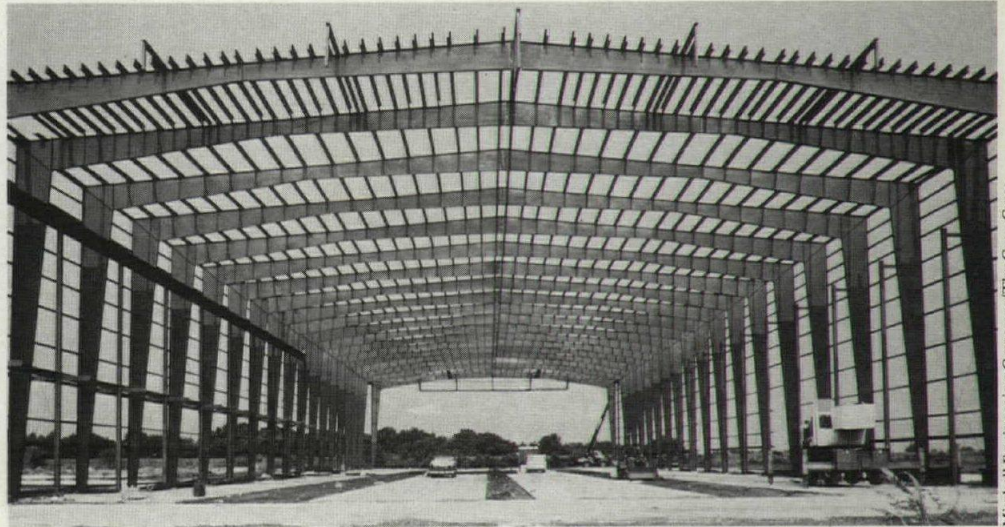
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# Beyond shade and shelter

Thomas Vonier

Advances in materials, manufacturing, energy conservation, and computer-aided design have moved metal building manufacturers into new markets. An industry that has been preoccupied with negative perceptions about appearance and durability now intensifies its efforts to improve long-term building performance and economy of design. The building community has been given notice: the systems are coming, stronger than ever.



Mitchell Engineering Company/The Ceco Corp.

Without fanfare, in an apparently unrelated series of events during the latter half of 1981, some very modest but nonetheless remarkable buildings came into being: there is a branch bank in Alabama, an arena in Maryland, a church in South Carolina, an animal hospital in North Dakota, a bowling alley in Florida, an automobile dealership in Minnesota, and a tool company in Illinois. These buildings and thousands like them went up in what their owners regard as record time, at unbeatable costs, and are now performing at least as well as expected. Very few involved architects and those that did often placed architects in peripheral roles.

Each was the product of "pre-engineering," an industry code-word for what might also be termed metal buildings produced by the system approach. Having overcome "customer resistance" and the notion that metal buildings are somehow a poor second or third choice, the companies responsible for these projects have made deep inroads to a domain traditionally seen as the architect's and engineer's.

Despite two successive years of decline in total U.S. construction—the first time this has happened since World War II—the metal buildings industry en-

joyed another year of growth in 1981 and looks forward to more of the same in 1982. The 35 member companies of the Metal Buildings Manufacturers Association (MBMA) now lay claim to over 50 percent of the nonresidential low-rise construction market (below 150,000 sq ft), and some have set sights on the "large building" (150,000 sq ft and above) market.

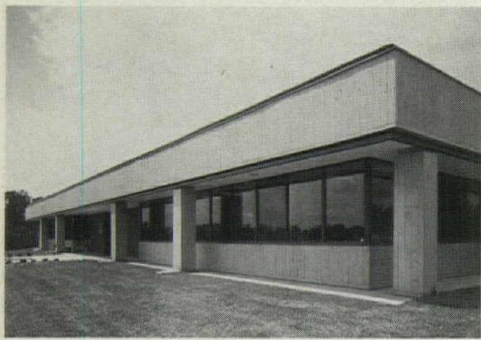
No longer confined to working within what is sometimes referred to as the shade and shelter market, where only carports, farm buildings, tollbooths, and other graceless structures got built, the industry has broadened to the point that last year more than a third of its buildings were for commercial use. A like number were for manufacturing; slightly more than 8 percent, nearly the smallest share, were for agriculture, and the balance were put to a variety of public and private uses.

The industry's explanation for its enviable position runs generally along the following lines:

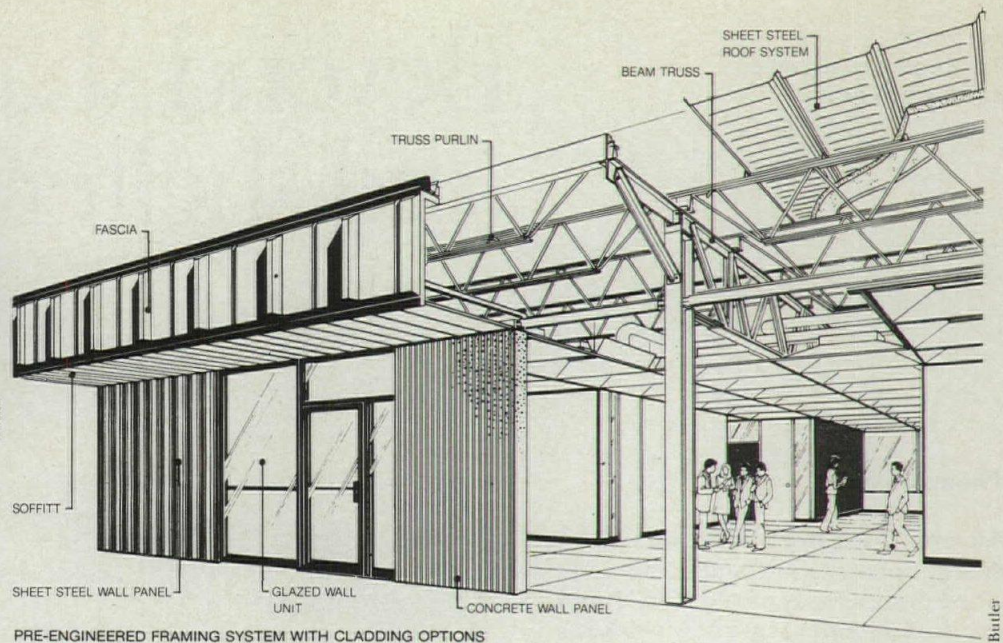
- 1 Pre-engineering allows most costs to be predicted and held early in the project, in contrast to "ordinary" practices.
- 2 Moving work from the site into the factory lowers total costs, improves quality control, and can speed construction.
- 3 Product performance, by which the industry refers to total building performance, has improved dramatically and can be substantiated by years of re-

Thomas Vonier, a P/A correspondent, is head of the architectural firm Thomas Vonier Associates, Washington, DC, and a principal of the Urban Development Partnership, Washington, and the Leadenhall Group, Baltimore.





(Above) Collateral materials are increasingly common; weathering cedar covers a pre-engineered steel frame in this Durham, NC, office building by the Alpha Design Group. Most metal systems (right) accept alternative panels.



search, experience, and evaluation.

4 The value of all these factors—which embody the virtues of the total systems approach touted by the industry—is emphasized in today's increasingly expensive money market.

Metal buildings hold such a strong place in the construction market that only a few manufacturers admit—and then only with reluctance—that there may be places where their products might be at a slight disadvantage next to others: in highly corrosive environments, or where adherence to strict structural modularity will not work, and when very short structural spans are needed. Some companies are working to compete better in even these areas.

The trend toward ever larger roofed areas—for shopping malls, office complexes, and industrial parks—has improved the industry because many of its members offer high-performance large-span roof systems in addition to whole-building systems. But manufacturers claim their real successes to date, and the promise for the future, stem from the systems approach on which they're all so keen.

### When is a system really a system?

By some stretch of terminology all buildings are systems. But to qualify under the terms advocated in these circles, a system is something particular. The metal building systems common to most manufacturers consist of a set of parts, beginning with the main frames and cascading down through purlins, girts, panels, and all sorts of braces and fasteners. Each system element is designed to react with and relate to the other.

Duane S. Ellifritt, director of research and engineering for the MBMA, is more prosaic: "All elements in a metal building serve more than one purpose." The

primary function of sheathing is to keep out the weather and carry loads to purlins; a secondary purpose is to brace those members. The primary purpose of the girts and purlins is to carry loads to the frame, but they, too, provide bracing. Even self-drilling screws, whose main purpose is to hold the sheathing, help to provide rotational restraint for the purlins.

It is this overall concern with the economy and integration of structural members that sets the industry apart from others. John Rave, who presently chairs the MBMA's technical committee, says, "Of course this industry is concerned with 'skinnying down' the size of components. We have to overcome the conservative 'rounding off' that resulted from use of the slide rule and the rule-of-thumb tables that are part of the engineer's normal approach to design. We are putting steel only where it's needed, in the exact amounts and shapes necessary to achieve the desired performance." Rave is general manager of engineering for INRYCO, Inc., in Milwaukee, Wi.

Most companies agree that there is growing appreciation for the benefits of optimization that wouldn't have been possible five or six years ago. In an ordinary architectural and engineering job it would not be possible, given fees and the demands made by clients, to become concerned with optimizing the size and shape of every single structural component. "Our industry has made the structure and the shell into components, and we can optimize them," says Rave. Over-design is routine in conventional construction due to some degree to a lack of systems approach.

### Cold-formed steel

Although hot-rolled steel and elements made up from steel plate are also used, mostly for large frame components, the basic stuff of the metal building system is cold-formed sheet or coil steel. It is

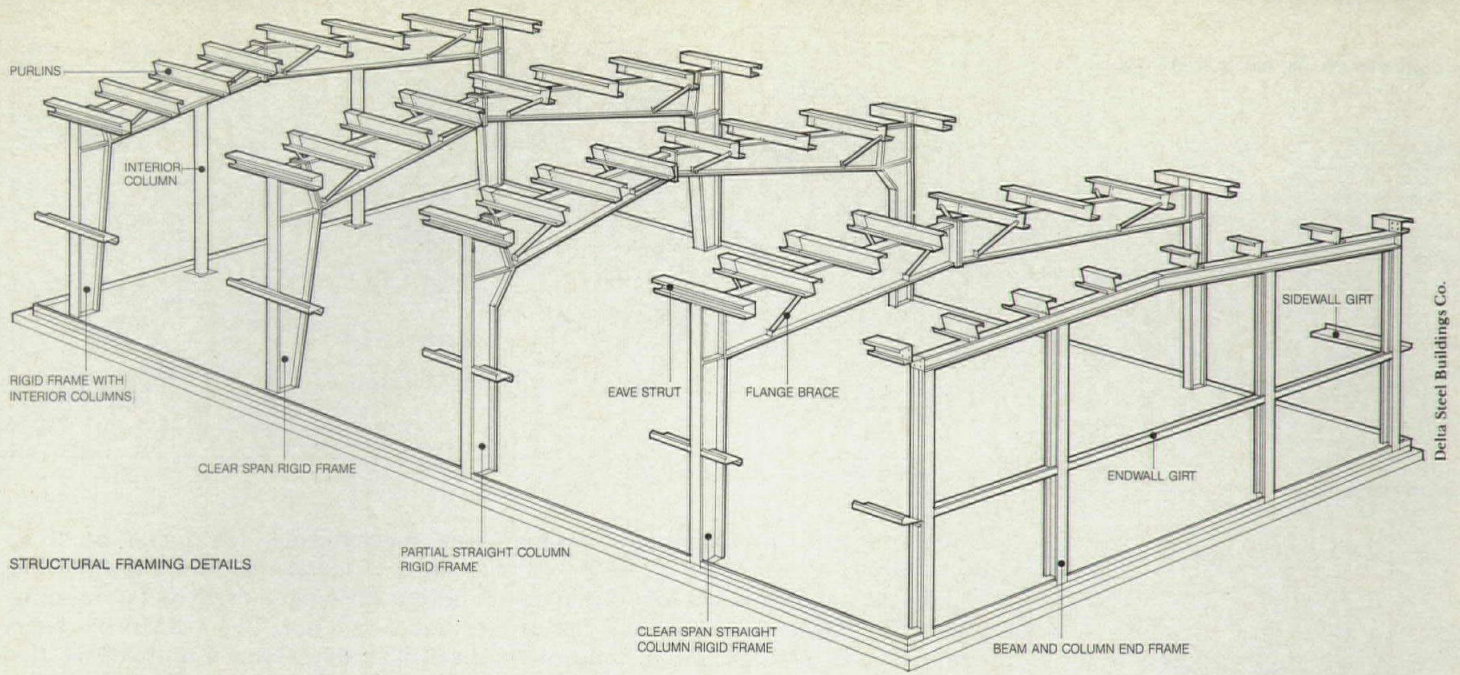
usually between .011 in. and .188 in. thick, but sometimes reaches a full inch. As its name suggests, cold-formed steel is made into structural shapes by use of brake presses or, more often, through roll-forming. Panels, purlins, metal studs, girts, and other parts are made this way. Either process causes strain-hardening of the material; in addition to the strength imparted to an element by its very shape, the steel itself becomes stronger by the act of deformation.

Faced with a dwindling market for its products among automakers, the U.S. steel companies have given greater attention to metal building products. Some, of course, have formed or acquired metal building product and system subsidiaries. Many of the advances in cold-forming and coil-coating technologies have accrued to the building industry as a direct result of research and development undertaken originally for automotive applications. The result is a basic ingredient that is much improved from virtually all standpoints for building purposes.

### Collateral materials

The brochures produced by the MBMA's members show there is considerable variety available in modularity and appearance, with only small compromises of the systems' "philosophy." These same brochures show another paradox within the industry. Most tend to emphasize the fact that a metal building system doesn't have to look like a metal building system and point proudly to restaurants clad in wood, clinics pasted over by brick, or airport terminals covered by concrete panels. These hybrids frequently resemble neither fish nor fowl and obscure the visual expression that would illustrate the faith their manufacturers voice in the systems approach.





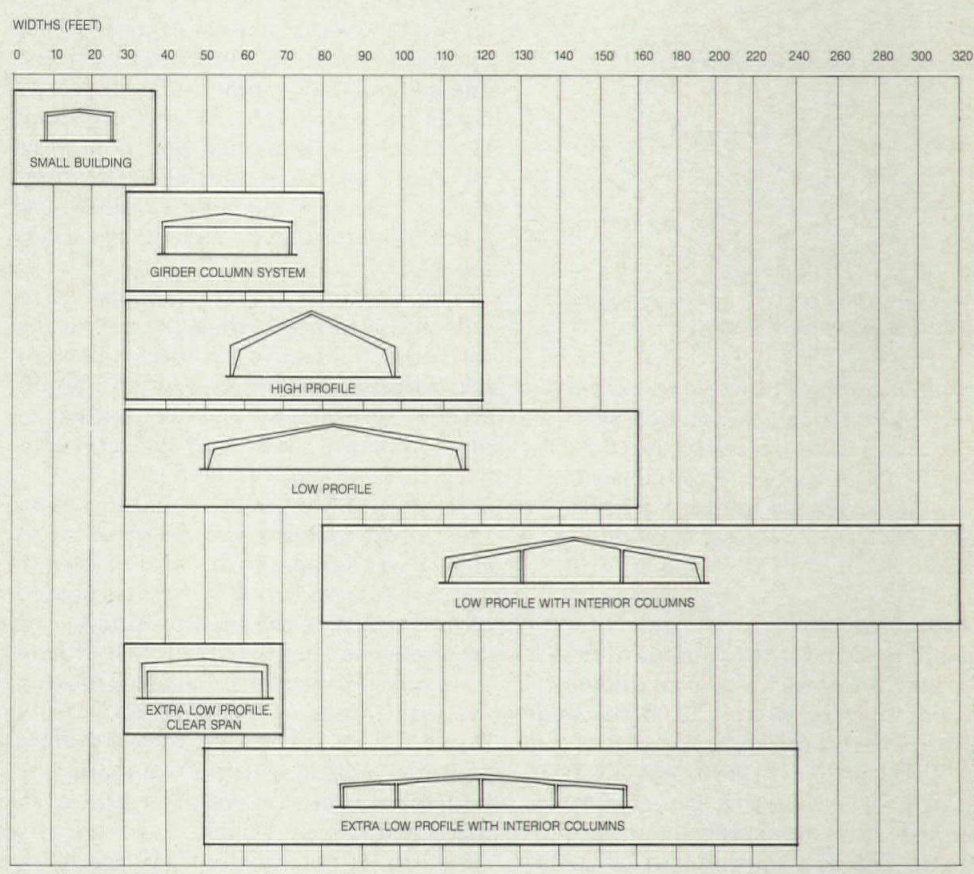
Delta Steel Buildings Co.

Some are a direct response to exclusionary zoning laws that prohibit metal-clad façades on selected elevations. There is routine talk of obstacles placed by jealous architects, lumber companies, and brick producers, to the point that one senses nonmetal materials are only grudgingly accepted for use. The term "collateral materials" is used widely to describe components that are not part of an all-metal system.

Yet for some companies—particularly those not tied to a related company in the steelmaking business—the term "metal building manufacturer" has become less appropriate. They are led to consider the use of alternate materials by way of concerns for better performance and lower cost (after all, steel is not always the least expensive choice and cannot do every job best). They also recognize that the marketplace will require the use of different materials.

"There is a definite need for us to better understand the in-place performance of woods, plastics, and other materials," says Pratt. "We are continually involved with optimizing steel use and investigating other materials."

In some cases, the collateral materials have sparked movement into the field of pre-engineered building systems. Kalwall Corporation of Manchester, NH, formed a sister company, Structures Unlimited, solely to assure the proper use of Kalwall's insulating and light-transmitting panel products. Unlike their counterparts in the MBMA, this company works only with aluminum and makes enclosure systems for high-moisture and corrosive environments. But they espouse the same virtues for the systems approach and factory-based quality control that have been applied in over 600 enclosures for swimming pools and waste-water treatment plants, as well as to a handful of other situations.

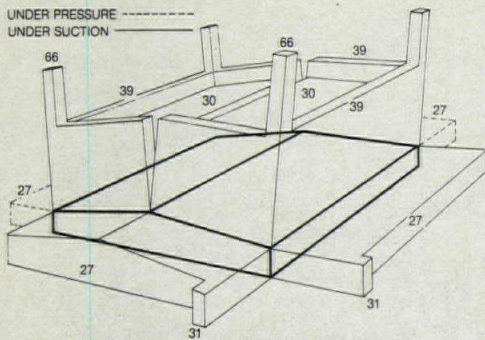


American Buildings Co., Inc.

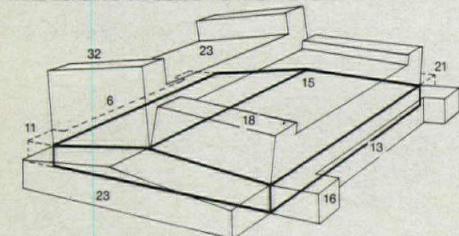
(Top) Although there are "standard" widths and profiles, typically based as 20 ft or 25 ft bay spacing modules, manufacturers are increasingly able to "customize" configurations. (Above) Primary frames come in a variety of configurations, each suited to particular loading, spanning, and functional requirements. There are considerable differences in the specific combination offered by individual manufacturers, but all do share certain basic components: primary frames; purlins or trusses; interior columns; girts, struts, and braces.



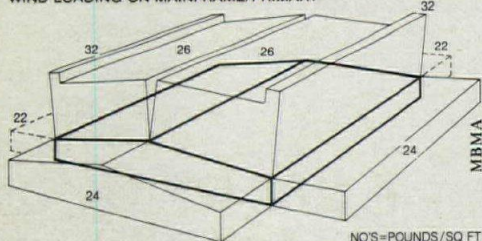
## Pre-engineered metal buildings



WIND LOADING ON CLADDING AND FASTENERS



WIND LOADING ON MAINFRAME/PRIMARY



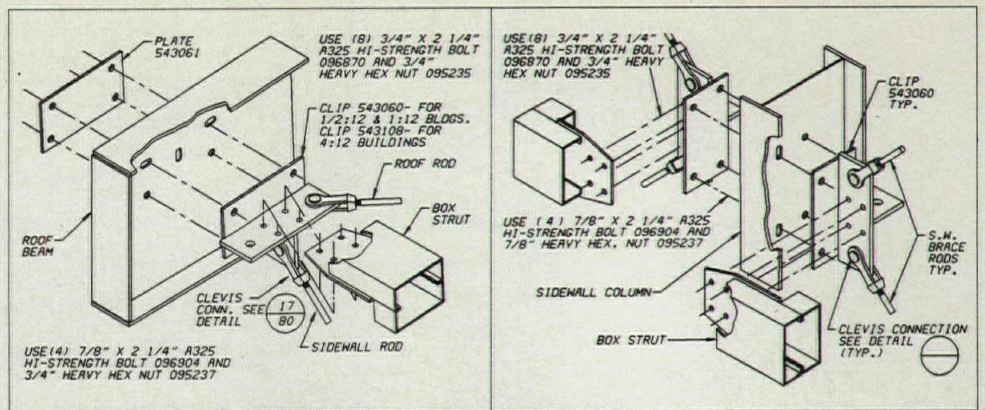
WIND LOADING ON PARTS AND PORTIONS

(Above) Corners and edges of low-rise buildings are subject to high suction from wind forces, shown in these examples from the MBMA's 1981 manual. (Right) Computer-generated construction drawings are produced rapidly from a bank of standard details.

### Computerization

It is not unusual to find standard details and specifications used in architectural and engineering firms and increasingly these are becoming computer-based (see P/A Technics, July 1980, pp. 98-103). But few have found it possible to accomplish the astonishing integration of software that is a routine part of operations in the metal buildings industry. Initial cost estimates and rough layouts close to what will become final can be produced in a fraction of the time that was required before computerization. In the space of a few hours, working with a keyboard and cathode ray tube, designers are able to rough out complete projects, down to sections, floor plans, structural calculations, and a nearly complete bill of materials. Quantity takeoffs and cost estimates are virtually instantaneous.

Several manufacturers have created data files that reflect provisions of the major model building codes with regard to structural loading and fire resistance, including the inevitable regional variations. Structural members and components are sized and placed appropriately simply by indicating live-load require-



COMPUTER GENERATED DETAIL DRAWINGS

ments and other programmatic design information.

"This isn't analogous to looking in an engineering table or picking the closest member from a steel manual," said one designer plugging away at a computer terminal. "In the manual or a cookbook approach you'd be concerned with just one member at a time and you could never work through the entire system. Here we're able to size and configure the entire system in one fully integrated set of steps. Each element is right where it has to be in just the right shape to do the job."

The design software is expected to link the drafting room electronically with the fabricating shop. Through networks of local dealerships and builders, several manufacturers expect to put estimating and rough design capability directly into the field.

In one of the metal building industry's main paradoxical features, it is clear that the standardization of certain components and approaches has not led to uniformity in the final products. The computer has helped avoid this. "There is no question that the market is moving toward more customization," says Donald Pratt, executive vice president of Butler Manufacturing Company, the largest manufacturer of pre-engineered metal buildings. "Clients are less inclined to accept off-the-shelf buildings, in part because their needs have become more particularized." This is moving his company away from "hard-tooling" and toward microprocessor-controlled fabrication. "You might think of it in terms of making 2 x 4s to specific lengths, pre-punched and ready to go."

### Standing up to the wind

In part due to a few spectacular building failures during ultra-high windstorms, criticism has been heaped on the entire industry. Industry leaders explain that "the public" often mistakes metal clad buildings, which may use skimpy sup-

port mechanisms, for metal building systems. A metal clad building may fail, where a pre-engineered metal building system would not. The MBMA has been careful to look long and hard at the dynamic wind behavior of its members' products.

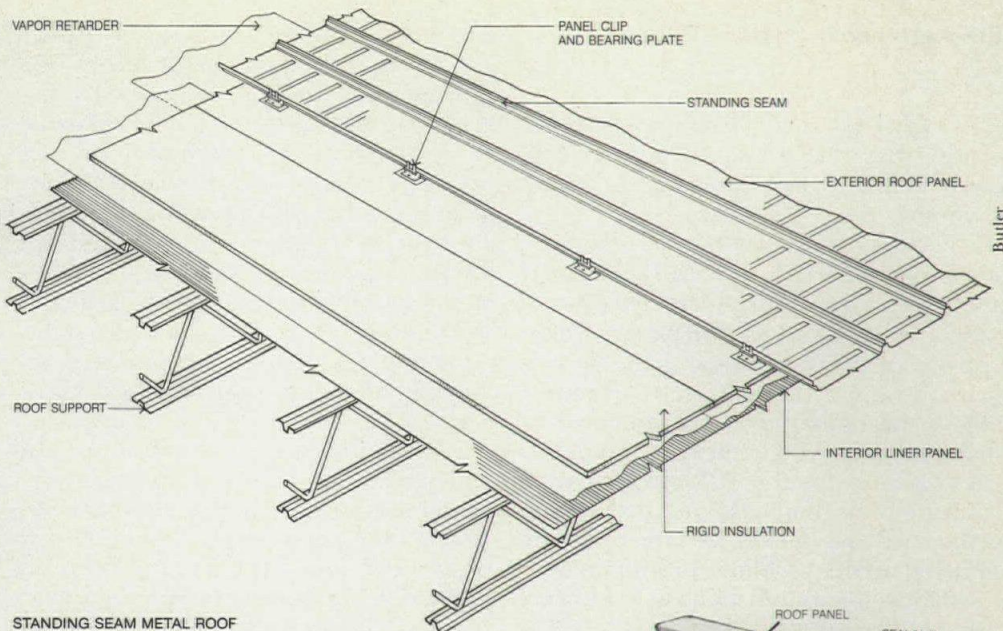
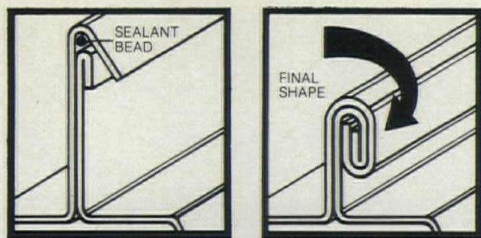
It has a considerable research budget and a technical committee which includes a representative from each of its 35 member companies. Meeting thrice yearly, the committee hashes out issues of common concern and sets recommendations for a continuing research agenda.

Vulnerability and defensiveness aside, concerns for economy have taken the industry headlong into confrontation with building codes, because much of the institutionalized conservatism about structural design is embodied there. "Mass production is such a different orientation than one-off design," says the MBMA's Ellifritt, "that our members are doing things that the engineering state-of-the-art is not always ready to accept." He cites structural wind loading as a prime example, noting that it is only one among a number of areas that have received attention.

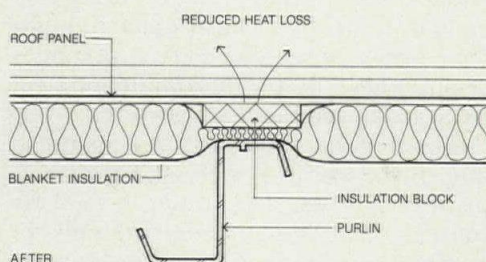
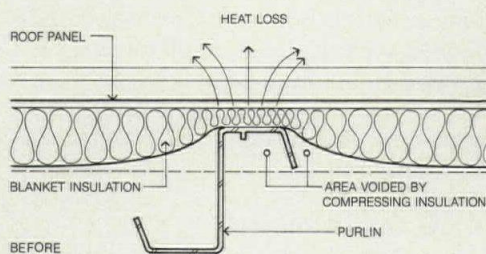
Joined in its efforts by the American Iron and Steel Institute and the Canadian Steel Industries Construction Council, the MBMA commissioned work at the University of Western Ontario, where a large boundary-layer wind tunnel is available. "The codes and standards for testing tended to treat all conditions as equal from a height of 30 ft down to the ground. The industry's main market is in single-story buildings, so this was a big issue," said John Rave. The MBMA was fully prepared to find that the assumptions were correct, but that isn't what happened.

Among the most important findings of the research by Dr. Alan G. Davenport (see P/A, Feb. 1980, "Building in the path of nature's wrath," pp. 106-114) concerned the nonuniform character of wind loading on low-rise structures. The ends and edges of simply configured single-story buildings are



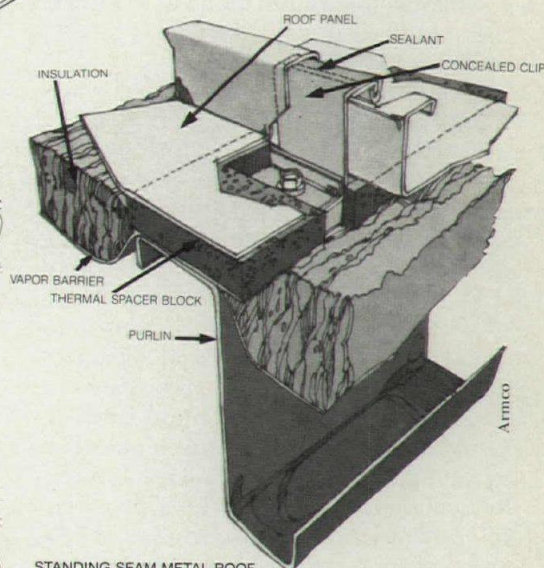


STANDING SEAM METAL ROOF

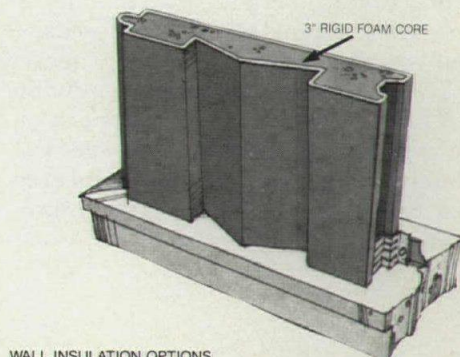
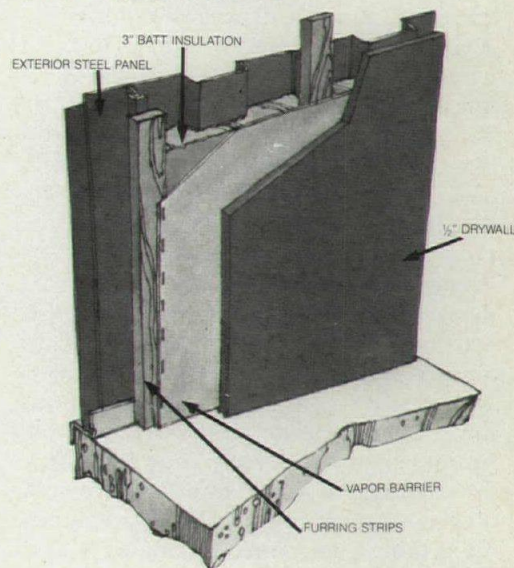


THERMODYNAMICALLY CORRECTING THE PURLIN CONNECTION

(Above) The standing-seam metal roof is a leading response to energy. Rolling devices add a bead of sealant, form the seam, and fasten the deck to concealed metal clips. The use of a rigid insulating block reduces thermal bridging at the purlins. (Right) Wall insulation can be factory- or field-installed; the foam-core panel integrates interior and exterior finishes with insulation.



STANDING SEAM METAL ROOF



WALL INSULATION OPTIONS

subjected to far greater suction forces than other exterior zones. The work in Ontario also helped to establish a way of distinguishing between wind forces acting on primary structural elements and those acting on parts or portions. This was of concern because the elements of metal building systems are so highly interrelated in structural terms.

The MBMA's work on wind loading has resulted in adoption of an alternate set of standards for use in the 1981 revision of the Standard Building Code issued by the Southern Building Code Congress and has set the basis for revisions to ANSI's wind-loading standard A58.1, expected to be complete in late 1982. The industry regards this effort as a major accomplishment—one of the highlights of its recently revised Metal Building Systems Design Manual.

### Energy today

Several manufacturers readily admit that, like the general building industry, they were not very well prepared for the energy onslaught. Most seem to have corrected the obvious energy shortcomings of their products. The industry's generic roof application detail lost heat through thermal bridges and uninsulated ceiling voids created when batt materials were compressed as they were laid across and then attached to roof purlins. The typical solution now is to install a rigid insulating block between roof sheet and purlins, increasing the

distance between conductive metal surfaces and adding an uncompressed layer of insulating material.

Nearly all manufacturers of retail, office, and other commercial buildings intended primarily for human occupancy now also offer some form of well-insulated wall panel and roof systems. They have invested heavily in the development of factory-produced foam- or batt-insulated sandwich panels. Some have devised standard, finely tuned procedures for field installation of insulation between exterior sheet metal panels and interior surfaces. Perhaps more significantly, they have also invested in careful thermal testing of full-



## Pre-engineered metal buildings

scale wall and roof panel assemblies, recognizing that great differences can exist between calculated and actual U-values.

The advantages of more massive construction materials, especially concrete and unit masonry products, have been widely touted for use in passive solar applications. This was among the factors that prompted the MBMA to examine how metal buildings might compare in such terms to their heavier counterparts. A study by the Midwest Research Institute finds that mass and thermal lag properties are indeed an advantage in climates where cooling predominates. Insulation was found to be as critical as thermal mass in climates where heating load predominates.

Indirectly and certainly inadvertently, the MRI study defines one point at which the systems approach stops, or at least peters out, within the metal buildings community. No manufacturer extends very far into the design of heating, cooling, lighting, and dehumidification systems, although many are careful to provide for the easy and efficient integration of mechanical and electrical equipment. They also take pains to provide accurate information and design data for plant and equipment sizing by others. Manufacturers have found it difficult to contend with the wide variety of highly localized approaches to HVAC and lighting systems and tend to have more talent with structural engineering than with mechanical engineering. Environmental conditioning is taking on increased importance throughout the industry because of the more demanding requirements imposed on buildings erected for purposes beyond shelter and shade alone.

### Energy tomorrow

Given the difficulties encountered with extending the pre-engineering approach to the full range of energy-using systems and the metal building industry's inclination to improve and build upon what they already know best, there is a natural sympathy for passive solar energy approaches that take advantage of frame and panel technology. Gulf States Manufacturing and Butler, among others, were participants in the U.S. Department of Energy's passive solar energy demonstration program for "commercial manufactured buildings." Predicated on the benefits that could be realized from development of standard approaches to pre-engineered solar energy use, the DOE effort is now slated for demise. It appears that it has

had a lasting influence, however. Butler is carrying out detailed evaluations of a roof-monitor system designed by the Princeton Energy Group. A full-scale mock-up is located at its Grandview, Mo, research center. The company expresses great enthusiasm for (although no firm commitment to) the concept that an updated version of the once-familiar industrial sawtooth skylight, with added solar heating and night-insulating features, might one day become an element in the standard kit of parts.

Both Gulf States and Butler are also experimenting with simple forms of air-medium wall panel solar collectors, which have potential for application to both new construction and existing buildings, but appear to be a little confounded by the challenges of storing and moving the heated air within the standard vocabulary of building parts. The greatest potential for direct-gain passive solar systems involves more expensive and complicated floor slabs, and the air-redistribution problems stray again into the difficult mechanical systems domain.

### A role for architects?

For an architect, the foray into the world of building systems is not altogether comfortable. Expecting to be enamored of the straightforward, high-tech, no-nonsense slick hardware, one is disappointed by the predominant steel and "collateral material" version.

The manufacturers express a sincere interest in working with architects and profess to value and understand their contributions. None would willingly be quoted as saying that architects have little to offer in this tough, fast-moving, and very cost-conscious scramble for shares of the construction market.

Yet as one examines prevailing cases, it becomes clear that the architect's role may be peripheral, if present at all: there is sitework, soil work, foundation design, "interpretation of client needs" (meaning mainly that somebody has to generate the conceptual bubble diagram around which the systems will go), interiors work, and "aesthetics," which can mean little more than decisions about paint color schemes and a few additional decorations.

Acknowledging that at least some antagonism exists between design professionals and the metal building system community, the MBMA's Duane Ellifritt places the possible reasons into four categories:

**Fear of economic loss:** There is unquestionably a large share of the architect-designed market being captured by metal pre-engineered buildings. This makes for bad blood.

**Differences in design motivation and attitude.** Designers of "conventional" buildings are not driven by the same



Structures Unlimited/Kalwall Corp.

*A passive solar heated municipal natatorium for Portsmouth, NH, incorporates aluminum structural frame and pre-engineered translucent insulating fiberglass panels. Alonzo Harriman Associates is the architect.*

concerns for economy of structure and may not see the advantages of systems engineering that pervade the manufacturer's approach.

### Misperception of the state-of-the-art.

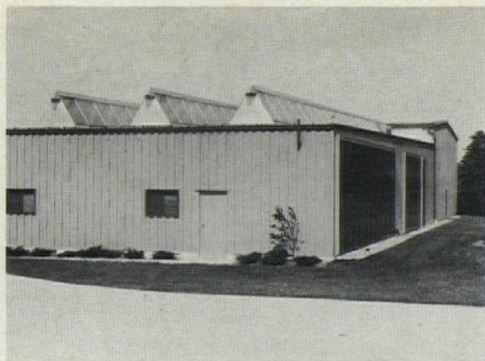
Many architects and engineers are simply unaware of what is offered through metal building technology and as a result harbor ill-founded views of how well (or poorly) these systems actually perform.

**Unequal fear of lawsuits.** Manufacturers are not seen as subject to the same liability problems as design professionals; this is probably not at all true, but people do seem to believe it.

This is a fair summary, as far as it goes. It is framed in the somewhat defensive posture that characterizes—perhaps out of necessity—so much of what emanates from the MBMA for consumption by architects and engineers. But it leaves untouched the question of what the design professionals, or for that matter the metal buildings industry, might do about it all.

This careful, knowledgeable, and well-managed group has taken command of the building systems field, which so many once thought held major promise for the future of architecture and the world. The industrialized building torch has been carried by architects and engineers in one way or another since the industrial revolution, but lately it hasn't been much in evidence in any but the most superficial of ways. By default, one ultimately concludes, architects (and to a lesser degree engineers) seem to be in a position of knowing less





Butler

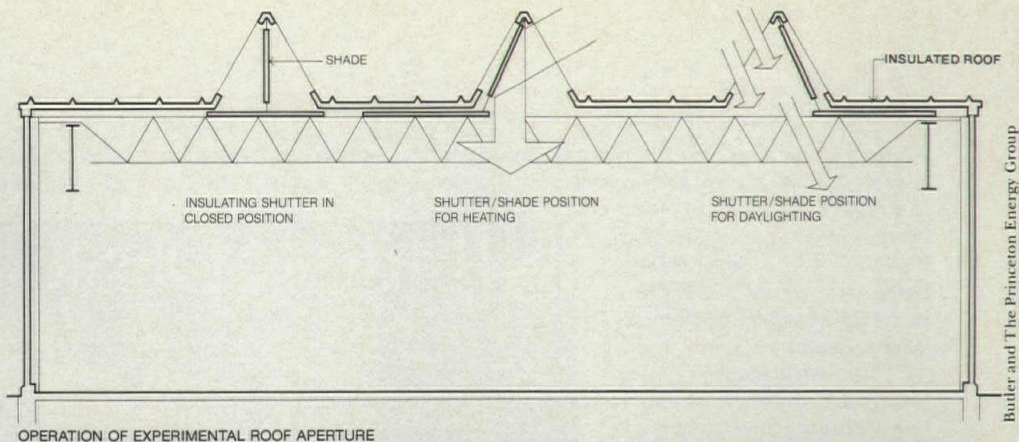
(Above) Conceived as a potential future "part" for the kit, this roof monitor would integrate shading devices and thermal shutters for taking advantage of solar heating and daylighting. (Right) Architects and manufacturers collaborate: offices for the Soule Steel Company near Long Beach, Ca, David Hutchinson and Howard Parsell, architects and engineers; a system for a Clarklift showroom in Columbia, SC, Boudreaux, Ltd., architects; an indoor YMCA tennis facility in Worcester, Ma, Hugh Stubbins & Associates, Inc., architects.

about how buildings perform and how to produce usable, economic space than do people who were quite content doing jobs that, not long ago, architects wouldn't touch.

Metal building manufacturers are satisfying large needs and they're doing it well, even if they are not always producing architecture. There are projects that look good and some that look great, but many are just very competent. From the standpoints of method and philosophy, however, they are right on and deserve careful study—if only because without such study there will be even less for an architect to do. In a time when the profession casts about for economical alternatives in materials and methods, these systems are offering considerable assistance. □

#### Acknowledgments

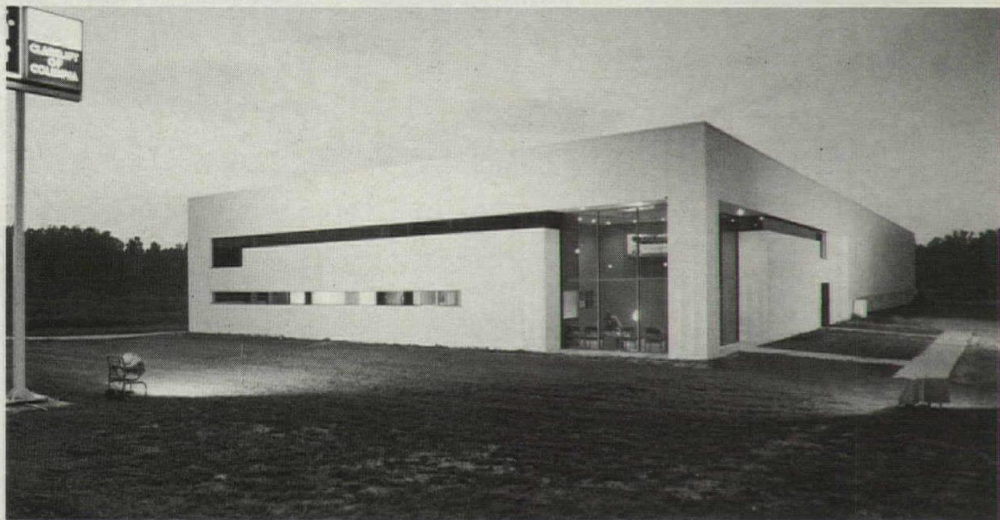
We would like to thank the following organizations, manufacturers, architects, and engineers for sharing their information with us: American Buildings Company; American Hot Dip Galvanizers Association, Inc.; American Iron and Steel Institute; Armco Steel Corporation Building Systems Division; Atlantic Building Systems, Inc.; Behlen Manufacturing Company, Inc.; Butler Manufacturing Company, Inc., Buildings Division; Ceko Corporation; Delta Steel Buildings Company; Gulf States Manufacturers, Inc.; INRYCO, Inc.; Kalwall Corporation; Metal Building Manufacturers Association; Mitchell Engineering Company; Pascoe Building Systems; Princeton Energy Group; Raiser Construction Company, Inc.; Republic Buildings Corporation; Richard Bialosky; Soule Steel Company; Star Manufacturing Company; Structures Unlimited, Inc.; U.S. Department of Energy.



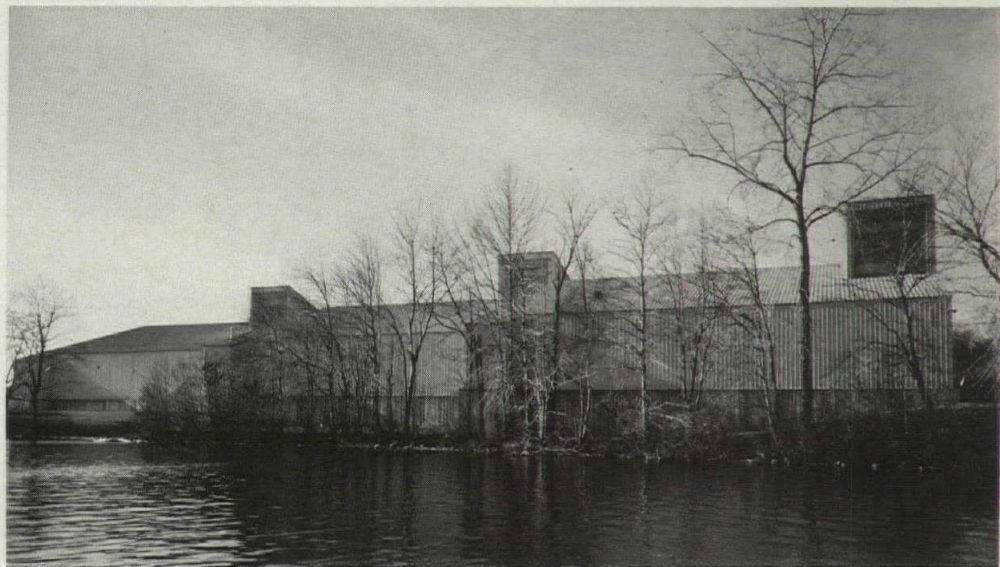
Butler and The Princeton Energy Group



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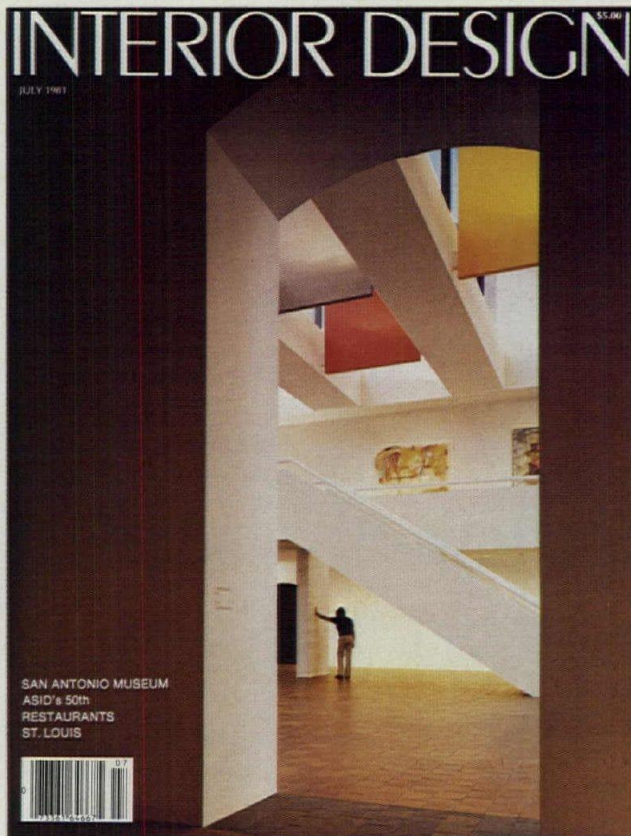
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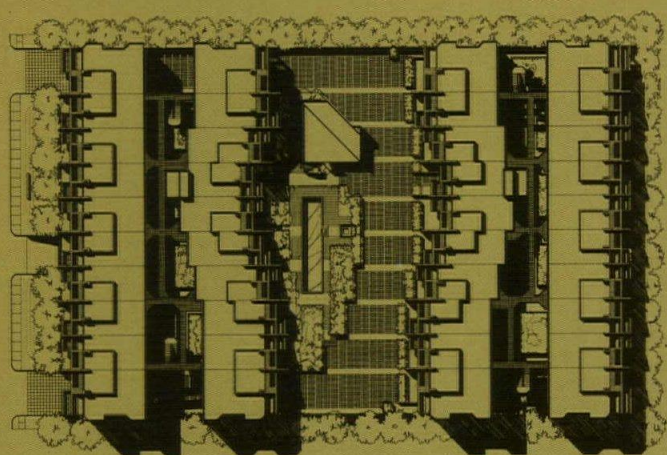
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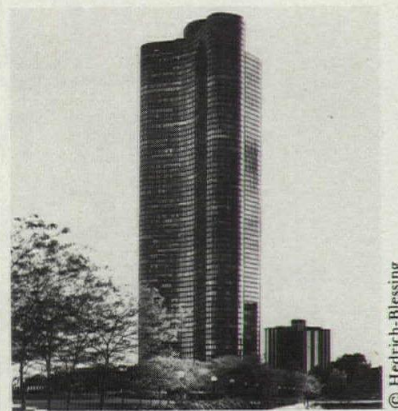
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# High style

## Books



Lake Point Tower, Chicago, Il.

**The Skyscraper** by Paul Goldberger. New York: Alfred A. Knopf, Inc., 1981. 175 pp., 217 illus., \$25.

Reviewed by Marcy Li Wang, assistant professor of architecture, University of California, Berkeley.

After decades of uninspiring tall buildings dutifully but badly echoing International Style manifestoes, architects have rediscovered the skyscraper as a splendid vehicle for stylistic innovation. One needn't be an architect to see this recent trend, especially in Manhattan and other cities. The Avenue of the Americas' relentless progression of boring boxes, set back on vast, scaleless plazas, is one of the most awesome reminders of well-intentioned but specious designs that materialized in the 1950s and 1960s. By contrast, buildings either newly completed, under construction, or still on the drawing boards seem to be trying very hard to embody Louis Sullivan's romantic notion about the skyscraper in the late 19th Century that "the glory and pride of exaltation must be in it." This surge of exuberance in skyscraper design is heartening, yet far from a confident direction. The current crop of American skyscrapers is characterized by a circus of shapes—cylindrical clusters, rectangular cabinets with Chippendale pediments or angled truncations at the top, revived ziggurats, and trapezoidal prisms. Architects seem to be in mortal fear of the boxy, flat-roofed shafts that once made up their exclusive repertoire.


In this climate of conspicuous, radical change in urban architecture, it is timely that *The New York Times* architecture critic enlighten us with his view of the events.

In *The Skyscraper*, Paul Goldberger says his book is "a history and commentary on the greatest of American building forms, the skyscraper. But it is commentary more than history. . . ." An approximately chronological format opens with the skyscraper's 19th and turn-of-the-century origins in Chicago and New York, where the technological advances that made it possible were developed. Yet in the few places where such advances as the elevator, steel frame, and curtain wall are mentioned, they are treated as secondary in the skyscraper's development. Goldberger minimizes the importance of technologically innovative proto-skyscrapers, such as William LeBaron Jenney's Home Insurance Building in Chicago, which introduced the steel frame in 1885, and made early use of the elevator. The consistent emphasis throughout the book is on the aesthetics of building forms and façades, and on the personalities or firms that designed them.

The early 20th-Century stylistic duel between Chicago's and New York's divergent aesthetic directions, which culminated during the 1920s and early 1930s, is highlighted in Goldberger's historical commentary. Chicago's handsome structuralism, inspired by such firms as Burnham & Root, Adler & Sullivan, and Holabird & Roche, was evident even in the earliest proto-skyscrapers, such as the Monadnock Build-

[Books continued on page 143]





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ing and the Carson, Pirie, Scott Department Store. In contrast, New York's more theatrical-historical mode permitted the grafting of Neo-Gothic, Art Deco, Moorish, and other fanciful ornament onto 20th-Century steel frames. Rockefeller Center, the Chrysler Building, and the Empire State Building, which were all conceived during this colorful era, remain New York's most beloved landmarks.

The Depression and war years had a deadening effect on high-rise construction in the late 1930s and 1940s, and perhaps because designers were out of practice from this hiatus, the "skyscrapers of the early 1950s were, for the most part, an undistinguished lot." It was in the decade of the 1950s, Goldberger points out, that "Modernism truly began to flourish in the United States—not for the noble rationalism its original proponents back in the twenties and thirties believed it had, but as an economic necessity. Modern buildings were cheaper and more practical to erect—this was true whether the building was a six-room house or a 60-story skyscraper." Just as it had earlier, Chicago took the intellectual lead in skyscraper aesthetics, this time through Ludwig Mies van der Rohe. The sober, unornamented International Style seemed the inevitable architectural destiny not only to Mies, but to other major Chicago offices of the day, such as Skidmore, Owings & Merrill. Chicago's unity behind the International Style's coherent philosophy led New York to follow suit. In fact, Mies's first major corporate skyscraper, the Seagram Building, in Goldberger's opinion marks the high point of the 1950s. Goldberger's summary of Modernism analyzes what went wrong with this architectural philosophy when its epitome became a building as exquisite as the Seagram. This ostensible paradox has a simple explanation: the building was a great building, but not a great model. Goldberger explains: "Seagram, like Rockefeller Center, was a certain kind of model—it revealed a new set of possibilities for skyscrapers. In this case, unfortunately, the implications were less benign—for while a Rockefeller Center done in less capable hands would still offer a variety of activities for public use, an imitation Seagram would be only a banal tower, a box little different from what had preceded it. This is exactly what was to happen in the years to follow as New York's city planners, entranced by the beauty of Seagram's sheer rise from a wide, open plaza, changed the city's zoning laws to encourage more towers massed as Seagram had been. The results proved Seagram, although a great work of art, a poor model."

The final two chapters of *The Skyscraper* are the most interesting because they are the denouement that the rest of the book leads up to. The 1960s were subject to a continued domination by Modernist doctrine, augmented with a new obsession with height and technology that extended into the 1970s. Goldberger finds the skyscrapers and other large-scale projects of the era, which often were exhibitionist about their technology, to be strained and gauche. He is obviously relieved that the period that produced buildings like SOM's John Hancock Center in Chicago or Gunnar Birkerts' Federal Reserve Bank of Minneapolis made way for technologically unself-conscious design such as the Citicorp Building in New York.

By the mid-1960s, a common complaint among architects was that "only commercial architects of little imagination were given commissions to build large-scale center-city towers." Goldberger agrees that this sentiment was by and large true. For this reason, by the late 1960s, the detached house had become the medium through which architectural trends were formed. Thus, while the last throes of unchallenged Modernism were being played out with buildings by the likes of Charles Luckman, Emery Roth, and Minoru Yamasaki, the actual revolutions in architecture were in part being fomented with colored pencil sketches of such humble projects as the "addition-to-the-house-of-a-Princeton-professor." Eventually, the authors of such designs were to gain newfound recognition with large-scale commissions, which could then regain their role as the proving ground for new ideas.

Fortunately, skyscraper projects now tend to be given to architectural offices of design fame such as I.M. Pei & Partners, Johnson-Burgee, Roche-Dinkeloo, and Mitchell-  
[Books continued on page 144]

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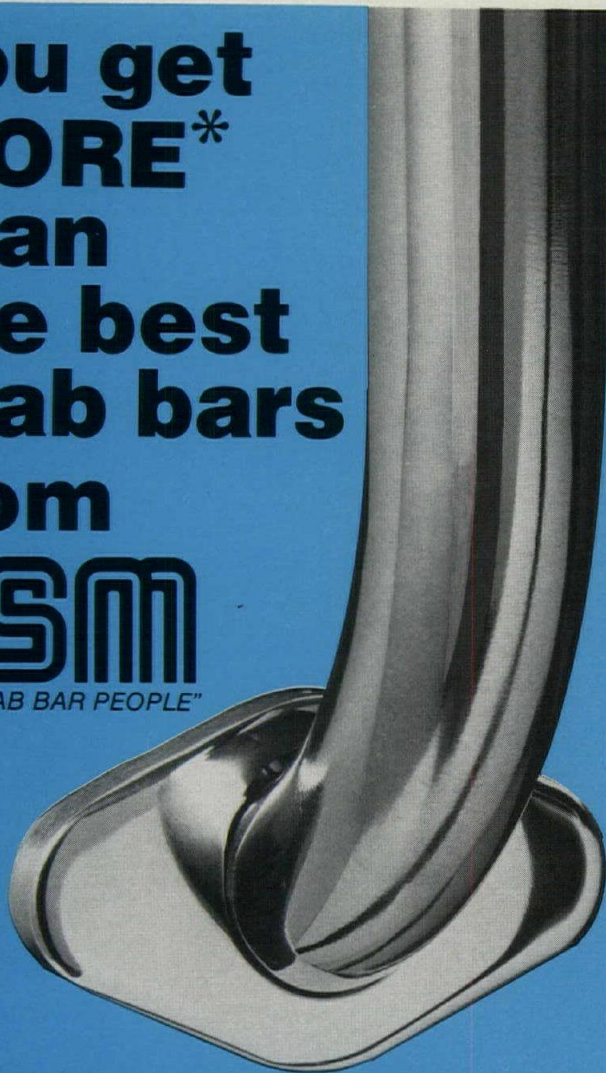
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Books continued from page 143

Giurgola, all of which currently design buildings that cannot consistently be pasted with a particular trend's label. Goldberger thinks that rather than a single stylistic mode, what "ties all of the new skyscrapers of our time together" is "a quality of romanticism . . . from Graves to Pelli to Roche."

The simple, grand title of *The Skyscraper* belies the book's rather narrow focus on the external aesthetics of the American—and mostly New York—skyscraper. In his preface, Goldberger offers reasons for his begging off issues of technology (which one would think are inextricably intertwined with the aesthetic evolution of this particular building type): "The concerns here are primarily esthetic ones. The development of the technology of the skyscraper has been described sufficiently elsewhere." In this art historical approach, aspects of urban design, economics, and functional planning are also only glossily referred to.

*The Skyscraper's* preface portends the major flaw of what was a potentially fascinating synthesis of the history, motivations, and impact of skyscraper design that has led to its current state. Goldberger sincerely wants to achieve the ambitious goal of putting "all phases of skyscraper development together into a single narrative," but he cannot do this by depending largely upon his own eloquence supplemented with a stockpile of architectural historian's common knowledge. The type of effort he envisions, but does not achieve, requires painstaking research into the orchestration of aesthetic, technological, urban design, and other factors that formed the true picture of these buildings' creations.

Even the book's formidable collection of archival and recent photographs, industriously amassed by his staff, underscores Goldberger's superficial treatment of this complex building type. It is disappointing that out of 217 illustrations in the book, there is not a single floor plan, section, or other graphic diagram to give clues about how buildings work. Such drawings are the standard, not so esoteric graphic tools that one needs to understand spatial ideas, yet Goldberger too often attempts to use only text to explain the success or failure of complicated spatial concepts. The reader is forced to written descriptions, for example, when the author tells how well the internal urbanism of the I.D.S. Center works, or obliquely praises Portman's flashy, introverted atriums. Elsewhere, Goldberger unabashedly appraises the quality of buildings purely on the basis of their skin or geometry. His approval of Hugh Stubbins & Associates' Citicorp Center seems too pat, given the intricacies of the design; adjectives such as "sleek," "smooth," and "cool" do little by themselves to deepen our understanding of the building. He attributes the genius of Johnson's Pennzoil Plaza in Houston completely to the building's form, and leaves one with the simplistic idea that the architect's job ends at being a good sculptor.


Surprisingly, beyond a beautiful dust jacket, and despite a massive number of photographs, the book is bland. Rather than a "visual feast," as the book jacket touts, the illustrations represent an excess that needs more discriminating editing and keying to the text. And since Goldberger is so interested in aesthetics and image, it is a shame that there are almost no color photographs to show clearly such things as the quality of glass versus aluminum versus granite veneer skins, or the play of light on such materials.

Goldberger's lament that there is a tendency in the architecture of this century first to present ideas in their best form and then to follow them up with banal imitations is reminiscent of an 1899 article in *Architectural Record* by Montgomery Schuyler. He yearned for the "wild work" of the 1880s when experiment rather than formula ruled skyscraper design. What Schuyler did not know was that the most fantastic era of skyscraper design was about to break upon the American scene. Goldberger, however, unlike Schuyler, has the advantage of historical perspective to assess the present and anticipate the immediate future of his subject. Instead of seizing this opportunity, he has written an informative, at times entertaining treatise mostly giving us his own opinions about a narrow aspect of a very important subject. I am glad for this book's existence despite its shortcomings, yet I would retitile it something like "American Skyscraper Façades—A Historical Commentary." □



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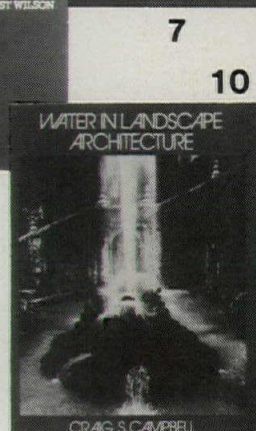
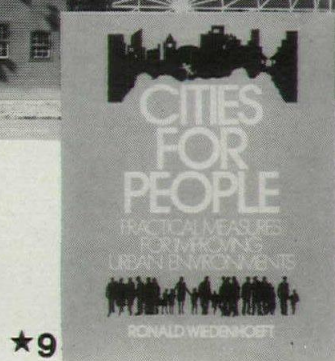
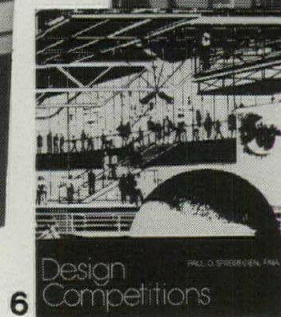
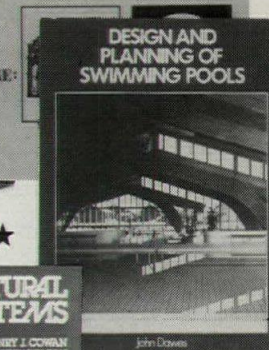
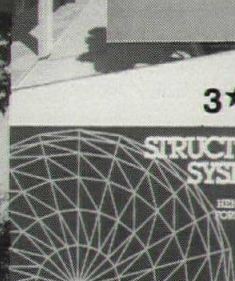
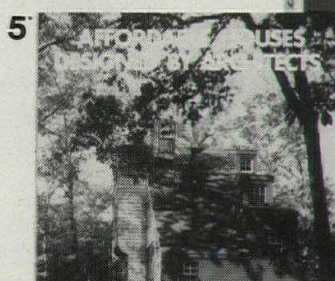
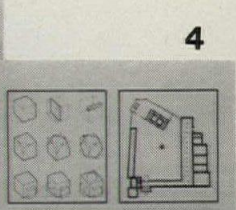
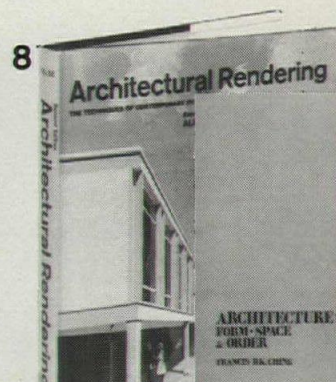
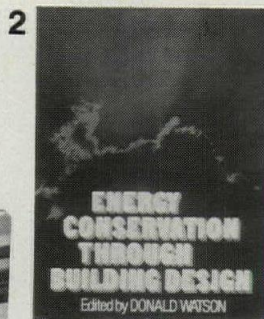
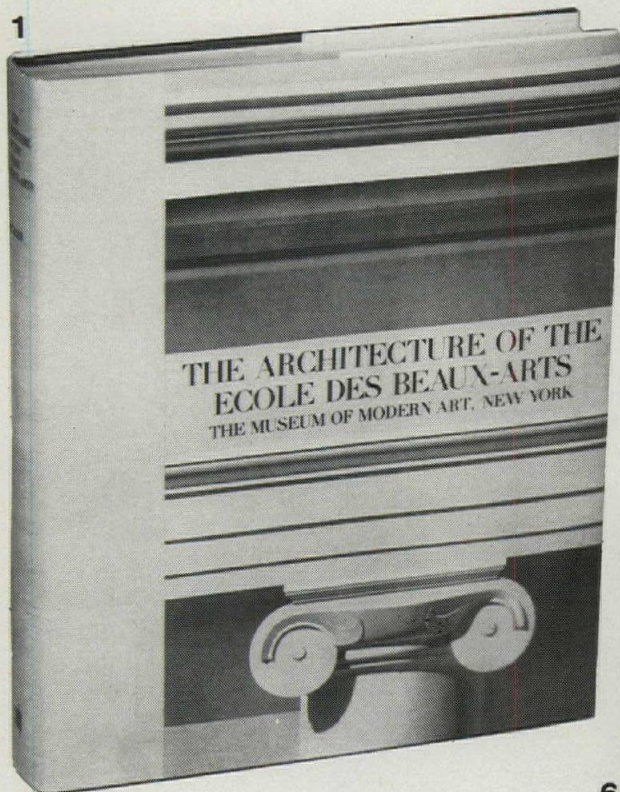
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Written to foster understanding of design concepts, this rich source of architectural prototype demonstrates how to extract the fundamental principles of form and space from the environment, whether in the architectural one views or inhabits, in architectural visualization, in drawing, or in actual design.  
**Circle B604 under Books.**

**5 Affordable Houses Designed by Architects**  
Edited by Jeremy Robinson  
168 pp., illus. . . . \$22.95  
This lavishly illustrated volume shatters the myth that architect-designed houses are more costly than developer-built houses. The superb photographs, floor plans, drawings, and details of interiors and exteriors present a wealth of ideas on how to construct beautiful and unique houses within limited budgets.  
**Circle B605 under Books.**

**6 Design Competitions**  
By Paul D. Spreiregen  
310 pp., illus. . . . \$32.50  
The first comprehensive guide to design competitions based on American practices, it examines in detail all important aspects of this timely subject, including how competitions work and the ground rules that govern most competitions.  
**Circle B606 under Books.**

**7 Design and Planning of Swimming Pools**  
By John Dawes  
276 pp., illus. . . . \$49.95  
A comprehensive manual that describes the essential characteristics and consequent design requirements of every type of pool imaginable. Also deals in great detail with more technical matters, such as structural problems and how to solve them, finishes, filtration, circulation and water treatment, heating and ventilating.  
**Circle B607 under Books.**

**8 Architectural Rendering: The Techniques of Contemporary Presentation**  
By Albert O. Halse, 326 pp., illus., 2nd edition, 1972 . . . \$44.50  
This completely up-dated revision of the most widely used guide to architectural rendering covers all working phases from pencil strokes to finished product — and shows how to obtain the desired mood, perspective, light and color effects, select proper equipment and work in different media.  
**Circle B608 under Books.**

**NEW★**  
**9 Cities For People**  
By Ronald Wiedenhoeft  
224 pp., illus. . . . \$22.95  
This book is a thoughtful analysis of the dehumanization of cities and the urban blight that results. It demonstrates how we can reverse this trend, making cities more responsive to human needs and improving their economic viability. It offers a number of economically sound steps that have proven effective in revitalizing cities all over the world.  
**Circle B609 under Books.**

**10 Water in Landscape Architecture**  
By Craig S. Campbell  
128 pp., illus. . . . \$16.95  
This profusely illustrated book is the first published work that deals in substantial detail with the technical as well as the aesthetic principles of fountain design. Covers basic hydraulic principles, practical limitations, environment and available equipment.  
**Circle B610 under Books.**





**11 Public Relations for the Design Professional**  
By Gerre Jones,  
278 pp., illus. . . . \$24.50

An authoritative book on public relations written in easily understood language for architects, engineers and other design professionals. Explains how to plan, set up and carry out a PR program that meets special requirements, as well as how to take advantage of some often overlooked opportunities for free publicity from the media.  
**Circle B611 under Books.**

**12 Encyclopedia of American Architecture**  
By William Dudley Hunt, Jr.  
612 pp., illus. . . . \$39.95

Presents in words and illustrations the full, rich fabric of American architecture. The volume narrates the full, fascinating scope and splendor of American architectural tradition. It contains biographical profiles of 50 American innovators.  
**Circle B612 under Books.**

**NEW★**  
**13 Alternative Natural Energy Sources in Building Design**  
By A. J. Davis and R. P. Schubert  
287 pp., illus. . . . \$17.95

Basic design criteria about energy conservation, solar energy, wind energy, and methane-gas energy is updated in this edition. Alternative solutions and applications are described for each problem and diagrams, tables and formulas are supplied. This book is the perfect introduction to the complex subject of energy.  
**Circle B613 under Books.**

**14 Architectural Illustration The Value Delineation Process**  
by Paul Stevenson Oles,  
288 pp., illus. . . . \$34.50

In this copiously illustrated, clearly organized explanation of his value delineation system, the author presents a detailed description of the process which has resulted in these award-winning delineations that show realistically how a designed structure will appear when built.  
**Circle B614 under Books.**

**15 By Their Own Design**  
Edited by Abby Suckle,  
160 pp., illus. . . . \$19.95

Ten internationally known architects describe their concerns, both artistic and pragmatic, as they related to the process of designing and constructing one or more of their major buildings.  
**Circle B615 under Books.**

**NEW★**  
**16 The Design Connection**  
Edited by Ralph W. Crump and Martin J. Harms  
184 pp., illus. . . . \$19.95

This book probes the relationship of formal architectural design to both building technology and human values. Locational, climatic, cultural, and historical viewpoints are all considered in depth. It bridges the gap between architectural theory and practice.  
**Circle B616 under Books.**

**NEW★**  
**17 Man, Climate & Architecture**  
By B. Givoni  
483 pp., illus. . . . \$14.95

This book deals with the physiological, physical and architectural aspects of the relationship and interaction between these three elements to interior and exterior building design. It is divided into five parts, including climatic elements and solar radiation on building design.  
**Circle B617 under Books.**

**18 Design Cost Analysis for Architects & Engineers**  
By Herbert Swinburne,  
317 pp., illus. . . . \$24.50

This first-of-its-kind book shows architects and engineers how to analyze and estimate the costs of building construction during the design stage when the potential for controlling costs is greatest.  
**Circle B618 under Books.**

**NEW★**  
**19 The Challenge of Interior Design**  
By Walter B. Kleeman, Jr.  
338 pp., illus. . . . \$19.95

This book is a flagship text in the growing field of ergonomics. It shows how you can incorporate anthropology and gerontology into the design of any space or building. It shows how behavior is influenced by design, enabling you to induce a feeling of well-being for the recipients of your next project.  
**Circle B619 under Books.**

**20 The Earth Shelter Handbook**  
By Tri-Arch Associates,  
244 pp., illus. . . . \$12.95

This paper-back handbook presents to architects, builders, private homeowners and commercial clients an easy-to-follow, step-by-step evaluation plan for site selection, soil evaluation and criteria for placement in relation to wind and sun.  
**Circle B620 under Books.**

**21 The Architecture of Frank Lloyd Wright A Complete Catalog Second Edition**  
By William Allin Storrer,  
456 pp., illus. . . . \$15.00

This second edition, which documents all of the buildings designed by Wright, replaced a number of photographs with new ones that show the buildings to better effect, changed some copy in the text, and incorporated factual information that has come to light since the original publication in 1974.  
**Circle B621 under Books.**

**22 Old and New Architecture: Design Relationship**  
280 pp., illus. . . . \$25.00

How to make new architecture compatible with its current setting, whether in the midst of a large historic urban area or as an addition to an old building, is analyzed in this first comprehensive book on the subject by 18 design experts.  
**Circle B622 under Books.**

**NEW★**  
**23 The Sense of Place**  
By Fritz Steele  
240 pp., illus. . . . \$19.95

This book is about our sense of place — the way it affects our lives, and the way in which we create our own sense of place. It is a unique look at the interaction between the features of settings and the features of the people who use them and how we could profit from a better understanding of how we relate to our surroundings.  
**Circle B623 under Books.**

**24 Rendering With Pen and Ink**  
By Robert W. Gill,  
368 pp., illus. . . . \$14.95

This paper-back edition is a copiously illustrated guide to the techniques and methods of rendering, including sections on perspective, projection, shadow, reflections, and how to draw cars, ships, aircraft, trees, and human figures. The author also describes the very wide range of instruments and equipment currently in use.  
**Circle B624 under Books.**


**NEW★**  
**25 New Techniques of Architectural Rendering**  
By Helmut Jacoby  
167 pp., illus. . . . \$24.95

This book contains a broad, international selection of architectural drawings that represent the most outstanding modern contributions to the field. Mr. Jacoby has given consideration to examples that interpret architectural designs in detail, for the layman as well as the specialist.  
**Circle B625 under Books.**

**26 Handbook of Architectural Details for Commercial Buildings**  
By Joseph DeChiara  
506 pp., illus. . . . \$39.50

This Handbook illustrates and examines the full range of architectural details currently used for commercial buildings. Part I features plans, elevations, and sections for office buildings, banks, retail stores, theaters, and more. Part II concentrates on architectural details. Practicality and realism are stressed.  
**Circle B626 under Books.**





# Manville announces the unbuilt-up roof.

Meet SPM, the latest addition to Manville's roster of roofing systems. And the answer to many special roofing problems.

The SPM single-ply membrane system consists of a single thickness of weather-resistant elastomeric sheeting loosely laid over a suitable substrate, for either new or retrofit applications.

Available in several widths and lengths together with sealants and a complete line of compatible accessories, Manville's SPM system meets a wide range of roofing requirements and simplifies and speeds installation.

The SPM system offers many benefits: Impermeability, easy, clean, all-weather application; no maintenance; flexibility to accommodate building movement; high strength with low weight; and durability and stability for many years of reliable protection.

SPM is backed by 15 years of on-the-roof experience with elastomerics, by the technical expertise of Manville's full-time staff of sales and service engineers, and by the industry's largest research facility, plus Manville's 100-plus years of total involvement in the roofing business.

For details contact Dick Ducey, Manville Building Materials Corporation, Ken-Caryl Ranch, Denver, Colorado 80217, (303) 978-2796. Produced and marketed by Manville Building Materials Corporation.

## Manville

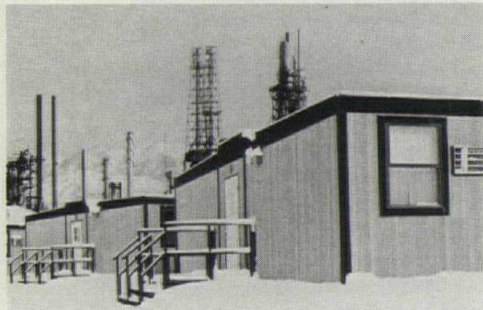
Circle No. 349 on Reader Service Card



# Products and literature

The following items are related to the Technics article on Pre-Engineered buildings, appearing on pp. 129-134.

## Literature



**Modular or mobile units** can serve as offices or dormitories in remote areas, temporary classrooms, commercial offices, camp or overnight facilities. A 16-page brochure illustrates their construction, special features, and typical uses. Floor plans are shown for units alone or combined to meet space requirements. Standard units can be modified to meet specific requirements; custom designs are also possible. Design Space International.

Circle 200 on reader service card

**Steel buildings** requiring about two-thirds as much time to erect as conventional buildings permit faster occupancy. They are easy to insulate efficiently, reducing heating and cooling costs. Roof and wall panels have baked-on enamel finishes, available in several colors, that resist fading, cracking, chalking, and peeling. Buildings can be enlarged by removing end walls, bolting on roof and wall panels, and reusing the end panels. The company offers its services throughout 13 Western states and internationally. Soulé Buildings, Div. of Soulé Steel Co.

Circle 201 on reader service card

**Building systems** brochure describes and illustrates a variety of low-rise, non-residential buildings. The series includes Profile—wide clear-span modular; Single slope—simple forms; Milestone—flat roof with wide spans, long bays, and open web or solid web construction; Aircraft—T-hangers and service hangars; and Self-framing—small portable temporary or permanent structures. The 24-page brochure discusses roof and wall systems and finishes and acces-

sories including doors, windows, ventilation, and trim. Pascoe Building Systems. Circle 202 on reader service card

**'Specification for the Design of Cold-Formed Steel Structural Members,'** in a major revision, offers improved information on welded and bolted connections, versatility of applications, and weld brazing. Among revisions are provisions for arc welds and web design specifications. Other changes in the 48-page manual are in the sections on materials, inelastic reserve capacity for flexural members, and tests for special cases. Single copies are available without charge from The American Iron and Steel Institute, 1000 16th St., NW, Washington, DC 20036.

**Metal Building Systems Manual** covers design practices; code of standard practices for design, manufacture, sale, and erection; guide specifications; and a glossary of terms. It discusses designing for various loads on roof and walls, with drawings that illustrate effects of these loads. Another section dealing with factors affecting energy conservation includes graphs comparing heating and cooling in metal and masonry buildings in three areas of the U.S. The 116-page booklet is \$5 and is available from The Metal Building Manufacturers Association, 1230 Keith Building, Cleveland, Oh 44115.

**Low-rise buildings** made from pre-engineered building systems have the advantages of reduced construction time, predictable cost, and spacious bays, according to the manufacturer. An eight-page company brochure provides information about components, including UL-rated Class 90 (wind uplift) metal roof with double-locked standing seams, fascia, and energy-efficient wall panels. Butler Manufacturing Co., Buildings Div.

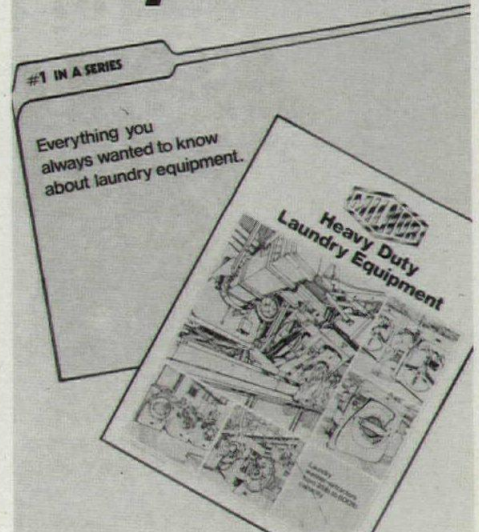
Circle 203 on reader service card

**'Energy Savings'** heating and cooling handbook provides U-value comparison charts for various roof and wall constructions. It includes recommended R-values for different U.S. zones and lists degree days for major U.S. cities. Work sheets show formulas for calculating air-conditioning cost comparisons and equipment savings. Behlen Manufacturing Co.

Circle 204 on reader service card

[Literature continued on page 150]

## Who offers architects the widest range of laundry washing systems?



## MILNOR.

With capacities ranging from 35 pounds to 600 pounds, MILNOR® manufactures laundry washer-extractors in 32 different models with 11 different weight capacities. MILNOR has laundry systems for every type of facility... from schools, hotels, factories and nursing homes, to prisons, hospitals and commercial laundries. So, if your next project includes a laundry, check with MILNOR.

For a FREE Laundry Planning File—and help in selecting the right laundry system for your clients—check the reader response card or write us today.



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# EPIC

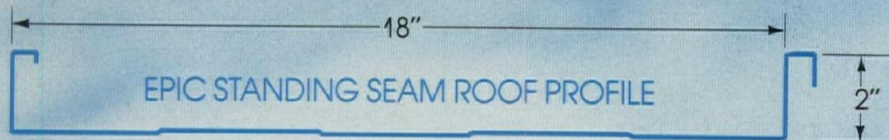
## METALS CORPORATION

### STRUCTURAL STANDING SEAM ROOF SYSTEM



#### A New Concept In Roof Construction

An insulated Floating Standing Seam Roof Covering supported by Steel Liner Panels and anchored by Concealed Clips that allow the roof panels to move as the roof system reacts to normal thermal expansion and contraction.



#### Advantages:

1. Weather-Tight Construction.
2. U-Factor to 0.05, R Values to 20.
3. Heat Reflection up to 80% of Sun's Rays.
4. Standing Seam Aluminum Coated Steel Roof Panels guaranteed for 20 years.
5. Wind Up-Lift to 90 lbs./sq ft.
6. Painted or Galvanized Liner Panels.
7. Economical Joist or Beam Design.
8. Diaphragm Design for your Roof.
9. Minimization of Thermal Expansion.

Epic produces a complete line of steel decks and architectural wall panels which are available for prompt shipment.

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#### GUARANTEE (TWENTY YEAR LIMITED WARRANTY)

Because of a proven record of durability in atmospheric exposure, Epic's Steel Supplier offers a 20 year limited warranty for Aluminum Coated Steel, Type 2, used in roof applications. This warranty provides for 100% of "current value" of replacement material if perforation from normal atmospheric corrosion occurs.

Full details are available by contacting  
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# EPIC

## METALS CORPORATION

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PHONE: 412/351-3913  
TWX: 710-664-4424  
EPICMETAL BRDK

Literature continued from page 149

**Formawall curtain wall systems** are described in a 12-page full-color brochure. Installations of the four systems are illustrated in color, and each panel type is described and shown. All systems are available in 15 standard colors and custom colors. The company offers design assistance to meet individual design specifications, including fenestration options and structural supports. H.H. Robertson Co.

Circle 205 on reader service card

**Energy-conserving buildings** brochure offers tips on building an energy-efficient metal building. It discusses proper insulation techniques and includes a description of recent research on the thermal efficiency of pre-engineered buildings. Butler Manufacturing Co., Buildings Division.

Circle 206 on reader service card

**Nonresidential self-framing metal building specification manual** contains 164 pages dealing with building design, basic building information, exterior and interior options, accessories, specifications, and building erection. It covers heavy commercial, industrial, and public utility applications. Featured are insulation efficiency and heating and cooling cost comparison data, snow and wind load guides, and engineering analysis formulas. The manual provides step-by-step selection, specifying, and building layout guides. Qualified users can obtain a copy by writing to Parkline, Inc., P.O. Box 65, Winfield, WV 25213.

**'No-Frills' pre-engineered metal buildings** catalog illustrates commercial, industrial, and institutional uses for these buildings. Standard components, trim, and design options make use of a variety of configurations and 11 colors. Details are provided for three models that range in size from 30 to 120 ft wide, 10 to 24 ft high, and have bay spacings of 20 to 25 ft. Framing details, load tables, and illustrated structural systems are included. Binkley Co., Building Products Division.

Circle 207 on reader service card

**AR-6000 standing seam roof panels** are fastened to the roof structure by concealed fastening clips designed with a sliding tab. The tab allows the roof surface to move an inch in either direction to compensate for temperature-caused expansion and contraction. With standard 5-ft purlins and 6 in. of insulation, wind uplift classification is UL90. The roof achieves a U-value of .068 when 6-in. blanket insulation is used. Symmetrical panel design allows the roof to be applied starting at either end of the building. A four-page color brochure describes the roof system and provides specifications. Atlantic Building Systems, Inc.

Circle 208 on reader service card

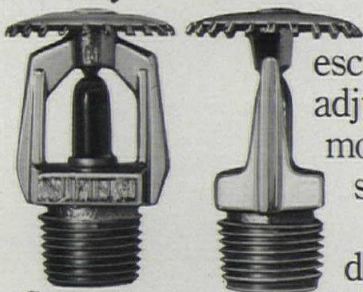
[Literature continued on page 153]



# VIKING MAKES SPRINKLERS EASIER TO LOOK AT BUT HARDER TO SEE. INTRODUCING THE MICROMATIC.<sup>T.M.</sup>

Viking proudly announces the introduction of America's smallest standard sprinkler line, the Micromatic<sup>TM</sup>. Micromatic sprinklers are the product of years of experience and research into the needs of engineers, architects, and installing contractors in the fire protection industry.

Designed to have a clean, unobtrusive appearance, Micromatic sprinklers employ a rugged, fast-acting bulb mechanism, color coded for 6 different temperature ranges. They are available in upright, pendent, and horizontal sidewall models in all sizes and a variety of finishes.



The Micromatic's escutcheons include an adjustable recessed

model that allows sprinklers to be fitted prior to ceiling installation, saving time and money while keeping construction on schedule.

Competitively priced, Viking's new Micromatic sprinkler line is destined to become the standard of the industry.

Contact your nearest Viking Distributor (who has the Micromatic in stock), write, or call for more detailed information and we'll enclose a sample Micromatic sprinkler for your inspection.

see us in Sweet's 'E' file




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Baptist Memorial Hospital East, Memphis.  
Walk Jones and Francis Mah, Inc., Architects.

## STRUCTURAL GLAZED FACING TILE: YOU'RE SOLD ON ITS QUALITY. NOW TAKE A LOOK AT ITS PRICE!

SGFT: \$6.50/sq. ft.

Brick: \$6.50/sq. ft.

Concrete block with epoxy coating: up to \$6.39/sq. ft.

Ceramic tile (mortar set) on concrete block: \$6.40 to \$7.52/sq. ft.\*

You may find it surprising that the most durable wall material you can specify is so cost competitive in the wall, but it's true. One reason: structural glazed facing tile (SGFT) provides both wall and finished face in one unit. It reduces on-site labor because it is installed in one step by one trade.

But in-the-wall cost is only the beginning of the story.

SGFT's kiln-fired body with ceramic glazed face gives it permanent color, makes it impervious, fireproof and easy to maintain, saving the building owner maintenance cost in the years to come.

And now, SGFT is available in the 8" x 8" size shown here for more design flexibility.

SGFT: The savings go in when the walls go up.

For immediate product information, see SWEET's section 4.4/St. or for complete cost comparison data, call or write: Stark Ceramics, Inc., P.O. Box 8880, Canton, OH 44711. Call toll free 1-800-321-0662. In Ohio, call collect (216) 488-1211.

\*Per square foot in-the-wall cost for a 4" wall. This information is copyrighted by Robert Snow Means Co., Inc. It is reproduced from *Building Construction Cost Data* 1982 with permission. SGFT cost is for the functional color group, 8" x 16" units.

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**stark**



# CONSERVE SPACE

WITH  
**UNDER COUNTER  
or WALL MOUNTED  
STAINLESS STEEL  
Refrigerators / Freezers**

## UNDER COUNTER



UC-5

UC 5 BC



The entire UC 5 series feature polyurethane insulated thin wall construction and airtight neoprene thermo-break door seals. The cooler section has 2 adj. s.s. wire shelves. Cap. -5.4 cu. ft. (155 ltr.)

UC 5 — two-tray ice cuber cooling system, manual defrost

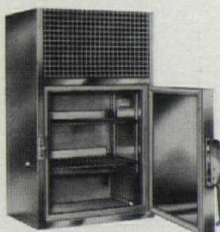
UC 5 BC — blower cooling system, auto. defrost

UC 5 CW\* — cold wall cooling, auto. defrost

UC 5 CWE — totally explosion-proof, 4.9 cu. ft. (139 ltr.) cap.

UC 5 FBC — freezer, auto. defrost, 4.6 cu. ft. (130 ltr.) cap.

## WALL MOUNTED



WM-CW

WM CW\* series wall mounted refrigerators come in 4 sizes featuring cold wall cooling with auto. timer defrost. Two removable, adj. stainless steel shelves provided. Front grille removes for easy servicing.

WM 1 CW — Capacity -1.5 cu. ft. (45 ltr.)

WM 2 CW — Capacity -2.3 cu. ft. (65 ltr.)

WM 3 CW — Capacity -3.2 cu. ft. (95 ltr.)

WM 4 CW — Capacity -4.3 cu. ft. (125 ltr.)

WM 3 FCW freezer, man. defrost, cap. 3.0 cu. ft. (851 ltr.)

\*With explosion-proof interior.

Jewett also manufactures a complete line of blood bank, biological, and pharmaceutical refrigerators and freezers as well as morgue refrigerators and autopsy equipment for world wide distribution through its sales and service organizations in over 100 countries.



Refer to Sweet's Catalog 11.20/Je for quick reference.

Circle No. 347 on Reader Service Card

Literature continued from page 150

**'Innovation in Building Systems,'** a 16-page brochure, offers information about rigid frame, tapered beam, and post and beam structures. It also describes computer-assisted architectural drawings and new fabrication methods. Republic Buildings Corp.

Circle 209 on reader service card

**The V-Truss Building System** is explained in an eight-page color brochure. According to the manufacturer, it offers stability, increased energy efficiency, and savings in labor, time, and materials. The system is available with single-slope or gable roof design. Armco Building Systems.

Circle 210 on reader service card

**Custom-engineered building capabilities** are discussed in an eight-page booklet. It explains how pre-engineered buildings are custom designed using a computer and interactive graphics systems. Color photos show several built examples. The AP-3 architectural wall system and AR-6000 roof system are featured. Atlantic Building Systems.

Circle 211 on reader service card

**'Design of Single Story Rigid Frames'** examines the design and fabricating of tapered steel structures in low-rise industrial buildings. Written by George C. Lee and Robert L. Ketter, professors at the State University of New York at Buffalo, and Tsu-Li-Hsu, a research assistant, research for the 267-page book received financial support from Metal Building Manufacturers Association, American Iron and Steel Institute, American Institute of Steel Construction, and the Navy. It provides design criteria for complete rigid frame design, including doubly-tapered members, overall buckling of rafters about the strong axis, effect of adjacent members on effective lengths, and columns with larger inner flanges. The book, at \$15 a copy, can be ordered from Metal Building Manufacturers Association, 1230 Keith Building, Cleveland, Oh 44115.

**'Metal Buildings Today: An Energy Efficient System'** is a six-page brochure that explains how insulation systems add energy efficiency to the other benefits of metal buildings: fast and easy construction, cost economy, flexibility, and fast occupancy. The brochure discusses the history of the metal building industry. Thermal Insulation Manufacturers Association.

Circle 212 on reader service card

**'Consider the shell'** discusses the advantages of pre-engineered building systems. According to the manufacturer, they are energy efficient, economical, strong, flexible, and versatile. The 20-page brochure illustrates and describes four basic building shell designs: Double Panel, convex, single panel, and frame systems. Drawings show details, and tables provide typical dimensions. The

[Literature continued on page 159]

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Can you afford a cheap imitation?

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That takes reinforced welds at every joint, drawn steel wire mesh in every seat and back, plus a heavy tubular steel frame specially prepared to accept a sintered synthetic coating that actually becomes fused to the surface.

So the next time you specify outdoor furniture choose Kroin. After all, can you afford not to?

Choosing the right outdoor seating could mean the difference between a sound investment and a costly mistake. Because, while companies may try to imitate the way our furniture looks, they can't match the way it lasts. And what makes Kroin Park and Garden Furniture stand out is the way it stands up: to the elements, abrasion and even the severest abuse.

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## FALCON'S NEW LEVER LOCKS ARE WITHIN EASY REACH.

Within easy reach of wholesalers, contractors, and specifiers who need delivery now.

Within easy reach of the physically handicapped, too. Falcon introduces a new line of lever locksets specially designed to meet current codes and ANSI specifications for the physically handicapped.

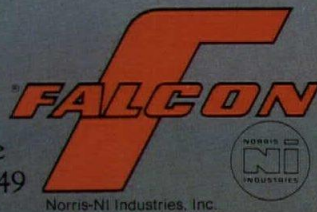
We've got the inventory for quick delivery. Falcon is putting levers within easy reach.

Contact your  
local sales representative  
or: Falcon Customer Service,  
(714) 891-0384.

*LM2000 Specifications: This mortise lockset with levers has a 1" projection deadbolt, a 3/4" projection anti-friction latch bolt, a variety of decorative metal finishes, simple installation.*



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Hursley & Hart

Mississippi County Community College, Blytheville, Ar. Architects: Cromwell, Neyland, Truemper, Levy & Gatchell.

Each annual Energy-Conscious Design issue seems to take on a personality of its own. Last year, the emphasis was on the "assimilation" of energy concerns into the mainstream of architecture—and into buildings of the highest all-around design quality.

"Energy Design with Confidence" will be the theme of this year's April issue. It too will be full of excellent energy-conscious built work, but the emphasis will be on the solid foundation of data and experience that architects now have to draw upon. Government-sponsored monitoring of pilot projects is finally yielding valuable information. A wide variety of design guides and computer programs is available.

Among the article subjects for April:

**Energy and Government** - a briefing on accomplishment to date and expectations in a time of change.

**Design aids** - a critical survey of energy design information for the architect.

**New energy analysis series** - introduction and first installment of a series that gives architects access to DOE-sponsored research.

**Exemplary buildings** - a dozen completed projects—big and small, romantic and high-tech, East and West, North and South—that demonstrate the wide possibilities for serious energy-conscious architecture.

# PA in April: Energy-conscious design

*Designed to be Natural*

Stippled sand along the shore,  
sprinkled with light.  
The natural complement to your designs.  
In seven colors. Champagne to Safari.

**Gold Bond**  
**DURASAN**  
Vinyl-Surfaced Gypsum Wall Panels

For our Pattern Selector, write Gold Bond Building Products,  
2001 Rexford Road, Charlotte, NC 28211.

**Gold Bond Building Products**

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**the plastic-domed ventilating skylight**

Skylighting is the way to create beautiful light-filled rooms, to add new dimension and greater flexibility to interior and exterior designs.

VENTARAMA SKYLIGHTS OFFER PASSIVE SOLAR HEAT, NATURAL AIR CONDITIONING, and can be used in any climate on any roof.

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## Don't design an open office with a closed floor.

When you design an open office, you're providing the ability to adapt quickly and easily to changing needs. It can't be done with furniture and landscape screens alone.

Support systems must adapt as readily as office personnel. That's what the open office is all about. And that's one reason successful open offices are based on Donn access floors.

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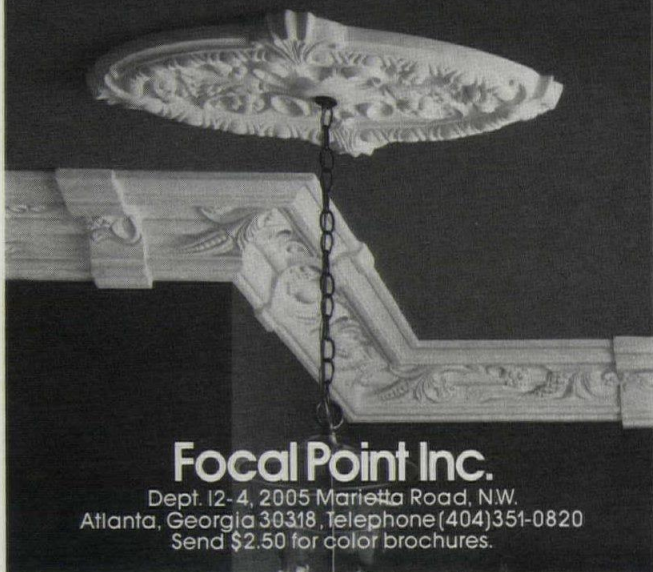


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### Literature continued from page 153

brochure includes photographs of buildings serving a variety of uses. Behlen Manufacturing Co.

Circle 213 on reader service card

**Building design and construction data** brochure provides technical details of the company's eight structural designs and siding, roofing, and accessories available. Drawings show structural details, trim systems, and accessories such as doors, windows, louvers, and roof ventilators. Star Manufacturing Co.

Circle 214 on reader service card

**'Metal Building Systems'** describes factors to be considered when deciding on a metal building. It outlines the company's capabilities and design variety of buildings for commercial, community, institutional, and industrial use and illustrates both production facilities and examples of buildings. Mitchell Engineering Co., Div. of The Ceco Corp.

Circle 215 on reader service card

**Building systems** catalog discusses buildings made of computer-designed components, which are fabricated and shipped to the jobsite. The company offers standard sizes and shapes, but can meet specific requirements or custom design a building. The 32-page brochure illustrates configurations and provides tables of dimensions. It covers installation, interior and exterior finishes with color charts, and includes

color photos of several buildings. Delta Steel Buildings Co.

Circle 216 on reader service card

**'Thermax® Insulation Board in Pre-Engineered Metal Buildings'** discusses several insulating systems suitable for commercial and industrial buildings. The 16-page brochure provides data on fire performance, R-values, and U-values. Installation information covers both new construction and retrofit of existing buildings. The Celotex Corporation, Building Products Div.

Circle 217 on reader service card

**Building systems brochure** illustrates structural, roof, and wall systems. It provides detail drawings of components and tables of dimensions. Heat transmission coefficient information is provided for the different roof panels and wall panels available. Color photographs of actual buildings are included in the 20-page brochure. Armco Building Systems.

Circle 218 on reader service card

**Enclosures and skyroofs** that transmit light are made of premanufactured sandwich panels consisting of two fiberglass-reinforced faces over an aluminum I-beam grid. The panels are insulated and finished on both the inside and the outside. A four-page brochure illustrates installations in color and provides design and test data, as well as specifications. Structures Unlimited, Inc.

Circle 219 on reader service card

### Other products



**Rais stoves** from Denmark, designed by architect/designer Bent Falk, are made of heavy wrought iron. Typically, they have three compartments: fire box, wood storage, and heat chamber for warming and cooking. Available in circular and rectangular models, the stoves come in large sizes capable of heating about seven rooms and smaller versions that can heat about five rooms. They can [Products continued on page 161]



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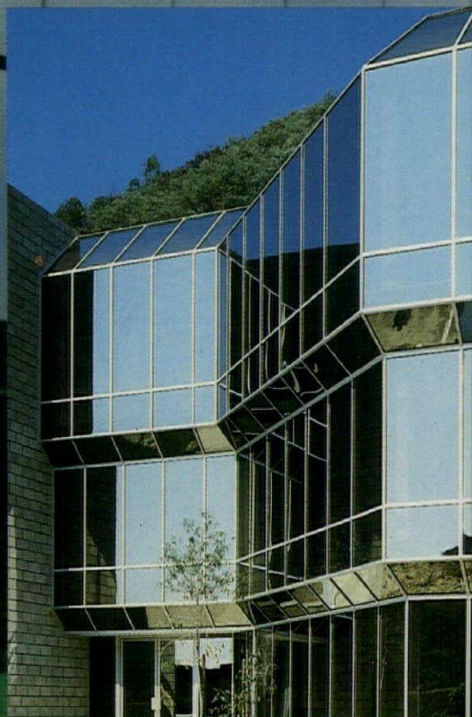
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Automatic Data Processing West Coast Headquarters,  
LaPalma, CA Architects: LPA Inc., Orange, CA



Above inset: Crossroads Office Park, San Diego, CA Architects: Howard Anderson & Associates, Del Mar, CA  
Right inset: Bannockburn Lake Office Plaza, Bannockburn, IL Architects: Solomon, Cordwell, Buenz & Associates, Chicago, IL





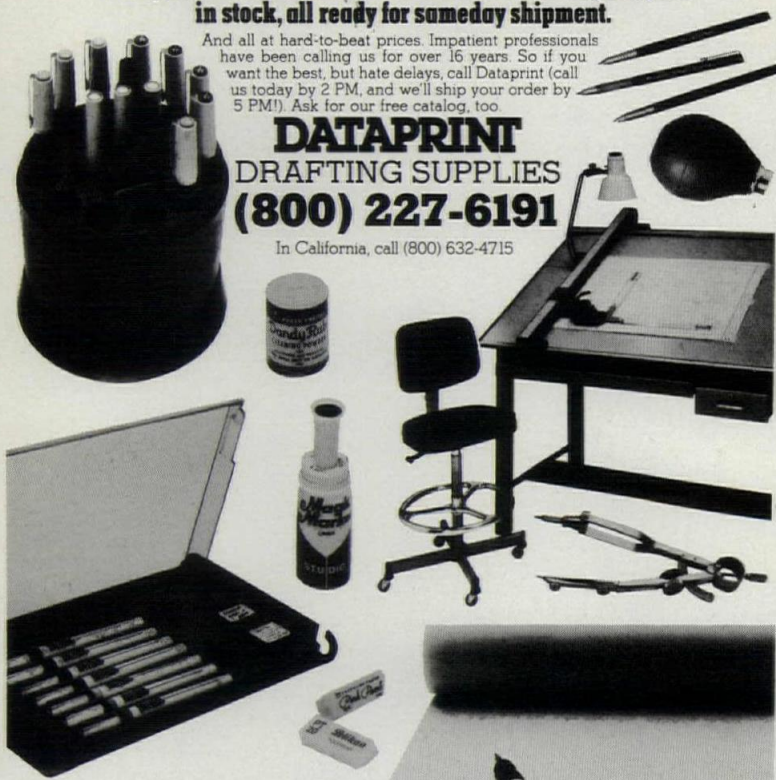
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## Products continued from page 159

be operated like a fireplace with doors open and fire screen in place or with doors closed, and are capable of round-the-clock heating. Rais & Wittus, Inc.  
*Circle 100 on reader service card*

**Aluminum ceiling grids**, built to design specifications, can incorporate a screw slot for direct attachment of interior panels, track lighting, or room dividers. Other configurations can accommodate integral air diffusers, air return slots, or special lighting, as well as sprinkler heads. Finishes include painted acrylic enamel in a variety of colors, clear anodized, and integral color hardcoat anodized in shades of bronze and black. A key lock design, called Speed Lock, eliminates clips and bending tabs for speedier installation. Howmet Aluminum Corp.

*Circle 101 on reader service card*

**Flexible Wiring** simplifies installation of branch circuits by means of factory-assembled wiring components and reduces labor costs when compared with costs for hard wiring. The system, consisting of only nine basic parts for any installation, is used where lighting and power circuits can be located in accessible ceiling spaces. When needs change, for example in open office plans and educational and health facilities, the equipment can be unplugged, relocated, and plugged in again. Harvey Hubbell.  
*Circle 102 on reader service card*

**CA/90 ductless fans** filter, deodorize, and recirculate air. CA/90 filter medium is a citrus-derived chemical that helps to absorb contaminants to purify the air. The fans are suitable for enclosed spaces such as bathrooms, kitchens, and other closed-in areas in hotels, high-rise condominiums, and institutional buildings. Rush-Hampton Industries, Inc.

*Circle 103 on reader service card*



**GS series tables**, designed by George Schad, are available in oak or walnut with standard or custom finishes. Tops are book-matched veneer; legs and rails are one-piece solid. Included in the group are bookcases, lateral files, and modular shelving. Nucraft Furniture.

*Circle 104 on reader service card*

**Roof tiles of aluminum or steel** in California Mission Tile or Spanish S-tyle offer installation ease and weight advantages, according to the manufacturer. Finish is coil-coated baked enamel in a choice of colors. Both aluminum and

steel tiles are rated Class A for fire resistance and are weathertight. The system consists of pan tiles and cap tiles from which other parts can be fabricated on site. Architectural Engineering Products Co.

*Circle 105 on reader service card*

## Other literature

**Contract seating and materials catalog**, in 24 individually bound sections, groups related items and has color photographs and side elevation drawings. The furnishings are designed for dining areas, colleges and universities, hotels, conference centers, health-care facilities, and offices. There are rattan and wicker, contemporary metal or wood, traditional wood, Early American, Nordic, bentwood and bentwood-style metal seating. Upholstery swatches are provided, along with plastic laminate, wood, and metal finishes. For information about obtaining a copy, write to Shelby Williams Industries, Inc., P.O. Box 1028, Morristown, Tn 37814.

**Lasting Impressions entry doors**, sidelights, and interior doors are made from hardwood and have hand-carved detailing. Glass inserts are colored leaded and beveled, clear leaded and beveled, or etched. Interior doors include bifold panels. The doors are illustrated in an 18-page full-color brochure that also discusses custom design services. International Wood Products.

*Circle 220 on reader service card*  
*[Literature continued on page 163]*



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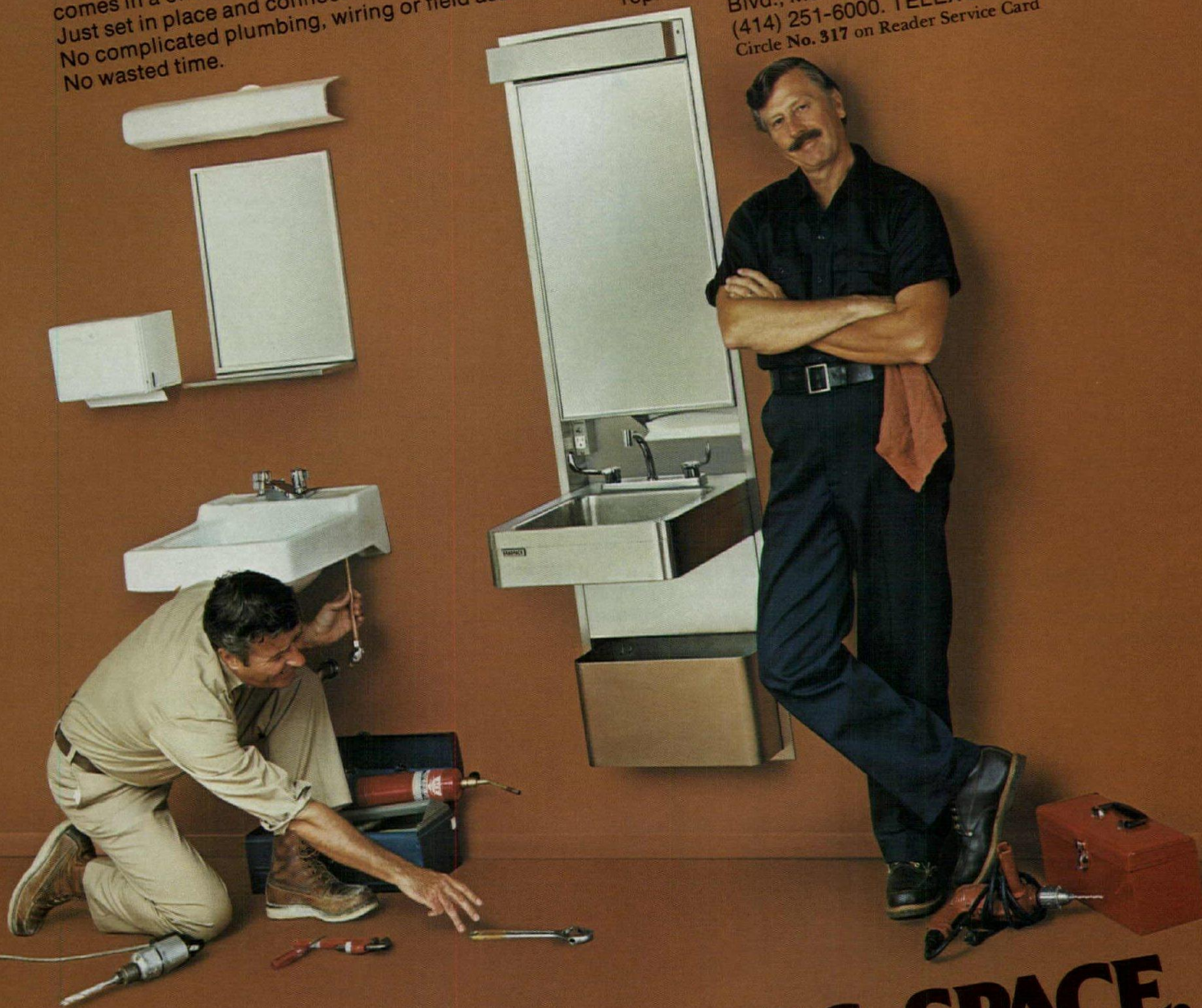
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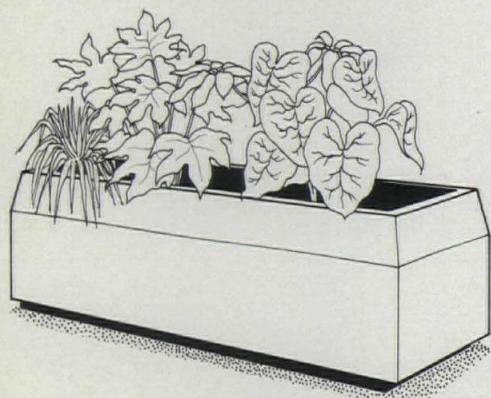


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**'Architects Guide to Drapery Hardware'** describes heading systems, power operation, tracks, draw cord and cordless operation hardware for draperies to accommodate various styles. Details show profiles, components, methods of attachment, and accessories. The 28-page brochure also lists service branches throughout the country. Kirsch Co.

Circle 221 on reader service card



**Geo Dimension Planter** catalog provides individual data sheets for several designs, with photos and drawings showing dimensions. The fiberglass-reinforced-plastic planters are impervious to extreme weather conditions. They come in a wide range of sizes, standard colors, and finishes. Options include fire-retardant resins, anchoring devices, and drain pans, with drainage holes provided at no charge when specified. Silvestri Studio, Inc.

Circle 222 on reader service card

**The 1982 Handbook for Ceramic Tile Installation** provides details, outlines, and charts covering most installation methods and conditions. The 32-page manual discusses materials for setting and grouting ceramic tile, special products, floor installation performance levels, and installation in specific areas such as steam rooms, sound-rated or fire-rated walls, refrigerator rooms, and others. A sample copy is available for \$1 from the Tile Council of America, P.O. Box 326, Princeton, NJ 08540.

**Files for plans, maps, and other graphics** are described and illustrated in a 52-page catalog. Files accommodate vertical prints, original drawings, rolls, or a combination. Drafting/drawing furniture is also listed, including desks, chairs, and accessories. Plan Hold.

Circle 223 on reader service card

## Building materials

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

**708 House, Pacific Palisades, Ca (p. 98).** Architect: Eric Owen Moss, Los Angeles. Concrete: Blue Chip Concrete. Reinforcing bars: West Coast Re-bar.

Ceramic tile: Franciscan. Perforated metal: Diamond Perforated Metal. Aluminum sash: Elco. Wire glass: Universal Glass. Vinyl tile: Vinyl Plastics Inc. Insulation: Johns-Manville. Concrete sealant: Nelson Technical Coating Co. Hardware: Hager; Schlage. Wallcovering: Marimekko. Paint: Sinclair.

**Pacifica Townhomes, San Diego, Ca (p. 92).** Architect: Rob Wellington Quigley, San Diego, Ca. Aluminum windows: Windowmaster. Skylights: Bristolite. Doors: TM Cobb. Paint: Sinclair. Hardware: Schlage. Lighting: Halo, Prescolite, NuTone. Plumbing and sanitary: American-Standard.

**Sayer House, San Diego, Ca. (p. 92).** Architect: Rob Wellington, Quigley, San Diego, Ca. Asphalt roof shingles: Bird. Wood windows: Pella. Aluminum windows:

Andersen. Doors: TM Cobb. Paint: Sinclair. Hardware: Schlage. Handrails: Custom Pipe Rail. Lighting: RAB, Halo, Prescolite. Plumbing and sanitary: Kohler, American-Standard, Redwood. Blinds: Levolor.

**The Lawrence Academy Student Center, Groton, Ma (p. 104).** Architect: Richard C. Tremaglio, Cambridge, Ma. Brick: Endicott. Glass block: Corning. Windows: Caradco. Skylights: Velux. Overhead doors: Raynor. Epoxy floor surfacing: Danvers Chemical. Metal roof: Reynolds. Waterproofing: Tremco, G.E. Insulation: Atlas Insulation. Urethane on wood: Cabot. Hardware: Stanley, Russwin, Reading, Von Duprin. Plumbing: Crane, Metpar. Heating system: Williamson, Trol-A-Temp. Kitchen equipment: Norlake, Shays.



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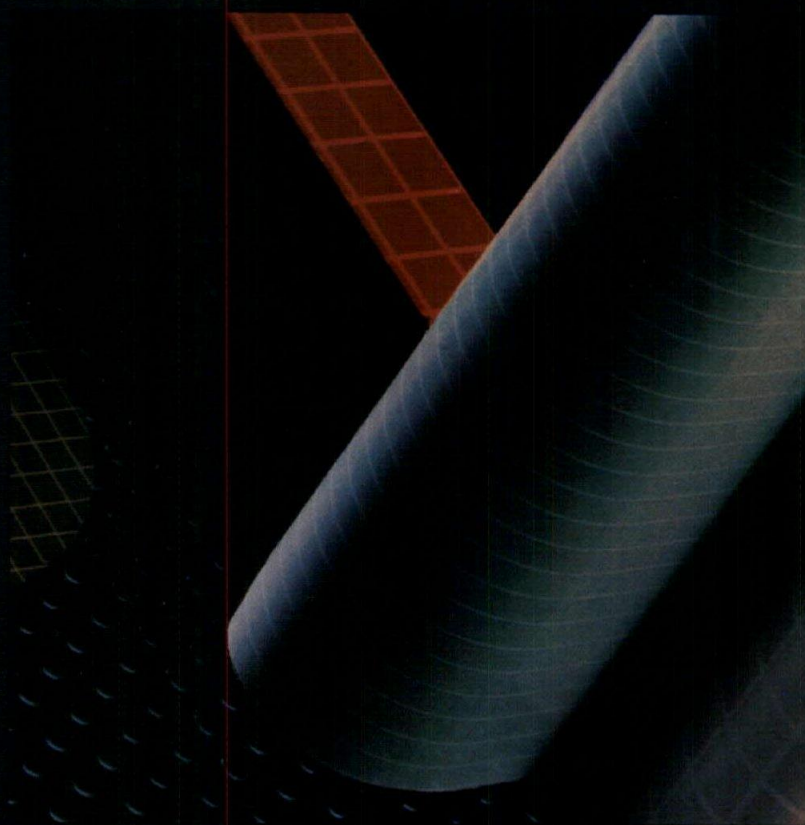
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**Auburn University's Department of Architecture** is seeking applicants for nine-month, faculty positions beginning Fall 1982. The Department offers degrees in architecture, interior design, landscape architecture, and regional planning. The Department anticipates openings in each professional degree program. Applicants should possess a terminal degree in appropriate discipline and have professional and academic experience. Teaching includes design studio and lecture or seminar in area of applicant's expertise. Salaries are competitive. Forward resume and representative examples of work to: Professor Wayne Drummond, Head, Department of Architecture, Auburn University, AL 36849. Auburn University is an Equal Opportunity, Affirmative Action Employer.

**Boston Redevelopment Authority**—Director of Urban Design. The Boston Redevelopment Authority is seeking a qualified individual to fill the position of Director of Urban Design. The Boston Redevelopment Authority is the City's Planning and Development Agency and is involved in a variety of development projects throughout the City

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**Carnegie-Mellon University, Department of Architecture**—Full-time, tenure track faculty positions for 1982-1983. Seeking persons with substantial technical or theoretical knowledge that is integrated with architectural design: persons with a focused pedagogy for design studio and/or (1) management (2) building technologies (3) design theory or (4) history. In addition to teaching, successful candidates will be expected to supervise students in graduate and undergraduate programs, conduct research and participate in committee work. Salary and rank will be commensurate with qualifications. Send resumes and list of references to Ömer Akin, Head, Department of Architecture, Carnegie-Mellon University, Pittsburgh, Pa 15213. Carnegie-Mellon University is an Equal Opportunity/Affirmative Action Employer.

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**Commercial Building Design Consultant**—Battelle-Northwest is currently managing an intensive research program for DOE, on development of energy-conscious design strategies for commercial buildings. Four to six outside experts, with exceptional (at least 10 years) experience and expertise in the design of energy-efficient commercial buildings and in specific design areas (such as daylighting, HVAC systems, etc.) are required as consultants for planning and review of the research program. It is anticipated that the consulting services will not exceed a few days per month, with travel required. Highly qualified individuals interested in applying for these positions should request an RFP from Battelle by March 22. Please enclose a resume and a brief statement of major area of expertise. If there are any questions concerning these positions, please call Dan Raap at (509) 376-4317. Requests for the RFP should be sent to Battelle-Northwest, P.O. Box 999, Richland Wa 99352, Attn: D.A. Raap, HS-4.

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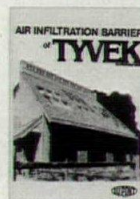
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**Small Office Building Design Team**—Battelle Pacific Northwest Laboratories is currently managing a research project for the U.S. Department of Energy to develop energy-conscious design strategies for commercial buildings. As part of this research Battelle is seeking the services of an architectural/engineering firm to develop and evaluate energy efficient strategies for small office buildings, and to prepare materials for educating architects, engineers, and building owners. The subcontractor must have (1) an extensive background in design of small office buildings, (2) demonstrable experience in energy-conscious design, and (3) expertise in the use of energy-consumption analysis tools—especially the DOE 2 energy analysis computer code. Joint bidding by interested firms is encouraged. Qualified firms interested in participating in this work should request an RFP from Battelle by March 19, 1982. Requests for the RFP should be sent to Battelle Northwest, P.O. Box 999, Richland Wa 99352, Attn: D.A. Raap, HS-4.

**Texas A&M University**—Applications and nominations are sought by Texas A&M University for positions on the Environmental Design faculty available 1 September 1982. Job Description: To instruct at the undergraduate level (beginning and advanced classes) in the subject areas of architectural and environmental design and graphics. A Master's degree from an accredited school is required as well as a professional license or intent to obtain professional registration. Candidates should have office practice experience. Salaries are commensurate with full-time, nine-month employment at Instructor, Assistant Professor or

Associate Professor ranks. Application: Applications should include a resume, academic credentials and letters of reference. A portfolio, or slides, should be available if called for. These would be promptly returned. Applications or nominations should be sent to: John O Greer, AIA Head, Department of Environmental Design, College of Architecture and Environmental Design, Texas A&M University, College Station, Tx 77843.

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*Progressive Architecture* has an immediate opening for a person with background in architecture and building technology to fill the position of associate editor in charge of technical articles. Responsibilities will include generating and editing technical features and collaborating with editorial staff on other articles and issues. Skills in research and technical writing essential. Familiarity with building products, specifications, and detailing necessary. Previous journalistic experience not required. Opportunity to direct critical information resource for architectural profession. Salary negotiable. Reply to Box 1361-379

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[continued on page 169]

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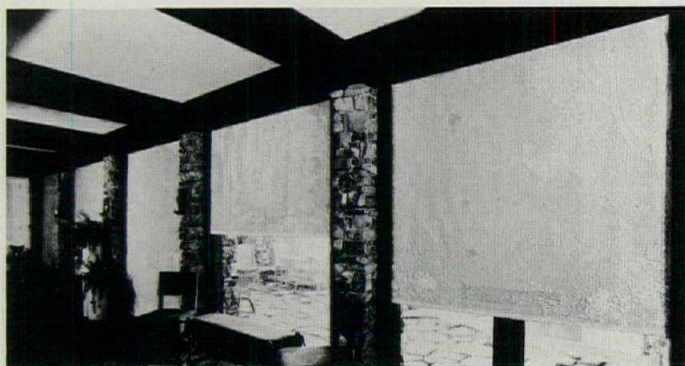
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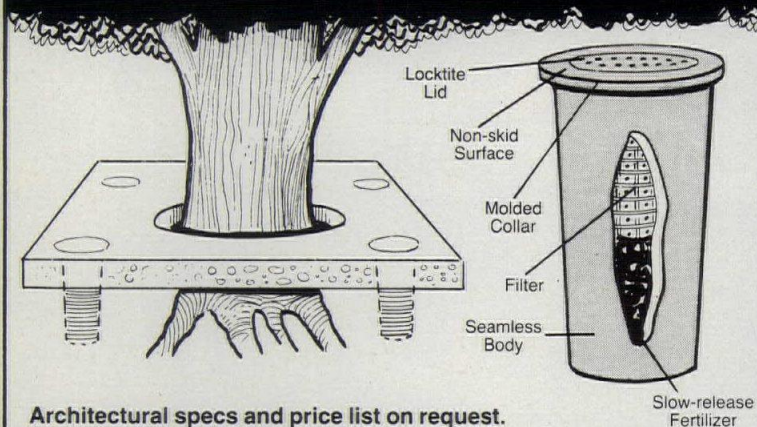
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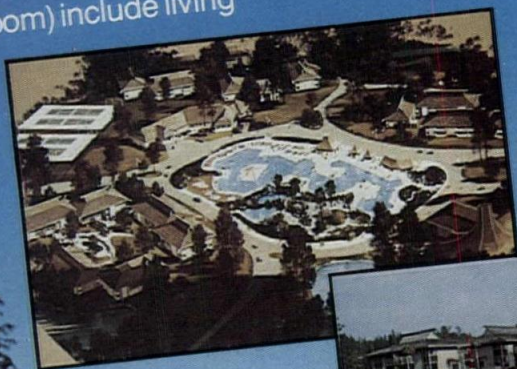
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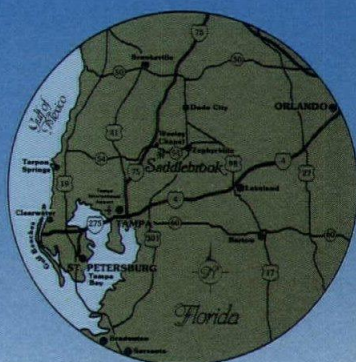
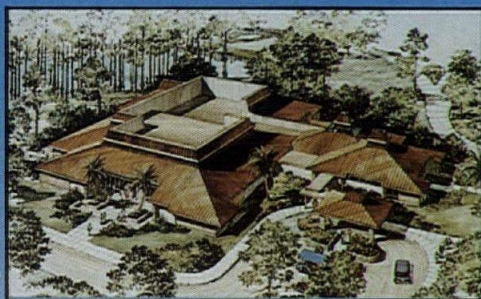
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