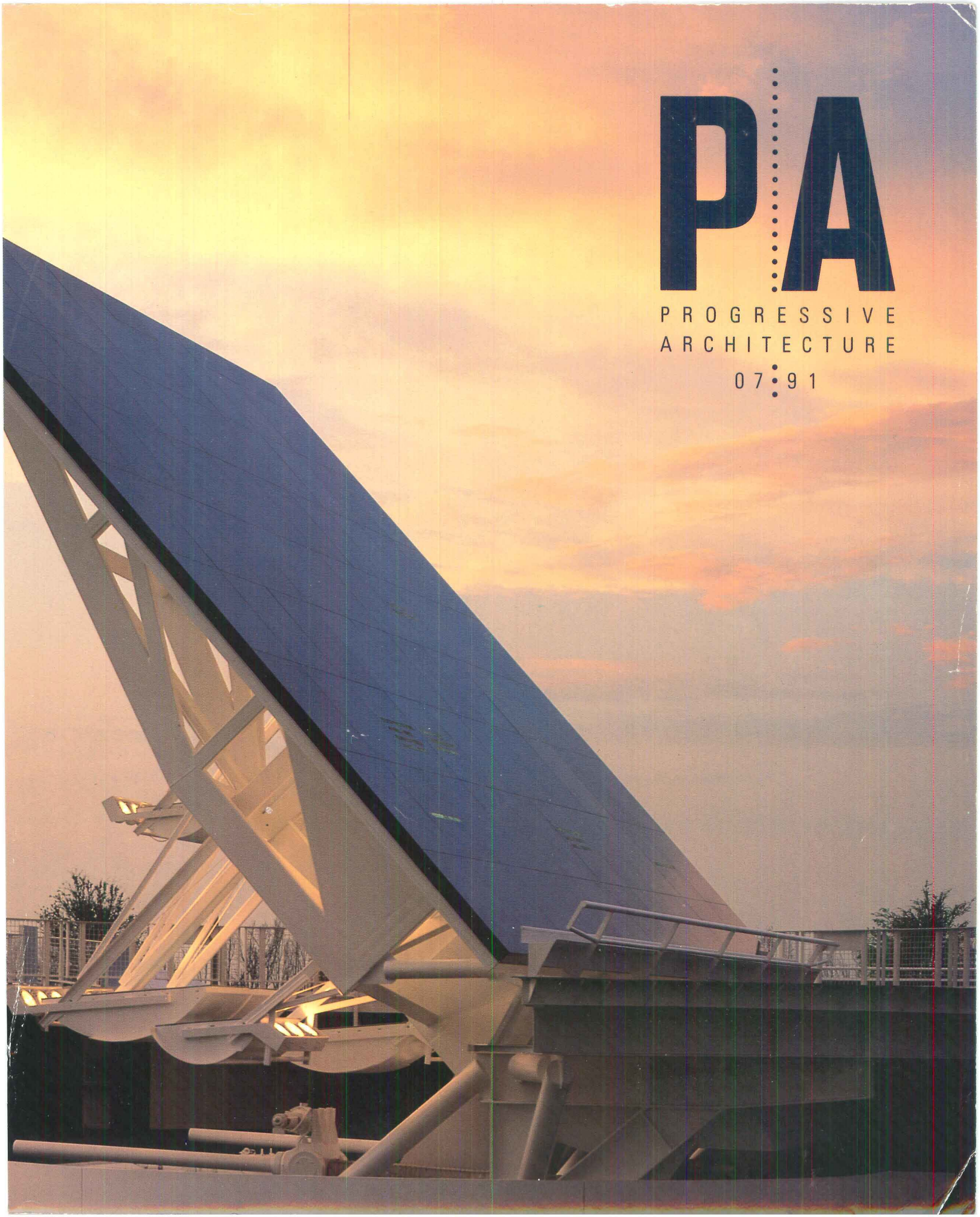

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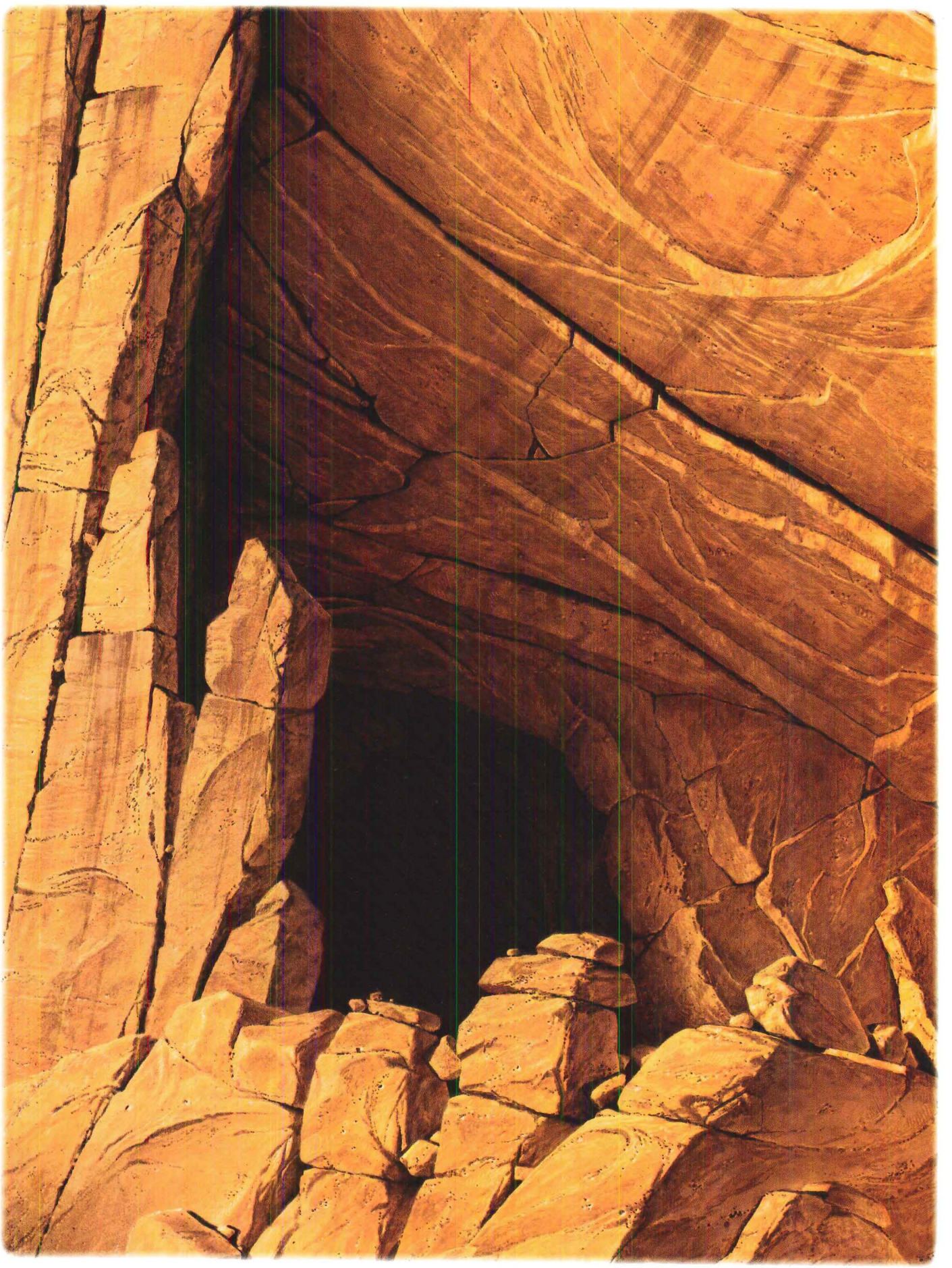

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Cover: *The Astronauts Memorial, Cape Canaveral, Florida, Holt Hinshaw Pfau Jones, San Francisco, p. 72. Photo by Mark Darley/Esto.*


# Progressive Architecture July 1991

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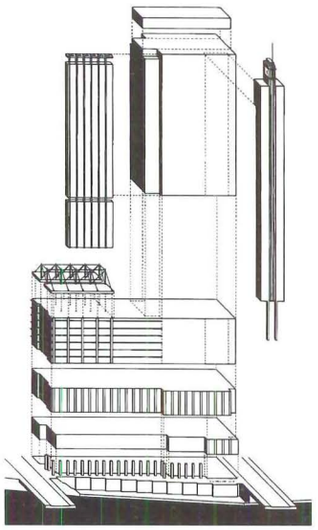

*Morton International Building, p. 94.*




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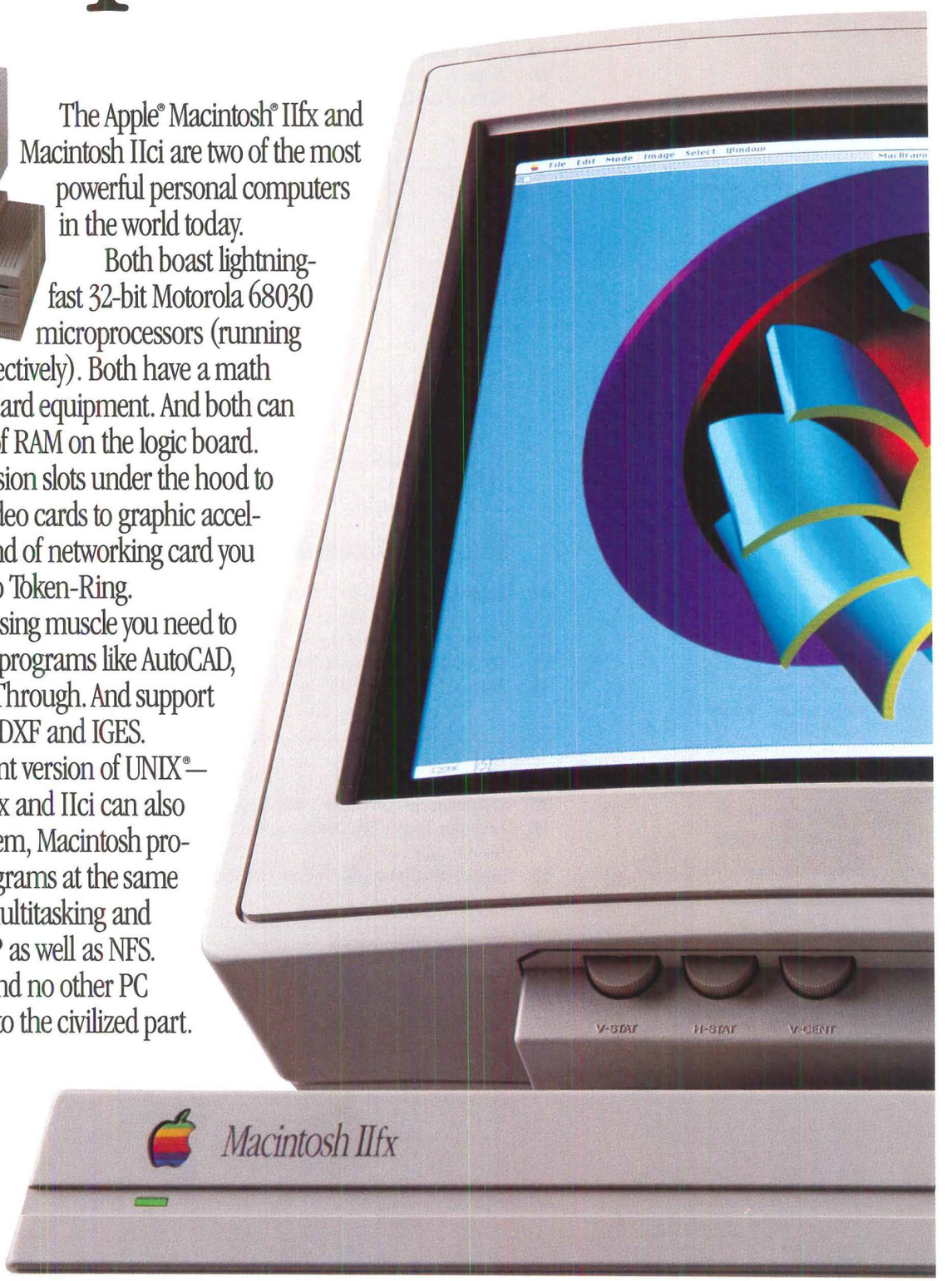

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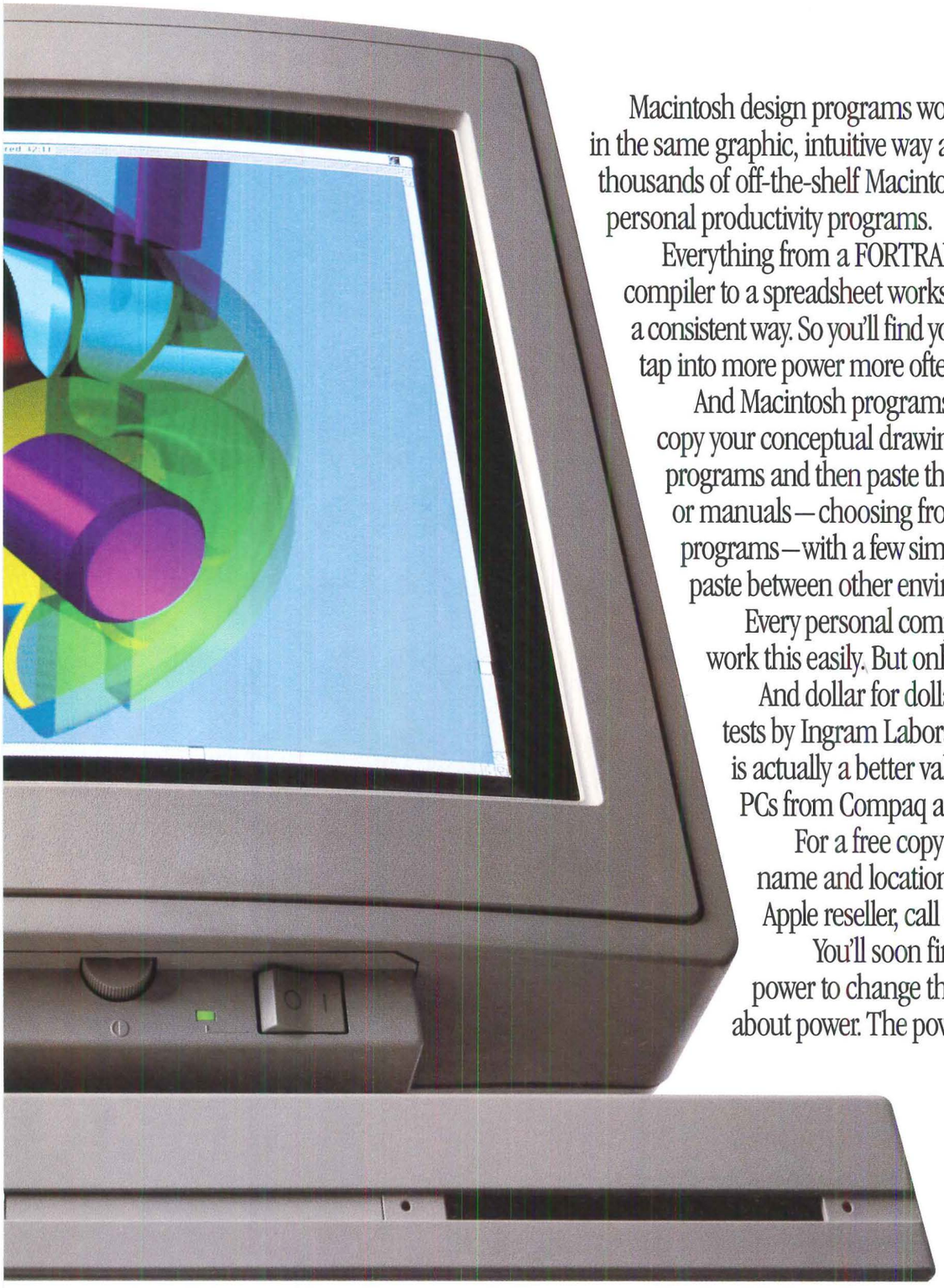

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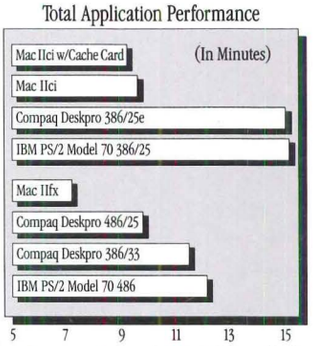


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# Editorial
## Schlock and the Fear of Schlock



**A profession that recoils unthinkingly from sleazy, quick-buck design may be too isolated from public sentiment.**

One observation in the brief, thoughtful talk by Gold Medalist Charles Moore at the recent AIA convention (page 27) was that we may suffer from a "morbid fear of schlock." He did not elaborate much on this in his short speech, but it set me thinking about why a fear of "merchandise of meretricious or obviously inferior quality," as my dictionary defines "schlock," might be a handicap.

What architects ostensibly offer the world, in return for their fees, is quality: built environments that work well, are durable, and please the senses. It is no secret, however, that much of what gets built these days – everywhere in the world – is pretty schlocky. Much of the recent architecture we could see on the blocks right around the Washington Convention Center where the architects were meeting involved shoddy, vulgar imitations of other, grander buildings. Their walls are so paper thin, their borrowed motifs so diagrammatic, the scale of their detail so unrelated to any meaningful experience of the user, their formal pretensions so obviously meant to earn a quick buck that they perfectly fit the definition of schlock. Clearly, this is the kind of inferior merchandise that does little for society and little to enhance the prestige of architects (though it obviously must yield significant fees).

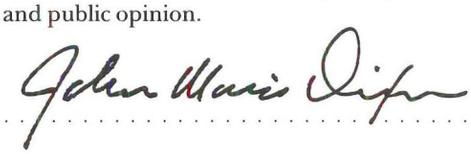
Why, then, should we not have a justifiable fear of such schlock? Because we could learn some valuable lessons by confronting such work, examining it, determining how it satisfies the desires of its clients, and whether it pleases the public – which clearly does not always interpret these qualities the way professionals do. (Notwithstanding divergent opinions within the profession, I suspect that 90 out of 100 architects would agree on which work is schlock.) Hardly any such study is done, at least consciously, and P/A cannot claim to have shed much light on this subject – not since our Taste in America issue of June 1978, which effectively addressed popular symbolism and the appeal of glitz.

What I inferred from Moore's brief reference here was that the lessons we could learn from a dispassionate examination of schlock could be incorporated wisely in what our best architects do. Moore's own work clearly embodies such lessons – not by being schlock itself, but by giving the public the kind of bold archways and columns, polychromed ornament, and even neon that have traditionally been used to make buildings look ritzy. Sometimes, Moore's applied ornament gets almost flimsy, and the allusion to schlock veers perilously close to the real article. Moore must have occasionally felt a provocative premonition of schlock, if not a morbid fear.

Of course, Robert Venturi, Denise Scott Brown, and their collaborators have been urging architects for years to learn from Las Vegas and Levittown, and from Main Street, which is "almost all right." These have been examined as the products of popular impulses, largely untrammeled by professional dogma, but in contemporary America such places have been heavily tainted by the sleazy motives that produce schlock.

Notwithstanding the great number of currently identifiable design movements, today's leading architects can be divided into two camps by the fear-of-schlock test. Some are willing to risk tackiness or glitziness by adopting elements of either naïve pop imagery or professional schlock design (not at all the same; in fact the professional schlock-mongers borrow their motifs mainly from high-design sources). Frank Gehry, for instance, fits so uncomfortably into the (dubious) category of Deconstructivism in part because he borrows freely from the world of pop symbols and cheap construction components, while the other Decon architects use almost exclusively the abstract forms and materials of mainstream Modernism. While Moore and Venturi, among the Post-Modernists, regularly use pop references and other crowd-pleasing devices, Graves and Stern do so only on Disney commissions.

There is no prescription to be written out here. Probably the design attitude should vary with the situation. Moore did not use neon at the Sea Ranch; Gehry is unlikely to use chainlink on the Los Angeles concert hall. But the position of high-design architects is probably too Olympian, on the whole, too far removed from the reactions of the person on the street. Empirical study of today's plentiful schlock – and of innocent vernacular work, where it can still be found – could help bridge the chasm that still yawns between professional design judgment and public opinion. ■



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# Views



### Exploitation Meets Demographics

Our profession, like some species of fish, is known to consume its offspring. Thomas Fisher's editorial in the May issue (p. 9) painted an all too accurate picture of the exploitative nature of our apprentice system. This treatment of interns, however, will not continue. The reason is demographics.

The postwar baby boom assured American industry a continuous supply of young workers to fill our drafting rooms. Now the baby bust generation is entering a market with more chiefs than Indians. Some lower level positions may be eliminated with automation, but when the labor supply falls behind demand the twentysomething crowd will still be in a stronger negotiating position than their predecessors. Baby Boomers, now employers rather than employees, will have to recognize that it is a new game. Competition for labor will allow interns to demand improved working conditions and compensation. The architecture firms who will flourish in this new environment will be those who appreciate their employees for the valuable resource they are. In these offices, a strategy of employee empowerment will replace exploitation, and interns will become team members rather than minnows.

*Regan Young, AIA*
*Regan Young Architects, PC*
*Hainesport, New Jersey*

### Aggressive Architecture?

Your excellent March issue on Architects and the environment almost made up for your February coverage of Zaha Hadid's aggressive and violent interiors in Japan (pp. 64–69). Sadly, the widespread fascination in critical circles with terrorized Modernism does not bode well for those of us struggling with the real problems of design for livable cities and human comfort.

In the interest of diversity, these photogenic trends should be given coverage. Yet, all the sharp, menacing angles and the spiky, metallic planes lead me to wonder about the kind of public spaces our cities would have if these stylists were let loose. Forbidding and unstable, these places would further alienate the average citizen, already brutalized by urban crime, poverty and incivility.

Social responsibility is not very fashionable among architects who conveniently hold up the failed optimism of the Modern Movement as a disclaimer. It is ironic that they have appropriated and subverted the images of Modernism, turning the dreams of Utopia into artful objects poised to impale. Are these the kinds of buildings we want for the cities of the future? Are these places we can ingrain in our collective memories to form social bonds?

*Raul A. Rosas, Architect*
*New York*

### Phoenix Oasis Clarification

The Urban Oasis project in Phoenix (P/A, March 1991, p. 97) is still very much alive, with NBBJ as the architect, in association with Larry Medlin (faculty architect, University of Arizona), and the Environmental Research Laboratory. Having passed Phoenix Design Committee review, it is scheduled to be bid early this summer.

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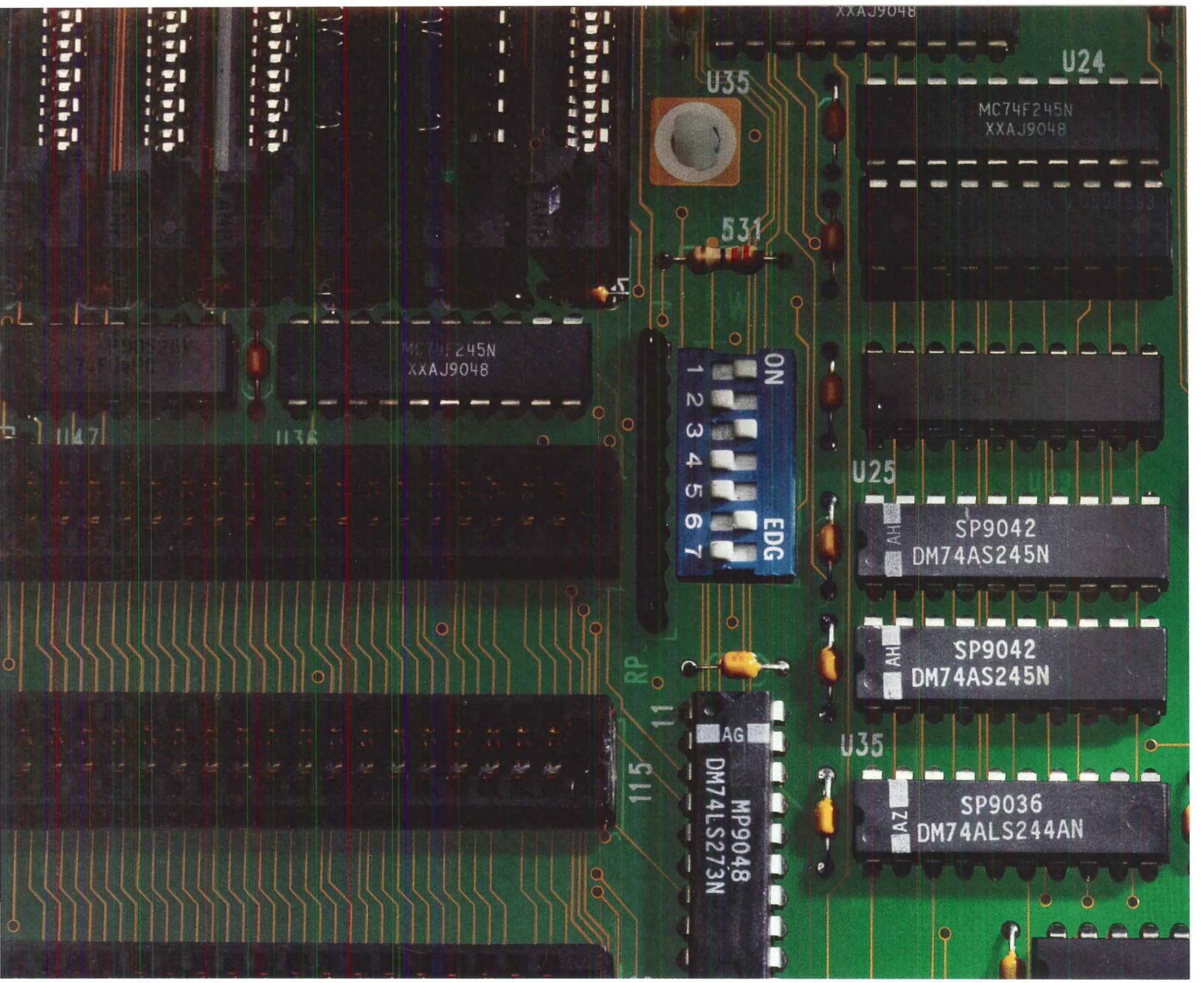


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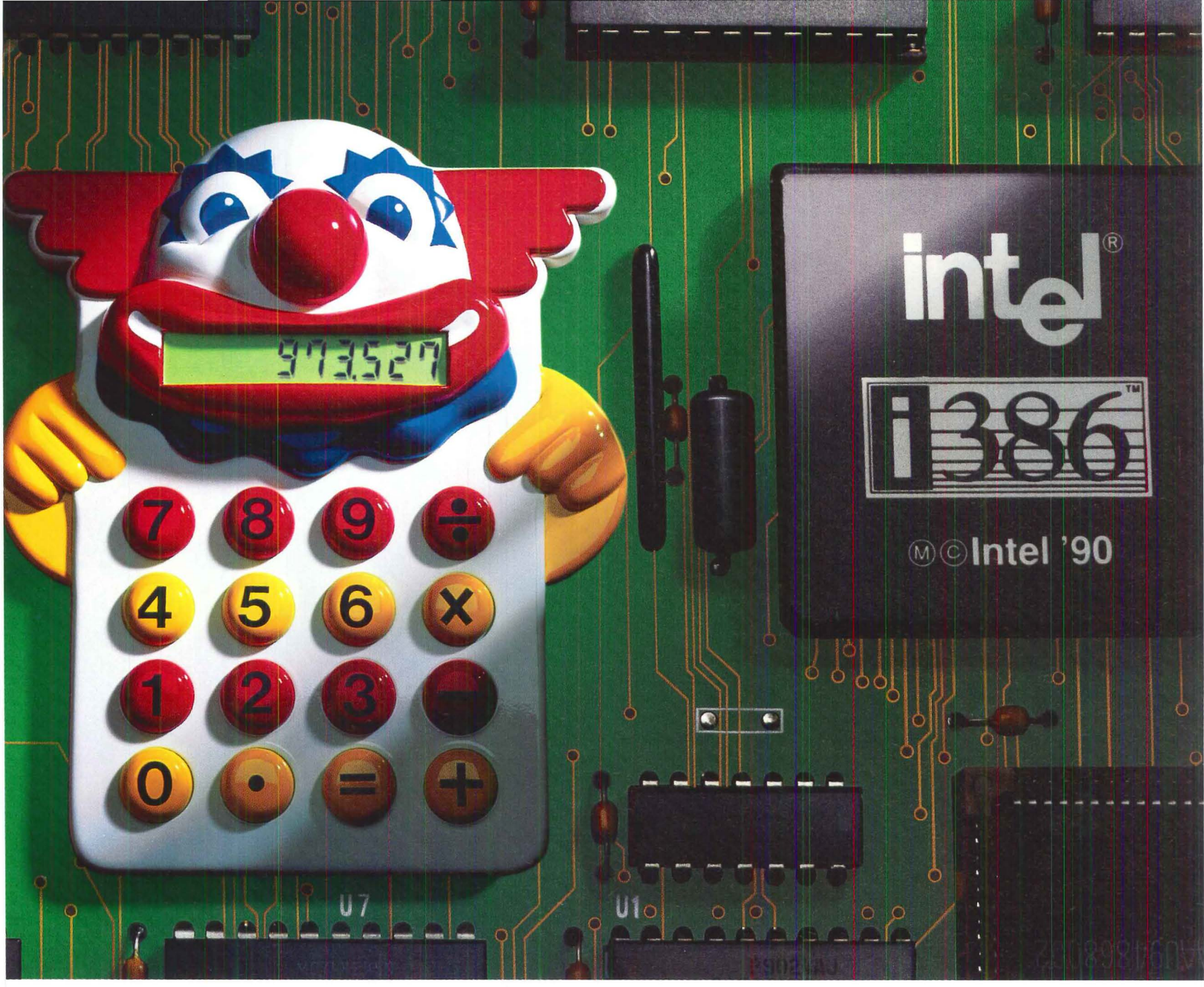


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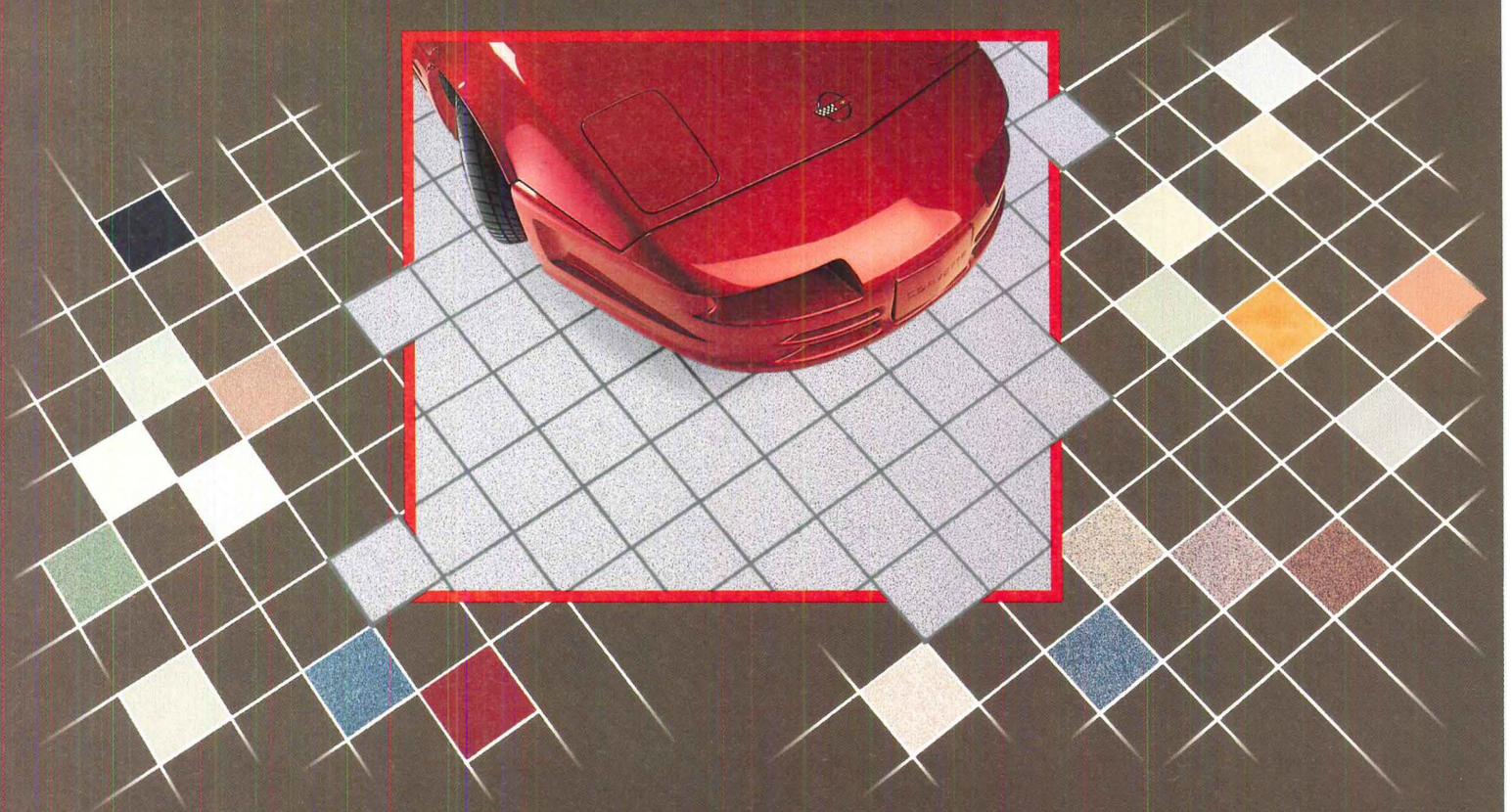

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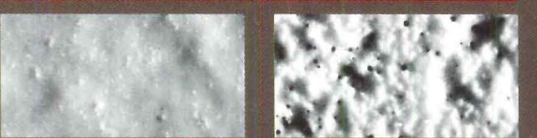

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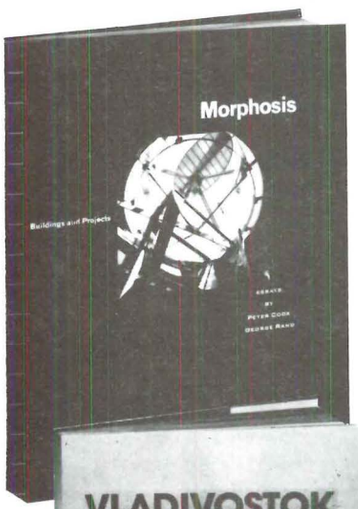


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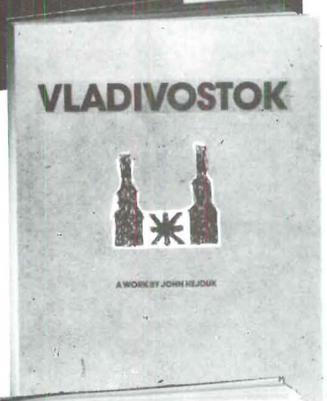


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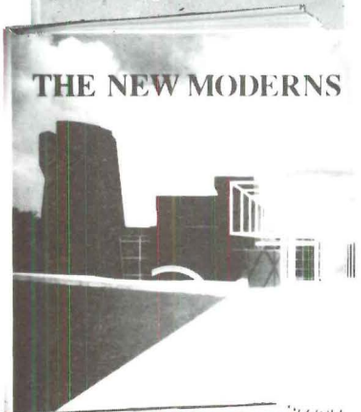


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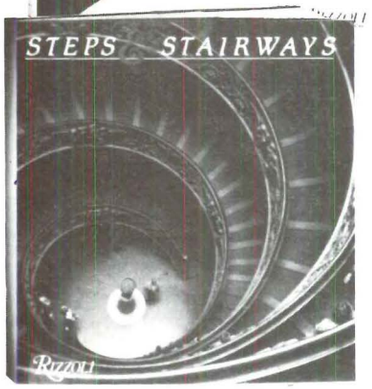


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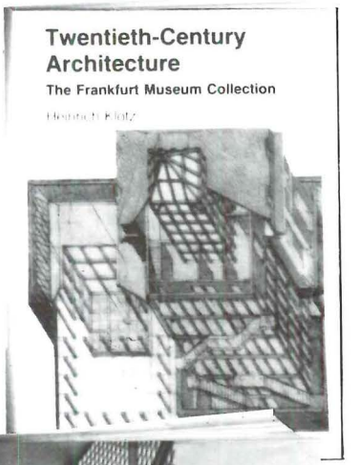


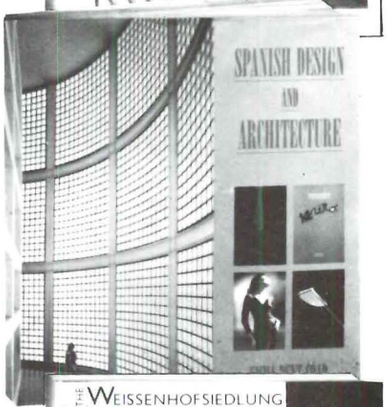


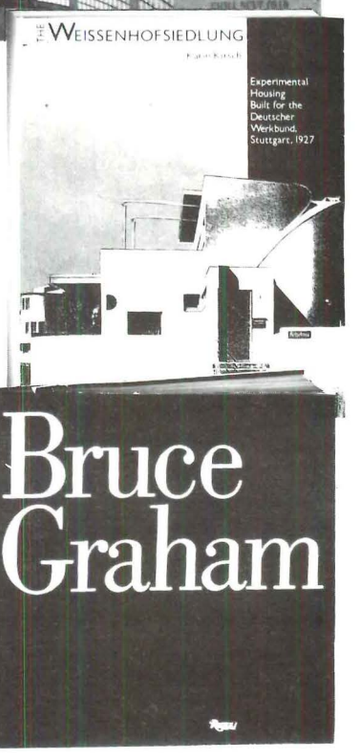


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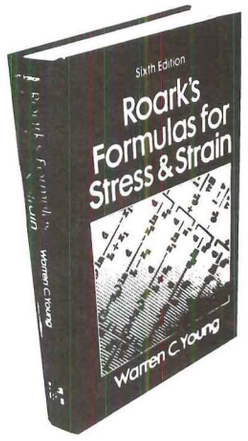


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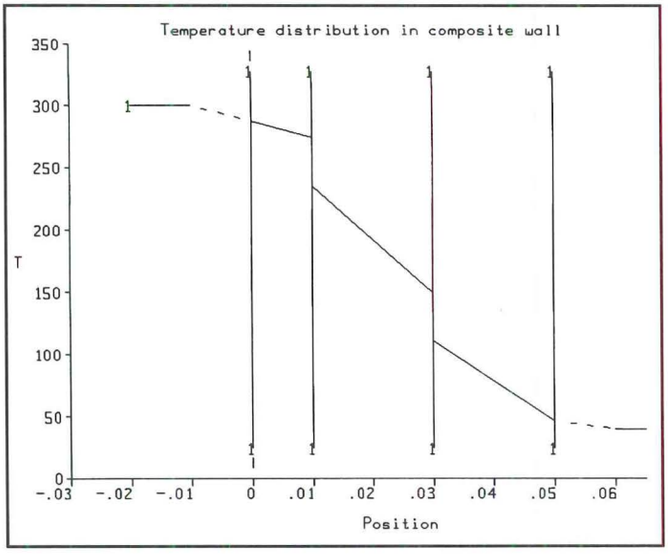


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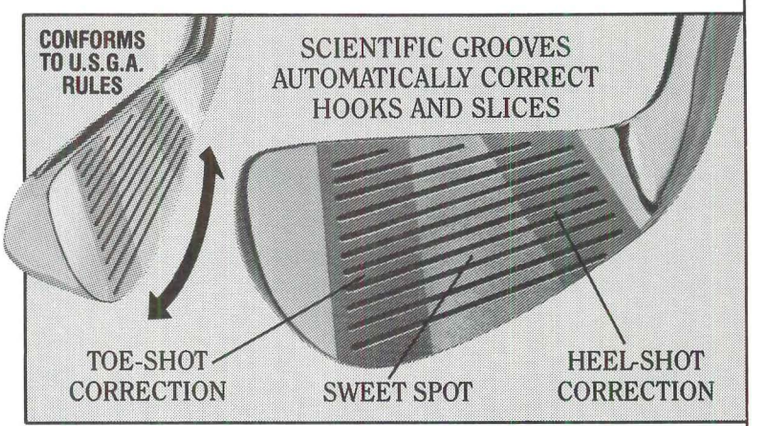


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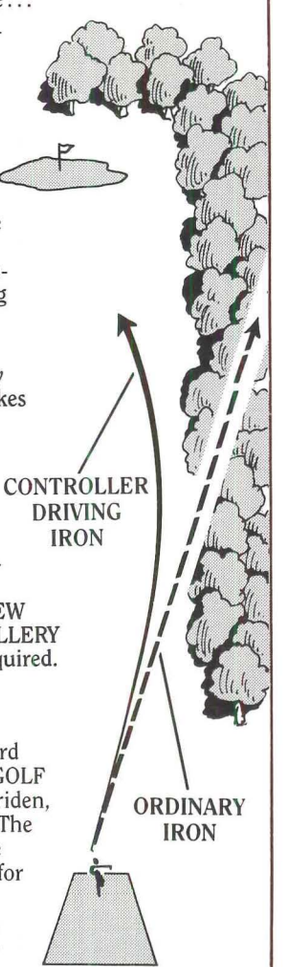


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39TH ANNUAL COMPETITION FOR PROJECTS NOT YET COMPLETED

# P/A Awards Program

Architecture
Urban Design
Research

## Jury for the 39th P/A Awards

**Progressive Architecture** announces its 39th annual P/A Awards program. The purpose of this competition is to recognize and encourage outstanding work in architecture and related environmental design fields before it is executed. Submissions are invited in the three general categories of architectural design, urban design, and architectural research. Designations of first award, award, and citation may be made by the invited jury, based on overall excellence and advances in the art.

**Architectural Design**
*Steven Holl*, AIA, Principal, Steven Holl Architects, New York, and Professor, Graduate School of Architecture and Planning, Columbia University;
*Diane Legge Kemp*, FAIA, Consultant/Landscape Architecture, Decker & Kemp Architecture and Urban Design, Chicago, and Adjunct Advisor, University of Illinois, Urbana-Champaign;
*Wolf D. Prix*, Principal, Coop Himmelblau, West Los Angeles and Vienna, Adjunct Professor, Southern California Institute of Architecture, Santa Monica, and Professor, Hochschüler für Angewandte Kunst, Vienna;
*Stanley Saitowitz*, Principal, Stanley Saitowitz Office, San Francisco, and Professor, University of California, Berkeley.

**Urban Design**
*Gregory S. Baldwin*, FAIA, Partner, Zimmer Gunsul Frasca Parnership, Portland, Oregon;
*Jorge Silvetti*, Principal, Machado-Silvetti Associates, Inc., Boston, and Nelson Robinson, Jr., Professor Of Architecture, Harvard Graduate School of Design, Cambridge, Massachusetts.

**Research:**
*John Archea*, Associate Professor, State University of New York, Buffalo;
*Tom Peters*, Director, Institute for the Study of the High Rise Habitat and Professor of Architecture and History, Lehigh University, Bethlehem, Pennsylvania.

**Judging** will take place between September 27 and October 4, 1991. Winners will be notified, confidentially, before October 31. Public announcement of winners will be made at a ceremony in New York in January 1992, and winning entries will be featured in the January issue of P/A. Clients, as well as professionals responsible, will be recognized. P/A will arrange for coverage of winning entries in national and local media.

*Turn page for rules and entry forms.*

DEADLINE FOR SUBMISSIONS: SEPTEMBER 6, 1991

## Entry form: 39th P/A Awards Program

Please fill out all parts and submit, intact, with each entry (see paragraph 14 of instructions). Copies of this form may be used.

**Entrant:**
**Address:**
**Credit(s) for publication** (attach additional sheet if necessary):

**Entrant phone number:**
**Project:**
**Location:**
**Client:**
**Client phone number:**
**Category:**

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I certify that the submitted work was done by the parties credited and meets all Eligibility Requirements (1-7). All parties responsible for the work submitted accept the terms of the Publication Agreement (8-9). I understand that any entry that fails to meet Submission Requirements (10-18) may be disqualified. Signer must be authorized to represent those credited.

**Signature** _____

**Name** (typed or printed): _____

**Awards Editor/Progressive Architecture**
600 Summer Street, P.O. Box 1361, Stamford, CT 06904
**Project:**
Your submission has been received and assigned number:

**Entrant:**
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**Receipt:**

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**Entrant:**
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### Eligibility

**1** Architects and other environmental design professionals practicing in the U.S. or Canada may enter one or more submissions. Proposals may be for any location, but work must have been directed and substantially executed in U.S. and/or Canadian offices.
**2** All entries must have been *commissioned, for compensation, by clients with the authority and the intention* to carry out the proposal submitted. In the case of design competitions, the submitted design must be the one the client intends to execute. (For special provision in Research category only, see Item 6.)
**3** Prior publication does not affect eligibility.
**4** Architectural design entries may include only buildings and complexes, new or remodeled, that are scheduled to be completed after January 1, 1992. Indicate *schedule* on synopsis page (Item 12).
**5** Urban design entries must have been accepted by a client who intends to base actions on them. Explain *implementation plans* on synopsis page (Item 12).
**6** Research entries may include only reports accepted by the client for implementation or research studies undertaken by entrant with intention to publish or market results. Explain basis of eligibility on synopsis page (Item 12).
**7** The jury's decision to premiate any submission will be contingent on verification by P/A that it meets all eligibility requirements. For this purpose, clients of all entries selected for recognition will be contacted by P/A. P/A reserves final decision on eligibility and accepts no liability in that regard. Please be certain entry meets above rules before submitting.

### Publication agreement

**8** If the submission should win, the entrant agrees to make available further graphic material as needed by P/A.
**9** In the case of architectural design entries, P/A must be granted the first opportunity among architectural magazines for feature publication of any winning project upon completion.

### Submission requirements

**10** Entries must consist of legibly reproduced graphic material and text adequate to explain the proposal, *firmly bound* in binders no larger than than 17" in either dimension (9" x 11" preferred). No fold-out sheets; avoid fragile spiral or ring bindings. Unbound material in boxes, sleeves, etc., will *not be considered.*
**11** No models, slides, films, or videotapes will be accepted. Original drawings are not required, and P/A will accept no liability for them.
**12** Each submission *must include* a one-page synopsis, in English, on the first page inside the binder, identifying the project and location, clarifying eligibility (see Item 4, 5 or 6), and summarizing principal features that merit recognition in this program.
**13** To maintain anonymity, no names of entrants or collaborating parties may appear on any part of submission, except on entry forms. Credits may be concealed by any simple means. Do *not* conceal identity and location of projects.
**14** Each submission must be accompanied by a signed entry form, to be found on this page. Reproductions of this form are acceptable. All four sections of the form must be filled out, *legibly*. Insert entire form, intact, into unsealed envelope attached inside back cover of submission.
**15** For purposes of jury procedure only, please identify each entry as one of the following: *Education, Houses (Single-family), Housing (Multiple), Commercial, Industrial, Governmental, Cultural, Recreational, Religious, Health, Urban Design, Applied Research*. Mixed-use entries should be classified by the larger function. If unable to classify, enter *Miscellaneous.*
**16** Entry fee of $90 must accompany each submission. An early submission fee of $75 per entry will be accepted for entries dispatched (with postmark or other evidence) by August 19. (Canadian office please send drafts in U.S. dollars.) Fee must be inserted in *unsealed* envelope containing entry form (Item 14, above). Make check or money order (no cash, please) payable to *Progressive Architecture.*
**17** P/A intends to return all entries intact, but can assume no liability for loss or damage.
**18** Deadlines for sending entries is September 6, 1991. Deadline for early-submission fee is August 19 (Item 16). Entries must show postmark or other evidence of being en route by midnight, September 6. *Entries must be received* at P/A on or before September 27 to be eligible. P/A accepts no liability for the failure of any carrier to deliver entry to this address by that date. Hand-delivered entries must be received at street address shown here, 6th floor reception desk, by 5 p.m. on September 6 (August 19 for early submissions).

### Pointers for submission

*based on recent jurors' observations.*

- *Document site and surroundings with photos and drawings.*
- *For additions and remodelings, clearly indicate old and new.*
- *If design projects involved substantial research, explain it concisely.*
- *For research entries, indicate applicability to design.*
- *For buildings and urban design, give basics of funding, rental of space, etc., as applicable.*

### Deadline summary

*August 19*: Early entry deadline (Item 16) – out of entrant's hands before midnight, as shown by postmark or other evidence on entry.
*September 6*: Regular entry deadline – same conditions as above; hand-delivered entries must be at P/A (Item 18) by 5 p.m.
*September 27*: Must be in P/A's hands, regardless of method of delivery.

*Deadlines are strictly enforced.*

### Address entries to:

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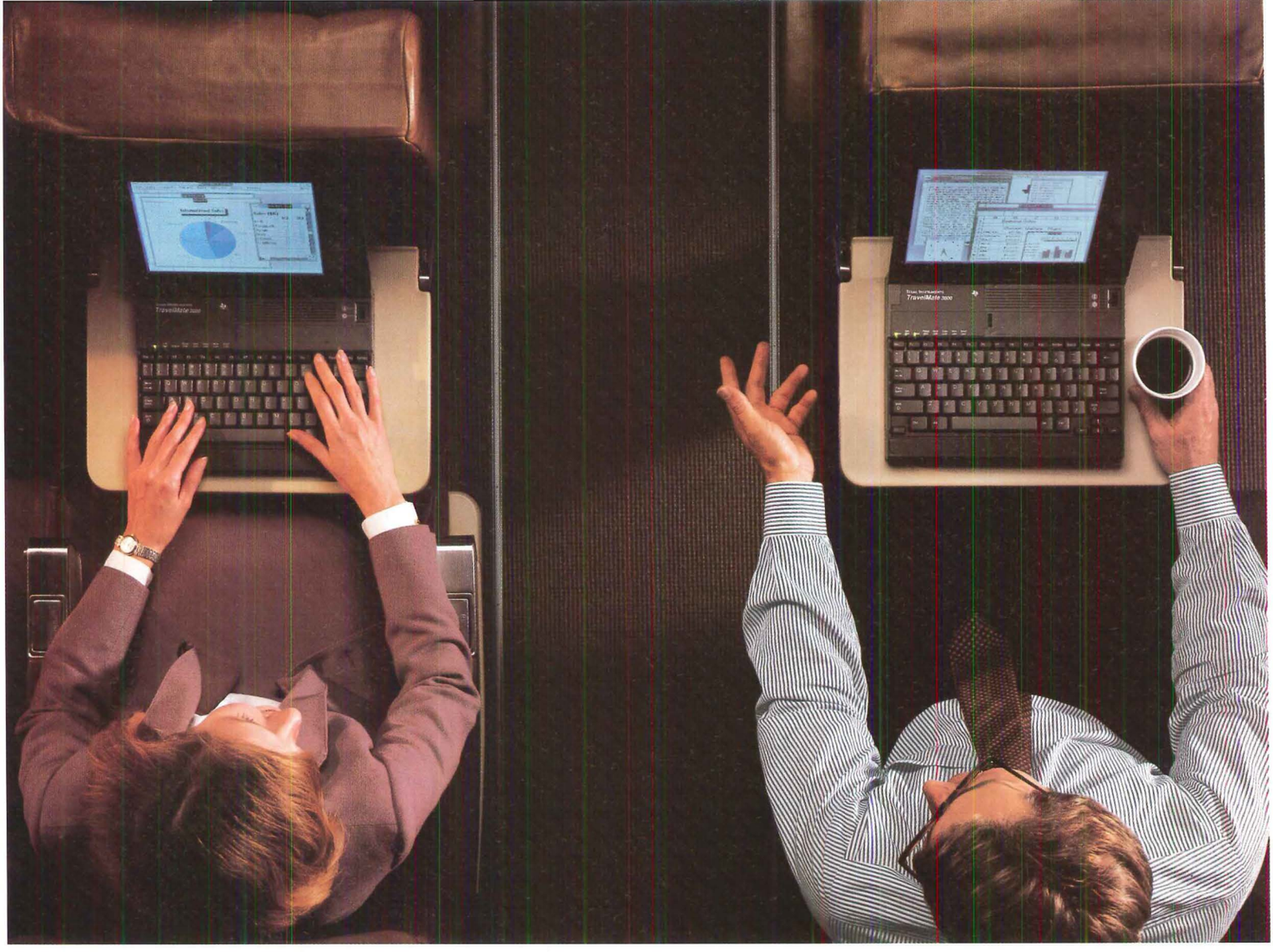
Stamford, CT 06904



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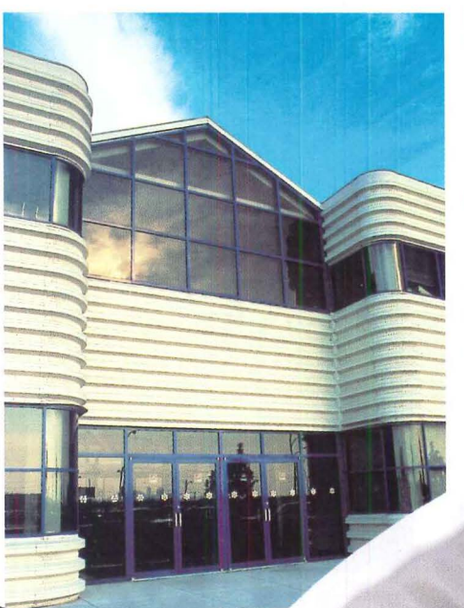

**Facility Maintenance Complex, Newark International Airport**

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L.A. Aerial Photography

*New additions to L.A.'s skyline: 777 Tower (far left), Sanwa Bank Plaza (middle left, with octagonal top), and First Interstate World Center (tallest, middle right).*

**At its annual convention, the AIA chooses its first woman president-elect. Report on page 27.**

### New Towers Crown Los Angeles Skyline

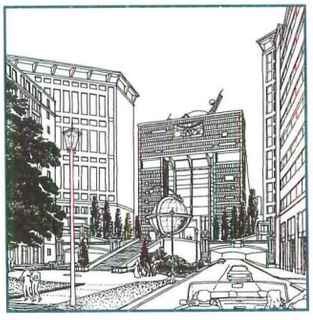
Three new office towers in Downtown Los Angeles are raising the design ante, as well lending a new coherence, to what was formerly a scattered group of unremarkable buildings.

Most prominent of the new buildings is the 73-story First Interstate World Center by Harry Cobb of Pei Cobb Freed & Partners, in association with Ellerbe Becket, Inc. Besides being the tallest building in California, the cylindrical First Interstate has also displaced John Portman's Westin Bonaventure Hotel as the postcard building of Downtown L.A. The developer, Maguire Thomas Partners of Santa Monica, was able to build at above-normal height and density, thanks to air rights granted by city officials in exchange for a $49-million contribution to the renovation of Bertram Goodhue's 1926 Los Angeles Central Library. Resembling a telescope in faceted white and gray granite, First Interstate makes its best impression from a distance; critics contend the building looks bland and underdetailed up close. The lobby, with a wraparound mural by David Hockney, is surprisingly small, making a visit to the biggest building in town seem anticlimactic.

The best part of First Interstate, arguably, is the set of steps outside the building, leading up from the library to Bunker Hill. Designed by Lawrence Halprin of San Francisco, the steps are not completely satisfying in themselves. The classical arches seem contrived, and an attempt to hide escalators running alongside the stairs makes a vice of necessity. Yet such considerations seem to matter little in the urban design context, since the stairs remedy a long-standing need for a pedestrian connection between the different levels of Downtown. The Halprin steps are a welcome amenity in a city that is among the least pedestrian-friendly in the country; they pull together the fragments of Downtown, making the area seem at once smaller and more accessible.

Another recently completed building, the 52-story Sanwa Bank Plaza, attempts to provide downtown with an Art Deco building. Architects at Albert C. Martin & Associates twisted the building 45 degrees off the downtown grid, enhancing visibility and creating triangular plazas the developer promises to fill with cafe tables. The building is rich in detail, if not subtlety: Two enormous entrance lobbies – the tallest is 82′ – bulge outward from the base. Inside, the lobby is covered with three different shades of marble.

Perhaps most successful is the 777 Tower, designed by Cesar Pelli in association with Langdon Wilson Architects. Pelli has described the tower as "a Los Angeles building," since the light color recalls the white buildings of an earlier era, most notably City Hall. The elevation avoids stone alto-



**Steven Peterson's competition-winning proposal for Montreal (above) evokes the figure-ground patterns of European cities. Projects, page 113.**

## Pencil Points

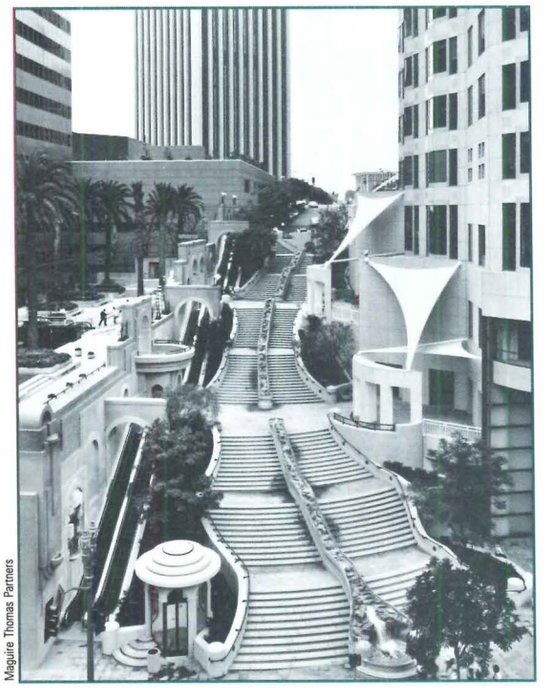
**Josef Paul Kleihues of Berlin (P/A, May 1990, p. 85) has been selected to design a new building and sculpture garden for the Museum of Contemporary Art in Chicago. The museum, to be completed in 1995, will occupy the two-acre site where the Chicago Avenue Armory now stands.**

**The competition-winning design by Barton Myers for the U.S. Pavilion at the Seville World's Fair (P/A, Aug. 1989, p. 19; Feb. 1991, p. 90) has been abandoned by the U.S. Information Agency because of budget woes. A USIA spokesperson says that that the agency will bring two geodesic domes out of storage to house its exhibits. Carlos Langdon of Madrid is architect-of-record for the new scheme, which retains the water wall and tracking sails of Myers's design.**

**British journalist and critic Janet Abrams has been named director of the Chicago Institute for Architecture and Urbanism (a spin-off of the Skidmore, Owings & Merrill Foundation, see P/A, April 1989, p. 79). Abrams replaces founding director John Whiteman.**

**The American Academy and Institute of Arts and Letters has named Tadao Ando as recipient of the Arnold W. Brunner Memorial Prize; Boston architects Rodolfo Machado and Jorge Silvetti have won the first Academy-Institute Award in Architecture.**

**The Partnership for the Homeless, an interfaith, nonprofit organization dedicated to sheltering New York City's homeless population, has launched a new program called Furnish a Future. The program calls upon the furniture industry and the public to donate goods for the homes of "newly located, formerly homeless families." Contact Furnish a Future (718) 875-5353.**



Maguire Thomas Partners

*Lawrence Halprin's steps alongside First Interstate.*

gether, opting instead for an aluminum exoskeleton with curved vertical ridges. These result in seemingly changing bay widths that play an optical game, making both convex and flat elevations appear curved. In the simply detailed lobby, the elevator bank is covered with red marble to startling effect.

High-rise buildings are a comparatively recent phenomenon in downtown Los Angeles, where the 28-story City Hall was the only building permitted to rise above 150 feet until the 1950s. Construction gathered momentum in the late 1970s, when the Los Angeles Community Redevelopment Agency encouraged the construction of office buildings, in part by displacing a residential community on Bunker Hill and conveying the land to developers.

The new buildings are the harbingers of projects likely to change both the appearance and the density of downtown L.A. Currently under construction are buildings by Kenzo Tange, Keating Mann Jernigan Rottet, and Kohn Pedersen Fox. If financing – and vacancy rates – allow, buildings by Keating, Helmut Jahn, and The Architects Collaborative are planned. **Morris Newman** ■

### A New Comiskey Park in the Shadow of the Old

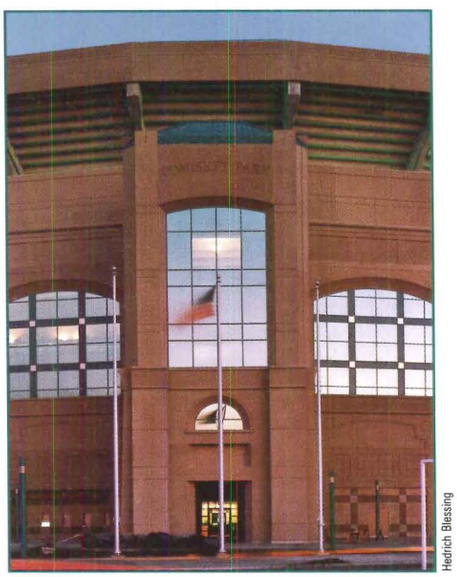
Considered in isolation, the new Comiskey Park on Chicago's South Side isn't bad. Whether it is better than the old Comiskey Park across the street, now being demolished, is debatable.

The new baseball stadium has been controversial. It was approved, along with $35 million in public financing, after the owners of the Chicago White Sox threatened to move the team to another state if they were not given a new park. They got it. To make way for the new Comiskey and more than 7000 new parking places surrounding it, a commercial district and more than two dozen moderate-income family homes were demolished. The stadium and its parking take a total of 115 acres, leaving another wound in the South Side, an area already scarred.

To its credit, the new stadium, designed by the HOK Sports Facilities Group, is a ballpark, unlike the many recent multipurpose arenas where all sports can be played – none of them well. The architects took pains to emulate the old Comiskey's charm. The rose-colored precast concrete exterior suggests the original's unpainted masonry, and the brick arches that marched the circumference of old Comiskey's wall have become arched windows here. The windows are unfortunately obscured by six monstrously scaled switchback ramps.

With seating for 44,000, capacity is roughly the same at the new and old ballparks. Even so, the new Comiskey is at least two stories taller. The greater height accommodates expanded facilities for the players and some of the greatly increased profit-generating amenities, including private restaurants and 90 skyboxes.

As a result, many fans sit up higher and back further from the action of the game than they did



Hedrich Blessing

*Entrance to new Comiskey Park.*

at old Comiskey. In the dizzying, steeply pitched upper decks, fans may take consolation from the unobstructed views in the new column-free park.

It is impossible to ignore the demolition of the ballpark across the street – the oldest in the country and the architects' model for the new stadium. Although some private organizations fought to have it landmarked, it was doomed on the basis of privately commissioned engineering reports that were disputed by city inspectors. Old Comiskey will soon become the site of more surface parking. As for the new park, however well it may function, it is essentially flawed as a result of the bullying sense of urbanism that animated it. **Cheryl Kent** ■

### Architecture in Sculpture at Storm King

Human perception of the built environment – how we are influenced and controlled by its many manifestations – is the subject of "Enclosures and Encounters: Architectural Aspects of Recent Sculpture." The Storm King Art Center, a 400-acre oasis of rolling fields and wooded areas 55 miles north of Manhattan in Mountainville, New York, is the site of this six-artist exhibition.

Dennis Adams, Siah Armajani, Alice Aycock, Donna Dennis, Lauren Ewing, and Dan Graham each offer a different perspective on built-environment issues through architectural constructions; they build using traditional techniques or imply structure with traditional forms and materials. It is, however, impossible to categorize this work other than to say that it is all visually and/or physically participatory.

Dennis Adams uses the very public venue of the bus shelter to present social incongruities. He skews the traditional right angles of this building type and replaces the advertisements normally found in bus shelter lightboxes with photographic images representing social issues. Lauren Ewing also plays on a familiar architectural structure with "The Wilderness Screen" (1985). This two-dimensional colonnade juxtaposes our notions of civilization with the often damaging results of the human hand on the natural environment; the colonnade, reads: "YOU ARE FIGHTING BACK THE WILDERNESS."

Jerry L. Thompson

*At Storm King: Alice Aycock's "Low Building with Dirt Roof (for Mary)" in foreground; Lauren Ewing's "Wilderness Screen" at right.*

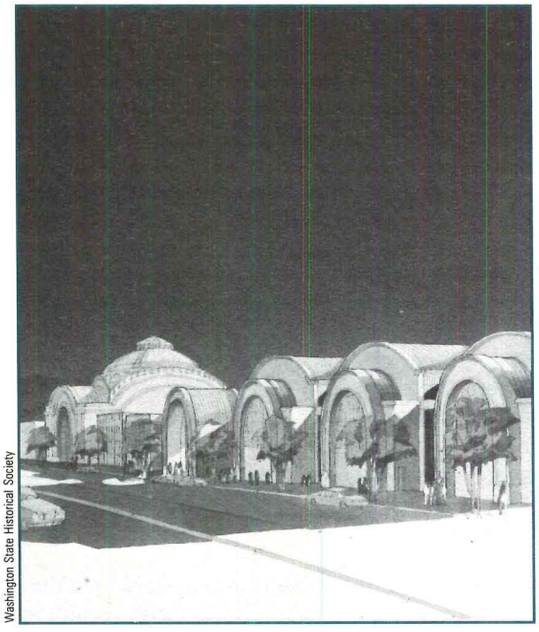
The provocative assemblages in "Enclosures and Encounters" force the viewer to confront the way we shelter ourselves from nature and from each other, and in turn, to confront the political and socioeconomic realities mediating society. The exhibition is on view through October 31. **Abby Bussel** ■

### Moore Wins Museum in Tacoma

Charles Moore, with the firm Moore/Andersson of Austin, Texas, has won an invited competition to design the new Washington State Historical Society Museum in Tacoma. Also competing for the job, which entails adding a two-phase museum building to the city's historic Union Station, were Thomas Beeby of Hammond Beeby Babka, Arthur Erickson, and Michael Graves.

The Moore/Andersson scheme, which proposes a series of vaults fronted with arches that echo the façade of Union Station, was praised by jurors for its "elegance and restraint," and for its legibility from the nearby Interstate 705. The first phase, to begin construction in 1993, includes a monumental entry arch and three bays of vaults; the second phase will add five more bays.

Jurors were: architects Joseph Esherick and Peter Bohlin; former U.S. Senator Daniel J. Evans; critic Allan Temko; University of Washington architecture chair Douglas Kelbaugh; Seattle Center director Virginia Anderson, and Historical Society director David L. Nicandri. ■



Washington State Historical Society

*Moore/Andersson's winning Tacoma scheme.*

### AIA Elects First Woman President at Convention

No one can quite say why, but despite the grim surroundings of the Washington Convention Center and the grim economic climate for architects, this year's AIA Convention – the third largest ever, with 9201 attendees – seemed to leave people feeling good. Perhaps it had something to do with the election of Philadelphia architect Susan Maxman as first vice-president/president-elect: When she takes office as AIA president in December 1992, Maxman will become the first woman to lead the Institute in its 134-year history. Or perhaps it was this convention's air of conscience and progressivism, manifested in substantial discussions on energy, the environment, housing, and discrimination.

Under the umbrella theme "1991 Issues," a succession of speakers challenged architects to respond to social and environmental issues. Amy

*(continued on next page)*

### Wood Design Awards

Jurors in the American Wood Council's annual Wood Design Awards program have recognized 11 projects displaying "an absolute knowledge and respect for wood construction and detail." Three Honor Awards, seven Merit Awards, and a special citation for restoration were conferred by the jury, which included architects Tannys Langdon of Langdon Associates, Chicago; Peter Forbes of Peter Forbes & Associates, Boston; and William Turnbull of William Turnbull Associates, San Francisco. Honor Award winners are:

- McKim House, Fisher's Island, New York, by Centerbrook Architects & Planners, Essex, Connecticut (P/A, Nov. 1990, p. 70);
- First Church of Christ, Scientist, Glendale, California, by Moore Ruble Yudell, Santa Monica, California;

Timothy Hursley

*First Church of Christ, Scientist.*

- The Hartsbrook Waldorf School, Hadley, Massachusetts, by Thompson & Rose Architects, Cambridge, Massachusetts (P/A, July 1990, p. 58).

Merit Award winners are:

- Schmidt House, Seaside, Florida, by Berke & McWhorter Architects, New York;

Steven Brooke Studios

*Schmidt House.*

- Andover Park apartments, Beaverton, Oregon, by Fisher-Friedman Associates, San Francisco;
- Backyard treehouse, Be-

*(continued on next page)*

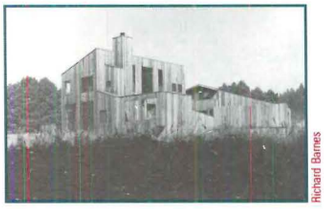
## Wood Design Awards

*(continued from previous page)*

thesda, Maryland, by Glenn/Williams Architects, Baltimore;
- Low-cost housing, Sutton, Massachusetts, by Jonathan Levi Architect, Brookline, Massachusetts;
- House and studio, Sea Ranch, California, by Lyndon/Buchanan Associates, Berkeley, California;
- Allen/Bethea House, Cushing's Island, Maine, by Stevens, Morton, Rose & Thompson, Portland, Maine;
- Boy Scout camp on the Fox River, Illinois, by Tigerman McCurry Architects, Chicago.

Jonathan Levi

*Low-cost housing in Sutton.*



Richard Barnes

*House and Studio at Sea Ranch.*

Bruce Van Inwegen

*Boy Scout camp in Illinois.*

A special citation was given to William R. Dutcher of Berkeley, California for the restoration of a 1908 bungalow in Piedmont, California. ■

## AIA Convention

*(continued from previous page)*

Freeman Lee, billed as an "artist, scholar, and humanist," urged architects to cultivate the "three C's": communication, creativity, and caring. Former RIBA president Rod Hackney, sharing an "In Community" session with Andres Duany and Charles Correa, spoke about "community architecture," the British movement in which architects are helping to reclaim blighted neighborhoods. "I hear architects at this convention complaining about lack of work. You only have to walk two blocks to see the work that needs to be done," he said. Environmental researcher Amory Lovins gave an earnest but overly specific address on energy issues.

Social issues were also raised in smaller sessions, including a seminar on opportunities in affordable housing, a forum on women in architecture, a seminar on discrimination based on sexual orientation, and a presentation by Architects/Designers/Planners for Social Responsibility.

At an awards presentation Friday night, the AIA Honor Awards (P/A, Feb. 1991, p. 22) were presented, along with some previously unannounced prizes:

- Architect John F. Hartray, Jr., of Chicago was given the Edward C. Kemper Award for contributions to the Institute and the profession;
- Architect Robert A. Kennard of Los Angeles received the Whitney M. Young, Jr., Citation for "significant contributions toward meeting the social responsibilities of the nation;"
- The Ellis Island Immigration Museum (P/A, Nov. 1990, p. 23), by New York architects Beyer Blinder Belle and Notter Finegold + Alexander, won the Henry Bacon Medal for memorial architecture; and
- The Bank of China in Hong Kong, by Pei Cobb Freed & Partners and Kung + Lee, won the R.S. Reynolds Award for distinguished architecture using aluminum, administered by the AIA and sponsored by Reynolds Metals.

In official convention business, 16 resolutions were passed, only three of which provoked serious debate. A task-force-driven proposal to restructure AIA membership categories called for special categories for interns who are enrolled in state-approved licensing programs and for people in allied professions and industries. (Many component chapters already have an "allied" or "affiliate" membership category, but these are currently unrecognized by the national AIA.) Other controversial resolutions included a call for a single national building code and a proposal to consider mandatory continuing education for AIA members.

*Susan Maxman, new president-elect, addresses AIA convention.*

Photos: Oscar & Associates

*Investiture of new AIA Fellows at Jefferson Memorial.*

Besides Maxman, the new officers elected are treasurer Michael E. Bolinger, Baltimore; and vice-presidents Philip T. Markwood, Columbus, Ohio; Thomas L. McKittrick, Houston; and Robert S. Woodhurst, Augusta, Georgia.

**Mark Alden Branch** ■

*Additional reporting by John Morris Dixon, Jim Murphy, and Thomas Vonier.*

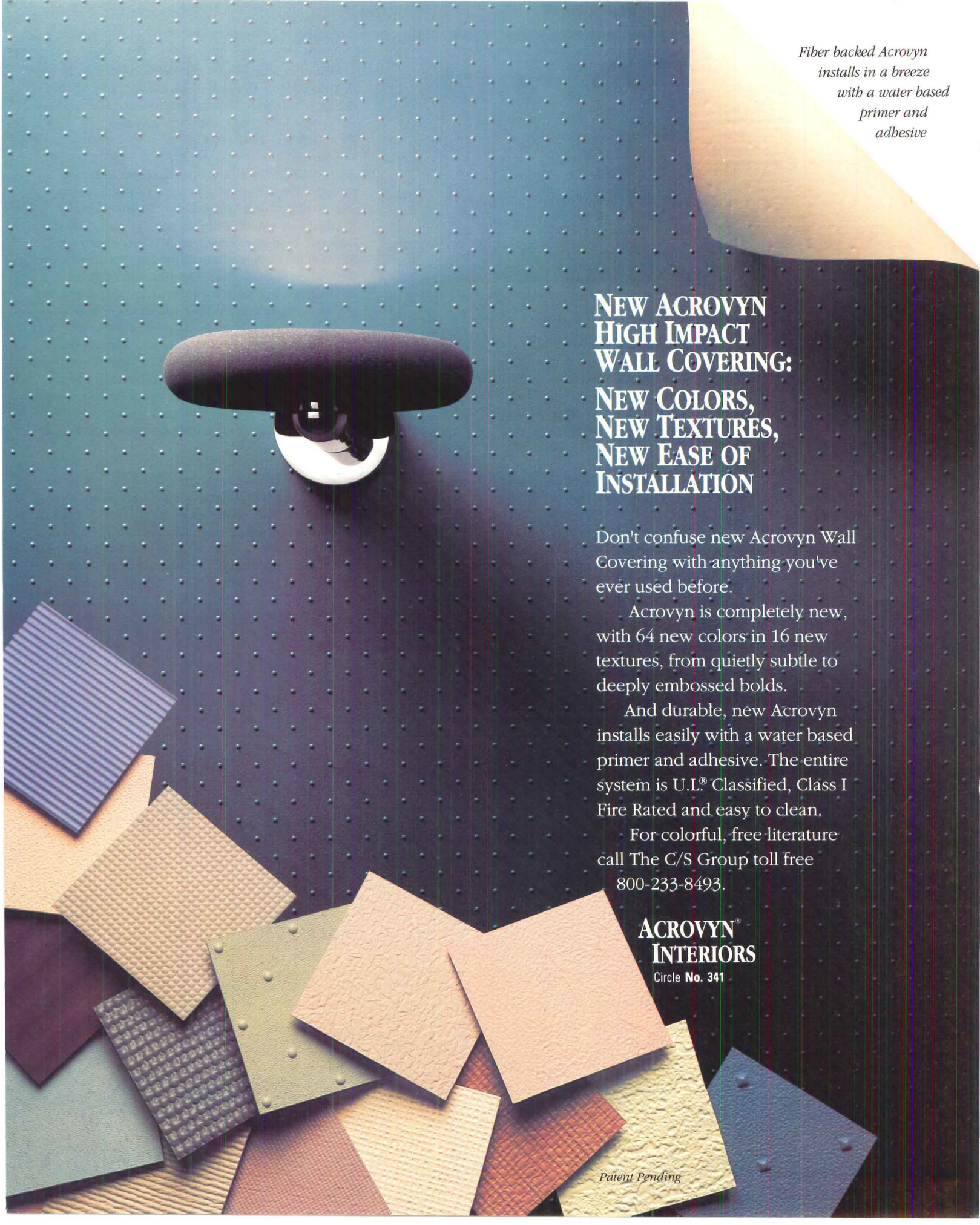
## Saarinens' Smithsonian Drawings Retrieved

As reported in the *Washington Post* in January, the finding was an adventure: discovery by a conscientious Federal employee of a half-century-old stack of architectural drawings scheduled for disposal; a telephone call to the Smithsonian's Senior Architectural Historian; a race through a snowstorm in a requisitioned car; and finally, the retrieval from a General Services Administration warehouse of virtually the entire set of panels from the first stage in the 1939 Smithsonian Gallery of Art Competition, as well as the missing second-stage drawings by winners Eliel and Eero Saarinen.

Dr. Mina Marefat, historian at the National Museum of American History, has established that the cache includes 29 of the 30 drawings submitted in both stages. She has subsequently located a further set of preliminary studies by Paul Philippe Cret, the senior of the group, whose second-stage drawings remain missing. The drawings will receive badly needed conservation, out of which may grow an opportunity to evaluate once again the significance of the controversial designs.

The Smithsonian competition was a critical event in American architecture, as was recognized by James Kornwolf in his important exhibition of 1985 at the College of William & Mary, "Modernism in America 1938 – 1941." The Saarinen model

*(continued on page 30)*



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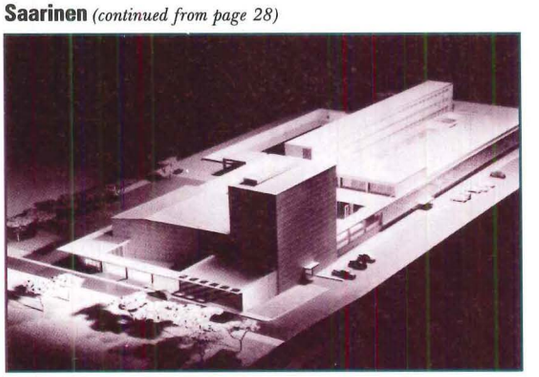
**Saarinen** *(continued from page 28)*



*Model of Saarinen's Smithsonian entry; drawings are undergoing restoration.*

of the Smithsonian design had survived and was displayed, but as Kornwolf lamented, "The records that do survive from the Smithsonian competition are scattered and fragmentary; others may be permanently interred in unlocatable files in government warehouses."

The competition, and the awarding of first place to a decidedly "Modern" design, exposed a stylistic debate which lingers today. At the time, the Saarinens' entry was viewed as a repudiation of John Russell Pope's National Gallery of Art, then being constructed. Critic Lorimer Rich, writing in the August 1941 *Pencil Points* (predecessor to P/A) concluded, "The future of a strong, courageous American architecture seems to lie in the direction of the Smithsonian rather than in that of the National Gallery." Had the Smithsonian Gallery been built, the Mall would have boasted the largest example of the International Style in America. Although an Act of Congress authorized payment for the Saarinen model, construction funding was never provided.

The debate of style remains alive, even as Washington, D.C., evidences a new generation of buildings flirting with tradition. Assembling the developmental record of the Smithsonian competition into an exhibition could provoke new speculation on what might have been a historic American Modern monument. **Peter C. Papademetriou** ■

### Architects Look for California at Monterey

An identity crisis of sorts underlay the theme of the 1991 Monterey Design Conference, "Will the Real California Architecture Please Stand Up?" which took place in March. The question inquired into the fundamental nature and meaning of California architecture, and prodded architects to examine their role at a time of rapid change in California's patterns of urbanism and population.

The first difficulty in examining "real" California architecture is to separate it from the imaginary California, a place with a firm hold on the American imagination. Often, the real fails to measure up to the imaginary, as in the recreation

of Hollywood Boulevard at Walt Disney World in Florida (P/A, Oct. 1990, p. 80), where tourists may find copies of historic buildings more enchanting than the originals. "The Hollywood Dream is really tarnished today," said Bob Weis of Disney Imagineering.

The real California, of course, has a 200-year history of buildings ranging from the missions of Junipero Serro to the work of such avant-gardists as Frank Israel, who showed recent projects for houses and offices he described as "cities within cities." Regional architecture continues to be a source for architects such as Michael Graves, who cited the San Juan Capistrano mission as an inspiration for his library in the same city, while William Warkentin and Stephen Wraight followed the examples of Bernard Maybeck, Irving Gill, and the traditional California bungalow in their seaside housing tract in Long Beach. Canadian architect and author Witold Rybczynski argued, however, that regionalism was incompatible with "dynamic societies" of rapid cultural and technological change. Veteran Bay Area architect Joseph Esherick agreed. "Historicism seems particularly ill-fitted for California. . . I sometimes feel the promoters of historicism are seeking some final solution where a new fundamentalism will dominate everything."

Change is a truism for California cities, which could be described as incessantly expanding suburbs. California, in fact, is the progenitor of the "new standard form of the American city," according to *Washington Post* writer Joel Garreau, who proclaimed the emergence of the "edge city," an economically self-contained suburb with housing, shopping and jobs. Too often, however, these suburbs are unsocial environments lacking in public space, where circulation breaks down into a tangle of cul-de-sacs. For Craig Hodgetts, California architecture has become "too infatuated with design values; we should turn our skills to repairing community," adding that he was "very distressed over increasing privatism and the absolute neglect of the public realm." Peter Calthorpe (P/A, May 1989, p. 88) explained his attempt to bring urban virtues in the form of "pedestrian pockets" to the emerging-edge city of Laguna West, while Douglas Gardner of developer Maguire Thomas Partners showed how Calthorpe's ideas, among others, may bring urban coherence and small-town densities to Playa Vista, the largest undeveloped portion of metro L.A.

Most conferees, including Esherick, agreed that California's people, climate, and economy were too diverse to allow a simple definition of California architecture. For him, "the real California architecture is alive and vital – seriously grappling with the world about us, with reality. It is too dynamic and too varied to be subject to any material definition. The only definitions are moral and spiritual." **Morris Newman** ■

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# Calendar

## Exhibitions

**The New Furniture**
Through August 4

**New York.** "Explorations II: The New Furniture" is an exhibition of 11 artists who attempt to redefine furniture with unconventional materials and innovative design. American Craft Museum.

**Roberto Burle Marx**
Through August 13

**New York.** "The Gardens and Parks of Roberto Burle Marx" examines the Brazilian landscape architect's 50-year career.
Museum of Modern Art.

**McKim, Mead & White**
Through August 18

**New York.** Work by the legendary firm is on view. The New-York Historical Society.

**What Modern Was**
Through August 25

**Los Angeles.** "Design 1935–1965: What Modern Was" is a thematically organized exhibition of furniture, ceramics, textiles, graphics, metalware, and jewelry chronicling one of the most prolific periods of the century. The contents of this traveling show are from the Musée des Arts Décoratifs de Montréal.
Los Angeles County Museum of Art.

**Stanley Saitowitz**
Through August 25

**San Francisco.** In "Geological Architecture," Saitowitz's theory of site and structure as a formation of geology is symbolically realized with an installation of 20 models floating on a glass, wood, and steel structure. The show was designed for the Walker Art Center's Architecture Tomorrow series. Museum of Modern Art.

**A Design Resource**
Through August 30

**New York.** "The Cooper-Hewitt Collections: A Design Resource" celebrates the museum's history and holdings. Cooper-Hewitt.

**Mediterranean Revival Architecture**
Through September 1

**Fort Lauderdale, Florida.** The history and development of Mediterranean Revival Architecture is examined from its heyday in the 1920s to the present. Historical Society.

**Mondo Materialis**
Through September 2

**Washington, D.C.** This traveling exhibition of collage panels by architects and designers was produced by the Steelcase Design Partnership.
National Building Museum.

**Architectural Sculpture**
Through October 31

**Mountainville, New York.** "Enclosures and Encounters: Architectural Aspects of Recent Sculpture" (see page 27) includes 12 pieces by six artists: Dennis Adams, Siah Armajani, Alice Aycock, Donna Dennis, Lauren Ewing, and Dan Graham. Storm King Art Center.

## Competitions

**Precast/Prestressed Concrete**
Submission deadline July 31

**Chicago.** The Precast/Prestressed Concrete Institute has announced its 1991 Design Awards and Industry Advancement Competitions. Architects, designers, and engineers may submit general structures or bridges in the U.S. or Canada that use plant-manufactured precast/prestressed concrete or architectural precast concrete. Contact Precast/Prestressed Concrete Institute, 175 West Jackson Blvd., Chicago, IL 60604 (312) 786-0300.

**Historic Preservation Awards**
Entry deadline July 31

**Washington, D.C.** The Advisory Council on Historic Preservation has announced a call for entries in the President's Historic Preservation Awards (honoring excellence in privately funded preservation) and the National Historic Preservation Awards (honoring excellence in federally assisted preservation). Contact Awards,

*(continued on next page)*

## Calendar *(continued from previous page)*

Office of the Executive Director, Advisory Council on Historic Preservation, The Old Post Office Building, 1100 Pennsylvania Ave., N.W., Suite 809, Washington, D.C. 20004.

**P/A Awards**
Entry deadline September 6

**Stamford, Connecticut.** The 39th annual P/A Awards (see p. 21) recognize unbuilt projects in the categories of architectural design, urban design, and architectural research. Projects must be scheduled for completion after January 1, 1992. Winning entries will be featured in the January P/A. Contact Awards Editor, *Progressive Architecture,* 600 Summer Street, P.O. Box 1361, Stamford, Connecticut 06904.

**"Another Glass House"**
Submission deadline
September 9

**Tokyo.** Philip Johnson and Tadao Ando, jurors for the Shinkenchiku Residential Design Competition 1991, challenge entrants with the following statement: ". . . in the 1990s, might not there be other, as yet unexplored, possiblities (other than those that involve the distortion of the Cartesian grid) for steel and glass structures?" "Another Glass House" is this year's competition theme. Entries must never have been made public; they will not be returned. Contact Entries Committee, Shinkenchiku Residential Design Competition, Shinkenchiku-sha Co., Ltd., 31–2, Yushima 2-chome, Bunkyo-ku, Tokyo 113 Japan.

## Conferences

**ACM SIGGRAPH '91**
July 28–August 2

**Las Vegas.** "Where Advanced Technologies Inspire Tomorrow's Realities" is the theme of the Association for Computing Manufacturers' 18th International Conference on Computer Graphics and Interactive Techniques. Contact SIGGRAPH '91 Conference Management, 401 N. Michigan Ave., Chicago 60611 (312) 644-6610 or FAX (312) 321-6876.

**IESNA Annual Conference**
August 11–15

**Montreal.** The Illuminating Engineering Society of North America's 85th annual conference will include educational seminars, technical sessions, and workshops on advances in the field of illumination, new products, and services. Contact IESNA, 345 E. 47th St., New York, NY 10017 (212) 705-7926.

**Solar Energy Congress**
August 17–24

**Denver.** With the second environmental movement well beyond the grassroots stage (at least in theory), the biennial International Solar Energy Society Solar World Congress will provide a timely forum on current solar technologies and applications. Contact 1991 Solar World Congress, American Solar Energy Society®, 2400 Central Ave., Suite B-1, Boulder, CO 80301 (303) 443-3130 or FAX (303) 443-3212.

**SEGD Conference**
August 22–24

**Pasadena, California.** The Society of Environmental Graphic Designers's National Conference will be held at the Art Center College of Design in Pasadena. Winning entries in the 1991 SEGD Design Competition, "All Things Considered: Client/Context/Solution," will be announced. Contact SEGD, 47 Third St., Cambridge, MA 02141 (617) 577-8225.

**Passive/Low Energy Architecture**
August 24–30

**Phoenix, Arizona.** "Living With the Sun" is the title of the Passive and Low Energy Architecture (PLEA) 1991 Study Tour. Architects, planners, researchers, and others are invited to discuss climate-responsive design in the arid regions of the Southwest. Workshops and study sessions will be augmented with tours of significant sites such as Montezuma Castle, Biosphere II, Taliesin West, and Arcosanti. Contact PLEA Coordinator, Arizona Energy Office, Suite 1200, 3800 N. Central, Phoenix, AZ 85012 (602) 280-1440 or FAX (602) 280-1305. ■

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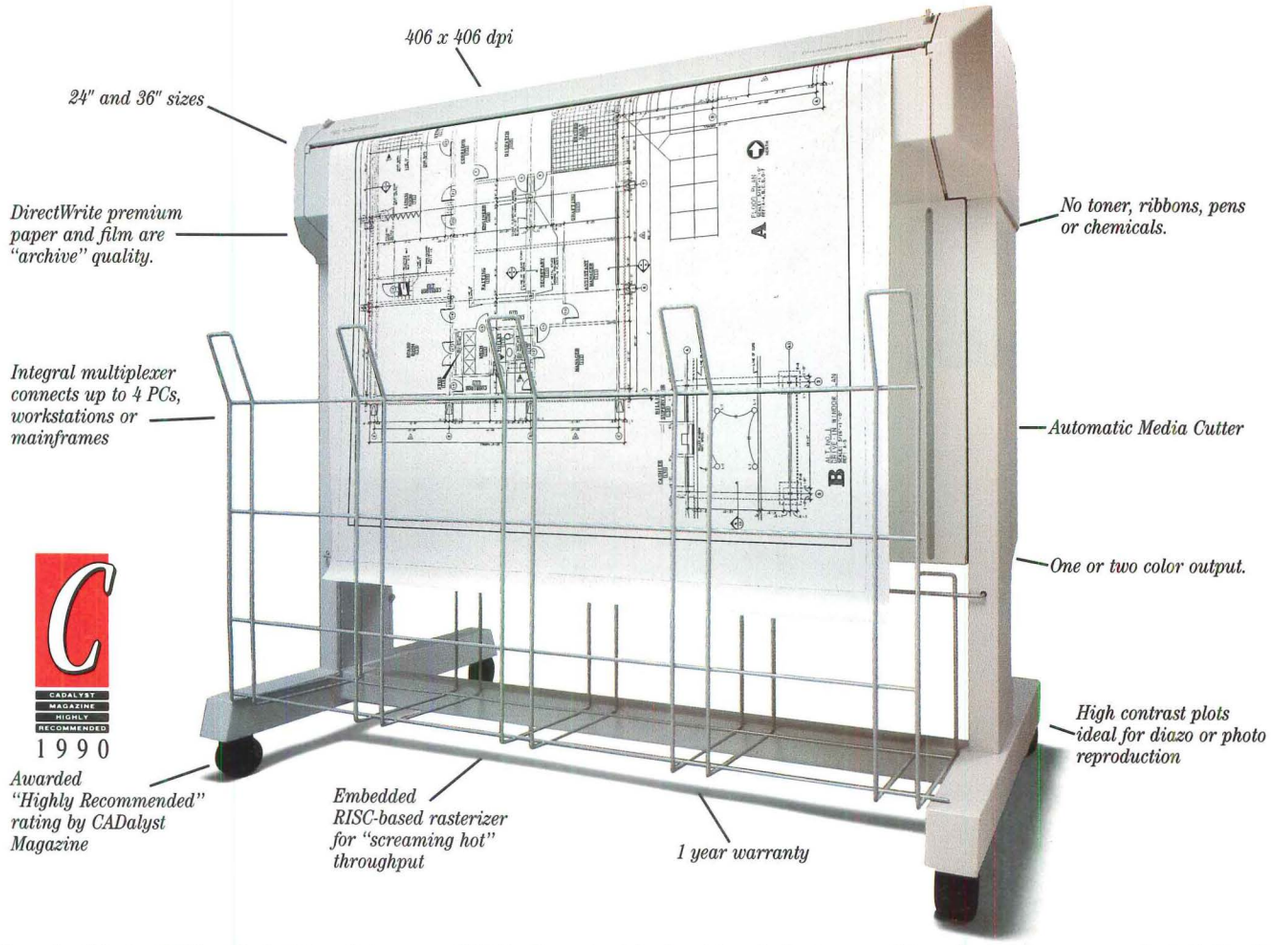


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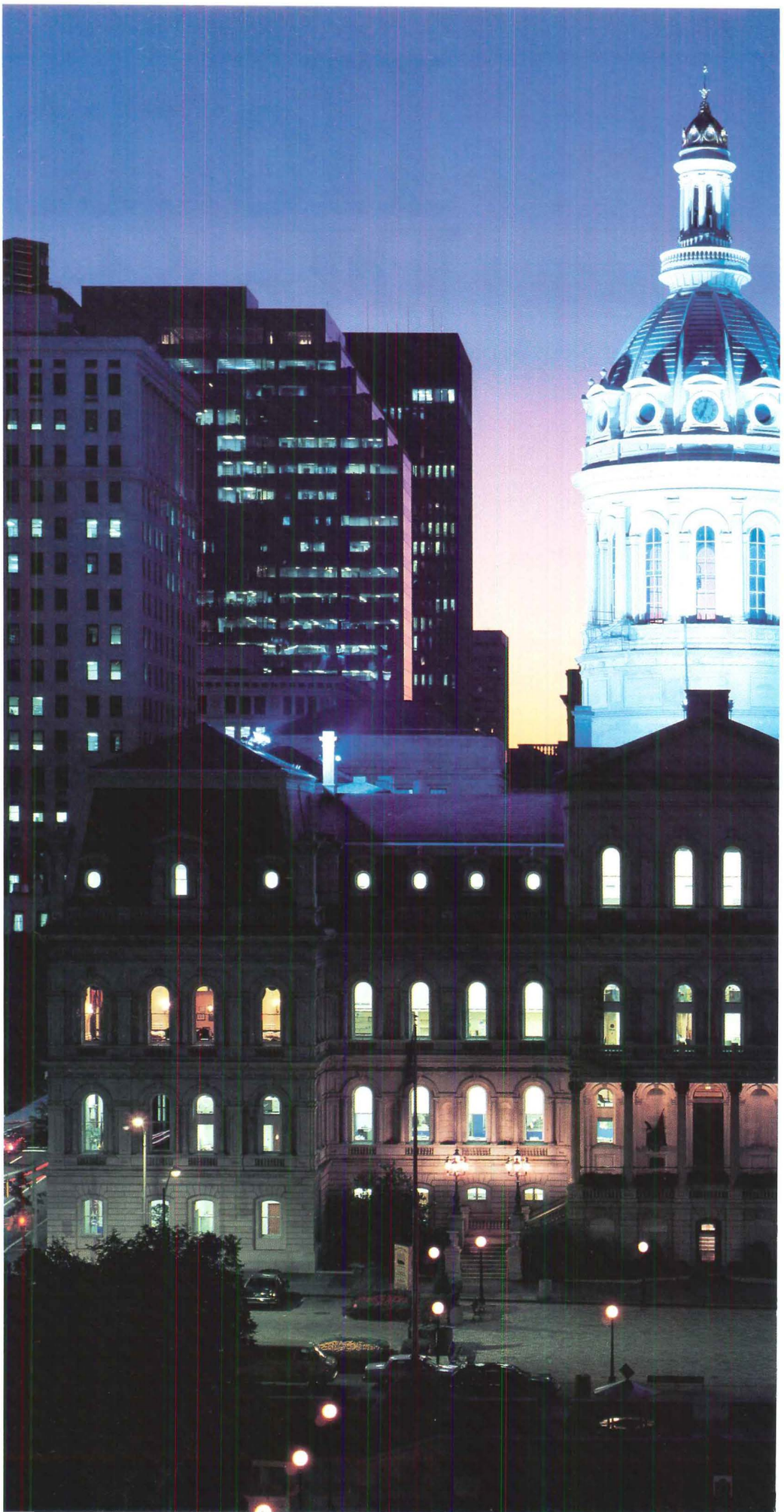

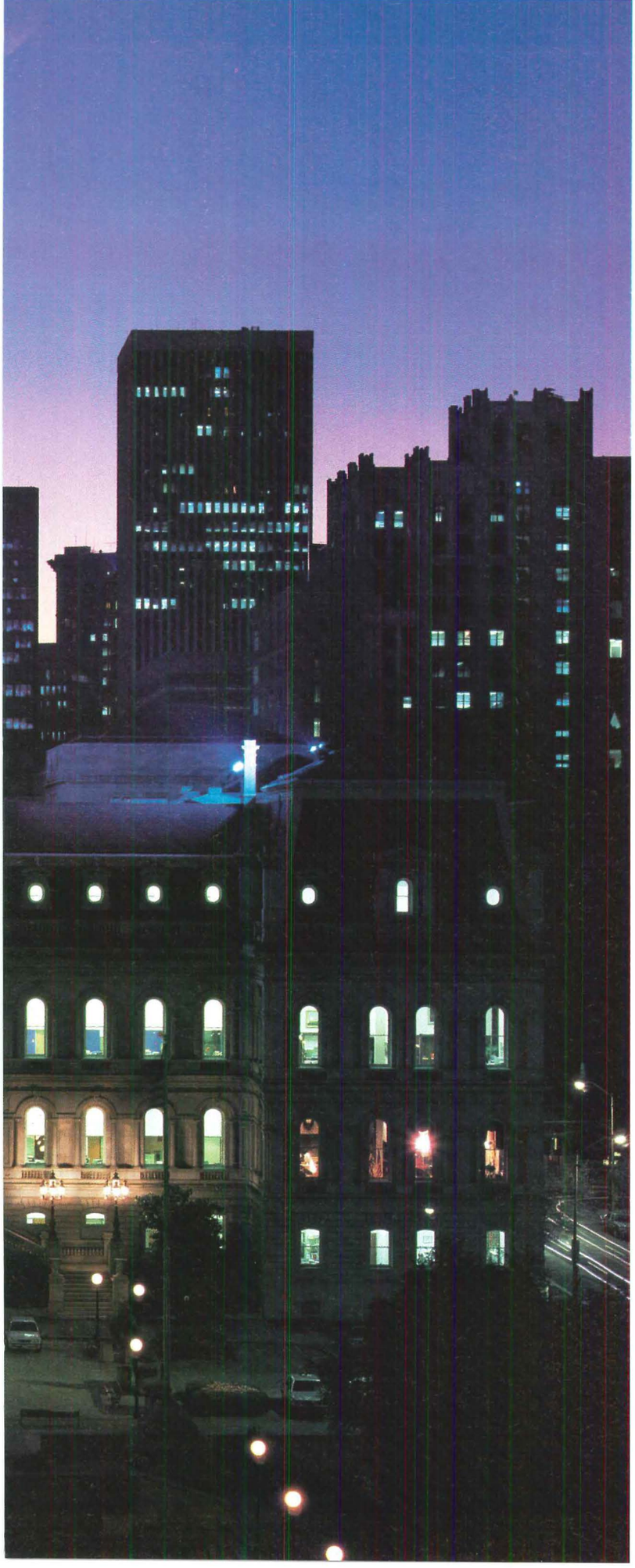

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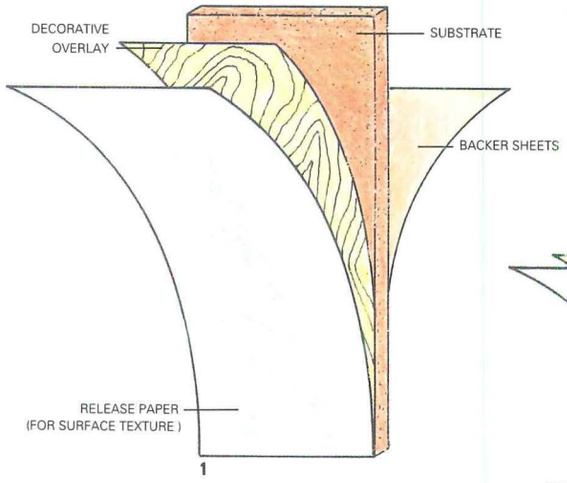
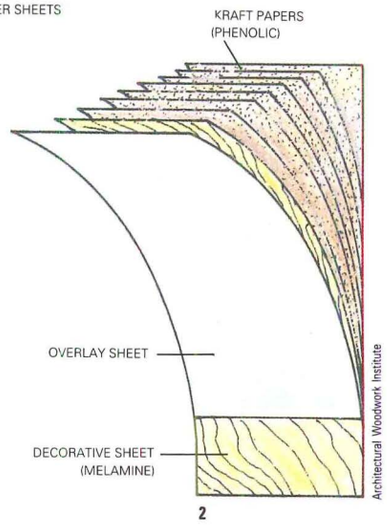



**1** *Thermoset panel elements are pressed at 175 to 400 pounds per square inch, with an integral substrate.*
**2** *High pressure laminate is processed at 500 to 1000 psi; a steel caul plate can be used in the press to add surface texture.*

Despite (or because of) their prevalence, we use fabricated plastic surfaces without heed to any design rules; they have rarely been the topic of theoretical debate. However, the Viennese architect Adolf Loos offered advice that applies to the laminates we take for granted. In the Law of Cladding (1898) he wrote that "We must work in such a way that a confusion of the material clad with its cladding is impossible . . . " Many of today's decorative patterns (at least those that don't replicate natural materials) seem compatible with the advice of Loos – ironically, since he questioned the propriety of Modern ornament. However, one wonders what he would say about today's wood grain laminates and granite pattern solid surfacing – composites that resemble materials of nature rather than factory products.

Regardless of the rationale architects and designers follow when they select laminates and solid surfaces, they have no reservations about their durability, testimony to the industry's adherence to standards set by the National Electrical Manufacturers Association (NEMA) (see sidebar on pp. 40–42). In the past few years, solid surfacing manufacturers have adapted NEMA's standards for their own products; they have yet to form a separate consortium for solid surfacing.

### High Pressure Decorative Laminate

The electrical and laminate industries are an ostensibly mismatched alliance, but in fact NEMA's role is a holdover from the first decade of the century, when Westinghouse introduced Micarta, the first plastic-coated paper laminate, an insulating wrapper for wiring in electric motors. These forms of phenolic resin-impregnated kraft paper, laminated under high heat and pressure, preceded the plastic decorative laminate sheets popularized by a younger firm. Its name – Formica – bespeaks the founders' former ties with Micarta. Today's high-pressure laminates are manufactured in much the same way laminate panels have been made since 1927: Sheets of resinous kraft

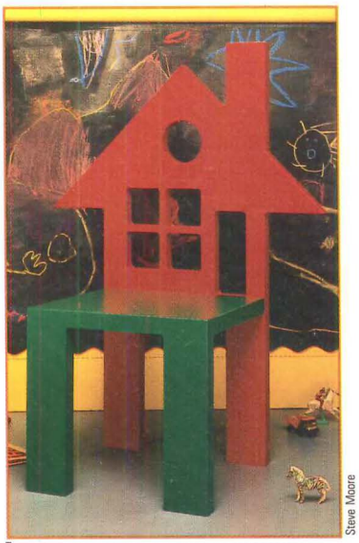
**3 SUBSTRATES FOR HIGH PRESSURE LAMINATE**

| Classification | Types | Method of Use |
|---|---|---|
| Solid Timber | Softwood (e.g., poplar, okoume, zamba, pine, deal); Hardwood (e.g., oak, sapele, beech) | Use restricted to small areas because of marked distortion. |
| Plywood | Preferably softwoods (e.g., poplar okoume, zamba) | In view of their consistency and relative thickness, they are used as self-supporting substrates for large areas. |
| Chipboard | Single-layer; Multi-layer | |
| Blockboard | With a layer of veneer (e.g., poplar and okoume) with softwood blocks inside, or similar | |
| Fiber Panels | Medium hard, Hard, Extra hard, or Impregnated Woods | |
| Honeycomb Structures | Wooden, Impregnated Paper, Non-Impregnated Paper, Metal | Used as a filler for composite substrates or as a direct substrate with a frame. |
| Expanded Materials | Rigid expanded foam comprising synthetic resins such as: PVC, phenol, and polyurethane | Used as self-supporting substrates for vertical surface or as a filler for composite substrates. They have good heat- and sound-proofing properties. |
| Metal Sheets | Ferrous Metals, Non-Ferrous Metals | |
| Mineral Supports | Plasterboard Panels, Plaster Panels, Cement Panels with plastic binders | |

International Committee of the Decorative Laminates Industry

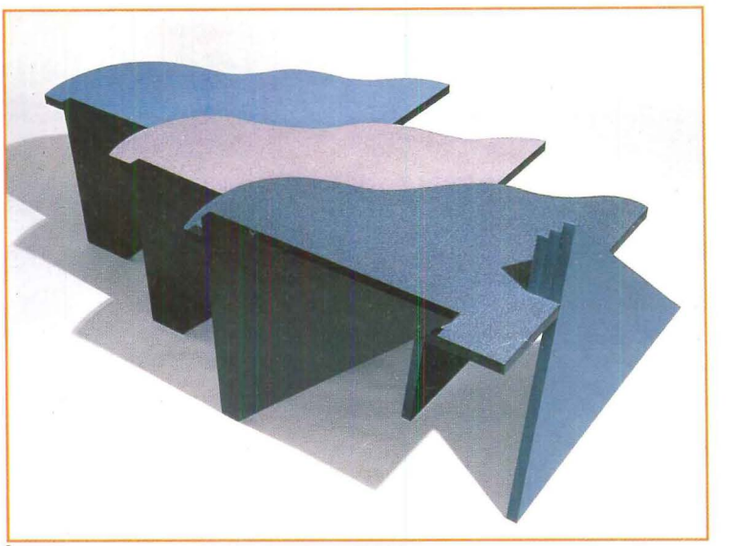
Ken Skalski

4 GRANT CHAIR BY MARTIN ZANE SKALSKI



Steve Moore

5 THE HOUSE CHAIR BY ANDERSON/SCHWARTZ ARCHITECTS



6 RHAPSODY TABLE BY LAURENCE TAMACCIO, ARCHITECT

## NEMA's 16-point Laminate Test

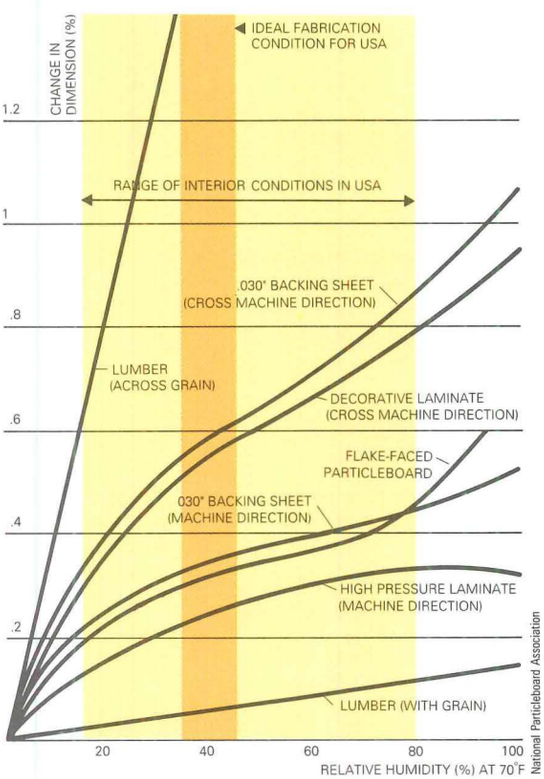
Every 5 years, NEMA publishes standards and recommendations for the installation of high-pressure decorative laminates. Copies of the booklet, *BSR/NEMA LD3, High-Pressure Decorative Laminates* ($5.00) can be ordered from:
National Electrical Manufacturers Association
Attn: H. Colin Smith
142 Arundel Road
Paramus, NJ 07652–1911

The following tests are described in the booklet:

1. Wear Resistance
Discs of laminate are abraded with sandpaper to find when the laminate's decorative pattern and/or color begin to wear away.
2. Scuff Resistance
A small sheet of laminate is struck once by a ballistic pendulum and inspected for cracks, dents, or tears; a change in color or gloss is acceptable.
3. Ball Impact Resistance
A large ball is dropped in several free falls to find the impact value that cracks the laminate.
4. Dimensional Change
Test pieces of laminate are placed in an air oven and in a humidity chamber and then inspected for gross dimensional changes induced by a change in relative humidity.
5. Boiling Water Resistance
A vessel of boiling water is placed on a piece of laminate for 20 minutes; the laminate is then inspected for changes in color or surface texture.

*(continued on page 42)*

7 DIMENSIONAL CHARACTERISTICS, WOOD AND LAMINATE




National Particleboard Association

8 NEMA STANDARDS FOR HIGH PRESSURE LAMINATE

| Thickness | NEMA Product Type |
|---|---|
| 0.020" ±0.005" | GP20 General Purpose<br>CL20 Cabinet Liner<br>BK20 Backer |
| 0.028" ±0.005" | GP28 General Purpose |
| 0.030" ±0.005" | PF30 Postforming |
| 0.032" ±0.005" | FR32 Fire-Rated |
| 0.038" ±0.005" | GP38 General Purpose |
| 0.042" ±0.005" | PF42 Postforming |
| 0.050" ±0.005" | GP50 General Purpose<br>BK50 Backer<br>FR50 Fire-Rated |
| 0.062" ±0.005" | SP62 Specific Purpose<br>HW62 High-Wear<br>FR62 Fire-Rated |
| 0.080" ±0.008" | HW80 High-Wear |
| 0.120" ±0.008" | HW120 High-Wear |
| 0.125" ±0.008" | SP125 Specific Purpose |

Architectural Woodwork Institute

9 ADHESIVES FOR HIGH PRESSURE LAMINATE

| | Bond Strength | Postforming | Overall Use with Colorthrough Laminate | Water Resistance | Chemical Resistance | Fire Retardance | Temperature Resistance |
|---|---|---|---|---|---|---|---|
| **Contact Cements:** | | | | | | | |
| Flammable | Good | Yes* | Good* | Fair | Fair | Poor | Fair |
| Water-Base | Good | Yes* | Good | Fair | Fair | Fair | Fair |
| Polyvinyl Acetate (PVA) | Good | No | Very Good | Poor | Poor | Poor | Fair |
| Aliphatic Resin | Good | No | Good | Poor | Poor | Poor | Fair |
| Urea Formaldehyde | Good | Yes | Very Good | Good | Good | Fair | Good |
| Resorcinol | Good | No | N/A | Good | Good | Good | Good |
| Phenolic Resin | Good | No | N/A | Good | Good | Fair* | Good |
| Hot Melt | Good | No | Good | Good | Poor | Poor | Fair |
| Epoxy | Good | No | Very Good | Very Good | Fair | Fair | Good |

Architectural Woodwork Institute

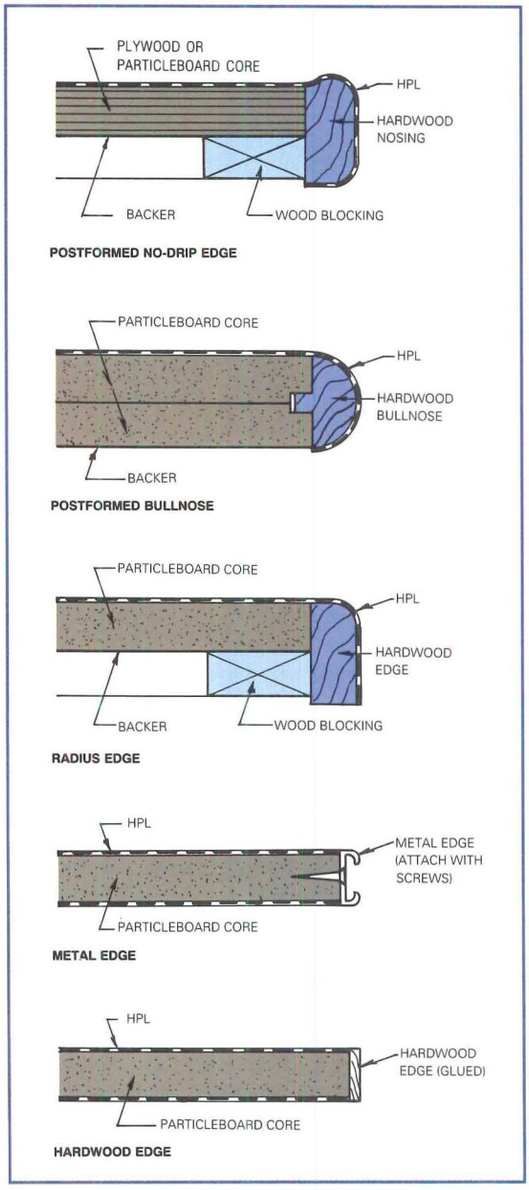
* Depends on Grade specified

Wayne Cable/Cable Studios

**10** CHIASSO OFFICE RETAIL STORE BY FLORIAN-WIERZBOWSKI ARCHITECTURE

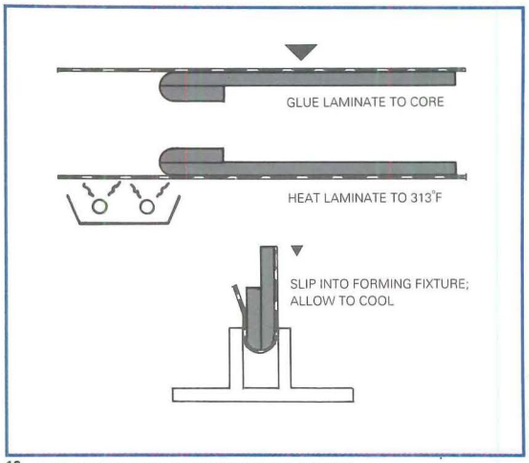
Frank Zimmermann

**11** FLAMINGO BAY RESTAURANT BY EVELYN SHERWOOD DESIGNS




Architectural Woodwork Institute

**12** EDGE TREATMENTS WITH HIGH PRESSURE LAMINATE




Fomica Corporation

**13** POSTFORMING WITH HIGH PRESSURE LAMINATE

paper are layered beneath a decorative melamine sheet and an alphacellulose overlay; heat and pressure bind this composite and give it exceptional strength.

Laminates are virtually maintenance-free and are taken for granted once installed. A bit of forethought, however, will serve the specifying architect well: Grades and prices of laminate, adhesive, and substrate vary. For example, vertical surfaces and cabinet interiors, which endure much less wear than table and countertops, can be specified as thermoset decorative panels, where a substrate is integral with a low-pressure melamine overlay. These thermoset laminates follow the same NEMA standards for general purpose high-pressure laminates, and their range of colors and patterns has steadily grown more diverse.

There are four basic adhesives for installing high-pressure decorative laminates: Urea and resorcinol are typical rigid adhesives that allow forces of expansion and contraction to transfer to the substrate. Polyvinyl acetate (PVA) creates a semi-rigid bond; contact cement, the most prevalent bonding agent, combines neoprene and phenolic resins. One should consult fabricating guides

**4** *In his prototype for a molded plywood and custom colored laminate chair, Martin Zane Skalski synthesized color and form, as part of his theory of "three-dimensional color."*

**5** *The House Chair, designed by Frederic Schwartz, used Formica Colorcore to create a three-dimensional image tailored for a child: A green lawn is the seat and a façade doubles as the backrest.*

**6** *Laurence Tamaccio's Rhapsody Table comprises three sculptural forms that can be stacked, used individually, or aligned to form a large coffee table. The surfaces are clad Westinghouse Micarta laminate, with PVC-banded edges.*

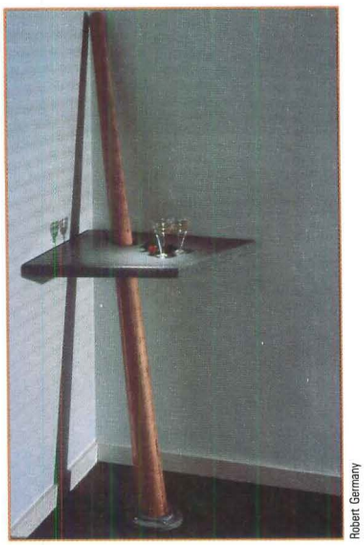
**10** *In Florian·Wierzbowski's Chiasso Office store, nearly every surface is covered with laminates rendered as forthrightly* faux *surfaces: ebonized oak, pigskin, metals, and granite, using laminates from Nevamar, Laminart, Formica, and Chemetal.*

**11** *In Flamingo Bay, a hot dog restaurant in New York, Evelyn Sherwood created an eclectic interior with tin ceiling tiles, corrugated metal, and laminate by Abet Laminati, an Italian firm. The pattern on the front of the bar was rendered continuous by judiciously trimming the laminate panels.*

**NEMA** *(continued from page 40)*

6. High-Temperature Resistance
This test follows test #5, but the vessel is filled with heated bath wax instead of water.
7. Radiant Heat Resistance
A resistor coil is held 0.313″ from a laminate sample to find the number of seconds that elapse before the laminate fails.
8. Conductive Heat Resistance
A sheet of laminate is placed face down on a heated aluminum plate for five minutes and then inspected for changes in color, blistering, or crazing.
9. Stain Resistance
Small samples of housekeeping items, from cooking oil to shoe polish, are left on a laminate sample for 24 hours. The surface is then washed clean and studied for visible stains.
10. Light Resistance
A carbon-arc fading lamp, whose radiant energy approximates that of sunlight, shines on a laminate sample for 48 hours; the laminate is then inspected for changes in color or texture.
11. Appearance
An entire sheet of laminate is inspected for smudges, fingerprints, and foreign particles.
12. Cleanability of Surface
A soiling agent of potting soil, Portland cement, silica gel, and clay is applied to a laminate. Once rinsed, the laminate is wiped clean with a spray of cleaning solution and a cloth; the number of scrubbing strokes required is recorded.
13. Surface Finish
A gloss meter (which measures the amount of light reflected by a surface) is used to detect any variation in the gloss level on a full-size sheet of laminate.
14. Formability
A heated sample of laminate is placed in a forming apparatus. Once the laminate cools, it is inspected to see if it formed a prescribed curve without visible surface damage.
15. Blister Resistance
To simulate postforming (the method of curving laminate) a strip of laminate is placed face down on a heating apparatus to count the seconds that elapse before the laminate blisters.
16. Dart Impact Resistance
A steel dart tipped with a 5 mm ball is dropped from heights of 5″, 6″, 7″, etc., to find the maximum height at which five impacts fail to fracture the laminate. ■

**14** EMBASSY SUITES HOTEL, DENVER, BY THE ALLRED FISHER SERACUSE LAWLER PARTNERSHIP

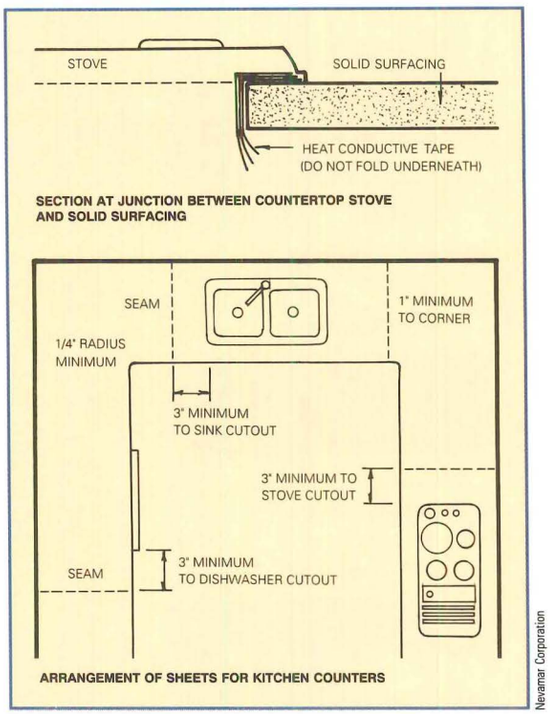


Robert Germany

**15** SOUTHCOAST TABLE BY KEN PICOU

to match the proper adhesive to the substrate, usually particleboard or medium density fiberboard. The range of substrates should be studied: Specifications vary according to the need for fire retardance, impact resistance, dimensional stability, and the ability to hold screws.

Recently architects have raised questions about the effects of laminate adhesives and the formaldehyde in particleboard on indoor air quality (see P/A March 1990, p. 58). Concerned specifiers should feel free to ask industry representatives about the safety of their products. In a recent query about potential health problems with laminates and solid surfaces, a representative of the Environmental Resource Center said that these substances pose little chance of chemical degradation: Resins in the laminate polymerize during the heated pressurization process and develop chemical bonds that remain stable indefinitely. During installation, however, adhesives could be hazardous if the manufacturers' guidelines for ventilation are not respected. The safety of the formaldehyde in particleboard has long been a topic of debate: Some claim it is dangerous to the respiratory system. Fortunately, the National Particleboard Association reports that the quantity of formaldehyde released from particleboard has dropped almost 80 percent since the early 1980s; standards set by HUD for mobile homes now apply (at the inititative of the National Particleboard Association) to 95 percent of the particleboard used in the United States. To our benefit, laminate is an effective seal on particleboard: It prevents practically all long-term formaldehyde emissions.




Nevamar Corporation

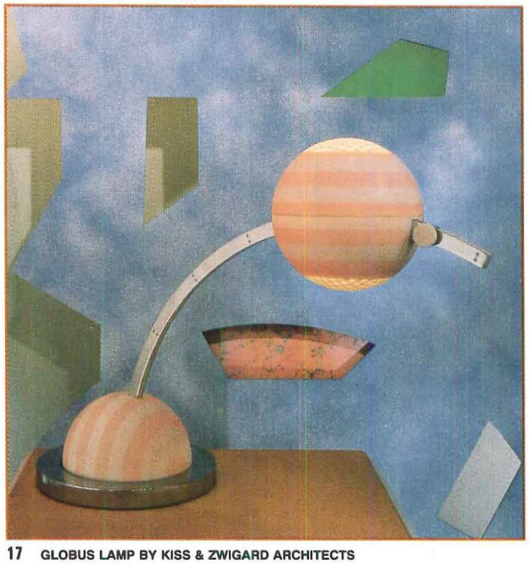
**16** SOLID SURFACING FOR KITCHEN

### Solid Surfacing

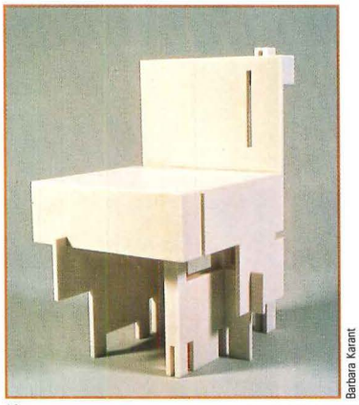
This alloy of polyester and acrylic is kindred to laminates; it is a homogeneous sheet practically impervious to water and staining. Solid surfacing looks like stone, but is warm to the touch and light enough to be cut by a circular saw.

Until about 6 years ago, solid surfaces were the market of a single manufacturer; today most laminate producers also offer a line of solid surfaces. They believe its market, which is already increasing at a 15 percent annual rate, has great potential (even though it can easily cost three times as much as high pressure laminate). While most solid surfacing is specified for homes, primarily for countertops and lavatories, the industry is developing details for commercial applications: wainscotting, window thresholds, and interiors in schools, hospitals, and restaurants.

Unlike laminates, whose scratches are permanent, solid surfaces are reparable – cigarette burns and the few stains that discolor the resinous surface can be removed with a household abrasive cleanser or sanded away. These materials can be routed like stone to create a contrasting polished

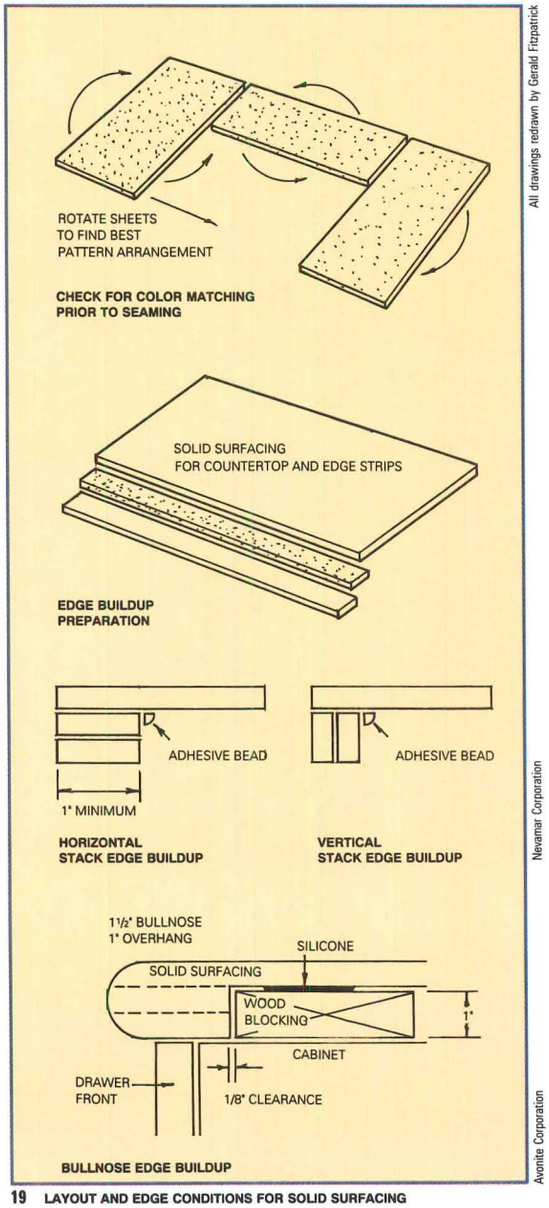


17 GLOBUS LAMP BY KISS & ZWIGARD ARCHITECTS



Babara Karant

18 VALENTINE CHAIR #2 BY GEORGE RANALLI ARCHITECT




All drawings redrawn by Gerald Fitzpatrick

Nevamar Corporation

Avonite Corporation

19 LAYOUT AND EDGE CONDITIONS FOR SOLID SURFACING

and matte finish. But because a solid surface is not a multi-ply material, it doesn't offer the patterns and colors readily printed on laminates. Countertops with stoves call for special detailing when covered with solid surfacing: A strip of metal should surround the stove (see illustration on p. 42) to prevent the heat of the appliance from cracking the surfacing. Likewise, any countertop appliance that generates heat should stand on an extra layer of solid surfacing for added insulation.

The most important decision in using solid surfacing is the choice of fabricator: While most manufacturers will not ship their material to anyone who has not passed company-sponsored seminars (typically one day long), architects and designers find word-of-mouth recommendations the best assurance of a fabricator's skills. While woodworking is the most likely background for fabricators, solid surfacing is more akin to acrylic than wood; it can be tricky to manipulate. Thermoforming, where one heats the solid surfacing to curve it, is a somewhat imprecise process that calls for an intuitive sense of the material. (Not every solid surfacing line thermosets well; one should check before specifying). "Welding" pieces of solid surfacing is tricky, and calls for precisely applied pressure and more exact alignments than does wood, according to David Lamoureux, a fabricator with 16 years of experience. He suggests that construction specs have a line item for solid surfacing. Otherwise, a subcontractor lacking experience with the material might offer an unrealistically low bid that forces compromises elsewhere.

A small sampling of the uses of solid surfacing appears on these pages. While few architects have exploited solid surfacing's sculptural potential, fabricators are enthusiastic about the freedom it offers: One suggests that practically any item the designer draws – from furniture to wall paneling – can be built with solid surfacing. It is up to architects to explore ways to use it creatively.

**Philip Arcidi** ■

**14** *In the lobby of Denver's Embassy Suites Hotel, The Allred Fisher Seracuse Lawler Partnership emulated marble for the columns and coffering, which are clad in Du Pont Corian.*

**15** *Ken Picou designed a witty corner table where a couple can stand and face each other obliquely: His one-legged design uses Wilsonart's Gibraltar solid surfacing for both the table surface and the "foot" that is screwed into the floor.*

**17** *Laszlo Kiss and Todd Zwigard designed the Globus Lamp for an exhibit of objects made of Surell, Formica's solid surfacing material. The architects laminated sheets of contrasting colors and turned them on a lathe to create a hollow sphere 8" in diameter.*

**18** *George Ranalli's chair is part of a dining room set where each chair is a left- or right-hand model, intentionally asymmetrical. Presented in Formica's exhibit of Surell designs, Ranalli's chair exploits the material's translucent qualities; it is in the Metropolitan Museum's permanent collection of 20th Century Art and Design.*

# SAFETY SQUARED

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# Technics Topics: Slip Resistance and the Designer

Safety and security consultant **Robert L. Kohr, C.S.P, C.P.P.**

describes measures that designers and specifiers can take to ensure safer floors.



Architects are being challenged more and more on the issues of floor safety. But there is very little guidance about slip resistance as it relates to a specific project. Researchers Robert Brungraber and John Templer recently pointed out in P/A the lack of guidance from model codes and the controversy surrounding testing and slip resistance bench marks.[1] But what can architects, designers, and specifiers do to meet the growing demand for slip-resistant surfaces? What is their responsibility? Can they be held liable for improper selections that cause accidents?

### What's Reasonable?

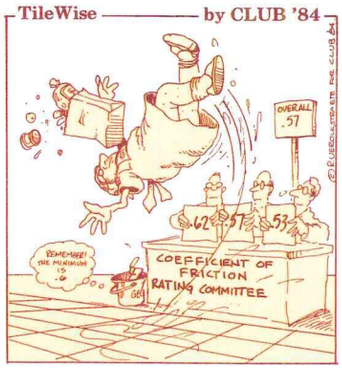
With the explosion of personal injury litigation, damage suits are routinely filed that charge several defendants simultaneously. This is the so-called "deep pocket" approach. Are you at risk? Given current trends, you probably are.

Today, U.S. laws still follow old English common-law principles in dealing with negligence. The burden of proof that negligence existed and was a proximate cause of the accident rests with the plaintiff. However, defense counsels are having to exert just as much, if not more, effort to counter the plaintiffs' allegations. This is because, in my opinion, juries have stretched the definition of "reasonable care."

Reasonable care can be defined as the legal obligation to act as an ordinary, prudent and reasonable person, that is, not to do something that will cause an injury to guests or customers. When it comes to damage suits, this definition can change, depending on how the jury perceives the situation, or how they are instructed on its application to a specific case. The bottom line is that what was reasonable five years ago probably isn't today.

### Architects' Responsibilities

The architect must provide a building that not only pleases the client, but takes into consideration the potential uses, abuses, and misuses of the that facility; it must be a "reasonably" safe place. In my practice, I have seen many cases where a slip, trip, or fall resulted from a design defect. In these situations, it is not uncommon for the defense to name the architect as co-defendant or to file a cross complaint to transfer total responsibility.




Reprinted with permission of the Ceramic Tile Action Group, a non-profit education group.

As Brungraber and Templer said in their article, "For the building designer, meaningful model code provisions do not yet exist" in the area of slip resistance.[1] But this does not relieve the architect of the legal responsibility to provide reasonably safe premises.

Even though the model codes do not define slip resistance, they do require slip-resistant surfaces on level walkways, ramps, and stairs within the means of egress. In any case, architects can no longer hide behind the veil of building codes. Codes are minimum standards, and juries routinely find negligence based on the foreseeability of a hazard that was not abated. Model codes are always changing. Will they at some point define slip resistance and minimum standards? Probably.

Recently, the proposed design guidelines for the Americans with Disabilities Act (ADA) were released for comment by the Architectural Transportation Barriers Compliance Board. In that proposed guide are standards for minimum slip resistance values for level surfaces, ramps, and bathing facilities. OSHA will issue a new work place regulation that is scheduled to go into effect in 1992, and a minimum value and definition for slip resistance is provided. Direction is coming, but how do you get out of the controversy?

### What's Safe

There has been much argument over testing the slip resistance of surfaces. My advice is not to get caught up in the controversy. As Brungraber and Templer discussed, all test methods have their own limitations. Some ASTM committees have not adopted a slip resistance bench mark, and in the case of vinyl flooring, they have not recognized a test method for their products.

Current ASTM methods do measure "relative" slip resistance of various surfaces, al-

### Tech Notes

**The *Indoor Air Bulletin* is a new monthly newsletter edited by IAQ consultant (and P/A, March, 1991, Technics coauthor) Hal Levin. *The Bulletin* is aimed at architects and will emphasize materials, ventilation rates, standards, and new developments in North America and abroad. IAB, Santa Cruz, California (408) 426-6624, $195 per year.**

***Building Science Insight '91*, a traveling one-day seminar of the National Research Council Canada, explains the world of Canadian building regulations and product compliance. Seminars will be held at sixteen locations from mid-September through November. Request brochures from the NRCC, Technology Access Group, Ottawa FAX: (613) 954-5984.**

***Holding On to Home: Designing Environments for People with Dementia* by U. Cohen and G. Weisman is aimed at architects and health care professionals concerned with the 2.5 million Americans afflicted with Alzheimer's disease. The work won a citation in the 37th P/A Awards program. Johns Hopkins University Press, Baltimore (800) 537-JHUP, 182 pp., $45.**

***The Laminated Glass Design Guide* from the Laminators Safety Glass Association describes types, uses, strengths, loading, solar, UV, security, and acoustical considerations of laminated glass, plus guide specifications and reprints of applicable ASTM standards. LSGA, Topeka, Kansas (913) 266-7014, 65 pp., $20.**

**"Architects can no longer hide behind the veil of building codes. Codes are minimum standards, and juries routinely find negligence based on the foreseeability of a hazard that was not abated."**

though as pointed out by numerous researchers, a true measurement of the coefficient of friction is very difficult to make.[1,2,3,4] But the methods established by ASTM and referenced in ANSI standards for various products are useful and have been devised by committees that are continuing to improve the methodology.

Much discussion and literature represent a static coefficient of friction of 0.5 as a safe walking surface. This bench mark is mentioned as the pass/fail grade for the floor finish slip test ASTM D 2047. Yet, people can walk on floors with static coefficients as low as 0.28 to 0.30 without falling.[5,6] One of the main reasons is the ability of the body to recover in a "controlled slide." The ASTM D 2047 standard's bench mark is a dry surface. Not many people fall on dry surfaces, even on polished marble. Yet ASTM F 462, which is the slip test for bathing facilities (bathtubs), has a pass/fail standard of 0.04. This is a value obtained in a soapy, wet environment, but it is at least an attempt to simulate conditions under which that product is to be used.[7,8,9,10]

When it comes to what is safe, the criteria for a specific project and application cannot be adequately covered in a standard. A minimum standard may sound nice, but if you consider the environment, contaminants, and pedestrian loads, a walking surface specified to meet the "minimum" dry slip resistance coefficient of 0.5 is woefully inadequate. The primary reason is a simple, yet complex relation,

*slip resistance = surfaces + environment + contaminants + people.*

This opinion is based on many years of investigating falls of all types and testing and specifying materials and products to prevent accidents and injuries. The ultimate slip meter is the accident experience on a particular surface in real life conditions.[7,9,10]

For example, consider an indoor pool deck: You write a specification that calls for a slip-resistant tile complying with ASTM C 1028, which must have a static coefficient of friction no less than 0.5. The supplier provides a transmittal stating that the tile achieves 0.56 dry and 0.51 wet, using neolite, in accord with ASTM C 1028. In use, the pool has several contaminants, including chlorine, body oils, tanning oils, and residual floor cleaners. There is a high bather load and lots of water on the surface, and the tile becomes a skating rink. Why did this happen? One reason is the test's limitation on the sensor. No one has found an adequate sensor to emulate skin. But had the contaminants been used with the neolite, the tile probably would not have passed the test. Was this flooring adequate for the intended use? Was the static friction bench mark adequate? Were reasonably safe premises provided? The jury will decide.

### What Should You Do?

By now you must be saying, "I am an architect, how am I supposed to know this stuff?" People fall for many reasons. But in the slip type falls I've investigated and analyzed, over 90 percent involved a contaminant on the surface, like water or grease. A comprehensive approach to selecting and specifying walking and bathing surfaces for work areas and public spaces anticipates and accounts for these contaminants, in conjunction with naming the proper reference specifications. The following is a recipe for your specifications cookbook.[7,9,10,11,12]

*Step 1* Reference the appropriate ANSI and ASTM slip resistance and product standards when specifying floor surfaces and bathing facilities. Some ASTM standards are

- C 1028 *Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces,*
- F 609 *Test Method for Static Slip Resistance of Footwear, Sole, Heel or Related Materials,*
- F 462 *Consumer Safety Specification for Slip-Resistant Bathing Facilities,* and
- D 2047 *Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine.*

As noted by Brungraber and Templer, each of these tests has its own limitations.[1] However, each standard is based on a body of test data representing many years of experience on the part of its respective committee. Comparisons between similar products cannot be made if the tests do not use the same methodology. As mentioned earlier, the ultimate test method is to install a surface, allow human and environmental contact, and see if people fall. This is an excellent way of establishing bench mark control surfaces. Once you know the surface type that minimizes slips and falls, it is a simple matter to compare test data. But this is not enough in itself.

*Step 2* Require the supplier to provide an independent laboratory test that measures the slip resistance by the appropriate ASTM method, sensors, and contaminants. However, you should also include the following language in your specifications:

> "A walking or bathing surface shall be designed, selected, and installed that is capable of providing adequate slip resistance under anticipated environmental conditions (maintenance, cleanability, weather, humidity), contamination (water, oil, grease), and pedestrian load factors (volume, public or worker, footwear, demographics)."

Note that no minimum coefficient of friction value is specified in step 2. I firmly believe that a minimum standard cannot be set to cover all situations, even though these are appearing in case law, OSHA, and now the ADA; until better standards related to environmental conditions are agreed on by consensus, I suggest the following minimum values for step 2 above:

- Minimum of 0.5 slip resistance everywhere, to meet legal considerations;
- Minimum of 0.5 slip resistance on interior level and stair tread surfaces (I prefer 0.6 on walkways);
- Minimum of 0.6 slip resistance on all interior ramps;
- Minimum of 0.04 slip resistance for porcelain and plastic bathing facilities.

**"In the slip type falls I've investigated and analyzed, over 90 percent involved a contaminant on the surface, like water or grease."**

**Slip and Fall Trivia Facts**

- Falls are the second leading cause of accidental death, after motor vehicles.
- 12,000 deaths annually result from falls.
- Falls account for 12 million non-fatal injuries annually.
- 200,000 injuries and 200 drownings occur annually from falls in bathtubs.
- Ten percent of deaths from falls occur on stairs, and five percent on a level surface, but 44 percent are not identified.
- The young and the elderly are most susceptible to serious injuries from falls.

Data compiled from:

"Cost of Injuries in the United States and the Role of Building Safety," J. Pauls, *The Building Official and Code Administrator*, January/February 1991, pp. 19–35.

*Accident Facts*, National Safety Council, Chicago, 1990.

"Bathtub-Related Drownings in the United States, 1979–1981," L.D. Budnick and D. A. Ross, *American Journal of Public Health*, vol. 75, no. 6, 1985.

These minimums will not provide 100 percent prevention of slips and falls. Two examples follow, one where these minimum values work and one where they don't.[7]

*Example 1* Consider a commercial kitchen floor where grease is an ever-present contaminant. The environment is controlled by HVAC and the pedestrian load consists of workers in slip-resistant footwear. Utilizing ASTM C 1028 and/or F 609, the proposed tile and footwear could be evaluated by applying fryer grease and water to the surface of the tile and the minimums in step 2 would be adequate under these conditions. But what if you do not know the type of employee footwear? Based on my research using C 1028 or F 609 with a neolite sensor, a slip resistance value of 0.28 in this messy environment would be adequate to prevent falls.[7,12]

*Example 2* Consider a pool deck where a glazed tile with abrasive particles is to be used. If we test the tile as recommended in step 2, we encounter a difficulty. There does not exist a sensor like human skin that reacts like a foot. If we test the tile according to ASTM C 1028 with footwear sensors and achieve the minimum value, we will have a skating rink. So, a correction must be introduced to the method. Using the slip resistance equation, we add a touch of suntan oil and highly chlorinated water, with the anticipation of a high bather load. It's almost the same situation as a kitchen. This will help, but with abrasive glazed tile, my experience has shown a need for a coefficient of 0.8 or higher, per C 1028, both wet and dry, without the suntan oil added for this type of tile.

*Step 3* After installation, require a quality assurance test to verify that the installed product meets the specification.

*Step 4* Require the supplier to educate the end-user in proper floor maintenance procedures.

*Step 5* Document all activities and keep copies in your project archives.

If you are overwhelmed, hire a safety consultant to assist you in the process. You can locate consultants by contacting the American Society of Safety Engineers.[13] Consultants are certified through them (as "Certified Safety Professionals," C.S.P.) and the American Society for Industrial Security ("Certified Protection Professional," C.P.P.). Architects should look for consultants with these credentials.

For the architect, there are two important aspects to slips, trips, and falls: prevention and litigation defense. The best defense is adequate prevention. Don't get caught in measurement controversies. Understand the issues, set your own standards and criteria, and stick by them. **Robert L. Kohr, C.S.P., C.P.P.** ■

*The author owns Kohr & Associates in Mount Airy, Maryland, a risk consulting firm specializing in safety, security, and fire prevention management and design. He was director of technical services for the Marriott Corporation, and is the author of* Accident Prevention for Hotels, Motels, and Restaurants *(Van Nostrand Reinhold, 1991). Kohr is a member of BOCA, ASTM, NFPA, and the National Safety Council, among other groups.*

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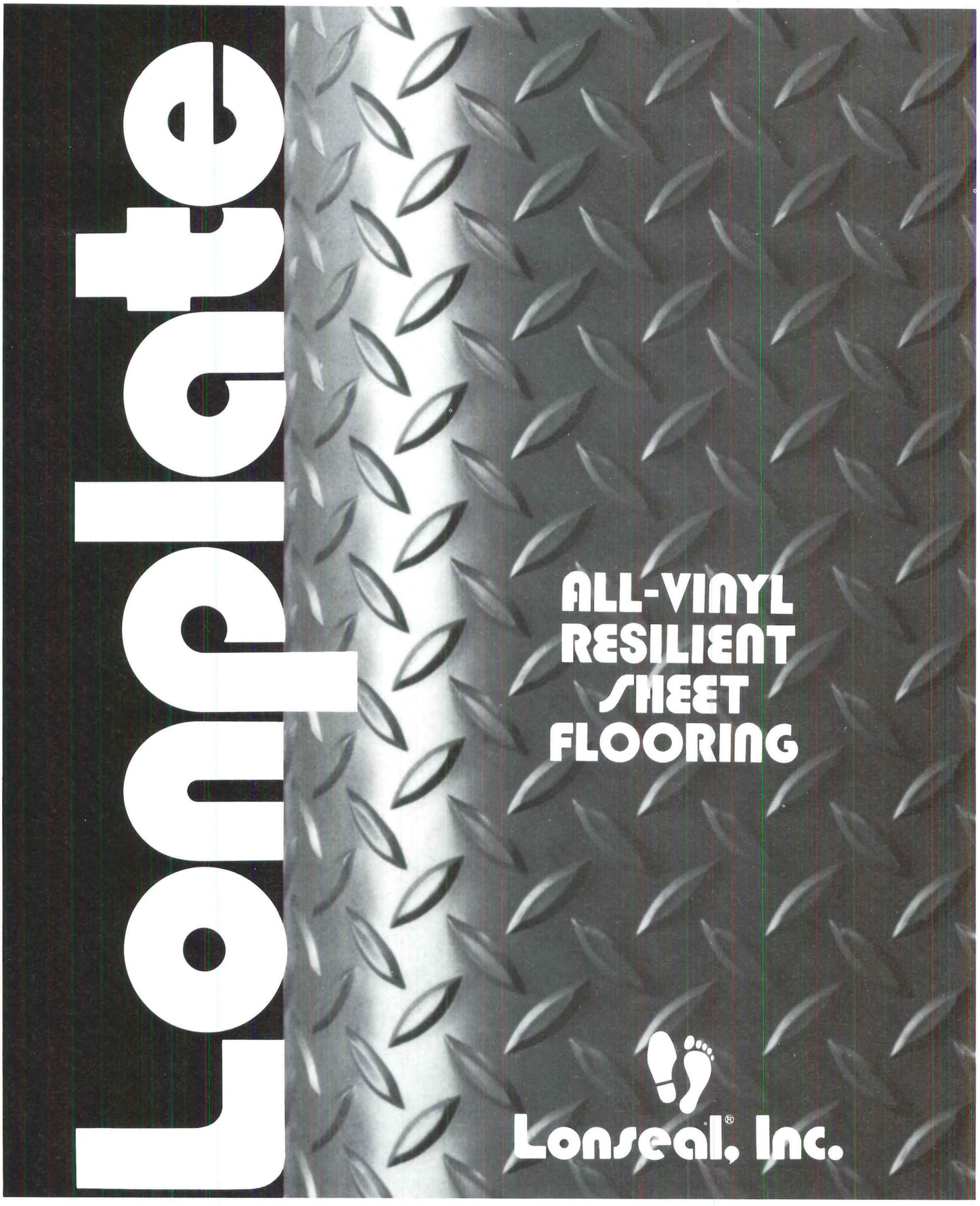


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# Practice





**Brian Lewis** describes an association of small firms in Great Britain that has potential application in the U.S.

## Management: Practice Associations

In an innovative effort to offer clients the resources of a large national practice, yet retain the local knowledge and personal attention of small firms, 11 architectural offices in Great Britain have joined together over the last four years in a permanent association that they have named Acanthus Associated Architectural Practices, Ltd. Acanthus (taken from the conventionalized leaf design on Corinthian capitals) is a nationwide network of small to medium-sized independent practices. By choice, they limit membership to other firms with like values, in their case a strong interest in building conservation. As a group, they find they all like to do about 40 percent rehabilitation work and 60 percent new design.

Since the first few principals met four years ago and decided their individual firms' future would be enhanced by association (as an alternative to merger or acquisition), they have received 10 to 15 applications per year from other firms wanting to join their group. They have preferred, however, to grow by select invitation to other firms they believe share their values and objectives. Today, the 11 firms in Acanthus have a combined staff of 225, of whom 91 are architects. Individual firms range in size from 4 to 44 people.

All are first-generation firms less than 13 years old. A large majority of the principals are in their forties, the eldest in his fifties. All have a strong commitment to raising the standard of design and building, as well as a dedication to high quality conservation and traditional craftsmanship. Because of these shared values, they can easily work together on projects that would be too large to handle alone.

### How Acanthus Benefits Its Members

Acanthus members support each other in their determination to maintain the highest standards; they share information, experience, resources, and facilities. Most have standardized office systems, using the Apple Macintosh PC to facilitate inter-communication. They also get together once a year for a public conference. Another association-wide program in which they all participate is quality management, and they are able to pack more punch in staff recruitment by jointly advertising under the Acanthus imprimatur.

While member practices are spread across England, Wales, and Scotland, they maintain the Acanthus Association office in the suburbs of London, headed by a managing director whose primary mission is to make the market aware of Acanthus. He is assisted by a part-time marketing coordinator, experienced in journalism, who helps open doors to publicity.

Acanthus currently has an annual budget of $200,000, which is raised by a levy against individual practice fees, ranging between 1½ and 5 percent of fees. Principals of U.S. practices who might say they could not afford to pay such a levy will be heartened by the experience of Acanthus principals who indicate they have found, through participation in Acanthus, that they have been able to negotiate 5 percent higher fees for their projects, which has more than offset their Acanthus levy. Even better, Acanthus expects to be able soon to start paying dividends.

One advantage they see just around the corner in 1992: Acanthus has already started looking for affiliations with firms on the European mainland where clearly the clout of 225 staff members can command respect yet offer clients direct hands-on local knowledge of zoning, regulations, and politics.

### Could Acanthus Work in the U.S.?

Could such an association offer benefits to small and mid-size U.S. practices who wish to retain their independence yet compete more equably with the larger firms? We think so. While the larger distances in North America may militate against a viable nationwide affiliation of those with shared values , it is undoubtedly quite viable for regional associations to work well.

A permanent association like Acanthus has the advantage of getting away from the temporary joint venture, which often scares away clients worried about who, in the end, will be responsible for their project, particularly if the sponsor of the association is a small firm. Principals of those smaller firms who have been wondering if they have to merge to survive may be able to use the Acanthus approach as a way to "have their cake and eat it too" – remain small yet pack a big punch when necessary. **Brian Lewis** ■

*The author is a member of The Coxe Group, a consulting organization specializing in the management of architectural and other professional design firms.*

### Practice Points

**Curious about salaries for design and drafting professionals? The 1990 Compensation Survey of the American Design and Drafting Association (ADDA) provides statistics on salaries that are broken down by geography, industry, years of experience, and education. The report is available for $40 to ADDA members ($100 for non-members). Call (301)460-6875.**

**The *1991 PSMJ A/E/P Software Directory* lists hundreds of software packages that are useful to design firms including: project management, specifications, and marketing to CAD, modeling, and desktop publishing applications. The directory is $95 from PSMJ in Newton, MA, (800) 537-7765.**

**Considering a new CAD system? *The CAD Rating Guide* lists and compares more than 80 CAD packages released before March 1, 1991, according to price, hardware requirements, and user comments. The guide is $49 plus $5 shipping and handling; call (301) 365-4585.**

**The Design Research Library is a new alternative resource for architectural, interiors, and landscape firms in Los Angeles. Branches are planned nationwide. The library plans to lease catalog display space to interested building product vendors. Contact the Design Research Library, 5777 W. Century Boulevard, Los Angeles, CA 90045; (213) 641-1000.**

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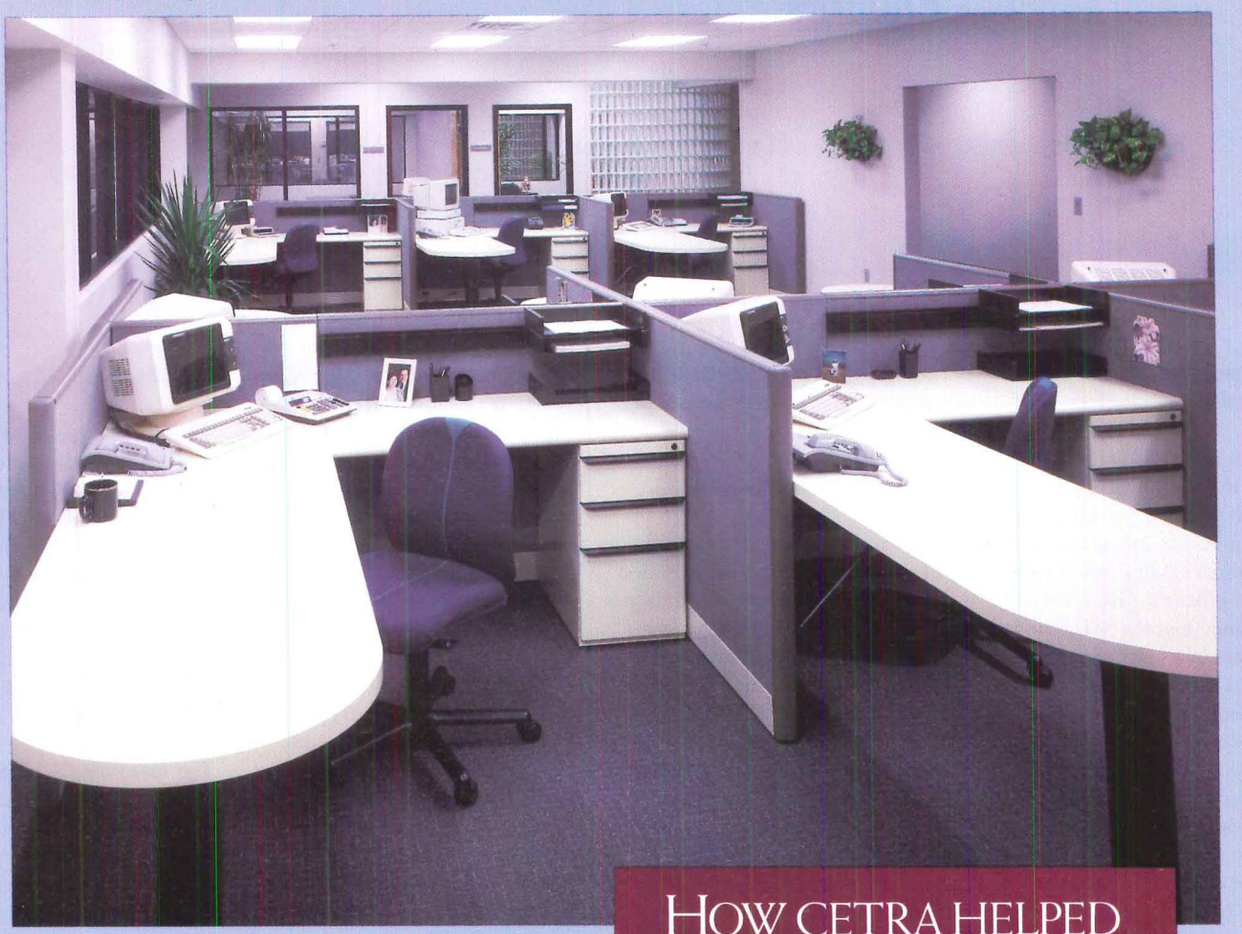

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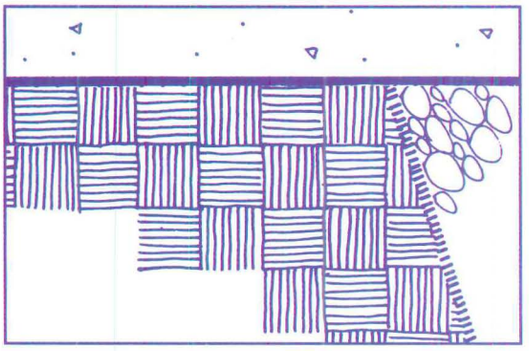
C E T R A G O E S E V E R Y W H E R E

**Walter Rosenfeld** proposes a simplified way of referring to excavation fill materials in project manuals.



## Specifications: Dig We Must

One of the difficulties architects and specifiers face in writing the earthwork specification sections for building construction is that the materials descriptions as well as the rules are all established by civil engineers and are embodied in state highway manuals that differ considerably from state to state

No one actually objects to this situation because it is clearly founded on realistic needs and existing conditions. Much earthwork is in fact structural in nature. Bearing capacity, drainage capability, and compaction potential are all soil characteristics that count in the long-term durability of the installation. Civil engineers have studied these characteristics most, and the rest of us depend on their recommendations.

Then, too, the big earth-moving jobs have generally been civil works: highways, bridge abutments, dams, reservoirs, and the like. The engineers familiar with such projects set the standards and probably should. Since state and local governments are among the major buyers of excavation and fill, their wants have been standardized and set down in manuals that all public bidders become familiar with and rely on when pricing and constructing such public works. Because they are usually appropriate as well as widely known, the same standards are inevitably used for private construction as well. Specifiers constantly refer to them.

Most of the problems specifiers face lie with nature. Materials suitable for fill are not uniformly distributed around any state, much less around the country, and each has its own geological history to provide sub-surface conditions and materials for extraction. So, in effect, there are at least 50 such manuals, each different in some ways, reflecting not only the preferred practice in the state (responding to its public works conditions), but also reflecting the natural materials available for use. And, each manual calls each material by the name historically or locally used.

The variety of nomenclature is large: "gravel borrow," "crusher-run stone," "ordinary borrow," "granular fill," "crushed stone," "bank-run gravel," "pervious structure back-fill," "processed gravel," "aggregate sub-base" are just a few taken at random. Since each public works manual typically describes the local materials and their permitted uses, a specifier working in several jurisdictions has to: carry a long list of material descriptions and characteristics in guide specifications; incorporate fully or by reference the highway manual materials specifications for each state; become thoroughly familiar with all the materials so that they can be called by their local names. Or the specifier must work out a simplified way of handling it all.

In an attempt to deal with such variety, commercial master specifications often refer to national standards, such as those of the American Society for Testing and Materials (here ASTM D-2487 soil classification groups), or somewhat better, to the American Association of State Highway and Transportation Officials (here AASHTO M-145 classification). These are sometimes referred to in state manuals. But needs of building construction earthwork are not so complex, and not all architects have AASHTO standards at hand. In any case, the state highway manual will probably still have to be consulted to determine what is available and common in the locality of the building.

Another problem architects face is that drafters need ways to refer to fill materials on the drawings to indicate which type goes where, especially when the specifications cannot fully cover locations. Drafters, working on projects in different states, cannot memorize or research the handbooks in each place; that requires considerably more experience and decision-making capability than most drafters possess. The potential for conflicts here and the need for coordination are substantial.

Digging, hauling, and placing of fill are all expensive operations. The type of material used, the qualities placed, and compaction density achieved are often questioned and may require third-party resolution. Disputes over earthwork are among the most common in construction litigation and often costly to resolve. Is there a way to simplify some of the confusion over terminology and make things easier for those producing construction contract documents? Some specifiers believe there is.

A good look at fill materials for building construction seems to indicate that, functionally, there are three basic types: materials requiring structural properties (structural fill); porous materials for drainage (drainage fill); and less critical backfilling soil (ordinary fill). If architects and their consultants accept this rudimentary classification, many things are simplified. Drafters can indicate the fill by function; the specifier can maintain a master Earthwork section applicable wherever the building may be located; and all parties can get the drawings and specifications to agree.

But how does this solve the problem of local materials variation and the differing state highway specification requirements? Very easily. The specifier merely defines "structural fill" for the particular job as the material referred to in the highway standards as "dense graded crushed stone" (for example), and by inclusion or by reference, gives the proper sieve analysis. The same procedure works for drainage fill, and perhaps even for ordinary fill where on-site materials are inadequate.

It is far less confusing (particularly for younger architects) to define fill by function than to face the often bewildering array of unfamiliar terminology and references in the state manuals. But this does not mean that, in fact, there are only three types of fill, or that special situations don't sometimes arise where finer distinctions must be made. Nor is it an invitation to civil engineers to abandon the search for economical solutions just to save space in someone's database. This procedure does, however, shift the emphasis for architects to the use of the material and away from its local name, and encourages internal consistency, continuity of approach from job to job, and greater clarity in contract documents when earthwork is required. **Walter Rosenfeld** ■

*The author is a consulting architect and specifier in Newton, Massachusetts.*

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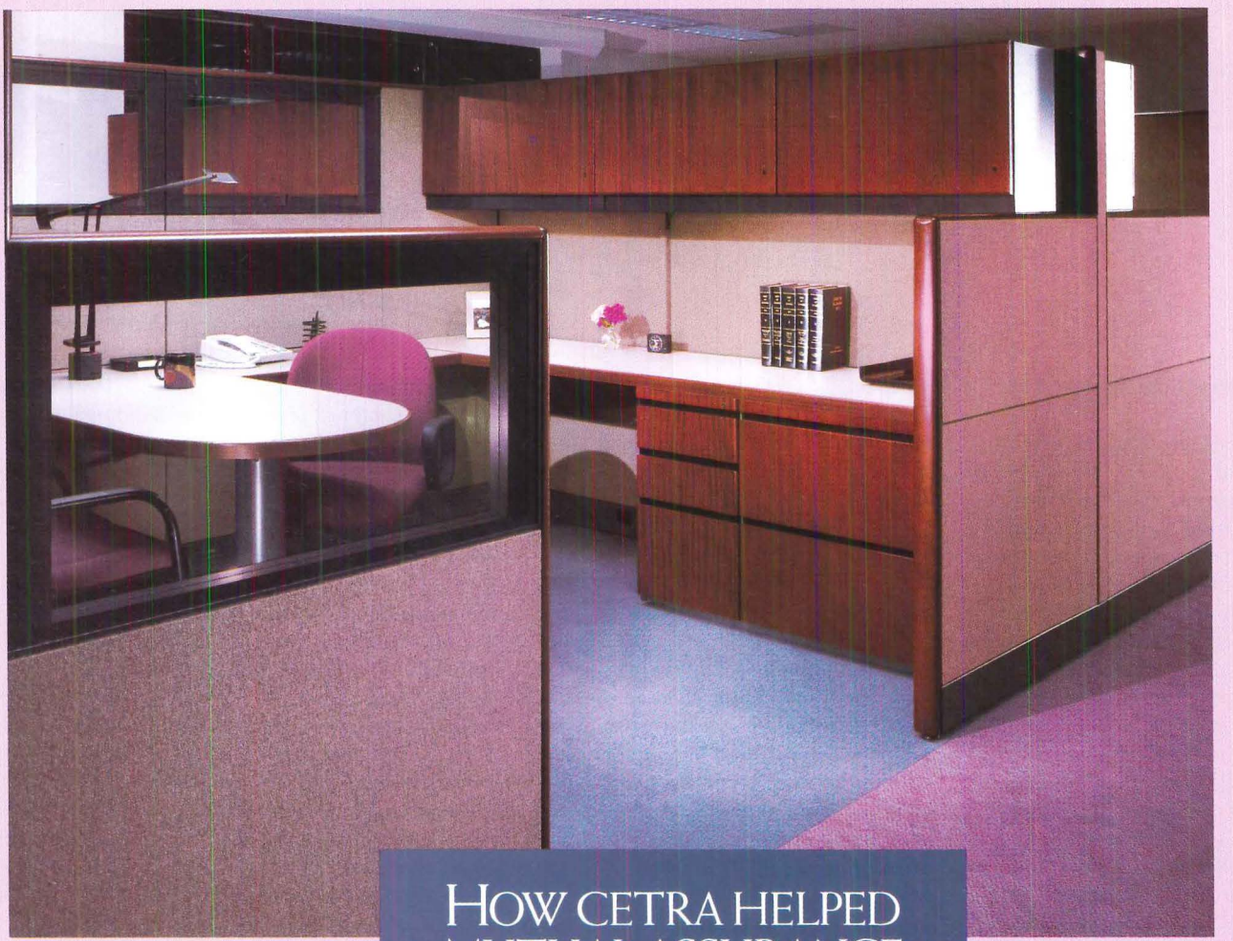

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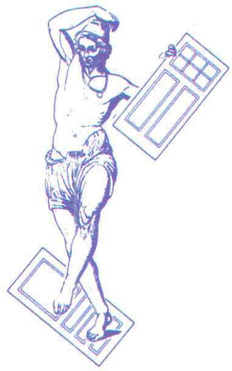

**Michael Chusid** argues that, by not enforcing specifications, architects undermine their credibility and authority.

## Products: Substitution Abuse

Too many architects refuse to accept responsibility for their actions or to recognize the consequences of their behavior when it comes to the enforcement of project specifications and tolerance of product substitutions. During a complex building project, it is inevitable that some substitutions will be used in lieu of specified products. In moderation, substitutions provide a sort of value engineering, save time and money, and introduce innovative solutions. But too frequently the integrity upon which the construction industry depends is disregarded and substitution abuse occurs.

Architects usually blame substitutions on the avarice of contractors who gamble on increasing profits by cutting corners or on suppliers who are unavailable when design assistance is needed, but who materialize at bid time. Architects, however, must accept responsibility for their own behavior rather than look for ways to justify it. We must enforce fair and practical procedures for substitutions, and refuse products that do not meet specifications. For those who give in to temptation and become substitution abusers, the consequences can be severe.

### Building Failures

Substitution abuse greatly increases the potential for building failures. The myriad products on a building must be carefully researched and coordinated throughout the design and specification process. Substitutions made during the bidding process or during construction are seldom given the scrutiny afforded the originally specified products. This occurs because, too often, insufficient time or money is allocated for contract administration. Decisions about substitutions are made under pressure from bidders, the contractor, or even the owner, leading architects to use products with which they have no experience. And because the design team that specified the product often has broken up by the time submittals are considered, substitutions may be evaluated by individuals who do not understand the original design intent.

According to estimates by a leading forensic engineer, building failures are ten times more likely to happen when a substitution is involved than when the project is built according to specs. Also the legal claim of responsibility for an inadequate substitution is a difficult charge for an architect to defend against.

Substitution abuse increases failures even when the substitute product is apparently similar in quality to the specified product. While proposed substitutions may be compared against the specified product, the effect of a substitution on related construction may be overlooked.

### Sales Support

Architects depend on building product manufacturers and sales representatives for far more than just keeping catalogs up to date. Few architects have comprehensive knowledge of all building materials, so rely on reps as uncompensated consultants. Many architects, for example, depend on hardware salespeople to prepare hardware schedules or on roofing representatives to inspect existing roofs. Architects also have become accustomed to using manufacturers' toll-free telephone numbers and getting next-day delivery of catalogs, details, specifications, and samples at no charge. While paying for these services may seem inconceivable, it may come to that unless the architectural profession starts re-asserting control over substitution abuse.

Many suppliers are reducing their architectural sales forces and placing greater importance on selling directly to contractors and to building owners. "Why should I spend time with architects," many building product manufacturers ask, "when they can't even enforce their own specs?"

### Architectural Credibility

Substitution abuse erodes the foundation of confidence and authority upon which the status of the architectural profession is based. From our historic stature as masterbuilders, the profession has gradually but steadily retreated from a position of authority with regard to construction. By allowing nearly uncontrolled substitutions, architects further undermine their position. Once contractors realize the ease with which they can break a specification, then what will be their impetus to comply with any architectural requirements? And once building owners perceive that their architects' specifications are not fixed and that contractors are making most of the actual product selections, then what will be the impetus for an owner to hire an architect instead of a design/build contractor?

Architectural firms must develop and enforce clear and practical specification policies regarding product selection and substitution procedures.(See Construction Specification Institute Manual of Practice Part I, Chapter 9, "Substitutions" for suggested guidelines. Order from CSI at (703) 684-0300.) And contract documents must say what you mean and mean what you say. To provide competition without the problems of substitutions, architects should avoid specifications that name a single product "or equal." As recommended by Walter Rosenfeld in P/A (October 1990, p. 53), architects should "do the research to find the three acceptable products before bidding (or pricing) starts, not during bidding or after construction has begun." After the start of construction, substitutions should be treated formally as change orders instead of casually as shop drawing submittals. Firms must allow an adequate budget to review substitutions and prepare their clients to pay for this service. As a project moves from one phase of architectural service to the next, new members of the project team must be oriented as to why certain products were selected. To break the habit, substitution abuse must become part of the architectural agenda. It must be discussed in architectural and trade associations and included as part of each firm's quality assurance program. **Michael Chusid** ■

*The author is a marketing consultant for building product manufacturers with offices in Oklahoma City and Glencoe, Illinois.*

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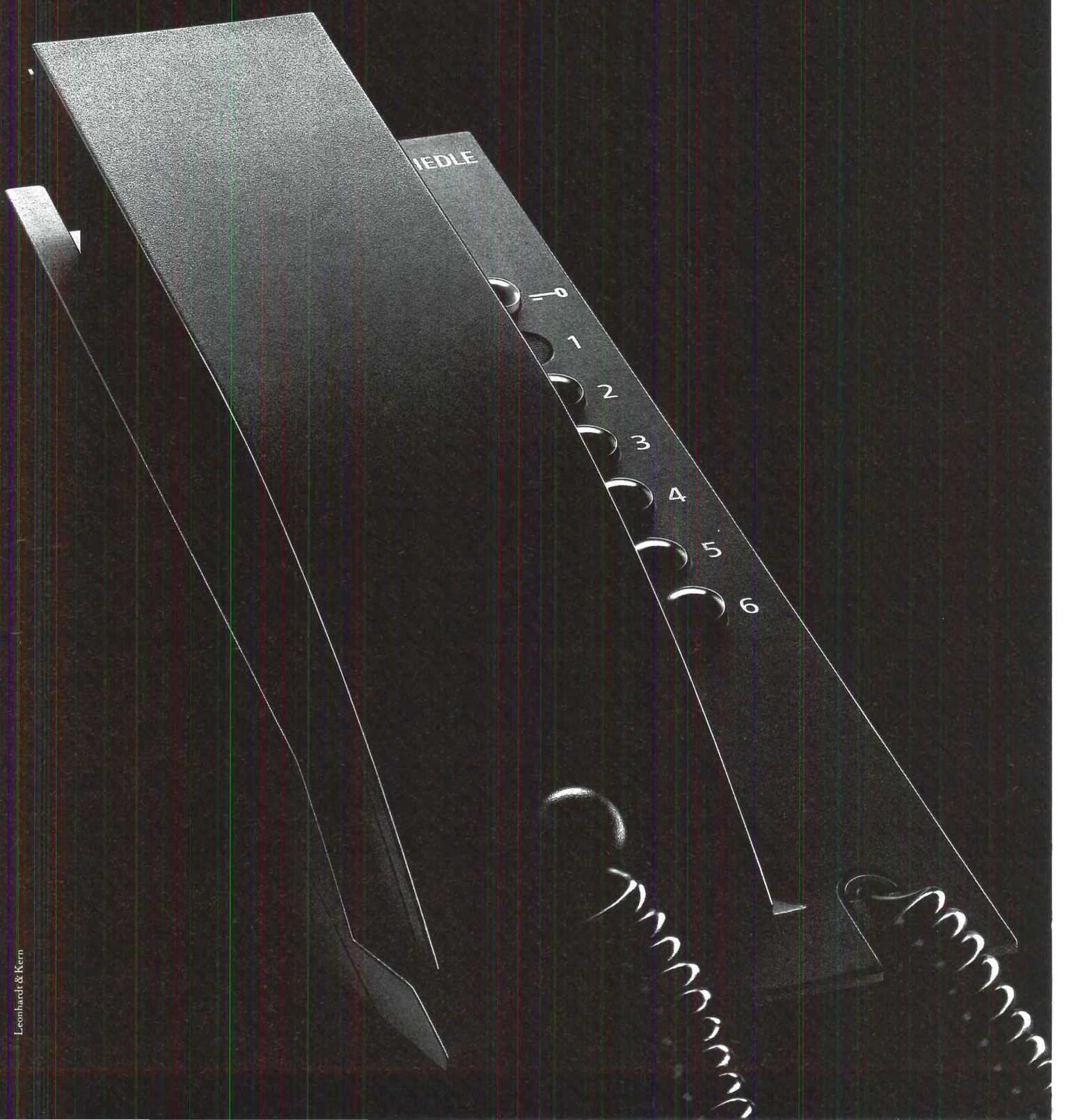


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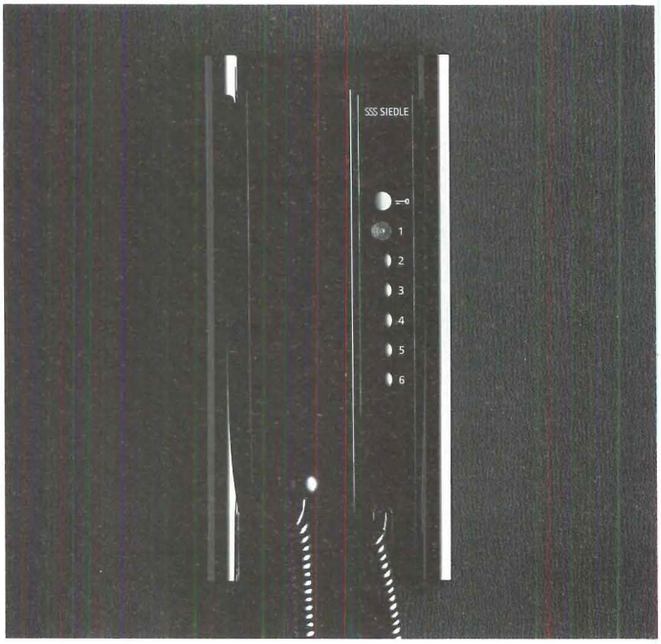


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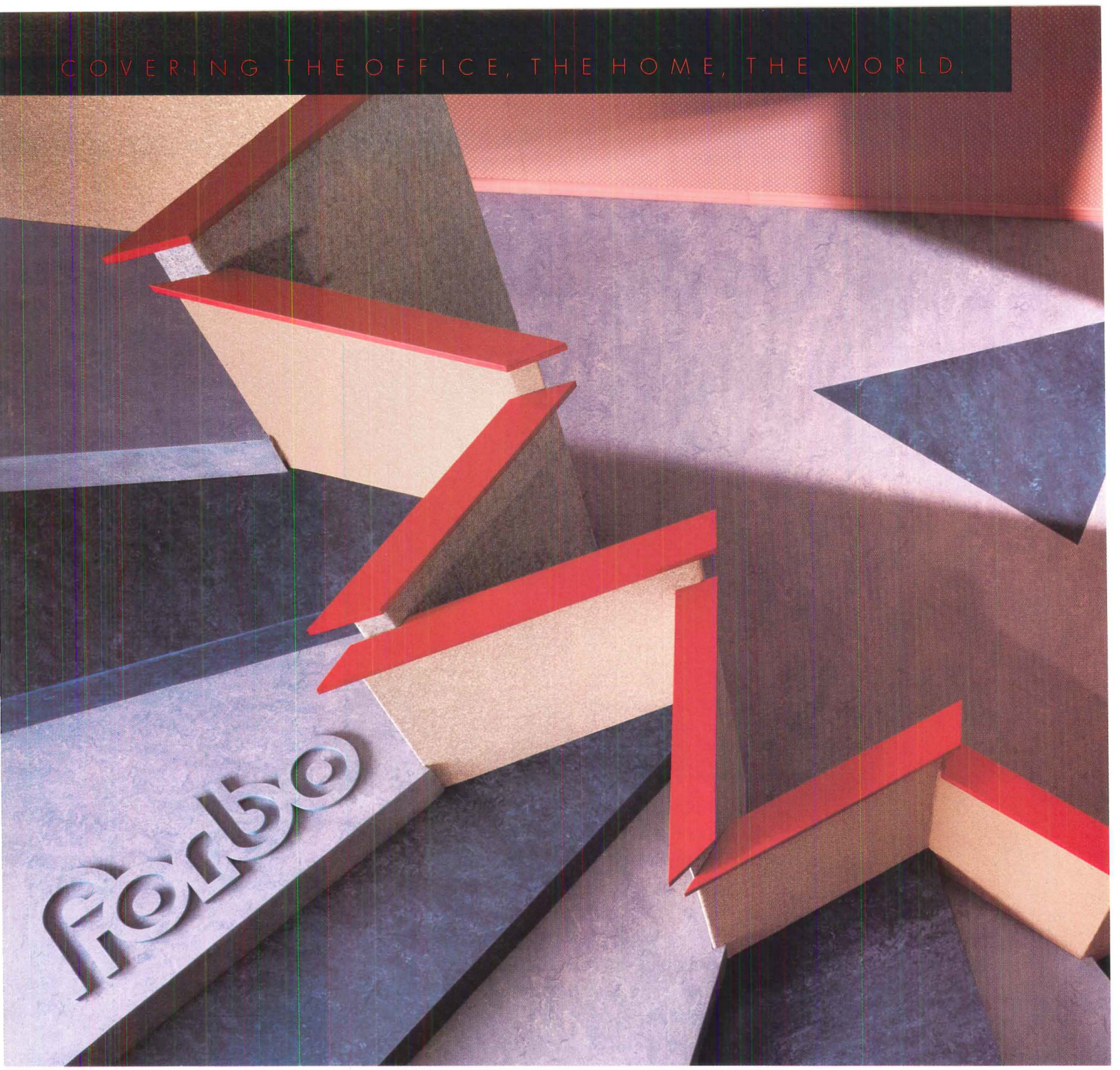
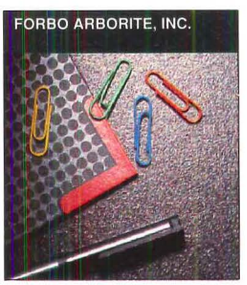
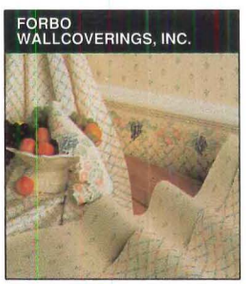
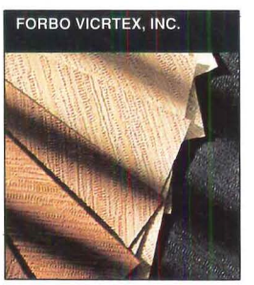


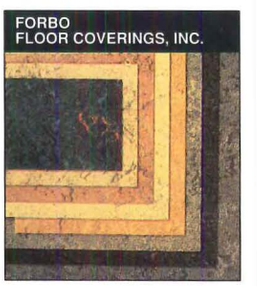

High Pressure Laminates



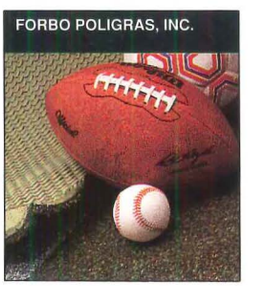

Residential Wallcoverings



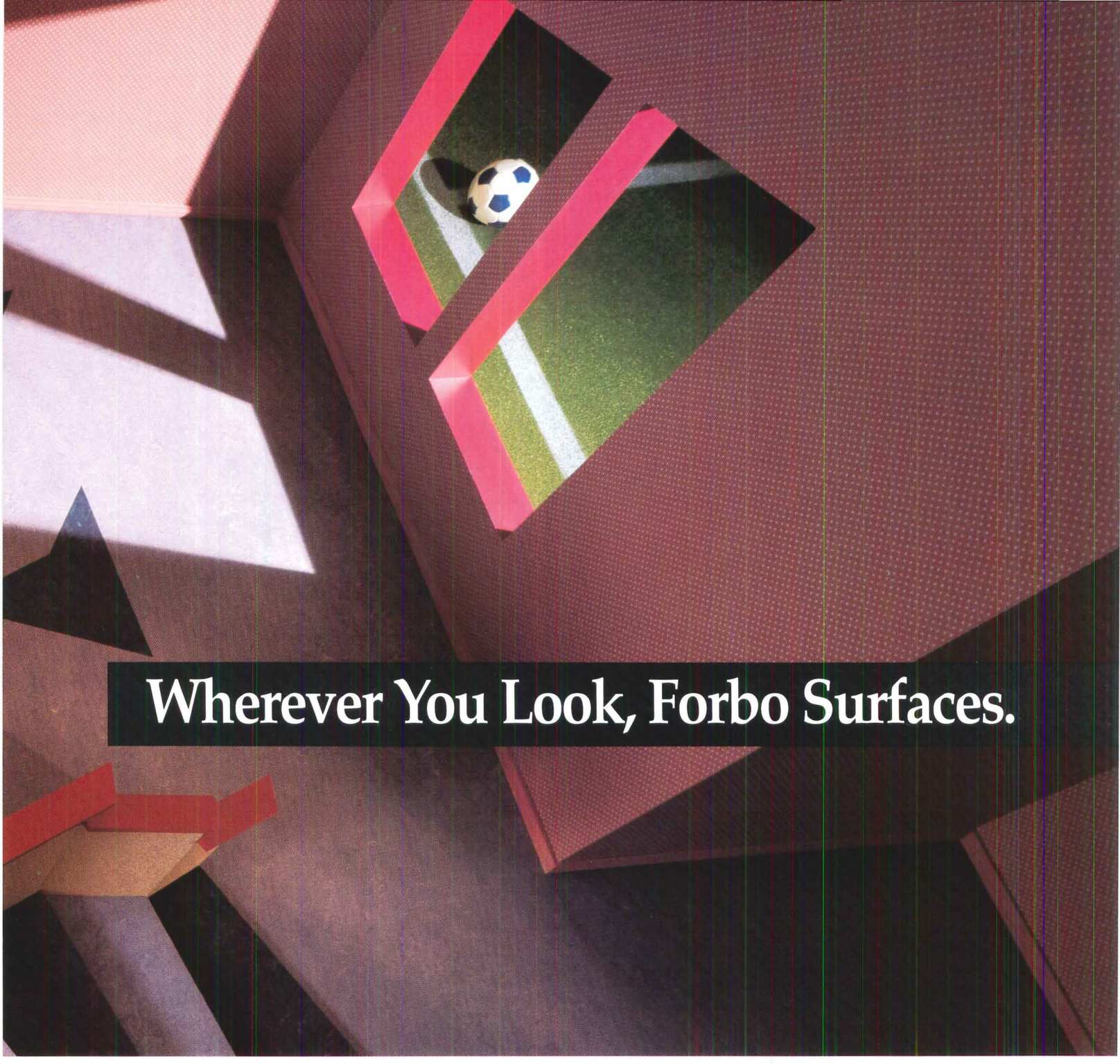

Contract Wallcovering and
Acoustical Systems




Commercial Floor Coverings




Sports Surfaces

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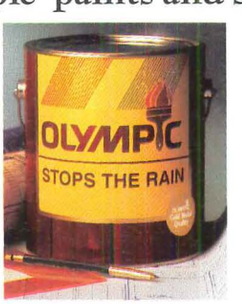


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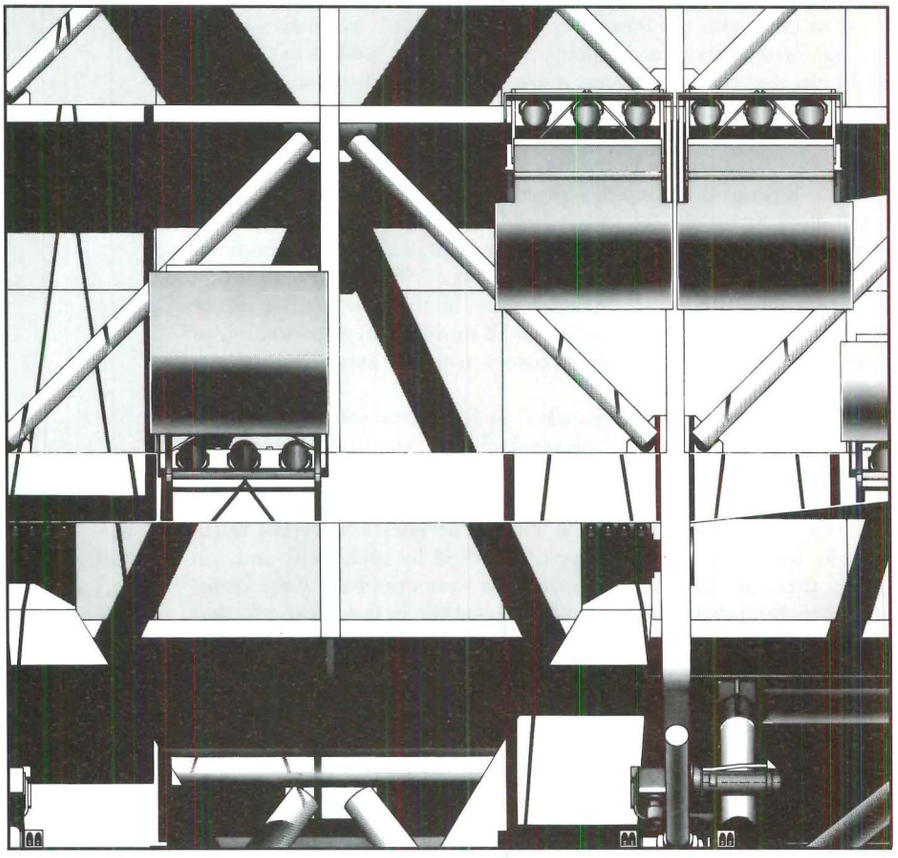
36 USC 380

**Holt Hinshaw Pfau Jones and Christopher Alexander's Center for Environmental Structure, both Bay Area firms, are featured in this issue.**

Although their work looks radically different, each firm operates from a philosophical position that has broad implications for the practice of architecture.

Other noteworthy features in the issue include an inquiry article on schools, an analysis of an admirable new office tower in Chicago, some insightful reviews of books, and competition results. **Thomas Fisher**



*Zip-a-tone drawing of the mirror assemblies on the back of the Astronauts Memorial at the Kennedy Space Center by Holt Hinshaw Pfau Jones.*

# HOLT HINSHAW PFAU JONES

## Introduction

*"The essence of technology is in a lofty sense ambiguous."*
*Martin Heidegger,* The Question Concerning Technology

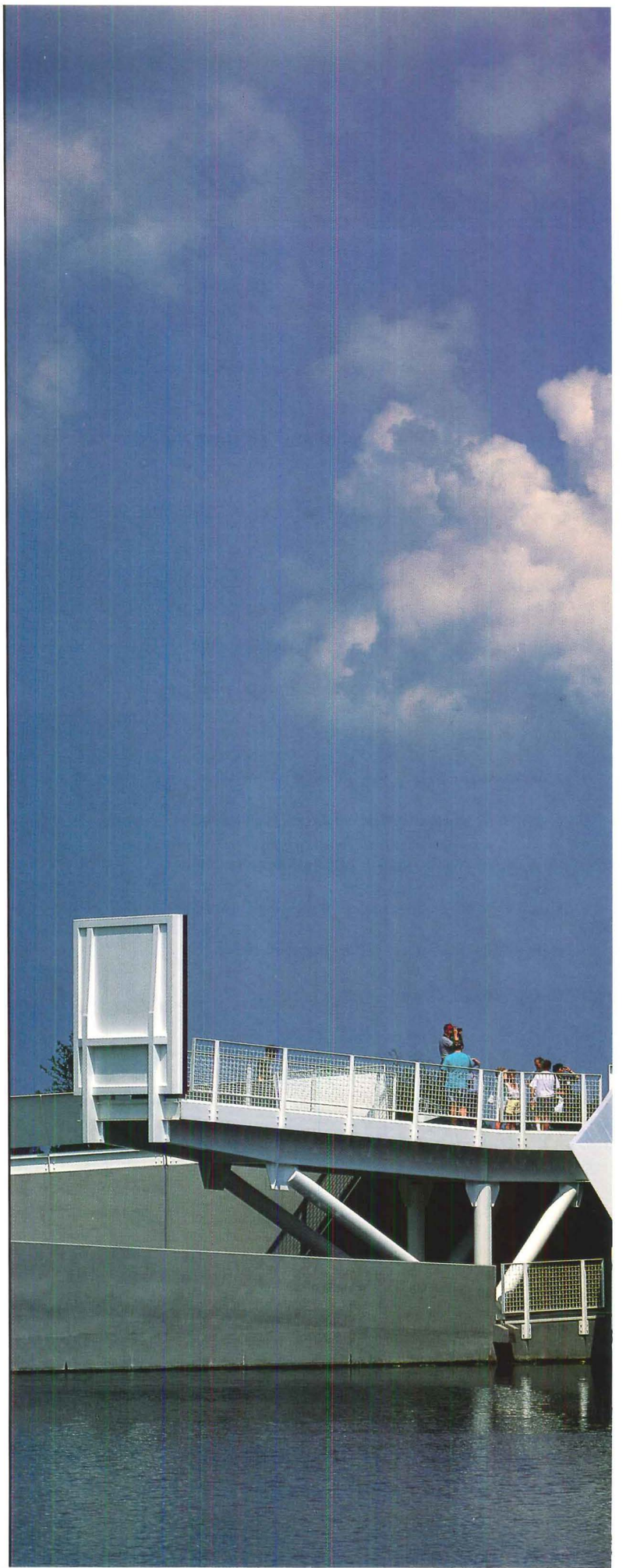
The technology-driven architecture of Holt Hinshaw Pfau Jones – HHPJ – seems anything but ambiguous. Characterized by exposed structural and mechanical systems and clearly articulated moving parts, the work of the firm appears to be frankly Modernist, a literal interpretation of Le Corbusier's dictum "A house is a machine for living." HHPJ's buildings also seem clearly related to the "high tech" architecture of Norman Foster or Richard Rogers – less coolly detailed than Foster's, perhaps, and less colorfully articulated than Rogers', but similar nevertheless.

Yet, such interpretations miss the point – and the importance – of HHPJ's work. To understand the difference demands a brief look at the thought of the German existential philosopher, Martin Heidegger. Heidegger, unlike the Modernists of his era, believed that our dependence upon technology and our faith in science have alienated us from our own existence, from our being. His thinking has had special appeal for architects since, in essays such as "Building, Dwelling, Thinking," Heidegger argued that learning how to be in the world is integral to the act of building and dwelling.

Most architects influenced by Heidegger have assumed that he was against advanced technology, and they have tended to produce buildings that used a simpler, more craft-oriented technology. But Wes Jones of HHPJ disputes that assumption, finding support for his position in the lesser-known essay by Heidegger entitled "The Question Concerning Technology." In that piece, Heidegger does say that advanced technology poses a danger if used to impose a mechanical order on life and to treat people like machines. But he claims in the second half of the essay that in the very danger of advanced technology lies "its saving power." The dehumanization that can come with advanced technology, he thought, can also make us see most clearly what it means to be human. An appreciation of our existence, in other words, comes with an awareness of our possible extinction.

The work of HHPJ forces such a confrontation with technology's "dangers." The firm's buildings are dark and brooding, far from the optimistic empiricism of "high tech" architecture or the Modernist's faith in progress. If there is a faith here, it is the existential belief that salvation comes from facing the abyss. The questions HHPJ raises with its work are not those typically asked by architects, and, no doubt, there are some in the profession who would say these issues are not legitimately architectural. Perhaps the best response to that is something that Heidegger himself might have said: Look to the thing itself. Judge the ideas here by the power of the objects they engender. Diverse juries in the P/A Awards Program have done that and have premiated six HHPJ projects in just five years.

On these and the following pages, we are featuring some of the first works by HHPJ to be completed, including two P/A Award winners: the Right Away Redy Mix building and the Astronauts Memorial, plus a new film storage building for Paramount Studios and a new display system for the company Details. We have also included two essays by outside critics, Gavin Hogben of Cambridge University and Jeffrey Kipnis of Ohio State University, who examine the relationship of HHPJ's work to Modernist and Post-Structuralist ideas. **Thomas Fisher** ■




The Astronauts Memorial Foundation, founded and chaired by Orlando architect Alan Helman, held a competition in 1987 for a monument to commemorate our deceased astronauts. HHPJ won (March 1988, pp. 45–46) with this design, consisting of a four-story-high granite wall, and a computer-operated mechanism that rotates the structure and directs mirrors to reflect sunlight through the astronauts' names which are cut through the stone. A smaller commemorative "mission" wall, also sheathed in granite but fixed in place, terminates a walkway that extends back at an angle from the main structure. The memorial stands on a small rise next to a lake, with a ramped walkway leading up to it and a switchback concrete ramp, cantilevered out over water, leading back to the nearby exhibit buildings of Spaceport USA, NASA's visitors center at Cape Canaveral.

Winner of a P/A Award (Jan. 1989, pp. 68–70), the memorial makes explicit references to historical monuments, and to its immediate context of steel rocket launchers. The structure also speaks, however, to some of the larger existential questions raised by Heidegger and apparent in most of HHPJ's work. Heidegger, for example, wanted us to go beyond the various metaphysical systems that we use to "enframe" reality so that we could once again see the magic of things, the wonder of the ordinary objects that surround us. The Astronauts Memorial works such "magic," making the astronauts' names blaze, almost blindingly, with the light of the reflected sun. And yet, by showing us the

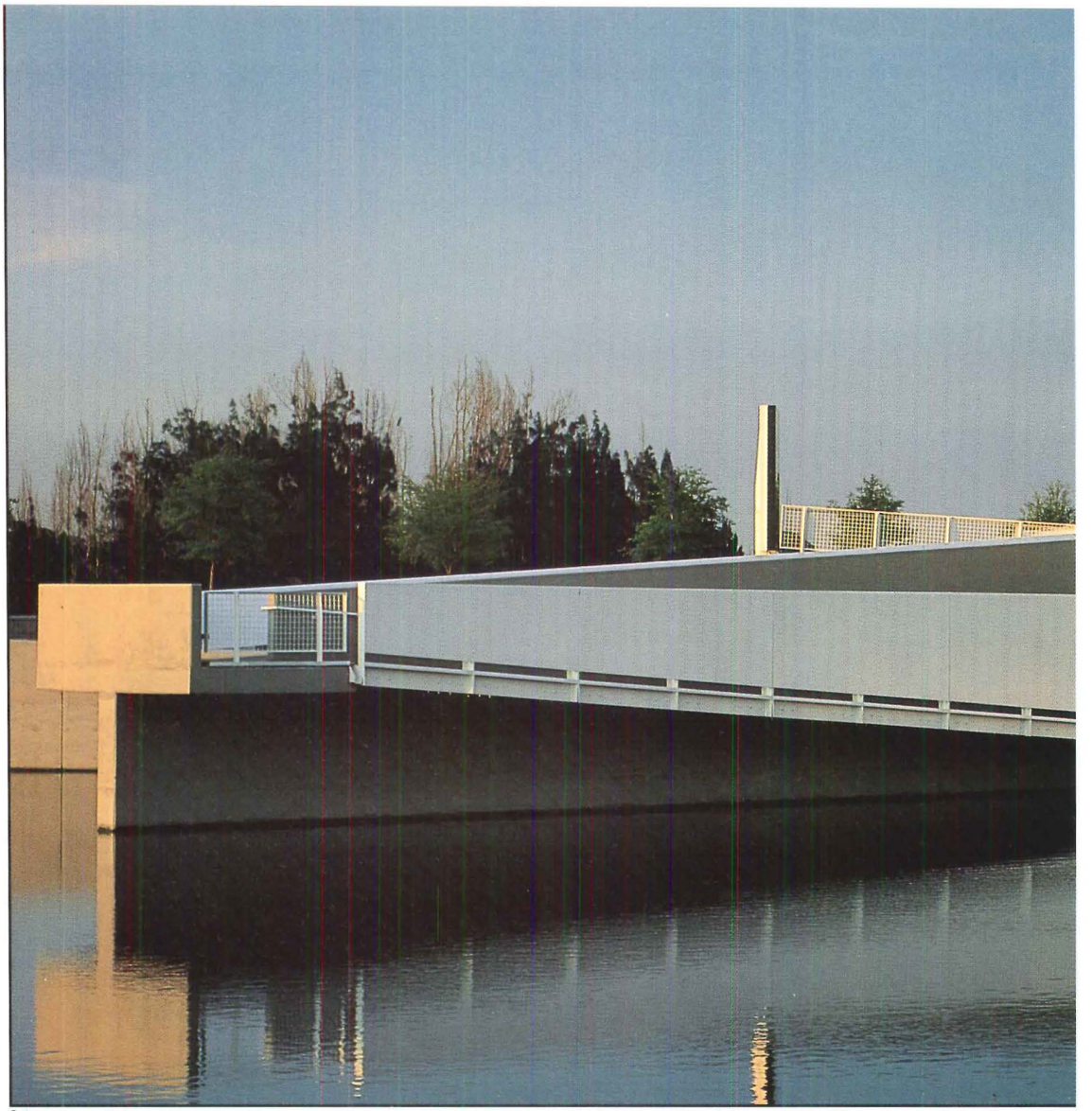
*The Astronauts Memorial by HHPJ consists of a four-story-high polished granite wall that rotates and tilts to face away from the sun (1). Attached to the back of the wall are pivoting mirrors that reflect sunlight through astronauts' names cut through the stone. Standing at the top of a small rise, the rotating wall is approached by walkways up an earthen berm or by a switchback ramp that extends over the adjacent lake. Extending away from the wall at an angle is a smaller, fixed "mission" wall.*

mechanism used to achieve this "magic," the memorial raises its own very Heideggerian questions: Has technology, rather than metaphysics, become the ultimate "enframer" of reality? Has the reality generated by technology become more real to us than reality itself?

The memorial also pursues Heidegger's notion that existence becomes most real to us when we confront death. This structure is, quite literally, a confrontation with death – with the names of people who have died exploring space. But it addresses other, more existential hazards as well. By exposing the huge mechanism that rotates and backlights the granite wall, HHPJ expresses our technical prowess in manipulating nature, and yet reminds us of the price we must pay for that ability: the excess of technology behind even the simple act of lighting names in a wall, which are themselves reminders of human sacrifice to a technological cause. And, by polishing the stone surface to a mirror-like finish, like that of the Vietnam Memorial, HHPJ makes us see our own mortality as we stand there, reflected in the granite, among the names of the dead and the reflections of the sky where, at least metaphorically, all of us may one day dwell.

The Astronauts Memorial is an absolutely brilliant work – provoking, disturbing, and moving. It is, at once, a paean to the power of our technology and an essay on its existential danger. If the project has a flaw, it is its location. Standing next to the entrance to Spaceport USA and adjacent to that museum's extremely banal buildings, the structure must compete with too many other distractions. With so much land at its disposal, NASA should have placed the memorial, recently declared a National Monument, in a more isolated spot, a place more conducive to the contemplation that this design deserves.

**Project:** *Astronauts Memorial, Spaceport USA, Kennedy Space Center, Cape Canaveral, Florida.*
**Architects:** *Holt Hinshaw Pfau Jones, San Francisco (Paul Holt, Marc Hinshaw, Peter Pfau, Wes Jones, Dwight Ashdown, David Ramer, Jim Park, Tim Contreras).*



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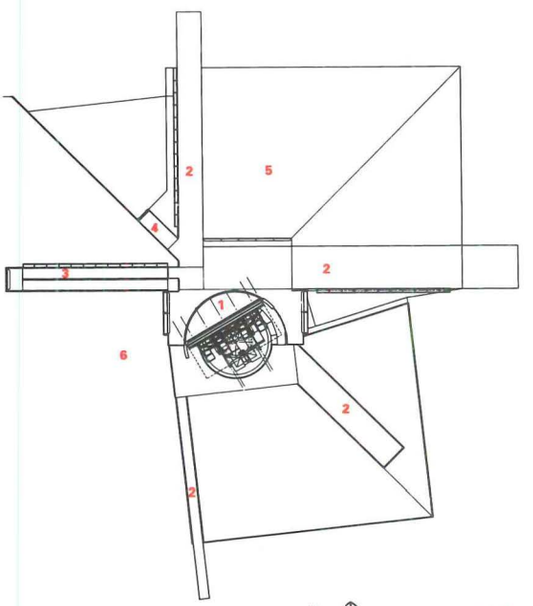
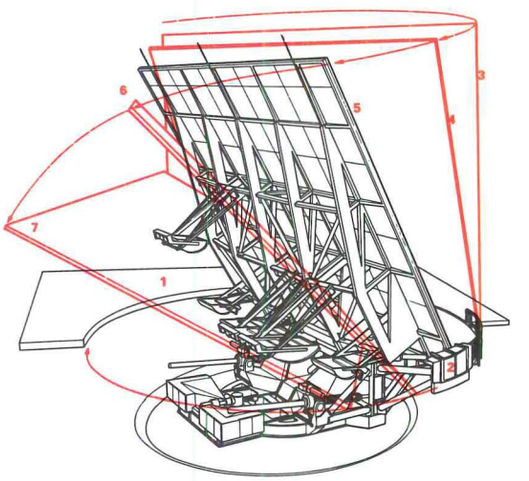


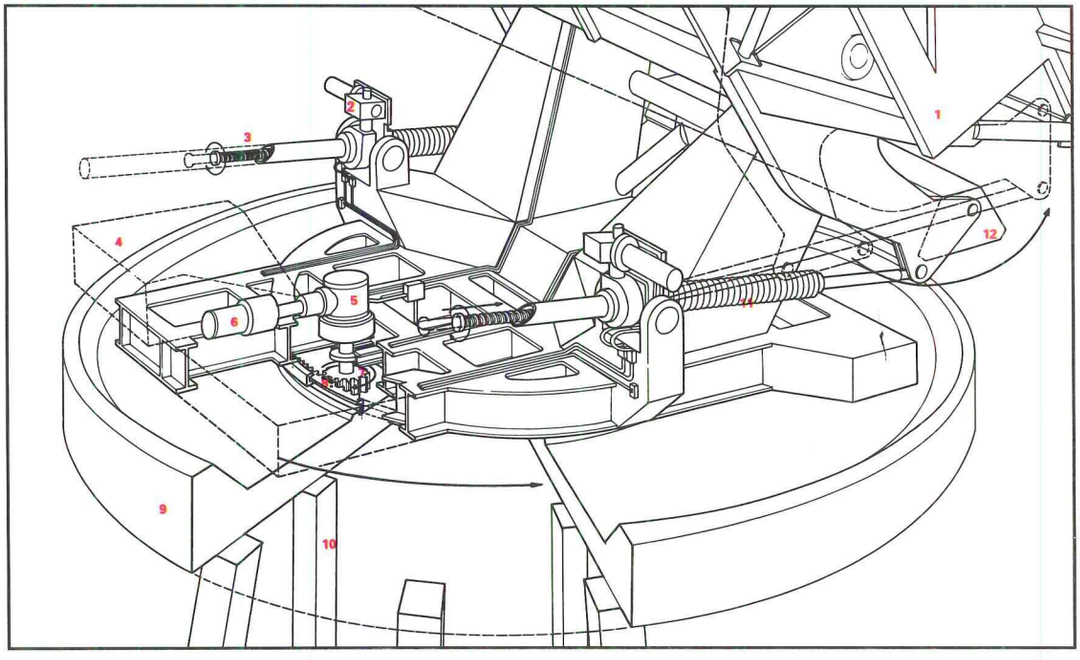

SITE PLAN

1 VIEWING PLATFORM
2 WALKWAY
3 RAMP
4 MISSION WALL
5 BERM
6 LAKE




RANGE-OF-MOTION STUDY

1 UPPER PLATFORM
2 MECHANICAL HANDRAIL
3 NOON POSITION, JUNE
4 1:00 PM POSITION
5 2:30 PM POSITION
6 4:00 PM POSITION
7 6:00 PM POSITION




1 STEEL FRAME
2 SCREWJACK GEARBOX
3 SCREWJACK ROD
4 ELECTRICAL BOXES
5 PRIMARY GEARBOX
6 ROTATIONAL MOTOR
7 PINION GEAR
8 SLEWING RING
9 CONCRETE MAT
10 PRECAST PILES
11 SCREWJACK BELLOWS
12 COUNTERWEIGHT

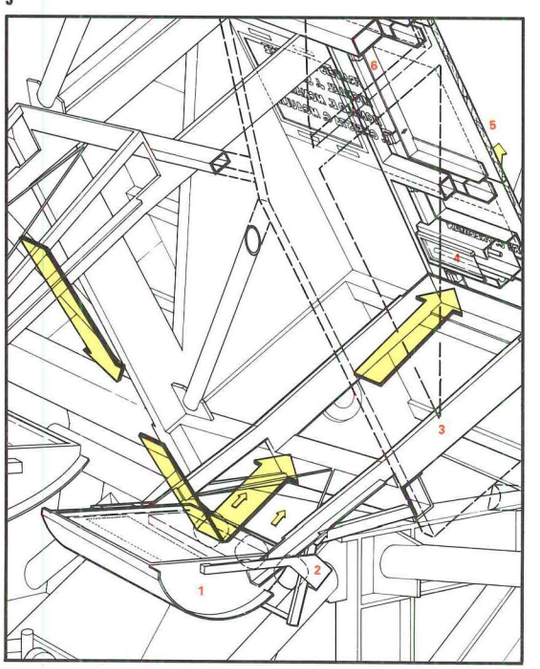
**CUTAWAY AXONOMETRIC**

*The memorial stands at the entrance to Spaceport USA, an exhibition complex run as part of the Kennedy Space Center (2). The ramp that extends out into the lake gives visitors access to the mechanism that operates the rotating wall (drawings at left). Two screwjacks tilt the wall back or forth depending upon the height of the sun above the horizon; a large weight at the base of the wall counters the gravitational or wind forces acting to overturn the tilting structure. A gear mechanism rotates the wall along a slewing ring over the course of a day, as the sun moves from east to west. All of these operations are controlled by a computer. The architects designed an innovative mechanical railing that could be raised and lowered as the wall moved, but this was superseded by a fixed railing that keeps visitors away from the wall.*

**Client:** *The Astronauts Memorial Foundation, Alan Helman, chairman.*
**Site:** *six-acre site at the entrance to Spaceport USA, within the 140,000-acre Kennedy Space Center.*
**Program:** *a memorial to the 14 astronauts who have died, and to all future astronauts who may be lost in the line of duty.*
**Structural system:** *welded, rotatable, steel structure, 62 feet high, supporting a 42' x 50' panel of granite slabs; precast piles and concrete footings and foundations.*
**Major materials:** *concrete, steel, polished granite (see Building Materials, p. 138)*
**Mechanical system:** *18-foot-diameter slewing ring operated by screwjacks.*
**Consultants:** *VSL Corporation, structural and mechanical; MTH Engineers, electrical; Professor Lambertus Hesselink, Stanford University, optical.*
**General contractor:** *W & J Construction, concrete and site work; VSL Corporation, steel, stone, and mechanical work.*
**Costs:** *$4,500,910.*
**Photos:** *Mark Darley/Esto.*

3

*Perhaps the most visually dynamic parts of the memorial are the mirrors attached to the white-painted steel trusses at the back of the rotating wall (3). These mirrors also track the sun and reflect its light through the astronauts' names cut through the wall's granite by means of an abrasive water-blasting technique (see Product Features, p. 122). Glazing is attached to the back of these names, making them appear to glow (drawing, right). Lighting fixtures, attached to the outer edge of the mirrors, illuminate the names at night or on cloudy days (4). The memorial is approached from Spaceport USA along a paved walkway beside a grassy bowl (5). After climbing the sloped walkway to the wall itself, visitors return via a ramp (6) to the low spaces under the memorial (7), where the sun-tracking mechanisms are exposed.*




AXONOMETRIC

1 MIRROR HOUSING
2 BACK-UP LIGHTS
3 MIRROR SUPPORT
4 GLAZED LIGHT BOX
5 GRANITE PANELS
6 STEEL FRAME

4

5

6

7

**Gavin Hogben** relates the Astronauts Memorial to Modernist ideas of the machine.

**Jeffrey Kipnis** contrasts the "decidability" of HHPJ's work to the "undecidability" within the academy.



## Life in the Machine

The hybrid machine architecture of HHPJ's Astronauts Memorial pays homage to Le Corbusier's heroic vision of *Vers une Architecture* in a way that the master could hardly have anticipated. Despite his admiration for the achievements of the engineers of his age, Corb showed little enthusiasm for utilitarian or mechanistic architectures. His declaration of the house as a *machine à habiter* was an appeal for the dwelling to adopt the machine-age spirit rather than its specific forms. Machines in the modern age showed that a "well stated problem" always met its solution as in the car or the airplane, but that the "problem" of the dwelling went far beyond utility. Clean lines, sharp light, and fresh air were to nourish the mind and body of the modern citizen, and, no doubt, to foster the same clarity of thought that Corb found endemic among engineers and so foreign to architects.

All the same, satisfaction of the intellect was not enough, and the architect had to prove himself a plastic artist and no "mere engineer" by his mastery of profile and contour, through which measure alone architecture could touch the heart. Ships, planes, and cars might spur the imagination, but Phidias' Parthenon was the paramount example and standard that must be pursued. The *machine à habiter* was a problem of the human spirit.

Donald Egbert has observed that a machine is defined by the sum of its parts, but that an organism always exceeds that sum. Corb's machines exceed their sums. Classical theories of architecture had sought harmony in a system of parts at rest, but Corb's machines always presume the spark of life that will stir our emotions. Mary Shelley's *Frankenstein*, and Diderot's earlier writings on genius and sublimity, had explored the accident of such a spark kindling the mechanism. Organic theories and motive power developed side by side throughout the 19th Century.

Organic theories also revealed the inexorable forces within the social machine, whose ruthless slipstream came to be glorified in the reckless addiction to change and speed of Marinetti and the Futurists. Their exhilaration was to be extinguished by the mechanized slaughter of World War I. And yet the desperate wartime evolution of the airplane gave Corb hope for the peace and the reconstruction. He believed that the rapid and undeviating path of the airplane's development had driven its engineers to powers of intelligence and daring of a visionary pitch, aptly symbolized by the uniquely direct line and panoramic vision of flight itself. Here in the ether, as in the conception of the machine, man was free to realize his destiny as a purposive creature. Architecture too must take flight.

Some 68 years later HHPJ faces a different kind of reconstruction with the Astronauts Memorial. They must rekindle a faith in the powers of machines, of pioneers, and of collective social effort, and do so at the scale of the nation. The explosion of Challenger shook what was already weak. The machine-age has become tired; oil crises, ozone depletion, computer viruses, all have stalled our excite-

*(continued on page 142)*

## The Mechanism of Power

What does architecture mean? What else does it mean? What can it mean; what should it mean? Indeed, can it or should it mean anything at all? A factional debate over the answers to these questions continues today as architectural design wrestles to overcome the symbolic impoverishment and the stylistic colonialism that are the legacy of Modernism.

To situate the work of Holt Hinshaw Pfau Jones in that debate, let us call upon the traditional prerogative of the critic to assign a proper name to a tendency in design. On one hand, insofar as it inevitably distorts the irreducible singularity of a particular practice, assigning such names is conspicuously biased, even violent. Yet, on the other hand, it is an important task, since a persuasive proper name wrests the work from the proprietorship of its authors and allows it to be disseminated; without such a name, the work remains immobile and idiosyncratic.

Shall we call it Mechanism? The name does have certain advantages over other prevailing "isms" such as Post Modernism or Deconstructivism. In these latter names, the "ism" ending is hung on like an ornament to enlarge the root/practice into a doctrine, theory, or system. Mechanism, on the other hand, is a word where the "ism" is integral; its ending speaks more of action or process than of doctrine. Avoiding doctrine is not insignificant today, considering that the destitution caused by architectural Modernism can be traced to its ultimate formulation as a design doctrine. Thus, the name Mechanism might capture HHPJ's desire to extricate architecture from the weight of academicism, while distinguishing it from other technology-associated architectures. By calling upon the raw fascination that great steel mechanisms in complex motion hold for us, HHPJ seeks to produce an architecture with an appeal more visceral than cerebral. This aspiration is not merely a gesture towards popular taste, though the work, indeed, has a broad allure. Rather, it constitutes HHPJ's primary strategy to assert the status of intention and decidability in the face of the contemporary academy's bewitchment by undecidability. As Wes Jones writes, "the machine is that which decides anyway in the face of undecidability. The machine is embodied intention."

Undecidability names the fundamental impossibility of knowing the meaning of any work. According to post-structuralist thinking on undecidability, meaning is only wrought (temporarily) by the aggressive repression of other meanings. Whereas some architects today see the task posed by undecidability to consist of relaxing the systems of repression to give greater play to the consequences of undecidability, HHPJ draws the opposite conclusion. The firm increases repression aggressively to achieve meaning, however provisional that achievement may be. Jones refers to the work as a "celebration of the mechanisms of repression which give meaning." On the question of meaning, HHPJ is to the architects of undecidability what Steven Spielberg is to David Lynch.

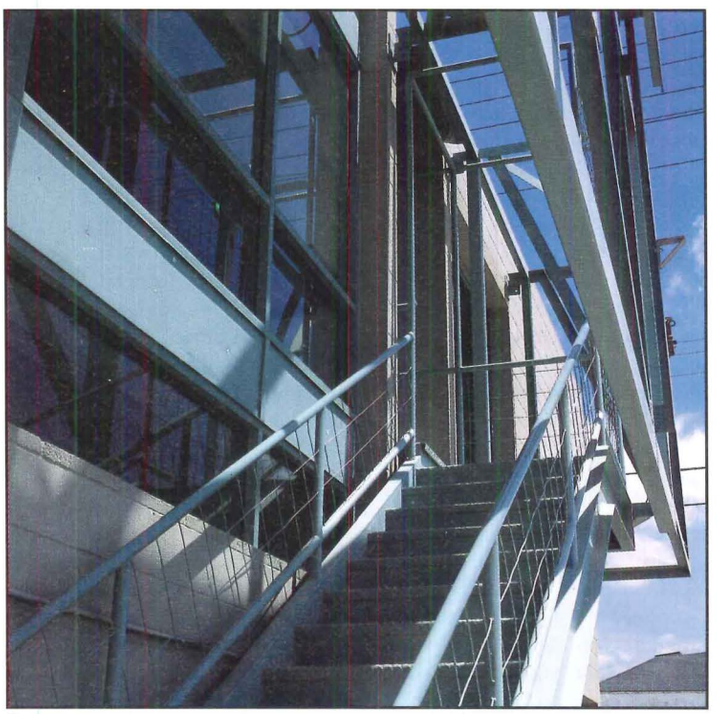
*(continued on page 142)*

## RIGHT AWAY REDY MIX

8



*HHPJ's administrative and maintenance facility for the concrete batching company, Right Away Redy Mix, includes a concrete-block garage out of which extends a second-floor, steel-framed control room and office (8). The back of the garage forms a wall to the street, which is in keeping with the area's low-scale industrial buildings and walled-in concrete plants (11). Recalling the forms of the nearby batching plant, with its exposed steel structure, conveyor belts, and hoppers, this administration building features movable panels that shade the glass and the controllers' eyes from the sun, (10) an exposed steel structure that supports the panels, and an open stair that scales the outside of the buildings (9).*



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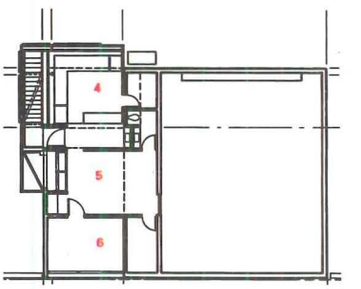
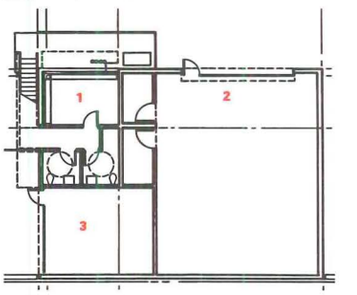


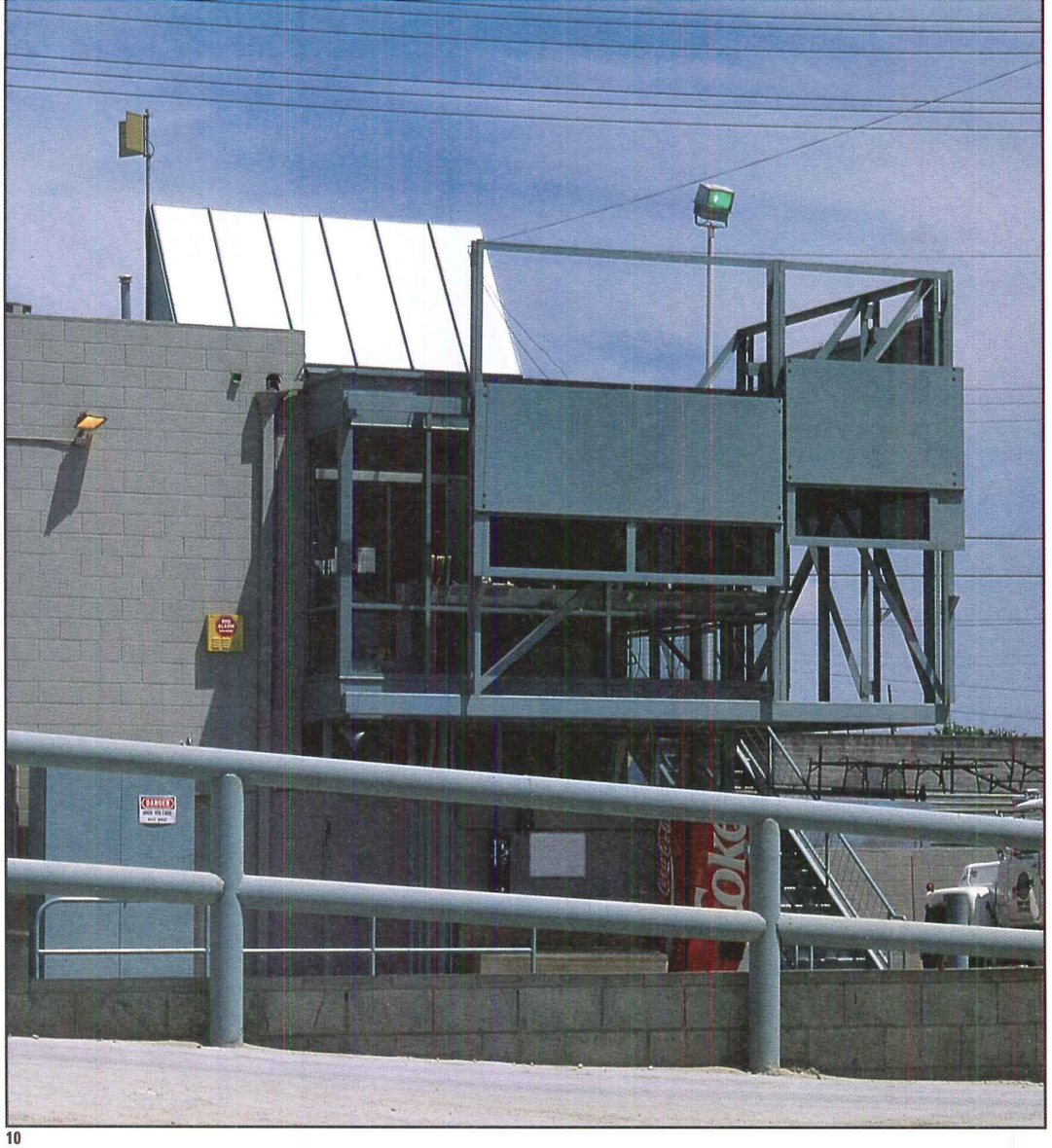

SECOND FLOOR PLAN




FIRST FLOOR PLAN

N → 20'/6m

1 DRIVERS
2 MAINTENANCE
3 WAREHOUSE
4 DISPATCHING
5 CONFERENCE
6 OFFICE



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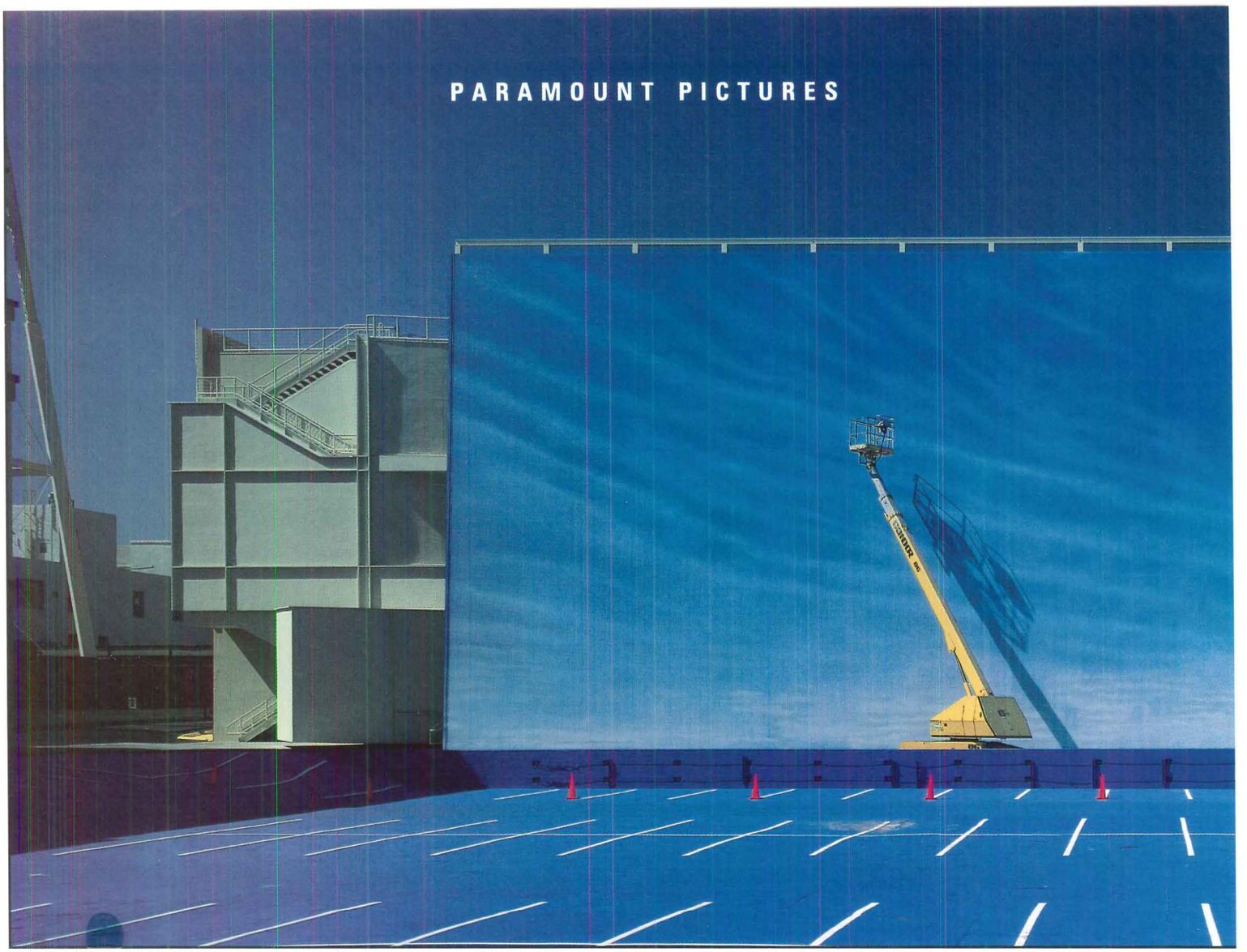
11

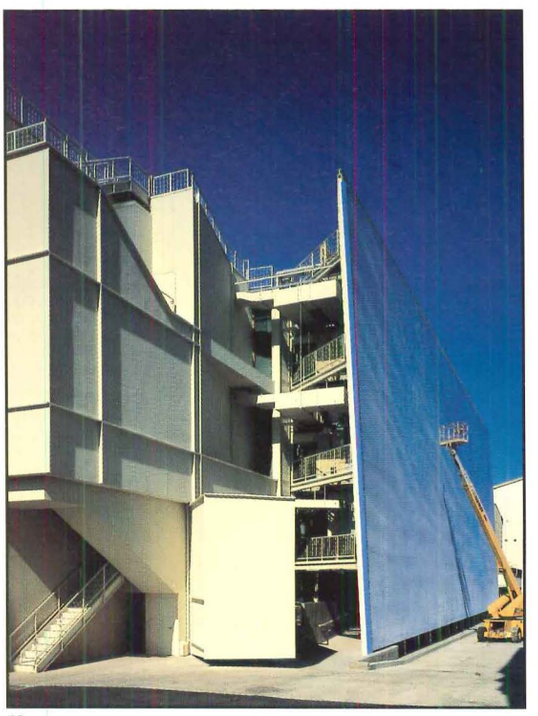
The idea of technology as a kind of Goliath, swallowing us whole, emerges in HHPJ's Right Away Redy Mix administrative and maintenance facility, also winner of a P/A Award (Jan. 1987, pp. 101–103). This office, control center, and garage for a concrete batching plant blends in well with the industrial equipment and structures that surround it. But this is not just an exercise in contextualism. The building itself is a machine. Steel stairs, for example, scale the face of the building like a conveyor belt to the top of the nearby batching tower; and exterior panels, which move up and down to keep the sun out of the controllers' eyes, recall the action of the hopper doors that separate the plant's various cements and aggregates. Although the second-floor office and control room are quite pleasant, the building has a darker side as well. HHPJ's equation of building and machine suggests that the people who work within this structure are of a piece with the mechanisms they control. Heidegger saw technology's greatest danger in its ability to incorporate us into some larger mechanical order. At Right Away Redy Mix, HHPJ makes that idea concrete and thus confronts us, as Heidegger would say, with its "saving power."

**Project:** *Right Away Redy Mix administrative and maintenance facility, Oakland, California.*
**Architects:** *Holt Hinshaw Pfau Jones, San Francisco (Paul Holt, Marc Hinshaw, Peter Pfau, Wes Jones, Tim Contreras).*
**Client:** *Right Away Redy Mix, Geoff Hendrickson.*
**Site:** *one-acre corner site adjacent to a concrete batching plant.*
**Program:** *4,000-square-foot building containing administration, control, storage, and truck maintenance.*
**Structural system:** *CMU walls on strip foundations, metal deck, steel beams with wood joists.*
**Major materials:** *CMU, aluminum windows, painted steel, (see Building Materials, p. 138)*
**Mechanical system:** *gas-fired forced air heating.*
**Consultants:** *Steven Tipping & Associates, structural; Design Build, mechanical; GL&A Civil Engineers, civil.*
**General contractor:** *owner builder.*
**Costs:** *withheld at owner's request.*
**Photos:** *Mark Darley/Esto.*




12

*HHPJ's film and tape archives building for Paramount Pictures features a zone of exposed mechanical equipment set within a steel frame that supports an artificial sky backdrop (12). The concrete box that holds the film and tape vaults and the editing studios is entered at one end of the mechanical equipment zone (14), adjacent to a projecting stair housing. This layering of functions continues in the building itself, where there is a zone of vault spaces, consisting of row after row of fixed and movable files, and a zone of editing studios, where directors cut and merge takes into films (plans, right). The steel frame that supports that equipment stops short of the vault building at the entrance end (13) and extends beyond it at the other (15).*



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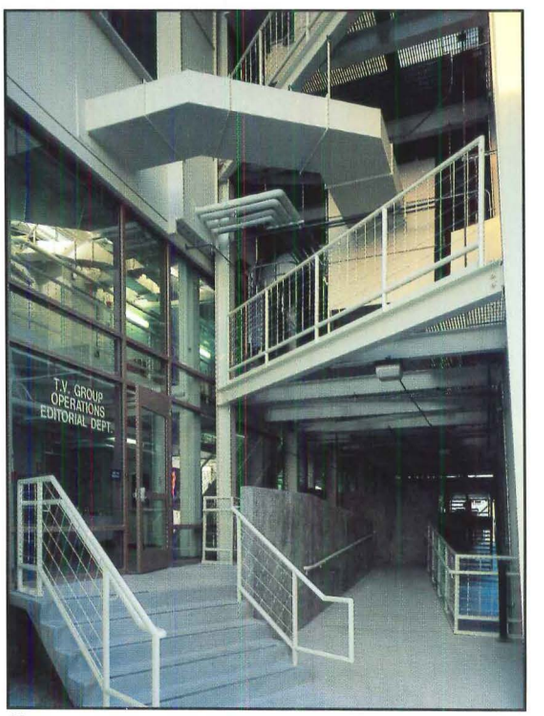


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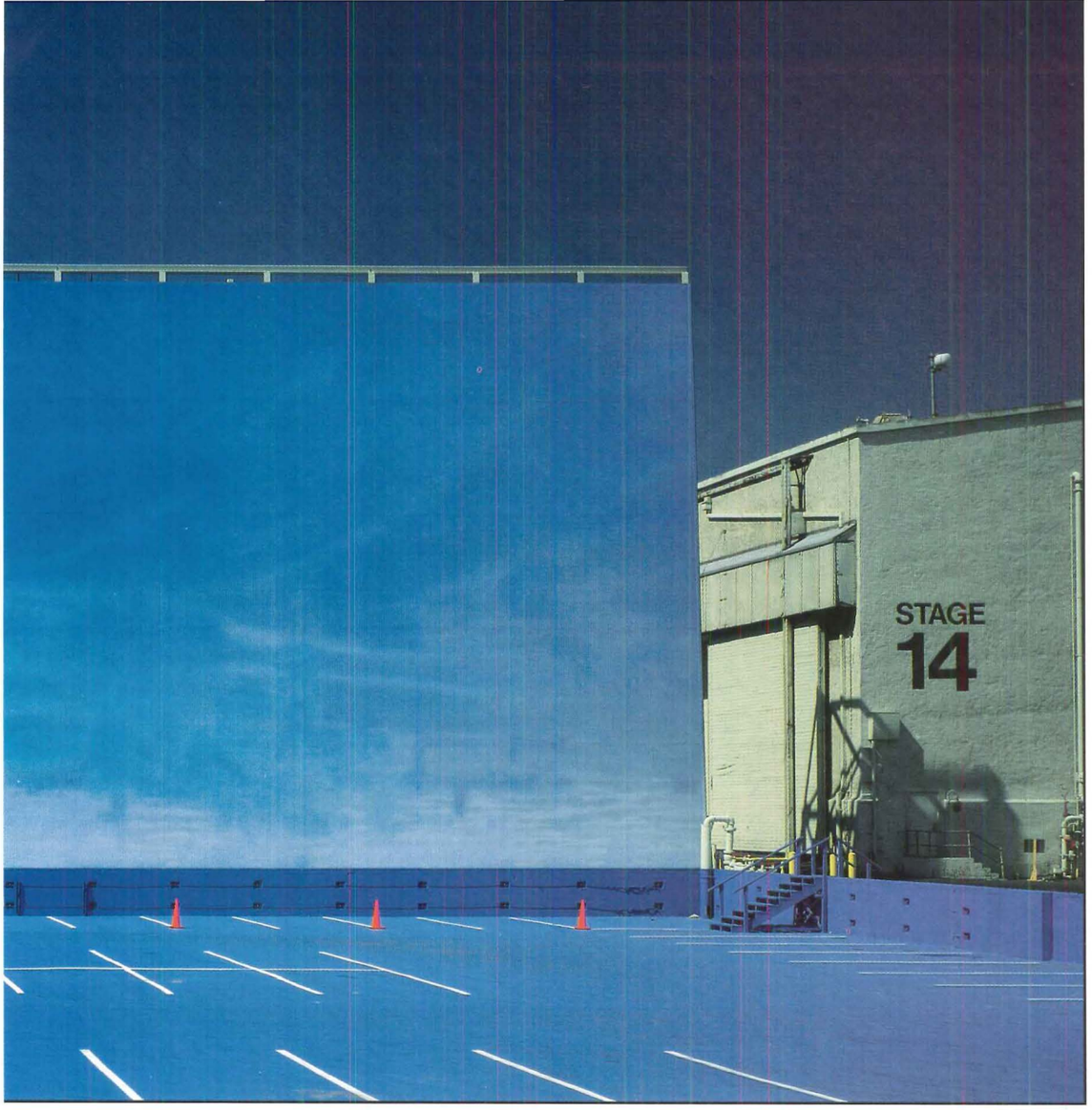
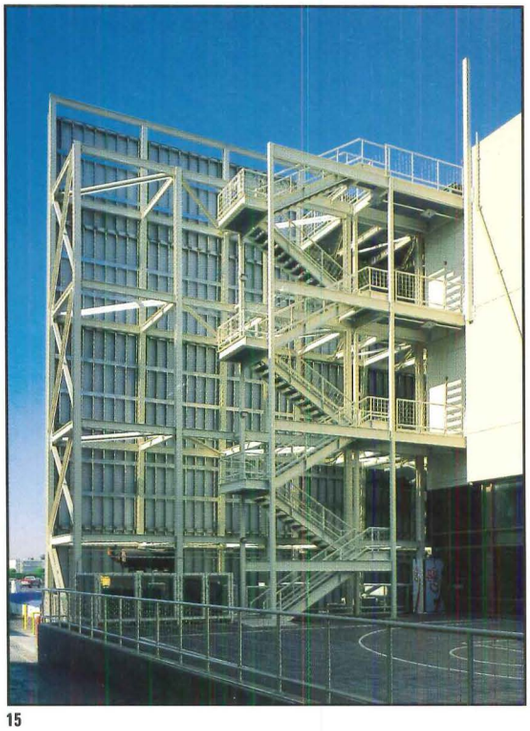
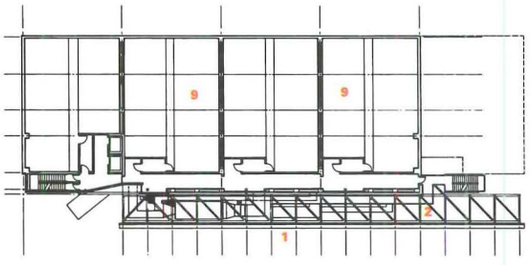
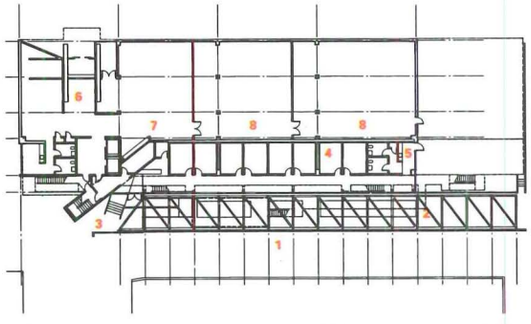





UPPER FLOOR PLAN




FIRST FLOOR PLAN

N ↑ 40'/12m

1 SKY
2 MECHANICAL EQUIPMENT
3 ENTRY
4 EDITORS' OFFICES
5 LOUNGE
6 SHIPPING/RECEIVING
7 PROCESSING
8 STORAGE
9 ARCHIVES

15

Heidegger, as Wes Jones points out, realized that what we must fear is not technology's dangers, but our own desire to disguise them, to keep them hidden. HHPJ explores that idea in its design of film and tape archives for Paramount Pictures. The company needed a large, climate-controlled and highly secure place where old tapes could be stored and where directors could work on the editing of new films. The structure would replace an old scene-painting loft and a sky backdrop. HHPJ responded by designing a nearly windowless concrete box with an attached steel structure supporting the building's extensive mechanical equipment and a rebuilt sky backdrop.

The architects layered the building, in plan, with various types of artificial realities: the zone of the artificial sky, the zone of editing studios in which fictional worlds are created, and the zone of storage rooms with film recording the artifices of times past. Through this layering, HHPJ explores the idea of "between-ness." Architects, like film editors, structure parts of things into wholes, which in turn become parts of larger wholes. Thus, every act of design or editing is always a moving between parts and wholes. In this building, the editors' offices, accordingly, stand between and adjoin both the sky fragment and the whole films in the archives.

HHPJ also exposes here the seams that architects and editors are always attempting to conceal. The firm has pulled apart the various functions of the building, like editors cutting apart frames in a movie, and has revealed the technology that supports the sky backdrop, like movie directors inviting the audience into the projection booth. As in all of HHPJ's work, the intent here is to reveal meaning, to remove the disguises we use to hide reality. Despite its apparent "inhuman-ness," this architecture is deeply humane and morally driven.

This structure, too, can be seen as a comment upon the technology – ducts, wires, and pipes – that often lies hidden within the walls of buildings. By bringing this equipment out from behind the disguise of interior wallboard and exterior cladding, HHPJ reminds us that, in

**the thickness of every wall, there remains hidden a whole infrastructure of technology without which our own existence in buildings would be impossible – and without which the sky would fall.**

**Project:** *Paramount Pictures Film and Tape Archives, Los Angeles.*
**Architects:** *Holt Hinshaw Pfau Jones, Los Angeles branch office (Paul Holt, Marc Hinshaw, Peter Pfau, Wes Jones, Tom Goffigan, Scott Laidlaw, Craig Schultz, Chris Tanden, Robert Yue, David Gadarian, Lourdes Garcia, Dana Berbera).*
**Client:** *Paramount Pictures (Earl Lestz, president, studio group; Chris Essel, vice president of planning and development; Ann Gray, executive director, design development; Mike Romano, executive director, construction services).*
**Site:** *a 17-acre site east of Paramount water tower.*
**Program:** *39,000 square feet of film vaults and editing studios.*
**Structural system:** *cast-in-place and precast walls, precast T beams, steel frame supporting mechanical system.*
**Major materials:** *concrete panel wall, steel windows, painted steel frame (see Building Materials, p. 138)*
**Mechanical system:** *forced air.*
**Consultants:** *Ove Arup & Partners, engineering.*
**General contractor:** *Turner Construction.*
**Costs:** *withheld at owner's request.*
**Photos:** *Mark Darley/Esto.*

*The billboard wall and exposed chillers of HHPJ's film and tape archives building (16) seem right at home among the stage sets and film equipment of Paramount Studios. Less contextually determined is HHPJ's design for a movable display system for Details, a desk accessories company. The system consists of a black-painted steel structure which curls up and folds back, depending upon the company's display needs (17). Products are placed upon or hung from the system's yellow steel shelving and panels. Designed for indoor and outdoor sites, it has the character of a hot rod car, with various components clipped to a steel frame (18). Three screw-jacks operate the machine. Contrasting with this steel machine are the soft airbags, inflated by small fans, which circulate air through flexible ducts (drawing, facing page bottom).*

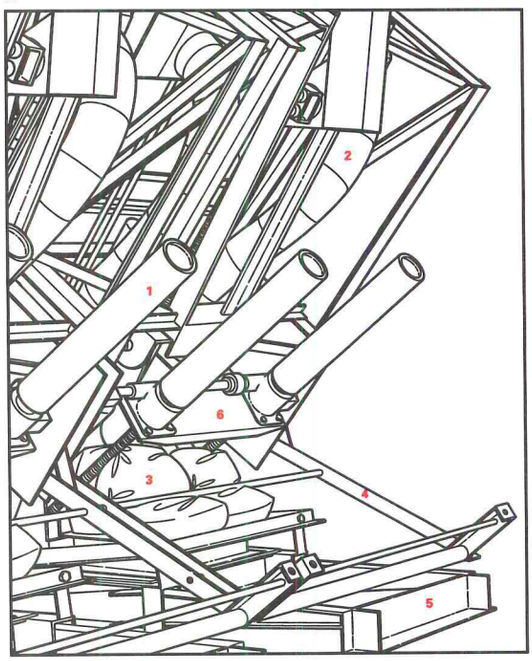
16


Douglas Salin

17

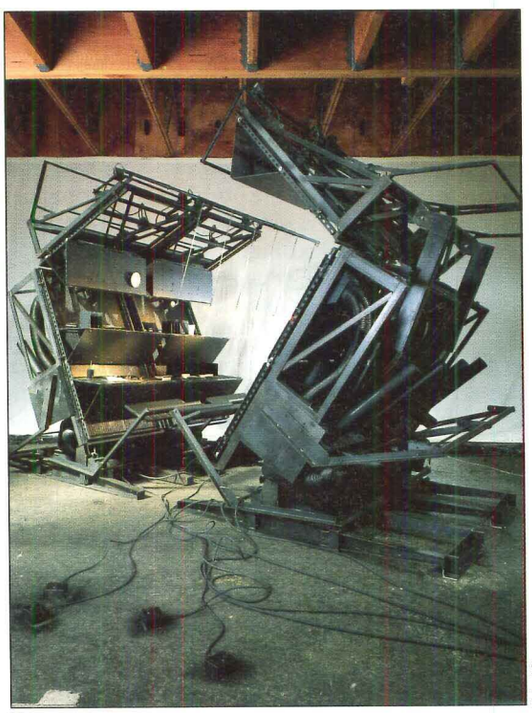
HHPJ raises questions about the production and consumption of goods in its display system for Details, a manufacturer of office accessories. To support shelving on which the accessories are displayed and to provide flexibility in the arrangement of the products, HHPJ has created a large black machine, with yellow skin, that moves into a number of prone or upright positions. The huge mechanism seems dangerous and overwhelming, but it has a magnetic appeal, even for those who might otherwise be uninterested in desk accessories. Like a hot rod, the system achieves flexibility without losing its "strong" form.

This display machine reminds us of the complex fabricating equipment needed to produce something as seemingly simple as a paper holder or a task light. It also comments on our own passivity as consumers. You can stand before the Details display and let the machine bring the products to you, exposing the often incredible behind-the-scenes efforts of business to make consumption an effortless, painless process. But this is no friendly robot. The huge, looming object brings to mind a kind of "1984" vision of a consumer world in which we are enslaved by the very technology that serves us.




AXONOMETRIC

1 ACTUATOR ENLARGER
2 AIR SUPPLY
3 AIR BAG/SURGE SUPPRESSOR
4 SISSY BAR
5 BASE STABILIZER
6 DRIVE SCREW YOKE



Richard Barnes

18

**Project:** *Details display units.*
**Architects:** *Holt Hinshaw Pfau Jones, San Francisco (Paul Holt, Marc Hinshaw, Peter Pfau, Wes Jones, Mark Sparrowhawk, design team; David Willett, Susan Michael, Douglas Gauthier, Dwight Ashdown, Jean Jones, Robert Shepherd, Glen Butler, Rick Silvain, fabrication team).*
**Client:** *Details, a division of the Steelcase Design Partnership.*
**Site:** *600 square feet in various indoor and outdoor showroom spaces.*
**Program:** *display system for contract interiors trade shows.*
**Structural system:** *welded steel frame.*
**Major materials:** *cold rolled steel angles and plates, aluminum plates.*
**Mechanical system:** *electro-mechanical actuators, airbags that circulate air to people viewing the display.*
**Consultants:** *Holt Hinshaw Pfau Jones and Kaleva Design, structural, mechanical, and electrical.*
**General contractor:** *Holt Hinshaw Pfau Jones, West Edge and Weekend Engineering, steel fabrication.*
**Costs:** *withheld at owner's request.*

# P/A Inquiry: Schools

Once the mainstay of many architectural offices,

school commissions are emerging from a 1980s hiatus.

### Some Current Issues

It appears that vestigial traces of the open plan and team teaching still persist, although to a far lesser degree than earlier. Change continues to affect education. Both Ben Graves and Bill Brubaker note the effect of the computer on many school planning areas. Aside from the shift from computer labs to general classroom use, computers are changing the functions of the library/media center, and Graves wonders if they might also substitute simulation for certain laboratory and shop functions. Student educational planning constitutes just one other possibility.

Both men see a movement to reverse increases in school size. Subdivision of schools into schools-within-schools, each with its own administration, is one way they see besides simply making smaller schools. Brubaker also sees many alternative kinds of schools, and notes that a "magnet" school built in Chicago years ago is still functional.

Equalization, a term meaning functional equality in facilities and equal expenditures within the jurisdiction of a given district, is an issue that bears watching, Graves comments. As an oversimplified explanation, an entity comprising several school districts would collect tax monies from all of its school districts and redistribute the funds equally among them. Since the idea is still full of legal holes yet to be challenged, it could yet fail to be widely adopted.

During the 1950s and 1960s, the nation could scarcely build enough schools to keep up with educational needs. Changes began in the 1970s, as enrollments started to drop; the 1980s saw existing schools becoming less populated, being closed, or even reconfigured for new uses such as housing or commercial office space. However, with the passing of "Baby Boomers" into middle age, society's needs are again changing; schools are again needed, if not quite at the earlier frenetic pace. The new schools can indicate either growth or the need to create more appropriate environments in which to learn and through which applicable new technologies can be effectively applied.

In addition to these seemingly obvious challenges, there are a number of other factors that may not be quite so readily apparent. Some solutions show up in the examples shown on these pages, but perhaps a larger percentage of the issues are yet to be dealt with in future school designs. One reason is that new projects are most often conceived through programs written by practicing educators, who may not be trained to look to future needs and who, therefore, react to current educational pressures. These programs, thus, may be flawed at the outset because they fail to provide for the rapid advance of technology, changing social or economic emphases, or environmental and energy developments.

In the 1950s and 1960s when school building programs were at their peak, the Educational Facilities Laboratory (EFL), an organization under the aegis of the Ford Foundation, provided invaluable information to architects about all aspects of school design. One of the EFL's key players was Ben Graves, now a principal of Educational Planning Consultants, Austin, Texas. In his current role, he is consulting with school boards and architects all over the country about programming and philosophies that will be instrumental in forming both physical school facilities and their idealogical bases in the future. Because of their lifelong commitment to the design of educational facilities, P/A talked with him, and with architect C. William (Bill) Brubaker of Perkins & Will, Chicago, an innovator in school design. Both agree on several key points, some of them paraphrased in the sidebar column to the left.

Many of these involve the computer, in one way or the other, an indication of the swath this technology cuts across most disciplines. Previously-held absolutes such as language labs (largely gone), media centers (libraries, in flux), fixed one-track programs (college prep, etc.), and even other laboratory functions have come into, or are coming into, question. Programmatic elements many of us took as unchallengable imperatives are disappearing from the educational lexicon. These are straight academic concerns, but there are changes resulting from other forces.

Additional sources of agreement: the growing need to make the school more interactive with the community concerns and activities; the trend toward extended use of schools, in hourly or yearly terms; the need to identify the role of schools in daycare, preschool, special education, and adult education programs. Issues of site size, finance, and alternatives were also addressed.

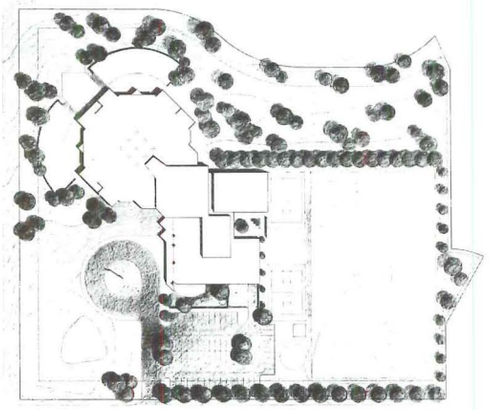
Brubaker comments that, in comparing schools, "You have to be very careful about the statistics." In temperate climates like California, for instance, a number of functions that must be protected from cold weather can be carried on under shelter outdoors. Even with locally differing area-per-student requirements, building costs per square foot vary widely over the country; so Brubaker feels most of these comparisons tend to be meaningless unless used with full knowledge of the variables.

In addition to the increased concern for the environment, Graves mentions another recurrent concern – one that, it is hoped, will remain in the architectural consciousness permanently. "Energy is back," he notes. While school design has never been simple, it has never had so many lively possibilities.

**Jim Murphy** ■

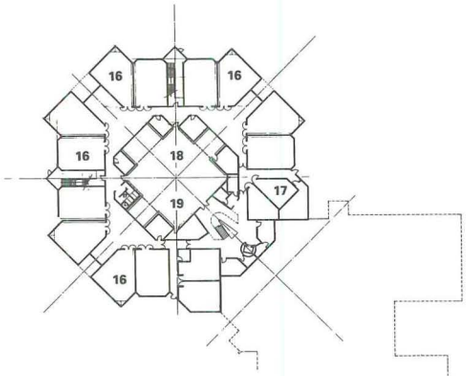
ENTRANCE FROM THE NORTH

ADMINISTRATION AREA "VILLAGE" ELEMENTS



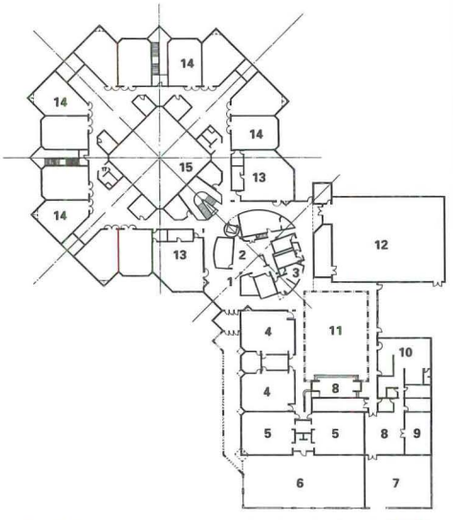
SITE PLAN

N ← 100'/30m




1 LOBBY
2 ADMINISTRATION
3 HEALTH
4 MUSIC
5 PRE-SCHOOL/KINDERGARTEN
6 OUTDOOR PLAY
7 RECEIVING
8 CHAIR STORAGE
9 MECHANICAL
10 KITCHEN
11 CAFETERIA
12 GYMNASIUM
13 ART
14 INTERMEDIATE C.R.
15 OPEN
16 PRIMARY C.R.
17 SPECIAL ED. RESOURCE
18 MEDIA LIBRARY
19 COMPUTER LAB.

FIRST FLOOR PLAN




SECOND FLOOR PLAN

N ← 100'/30m

**Project: Broken Arrow Elementary School, Shawnee, Kansas**

Architects: *Abend Singleton Associates, Kansas City, Missouri*

Named for the Indian symbol of peace and harmony, this 750-student K–6 school, on a sharply sloped 10-acre site (40 percent smaller than recommended), realizes a ratio of 103 square feet per student, 20 percent more efficient than average. The building is located on the more sloped portions of the site, preserving flatter areas for play fields and parking. A treeless hill with a view toward a lake and undeveloped countryside, the land was used effectively, with a two-level structure taking advantage of the terrain.

To build class esteem and sense of community, as well as to allow for variations of combined class instruction and/or team teaching, the school is broken down by grade into "minischools." Further distinction is marked by color coding, and by separating play areas for the primary-grade minischools.

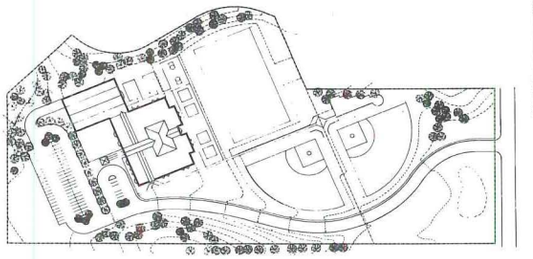
Over all, the school is designed to reach maximum use of computer learning technology over time, without the attendant high costs. To reach the programmatic goal of one classroom computer for every two students (initially, one per seven students), classrooms are equipped with computer station outlets, and the shared learning space adjoining each classroom contains a class-size computer instruction lab with 16 rolling computer stations. The stations can thus be used in those areas or in the adjoining classrooms. Further enhancing this "minischool-within-a-school" approach, each classroom has a series of glazed French doors which may be opened to the shared learning spaces.

Central to the scheme, both functionally and logistically, the administrative "village" is a colorful series of individual buildings in a high clerestoried space flooded with light. All special function areas are visible from the "village." The activities area is surrounded by a colonnade and, in turn, by special program spaces. The academic wing forms the two-story component.

**Project: Deerwood Elementary School, Eagan, Minnesota**
Architects: *Hammel Green and Abrahamson (HGA), Minneapolis*

Deerwood Elementary School represents the school district's long-held policy of using open planning. The 78,000-sq-ft building is set into a hillside, with its main entry on the upper level; its central focus is its two-story Instructional Materials Center (IMC). Surrounding classrooms have walls partially screening three sides, while the fourth remains open to the common area, buffered by student lockers.

Designed for 750 students, Deerwood serves children from preschool through fifth grade, and includes a special education curriculum for emotionally and behaviorally disturbed youngsters (EBD), and for community education programs. EBD students typically have experienced severe emotional trauma or have a behavioral disability, such as autism.

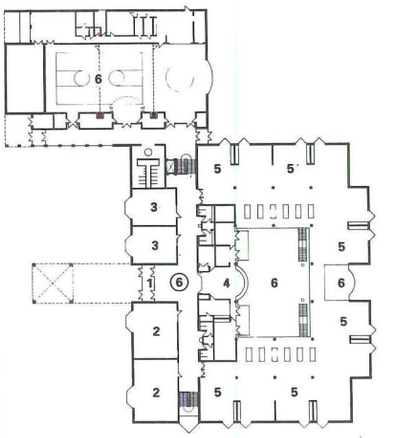


SITE PLAN N → 300'/100m

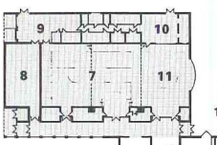
NORTHEAST VIEW

Photos: Shin and Erich Koyama

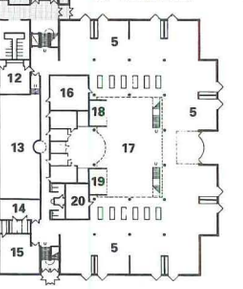
LIBRARY



SECOND FLOOR PLAN



INTERMEDIATE FLOOR PLAN



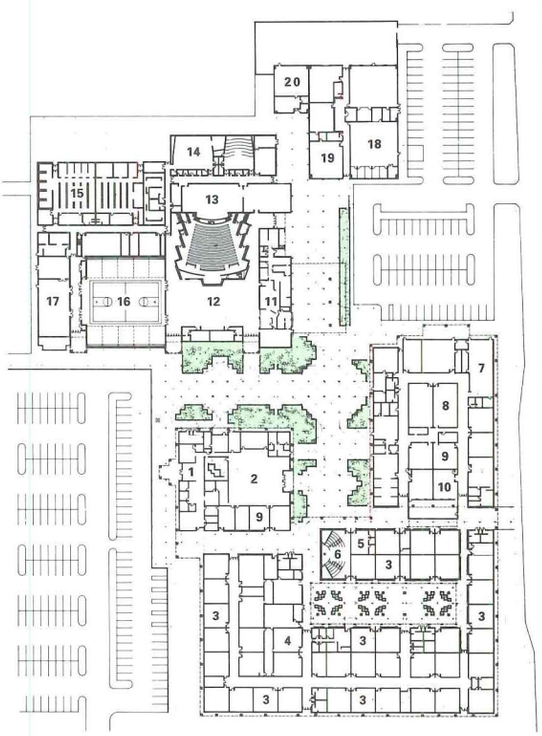
FIRST FLOOR PLAN N → 100'/30m

1 MAIN ENTRY
2 KINDERGARTEN
3 EBD CLASSROOM
4 ADMINISTRATION
5 CLASSROOM
6 OPEN TO BELOW
7 GYM
8 BOILER
9 RECEIVING
10 FOOD PREP
11 CAFETERIA
12 TEACHERS LOUNGE
13 FAN ROOM
14 BAND
15 VOCAL
16 COMPUTER
17 LIBRARY
18 WORK
19 GIFTED EDUCATION
20 INSTRUCTION

**Project: Centennial High School, Peoria, Arizona**
Architects: *Howard Needles Tammen & Bergendoff (HNTB), Phoenix*

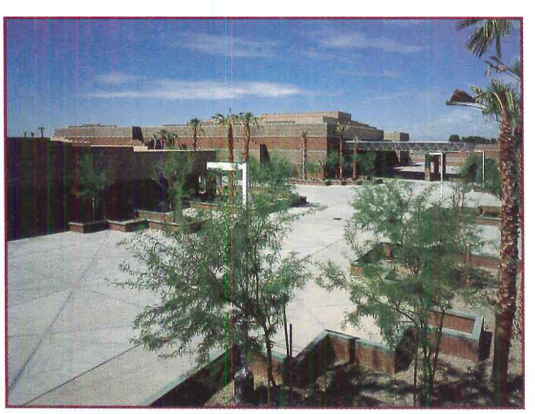
An adaptation of the campus plan, this 2000-student school adopts colonnades and space frame canopies to provide shady areas usable in Arizona's milder seasons. The plan is also organized to respect the scale of the surrounding neighborhoods, keeping the lower-scale classrooms on the perimeter screening the larger-scale gymnasium, auditorium, and library/media center elements.

The 225,054-square-foot facility comprises six main buildings, and the shaded and landscaped courtyards are nodes for pedestrian activity. Low maintenance native plants were used, for erosion control and water conservation on the grounds. To meet increasing operating costs, alternative energy-saving devices were incorporated in the central plant, including an ice thermal storage facility capable of making 2700 ton hours of ice to offset peak cooling demand periods.



1 ENTRY
2 MEDIA/ADMINISTRATION
3 CLASSROOM BLOCK
4 LAB BLOCK
5 SPECIAL EDUCATION
6 LECTURE
7 ARTS BLOCK
8 TYPING
9 COMPUTERS
10 CHILD DEVELOPMENT
11 STAFF DINING
12 COMMONS/CAFETERIA
13 AUDITORIUM
14 MUSIC/DRAMA
15 LOCKERS
16 GYMNASIUM
17 GYMNASTICS/ WRESTLING
18 SHOPS
19 DRAFTING
20 CENTRAL PLANT

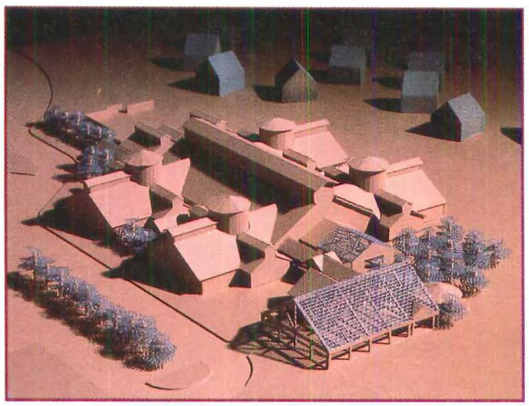
FLOOR PLAN N → 100'/30m



VIEW SOUTHWEST ACROSS COURTYARD INTERSECTION

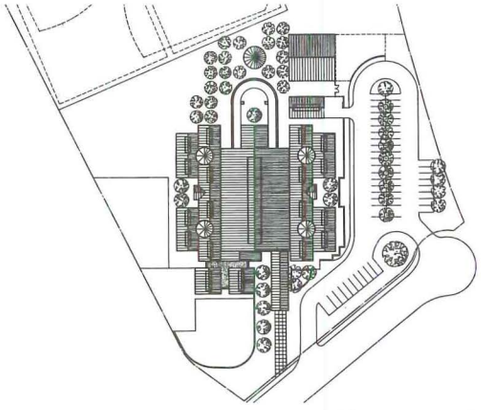
Photos: Mark Boisclair

AUDITORIUM



John Connell

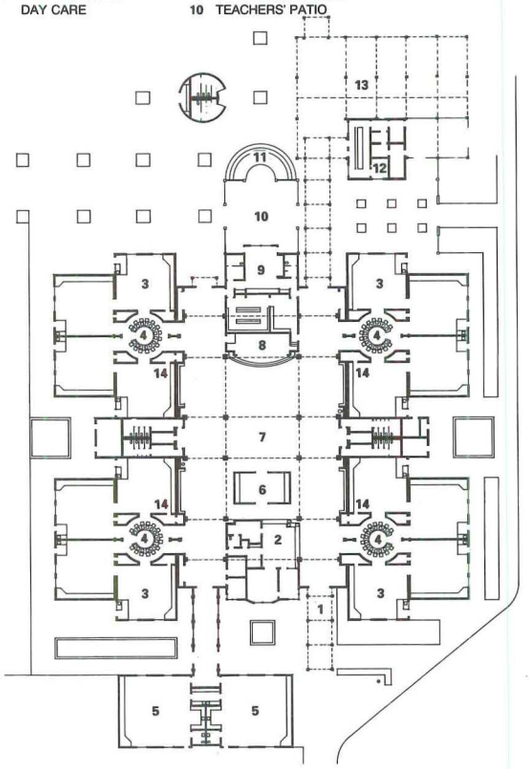
MODEL AERIAL FROM THE NORTHEAST



SITE PLAN

N ↑ 100'/30m

1 ENTRY
2 ADMINISTRATION
3 CLASSROOM CLUSTERS
4 TECH CTR/COMPUTERS
5 KINDERGARTEN DAY CARE
6 RESOURCE LIBRARIAN
7 MEDIA CENTER
8 STAGE
9 TEACHERS' LOUNGE
10 TEACHERS' PATIO
11 OUTDOOR TEACHING
12 FOOD PREP
13 LUNCH SHELTER
14 MULTIMEDIA WALLS (TYP.)



FLOOR PLAN

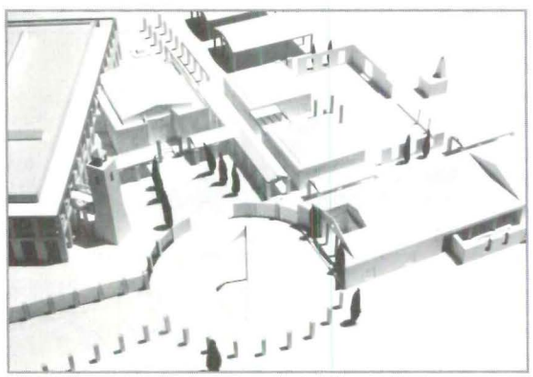
N ↑ 40'/12m

## Project: Chapman Hills Elementary School, Orange, California

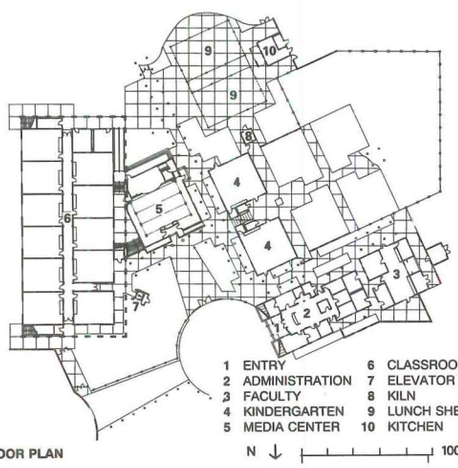
Architects: *Dougherty and Dougherty, Newport Beach, California*

Rural imagery, taken from the once predominantly agrarian area of Orange County's Irvine Ranch, informs the design of Chapman Hills Elementary. Simple agricultural building forms and landscape reminiscent of orderly citrus groves combine in what the architects see as the "high touch" aspect of a two-part theme, as opposed to the "high tech" facet also invoked by the program.

This is the response the architects evolved from client desires for integration of information age technology and classroom, a nurturing physical environment, programmatic flexibility, expanded use for day-long, year-long use, daycare and community activities, energy efficiency, and maintainable buildings based on the principles of life cycle cost and value engineering.



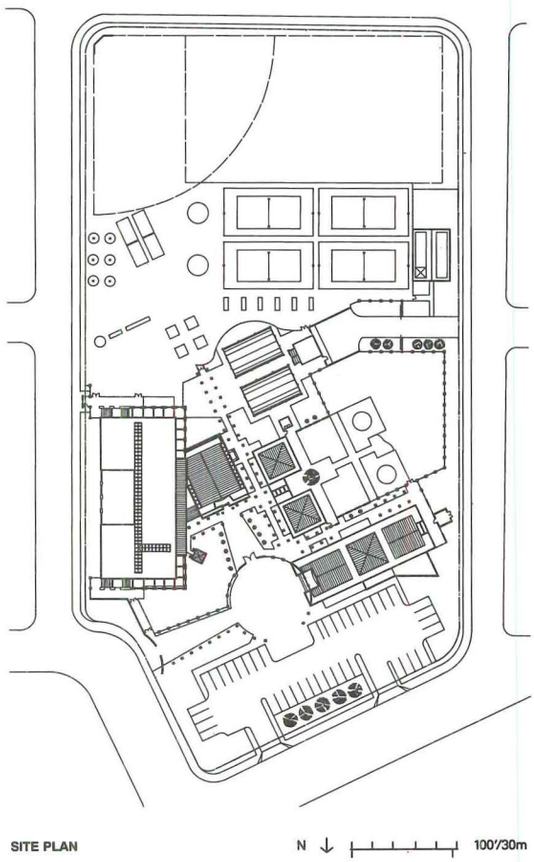
MODEL AERIAL FROM THE NORTH



1 ENTRY
2 ADMINISTRATION
3 FACULTY
4 KINDERGARTEN
5 MEDIA CENTER
6 CLASSROOMS
7 ELEVATOR TOWER
8 KILN
9 LUNCH SHELTER
10 KITCHEN

FLOOR PLAN

N ↓ 100'/30m



SITE PLAN

N ↓ 100'/30m

## Project: Garfield Elementary School, Santa Ana, California

Architects: *Dougherty and Dougherty, Newport Beach, California*

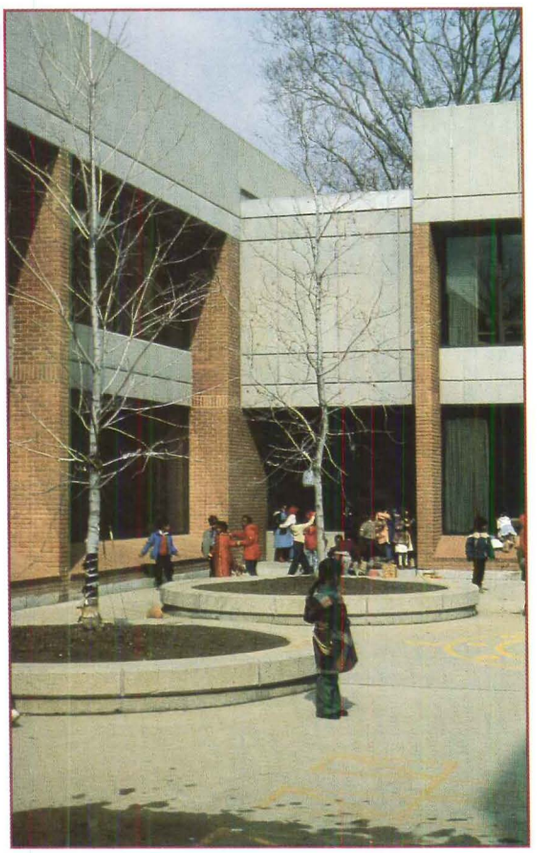
Seen by the architects as a "city within a city," the design creates a tight composition comprising a "network of streets and squares, alleys and parkways." Two colliding and juxtaposed grids form the axes from which the design focus develops. Formally, the pitched roof and tower of the historic power station at the edge of the site are reference cues for the design of the new school.

The monumental media center, seen as the anchor for the "city," and a clock tower serve as reference points for both this complex and the surrounding neighborhoods. Acknowledging the youngest students, the four-square plan of the kindergarten provides appropriate scale. Housing the remaining population of the complex, the classroom building is placed on its own axis.

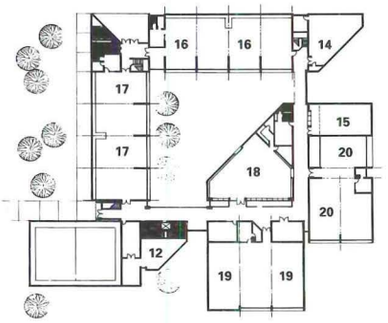
**Project: Douglass Elementary School, Cincinnati, Ohio**
Architects: *E.A. Glendening, FAIA, Architects, Cincinnati*

Originally planned as a replacement for two aging elementary schools in old inner-city Cincinnati, the project changed to become a Montessori school in Cincinnati's Alternative School Program. It remains a part of the neighborhood school plan, serving grades K through 6. Neighborhood participation was a key element in what the architects describe as a rich design experience.

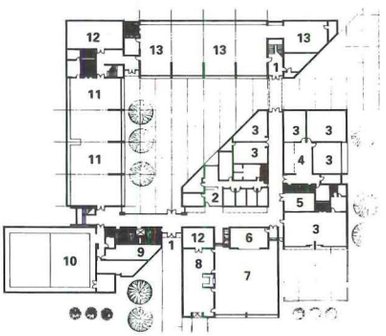
As in many inner-city neighborhoods, the school faced serious security problems owing to vandalism, drugs, and vagrant loitering. It could not be a school "open to the community, yet it absolutely could not turn its back to the community," say the architects. This was resolved by orienting the school around a courtyard, used for natural light and for recess by its youngest students. Skylights and larger window areas on the safer street-facing façades supplement the court as light sources.



COURTYARD VIEW




SECOND FLOOR PLAN



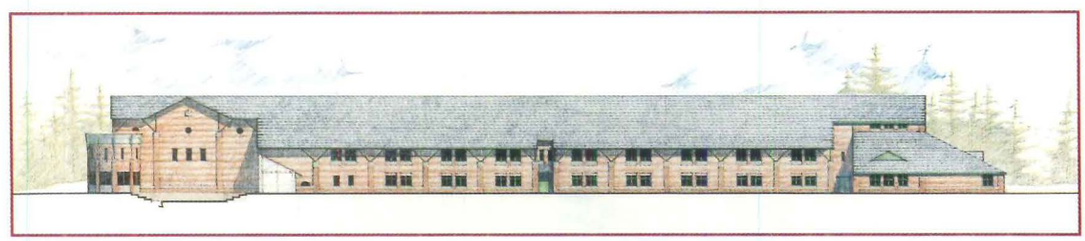

FIRST FLOOR PLAN N 100'/30m

1 ENTRY
2 ADMINISTRATION
3 CLASSROOMS
4 SPECIAL EDUCATION
5 OCCUPATIONAL THERAPY
6 STAGE
7 AUDITORIUM/CAFETERIA
8 KITCHEN
9 LOCKERS
10 GYMNASIUM
11 FIRST GRADE
12 MECHANICAL
13 KINDERGARTEN
14 MUSIC
15 ART
16 SECOND GRADE
17 THIRD GRADE
18 RESOURCE CENTER
19 FOURTH GRADE
20 FIFTH GRADE

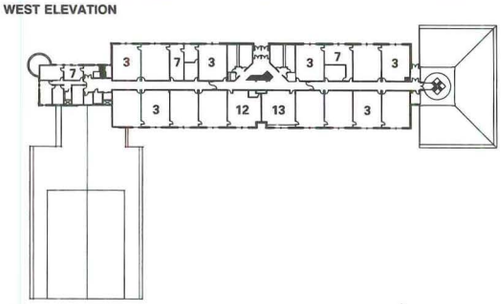
**Project: Warren Community Elementary School, Warren, Massachusetts**
Architects: *Earl R. Flansburgh + Associates, Boston*

Located in what is basically a farming community, the 74,000-square-foot school serves preschool through sixth grade, as well as community functions. It is conceived as "a large, simple, mass appropriate to the rural landscape," with additional smaller-scale, highly articulated elements. The whole is contained in two parts, the north-south, two-story classroom/administration element, and the east-west auditorium/gymnasium, cafeteria, instructional media center block. The latter areas are designed as community-use facilities, accessible without entry to the rest of the school.

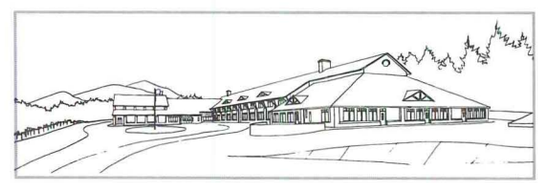
Pilasters and angled roof support braces are meant to evoke images of the surrounding woods, and form part of the smaller-scale elements making the desired large- to small-scale transition.



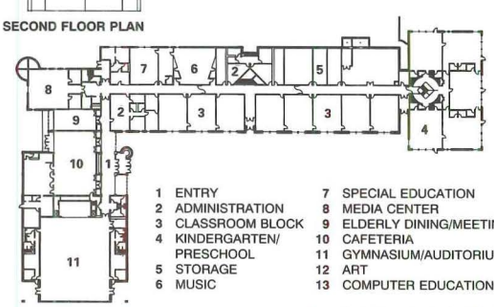
WEST ELEVATION




SECOND FLOOR PLAN

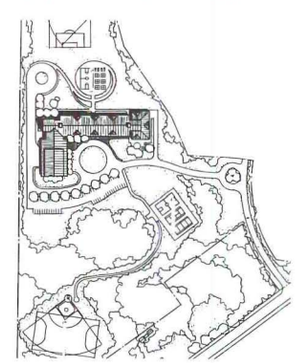


PERSPECTIVE FROM THE SOUTHWEST

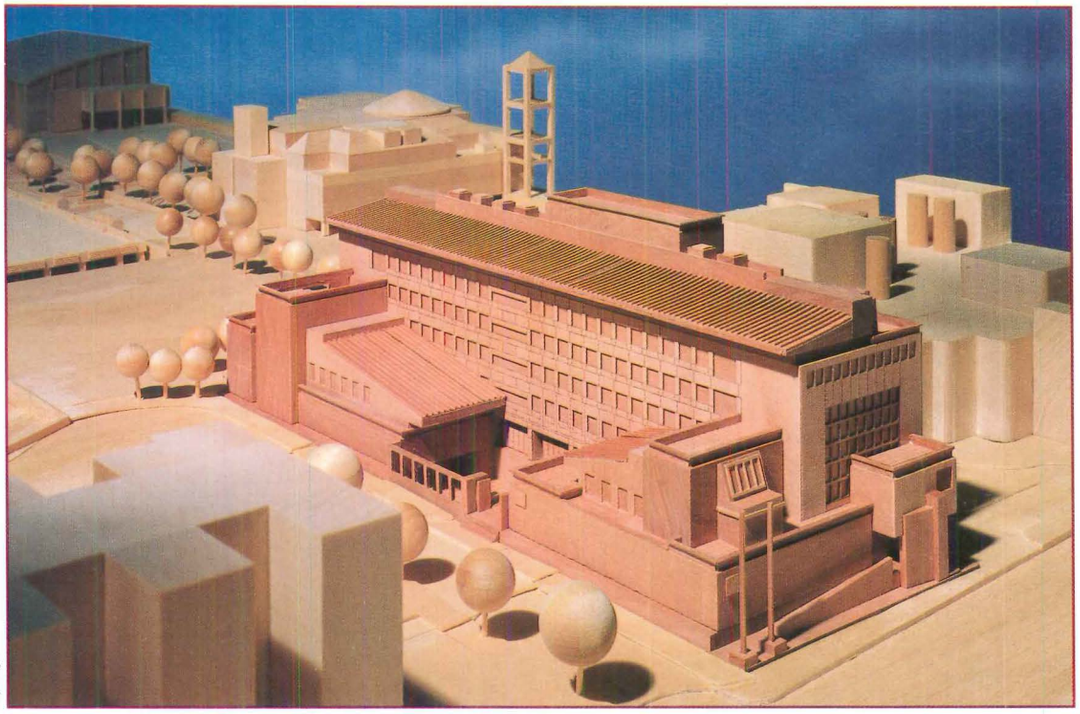



FIRST FLOOR PLAN N 100'/30m

1 ENTRY
2 ADMINISTRATION
3 CLASSROOM BLOCK
4 KINDERGARTEN/ PRESCHOOL
5 STORAGE
6 MUSIC
7 SPECIAL EDUCATION
8 MEDIA CENTER
9 ELDERLY DINING/MEETING
10 CAFETERIA
11 GYMNASIUM/AUDITORIUM
12 ART
13 COMPUTER EDUCATION



SITE PLAN N 400'/120m



Roy Wright

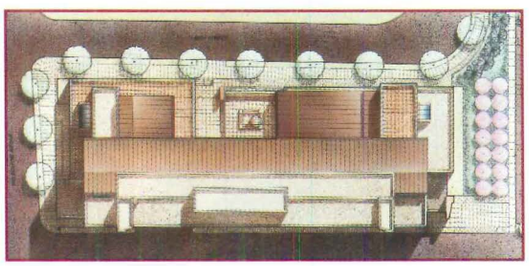
MODEL FROM THE SOUTHWEST

**Project: Townsend Harris High School, Queens College Campus, Flushing, New York**
Architects: *HOK/New York*

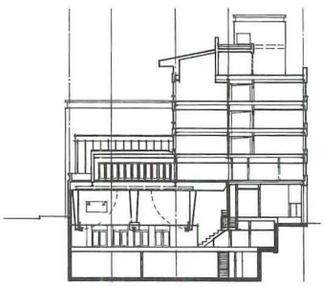
While there are some other schools included here that are in urban settings, none are quite so definitively urban as Queens, New York. So program needs here differ considerably from our other examples. New York City has long had interest in certain specific facilities having a single-focus orientation not unlike the 'magnet' schools popular in the 1960s and 1970s.

The specialty of the 1034-student Townsend Harris facility is the humanities; strong programmatic emphasis was placed on the library in the high school curriculum, with all that implies in terms of computers and making the school responsive to that technology. Also stressed was the desire to achieve a prescribed program to circulation ratio of 65 percent to 35 percent. The school also includes classrooms for language, math, and history; laboratories for sciences, languages, and broadcast media; arts and music; a 500-seat auditorium, a 350-seat gymnasium, and a 350-seat cafeteria.

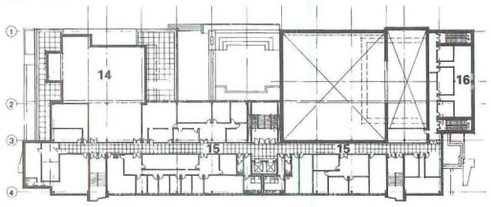
Unlike many of the other examples shown here, this school required no strong expression for expanded community-related functions, but the need was for maintaining "its own domain, ensuring students a harbor for their unique position within the broader environment." To achieve that in part, yet to relate to the campus fabric, forms were chosen that engage in an architectural dialogue with the campus mall and clock tower. The north entry tower, for instance, is seen as a counterpoint to the dominant college clock tower.



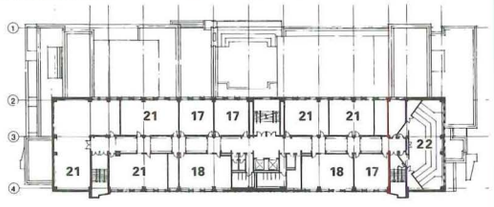
SITE PLAN



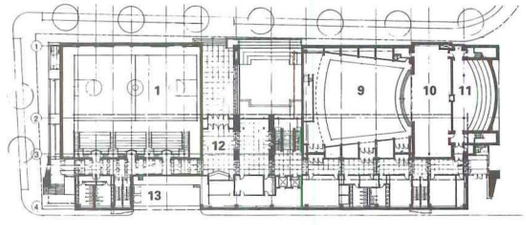
CROSS SECTION



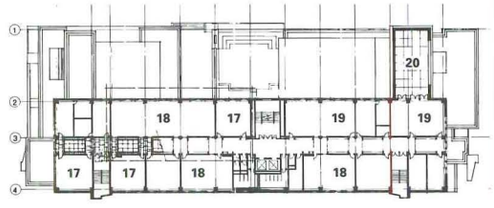

SECOND FLOOR PLAN



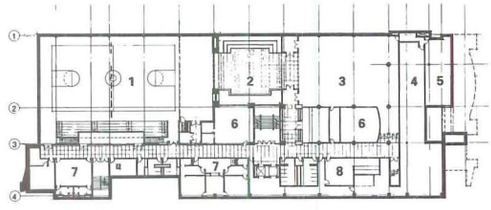

FIFTH FLOOR




FIRST FLOOR PLAN

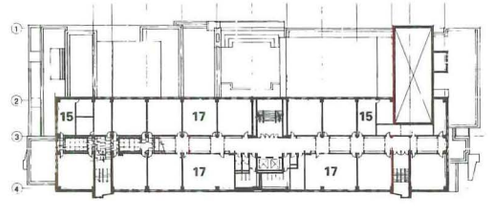



FOURTH FLOOR




BASEMENT PLAN

N → 100'/30m




THIRD FLOOR PLAN

1 GYMNASIUM
2 COURT
3 STUDENT DINING
4 KITCHEN
5 MECHANICAL
6 STUDENT ACTIVITIES
7 HEALTH
8 STAFF DINING
9 AUDITORIUM
10 STAGE
11 ORCHESTRA
12 CENTRAL LOBBY
13 SERVICE
14 MEDIA CENTER
15 ADMINISTRATION
16 DRESSING/MAKEUP
17 CLASSROOMS/WORD PROCESSING
18 COMPUTER/COMMUNICATIONS
19 ART
20 TERRACE
21 SCIENCE
22 LECTURE

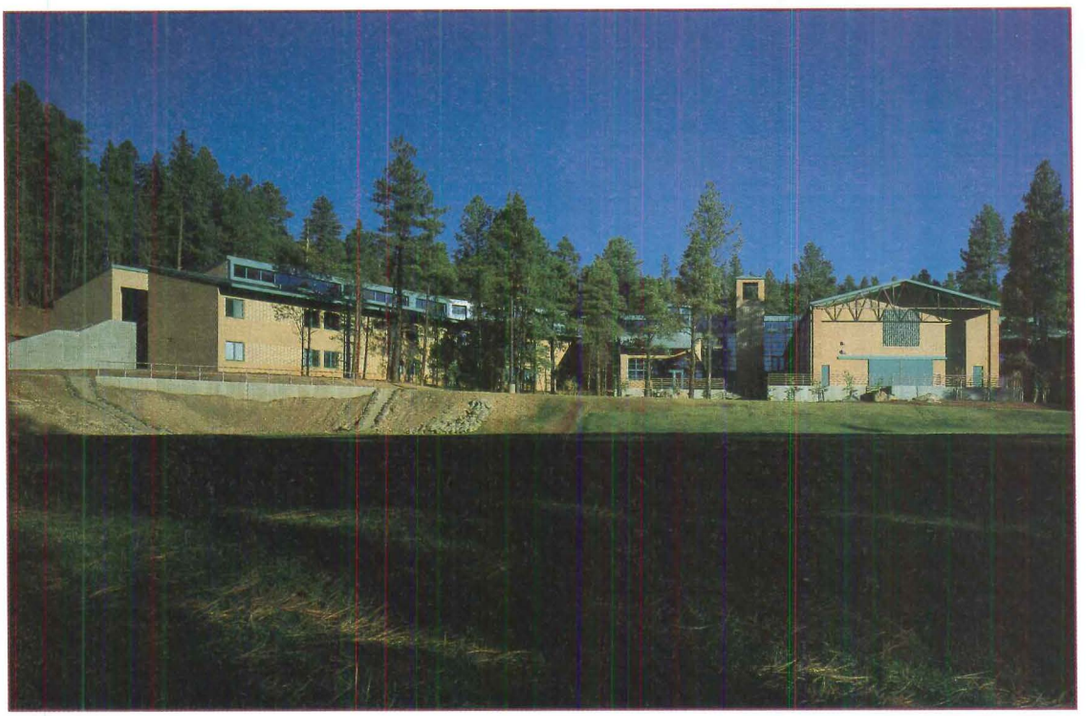
**Project: DeMiguel Elementary School, Flagstaff, Arizona**
Architects: *NBBJ, Phoenix, Arizona*

Flagstaff does not conform to the outsider's preconceived image of Arizona – arid, treeless expanses of terrain. The Ponderosa pine forest in which this elementary school is located, offers the proof. The 700-student, 65,000-square-foot facility is designed to save the forest growth and to incorporate the vegetation into that solution. The building plan follows the steep site contours, minimizing cut and fill needs.

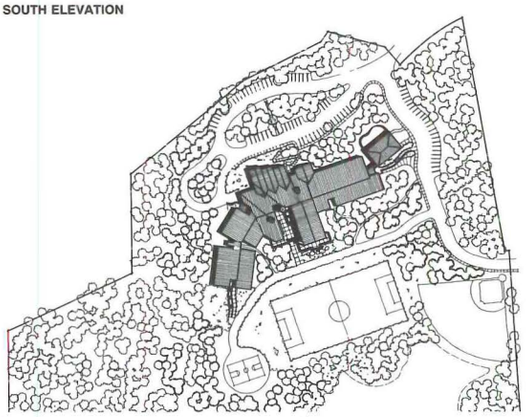
Perceptions of the school by students, faculty, and the public were intended to be "clear and logical, but also dramatic and inviting," according to the architects. The main entrance to the school is on the upper level, to accommodate the sloping site. The experience is enhanced by framed views of the forest at nodes along the two-level circulation "street" or spine of the plan, along which all school functions and classrooms are located. The gym is on axis with the entry, and can be reached using the central stair at the entry. A continuous south-facing clerestory along the spine also serves as a passive solar heat source in winter, which can be severe in Flagstaff.

Both the gym and library are meant to serve much public use, being easily accessible from the entry. The library, entered from the upper level, has its own internal octagonal stair leading down to the main reading area. The library and its cupola, the gym, the elevator/belltower, and the connecting outdoor stair contribute to the effect of an Italian piazzetta, seen by the architects as the heart of the school, overlooking the soccer fields.

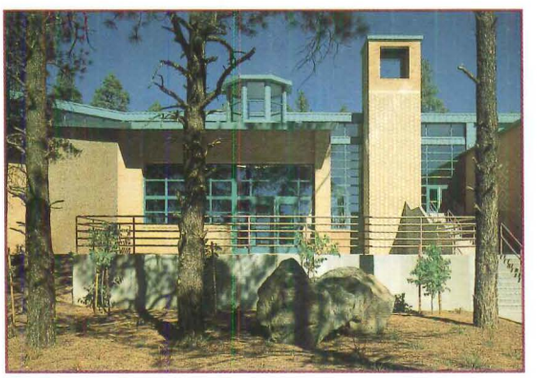
A large expanse of metal roof is green, as is the metal building trim, merging with the forest colors. Buff brick is accented with a pattern of lighter brick at the classroom windows, the belltower, and the gym.



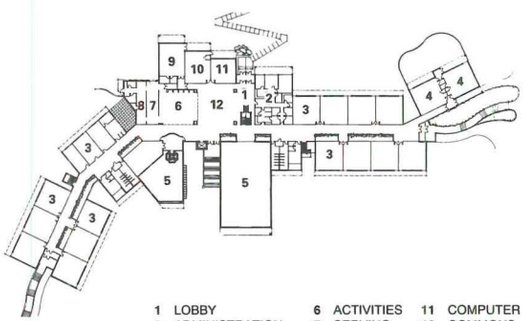
SOUTH ELEVATION



SITE PLAN N 300'/100m

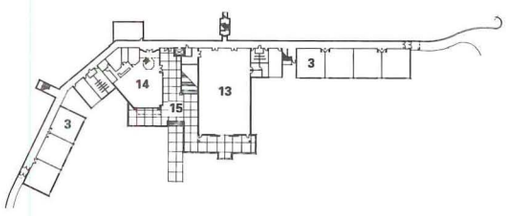


STAIRS AND PIAZZETTA

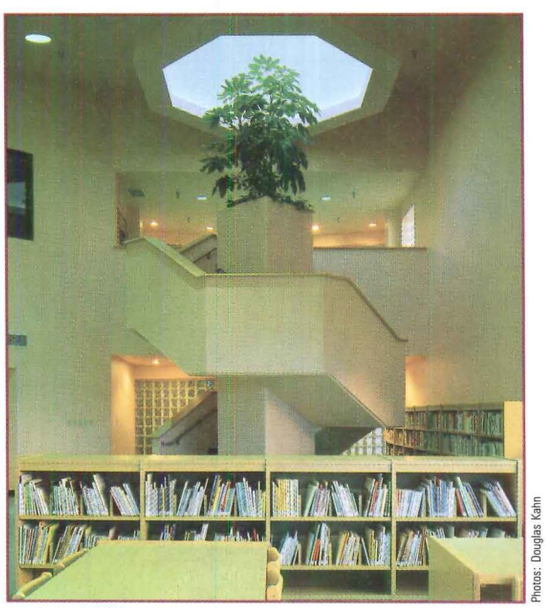


SECOND FLOOR PLAN

1 LOBBY
2 ADMINISTRATION
3 CLASSROOMS
4 KINDERGARTEN
5 OPEN TO BELOW
6 ACTIVITIES
7 SERVING
8 KITCHEN
9 MUSIC
10 ART
11 COMPUTER
12 COMMONS
13 GYM
14 LIBRARY
15 PIAZZETTA

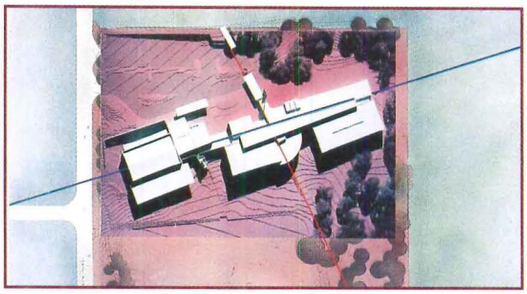


FIRST FLOOR PLAN N 100'/30m

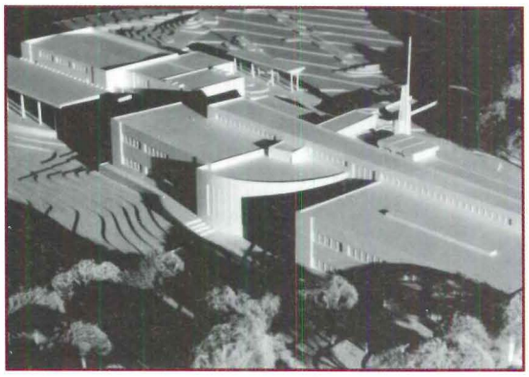


LIBRARY STAIR

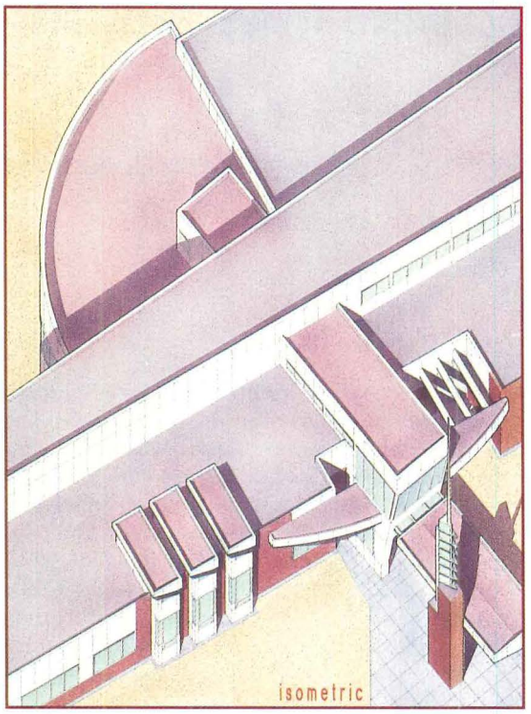
Photos: Douglas Kahn



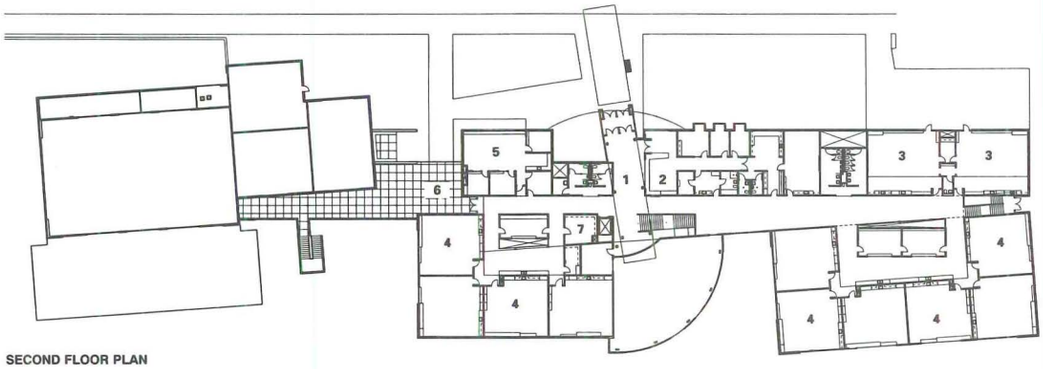
MODEL FROM OVERHEAD



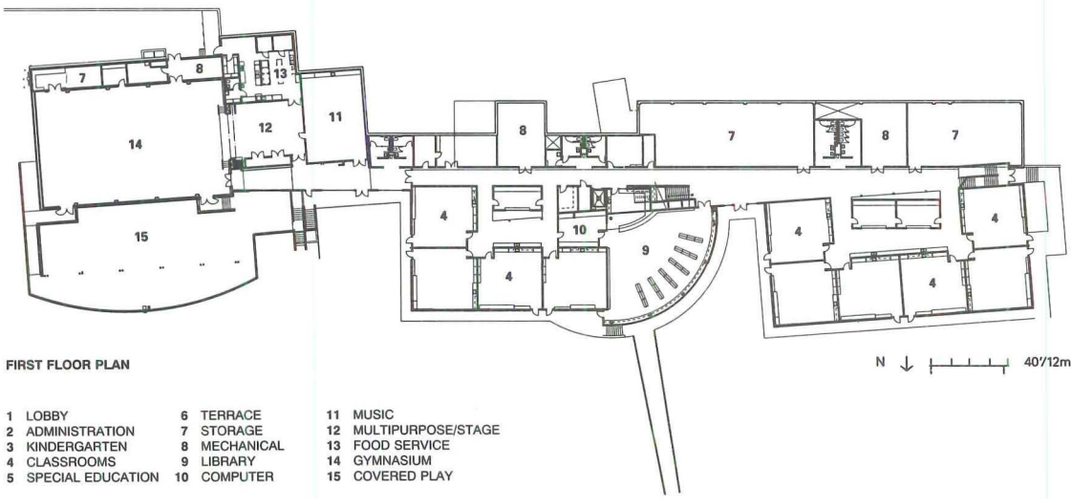
MODEL FROM NORTHWEST




ENTRY




SECOND FLOOR PLAN




FIRST FLOOR PLAN

1 LOBBY
2 ADMINISTRATION
3 KINDERGARTEN
4 CLASSROOMS
5 SPECIAL EDUCATION
6 TERRACE
7 STORAGE
8 MECHANICAL
9 LIBRARY
10 COMPUTER
11 MUSIC
12 MULTIPURPOSE/STAGE
13 FOOD SERVICE
14 GYMNASIUM
15 COVERED PLAY

**Project: Lake Oswego Elementary School, Lake Oswego, Oregon**
Architects: *BOOR/A, Portland, Oregon*

At 8.5 acres, the site is small for its assigned use for a 500-student school. To complicate matters, there are wetlands, stream corridors, a steep slope, and a forest of large oak and fir trees. The site, treasured and held for over 20 years by the school district, is in a neighborhood of large new residences. The land's natural beauty was a prime concern. As with some of the other examples here, the school was designed for the least interference with the site, both in its plan shape and its two-story configuration. Positioned on the most sloping part of the land, the facility preserves the flatter parts for playing fields and parking. The southeastern part of the land, with its wetlands and trees, is preserved for the school, providing mature landscape, views, solar protection, and a resource for science lessons.

Similar to the example on the facing page, the building is arranged along an indoor street/spine that is clerestoried; and it is widened or narrowed as student traffic demands. Open to the main entrance, the centrally placed library overlooks wooded wetlands. Program elements cluster along the spine to keep the scale of the overall facility in keeping with the neighborhood and the students. Groupings of 4 to 6 classrooms around common areas enhance student/faculty team efforts. Gym/kitchen/community zones are semi-detached to allow maximum control and security and easy after-hours community use. A canopy/tower shelters students and provides an appropriate civic marker. On the uphill side, the one-story elements respect the adjacent neighborhood and provide an intimate, child-scaled entrance. Brick and painted metal panels on the exterior also complement the colors in the residential area, as well as providing durable, low-maintenance surfaces.

# Confident Times Revisited

Rising along the Chicago River, a 36-story tower by Perkins & Will recalls the clarity and optimism of the early Modern Movement.

The office towers recently added to the Chicago Loop present a selection of images from the history of the building type: the early and late Chicago School, the Classical Revival, the vertically striated Modernistic. Confronting these unsettling stylistic exercises from a position across the Chicago River, the new Morton International Building by Perkins & Will displays a revived enthusiasm for the plainly presented curtain wall. It recalls a time when architects were first exploring the textural and compositional possibilities of glass and panels set into metal grids. But neither the surface patterns here nor the building forms have the Miesian restraint of the 1950s curtain-walled slabs.

Perkins & Will design principal Ralph Johnson produces work that Miesians would see as impure – more Modernistic than orthodox Modern. His additive building compositions, explained through characteristic exploded axonometrics (page 96), combine strictly functional volumes with frankly symbolic ones. In his almost simultaneous Orland Park Village Center (P/A, October 1990, pp. 66–77), the result was visibly comparable to the work of the early Dutch Modernist Willem Dudok, whom Johnson particularly admires. In this case, the first model that comes to mind is Howe & Lescaze's landmark PSFS Building of 1931. Johnson cites the way the PSFS designers developed an assemblage of volumes, some expressing internal functions, some making site-specific adaptations. They also used a variety of wall treatments, as Johnson does here, to differentiate the building's functional parts.

In discussing the design of the Morton building, Johnson speaks of the "generic" office blocks at its core, which were then "layered" with "urban pieces" to form the whole. On his exploded axonometric the high-rise portion, for instance, starts with a basic slab, to which a "glazed bay element" and a slender clocktower are added on the river side, thus acknowledging the river and "asymmetrically weighting" the building toward it. As the plans show, the interior of these additive pieces is just more square footage of office space, albeit space with particularly dramatic views.

The functional demands behind the building massing were by no means simple to begin with. On a site where railroad lines obstruct construction, the developer was meeting the program needs of Illinois Bell for a computer center with six floors of 46,200 square feet each, covering

(continued on page 98)

1

2

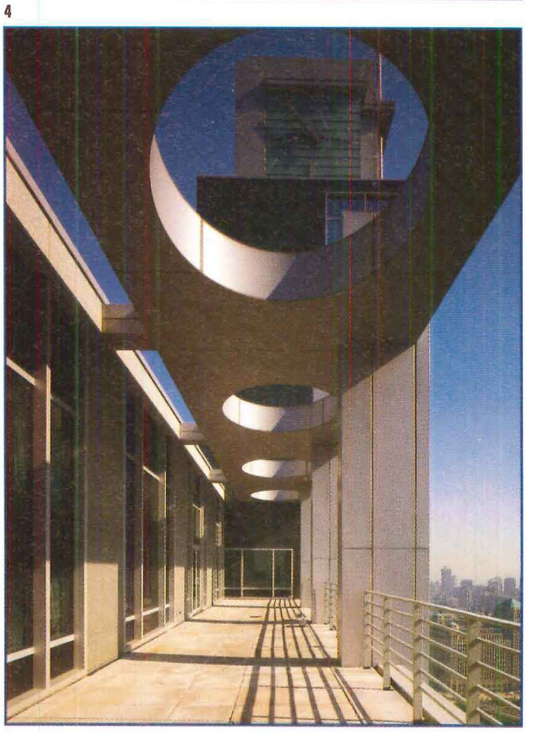
3

*The site on the west bank of the Chicago River gives Morton International high visibility from east or west along Randolph Street (1), which bounds it on the north, and from the river itself (2). From directly across the water (3), the matter-of-fact expanses of curtain wall on the lower floors – four levels of parking above the lobby and six floors of computer center above that – contrast with the more sculptural volumes and emphasized vertical mullions of the tower portion. A park strip along the riverbank is now receiving its final landscape treatment.*

*A view from the south (4) shows the exposed steel trusses from which the west half of the mid-rise portion (left in photo) is suspended over active railroad tracks that could not be interrupted by piers. Assembled from simple rolled sections, the trusses echo those of the river's drawbridges. At first glance, these trusses appear to be symmetrical, despite their totally unbalanced loading, but closer inspection reveals differing component thicknesses.*

*Conceptually, the building is composed of additive volumes (exploded axonometric, right) with subtly varying curtain wall treatments that stress horizontals or verticals. At the top of one of these volumes, overlooking the river, is a loggia (5) that recalls Stone and Goodwin's members' terrace on the Museum of Modern Art in New York. The main entrance, just off Randolph Street on the river side, is marked with a bold but minimal canopy at the base of the attenuated clocktower projection. Although the architects would have liked to use fine exposed metal in the curtain wall, the "stick" elements are actually gray-painted metal, with stainless steel accents at the main entrance and lobby.*

4



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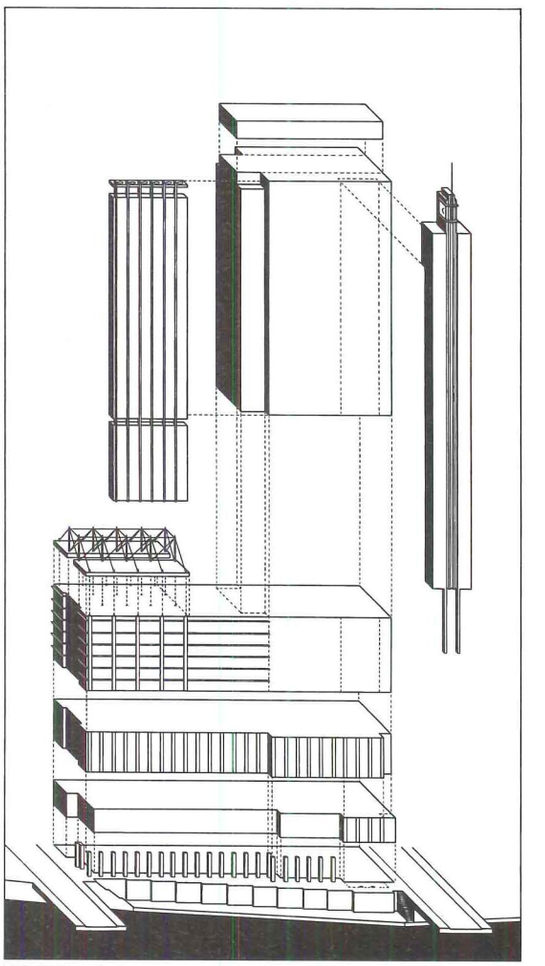
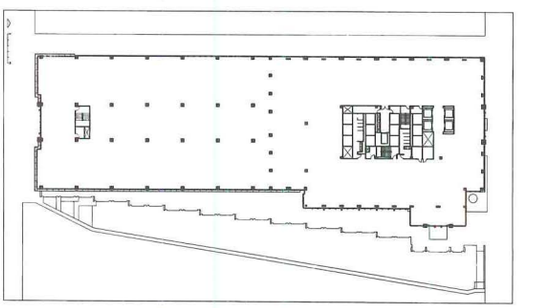
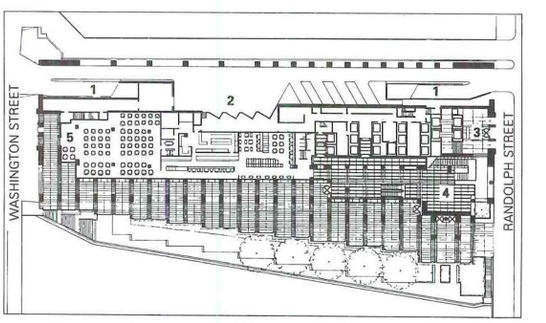


EXPLODED AXONOMETRIC



TYPICAL COMPUTER FLOOR




LOBBY FLOOR PLAN N → 100'/30m

1 PARKING RAMP 3 ILLINOIS BELL LOBBY 5 RESTAURANT SPACE
2 TRUCK DOCK 4 MAIN LOBBY

6

*The lobby of Morton International makes a virtue of the need to go up one floor to the elevators. (The track below forced elevator pits up to street level.) A graceful stair (7) offers an appealing alternative – at least coming down – to the escalator (8), which in this instance is well integrated in both form and sleek materials with the lobby as a whole. Just inside the main door (9) the visitor is enveloped in gray marble walls and terrazzo floors, articulated with stainless steel and gray painted metal, with light dispersed by baffles in the manner of 1930s Modernism. In photos of this neutral dark/light composition only the green of the plants makes it clear that color film was used.*

**Project:** *Morton International Building, Chicago*
**Architects:** *Perkins & Will, Chicago (Ralph Johnson, design principal; James C. Allen, managing principal; Charles E. Anderson, project manager; August Battaglia, senior designer; Mark Romack, project designer; Joseph Pullara, technical coordinator; John Karabatsos, structural engineer).*
**Client:** *ORIX Real Estate Equities, Inc., Chicago.*
**Site:** *Air rights over a 53,225-sq-ft rectangle of active railroad tracks, with elevated streets to north and south, existing building to west, Chicago River to east.*
**Program:** *Large floors to house Illinois Bell Telephone computer services division, with smaller, higher floors for various rental tenants. Total gross area of 1,077,368 sq ft includes 225,400 sq ft of garage for 435 cars.*
**Structural system:** *Concrete up to street level, on caissons; steel above, including suspended portion over active tracks.*
**Major materials:** *Painted metal and glass curtain wall panels, Italian granite, marble and terrazzo lobby interior (see Building Materials, p. 138).*
**Mechanical system:** *Variable-air-volume system, fed from midheight mechanical room; several control zones per floor; Illinois Bell space on separate system.*
**Consultants:** *Shankar Nair, structural; ESD, mechanical; Walker Parking, garage; Cladtech, curtain wall; ARES, wind tunnel; Shiner & Associates, acoustics.*
**General contractor:** *Schal Associates.*
**Costs:** *confidential.*
**Photos:** *Nick Merrick, Hedrich-Blessing.*

*(continued from page 94)*

virtually the whole site, topped by 23 rental floors of 23,400 square feet. Illinois Bell has its own lobby, facing Randolph Street to the north, and the tower floors are reached through the main lobby, at the northeast corner of the site. For pedestrians coming from the commuter stations just to the south, a long colonnade leads from Washington Street to these lobbies. The rail lines under the building do not allow for elevator pits below street level, so elevators start from the mezzanines of two-level lobbies; below-street parking is also ruled out, so four levels of garage have been inserted above the tall lobbies.

The varied exterior treatment of Johnson's different "pieces" is based in part on differing functional demands: The parking levels have low ceiling heights, while the extensive computer center above requires extra height for raised floors; only in the tower are floor-to-floor heights typical. Further visual distinctions have been made using granite spandrel panels of three different shades of gray, or by leaving out granite – as on the "glazed bay element" running up the river side of the tower – and by variously emphasizing vertical or horizontal elements in the wall.

7

8

### Structural Puzzle

The array of railroad tracks on this site had discouraged any previous development. Even this building's developers originally expected an area 50′ x 150′ at the southwest corner of the property to be left vacant, since no piers could be sunk through its tracks. But the engineers found a way to meet the computer center's floor area needs by suspending 12 floors over this area from a rooftop truss, which is cantilevered from the east portion of the structure (page 96).

As Ralph Johnson points out, however, the framing of this building would be extremely complex even without this extraordinary cantilever. Even where caissons could be sunk between the railroad tracks, their placement could in no way conform to the bays of the building above. As a result, the lower portions of the structure conceal massive transfer girders and a six-story-high rigid frame that mediate between the bay dimensions of the office floors, the ramp-riddled parking levels, and the available gaps in the track network. Structurally, this rather buoyant-looking tower is a *tour de force*. **John Morris Dixon** ■

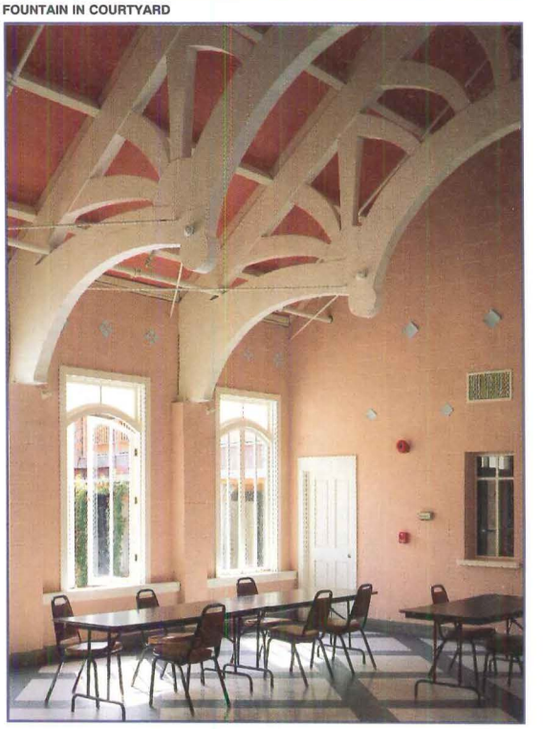
# The Real Meaning of Architecture

Highlights from four works by Christopher Alexander, Gary Black, and Hajo Neis of the Center for Environmental Structure eloquently vindicate the firm's integrated, empirical approach to design and construction.

FOUNTAIN IN COURTYARD

ENTRY FAÇADE

STREET FAÇADE

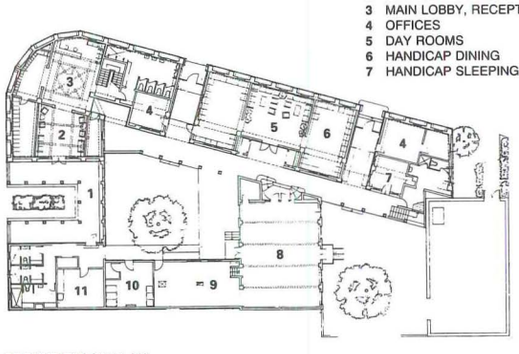


DINING HALL

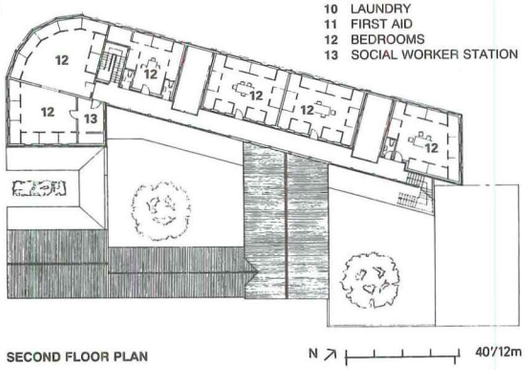
Photos: Mark Darley

GARDEN COURTYARD

1 ENTRY COURT
2 ENTRANCE LOBBY
3 MAIN LOBBY, RECEPTION
4 OFFICES
5 DAY ROOMS
6 HANDICAP DINING
7 HANDICAP SLEEPING
8 DINING HALL
9 KITCHEN
10 LAUNDRY
11 FIRST AID
12 BEDROOMS
13 SOCIAL WORKER STATION



GROUND FLOOR PLAN



SECOND FLOOR PLAN

N ↗ 40'/12m

## Julian Street Inn, San Jose

Since at least the Middle Ages, religious and other charitable organizations have taken the lead in giving shelter to the homeless. And Christopher Alexander seems to acknowledge that in his design of the Julian Street Inn, which recalls the form and materials of a medieval cloister. The building turns monastically inward, with its perimeter dormitory structure wrapping around a central dining hall and service wing and a series of intimate colonnaded courtyards.

Alexander and his collaborators of the Center for Environmental Structure have managed to capture the quality and feeling of a traditional place of charity not through any specific stylistic reference, but through the building's form, materials, and scale. That is due, in large part, to the process Alexander and his colleagues employ: a design-build method in which many decisions about form and construction are decided on site with the involvement of the owners and users. His is not a seamless process: The person who runs the mission talks about the painful delays incurred while Alexander worked to get the concrete trusses in the dining hall just right. But Alexander's approach presents a fundamental challenge to us and our style-obsessed age. It suggests that a beautiful form can come about only through a process that is meaningful to people. It also implies that certain types of processes, regardless of when they occur or who does them, can lead to certain types of forms. The Julian Street shelter does not just look like a medieval cloister. It is like a medieval cloister in the best sense – the product of faith, hope, and charity. **Thomas Fisher** ■

*Designed and built by Christopher Alexander, Gary Black, Eleni Coromvli, Carl Lindberg, Kleoniki Tsotropoulou, James Maguire; Oliver Construction, general contracting.*

VIEW OF CAMPUS WITH TEA BUSHES AND LAKE IN FOREGROUND

CAMPUS STREET

ORNAMENT ON RECENTLY COMPLETED COLLEGE WING

Photo above: Christopher Alexander

Photos: Richard Barnes

Christopher Alexander

JUDO HALL

Christopher Alexander

CAMPUS IN LANDSCAPE

Shioda Tetsuya

EXTERIOR OF GREAT HALL

Hansjoachim Neis

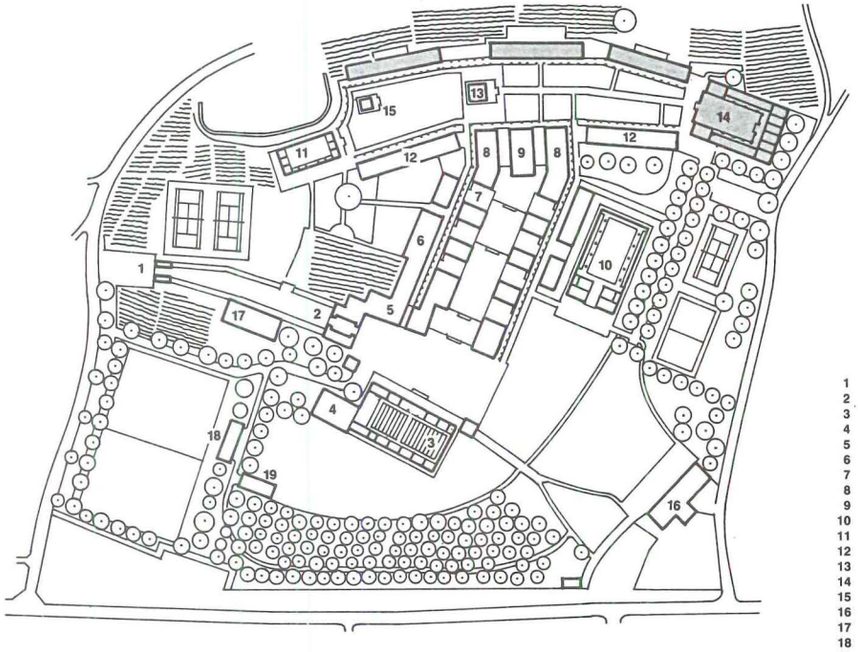
VIEW OF COLLEGE WINGS AND CENTRAL HALL

Hiroshi Kobayashi

ORNAMENT IN GREAT HALL

Christopher Alexander

CAMPUS STREET




SITE PLAN

N 100'/30m

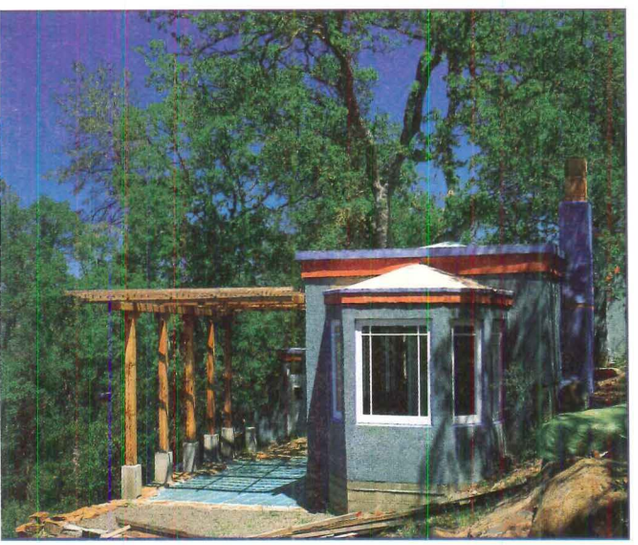
1 FIRST GATE
2 MAIN GATE
3 GREAT HALL
4 MUSIC HALL
5 ADMINISTRATION
6 FACULTY OFFICES
7 HOMEROOM BUILDINGS
8 SPECIAL CLASSROOMS
9 CENTRAL HALL
10 GYMNASIUM
11 JUDO HALL
12 COLLEGE WING
13 STUDENT'S HALL
14 LIBRARY/RESEARCH CENTER
15 PAVILION
16 CAFETERIA
17 WORKSHOP
18 CLUB ROOMS
19 BOATHOUSE

PLANNED BUILDINGS ARE SHADED

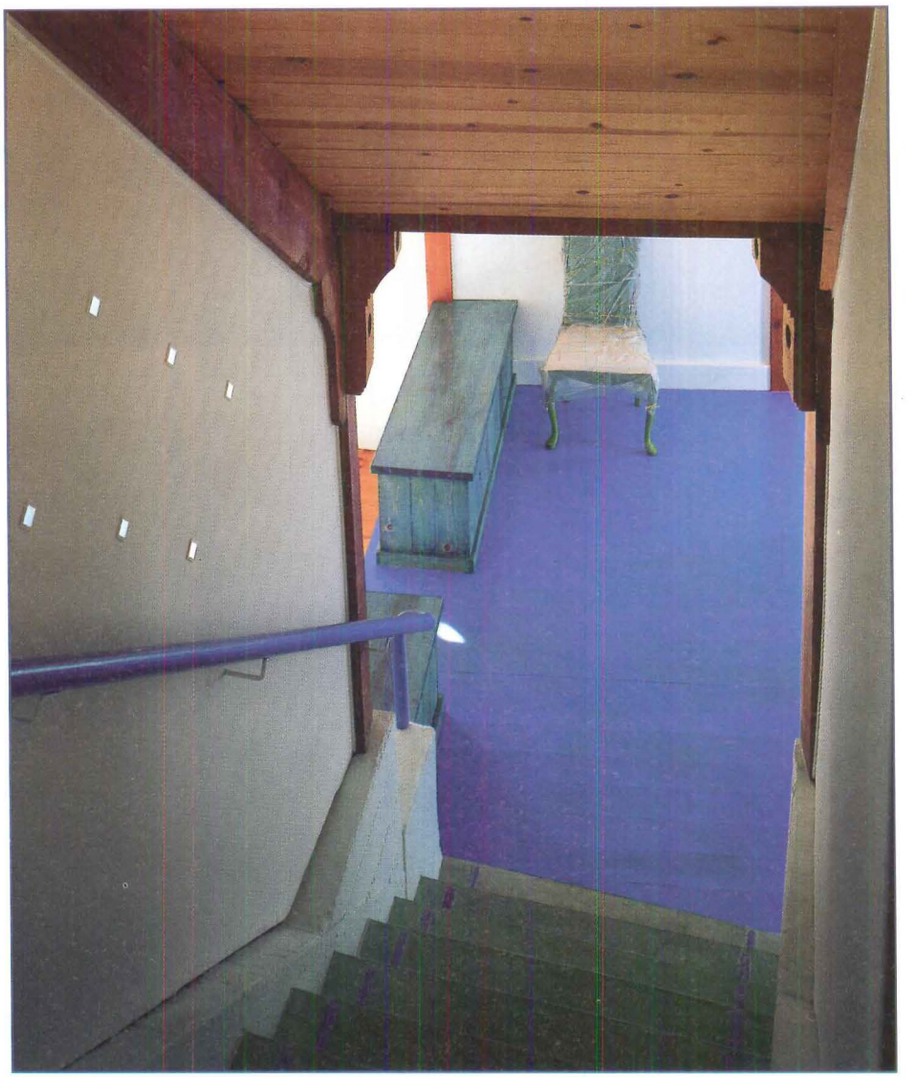
## New Eishin University, Japan

The scope and complexity of the Eishin campus have provided a unique testing ground for the empirical design/build methods of the Center for Environmental Structure, which previously had been employed only on smaller projects. With some 30 buildings completed since work began in 1982, at a cost of about $13 million, Eishin is the first Japanese institution to combine a high school and college within the same campus (P/A, June 1986, p. 92). The first step in its planning was to derive a "pattern language," an 80-page document worked out with the users, as a physical, social, and cultural "blueprint" for the entire project. Next, the various buildings were staked out on the 300 m by 300 m site, using hundreds of six-foot flags; the knowledge thus garnered, combined with input from users, was transferred daily to a 1:100 model. After studying the site for close to a year, Christopher Alexander and his collaborators set about compiling a palette of materials, based on their strong sense of local conditions. A 10′ x 14′ mockup took shape as a "statistical," or proportional profile of the complex mix of concrete, wood, stone, and plaster in predominant hues of black, white, green, and gray that best suited the compound's physical and emotional landscape, and the light's "odd mixture of softness and harshness." By then, a good deal of information about each building had accrued, Alexander explains. The main work remained, "to make a beautiful structure" for each in keeping with its nature.

*Designed, built, and managed by Christopher Alexander, Hajo Neis, Gary Black, Ingrid King, Artemis Anninou, Eleni Coromvli, Hiro Nakano, with Fujita Construction Company.*

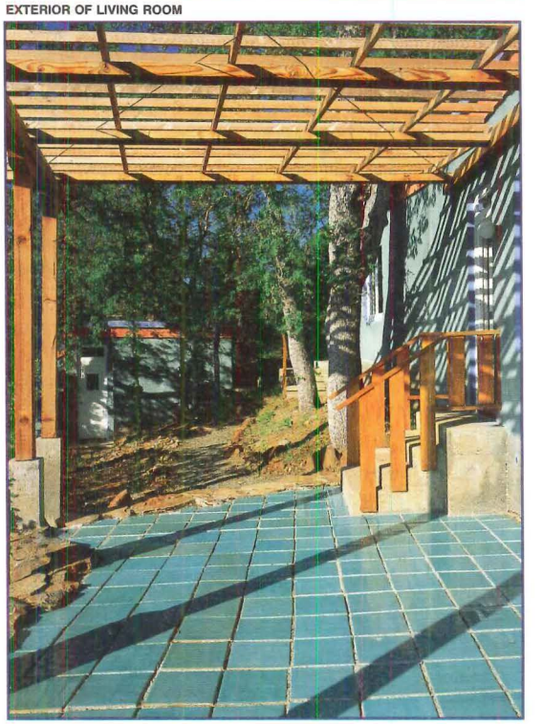


EXTERIOR OF LIVING ROOM



STAIR DESCENDING FROM ENTRANCE

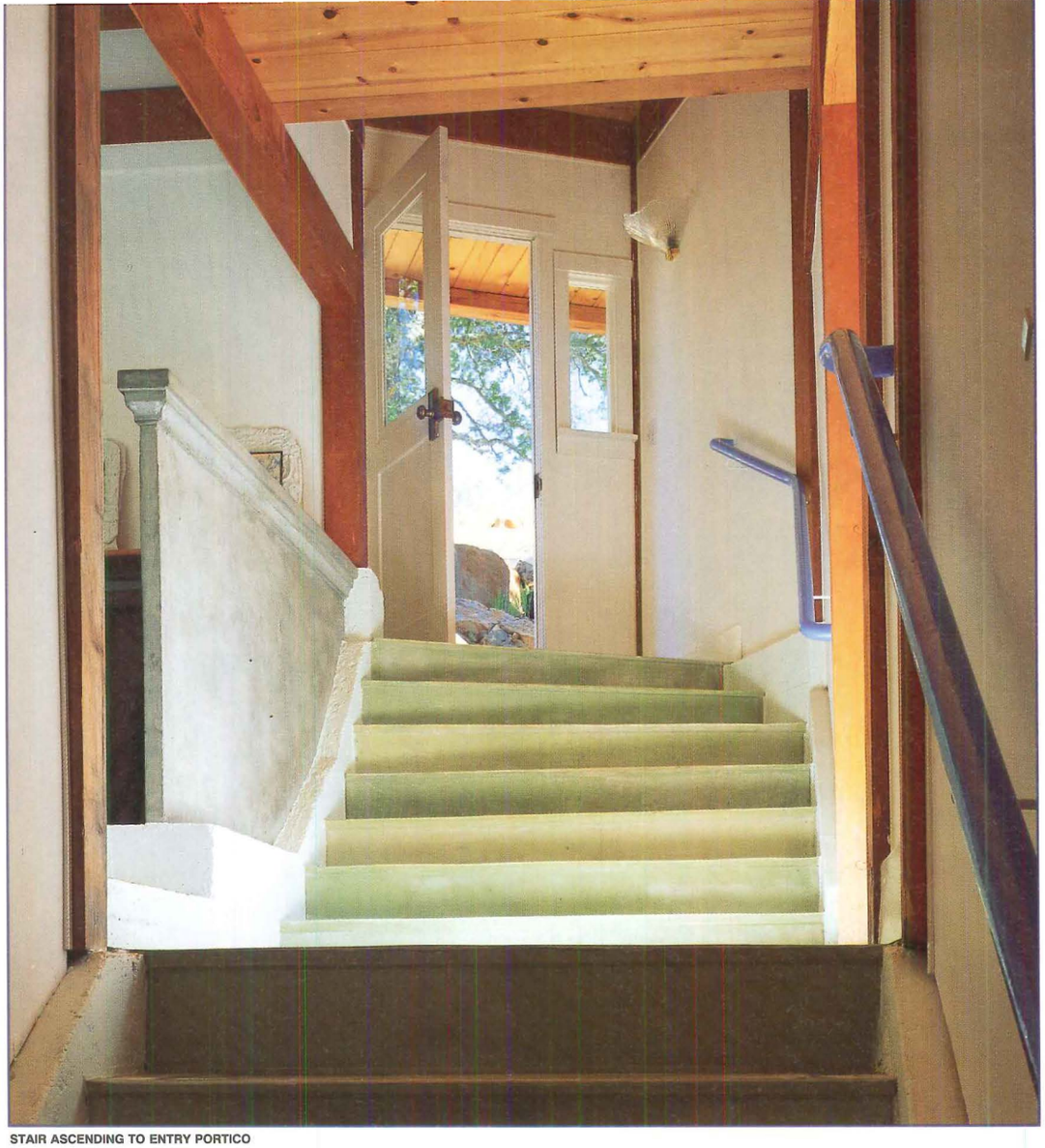




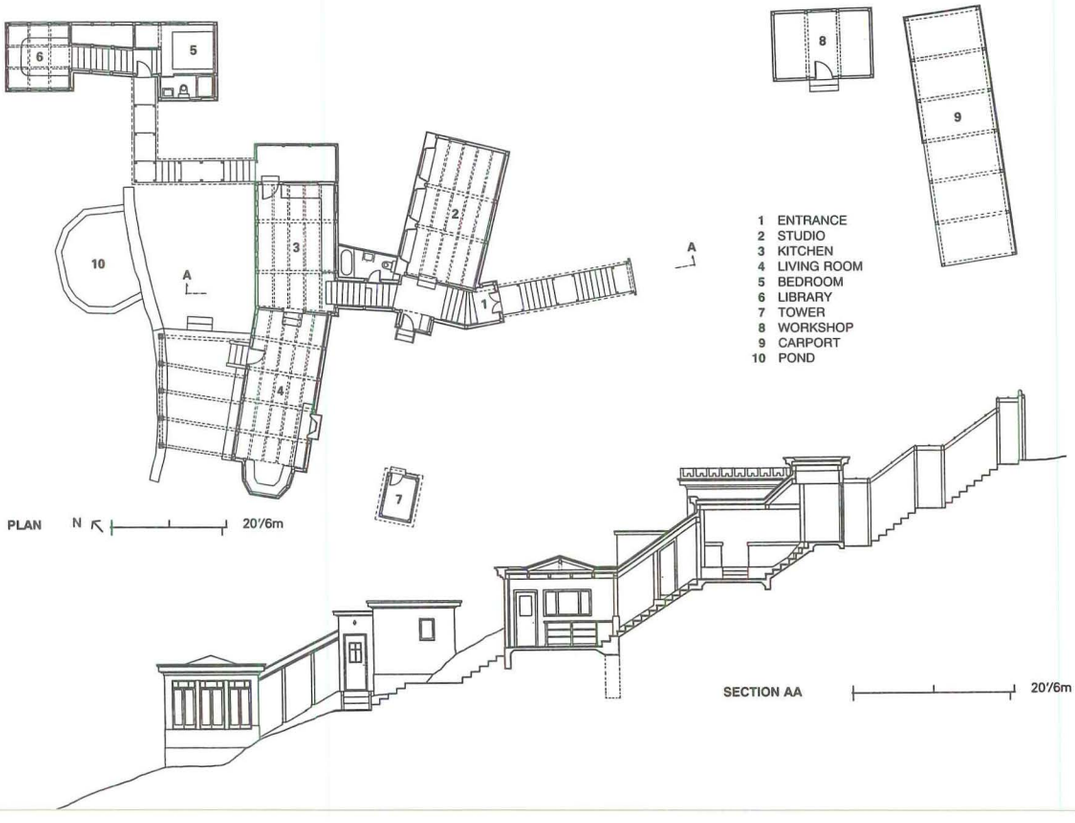
VERANDAH OFF LIVING ROOM

ARTIST'S STUDIO

Photos: Mark Darley



STAIR ASCENDING TO ENTRY PORTICO




## Residence, Lake Berryessa, California

Built on a heavily wooded mountainside, this 1600-square-foot home for a teacher and an artist steps down the slope with a series of volumes connected by stairs. The building masses themselves are symmetrical forms, which are placed in a syncopated way in response to particular characteristics of the site.

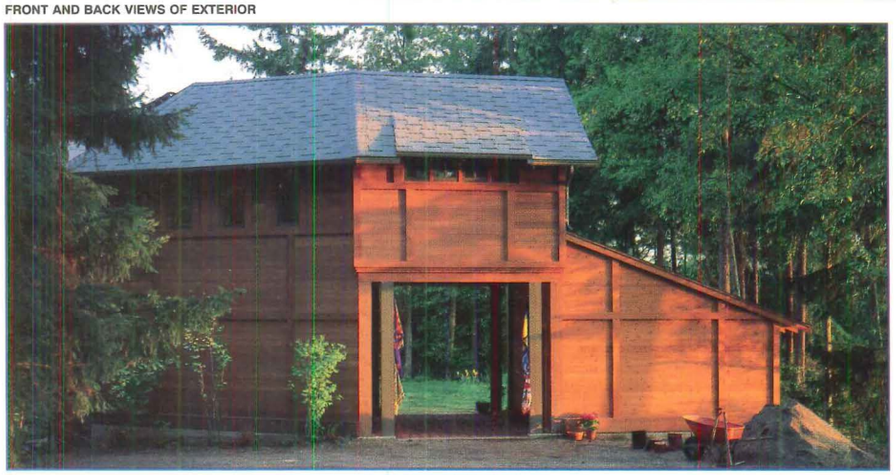
The number and relation of the house's various components were derived from the "pattern language work," or intensive discussion with the clients, that is an inalienable part of CES's design process. The next step was to "stake out" the building on the land. In this case, the procedure was made all the more crucial by unique site constraints. With only rough sketches to work from, the CES construction crew went up early on to walk about the site, locating immovable natural obstacles such as rocks and trees, and accordingly adapting and placing the formwork for the exterior perimeter of the buildings. Only after this was done could the house be drawn up in a conventional manner.

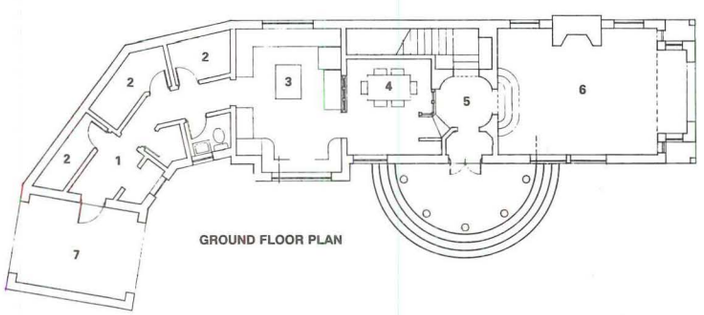
Other major considerations for the disposition of the house's parts were light conditions and views, as they changed every three or four feet. "That plan is not a style," Alexander asserts. "It came about because of a fundamental process of relating the building to the land." The climate in the area, some 80 miles north of San Francisco, can be very hot, and so the building needed to be of cementitious materials. The construction technique, one pioneered by CES, employed a 6x6 post and beam system for the vertical structure, with a 2-inch concrete shell forming the shear structure.

*Designed and built by Christopher Alexander, Gary Black, Artemis Anninou, Bob Theis, Carl Lindberg, Seth Wachtel.*

FRONT AND BACK VIEWS OF EXTERIOR







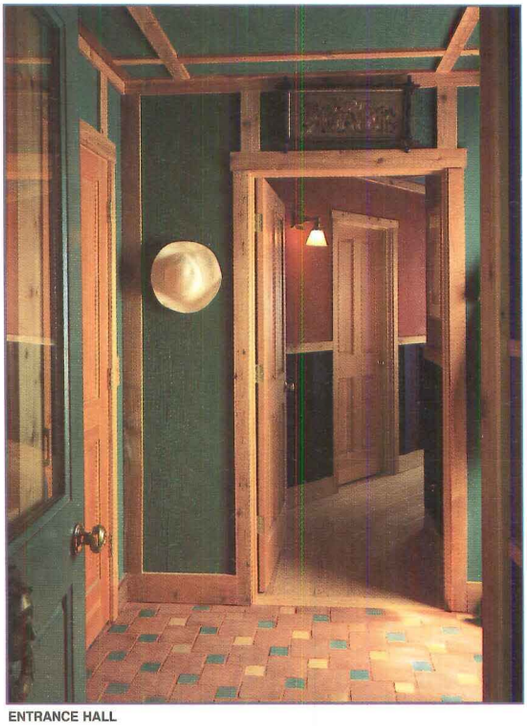

GROUND FLOOR PLAN

1 ENTRANCE HALL
2 STORAGE
3 KITCHEN/FAMILY ROOM
4 DINING ROOM
5 FOYER
6 LIVING ROOM
7 GATEWAY

N 10'/3m

CENTRAL FOYER NEAR STAIR

LIVING ROOM



ENTRANCE HALL

STAIRWAY

Photos: Mark Darley

## Residence, Whidbey Island, Washington

This house for a couple occupies a tiny knoll in the midst of acres of steep, forested terrain on an island in Puget Sound. Culminating a long and complex series of probing conversations with the clients, the architects of CES realized that the physical form suggested by the couple's life together was that of a building whose rooms were arranged "like a necklace of beads." At the same time, the CES crew spent a good deal of time on the site trying to pinpoint the most suitable disposition of that elongated volume. In this case, "construction" began virtually from the first visit: The knoll was so heavily wooded that it was necessary to cut some trees just to be able to grasp the lay of the land – a sensitive, non-reversible operation Alexander likens to "brain surgery."

From the knowledge that the house was essentially a long, thin volume stretching southward on the site, the plan took shape as a progression of spaces, with the entrance at one end, leading through a series of secondary rooms to the kitchen and family room at the center of the chain. The living room occupies the most protected, light-washed, southern end. The organization of the second floor similarly locates the "very precious" library and master bedroom at the extremities of the house. As Alexander puts it, "a deep understanding of form leads you to an understanding of function." **Ziva Freiman** ■

*Designed and built by Christopher Alexander, Gary Black, Kurt Brown, Jim Dow, Bryan Almquist.*

# Perspectives: Manifesto 1991

**Christopher Alexander** opens the door

to a new and entirely different theory – and practice – of architecture.

### Collapse of the Present Mainstream Theory of Architecture

In scientific terms, we may broadly describe the present view of architecture, which has held sway in one form or another since 1920, as "the mainstream theory of architecture."

During the last 15 years, a wide variety of attacks have been made on this theory, and the theory has been shown to be seriously defective in many important areas. It is now reasonable to say that the mainstream theory is on the verge of collapse. In order to understand this fact, it is merely necessary to make a catalog of the broad issues that the theory fails to address:

1. The definition of quality that is used as the basis for judgment according to "the theory" is not understood or accepted by the majority of people in society, but is esoteric and exclusive, thus separating the buildings made in the mainstream theory from any normal mainstream of society.

2. Incredibly, the theory has no substantial connection with the actual work or process of construction.

3. The theory does not deal with Third World building, low- cost housing, or community affairs.

4. Even in the United States, the theory deals with only a tiny fraction of the buildings that are built.

5. The theory does not deal with ecological problems.

6. The theory does not deal with or incorporate a wide range of facts now known about the relation between human behavior and the environment.

7. The theory does not deal with money or cost in a reasonable fashion.

8. The theory has no substantive or clear empirical relationship with human feeling.

9. The theory has failed to give any general coherent explanation of the values necessary for building well.

10. The theory has not produced buildings that ordinary people like. On the contrary, it has mainly produced buildings that people see as ugly and unsuitable.

11. The theory has not provided any moral leadership that can establish the value inherent in the built world.

**"The architectural profession is not only suffering from a theory that fails to solve massive problems it ought to solve, it has maintained itself in a way that must frankly be admitted to be ugly in spirit. It has abandoned its role as a moral force."**

Yet, in spite of these failures, which signal the slow collapse of the mainstream theory, the theory is still taught unchanged in most schools of architecture, and is, indeed, not only taught in many schools, but remains as the core of the curriculum.

As in the situation near the collapse of any paradigm, many younger professionals are more and more nervous about the possibility that the whole theory is nonsense.

In an effort to provide architects with an entirely different model, I have agreed to make a statement about a new way of thinking about these things.

In December 1989, P/A Executive Editor Thomas Fisher wrote a highly negative Editorial about Prince Charles. I got a phone call from a London newspaper asking for my comment on his editorial. I responded with an angry letter that was published. The letter directly questioned and criticized Tom Fisher, perhaps too personally. A few hours later, I thought that Tom deserved a copy of what I had written. So, out of politeness more than expectation, I sent it to him, never really expecting that P/A would publish it. To my astonishment, a few days later he called to tell me that he wanted to print the letter. I must say that moved me greatly. I never imagined Tom would have the courage to print something that attacked him personally.

I felt that the possibility of real dialogue about the meaning of architecture had begun again.

A few months later Ziva Freiman came to see me, with the request that I write a longer piece expanding on the ideas expressed in that letter [P/A, April 1990, p. 11]. We met in the library of my house.

### A Conversation with Ziva Freiman

She asks me what I am thinking.

I sit in my library, trying to answer. Gary and Randy and I have just been working on some blocks of concrete we are making for a building in the Sierras. I think about these blocks. We have been building forms; pouring the concrete, mixing color, cutting chases in them. The concrete is to form stones: these massive stones are the base of the building. There are incisions in the stone, into which thin slivers of marble will be inserted.

Christopher Alexander

1

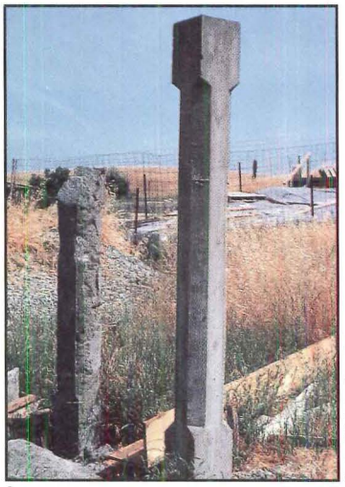
*During construction of the Great Hall at Eishin, huge sheets of paper painted with gouache were hung on the columns (1). When the color and feeling were right, the design was carried out in colored plaster.*

The concrete is massive. You feel its weight. Not only when you lift it – each stone weighs about 200 pounds – but you feel it in your heart. There is an emotional gravity.

It is wonderful just thinking about these stones. Getting ready to build with them. Thinking about the building that will come from these stones.

What is this – this activity? It is an ancient thing, a heavy thing, nothing like the thing we call architecture now. Something entirely different from

2



3

Photos: Christopher Alexander

*One of dozens of mockups (2) in our yard, with which we're trying to find the combinations of giant cast blocks with ordinary concrete blocks, marble slivers, and marble panels, that have the greatest emotional weight. One of my early experiments with gunite: a way of building concrete columns (3) without expensive heavy duty formwork.*

the architecture of the magazines, and from the profession as it exists in 1991. I have been looking through a variety of architectural magazines from the last two years. In all these magazines, there is hardly one page, hardly one thing, which has to do with what we have been doing with these stones. Ninety-eight percent of what is published – all of it, really – is simply something else. Something which has to do with images; self-importance; money.

Yet it is these stones that are what architecture really is.

Thus the architectural profession is not only suffering from a theory that fails to solve massive problems which it ought to solve, it has maintained itself in a way that must frankly be admitted to be ugly in spirit. It has abandoned its role as a moral force. It has, essentially, become coopted as part of the money-image machine of Madison Avenue.

And that is where the wound that young architects feel today is coming from. A knowledge that their own integrity is compromised. A knowledge that they have something in their heart, which has to do with real building, with the love of the sky, real stones, wood, cushions, happiness. . . but that they have sold themselves to make drawings for an architect who has sold himself to make drawings for a developer.

It is nervous work thinking about that. What if the answer leads to some impossible place? Or is it better, safer, not to think about these things?

A few months ago I saw a remarkable film on PBS entitled *Letter to the Next Generation,* made by Jim Klein, who described himself as a 1960s radical, and made a film of a series of conversations with students from Ohio State University. Many of the students are expressing the materialism of the 1980s. They explain how they are not interested in deeper questions or foundations – the main thing they want is to succeed, to make sure they have a job when they leave the university. They are nice students, quite unabashed.

The film-maker isn't heavy. He doesn't moralize. Throughout the film, he talks to the students, gently asking questions, saying how the kinds of things they are talking about don't quite make sense to him; that he wants to know more about bigger questions, not so much about jobs. Gradually, you see the students themselves begin to wonder a little.

**"There are thousands of architects who have given their lives to architecture, who want to make something beautiful, and who are beginning to realize that the present organization of the profession makes it all but impossible."**

By the end of the film, real doubt has been created. One feels that things are going to change, that it is impossible that they can continue on such a silly level. That money will not triumph, and that people will rise up again, question themselves, look for something deeper. But it is so gently done.

That is what I would like to get in this piece for P/A – something gentle in tone, very gentle – but able to bring people, wondering, to their senses. A whisper that will make people doubt the self-satisfied images that have been living in them and that have been published continuously in this magazine and in almost all architecture magazines during the last two or three decades. A new life for architecture; a new life for architects.

"Tell me, so I know what you are hoping for: What is the name of the piece?" I ask Ziva. "Well, I was going to ask you that," she says. I laugh. "I know. But I am asking you."

"Something about morality."

Finally, after a long silence she adds, "Perhaps something biblical." Another silence. "A righteous man."

I am astonished. I didn't expect this. Does it mean that my effort, after all these years, is beginning to be heard? Can it be that even the people who have said for many years that what I want to do in architecture is impossible – can it be that they, too, are so confused that they are now beginning to doubt, beginning to wonder if after all there may be a shred of truth in what I say?

I have been isolated for a long time. It is not my choice. And, I think, it has not been the choice of the professionals either; nor of the magazines. Then why has it happened?

It is because of this thing, the difference in *paradigm.* That isn't just an easy phrase, a cute gimmick. It is true. What I do is so different, in every pore, that it is almost impossible to describe it from the inside of the profession as it exists today in the words the profession uses.

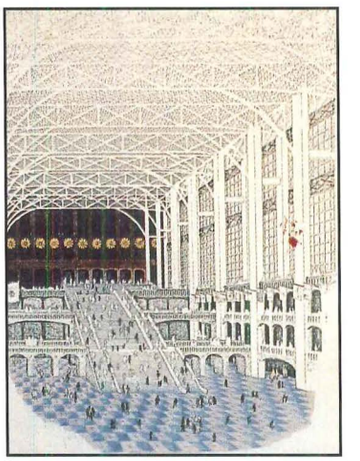
But this isolation is not good for the profession. And it is not good for me.

I want to talk more about the big cast blocks we have been making. They are like massive stones, 24″ by 18″ by 6″. They will be cast on site and then laid up, one or two courses at a time, then tied together with reinforced concrete poured behind. Each can be shaped for entrances, arches, windows, sills, ornaments.

It is something, doing this, like digging a ditch. There is a connection to reality which carries through every phase, the walking about on the site, talking to the family, preparing for construction, talking to the workmen, thinking about the ornament, working through the structure. It is all one thing, on a level of physical reality that makes it something entirely different, worthwhile, you feel like a person, living, breathing, swimming; sex is engaged.

*My simple, modern version of an ancient technique: Marble dust and cement are used to make a floor (4) as beautiful as the old intaglio marble floors of Florence. A seven-story-high lobby (5) designed for the Tokyo International Forum competition, a vast project on which we intended to apply the contractual techniques described here.*

4



5

Making these stones, building with them, is as different from making working drawings for a contractor as eating real food is different from looking at pictures of food.

This is the real moral force of what it means to build. But unfortunately, the process of building, as we know it today, is something very different. Magazines like P/A, and architects, and developers' money have cooperated to create an entirely different picture of what it means to build.

I have taken it as my task to shake this situation: to make it clear what it really means to build; to free architects from the mental picture that has been constructed for them.

That is the core of the whole thing. There are thousands of architects who have given their lives to architecture, who want to make something beautiful, and who are beginning to realize that the present organization of the profession makes it all but impossible.

What it comes down to, in the end, is practical. How can a person actually live and work in the way I have been describing? Is it practical to make buildings in the ways I have shown, is it a viable model for thousands of architects all over the country?

Can the attitudes and the ways of building I have developed be used for large public buildings? Can they be used for large housing developments? Office furniture and office interiors?

The feeling of desperation that architects feel is that the package, the whole system of how architecture is "supposed" to be done, seems efficient, sophisticated, worldly – when actually it is not. The status of the profession is highly deceptive. It seems elegant, integral, self-sustaining, worked out as a coherent body of thought, practice, and action. But it is in a state of collapse, its authority undermined. Even those architects who feel sympathetic to what I say do not see a way out of this ball of string.

But to do what I have done involves risks and changes that are very great. In the early 1970s I taught myself to become a licensed general contractor. I had little more experience of it than any other architects trained in architecture school, but I knew that building meant nothing unless one actually did the building work itself.

**"Here we go right to the core of the giant scam, the invented series of conceptions about space and volume and style... which is not connected to real human feelings, but only to the artificially constructed aesthetic rules of a design intelligentsia."**

The essence of the thing is to *make* the building – large or small.

I go back to the problem of how to *do* it. At the bottom of the whole thing is a system of understanding the world, what space and matter are, which includes the idea of soul.

The trouble is that within a mechanistic view of space and matter – the one considered normal by all right-thinking people today – architecture must inevitably become shallow and trivial.

In *The Nature of Order* (a 1000-page book I have been writing for the last 20 years, which is still not finished but is circulated now, in many versions, in many parts of the world) I have tried to explore these questions, and I have found a picture of space and matter that makes sense of things, that shows what it means for spirit to occur in something, that shows how feeling is inevitably integrated in design – and how matter itself, understood as a Godlike substance, shows us what we have to do when we try to bring life into a doorknob, or a window, or a whole building project. It becomes clear, because it comes from an entirely different way of looking at the world.

This way is connected to ecology and respect for nature. But so far, the ecological revolution is still mechanistic in its fundamental way of looking at the world, and so still creates an arbitrariness that we see in the kinds of "ecological" buildings which have become associated with the name.

The real thing is deeper, and more serious. It is also more human. The respect for living things is not just a respect for plants, and rivers, and vanishing species... It is a respect for ourselves, for our own vulnerable, pathetic, and marvelous heart. It is an architecture, then, that comes out of the voice of that heart – not some sham, not some money scheme, but something that pleases me, in my own heart, and you in yours – so that we never have to say: "Let me explain it to you. You don't understand..." and then go into the artificial rap, the falsehoods that make up our architecture now.

### A Conversation with Kenneth Frampton

A year ago I showed pictures of the Eishin campus near Tokyo (p. 103) at the Cooper Union in New York where Herzberger and I were both talking on the same evening. Ken Frampton was in the audience, and made some very sympathetic statements with respect to our two very different points of view. But later, in private, Frampton told me: "The best part [of Eishin] is the lake – isn't it – the buildings are not really the important part." The subtle message, very politely put, was that the buildings are too romantic, too traditional – how could they possibly be serious architecture – so he dismissed it by talking about something else.

But it is just this emotionally cynical and subtle, offhand way of trying to put down or de-

Hiroshi Kobayashi

6

*The Emoto Building (6,7). A five-story apartment building in Tokyo, completed in 1987, designed and built by me with Hajo Neis, Ingrid King, Miyoko Tsutsui, and Kibe Construction Company. In this project, design, management, and construction were combined to some extent, but in a manner closer to the normal practice of today.*

Photos: Christopher Alexander

7

mean things of beauty on the grounds that it "is not really architecture," which is the craziest and most destructive part of modern architecture of the last 50 years. Here we go right to the core of the giant scam, the invented series of conceptions about space and volume and style, which has erected an imaginary set of criteria as if they were a "truth" – but a so-called truth which is entirely fictitious, which is not connected to real human feelings, but only to the artificially constructed aesthetic rules of a design intelligentsia.

The subtle put-down, and the unspoken rap about nothing real, is the catch-all method that both Modern and Post-Modern architecture have been using to propagate their ideas.

I am sure Ken Frampton is a serious person. I do not believe he did this willfully, and he is perhaps one of the present-day theorists who is willing to go furthest towards the possibility that something might be seriously wrong. But even he, for all his insight, was trapped in this net of lies. (Yes, unfortunately, from an intellectual point of view, they are just lies – because they intentionally distort the landscape of our feelings as they actually occur, and replace them with something false).

That is what we are fighting. The loss of innocence that makes you elevate garbage to something worthwhile, trying to puff yourself up to be an "Architect," and refusing simple and beautiful things that have substance or feeling in them.

But what does "beautiful" mean? It means that the thing makes me feel joyous, more rooted in the world, more whole as a person.

Of course, there is nothing harder in the world than making a building that has this quality. I fail ten times in every moment I try to do it, before I succeed. But it is unbelievably worthwhile. When I do succeed, and even while I am failing, I feel happy.

**"The respect for living things is not just a respect for plants, and rivers, and vanishing species... It is a respect for ourselves, for our own vulnerable, pathetic, and marvelous heart."**

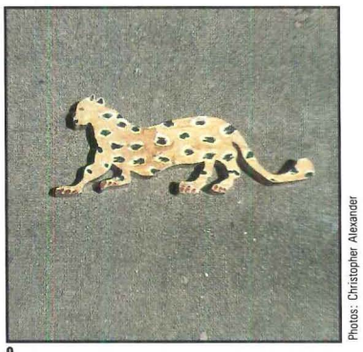
### A Practical Program of Action

I will try to sketch out the characteristics of an entirely new way of looking at architecture, which solves the problems that beset the mainstream theory, and which holds the possibility of resolving the moral and practical dilemmas that exist in present mainstream practice. The most important considerations are these:

- Architects must see themselves as custodians of harmony in the world. This care for harmony cannot be abused, must not go out to hire, and should be aimed only towards increase in life. This ethic must be just as applicable to big buildings and large developments as it is to small projects.
- The quality of harmony is very hard to attain. But by group work it can be attained. It is not a matter of opinion, nor of taste: it is an objective reality.
- The wholesomeness can only be created by a process in which design and construction are unified, and in which the material of the building, the way it is *made* – is itself considered part of that harmony. This requires a process in which we understand the key process as a process of *making*, not a process of designing. The money, process, time, craft, and art are all interwoven. Decoration comes out of the process of making. Structure and solid materials are essential to it.
- Such materials and processes include concrete in its various forms as a plastic material that can be shaped; tile; terrazzo; marble insets into concrete; relief work; casting; formwork; blocks; wood for finishing; plaster; paint not chosen according to a formula, but mixed on site.
- The construction contract must be re-organized so that work can change throughout the building process while cost is still controlled. This is central to the process. My colleagues and I have invented and developed various versions of a contract that accomplishes this aim. The idea of change orders is removed, the permit drawings are understood as a rough idea of the building that is to be built, not as an accurate prediction of the finished product, and the client's need for security about matters of money is guaranteed by the form of control embodied in the contract. Subcontracts are bid to a fixed sum, with variable specifications, so that budget is met no matter what. The architect retains the right to move items around within the budget at his discretion while construction is going on, and to change design and specs as needed. Quality of building depends on a balance of roughly made and finely made items in an overall harmony dictated by the budget. The guarantee of a good result under these fluctuating conditions depends on the architect's integrity and professional skill.
- This contractual process can and must be used for large buildings as well as small. These processes have become familiar in small-scale design build operations such as houses built by carpenters. But the essence of the new view of architecture is a reorganization of large-job conditions, in which millions

*A panel of hand-painted tiles (8) made in our workshops. Getting the right glazes took months of experiments. I carved this leopard (9) when I was making templates for a mold for some ceramic leopards we put in the floor of a house we built in Berkeley. When I was done with the template, I painted it and gave it to my children.*

8



Photos: Christopher Alexander

9

of dollars of construction in large building complexes can be managed in a similar fashion. In this situation, we may then once again see even an enormous project as a work of love and craft. This is not sentimental claptrap, but a practical objective, which directly governs every day-to-day process.

### A Hippocratic Oath for Architects

Since the moral purpose of our work as architects and builders has become so unclear I have tried, for the purposes of this manifesto, to capture the essential points in a kind of Hippocratic oath, principles of action that any reasonable architect might be willing to adopt.

1. No matter how big the building is, the architect does some craft work on every building, with his (or her) own hands.

2. The architect controls the flow of money completely: both its distribution at the outset, and the ongoing flow throughout the process.

3. The architect assumes legal responsibility for the actual construction.

4. The architect ensures that the building is designed on the site and is checked and understood by all relevant people – clients and nearby community – while it is being formed.

5. The involvement of users in the process is necessary – and widespread.

6. The architect undertakes to work directly with subcontractors, and to take direct control over their activities.

7. The architect is leader and artist – but without pride. He or she retains the right to refuse user requests, not based on the architect's ego, but in cases where his (her) grasp of the problem is demonstrably greater.

8. Every architect must be able to work as an engineer at a modest level. Engineering is part of architecture, and building is conceived while being engineered.

9. The architect makes a profound commitment to find out – and to perceive – what the life of the site requires, and then to do just that thing that brings most life to the surroundings. Thus, to make each building small in importance in relation to the life of the surrounding world which it supports.

10. The architect must recognize that process, not design, is the crux, and that the beauty and functional harmony of the building comes from a thousand small steps, taken one at a time, while the building is being designed, through the use of models, and then while the building is actually being made.

11. The architect must try to develop a conscious awareness that every part of the world – air, stone, room, building – everything that is made in a building has its *life*, and that it is the extent of this life, judged in ordinary terms, that is the ultimate criterion for success or failure.

12. The architect is committed to make only buildings that are deeply and genuinely liked. Above all, a commitment by the architect to make only a work which he, or she, can genuinely love.

13. The architect recognizes the importance of variety, and refuses to produce artificial or mechanical repetition, whether in components, or houses, or offices, or office furniture, or windows.

14. The architect is committed to daily work and experimentation with techniques of making, forming, fabrication, and construction, with an understanding that new methods of building are essential to the creation of harmony and beauty.

15. The architect will recognize that the life of the construction workers, and their spiritual evolution, is as important as that of the architects. This is not only done for obvious moral reasons, but because of an understanding that the life of buildings will never be profound or worthwhile unless this goal is achieved.

16. The architect acknowledges that all building is essentially a religious process. This does not mean that it is attached to any one particular religion. It means that the ultimate object of the work of building is to make a gift to God. And that the ultimate purpose of the work is to reach a level of art in which the inner nature of things – the universe – and God – stand revealed.

Finally, the architect must recognize that the conditions of this oath are, in 1991, extremely hard to satisfy, and that some of them represent almost unimaginably big changes in our profession. To prevail requires a steadfast refusal to do anything less, and an absolute determination to say no to any process, or any mental reservation, which seeks to persuade the architect that these goals cannot be satisfied.

**Christopher Alexander** ■

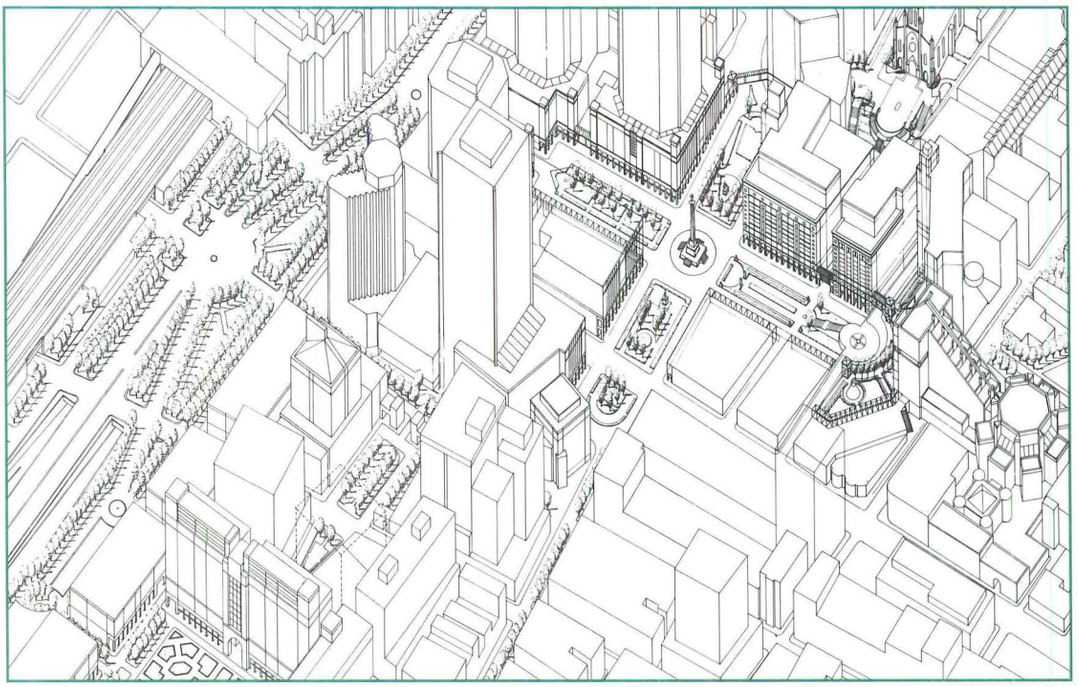
**"Architects must see themselves as custodians of harmony in the world. This care for harmony cannot be abused, must not go out to hire, and should be aimed only towards increase in life. This ethic must be just as applicable to big buildings and large developments as it is to small projects."**

*The photos included in this manifesto show works built by Christopher Alexander and his colleagues Gary Black, Hajo Neis, Ingrid King, Randy Schmidt, Kleoniki Tsotropoulou, Carl Lindberg, Artemis Anninou, Eleni Coromvli, Miyoko Tsutsui, Karen Stanton, Harissos Tsiringas, Annie Der Bedrossian.*

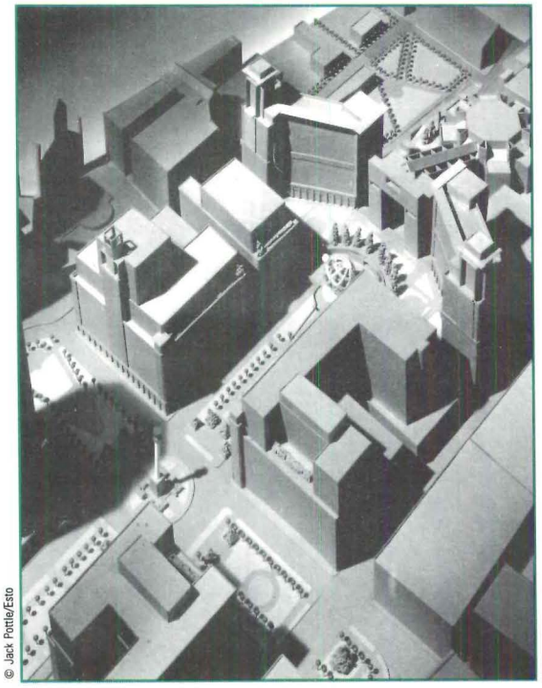
# Projects: An Urbane Prospectus for Montreal

Diverse perspectives on public space emerge in three prize-winning redevelopment schemes.



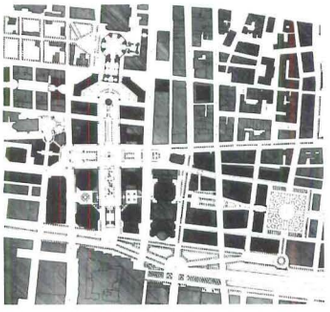


AXONOMETRIC, FIRST PLACE SCHEME FOR INTERNATIONAL CITY OF MONTREAL BY STEVEN PETERSON OF PETERSON/LITTENBERG ARCHITECTS

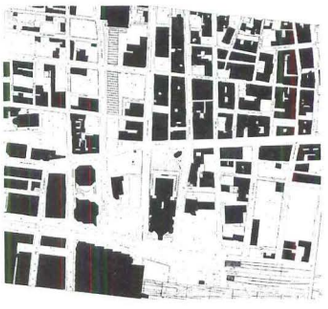




MODEL (CONFERENCE CENTER IN UPPER RIGHT)



SITE PLAN, PROPOSED



SITE PLAN, EXISTING N 500'/150m

The City of Montreal recently held an international "ideas" competition for the design of an important but poorly developed area in its center. The first-prize winner, Steven Peterson of Peterson/Littenberg Architects in New York, submitted a proposal that takes as its departure point the public square; second-prize winners Martin Liefhebber of Toronto and Hiroshi Hara of Tokyo both took the opposite approach, with submissions dominated by powerful conglomerate structures. The contrasting approaches as well as the organization of the competition provide interesting lessons for the saving of our contemporary cities.

Over the last couple of decades, the site designated for the competition suffered badly: Montreal perpetrated sins upon its own flesh. The site, part of the city's Financial District, forms a link between the retail core of the city and the historic waterfront district. It has a few important properties, such as the Nervi-designed Stock Exchange tower and a historic Bank of Canada building. The area is also the primary southern entrance to Montreal.

In the past the city gave developers little guidance for the area; it mandated few design controls, and allowed traffic engineers to scar it deeply. On the area's east border, a wide asphalt surface lies open, patiently accepting the onslaught of traffic entering the city from the aboveground highways to the south. And across the middle of the site, east to west, a partially-covered underground highway has left an unattractive scar on a potentially valuable spot.

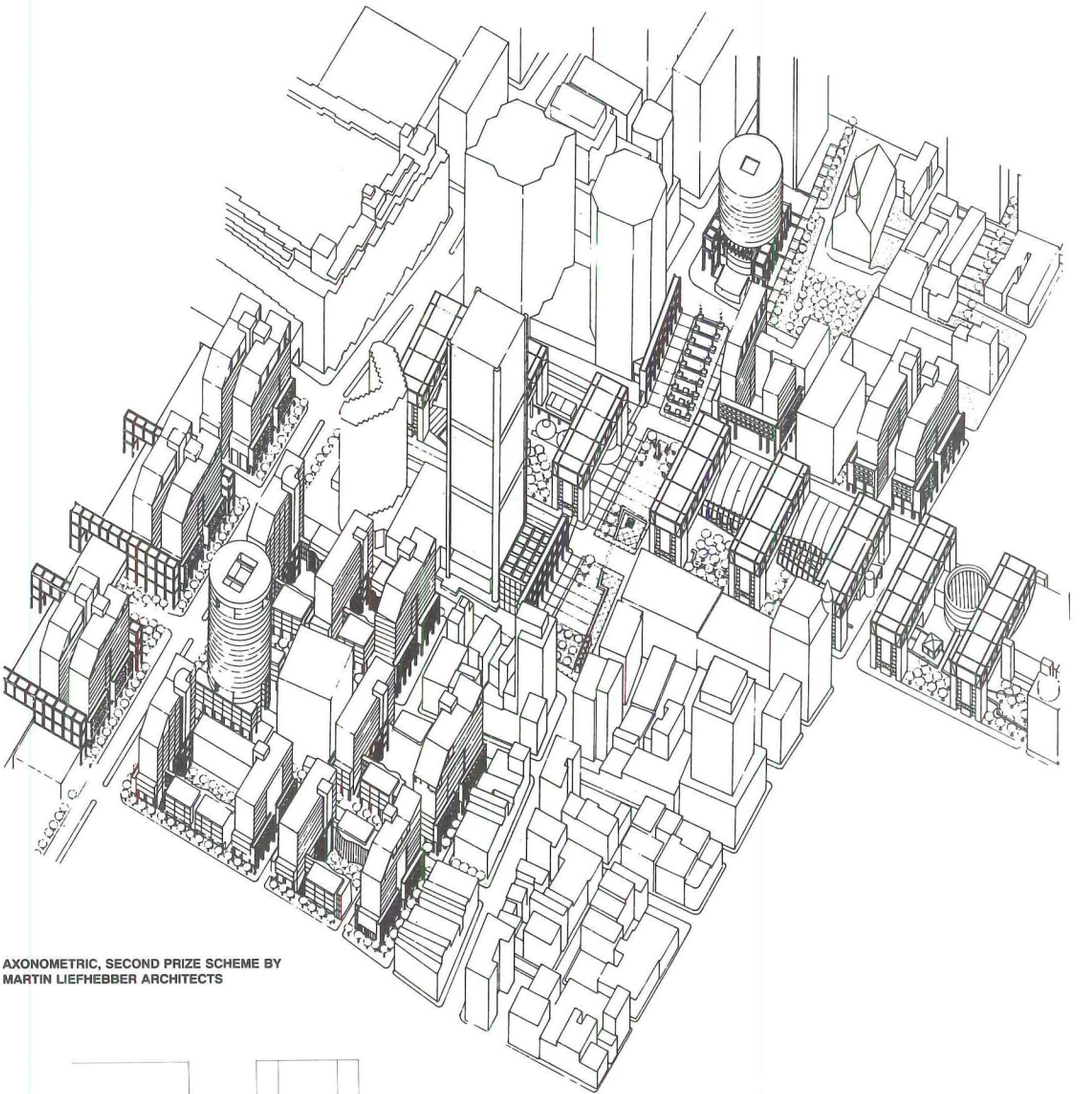
To stop the district's erosion and to maximize its good qualities, the city decided to seek a vision before it was too late. Taking on major local develop-

ers as partners – who were only too happy to conform to imposed limits if they would enhance property values – the city came up with a marketable theme for the area and organized a design competition to give it shape. Montreal designated the site "The International City." To attract additional users to a region with the lowest birth rate in the Western world, the leaders decided to promote the city as a seat for international organizations. As part of the design, the 94 entrants were expected to use the air rights over the expressway to reconstitute the urban fabric. They were to preserve specified landmark buildings and to integrate with them an International Conference Center to provide offices and meeting facilities for international organizations.

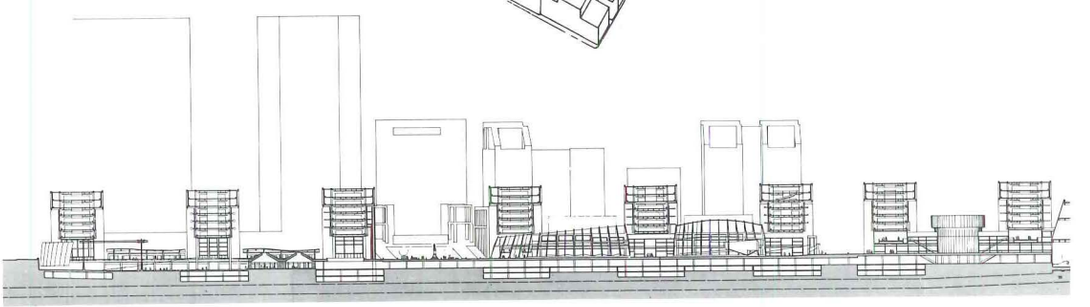
### The Premiated Schemes

Peterson/Littenberg Architects, one of five winners in the 1980 Les Halles site competition, and designers of other large urban projects, (including New York's Clinton Community Master Plan, P/A Award, Jan. 1990, p. 110) proposed a scheme that carves out formal parks, squares, and boulevards at key locations throughout the district. They maintain historic buildings while retaining or increasing the buildable potential of every developer's property.

The two second-prize winners took a less holistic approach to the redesign of the site and its relationships with the surrounding city. Liefhebber and Hara prescribed large buildings and Modernist plazas to be built over the painful scar – the expressway – at the center. The megastructure designed by Hara is especially beautiful, and would provide, graphically, a striking marketing tool for the city. But instead of mending the urban parts, it would provide yet another wall to divide it. The Liefhebber scheme has similar problems, and obscures the respective responsiblities of the public and private domains. Both schemes fail to take into account the realities of diverse real estate ownership, the need for incremental development, and the local demand for buildings with moderately-sized floorplates.

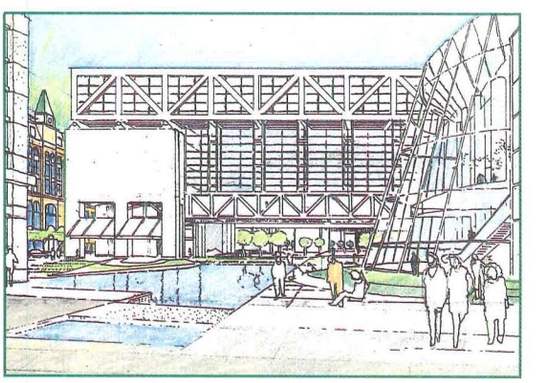


AXONOMETRIC, SECOND PRIZE SCHEME BY MARTIN LIEFHEBBER ARCHITECTS

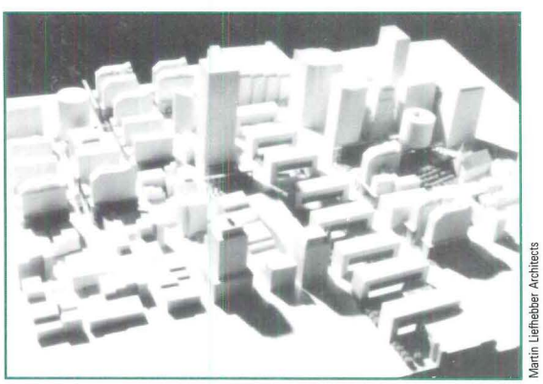


SECTION THROUGH INTERNATIONAL AXIS WITH CONFERENCE CENTER

100'/30m



PERSPECTIVE ALONG INTERNATIONAL AXIS



MODEL (CONFERENCE CENTER PROPOSED OVER HIGHWAY)

Martin Liefhebber Architects

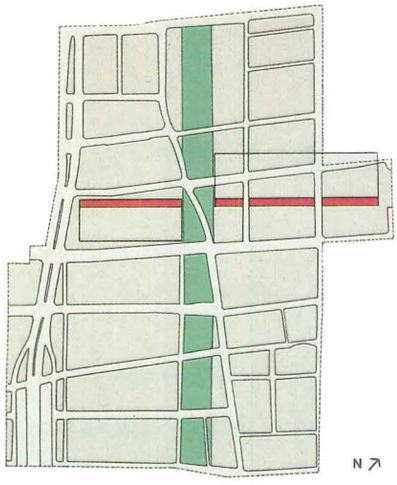
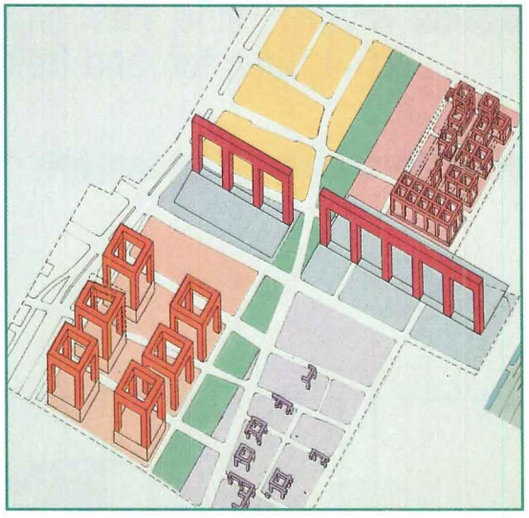
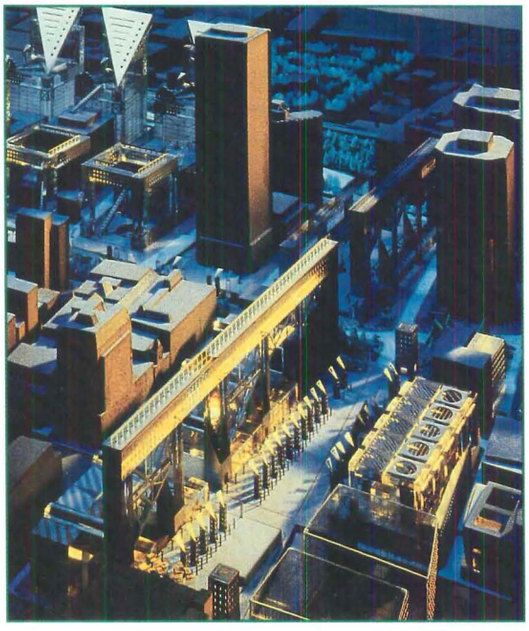


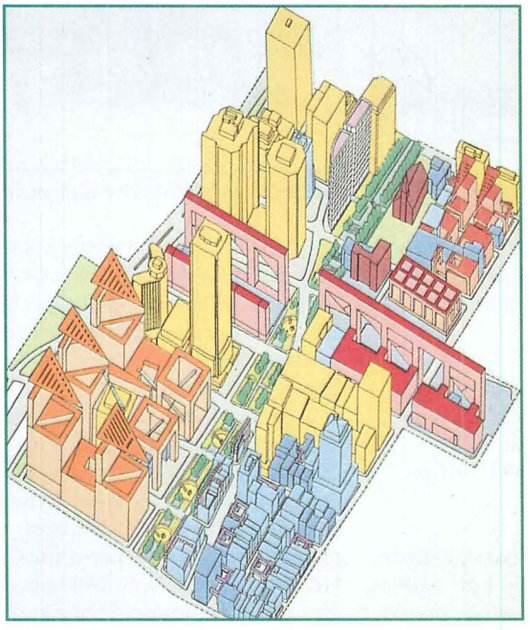

DIAGRAM OF URBAN COORDINATES, SECOND PRIZE SCHEME BY HIROSHI HARA



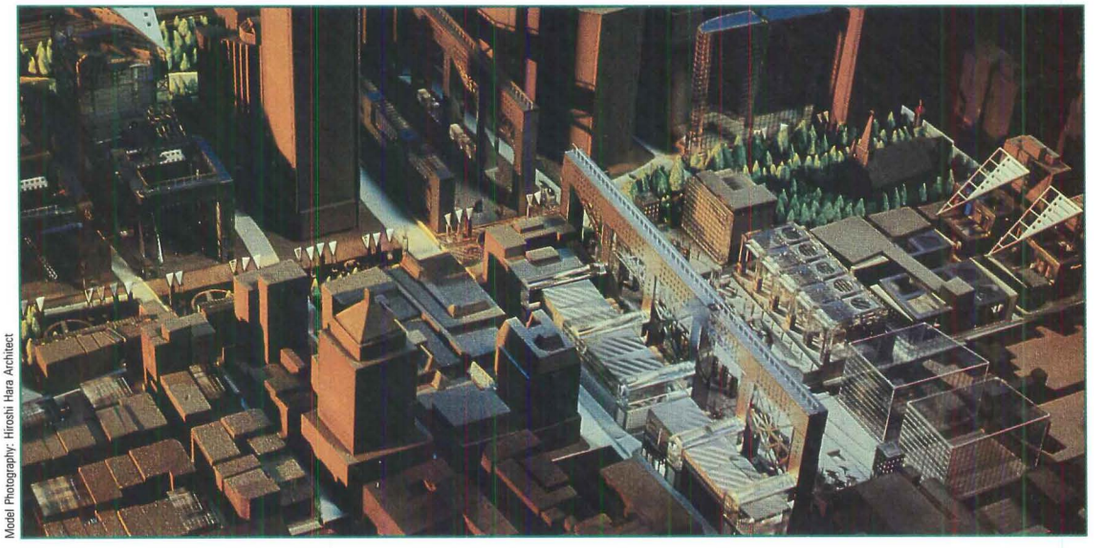
AXONOMETRIC DIAGRAM, URBAN STRUCTURE



MODEL (CONFERENCE CENTER PROPOSED OVER HIGHWAY)



AXONOMETRIC (OFFICE BUILDINGS TO LOWER LEFT)



Model Photography: Hiroshi Hara Architect

MODEL (CONFERENCE CENTER WITH ENCLOSED MALL IN FOREGROUND)

Architecturally, the first-place scheme is not as strong as Hara's second-place design: Peterson's buildings are unexciting, and his strategy of surrounding existing towers with low masses to provide a street wall (shown in the axonometric of the cruciform "Place du Canada") will be difficult to accomplish gracefully. Still, Peterson demonstrates an important point: that new buildings can – indeed should – be built over time by different architects, as long as height and materials guidelines are respected.

Peterson's concept of the city bespeaks his acquaintance with Colin Rowe at Cornell as well as his own 20 years of experience. Peterson believes that the role of the public garden is dominant in the city. But his garden is different from Olmsted's: It is garden-as-structure, a public room around which buildings can be assembled over time. At the west edge of the site, the major entrance to the city, Peterson sets off a new formal park with a wall of buildings. Here he proposes broader setbacks for new construction and a taller building-height limit, thereby defining a bolder city façade. To give form to the gardens in his plan, Peterson collages examples from famous architects and cities – the Spanish Steps of Rome, Parisian squares, and pieces from Serlio – adapted to Montreal: His urban gardens link residential and commercial districts that surround the site.

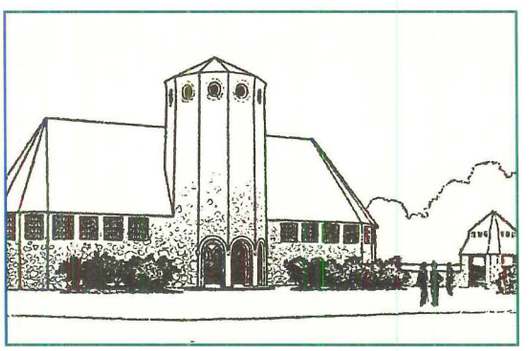
The City of Montreal has signed a contract with Peterson/Littenberg to develop these ideas further. Certain details – bridging over a major street and the location of the International Conference Center – may be problematic, but the basic design rings a positive note as a method to remake the city.

**Susan Doubilet** ■

*The author, a former Senior Editor of P/A, works as a freelance journalist and architect in New Jersey. She is a native of Montreal and a graduate of McGill University's School of Architecture.*

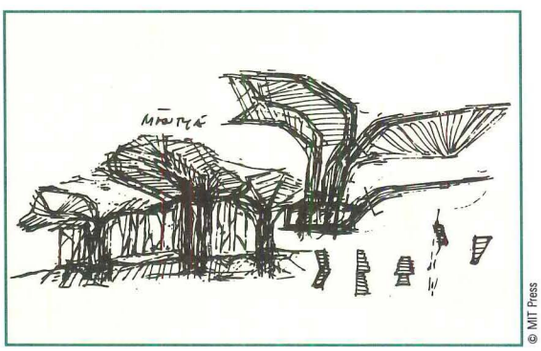
# **Books** Mythic Finns, Past and Present: Eliel Saarinen and Reima Pietilä

A pair of monographs, reviewed by **William Morgan,** offer contrasting approaches to Finland's Poetic Modernism.





*Saarinen's proposed Finnish Pavilion, Panama-Pacific Fair, 1915.*





*Pietilä's sketch of interaction of forest and interior space.*

Eliel Saarinen: Projects 1896–1923 *by Marika Hausen, Kirmo Mikkola, Anna-Lisa Amberg, and Tytti Valto, MIT Press, Cambridge, Massachusetts, 1990, 355 pp. illus., $125.*

Writing Architecture: Fantômas Fragments Fictions, An Architectural Journey Through the 20th Century *by Roger Connah, MIT Press, Cambridge, Massachusetts, 1990, 463 pp., illus., $75.*

Despite an isolated location in a harsh climate, a difficult language which no one but natives speaks, and an obsessively introspective psyche, Finland exerts an influence on architecture far out of proportion to its size and wealth. Architects like Alvar Aalto and Eliel Saarinen are universally admired, and their iconic reputations seem unassailably secure. Whether or not the idealized Finnish architectural landscape is as pure or Romantic as outsiders believe it to be, the appearance of new books on the revered Saarinen and the controversial Reima Pietilä are significant publishing events.

The basic outline of Saarinen's career – the National Romanticism of the Finnish Pavilion at the 1900 Paris World's Fair, the Helsinki Railroad Station, the Chicago Tribune competition, and the subsequent years at Cranbrook – is generally well known. However, Saarinen revised history slightly by destroying many of his drawings, especially his early work. Moreover, he was afforded a final editor's prerogative in Albert Christ-Janer's "definitive" 1948 monograph.

So, to establish a more complete record the Museum of Finnish Architecture unleashed a small army of scholars and architects to seek out all possible sources of Saarinen material. The result, *Eliel Saarinen: Projects 1896–1923,* has become the standard reference on the architect's pre-American work – an incredible resource and history that reaffirms the greatness of the grand old man of Finnish architecture.

Marika Hausen's thorough study of Saarinen's architecture provides a detailed biography and a chronicle of his transformation from self-conscious nationalist to architectural statesman. The late Kirmo Mikkola discusses Saarinen as town planner. Beyond the plans for Canberra, Chicago, Helsinki, and Detroit, Mikkola explores the background and sources of Saarinen's planning philosophy, his admiration for both Haussmann and Sitte, as well as his crucial friendship with Ebenezer Howard.

Anna-Lisa Amberg tackles Saarinen's "non-architectural" *oeuvre* along with an analysis of ten key interiors. Here are his paintings, tapestries, furniture, ink wells, and postage stamps (the first for the new nation), not to mention designs for banknotes and the Finnish flag: Together they demonstrate the range and genius of this Nordic combination of Morris, Wright, and Gropius. In keeping with the book's encyclopedic nature, every facet of each object is listed – material, finish, manufacturer, and so on.

Finally, it is Tytti Valto's *catalogue raisonné* of Saarinen's architecture and planning that rounds out this stunning monument in the literature of Modern architecture. Virtually every work (including many lost or heretofore unknown) comes with information on clients, planning period and construction dates, reviews, drawings, and sources.

*(continued on page 148)*

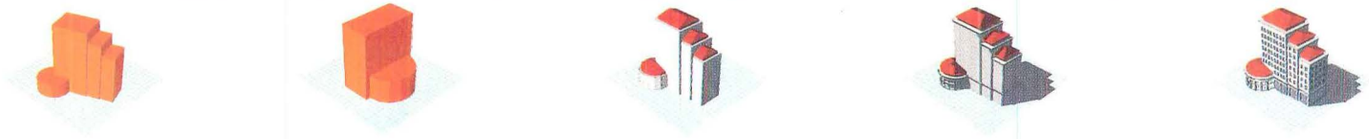
## Books of Note

**Violated Perfection: Architecture and the Fragmentation of the Modern *by Aaron Betsky (concept developed with Paul Florian and Stephen Wierzbowski), Rizzoli, New York, 1991, 208 pp., illus., $50 cloth, $35 paper.***
**Betsky presents buildings that are aggressive, fragmented, and unresolved – qualities that bespeak a challenge to the social and economic status quo.**

**Emerging Japanese Architects of the 1990s *edited by Jackie Kestenbaum, Columbia University Press, New York, 1990, 122 pp., illus., $49.50.***
**Kestenbaum introduces six representatives of the fourth generation of Japanese Modernism, bred in a culture of unbridled commercialism.**

**North Carolina Architecture *by Catherine W. Bishir, University of North Carolina Press, Chapel Hill, 1990, 514 pp., illus., $59.95.***
**An accessible text on the state's historic architecture from Colonial days to World War II appears in a hefty volume with exceptional photography by Tim Buchanan.**

**Heating, Cooling, Lighting: Design Methods for Architects *by Norbert Lechner, Wiley, New York, 1991, 524 pp., illus., $59.95.***
**With an emphasis on basic concepts, Lechner's book is suitable for an introductory course: It shows how to integrate energy efficiency with the design process.**



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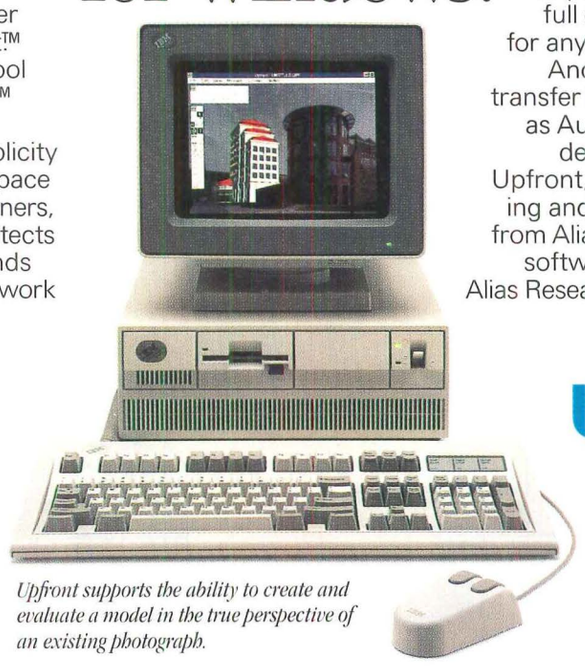

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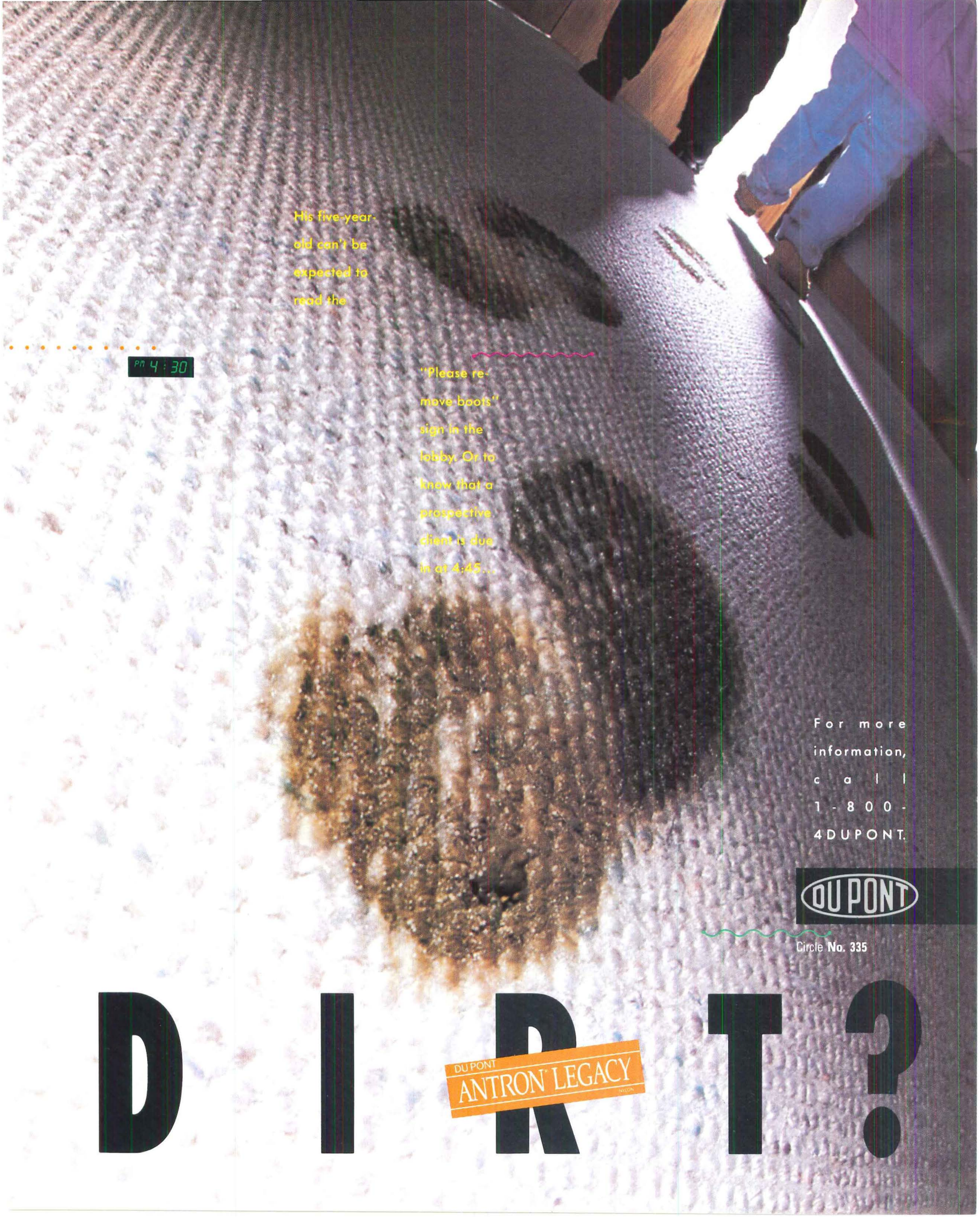
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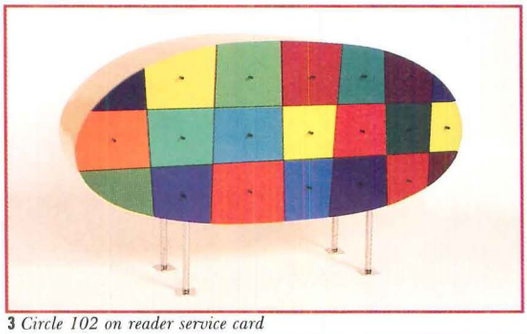

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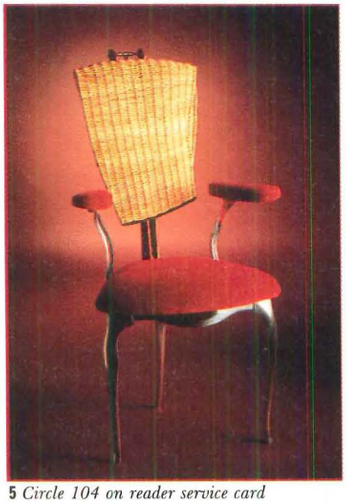

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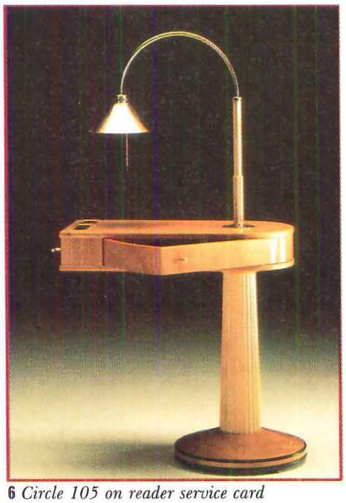

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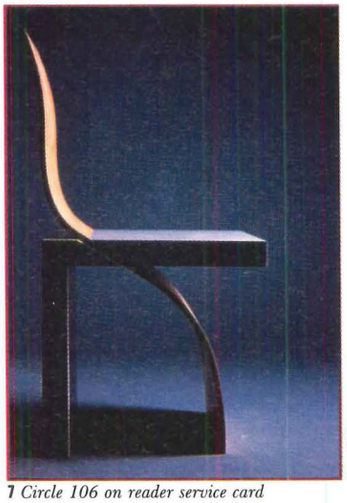


7 *Circle 106 on reader service card*

Lean Guilkers

*"Artema" collection by Paolo Piva for B&B Italia (1); "Balzac" armchair by Matthew Hilton for SCP (2); "Checkers" chest by Lyn Godley and Lloyd Schwan of Godley-Schwan (3); "Acanto" table by Enzo Mari for Zanotta (4); "Reggenza 3" chair by Toni Cordero for Morphos (5); "Talo" night table by Massimo Scolari for Giorgetti (6); "Leda" chair by Angela Oedekoven-Gerischer, shown by Mobel Perdu (7).*

## Report from Milan

Every furniture fair is to some extent a mixed bag, where kitsch sits cheek by jowl with refinement. But the Salone del Mobile held in Milan in April was even more so than usual: Within the ambitious high-design camp itself the quality of work was spotty; in a difficult economy manufacturers seemed to be casting about for winners rather than setting their own course.

B&B Italia launched, with much fanfare, the "Artema" seating collection by Paolo Piva. It doesn't attempt to break new ground: The pieces themselves are extremely comfortable and well made.

Zanotta, meanwhile, weighed in with an array of forgettable pieces, with the exception of the Modern, highly disciplined tempered glass and steel "Acanto" and "Ginepro" tables by Enzo Mari, minimalistic designs hardly lacking in expressiveness.

At the other end of the spectrum, Toni Cordera's "New Territories" collection for Morphos, a division of Acerbis, portrayed – albeit with great skill – the "Barbarian/Post Baroque" wave now besetting much European design. *Basta cosi!*

Giorgetti, another Italian manufacturer, was betting on big architects with a wonderful collection of pieces by Fantasist Massimo Scolari, Leon Krier, and Heinz Tesar.

Among the best of the international contingent were biomorphic armchairs and sofas by Nigel Coates and Matthew Hilton for the English firm SCP and the fanciful and well-crafted chests and stacked cabinets by the New York-based Godley-Schwan. **Ziva Freiman** ■

**1 Waterjet Cutting System**
A computer-controlled abrasive-waterjet cutting system "combines water under extremely high pressure with a fine grit, usually crushed garnet." Steam created by this combination is used as a cutting tool to slice through materials (glass, metal, plastic, stone, and other man-made materials) up to five inches thick. Patterns can be cut, holes drilled, and strip-cutting achieved. The system was used to cut names into the black granite panels of the Astronauts Memorial by Holt Hinshaw Pfau Jones (see page 73). Creative Edge Corp.
*Circle 107 on reader service card*

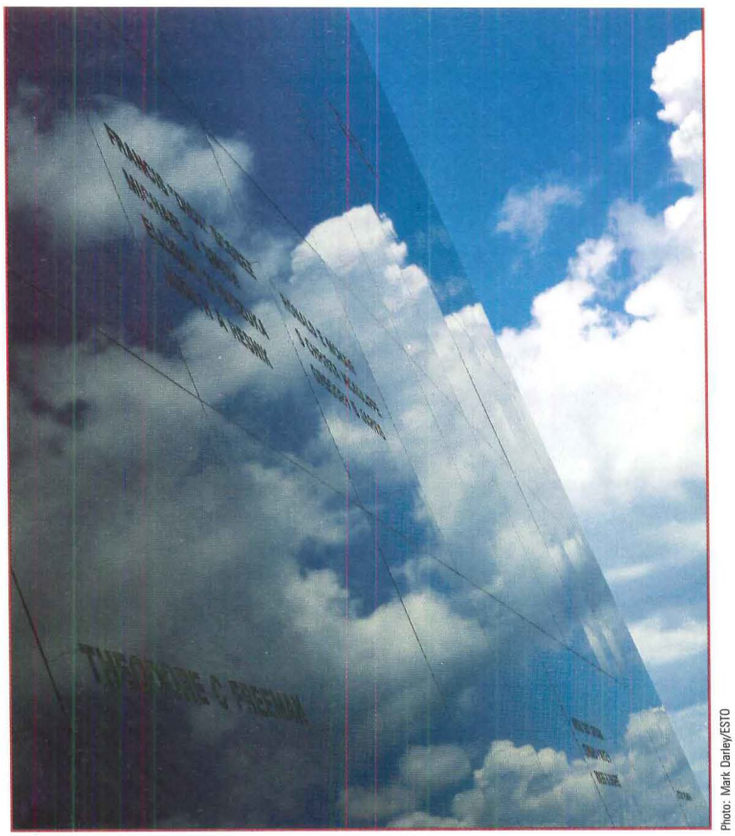


Photo: Mark Darley/ESTO

1

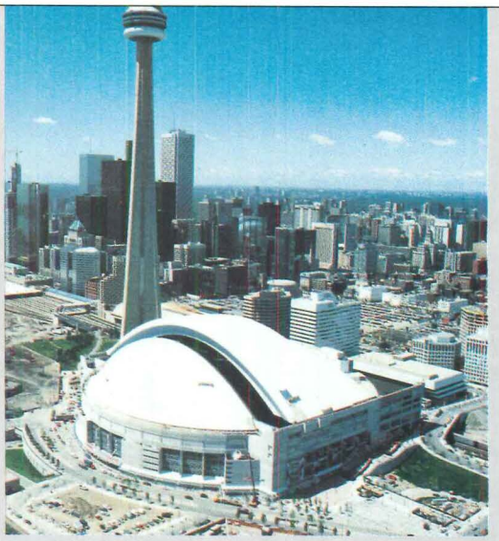
**2 Component Building System**
The "Novatek" component building system – for commercial or residential applications – consists of steel framing, steel trusses, and "man-liftable" steel-reinforced concrete panels. The construction process is as follows: Framing is fastened to the foundation, steel belts are fastened to each upright steel column, lightweight steel trusses are connected to the belt, and panels are bolted to the steel structure. It is compatible with all types of exterior finishes and billed as being fire, wind (up to 190 miles per hour), warp, insect, termite, and rot-resistant.
Novatek International.
*Circle 108 on reader service card*

2

**3 Ceramic Tile**
"Smaltoporcellana" glaze unified with a porcelain body is used to produce "Ker'Life"® ceramic tile. Suitable for interior or exterior applications, it is designed for durability and is stain, acid, and frost-resistant. "Ker'Life" is nonporous and is available with or without a polished surface. Co.em. Ceramiche Cotto Emiliano S.r.l.
*Circle 109 on reader service card*

3

*(continued on page 130)*



*Sports/Convention: SkyDome*

**Re·li·abil·i·ty** \ri-,li-e-'bil-et-e \ *n.*
2: The extent to which a test, or measuring procedure yields the same results on repeated trials.

**We know our specifiers expect *reliability* not *liability*.**

These days the stakes are too high for specifiers and consultants to rely on anything less. *So don't speculate, work with a proven performer.*

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PA7/91

Name: _____

Company: _____

Title: _____

☐ Architect (in firm) ☐ Project Manager ☐ Spec-writer ☐ Engineer(ing) Firm ☐ Roofing Consultant

Address (we need street address to ship UPS) _____

City _____ State _____ Zip _____

Phone ( _____ ) _____

☐ Yes, please have a Sarnafil rep. call on me **IMMEDIATELY** for a roofing spec., that we are working on.

☐ Yes, I would like to view **Sarnafil's Video** on questions specifiers and owners should ask when specifying the next roofing project.

☐ Yes, I would be interested in **Sarnafil Computerized Details and Specifications on floppy disk.**

☐ No, We have no immediate need, but please arrange to have **"specification" information** forwarded to us.

Circle **No. 339**

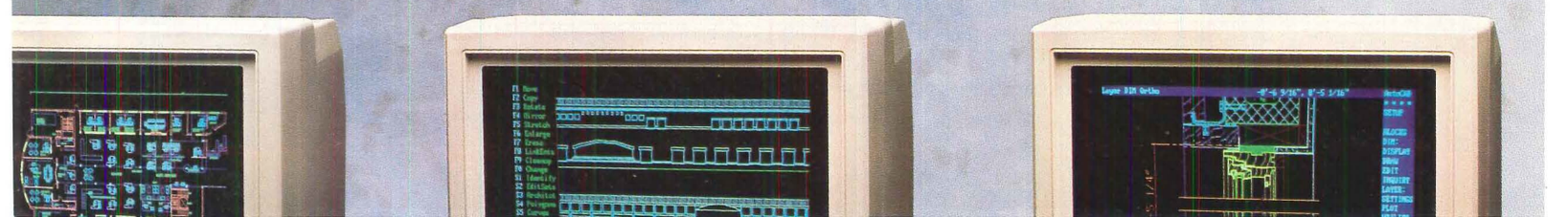

# How We're Helping Architects

Thanks to Andersen CADD-I™ technology, architects are suddenly able to express themselves like never before. With more elaborate and detailed designs. 3-D perspectives. And comprehensive window details.

You see, the Andersen CADD-I™ program is IBM PC compatible and now runs with dozens of different computer-aided design packages. What's more, parametric programs are available for use with AutoCAD®* and DataCAD®† software. And the DXF symbol library allows Andersen CADD-I™ to run with most other CAD packages.

Whether you use AutoCAD,® DataCAD® software, or any program which can import a DXF file, you'll find that the more complicated the project, the more you'll really appreciate the power and






# EXPRESS THEMSELVES. BRILLIANTLY.

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*AutoCAD® is a registered trademark of Autodesk, Inc.
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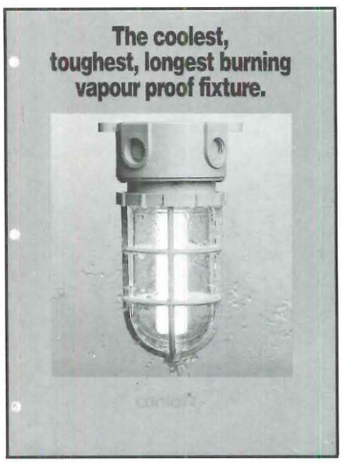
Andersen AW Windows · Patio Doors

Circle **No. 306**

(continued from page 122)

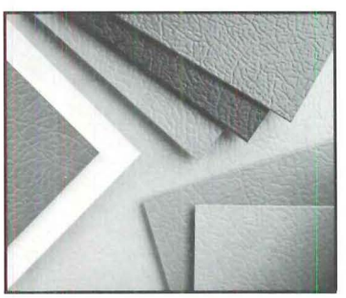
## New Products and Literature




### Vapor Proof Light Fixture

A new compact fluorescent non-metallic fixture, available in ceiling or wall-mounted models, has a thermoplastic body, clear glass globe, and 18-watt OSRAM Dulux D/E quad tube lamp. The fixture is billed as water and vapor proof. Canlet®.

*Circle 110 on reader service card*



### Textured Steel Panels

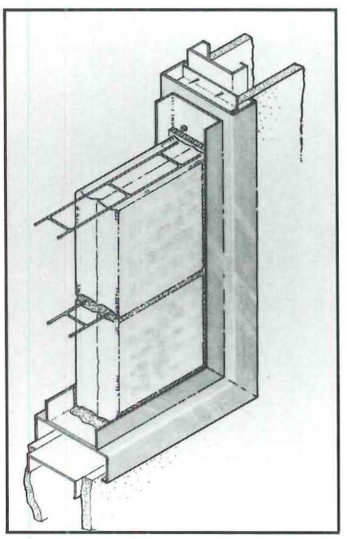
"Design Wall," "Ultramovable," and "Ready Wall" steel panel systems are now available with a factory-applied, baked-on polyester finish. Clestra Hauserman.

*Circle 111 on reader service card*

### Low E Windows

"Southern Low E" is a new low emissivity window coating designed for projects in warm climates. The windows allow "46 percent" fewer infrared rays into a room, thus reducing heat infiltration and lowering air conditioning costs. Marvin.

*Circle 112 on reader service card*



### Glass Block Frame

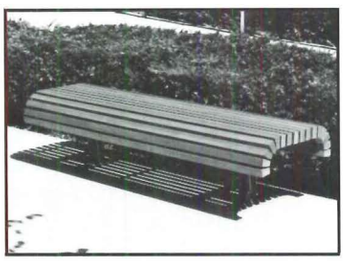
A hollow metal frame makes fire-rated installations of WECK glass block or the 3-inch "Thinline" block in a typical gypsum board wall. The frame has been UL-tested for 45-minute protected openings in one-hour-rated gypsum board walls. The frame, developed by Glashaus, may also be used in glazing applications to frame glass block with a two-inch frame. Glashaus.

*Circle 113 on reader service card*

### CRSI Publication Catalog

The Concrete Reinforcing Institute has announced availability of its *1991 Publication Catalog* and price list. The *CRSI Handbook, Manual of Standard Practice and Rebar Design, and Detailing Charts* have been updated; among the new products included are four new software programs for reinforced concrete design. Forty products are described in all. CRSI.

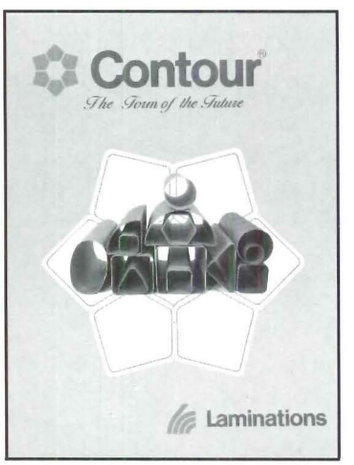
*Circle 200 on reader service card*



### Wood Bench

The "Rochelle Bench," for interior or exterior applications, is constructed of 2″ × 3″ California hardwood members (other woods may be specified) and is available in 60-, 72-, 84-, and 96-inch lengths. Sitecraft.

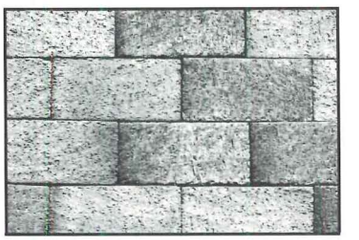
*Circle 114 on reader service card*




### Laminated Paper Forms

"Contour"® laminated paper forms may be used to cover beams and other surfaces and are manufactured in 130 shapes and sizes. They may be glued, stapled, nailed, and drilled, and can be covered with laminates, veneers, paints, lacquers, and fabrics. Laminations Corporation.

*Circle 115 on reader service card*



### New Brick Paver

"Red and Flashed Red Pavers" for commercial and residential, new construction or renovation projects. The "2-to-1 Paver" is 3¾″ × 7½″ for pattern making in mortarless applications; the "Flashed Modular Paver" is 3⅝″ × 7⅝″ and can be used with or without mortar. All pavers are 2¼-inch-thick. K F Brick.

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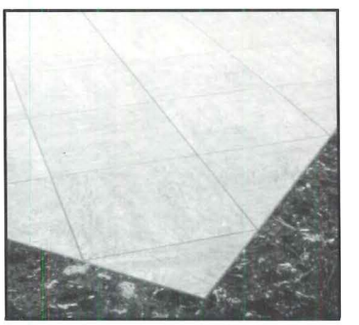


### Floor Covering Tiles Catalog

Technical, installation, and maintenance information for vinyl floor tile is augmented with illustrations of available tile styles and colors in this new catalog. Nittoh® Tile.

*Circle 117 on reader service card*

### Ceiling and Wall Brochure

*Integrated Ceilings Specialty Products* includes information on design, size, texture, and colors available in the line of ceiling and walls systems. "Transparencies" panels (lightweight, acrylic panels used in place of glass), pipe and junction systems, luminous skylights, reflective surfaces, fabric-wrapped ceiling and walls, and acoustic linear metal are among the products in this brochure. USG Interiors.

*Circle 202 on reader service card*

(continued on page 132)

# Long after everything else has gone to ruins, it's worth noting that the entrance still makes a monumental impression.

Kawneer has a complete line of aluminum entrance systems, each a timeless classic in its own right.

**Kawneer**

The designer's element.

Circle No. 311

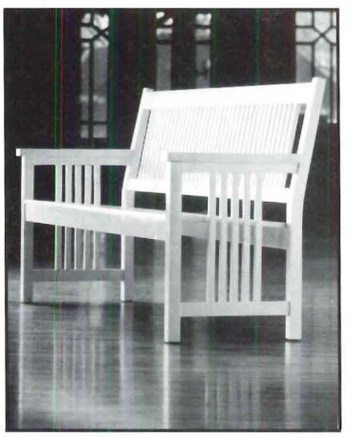
(continued from page 130)

**Acrylic-Impregnated Flooring**
The "Timeless® Series II," an acrylic-impregnated laminated wood plank flooring line, is now available in lindenwood. It is engineered with a micro-bevel edge and has a 3/8-inch profile. PermaGrain Products.
*Circle 133 on reader service card*

**Paving Tiles**
The "Softpave" line of high-grade rubber (manufactured from reclaimed tire treads and a urethane binder) now includes a cross-hatched grid pattern. The water permeable tiles for interior or exterior applications are available in red, grey, black, green, and flecked colors. Carlisle Tire & Rubber Company.
*Circle 118 on reader service card*

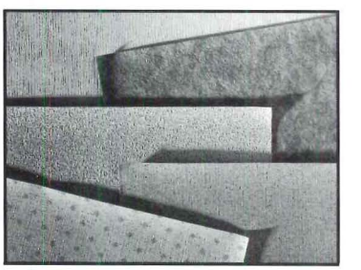
**Drinking Fountain Catalog**
Indoor and outdoor drinking fountains and water coolers for commercial and institutional use are described in a new catalog. The "Hands-off" sensor-operated water coolers and "Fashion-Plates"™ drinking fountain and water coolers are among the products described. Haws Drinking Faucet Company.
*Circle 203 on reader service card*





**Wood Bench Collection**
The "Kenworthy Collection" includes five 72-inch garden style benches, each with a 24-inch companion chair. All are constructed of temperate-forest hardwoods and are suitable for interior or exterior use. "Rain forest products are not used." LFI/Landscape Forms.
*Circle 119 on reader service card*

**Roofing Systems Catalog**
The *1991 Sweet's Modified Bitumen Roofing Systems Catalog* includes specification and detail illustrations, a Product Information Chart, Slope Requirement Chart, Fastening Chart, and information on other roofing-related issues. Siplast.
*Circle 204 on reader service card*



**New Wallcovering Patterns**
Five new 54-inch wallcovering patterns have been added to the "Volume IV" collection for commercial interiors. All wallcoverings are treated with antimicrobials for mildew and bacteria resistance.
Koroseal® Wallcoverings.
*Circle 120 on reader service card*

(continued on page 134)

# It is not merely a coincidence that all architectural treasures are remembered for their entrances.

An exceptional building
deserves an exceptional entrance.
Which is why Kawneer aluminum entrance systems
are part of the world's most memorable architecture.
They make a building extraordinary.

**Kawneer**
The designer's element.

Circle **No. 312**

*(continued from page 132)*

**Masonry Wall Systems Catalog**
"Spectra-Glaze® II" factory-finished, pre-glazed concrete masonry wall systems are the subject of a new catalog. Construction details and specification data for new products and a variety of exterior and interior installation possibilities are included. United Glazed Products.
*Circle 205 on reader service card*

**Window Catalog**
This new catalog describes and illustrates the complete line of windows. "Siteline" (an aluminum, heavy commercial window with narrow sitelines and beveled edges), heavy architectural windows with side-load sash, double-hung windows with side load sash, tilt sash windows, sliders, casements, and custom colors, shapes, panning, and accessories are among the products in the catalog. Season-all.
*Circle 206 on reader service card*

**Simulated Concrete**
"Modar"™ is a modified acrylic resin "designed to replace such conventional building materials as wood, aluminum, steel, and concrete or plaster. . . " Applications include: façades, columns, doors, panels, ductwork, decorative trim and moldings, window frames, and baseboards. It offers "high fire retardancy, plus low smoke and low smoke toxicity."
ICI Acrylics.
*Circle 121 on reader service card*



## Computer Products: New Software Releases

**SPARCstation Renderer**
"RenderStar" for the SPARC platform is a 3D rendering package that can run in conjunction with AutoCAD so it is possible to draw with CAD and render simultaneously.
Modern Medium.
*Circle 122 on reader service card*

**Intelligent Models**
"Thumbnail 3D™" allows designers to build a conceptual 3D model of a house beginning with bubble diagrams and "reference lines" and working toward a 3D wireframe model. A roof calculation system designs roof pitches to fit. ICG.
*Circle 123 on reader service card*

**Visualization**
"Model Vision™" is a standalone rendering and animation package that can import 3D models created with AutoCAD or any other DXF-compatible CAD package. The images can be rendered with shade and shadow, texture-mapping (photographic textures can be captured with a video camera and applied to the model), and animation. ASG.
*Circle 124 on reader service card*

**New CAD Releases**
A new graphical user interface, baseline and coordinate dimensioning, and import/export capabilities are part of "DesignCAD 2D" Version 5.0. Version 3.0 of "DesignCAD Macintosh" (a 3D CAD package with rendering capability) is System 7.0 compatible. American Small Business Computers.
*Circle 125 on reader service card*

*(continued on page 137)*

# Artistry is what transforms an entrance from a passage through a building into a passage through time.

No matter what
design statement you're making, Kawneer has
an aluminum entrance system
to help make it immortal.

**Kawneer**
**The designer's element.**

Circle **No. 313**

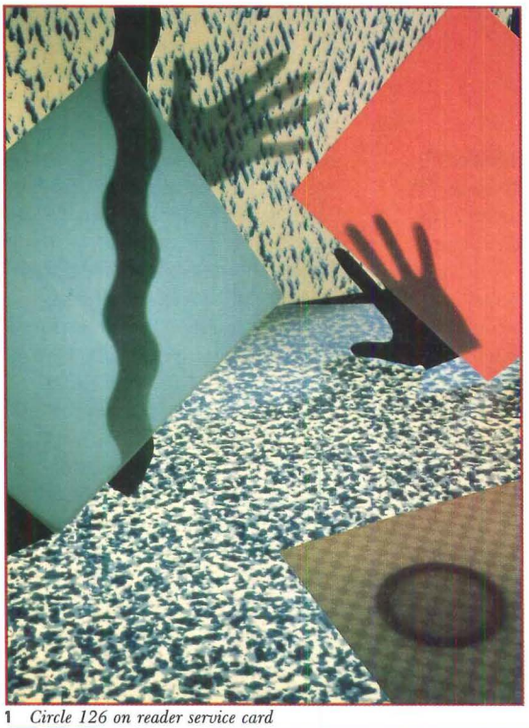
# THE ·ULTRUM· COLLECTION



When it comes to metal furnishings, Ultrum sets the standard...in style, in durability and in innovative space design. Ultrum offers today's most exciting site furniture collection. For our new full-color catalog, contact your Ultrum sales representative or write GameTime, Inc., P.O. Box 121, Fort Payne, AL 35967. 205/845-5610, telex 782-534, FAX 205/845-2649.

# Technics-Related Products





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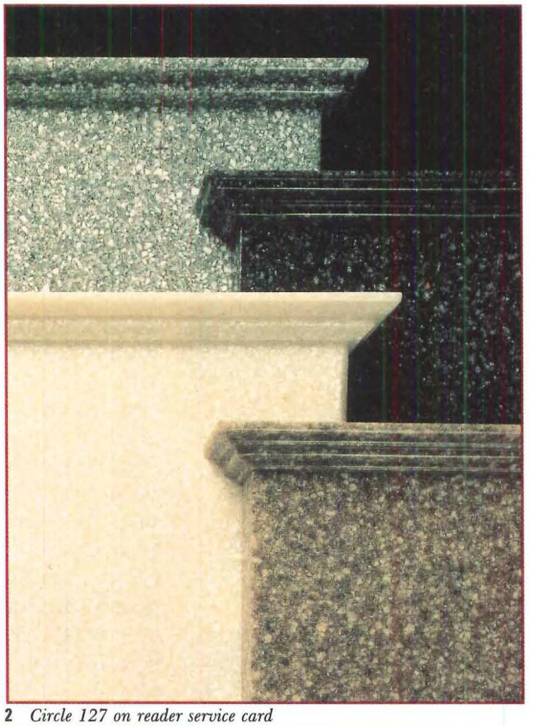

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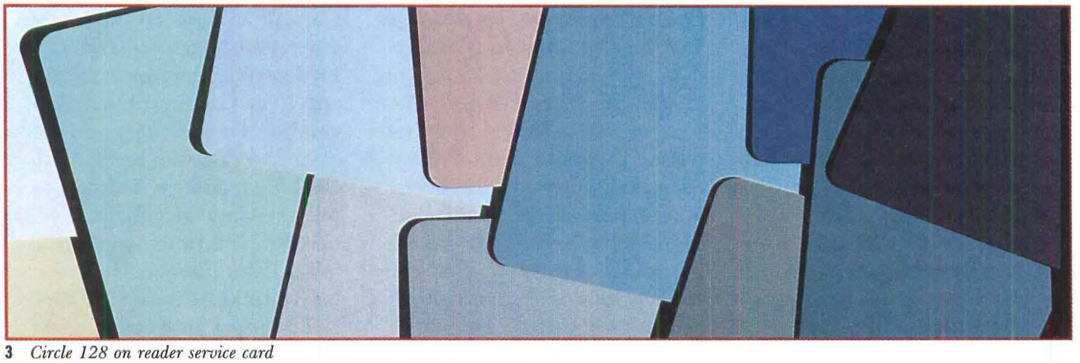

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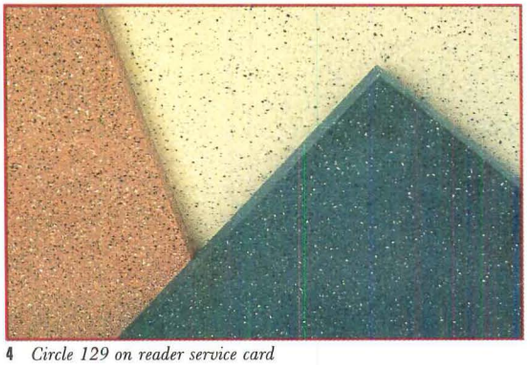


4 *Circle 129 on reader service card*

## Interior Plastic Surfaces

### 1 Translucent Surfaces

"DIAFOS" is a translucent high-pressure plastic laminate surface available in three thicknesses: 1.2mm solid colors, 1.6mm solids and patterns, and a self-supporting solid-surface 12mm. Because the surfaces admit light, the materials can be used for applications such as lamps and screens.
Abet Laminati.

### 2 Granite Patterns

The "Crystelle" collection of solid-surface materials features "granites" with opaque and translucent particulates ranging in size from tiny specks to 3/8" "nuggets". "Crystelle" is available in four colors: Black Ice, Snow Drift White, Aztec Brown, and Platinum Gray.
Avonite.

### 3 Solid Colors

14 new solid color decorative laminates for residental and commercial applications, including "Dark Laurel, Deep Purple, and Seaspray," are available in gloss or textured finishes. The new line also includes colors in the "Nuance," "Patina," and "Stipple" patterns. Nevamar.

### 4 Solid Surface

Three new "granite" patterns have been added to the "Surell™" line of solid surfacing material: Teal, Tidal Sand, and Fire Stone. The material, which is cast and nonporous, can be sanded, routed, inlaid, sandblasted, or buffed. Formica.

*(continued on page 138)*

*(continued from page 137)*

## Technics-Related Products: Interior Plastics

### Decorative Laminates Brochure
A 61-page color brochure describes the range of available decorative laminate types as well as specification information, design details, technical information, and a directory of suppliers. Architectural Woodwork Institute.
*Circle 207 on reader service card*

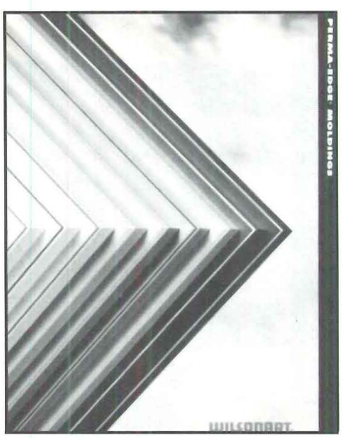
### Plastic Molding Catalogue
A variety of base, ceiling, and fluted casing decorative plastic moldings are primed and ready to finish with oil or latex paint. Outwater Plastics.
*Circle 208 on reader service card*

### Custom Decorative Laminates
"SpecFX™" laminates can be specified with custom graphics silkscreened or inlaid on any "Pionite" solid, pattern, stone, or woodgrain laminate. More than 1,000 inks, 160 base surfaces, and 10 finishes (e.g., gloss, matte, or alligator) are available. Pioneer.
*Circle 130 on reader service card*

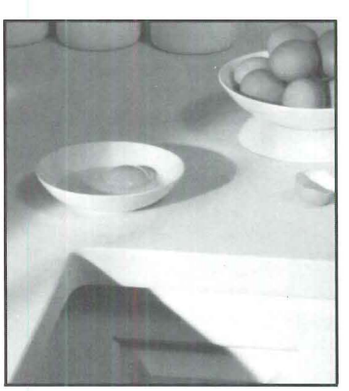
### Laminate Brochures
Five brochures present the full line of decorative laminate colors, textures, and patterns available including the new "Quartz" and "Laqwood" finishes. Farbo Armorite®.
*Circle 209 on reader service card*

### Plastic Floor Covering
"Silverado" and "Sterling" are two new lines of resilient vinyl flooring. Each line is available in several patterns and in more than 20 colors. Mannington.
*Circle 131 on reader service card*

### Particleboard Guide
"From Start to Finish: Particleboard" explains the manufacturing process of the substrate for many plastic laminate products. The book provides typical details, suggested applications, and a glossary of terms. National Particleboard Association.
*Circle 210 on reader service card*




### Laminate Moldings Brochure
A new 12-page color brochure features the entire "Perma-Edge®" moldings line including new "pinstriped colorthrough" laminate moldings. Wilsonart.
*Circle 211 on reader service card*



### Solid Surfaces
Complex edge treatments can be fabricated on "Solidex" solid surfacing materials. An interlocking rib and groove connects edges to sheetstock smoothly. Guardsman.
*Circle 132 on reader service card*

## Building Materials

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

**Project: Astronauts Memorial, Cape Canaveral, Florida. (p. 73).** *Architects: Holt Hinshaw Pfau Jones, San Francisco.* Foundation: precast piles, reinforced concrete strip foundation. Steel structure: VSL Corporation, Tampa Industrial Steel. Granite wall surface: MS International, Steward Mellon. Silicone sealant: Dow Corning. Stone scaler: Miracle Sealants. Steel paint: Porter. Concrete paint: Glidden. Concrete stain: Textured Coatings of America. Computer: Hewlett Packard. Control system: McDonnell Douglas. Screwjacks: Duff Norton. Gearbox: Kissling. Slewing Ring: SKF.

**Project: Paramount Film and Tape Archives, Los Angeles. (p. 82).** *Architects: Holt Hinshaw Pfau Jones, Los Angeles.* Foundation: Drilled concrete piles. Vault structural frame: precast concrete. Mechanical equipment platforms: braced steel frame. Walls: cast-in-place concrete. Vault floors: precast double tees with 4" concrete topping slab. Mechanical platforms: steel bar grating. Exterior surface: cast concrete and stucco. Steel window wall and door system with wire-reinforced glazing: Carmel Steel Products. Hollow metal windows with wire-reinforced glazing: CHI Continental. Interior floors: concrete with clear sealer. Ceilings: exposed concrete. Spray-on insulation: International Cellulose. Modified bitumen roofing and rigid insulation: Manville. Wall batt insulation: Owens Corning. Interior partitions: gypsum board on steel studs. Paint: Sinclair. Butt hinges: McKinney. Lever locksets: Schlage. Surface-mounted closers: Von Duprin. Electric strikes: Folger Adams. Hydraulic elevators: Schindler. Interior stairs: concrete-filled metal pan. Outside stairs: bar grating with steel pipe and wire mesh infill. HID and fluorescent lighting: Lithonia. Lavatories and water closets: American Standard. Washroom accessories: Bobrick. Sprinklers: Reliable. Halon fire extinguishers: Fike. Boilers and chillers: York. Controls: Johnson Controls. Mobile shelving: ARSS of America. Conveyor system: W.T.Billard.

**Project: Morton International, Chicago. (p. 94).** *Architects: Perkins & Will, Chicago.* Concrete podium contractor: CECO. Concrete: Material Service Corp. Reinforcing: Pipkorn. Structural steel: PDM. Metal deck: Cosdeck. Metal curtain wall framing: Harmon Contract. Granite: Henraux. Granite erection and support: Cesco. Glass: Cardinal. Canopy skylight: Harmon Contract. Revolving doors: Crane Fulview. Hollow metal doors and frames: Built-rite. Concrete paving: Alcan. Terrazzo floors: Carretti & Sons. Drywall: USG. Plaza waterproofing: American Hydrotech. Exterior wall sealant: Dow Corning. Insulation, general: Owens Corning Fiberglas. Exterior wall insulation: USG Thermifiber. Liquid applied roofing: American Hydrotech. Interior core walls: USG. Paint: Devoe. Hinges: Lawrence. Locksets: Corbin. Door closers and panic hardware: Sargent. Tile, toilet rooms: American Olean. Fire command panel: Pyrotronics. Elevators, high-speed gearless: Montgomery. Monumental stair: Chicago Ornamental. Plumbing fixtures: American Standard. Plumbing fittings: Chicago Faucet. Flush valves: Sloan. Toilet stalls: Medpar. Washroom accessories: ASI. Sprinklers: Global. Cooling tower: Marley.

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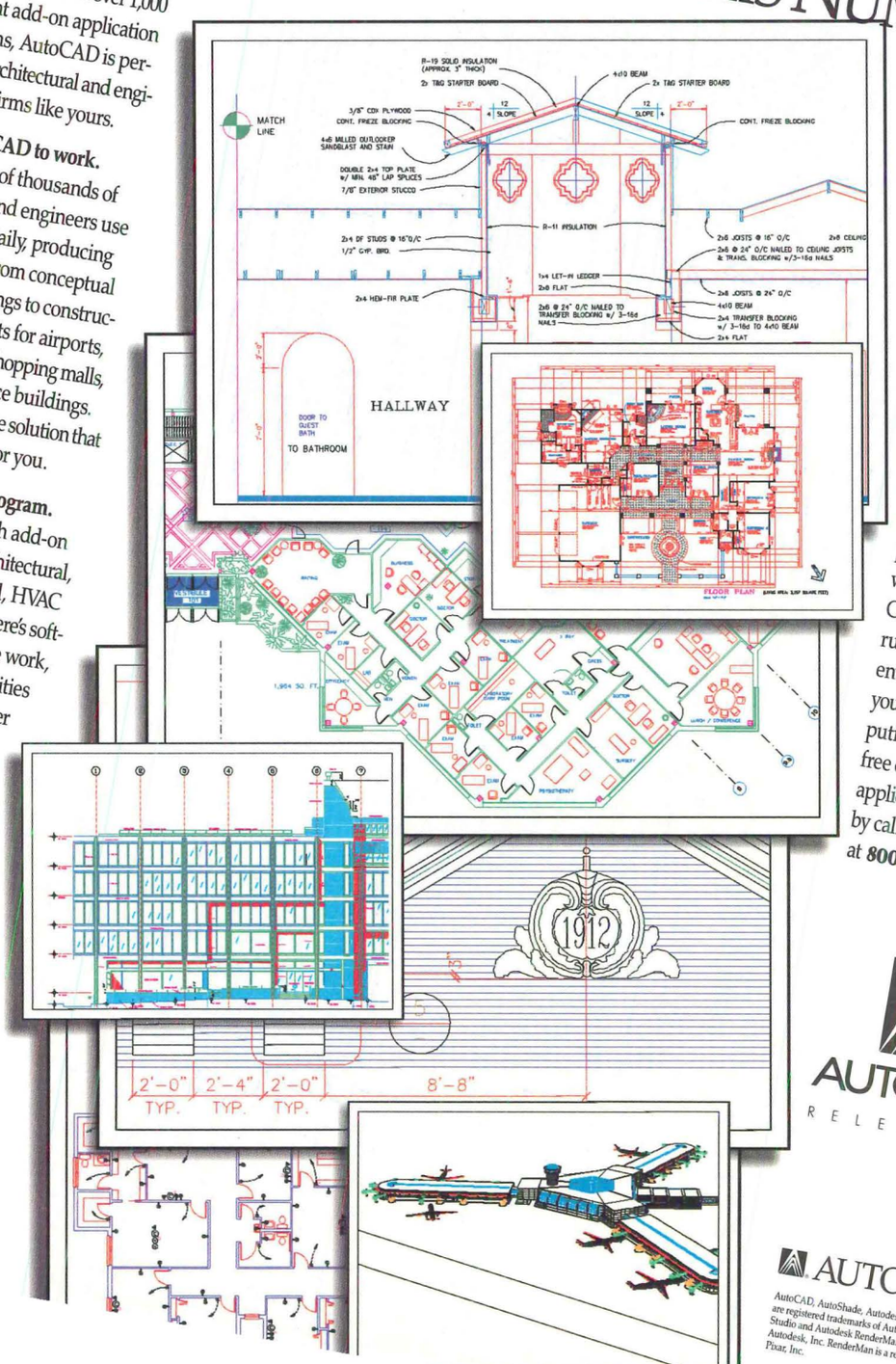


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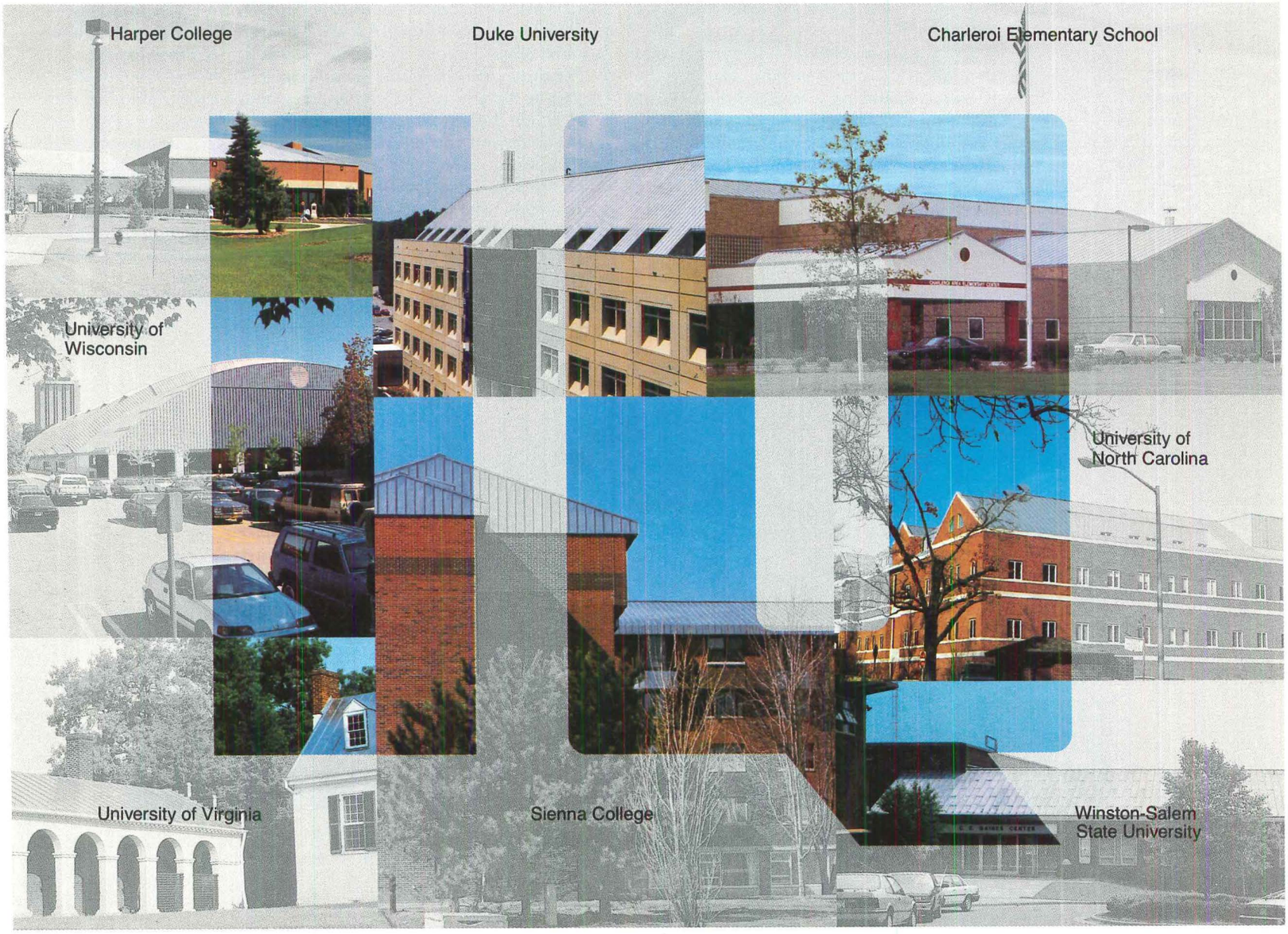


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**HHPJ** *(continued from page 79)*

ment about technology. Electronic wizardry, growing ever more seamless, compact, and disposable, diminishes the spatiality and legibility of our machines and appliances. Vision itself is contracting as the visible world gives way to the electronically visualizable, and the visionary is displaced by the imaginary. Literally, an apprehended superficiality succeeds the comprehended spatiality of Corb's machine age.

The present concern with surface and image is as true of architecture as it is of machines, and the aimless stylism of the former, which Corb had hoped the spirit of the machine would cure, now threatens to overcome both fields. The recent machine architecture of HHPJ and others aims to stem or even turn this tide. Estranged from the spirit of the present, their projects have inverted Corb's practice by adopting directly the forthright forms of the machine's earlier heroic modern period to reassert architecture's irreduceable spatiality, and to win back at least the articulacy, if not the full-spirited conviction, of his time.

The Astronauts Memorial grapples directly with the problems of space, time, and geometry inherent in the machine. Marking the landscape with a cross, its own elements pivot between those of the earth and the sky, simultaneously abstracting light and casting shadows as it tracks time like an obelisk. It is the animation of nature that fills the memorial with its characteristic economy and grace, that returns the machine and architecture to the sincerity of vision demanded by Le Corbusier, and honors the lost lives of the astronauts. **Gavin Hogben** ■

*The author is an architect who teaches at Cambridge University.*

**HHPJ** *(continued from page 79)*

The Spielberg/Lynch analogy is not trivial, for HHPJ does not pursue its goal of immediacy of meaning by posturing naively about the abilities of the fundamental and timeless truths of architecture to mount a stalwart defense against the dangers of undecidability. Rather, the firm accepts the truth of undecidability, oxymoron notwithstanding. Consequently, it operates with cunning and wile, employing the same design tactics developed by its opposition.

Mechanism's regard for the machine is not that of Modernism, which found in the machine a paradigm of its utopian aspirations. Nor is it aligned with those architectures that cite the exchanges among the machine, technology, and architectural tectonics as a basis for truth in design. Rather, Mechanism revels in the figure of the mechanical and the power of that figure to lure and seduce. Indeed, for better or worse, perhaps HHPJ's greatest talent is in its ability to use that power to tap into a longing to revisit the "mechismo" of America's industrial frontierism. HHPJ's architecture achieves is conditioned more by image than by essence and more by desire than by truth. Mechanism is very Post Modern.

For those who feel nothing but despair when confronted with a catalog of tendencies in contemporary architecture limited to the sentimental fluff of Post Modernism, the visionless boredom of Modernism, and the arcane self-indulgences of Deconstructivism and the other speculative architectures that have followed in its wake, the tough energy of Mechanism offers a breath of fresh air. Yet, for those who respect undecidability as much for political as for stylistic reasons, Mechanism's pandering to popular tastes and John Wayne values is reactionary, if not vulgar, and HHPJ is the enemy within. The debate remains contentious. **Jeffrey Kipnis** ■

*The author is an assistant professor of architecture at Ohio State University.*

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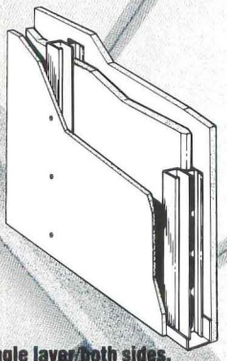

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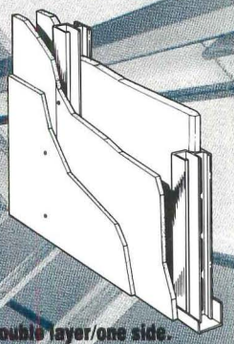

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**Books** *(continued from page 116)*

Added to this are extensive notes and bibliography, all gathered in a handsomely produced and lavishly illustrated volume.

Historians are less certain of Reima Pietilä's place in the pantheon of Finnish architect-heroes. Even so, this philosopher-poet deserves better than Roger Connah's *Writing Architecture,* a book that is as infuriating and disappointing as the Saarinen study is solid and worthwhile.

**"One wonders how different [Pietilä's] career might have been had he heeded Aalto's admonition that what an architect says "does not mean a damned thing. What counts is what he does."**

Pietilä has done much less work than Saarinen, yet the cave-like student center at Otaniemi Technical Institute, the bird-shaped library and the free-form Kaleva Church, both in Tampere, are provocative, challenging creations which are difficult to categorize, seemingly indebted to dozens of sources and influenced by none. Although a lot has been written on Pietilä and his theory (Malcolm Quantrill's 1985 book is the primary study in English), his idiosyncratic Expressionism cries out for objective analysis. But rather than looking at Pietilä's works of art, Connah's surrealist essay on his guru-mentor attempts to fathom the mind of the "Arctic Shaman."

To be sure, the otherworldly Pietilä lends himself to ontological inquiry: ("It took me five years to work out one sentence he had said to me in the airport," a fellow architect remarked. "He was right.") But Connah's woolly approach wherein "digressions, speculations, even a spidership cannot establish any authority" reads like a self-indulgent conceit full of pretentious philosophizing – dialectic obscurantism masquerading as serious theory.

*Writing Architecture* is an endless parade of disjointed fragments from philosophy, film, poetry, and nonsense. It is almost easier to observe who is not included here than who is: Orson Welles, the Beatles, John Cage, and of course Wittgenstein, Barthes, and Rilke, along with dozens of architects and obscure Finnish poets. James Baldwin's death, for example, is mentioned along with the Deconstructivist exhibition at the Museum of Modern Art; a Marimekko shirt is paired with the Kaleva Church.

This discursive, teasing, Duchampian reading of Pietilä is often witty and amusing, but what does it say of the buildings? ("Versions result, fictions which we call buildings, incomplete yet total appear, or rather in the Heidegerrian become, unfold, disclose.") An M.C. Escher drawing rather than something by Pietilä is featured on the title page; only rarely are there straightforward pictures of a Pietilä building and those are scattered among overlapping, frustratingly tiny images.

Pietilä is genuinely concerned with semiotics, and it would be a mistake to dismiss his attempts to create a metaphysical language of architecture. Yet one wonders how different his career might have been had he heeded Aalto's admonition that what an architect says "does not mean a damned thing. What counts is what he does." For one thing, there would have been no Connah high-wire act to divert us from the architect's non-cerebral achievements.

Even so, *Writing Architecture* should spark some intriguing dialogue. Juxtaposed with the completely opposite study of Saarinen, it demonstrates that Finland's stony soil remains fertile ground for outstanding architecture design and stimulating debate. **William Morgan** ■

*The author teaches architectural history at the University of Louisville. In 1989 he was a visiting lecturer at Åbo Akademi, the Swedish-language university in Turku, Finland.*

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# Furthermore . . .

**Whether or not one respects Prince Charles's views on architecture, they have certainly shaken up public debate on architecture in Britain. Smack in the epicenter of this upheaval is the National Gallery addition by Venturi, Scott Brown & Associates, which will be featured next month in P/A. This eminently contextual building now stands where an earlier scheme by Ahrends, Burton & Koralek would have taken shape had the prince not objected, likening it to "a monstrous carbuncle on the face of a much-loved and elegant friend."**

**The prince's comments captured the attention of the whole British public, but not everyone got the facts quite right. When P/A's editor, John Morris Dixon, was taking a taxi to the gallery's press opening this spring, his driver seemed positively disposed toward the Yank-designed addition and couldn't understand, he said, "why Prince Charles called this building a *carbuncle*." There just wasn't time – while calculating a tip in pounds on busy Trafalgar Square – to explain that this was not the carbuncle but the intended cure.**

. . .

*Susan Maxman's election as first vice-president/president-elect of the AIA (see page 27) is not only notable because she will be the first woman to hold the AIA's top spot; Maxman must also hold some kind of record for most national AIA honors at one convention.*

Tom Bernard Photographers

*Susan Maxman's Honor Award-winning Camp Tweedale, part of her AIA triple play.*

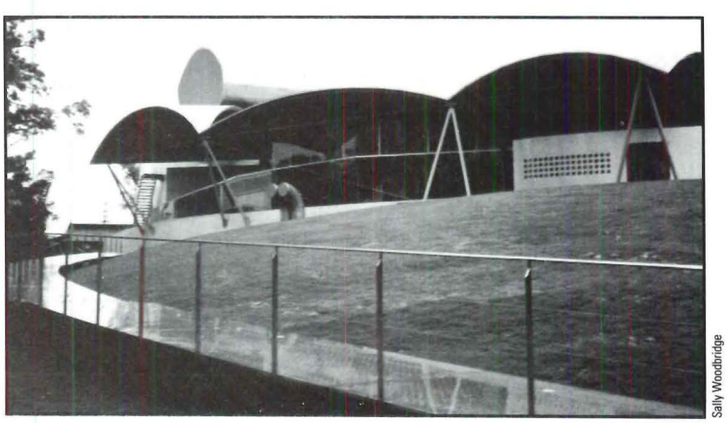
*She was elected to the Institute's College of Fellows this year and won an AIA Honor Award – the first won by an AIA officer in recent memory – for Camp Tweedale (above), a Girl Scout camp in Lower Oxford, Pennsylvania.*

*But Maxman is not the only unusual choice the AIA has made recently: Preceding her as president, beginning this December, will be W. Cecil Steward, Dean of the College of Architecture at the University of Nebraska, a representative of the species in the AIA leadership as rare as women: the non-practicing academic.*

. . .

Among today's far-flung ideas for marketing innovation in architecture, the concept of the building exhibition has spread further than most. The 1984–1987 IBA in Berlin revived the idea – popular in Europe in the 1920s – of inviting architects of different nationalities to design buildings for an exhibition that would change the public view of housing design. The IBA idea came to Japan in 1986 in Arata Isozaki's baggage – he had been invited to Berlin – and took root in the minds of the Fukuoka Jisho Company, which has since built the Nexus World Kashii building exhibition on Kyushu Island in Fukuoka, the subject of a P/A feature next month. The six buildings in the first phase of Nexus World – intended to mean "us in the next world" – were designed by five Western architects: Steven Holl, Rem Koolhaas, Mark Mack, Christian de Portzamparc, and Oscar Tusquets; and one Japanese: Osamu Ishiyama.

Isozaki continued to spread the IBA idea as the "architectural producer" (in *faux*-Western lingo) of Artpolis, another building exhibition now in progress in Kumamoto, the prefecture adjacent to Fukuoka. In this case, the mission was to break the grip of the large and established architectural offices on public projects. In Kumamoto, Isozaki chose architects for some 39 buildings, sponsored not by a private developer as at Nexus World, but by the prefectural government. Among the seven that have been built are a police station by Kazuo Shinohara, a ferry terminal by Shoei Yoh, a city museum by Toyo Ito (left), and public housing projects by Rikken Yamamoto and Kunihiko Hayakawa. That the IBA idea should crop up in Japan is only logical: Amazing architecture is built every day in Japan, a situation American architects can only envy. ■



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*Toyo Ito's Yatsushiro Municipal Museum.*