

Progressive Architecture

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A large, three-dimensional photograph of several preformed metal wall panels. The panels are light blue or grey and have a ribbed, corrugated appearance. They are arranged in a fan-like pattern, showing their depth and the way they interlock. The background is dark, making the panels stand out.

Classic SR-16

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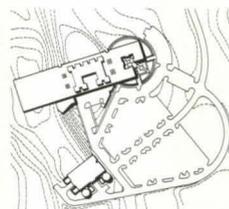
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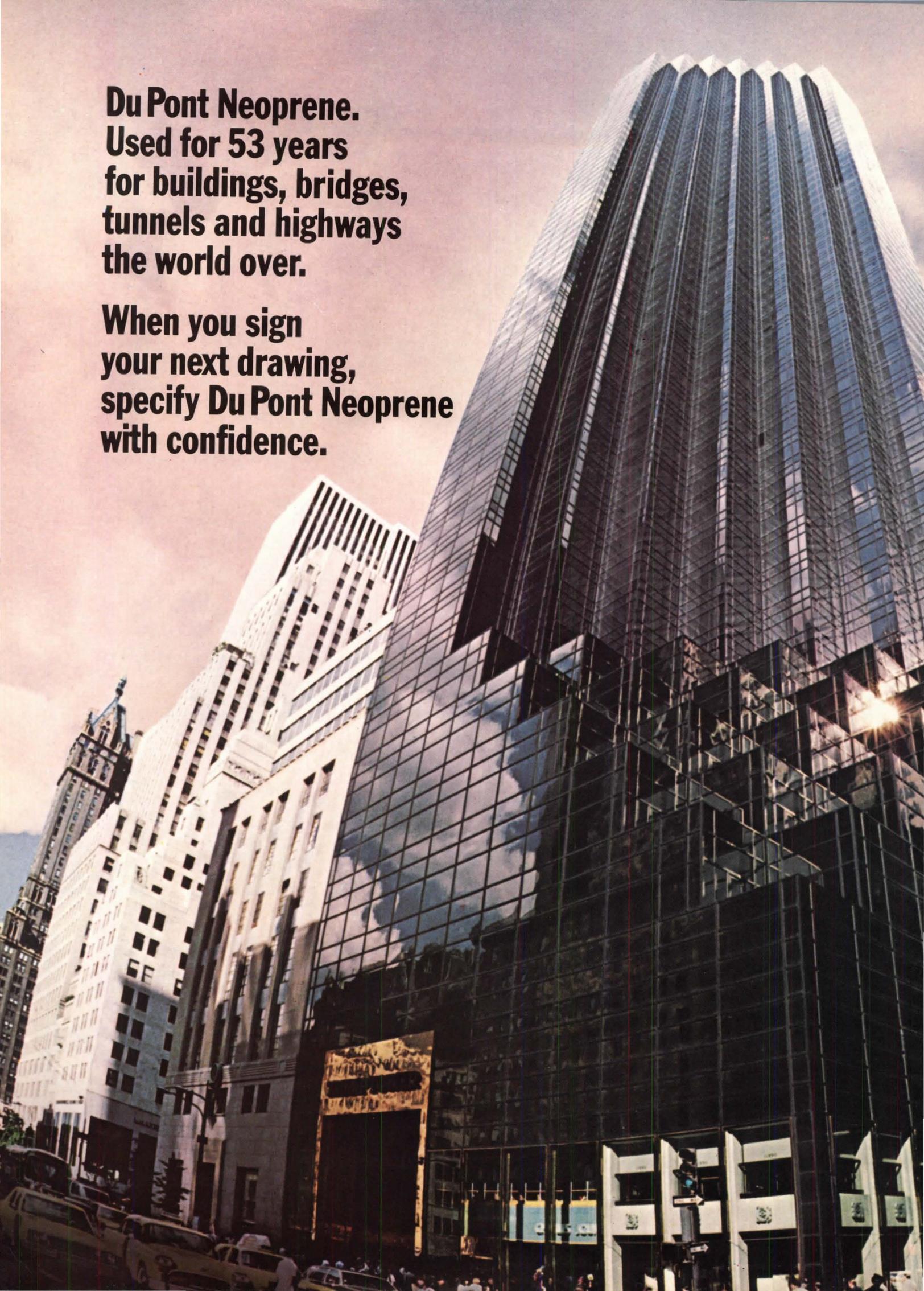
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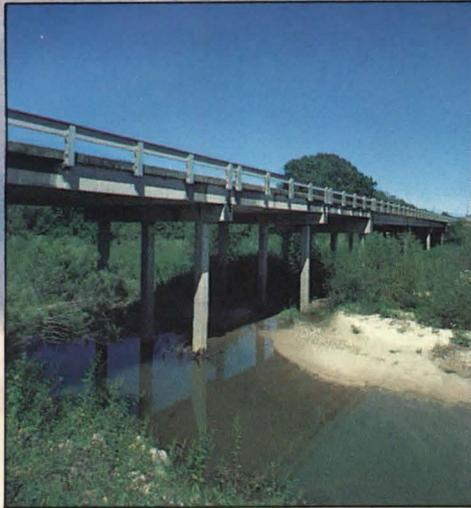
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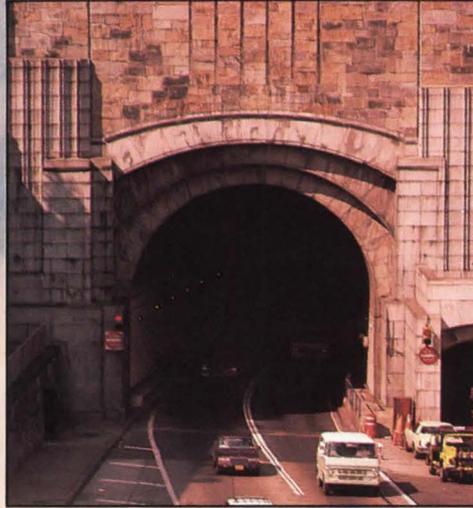
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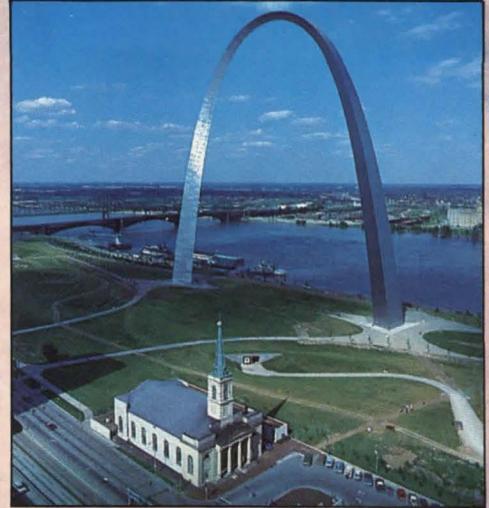
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Loose ends

You never want to say an architect has left any loose ends, any unresolved problems, unless you mean to disparage the resulting work. The loose ends I am referring to are aesthetic loose ends, deliberately left visible as a design strategy.

We all know the satisfaction of a building or work of art that appears complete and totally resolved. There is the eternal criterion for perfection: that a change in the slightest part would visibly diminish the whole. That is, of course, the standard of Classicism, broadly defined, from the Parthenon to the Taj Mahal, the Lincoln Memorial, and the Seagram Building. We can only be thankful for such perfectly resolved exemplars, and they will always have a place—preferably a prominent, freestanding place—in our environment.

There is another kind of resolved composition, of course: the balanced asymmetry apparent in a great many types of folk architecture and in a stream of architectural creations that reaches from 19th-Century Medievalism through High Modernism, embracing works of Richardson and Wright, the California regionalists, and just about the entire International Style.

But there is a more radical impulse *not* to resolve things, even in a balanced asymmetry, but to leave forms pointedly unresolved, as if still undergoing some generative process of their own or being distorted by some outside force. Aalto's buildings, for instance—some of the greatest architecture of this century—almost always look as if some parts are in the process of expanding or contracting, rising or falling, pressing against each other (in some premonition of plate tectonics?), reaching out toward or drawing back from some external object. Most of his buildings look as if they could grow another wing without losing their overall integrity,

which by some paradox usually seems quite strong.

Although Louis Kahn's work is usually linked with Classicism, he made a big point of inflecting his designs to circumstances. The great Assembly Building at Dacca (P/A, Dec. 1984, pp. 56–67), for instance, is central and symmetrical (on several axes) in concept, but it is characteristic of Kahn that the corresponding parts are *unequal*. The most obvious deviation is the shift in the axis of the mosque (one of the granddaddies of all the cranked axes we see today). Kahn has made a point of making the mosque turn to face Mecca, a movement that appears to be just happening, the way the faithful themselves periodically turn from secular matters to face Mecca. (Kahn had precedents for this in Islamic architecture, such as the Shah's Mosque in Isfahan, whose great gate and dome establish an axis pivoting away from the grid of the city center.)

In this issue of P/A, we happen to have featured some buildings that appear deliberately incomplete or in the process of taking a resolved form. In Gehry's Loyola Law School, a prominent stair (Cover photo) seems to be unbending as it extends out of a constraining niche. Near this stair stands a lecture hall structure shifted (or shifting) out of alignment with the other buildings, like the temples of an ancient acropolis or forum, as if to give the approaching visitor a more revealing view of its form. Along its front is a row of columns lacking the entablature that would complete a proper portico. In the projecting stair, Gehry displays the technical ingenuity of the cantilever, which dispenses with supporting columns; in the incomplete portico, he gives us technically superfluous columns as detached symbols.

In Jean Nouvel's theater (p. 94) we see the opposite of forms not yet completed. Here

we see mainly forms being cut up and disassembled, an aesthetic sometimes called "deconstruction."

In the condominium project by Graham Gund (p. 88), the principal loose ends are those that the architect was given at the start—the gables and tower of the ruined church that he has purposely left exposed, rather than drawn into a neat composition. Gund has added at least one unruly element of his own, the little gabled portal that stands alone at one end of the river frontage (p. 90).

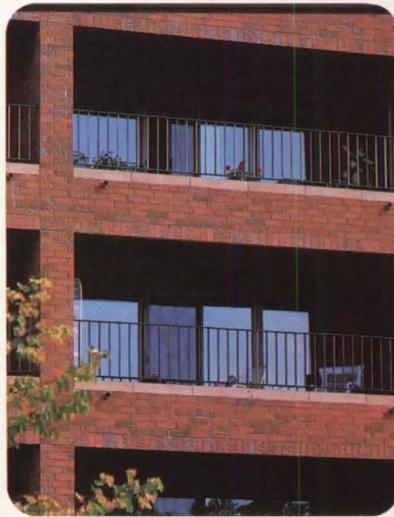
Why leave a work of architecture looking incomplete—either unresolved as a design or unfinished as a construction? The most straightforward justification is that concessions always have to be made in practice, so why not flaunt them? On a more philosophical plane, one could maintain that the processes of design and construction are continually going on, never perfected, so work should appear to be in process.

Historically, buildings left incomplete have indicated some kind of interruption, economic or political. Works of art or music could be left unfinished for strictly personal or aesthetic reasons, but that was not so with buildings. Now, when we do produce some willfully incomplete buildings, they imply that society is always undergoing change, and they visibly celebrate that change. ■

John Morris Dichter

Among today's many design influences, Primitivism was discussed in last month's Editorial; evident in this issue's design features is a concurrent impulse to make buildings appear to be in some way incomplete.

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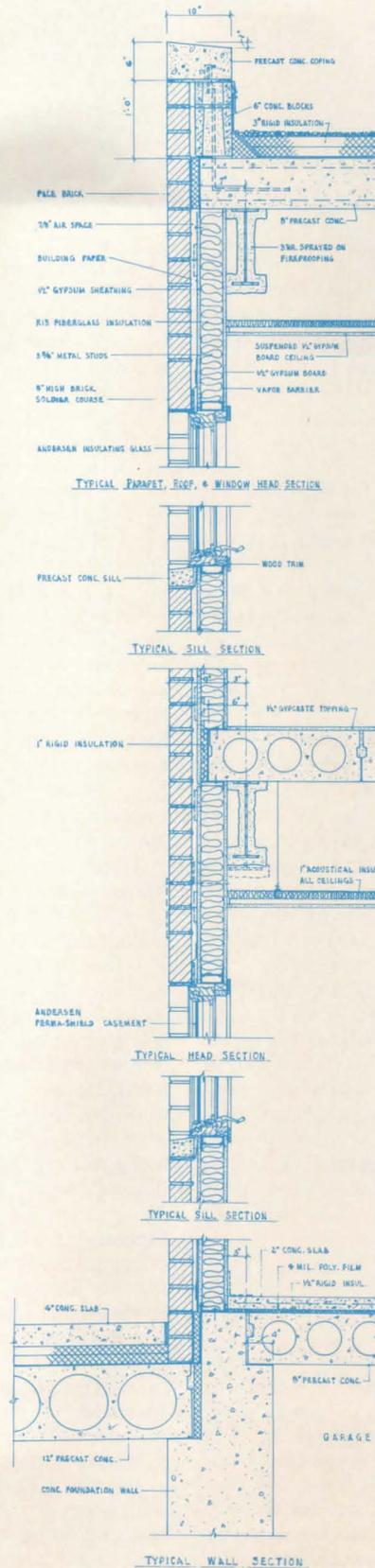
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Views

Kahn commemorated

December on Louis Kahn was one of the most interesting, intelligible and beautifully organized issues you, or anyone else, have ever published. Congratulations.

Robert F. Gatje, FAIA
Gatje Papachristou Smith
New York, N.Y.

I would like to thank P/A for bringing out the most important aspects of design with your December issue on the works of Louis I. Kahn (and his disciples).

It couldn't have been published at a more appropriate time, when architects and especially architectural students are in such confusion about what "style" or "time period" we should design in, instead of the "process" of design reading as form.

I, myself, feel to be influenced by "the spirit" of Kahn, because I've been a student of both John C. & Brigitte Knowles at Temple University, and now of Charles Dagit of Drexel University (all three are students of Kahn Studio). There seems to be such a distinct difference in how these architects approach design, that it becomes all the more difficult as a student to follow an influential figure.

There is one thing that is very clear; we should follow a process which is set up to be a concept and ordering principles (Parti). As the Knowleses say, "We are not interested in the answer, but in the search for answers." This should be the common goal for every architect and architectural student abroad. In response to "The Philadelphia School as being no longer a viable force, even in its home town," well, you may have just re-lit the fire.

Scott D. Roth
Student
Philadelphia, Pa.

Federal Preservation Standards

It is always encouraging when P/A features articles and columns relating to historic preservation such as your synopsis (P/A, Dec. 1984, pp. 18-19) regarding some of the notable events of the National Trust for Historic Preservation Annual Conference. I do certainly agree with Richard Longstreth's comment concerning the importance of design as a preservation issue and I would add that design is always a primary issue.

Relative to preservation tax incentives however, concerns do arise on occasions when architects seek to redesign the basic historic character defining features of a building. In those instances, good design or bad design is not an issue relative to the application of the Secretary of the Interior's

"Standards for Rehabilitation" (Revised 1983). The bottom line is that the rehabilitation must be consistent with the historic character of the building. There did seem to be a misunderstanding of this point at the conference.

The Standards did come under fire at the conference because of this. Standard Three in particular, regarding seeking to "create an earlier appearance," was being interpreted as though the Standards prevent historic designs. This is just not the case. The "earlier appearance" to be avoided concerns the detailing of buildings with elements developed before the time of the building, e.g., Federal Style detailing on a Victorian building. I refer you to page 10 of the Standards regarding missing historic features which states that "it is desirable to reestablish the feature" and that new designs should not create a false historical appearance. This is quite different from David Chase's quoted comment that historic design was prohibited in order to "promote modern design."

There are many legitimate preservation design issues which are being examined with growing interest in the field and I, too, would encourage more discourse on the subject. For the purpose of the tax incentives however, as long as rehabilitations are consistent with the historic character of a property, they will continue to be certified, and for those that are not, there will continue to be an appeals process.

Mark David Linch, AIA
Staff Architect
National Park Service
Atlanta, Ga.

Learning from Stirling

It has taken me two months to clearly articulate my joy and respect for Stirling's design for Stuttgart's gallery (P/A, Oct. 1984). I concur with his statement that the "series of incidents adjacent to the walking movement into, through, and across the building" help to make this masterpiece a living urban monument.

What has prodded me to write is my shock at the absurd notion which both Peter Cook and Colin Rowe wish to extend about the necessity/importance of *face* for a building. I find it very sad that such otherwise thoughtful people would hold such a crude attitude toward Stirling's sophisticated development. Perhaps it is presumptuous of me, but I thought all architects beyond a certain level of development assumed that: 1) the space, that which the structure may engage or seduce, is invaluable and inseparable from that which we call Architecture, and 2) the movement we perceive into, through, and

across the structure is a critical element of that whole.

The obsession with face debases and compartmentalizes the structure into a commodity—"however veiled." This is exactly why structures such as I.M. Pei's East Wing addition to Washington, D.C.'s National Gallery of Art fails so miserably—the overriding concern with face allows an art gallery to be transformed into a structure more suitable to a suburban shopping mall.

If for no other reason, this single aspect of Stirling's Neue Staatsgalerie can stand as inspiration to those who value and learn from architecture as well as the objects which it contains.

John L. Reyner
Washington, D.C.

John Entenza and the Case Study houses

Concerning the obit on John Entenza (P/A News Report, Dec. 1984, p. 26): *Arts & Architecture* magazine sponsored the Case Study houses but John Entenza did not finance them, the clients did. Because they were opened to the public for a month or so when completed the clients received discounts on certain materials and equipment.

The story about John's reference to Mies sounds apocryphal to one who knew him forty years in California.

Esther McCoy
Santa Monica, Calif.

Acknowledgments extended

The following contributors of information for the Technics article on metal panels and roofing (P/A, Dec. 1984, pp. 93-97) were inadvertently omitted: William Nuckel, Astraline; Colleen Sullivan, Cupples; Edward McElliott, Robert Fowler & Associates; Dale McClung, Hughes; Walter Moulder, Merchant & Evans; Gregory Burdick, Met-L-Wood; Lisle Wade, Molenco; Brian Williams, Overly; Lou Puglia, Pennwalt; Jim Price, H.H. Robertson; Joe Zappone, Zappone Manufacturing; Richard Schroter, Zip-Rib.

Architect credit

Architect for the Mexico City Sports Palace shown on page 93 of December Technics is Felix Candela.

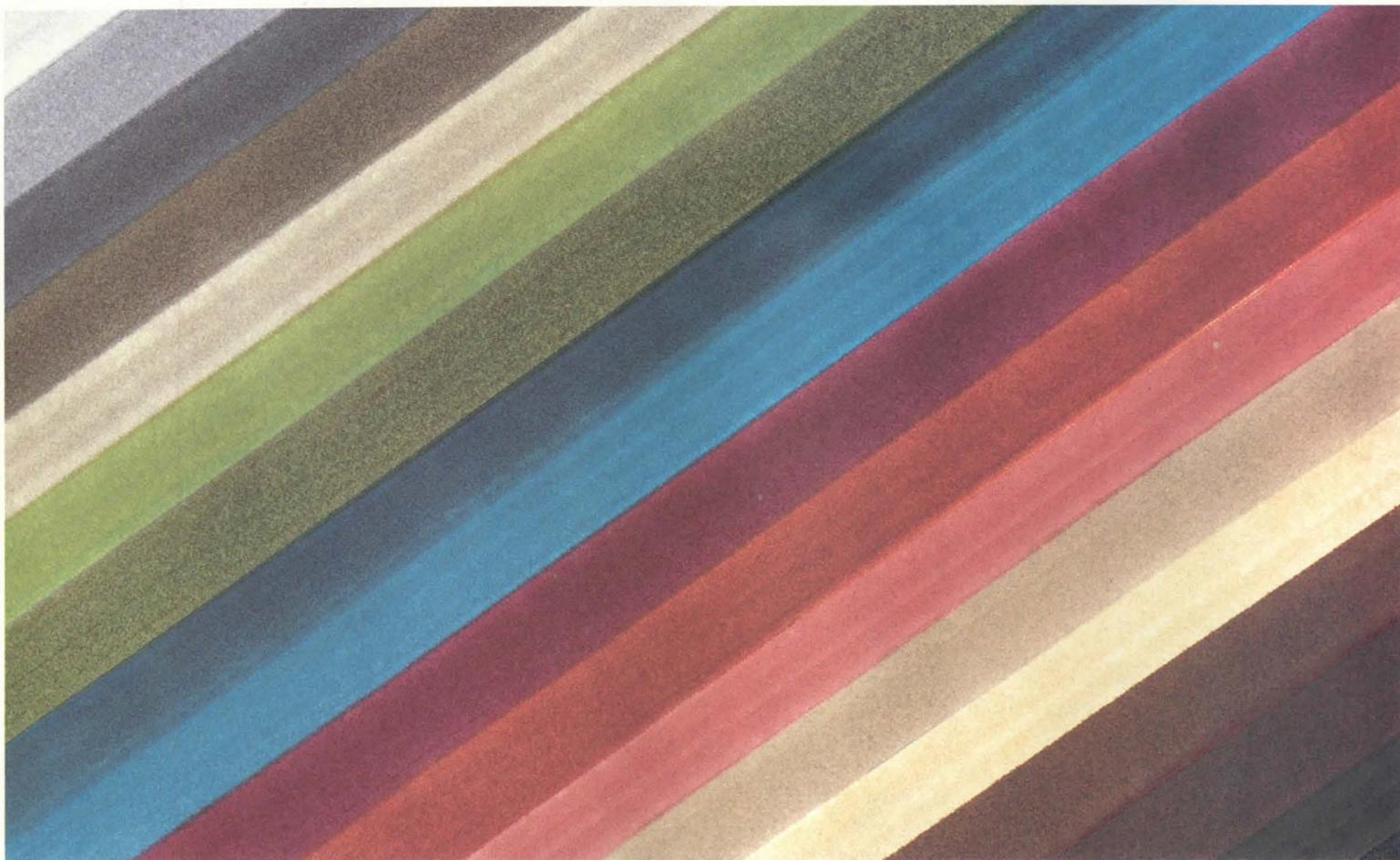
Annual index addendum

Under Architects, the index listings (P/A, Dec. 1984) should have included Lyndon/Buchanan, University Avenue Housing, Berkeley, Calif., July, pp. 74-77.

Photo credit correction

The photo of Bottle Village (P/A, Nov. 1984, p. 50) was the work of L. Moskowitz.

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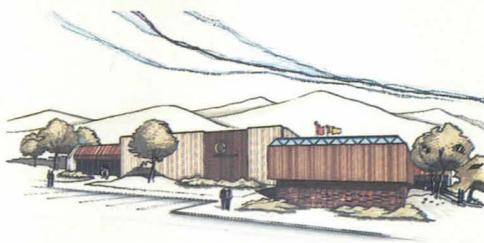
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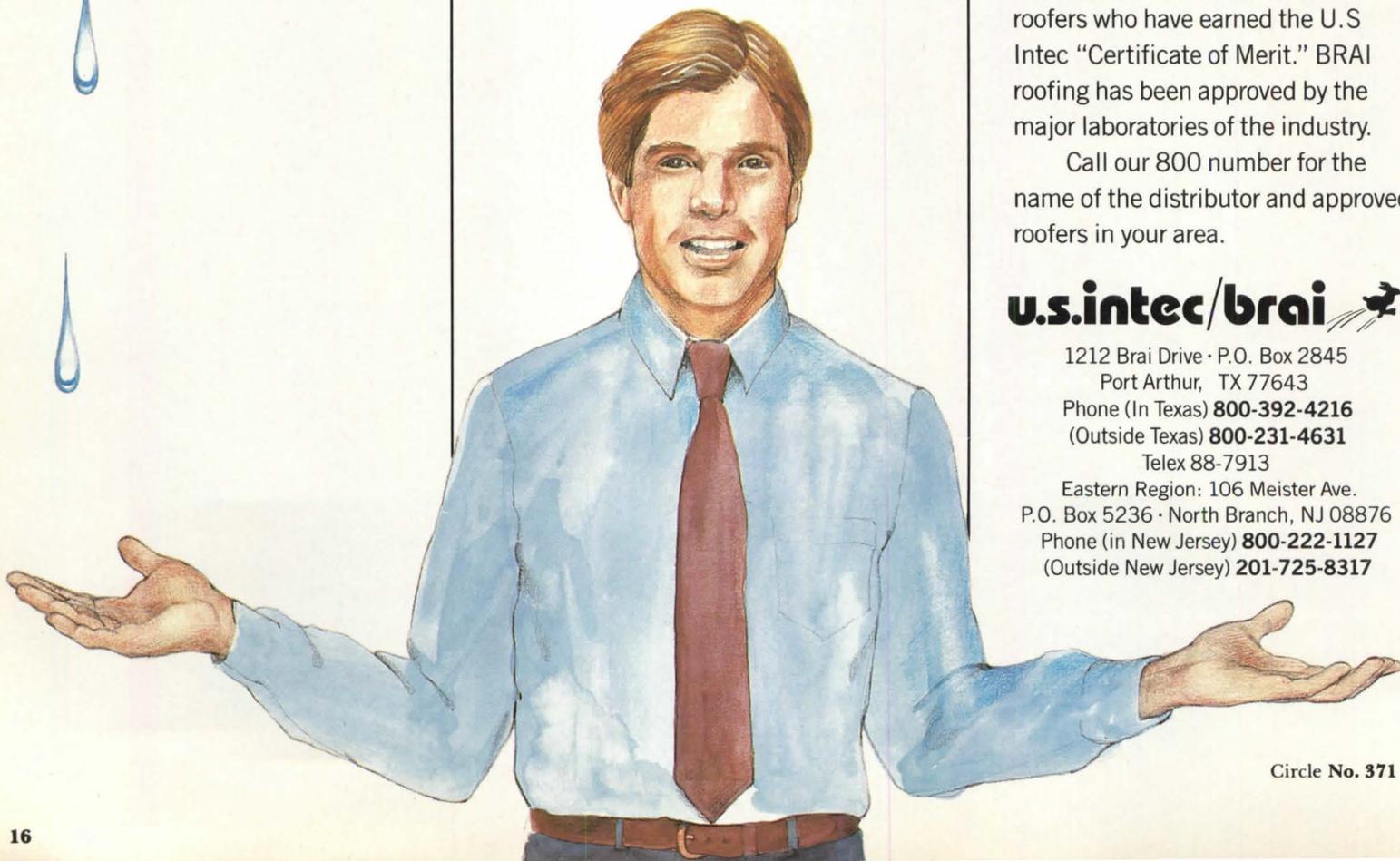
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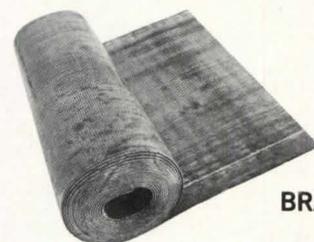
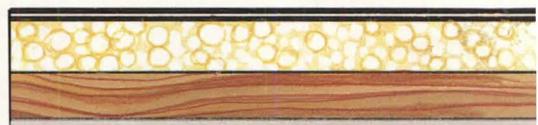
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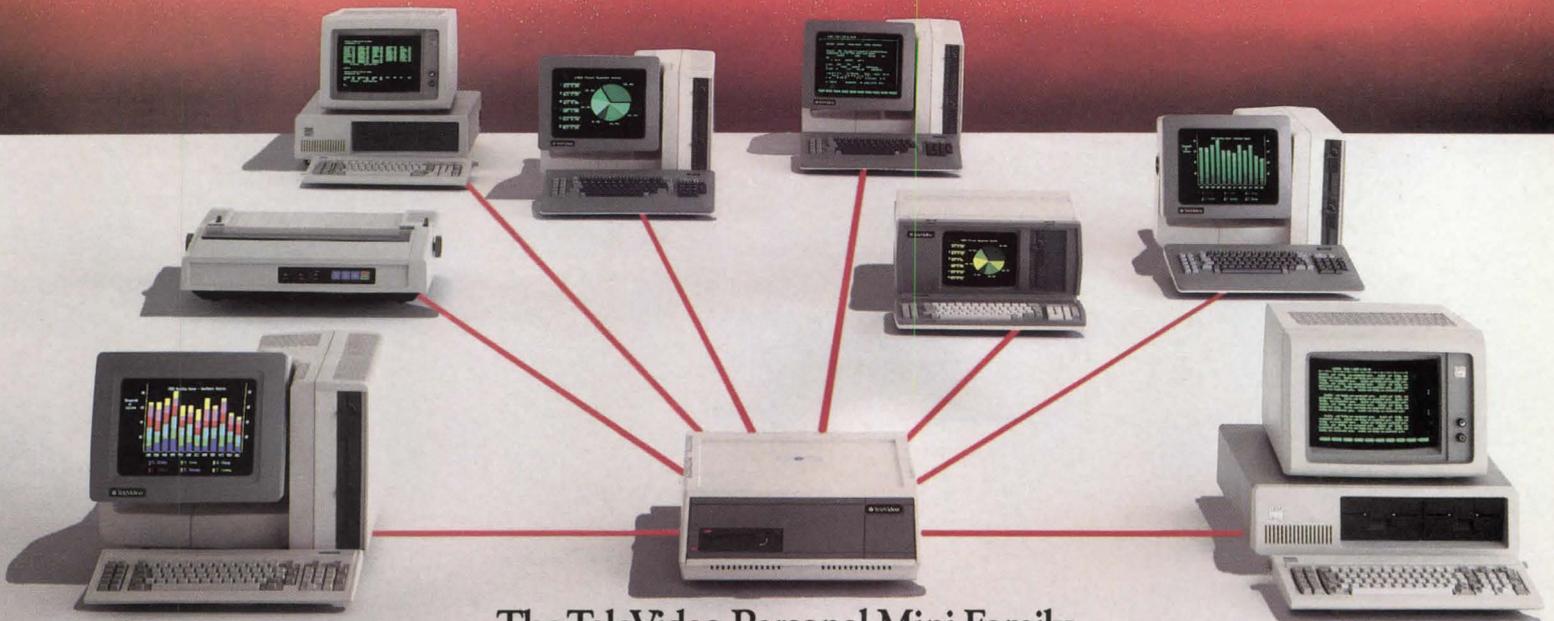
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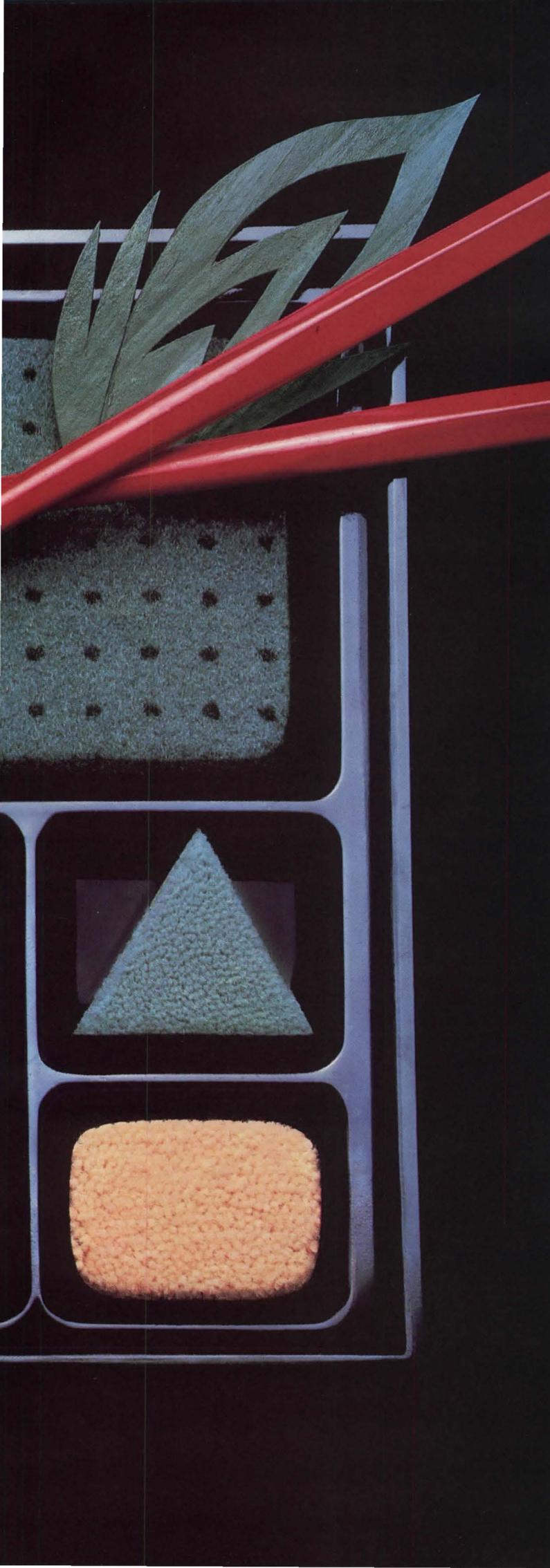


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P/A News report

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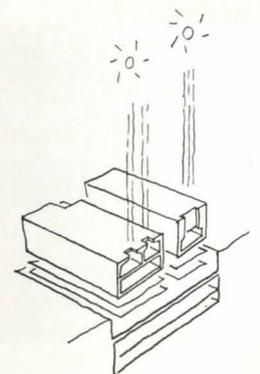
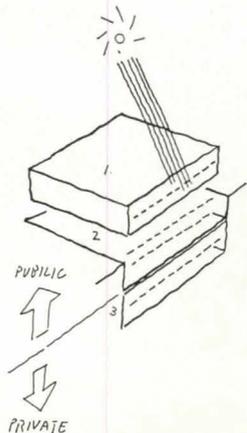
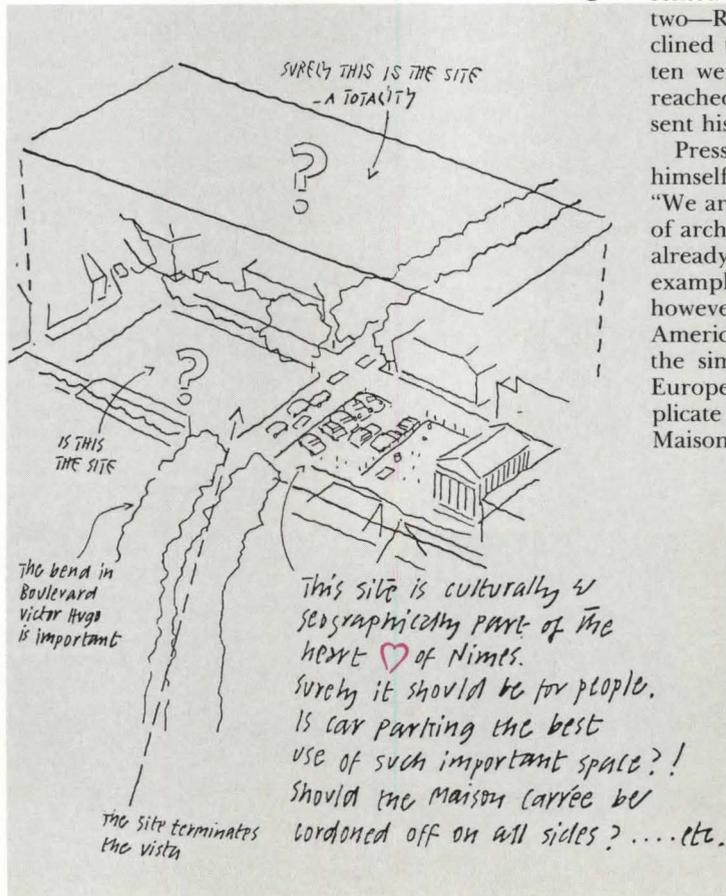
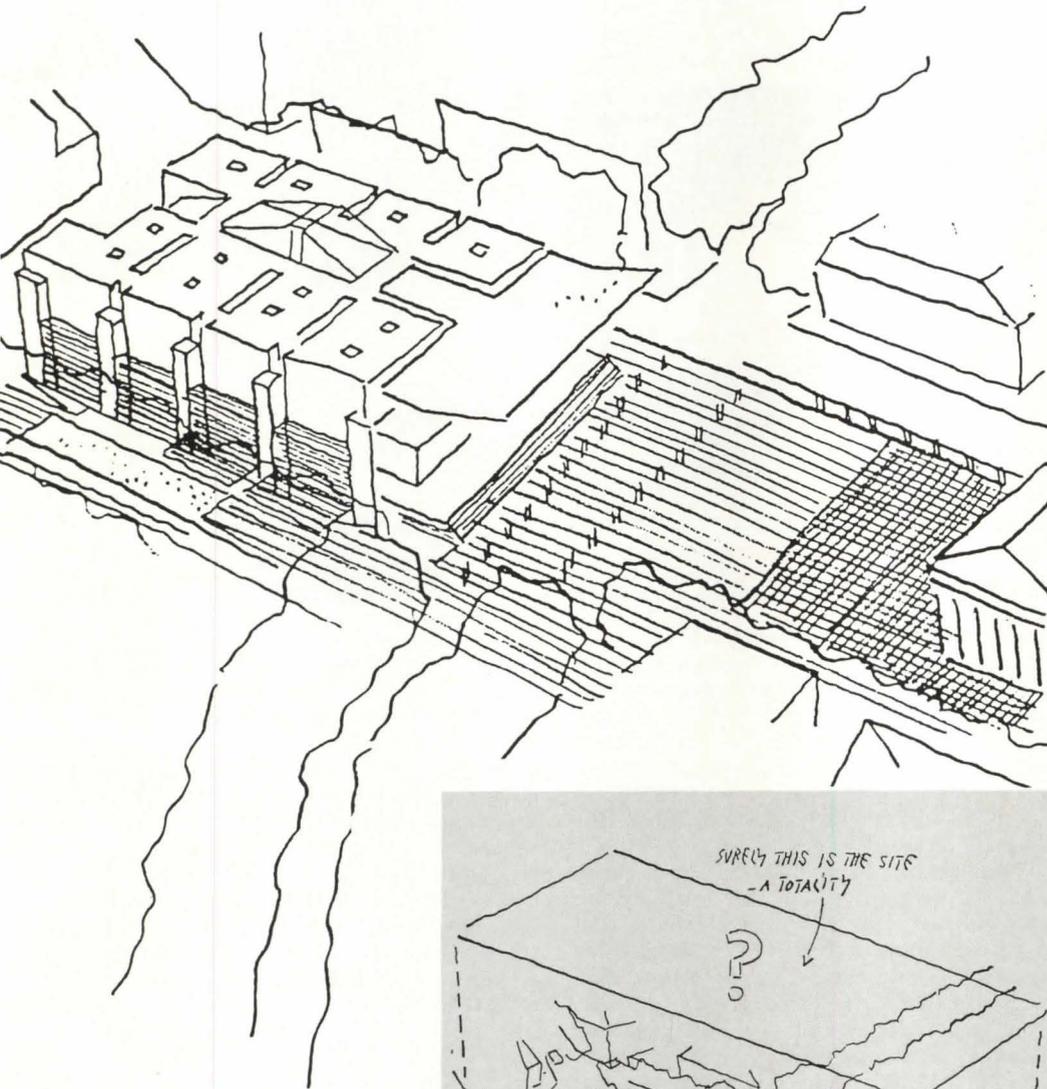
50 *P/A Calendar*

The Beaubourg of Southern France

Jean Bousquet is ambitious for his city. The mayor of Nîmes dreams of building a "real Beaubourg of the South," a contemporary arts and media center to rival Paris's Pompidou, sited across from the First Century A.D. Roman temple, the Maison Carrée.

Monsieur Bousquet has, moreover, very definite ideas about architecture, and architects. "There is no architect in Nîmes capable of handling this project," he told *Le Moniteur* and proceeded to invite twelve international stars—Christian de Portzamparc, Paul Andreu, and Jean Nouvel of France; Alvaro Siza of Porto, Portugal; Richard Meier, Cesar Pelli, and Frank Gehry of the USA; Aldo Rossi of Italy; Norman Foster and James Stirling of Great Britain; and Arata Isozaki of Japan—to compete for the "Médiathèque" commission. (Faced with a furious local architectural community, the mayor later relented and opened the competition to Nîmes architects. Only one, however, actually presented his project to the jury.) Of the twelve, two—Richard Meier and James Stirling—declined to participate. Five of the remaining ten were short-listed, and four of the five reached the final round. (Isozaki did not present his project.)

Pressed by the press, the mayor declared himself partial to American architecture. "We are not introducing the American style of architecture into France," said he, "as it is already here. At Les Halles in Paris, for example." (Not very American or very good, however.—Ed.) "What strikes me about American architecture," he continued, "is the simplicity and purity of line, whereas European architects tend sometimes to complicate their buildings. And opposite the Maison Carrée we need purity."



Pencil points

The St. Bart's battle isn't over yet. The church and its architects have presented a revised skyscraper scheme to the New York City Landmarks Commission, which rejected the first proposal as "inappropriate" for its location adjacent to Goodhue's 1918 sanctuary and on the site of his community house, which would be demolished (P/A, March 1984, p. 19).

- The new tower is 12 stories shorter, clad in masonry, not glass, and it leans stylistically towards the RCA Building, not the Trump Tower. But the basic problem remains the same. Is any tower appropriate to that sensitive site?

James Stirling has devised an international design competition for a gallery housing the works of David Hockney and Anthony Caro.

- The competition, open to all part-time and full-time students of architecture, is to be judged by Stirling with the art collector Lord McAlpine and Alan Bowness, director of the Tate Gallery. It is sponsored by the RIBA and Concord Lighting Ltd., with The Architectural Review. AR and Building Design will publish the results.

- Contact the RIBA Education Department, 66 Portland Pl., London W1N 4AD for more information. Submissions are due May 2, 1985.

Venturi, Rauch and Scott Brown has been named the 1985 AIA Architectural Firm of the year, selected for its "collaborative practice and contributions to design theory, architecture, and urban design."

Eleven foreign architects have been named AIA Honorary Fellows. The recipients are: W. Kirk Banadyga, Canada; Gerard Benoit, France; Ricardo Bofill, Spain; Masako Hayashi, Japan; Richard Norman Johnson, Australia; Vladimir Karfik, Czechoslovakia; Fer-

[Pencil points continued on p. 37]

Purity he got, but not of the American variety. British architect Norman Foster carried the day with a high-tech/contextual hybrid taken by British critic Deyan Sudjic as the "sign of a considerable mellowing" on the part of this arch-Modernist. Foster's presentation combined disarmingly casual sketches with homey hand-written rhetoric. "The site," reads one scribble, "is culturally and geographically the heart of Nîmes. Surely it should be for people." (See illustration, preceding page.) Such contextual gestures as a porticoed entrance (albeit executed in steel) and stepped base mollified those jurors who

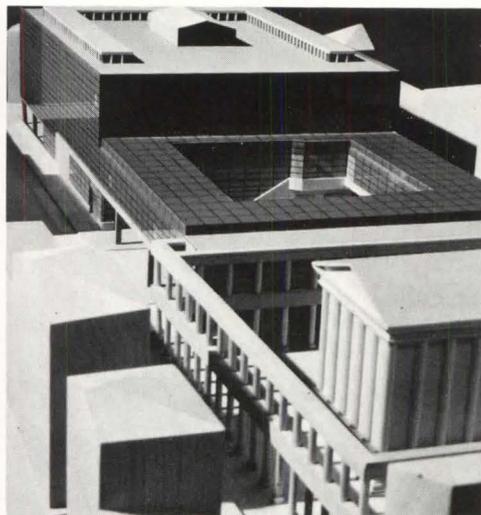


worried that Foster's Médiathèque was too big and too, well, *modern* to suit the sensitive site. The low-tech presentation did not, however, win over all French critics; one carped, "(Foster's) heavy spaces . . . glass on the lower levels, stone in horizontal layers, all made up a conventional and academically styled project that one might well have taken for French."

The premiated project by a French architect, on the other hand, acclaimed by the ever-partisan French press, defies all categorization by nationality or stylistic affinity. Jean Nouvel, winner of the competition for the Institut du Monde Arabe in Paris (P/A, Sept. 1983, p. 36; see also p. 94 this issue) chose to sink his center beneath a vast lake of glass, making of the program not a building but an excavation. His provocative proposal earned a "special mention," the characteristic accolade for meritorious losers at the Cannes Film Festival. The mayor himself, while acknowledging the project's innate

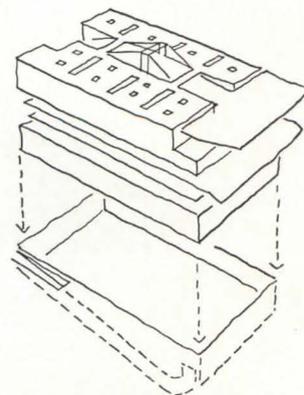
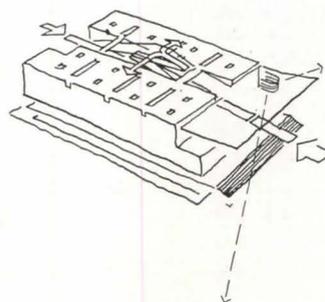
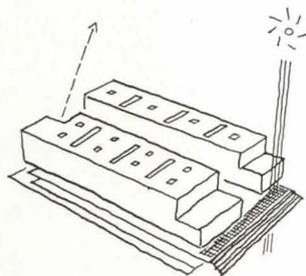
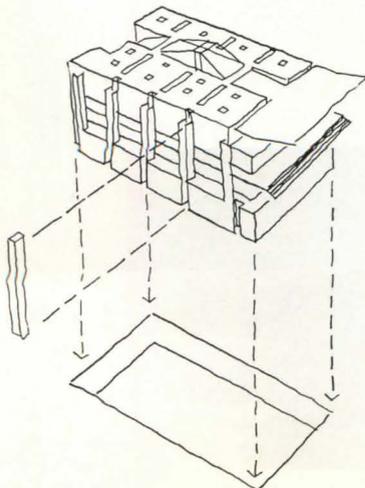
appeal, defended its rejection on the grounds of cost, technological difficulty, and design, arguing that Nouvel's underground act had not solved the site's principal problem—its amorphous open space, bounded by undistinguished or derelict buildings.

With all the furor over Foster and Nouvel, the two American schemes received little if any attention. Frank Gehry's fascinating, spiraled structure won third prize, and Cesar Pelli & Associates' proposal to rebuild the temple's peristyle precinct and bridge across the busy Boulevard Alphonse Daudet with a new glass and stone arts center took fourth.



The winner has already modified his proposal in response to public sentiment. The Nîmois, it seems, are partial to the site's vestigial colonnade, all that remains of the 19th-Century opera house that burned to the ground in 1952. Foster has promised to incorporate the colonnade into his façade. It is too early to tell if this project represents a significant departure for the British architect, whose Hong Kong and Shanghai Bank is the apotheosis of structural expressionism (see next month's News report). But we should know soon: The mayor, with an eye on upcoming elections, wants construction to start within the year. **DDB** ■

Drawings shown on this page and the preceding one document Norman Foster's proposal for a Nîmes "Beaubourg." Above, left: Frank Gehry's spiraling sculpture; above, right: Cesar Pelli's and Diana Balmori's proposed MoMA in Nîmes.



P/A AdAwards: the 10th year

Ten years ago, *Progressive Architecture* instituted the AdAwards program in an effort to improve the communication value of architectural advertising. This year, 502 advertisements, full-page or larger, placed in the magazine between January and December 1984, were considered by four architecture professionals. Jurors Patrick Pinnell of Cass & Pinnell, Washington, D.C.; Santiago Rozas of Earl R. Flansburgh & Associates, Boston; Jerry Payto of Dalton, Dalton & Newport, Cleveland; and Chief Charles Boyd of Braise, Boyd, Sober, Broach, Tulsa, selected 36 winners in 14 categories.

In the hardware category, the winners were: Russwin Division Emhart Hardware Group, and HEWI; windows and window treatments: Marvin Windows, Tischler und Sohn; glass/glazing: PPG Industries; computer/computer services and architectural supplies/services: Carrier Corporation Marketing Systems Development, Computervision Corporation, Intergraph Corporation, Koh-I-Noor Rapidograph, SKOK Systems; structural: American Plywood Association, Brick Institute of America, Consolidated Aluminum Composite Materials Division; roofing/roofing insulation: Metaline Roof Systems Astraline Corporation, Follansbee Steel Corporation, Manville Roofing Systems Division; electrical/lighting: Koch + Lowy, Steelcase; materials & systems: Custom Building Products, Formica Corporation, Nevamar Corporation; fabrics/wallcovering: Brickel Associates, Jack Lenor Larsen, Unika Vaev-USA; walls/partitions/panels: Modern Mode; carpets & fibers: Allied Fibers, Du Pont Company ANTRON Carpet Fibers; flooring: Floor Division Armstrong World Industries, Donn Corporation, Jason Industrial Pirelli Rubber Flooring Division; ceiling/ceiling systems: Donn Corporation; furniture: Comfoto Systems, Domore Corporation, ICF, Herman Miller, and Stendig International.

The judges discussed their choices and awards were presented at a seminar for advertisers in New York on Jan. 25. ■

P/A staff appointment: Richelle Huff

Richelle J. Huff has joined the staff of *Progressive Architecture* as Art Director. Huff holds a Bachelor of Fine Arts from Moorhead State University, Moorhead, Minn., and a Masters of Fine Arts from the Cranbrook Academy of Art, Bloomfield Hills, Mich. Her most recent position was that of Associate Art Director with *Cuisine* magazine; prior to that assignment, she was a Senior Designer at M&Co. of New York. Huff also served as graphic designer for the Science Museum of Minnesota in St. Paul. She has designed promotional material for the Cooper-Hewitt Museum, most recently for their skyline lecture series, and has developed several interactive video systems for Fusion Media of New York. Huff replaces Kenneth Windsor, who has joined Landor Associates of New York. ■

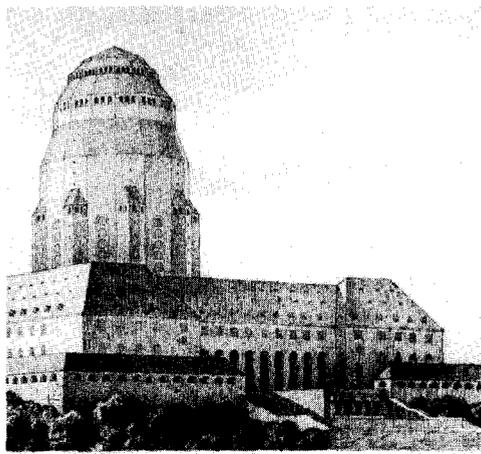
Eliel Saarinen in Finland

Two recent exhibitions organized to coincide with the Helsinki showing of "Design in America: the Cranbrook Vision, 1925-1950" (P/A, Jan. 1984, p. 49) offer insights into the extensive but lesser known Scandinavian oeuvre of Eliel Saarinen, Cranbrook's creator.

"Eliel Saarinen in Finland," organized by the Museum of Finnish Architecture, included projects completed before the archi-

in Helsinki (1908), the Royal Palace in Sophia, Bulgaria (1914), the Town Hall of Turku, Finland (1917), and the Kalevala Palace in Helsinki (1921). From this period, only three major commissions were built: the Railway Station in Helsinki, and the Town Halls of Kahti and Joensuu. All are well documented in the show "Saarinen in Finland," as are the architect's many town planning proposals, including those for Munksnas-Haga, Finland; Canberra, Australia; and Reval, Estonia.

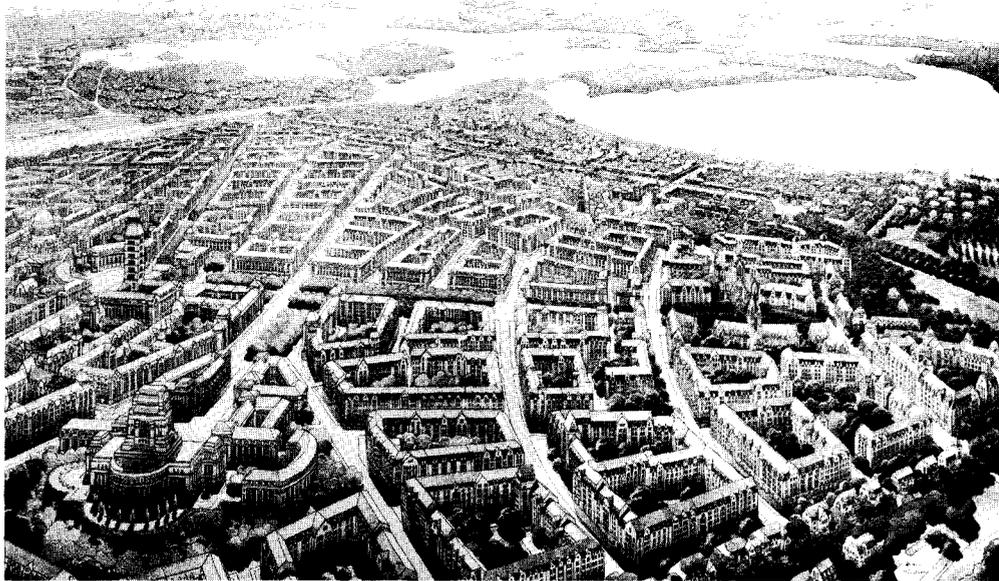
Together, these exhibitions break new ground. Although Saarinen's work in Fin-



Kalevala Palace, Helsinki, 1921.



Hvittrask Kirkkonummi, 1902.



Munkkiniemi-Haaga plan, 1915.

tect's departure for the United States in 1923; "Saarinen's Interior Design," organized by the Museum together with the Finnish Society of Crafts and Design and the Museum of Applied Arts, featured furniture, textiles, and interiors designed by Saarinen in partnership with Herman Geselius and Armas Lindgren.

This trio designed the Finnish pavilion for the 1900 Paris World's Fair, a work which won them widespread acclaim. By 1906, however, Saarinen had started his own firm. His personal success in the architecture competitions of his day was prodigious: Saarinen won competitions for the Palace of Peace in the Hague (1906), the Parliament Building land was both extensive and impressive, it is

not until recently that the country's architectural historians managed to catalog the complete output of this productive native son. The Finnish architectural historian Marika Hausen is now at work on a monograph, which will be published in five languages. "Saarinen in Finland" will travel in the U.S. after a tour in Europe; furthermore, both shows have been documented in excellent catalogs which incorporate English translations. Reported by **Anders Mortner** ■

The reporter is a partner in the Stockholm firm Tegner Arkitektgrupp and writes for the newspaper Svenska Dagbladet.

The restored Milan Triennale

As La Scala in Milan is the temple of music, so La Triennale is the temple of culture, architecture, and design. The "Triennial Exhibition of Decorative Art and Modern Industry," which started in Monza in 1923 as a biennial exhibition, moved to the central park of Milan in 1933 where it occupied a new art palace designed by Giovanni Muzio. The solemn, basilican building, with its semicircular apse, monumental stairway, and



The Triennale in its heyday, 1933.



The Triennale today.

"nave" lighted by slanted skylights, was the emblem of a public architecture in the typical Fascist style, a style ignored for years but one which increasingly finds critical attention.

The Triennale exhibitions, staged every three years with minor exhibits in between (suspended during war years and the 1968 riots), have for over sixty years illustrated the achievements of Italian and European culture, showcasing new concepts in living space, innovative materials and technologies, office and working environments, art, graphics, and design.

Year after year, both known and unknown names participated in the Milan Triennale, reinterpreting each time the vast interior

spaces. But the cultural palace itself fell upon hard times. Neglected and decaying, the Triennale has now been almost completely restored and its program rejuvenated. The Italian government has pledged a generous \$1.5 million, and Cariplo Bank will be the main private sponsor, acting with the city of Milan and other private contributors to reestablish the glorious tradition.

The main Triennale exhibition, titled "Elective Affinities," opens this month. The show is an investigation of living space, as interpreted by 21 architects—including Emilio Ambasz, Gae Aulenti, Mario Botta, Peters Cook and Eisenman, John Hejduk, Hans Hollein, Rafael Moneo, Adolfo Natalini (Superstudio), and others. The show should signal the resurgence of La Triennale as cultural arbiter and forecaster.

Donatella Smetana

Rotterdam takes the lead

The recent decision by the Dutch Minister of Culture to house that country's Architecture Museum in an abandoned library in Rotterdam rather than in the world-renowned but equally empty Amsterdam Stock Exchange of 1898–1903, designed by H.P. Berlage, represents more than the victory of Rotterdam's vigorous civic boosters over Amsterdam's complacent curators of that city's great artistic tradition. Though the Minister stated that "the importance of spreading Government services closed the case," the many critics and letter writers who debated it in Dutch newspapers felt otherwise.

From the beginning of this century, two modern movements have been fighting each other for the soul and commissions of Dutch architecture. The Amsterdam School built in brick and in solid, sculpted chunks of urban space; the Rotterdam School favored the rational materials of industry and commerce—sources of the city's wealth—welded into white blocks of public housing. The contrast between Michel de Klerk and J.J.P. Oud continues today, and the terms of the debate have changed little, pitting Herman Herzberger, Aldo van Eyck, the VDL Group, and van Eyck's former partner Theo Bosch of Amsterdam against Rem Koolhaas (Office of Metropolitan Architecture), Wim Quist, and Carl Weeber of Rotterdam.

Weeber, who was instrumental in securing the Museum for his city, called the decision a "victory for the more progressive Rotterdam spirit." Rem Koolhaas has produced a preliminary design for the Museum that accommodates the National Building Archive, the Architecture Museum, and the Stichting Vrouwen, all three now housed in Amsterdam.

The decision provoked outrage in the latter city, and a formal appeal is possible. For the moment, though, it seems as if Amsterdam will have to defer to its larger and duller sister, contenting itself with a grand, new combined Opera and City Hall by Cees Dam, a new Faculty of Letters building by Bosch, and the successful renovation of many original Amsterdam-School buildings. The city will also have to find another function for the venerable Stock Exchange.

Aaron Betsky

The author is assistant professor of architecture at the University of Cincinnati.

Colorcore encore, encore

"Post Modern Colour," the latest Colorcore affair, occupied the Boilerhouse in London's Victoria and Albert Museum from November through mid-January. Six British furniture designers were commissioned to create new pieces for the show, exploiting the unique qualities of Formica's much heralded solid-color laminate. Designs by Peter Glynn Smith, Eva Jiricna, D. Vickery of Conran Associates, P. Crutch of Rich &



Photos by Felix Fonteyn

Co., John Makepeace, and Rodney Kinsman were exhibited together with selected examples from the shows "Surface & Ornament" and "Material Evidence" (P/A, Aug. 1983, p. 29 and May 1984, p. 21) and a 1983 French Colorcore collection.

The show was sharply divided along the lines of nationality: the U.S. pieces are rather brash, witty, or Memphis-inspired; the French, classically elegant and superbly detailed; and the British, technologically innovative. Reported by *Monica Pidgeon*

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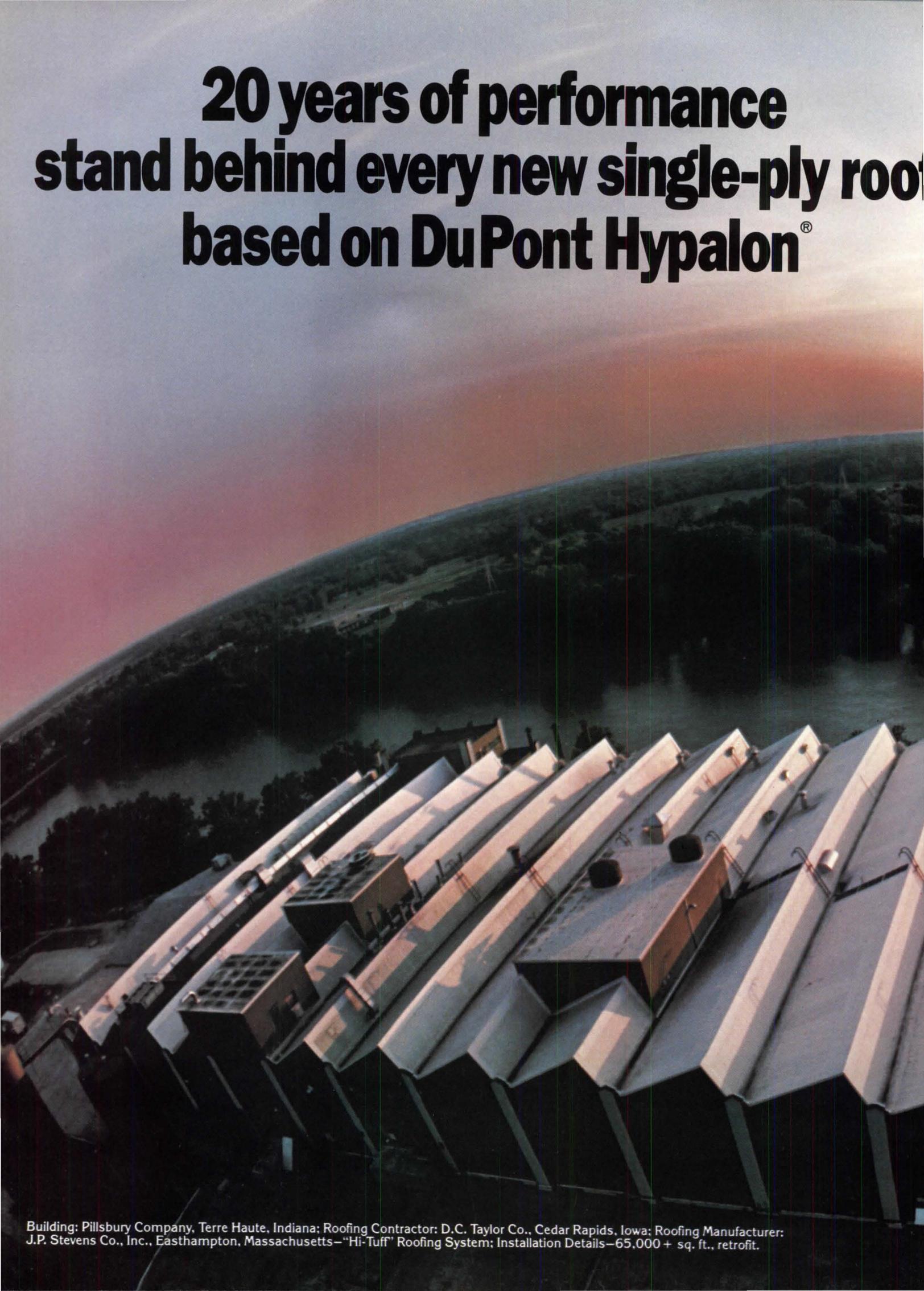
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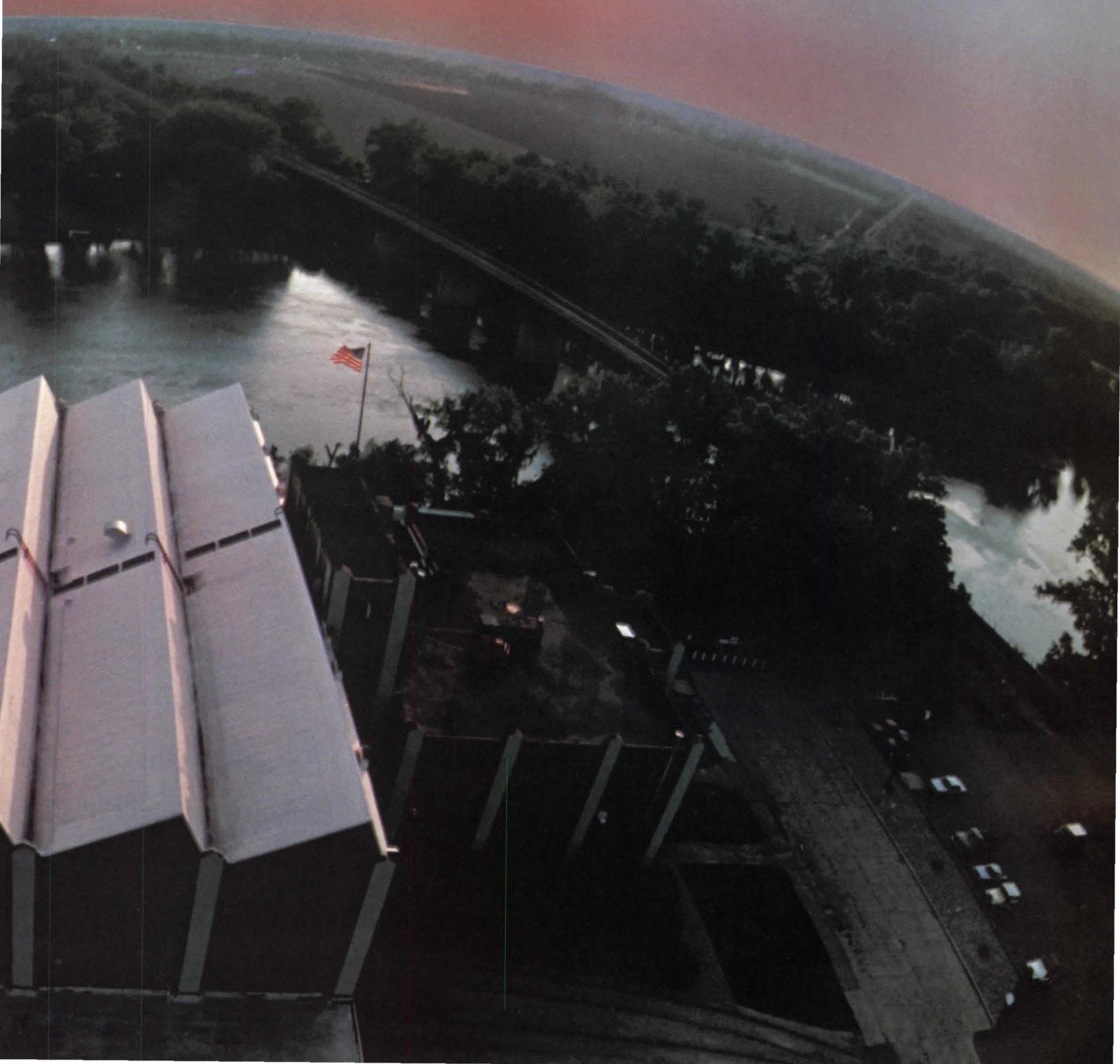
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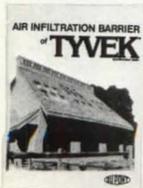
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Kitsch niches go to the Beaux-Arts Ball

Philadelphia's annual Beaux-Arts Ball, sponsored by The Foundation for Architecture, once again organized a competition to complement its revelry. As it did last year, the Pennwalt Corporation initiated a design competition for places to dispense party paraphernalia and glitz. The call this year was for "kitsch niches," places where ballgoers could adorn themselves—in some cases, further—with ribbons, feathers, sequins, flowers, hats, and assorted masks.

Competition was open to local designers, architects, and students, with the winning designs built for the ball, with funding from Pennwalt. The distinguished jury included Sylvia Clark, Interior Design Department, Drexel University; Oliver Franklin, Philadelphia Deputy City Representative, Arts & Culture; Milton Glaser, Graphic Designer; A. Eugene Kohn, Kohn Pedersen Fox; and Max Protetch, Max Protetch Gallery.

Held at The Mill, a 17th-Century structure in South Philadelphia, the ball's theme was a celebration of that predominantly Italian neighborhood and of "Italy's contributions to life, art, and architecture." Most of the full-scale (10'x10'x10') niches picked up on the theme, indulging in varying amounts of artistic license. Winner Lisa Barton of Jordan Mitchell Architects designed "The Doggy (read Doge's) Palace" out of canine-related artifacts, while Lee Tamaccio, Robert Twardzik, and Karen Milano of T² Architects did "The Fast (Last) Supper" of fast food images.



T² Architects, *The Fast Supper*.

Two students, Colleen Williams of Philadelphia College of Art and Marta D'Olewis constructed "Pulcinella" (a marionette niche with pizza overtones), and "Disegno Interno" (an enlargement of the foot of Michelangelo's Moses), respectively. Rounding out the six winners were a parody of a classical wedding cake by Antonio Fiol-Silva, Richard Espe, Ruth Durack, and Joy Cuming of Wallace Roberts & Todd Architects, and a Memphis-inspired artwork by Francesco DiCianni, Angelo Butera, Eliseo DiPrinzio, Phil Kunz, and David Polatnick of Mirick Pearsons Batcheler Architects. Many of the 2000 ball attendees successfully competed with the niches throughout the evening, in either kitsch or artful costume. **JM**

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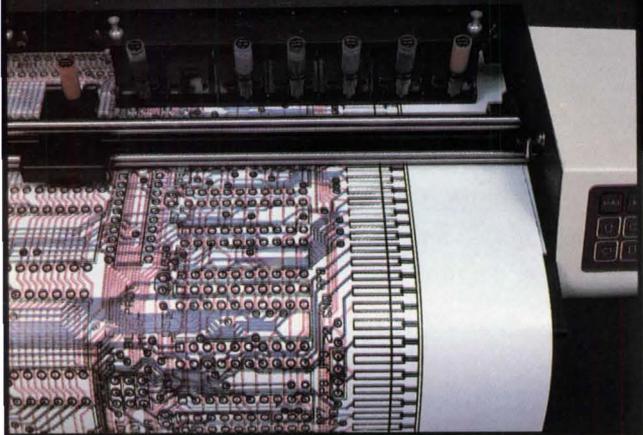
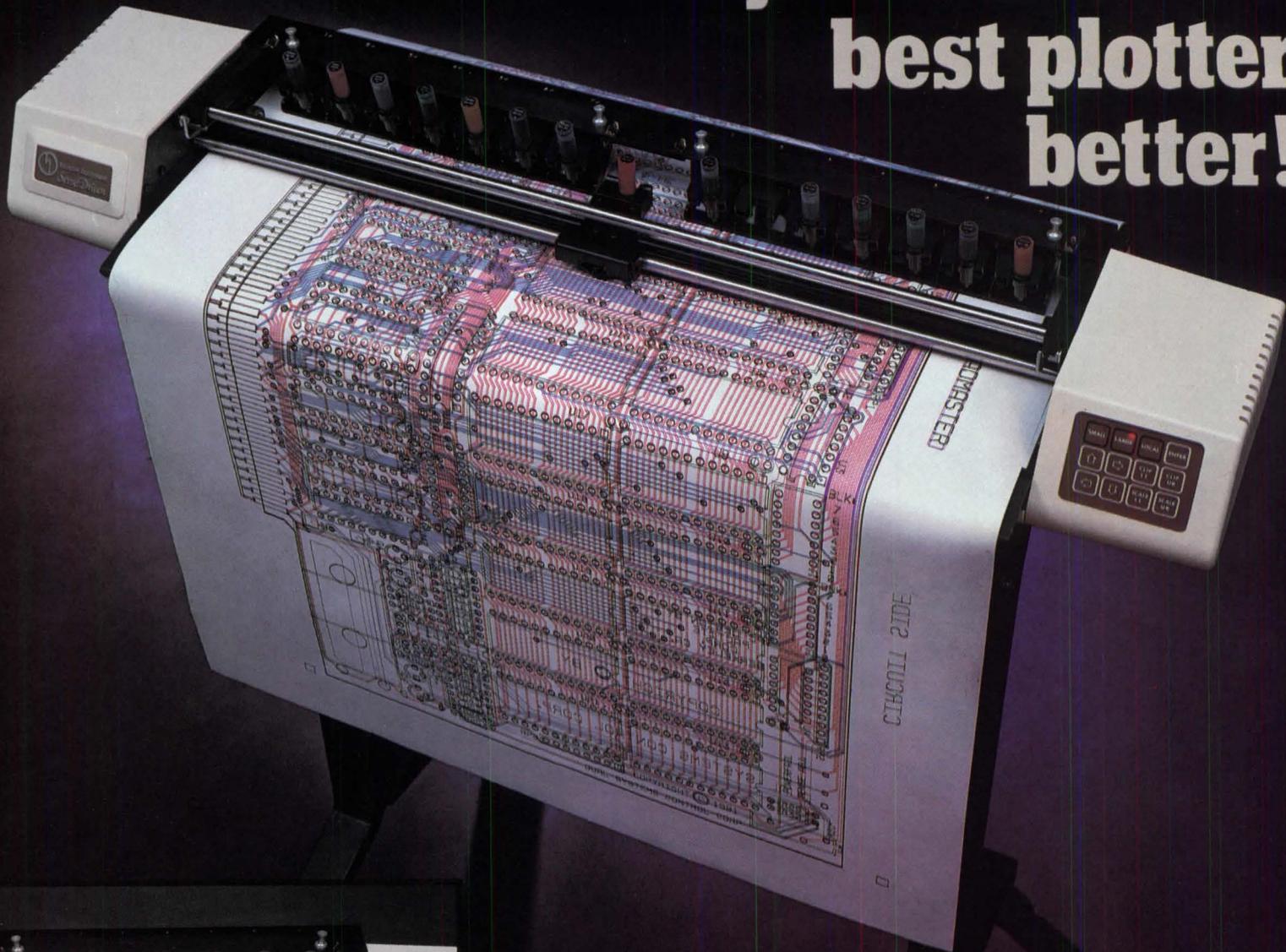
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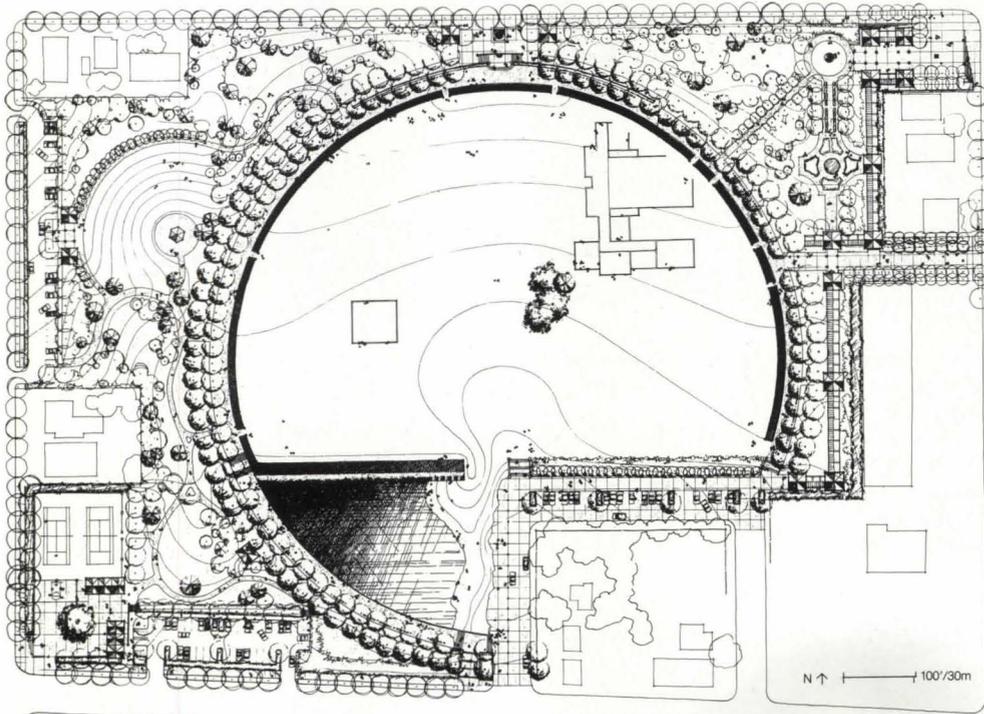
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Competitions

Two recent competitions pose problems of landscape design and site planning, one in an urban, the other a rural setting.



Beckley/Myers, Bellevue Central Park.

Jacob's Pillow and Bellevue's park

Urged on by the National Endowment for the Arts, a growing number of civic and arts organizations are seizing upon the design competition as a fund-raising and publicity tool. Two of the more recent examples share a subject: landscape.

An urban park

The city of Bellevue, Wash., convened a two-stage competition for a central park sited on 17.5 acres across from Bellevue Square, the largest retail shopping center in the Northwest. The winning scheme by architects Beckley/Myers of Milwaukee, Wisc., depends upon the simple but effective idea of imposing a perfect geometric form—in this case a circle—upon the landscape. A canal separates the tranquil circular meadow from more active play spaces, tennis courts, formal garden, and amphitheater. Beckley/Myers was assisted by landscape architects MacLeod Reckord, consulting engineers KPFF, and lighting consultant Richard Peters in the second phase of the competition. The list of finalists also included EDAW of Seattle, eliminated in October, and Jongejan, Gerard, McNeal of Bellevue.

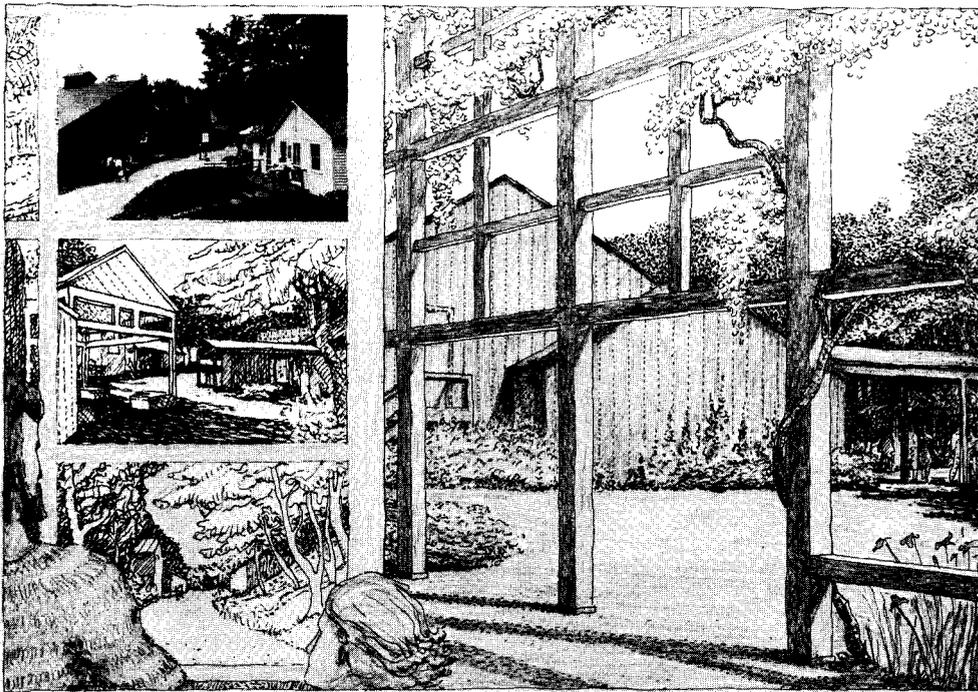
A rural dancers' retreat

Bellevue proposes the insertion of parkland into the built environment; Jacob's Pillow the opposite. The single-stage competition, generously bankrolled by the NEA, requested a comprehensive master plan for the Berkshires, Mass., retreat, site of the oldest summer dance festival in the country. The eight-point program listed rezoning of the site for educational, public, and administrative uses; relocating parking; developing a new trail network and pond; siting and sketching a new visitors' center, director's and park manager's residences; and designating future condominium development as top priorities.

Given the specificity of this program, and the distinct image that the 53-year-old Pillow already projects, it is not surprising that the five selected schemes look more alike than different. It makes good sense to let the Pillow's bucolic setting and historic structures—several dating back to the 1790s—speak for themselves. Stephen Furnstahl and Kenneth Warriner, Jr., of Brooklyn, who collected the \$10,000 first prize, pull the public pieces of the program together along a two-story arcade, with dormitory and school facilities set apart in their own enclave. Second place went

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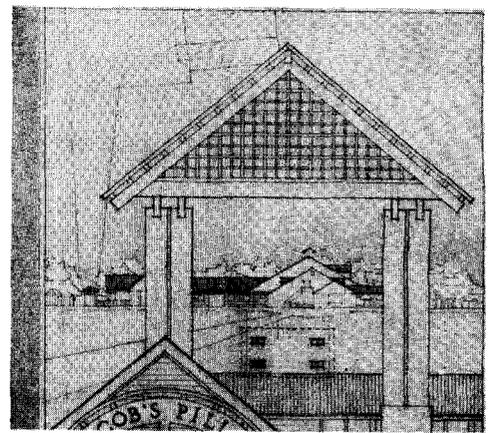
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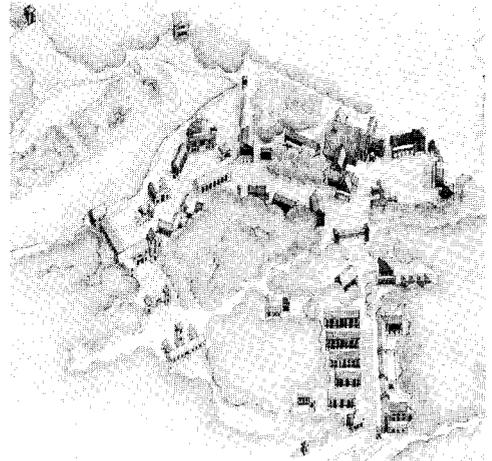
First-place Pillow by Furnstahl and Warriner, and the existing complex.

to Wesley Wei and Patricia Kucker of Philadelphia; third prize to Daisy Sanchez, Raimundo Fernandez, and Monica Ruffings of Coral Gables, Fla.; commendations to Holly Grosvenor and Laurie Kerr of Massachusetts; and Bruce Aaron Parker, Carolyn Krall, Edward Siegel, Craig Konyk of New York. Nine merit awards were also given.

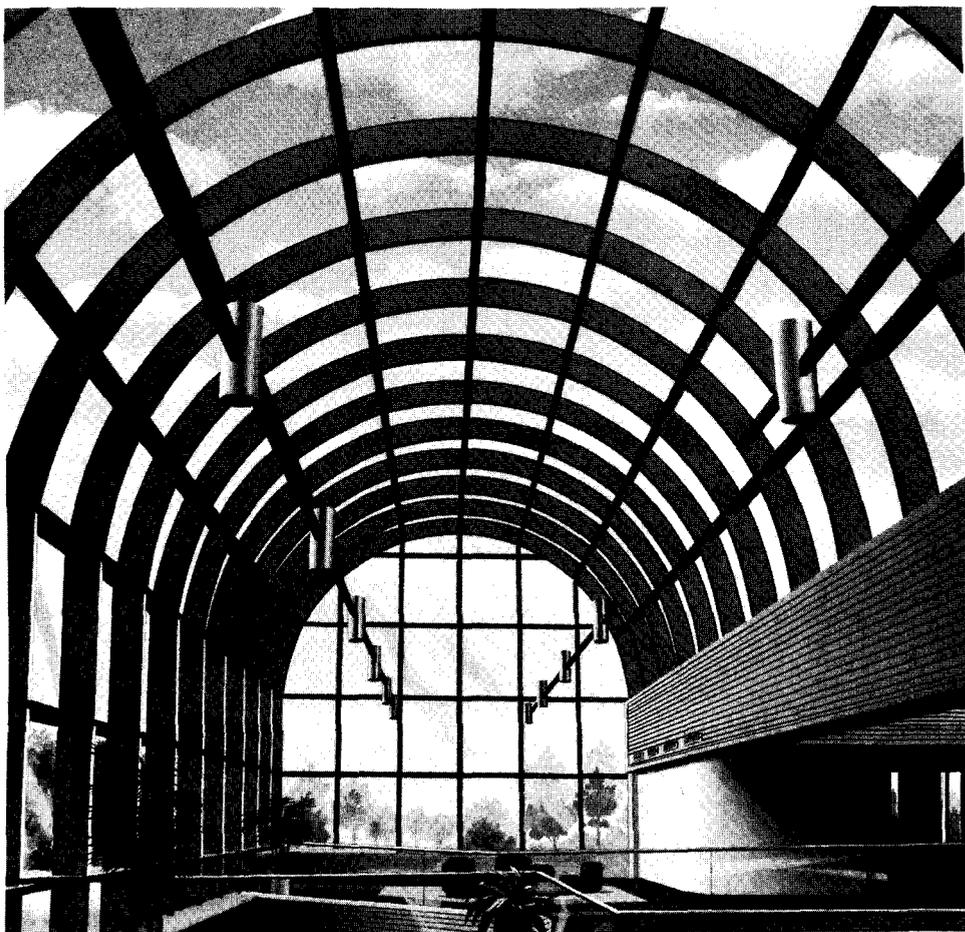
The dance world's leading lights turned out to praise these winners and pledge their fund-raising resolve; similarly, the mayor of Bellevue promises to put together a public/private consortium to build his park. Both sponsors are relying heavily—perhaps too heavily—on the power of their plans to solicit support. **DDB**



Second-place scheme by Wei and Kucker.



Third-place scheme by Sanchez et al.

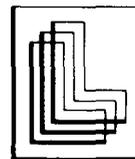


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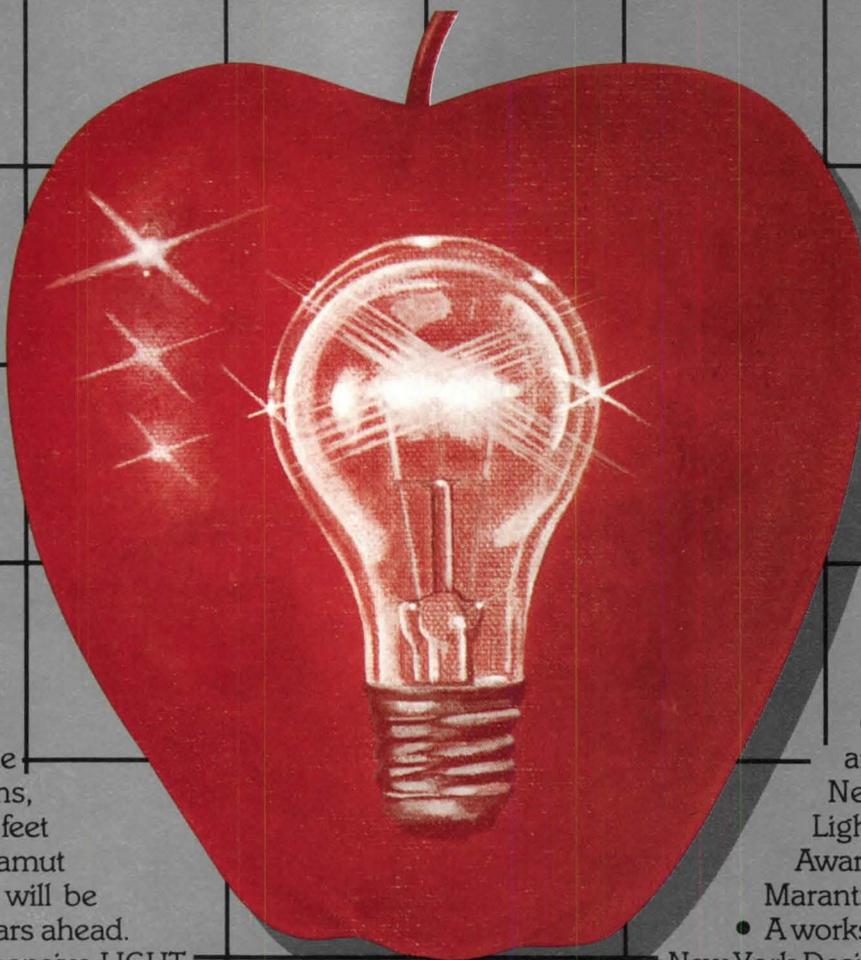
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Hassan Fathy of Egypt is recipient of the first annual UIA Gold Medal.

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Foster Associates has been awarded the coveted Financial Times Architecture at Work Award for the Renault Centre, Swindon, Wiltshire. The award recognizes progressive industrial and commercial architecture.

The first edition of The Historic Preservation Yearbook is now available. Published by the National Trust for Historic Preservation and Adler & Adler, the 600-page yearbook collects policy materials on preservation, analyzes tax incentive legislation, and reports on trends in the field.

• The yearbook can be ordered through the Preservation Shops, 1600 H St., N.W., Washington, D.C. 20006 for \$78 plus \$3.50 handling.

The Treasury Department's controversial tax proposal, recently revealed, would ax all tax credits for the rehabilitation of historic buildings. This, despite President Reagan's cameo appearance in last fall's videoconference on downtown revitalization, when he claimed credit for the credits as a "major innovation that our administration put into effect . . ."

Meanwhile, preservationists in Atlanta continue to protest the plans of another president, appealing a federal judge's decision to allow construction of the proposed Presidential Parkway. They claim the \$20 million, 2.4-mile parkway, access to the proposed Jimmy Carter library, would adversely affect six historic districts in Atlanta.

The Freer Art Gallery, Washington, D.C., is to be renovated under the direction of Shepley Bulfinch Richardson & Abbott of Boston, at a cost of \$10.5 million.

That dynamic duo Johnson and Burgee have been commissioned to design an office building in Atlanta for IBM and Cadillac Fairview, with construction to start this fall. See page 47 for their latest and greatest in Chicago.



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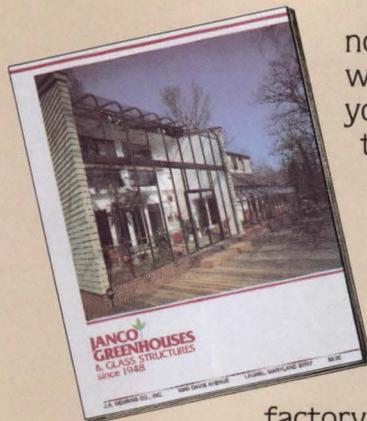
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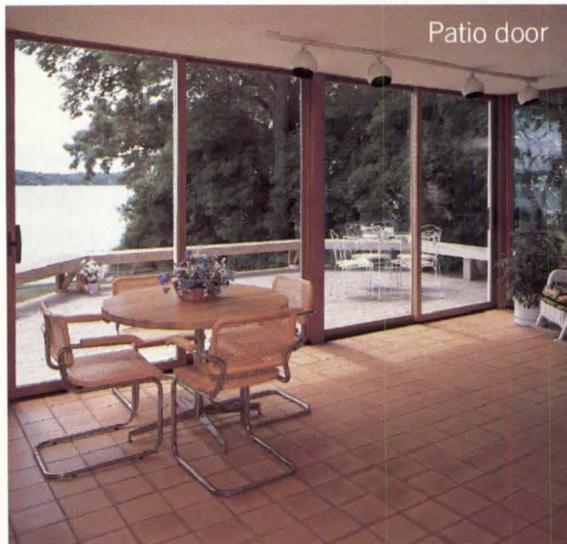
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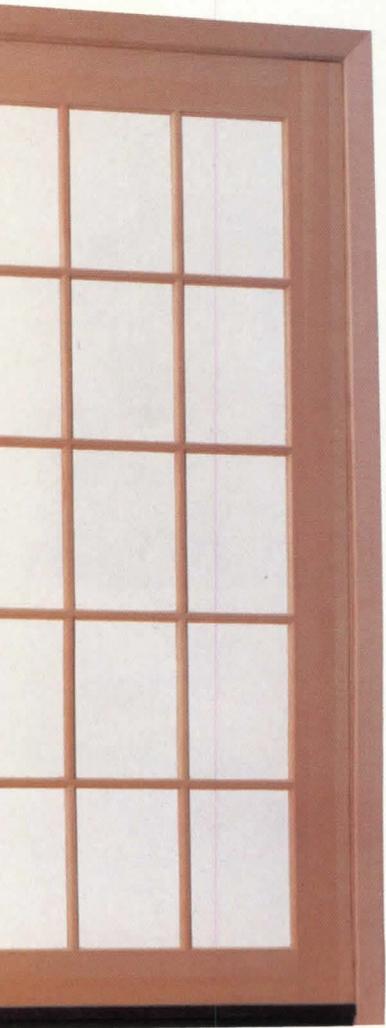
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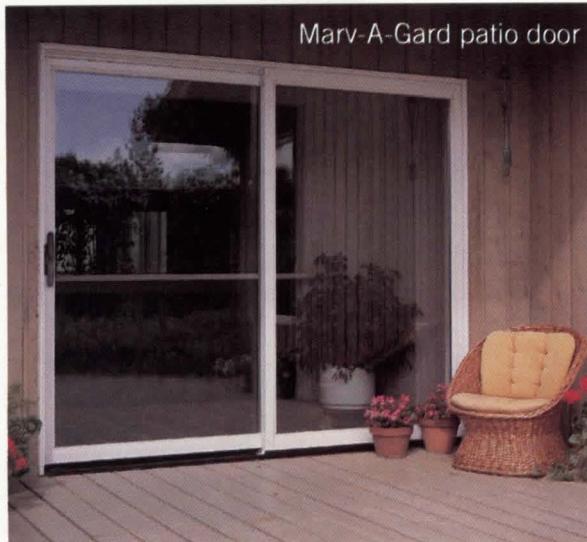




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Perspectives

The winner of a national design competition for compact houses, now constructed near Ithaca, New York, demonstrates architect Lee Temple's efforts to give distinction to a modest dwelling.

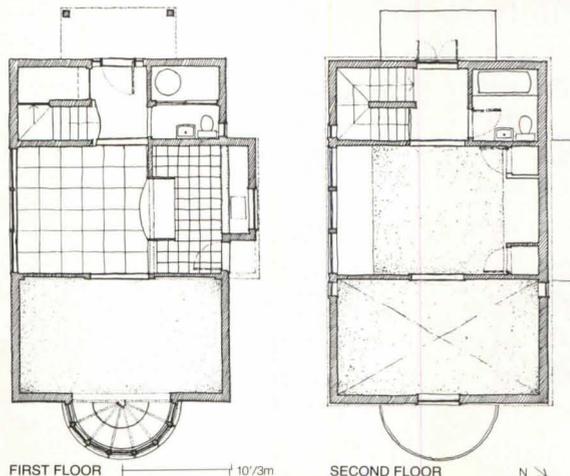
Lee Temple's compact archetype

In describing the modest house he has recently completed, architect Lee B. Temple speaks of "reestablishing Architecture as place-making . . . within the realm of Everyman." Temple's design took first place among 421 entries in the 1982 competition sponsored by Garden Way Publishing Company and was featured in the resulting book *The Compact House* (Garden Way). His entry proved that a house of 1000 square feet could be beautiful, commodious, and simple, said the jury (architects John Hix, Barry Berkus, Don Watson, and Don Metz, with Ralph Johnson, then president of the National Association of Homebuilders).

Temple's design concept calls for an outer volume or "major order" within which stands an interior structure or "minor order"—the outer playing a social role vis-à-vis the world and the inner adapting the simple overall volume to the needs of occupants. The locations of entry, stairwell, and baths make many interior arrangements possible; even in the layout proposed, the dining area could be the day-to-day living area, the living room could be the guest room, the loft bedroom could be partitioned to provide a second small bedroom.

This adaptability relates to the energy strategy, which was of major concern to the jury. The central core, with kitchen/dining below and bedroom above, was seen as fully heated spaces, as were bathrooms. Stairwell and living room were conceived as thermal buffer spaces, the living room to be heated as needed either by baseboard radiation on separate controls or by a woodburning stove.

Major openings on the four sides of the house are meant to address four objectives: entry at one end, sunny south terrace off the dining area, shady north terrace off the



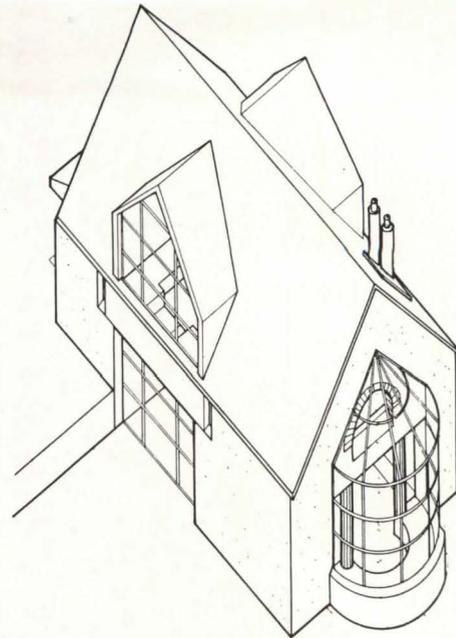
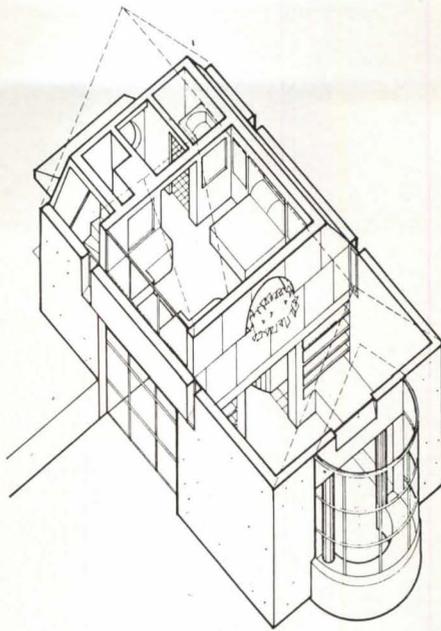
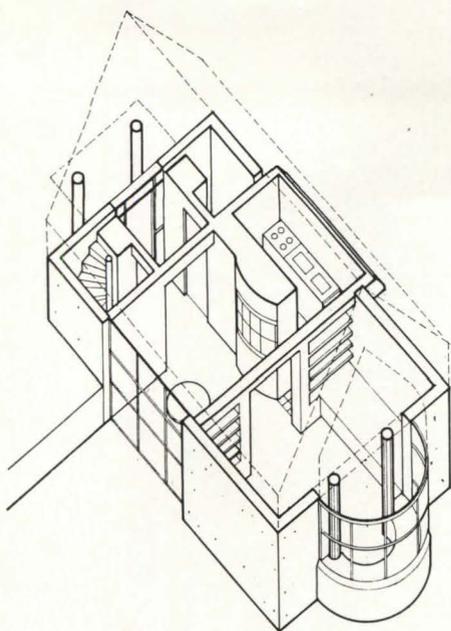
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kitchen, and living room bay facing a private view. On this site, the view happens to be an exceptional one, out across Cayuga Lake, and the south terrace overlooks a 200-foot-deep gorge with waterfall.

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The outer form of the house is simple and iconic, much like many farmhouses in the Northeast, with eaves pulled down over second-floor rooms. Religious antecedents are also brought to mind by the axial entry at the gabled end, the apsidal bay at the far

end, and the major dormers suggesting transepts. Temple himself called the competition entry Chapelle Frontenac (Frontenac being the name of the adjoining stream and the road out front). The jury saw a "hint of the religious" in its "basilica shape." **JMD ■**

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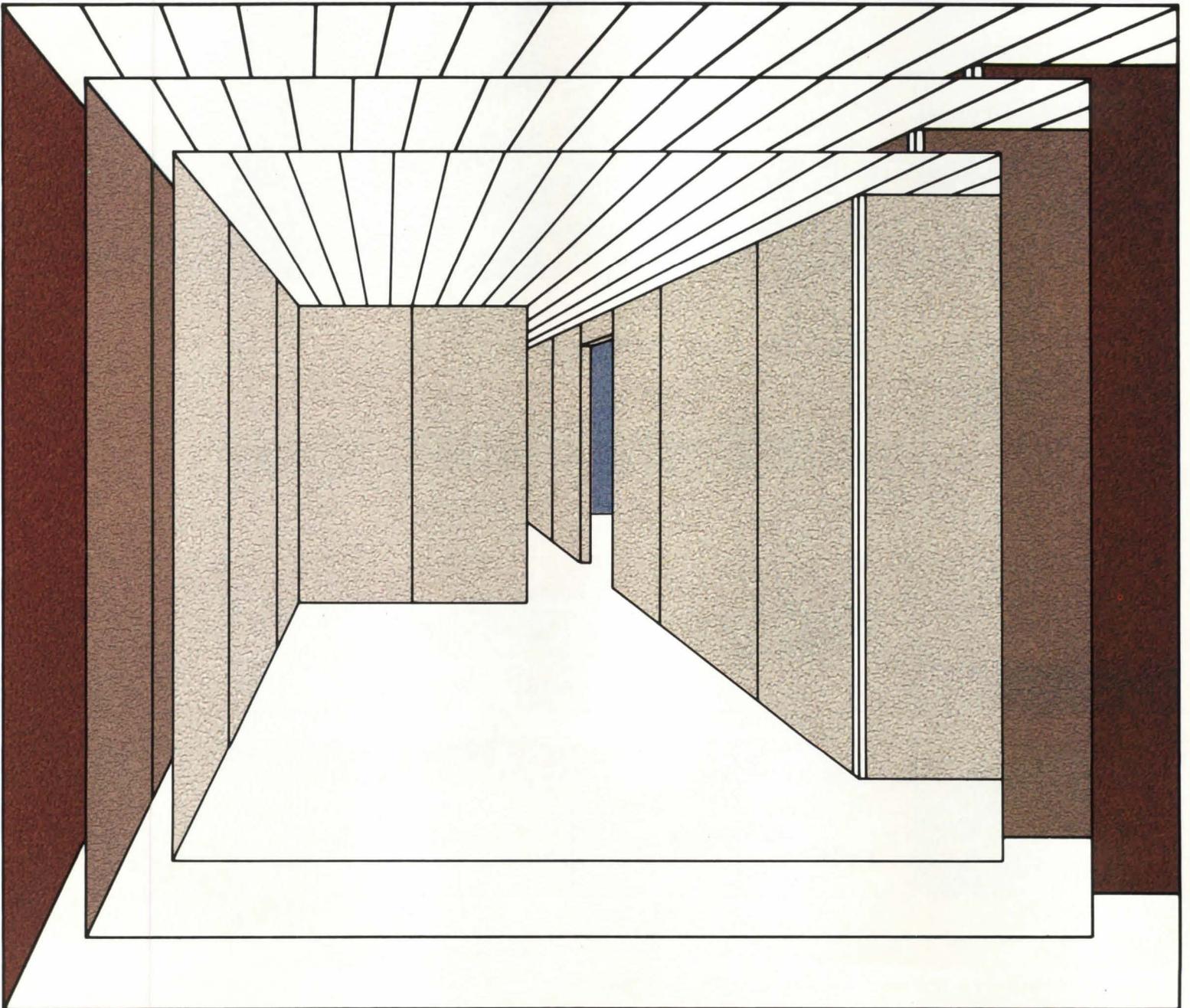
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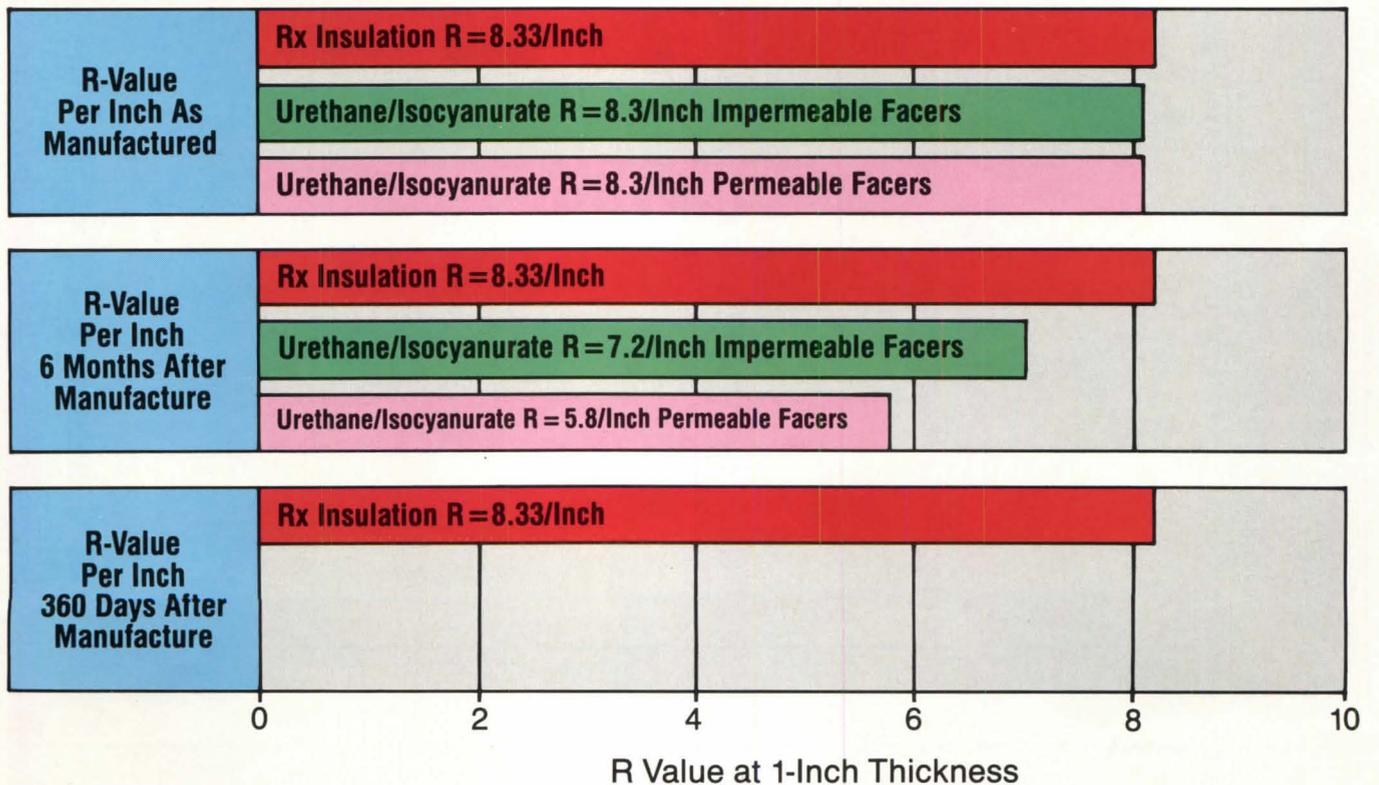
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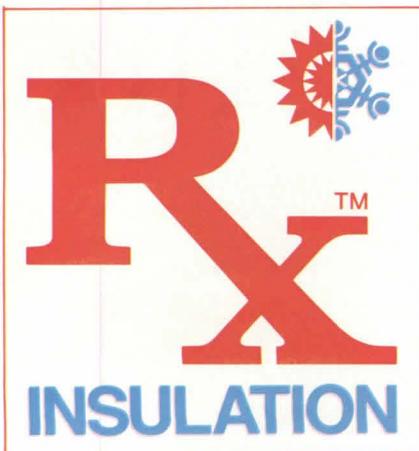
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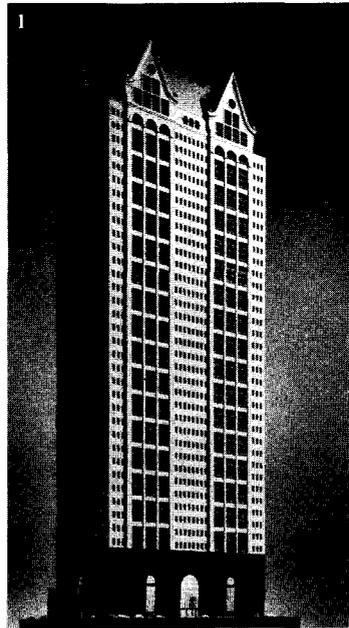
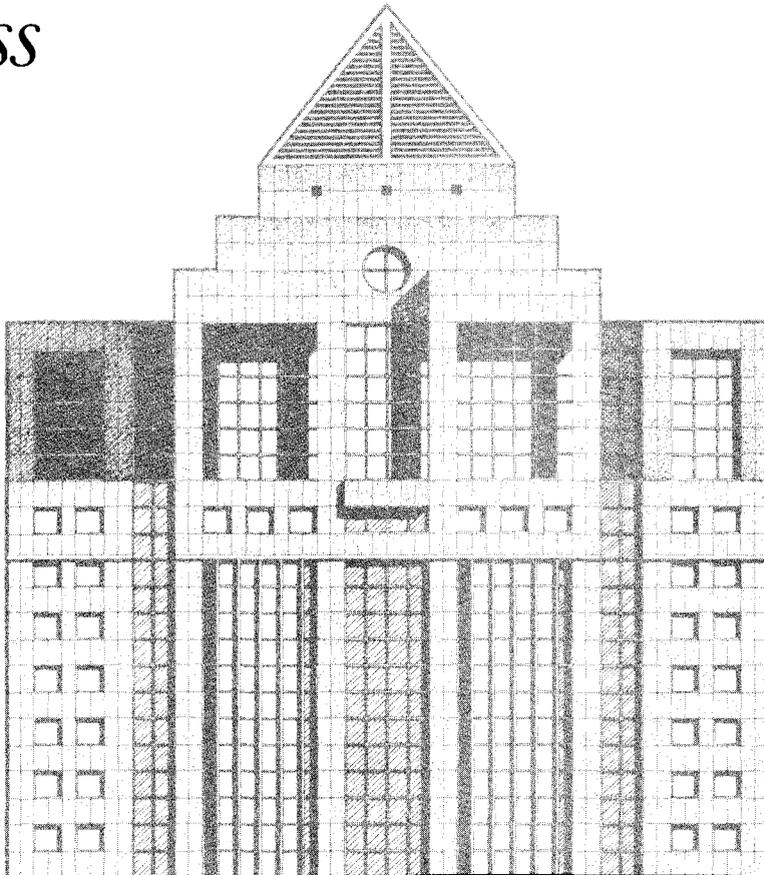
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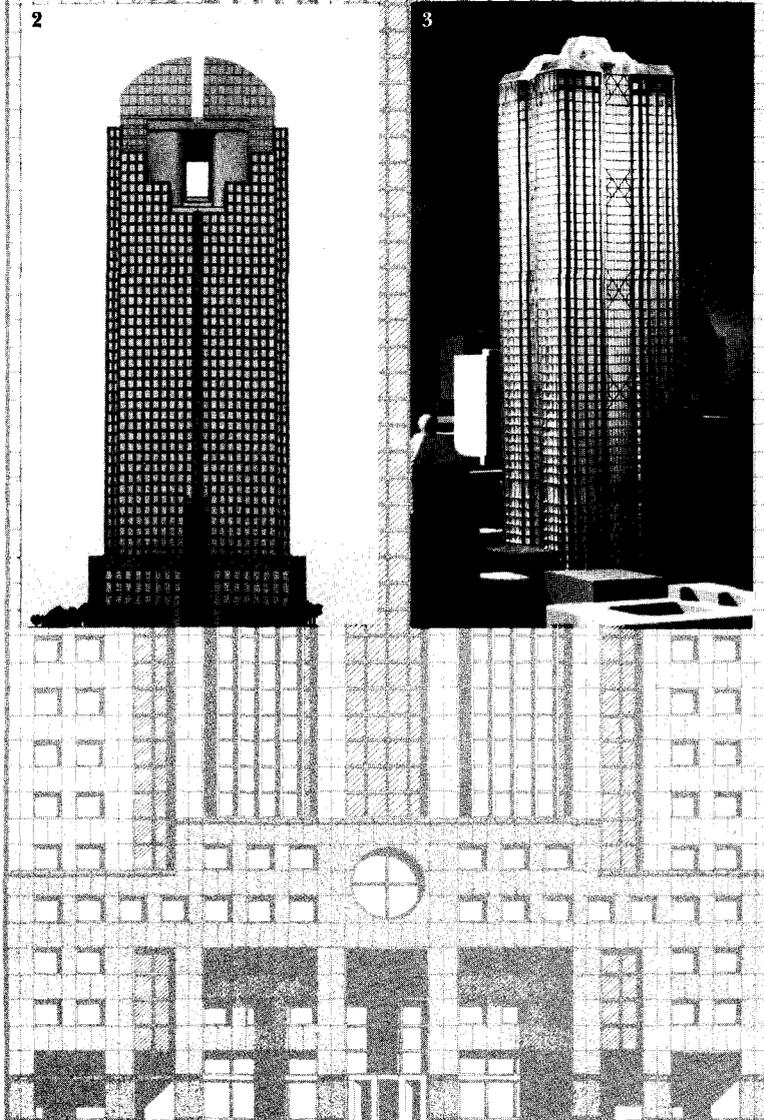
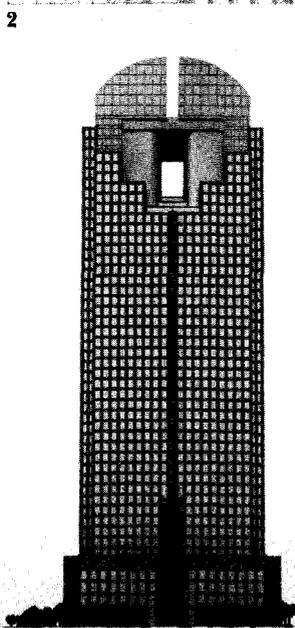
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In progress

1 190 South LaSalle Street, Chicago, Ill. Architect: John Burgee Architects with Philip Johnson. Developer: John Buck Co., Chicago, Ill. Add Chicago to the list of major cities sporting a Johnson/Burgee design. Set in the busy Loop, this 40-story office tower sits atop a 5-story red granite base, its Chicagoesque vertical bays (homage to Louis S.) appliquéd over a punched masonry shaft. The most distinctive feature is, predictably, the top with its pseudo-17th-Century gables.

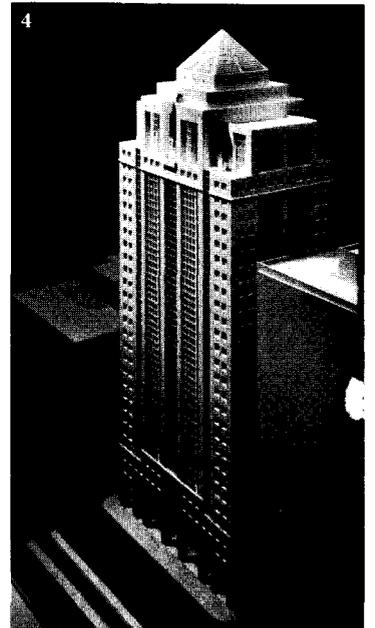
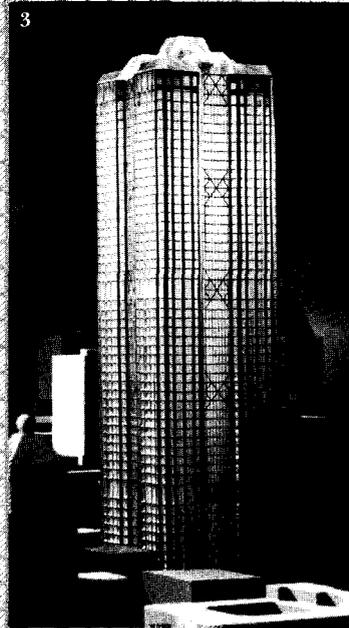


2 2200 Ross, Dallas, Texas. Architects: Skidmore, Owings & Merrill, Houston. Developer: Trammell Crow Co., Dallas, Texas. This 55-story office tower sheathed in red granite has a distinctive silhouette—a curved top with a 6-story “skywindow” slotted through it. At its base, a semicircular pedestrian plaza is defined by the 6-story pavilion opposite. The tower is sited just outside the Dallas Arts District (P/A, June 1983, p. 35), near SOM and Crow’s LTV Center, now under construction.



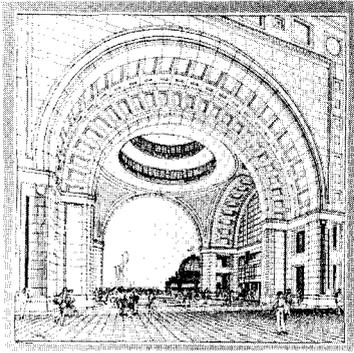
On this page: four more new towers in Chicago and Houston (see also P/A, July 1984, p. 37). On the following: four mixed-use complexes in Boston, Stamford, Phoenix, and Jakarta.

3 Dearborn Center, Chicago, Ill. Architects: Skidmore, Owings & Merrill, Chicago. Client: Dearborn Land Co., Chicago. This 70-story office tower, a prominent addition to the Chicago skyline, is broken down internally into stacked segments, each with its own “ground floor” and atrium. The skin is manipulated to produce twelve corner offices and multiple bay windows. At the base, four levels of skylighted retail space connect to two major subway lines.

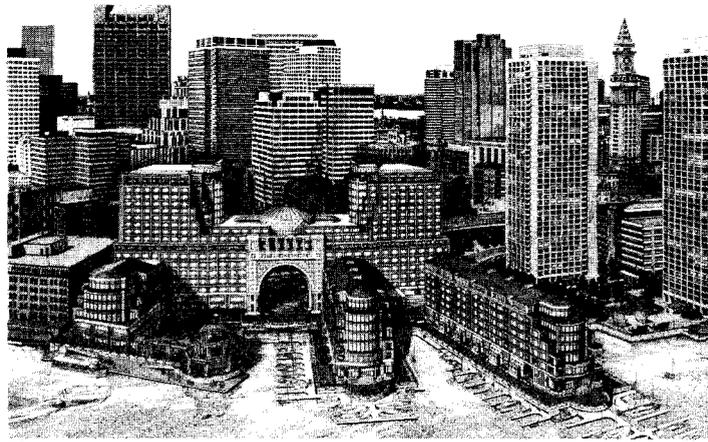


4 Office building, Chicago, Ill. Architects: Perkins & Will, Chicago, Ill. Client: Rubloff, Inc., Chicago. Recognizing that Wacker Drive shows two traditions, the architects propose a hybrid, crossing the classic stone structures of the early 20th Century with the curtainwall prototype of more recent vintage. The Civic Opera House, located south of the site, is singled out for emulation in the arcaded base and articulated top of the granite and glass office tower. Completion date: 1986.

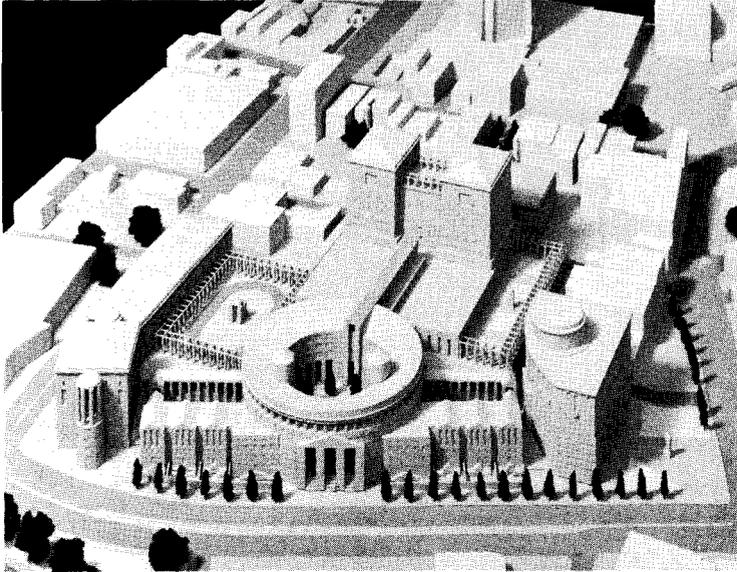
In progress



5a



5b



6

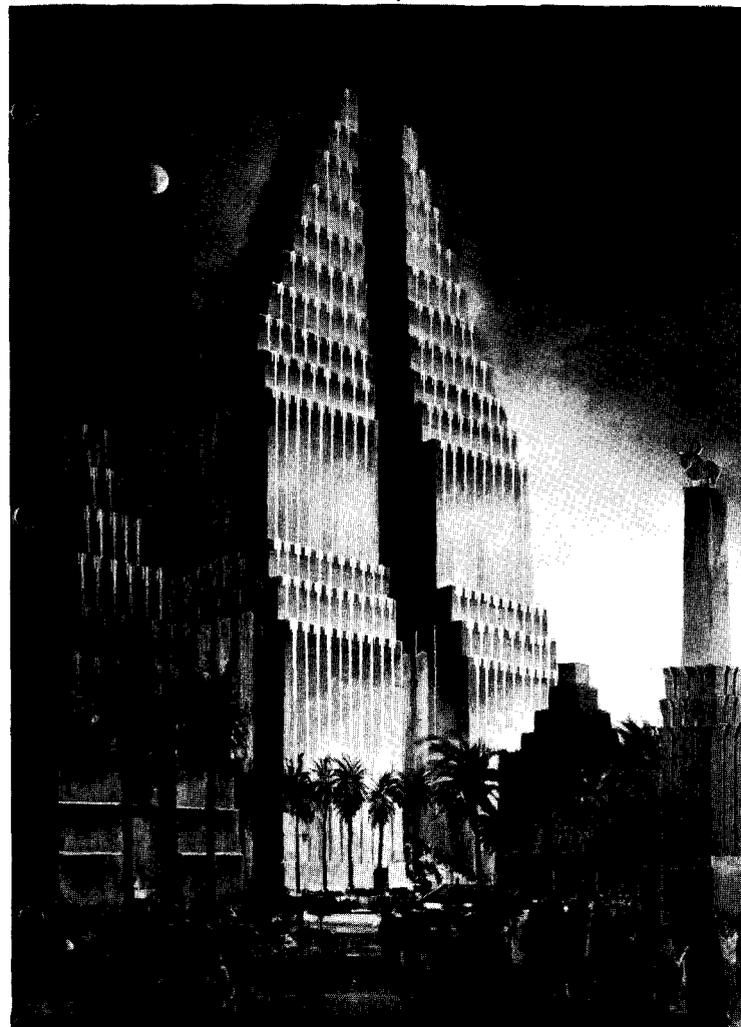
5a, b Rows and Fosters Wharf, Boston, Mass. Architects: Skidmore, Owings & Merrill, Chicago. Developer: Beacon Cos., Boston, Mass. This massive multiuse complex continues the development of the Boston waterfront south of the Faneuil Hall and Quincy Market area and has been a target for the continuing debate concerning public access, both visual and physical, to the waterfront. The architects establish a tenuous connection to the city center across a busy expressway through a visual corridor anchored by a huge rotunda and terminated by a ferry dock. On the water side are a large plaza, retail spaces, and fingerlike "piers" of housing.

6 Master plan, blocks 8 & 9, Stamford, Conn. Architect: Michael Graves, Architect, Princeton, N.J. Developer: F.D. Rich Co., Stamford, Conn. This complex incorporating retail, office, residential, and municipal uses attempts to forge an urban whole out of the present hodgepodge of parking lots and small buildings. Two pedestrian streets, one enclosed and the other open, cut through the blocks to an open-air circular plaza. Parking is concentrated in the center of the block and underground in an effort to keep the urban fabric from raveling at the edges.



7

7 Camelback Esplanade, Phoenix, Ariz. Architects: Zeidler-Roberts Partnership, Toronto, Ohio, joint venture with C. Cornoyer-Hedrick, Architects & Planners, Phoenix, Ariz. Developer: Symington Co., Phoenix, Ariz. Set in sprawling Phoenix, this mixed-use mini-city incorporates offices, health club, condominium and rental residential towers, retail mall, hotel, and obligatory parking garage in an essentially suburban milieu. Three pairs of similar, star-shaped towers merge into an amorphous base. Will all of Phoenix eventually coalesce into mixed-use citadels?



8

8 Tanah Abang, Jakarta, Java. Architects: Pacific Associates Planners Architects, San Diego, Calif. Developer: Mr. S.G. Yap, Jakarta, Indonesia. This mixed-use complex terminates a major city thoroughfare. The public court is bounded by a monumental bank, residential tower, and rows of "shophouses," the Asian equivalent of the flat over the store. The tower's silhouette bears a definite resemblance to a Balinese Heaven Gate, although the presentation draws on a different tradition—Hugh Ferriss's romanticized Manhattan.

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Calendar

Exhibits

Through February 24

Images of a Modern City: Selections from the Josephine Linn Collection of Philadelphia Prints. Cret Gallery, Furness Building, Graduate School of Fine Arts, University of Pennsylvania, Philadelphia, Pa.

Through March 1

Mediterranean Indigenous Architecture: Timeless Solutions for the Human Habitat. Gallery 400, School of Architecture, Art & Urban Planning, University of Illinois at Chicago.

Through March 2

J.J.P. Oud: Architectural Drawings and Photographs. Prakapas Gallery, New York.

Through March 3

Furniture, Furnishings: Subject and Object. The Berkshire Museum, Pittsfield, Mass.

Through March 3

Neil Denari/Bart Prince. Storefront for Art & Architecture, New York.

Through March 15

Russel Wright: American Designer. Margaret Woodbury Strong Museum, Rochester, N.Y.

Through March 15

The City of Frankfurt: New Buildings in a Historical Context. Goethe House, New York.

Through March 17

Chicago Women in Architecture: Progress & Evolution, 1974-1984. Chicago Historical Society, Chicago.

Through March 17

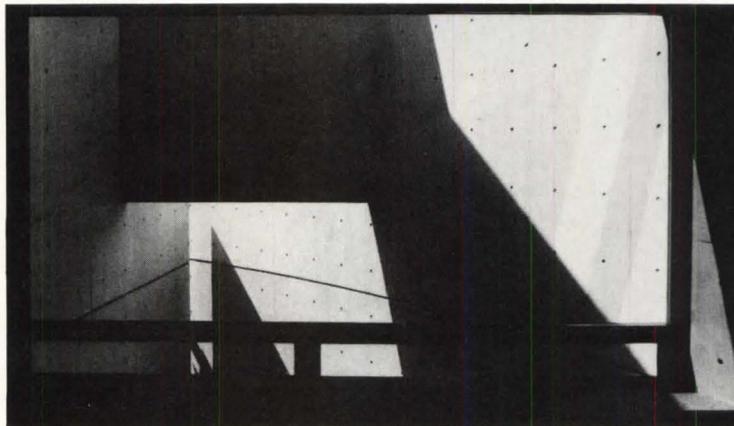
Built for the People of the United States: 50 Years of TVA Architecture. Great Hall of the Hall of State, Fair Park, Dallas, Texas.

Through March 17

Exhibition Parameters: Maria Nordman. Museum of Contemporary Art, La Jolla, Calif.

Through March 23

Made in USA: New American Innovations 1985. Gallery 91, New York.



Project by Tadao Ando at the Architectural League, Feb. 21.

Through March 24

Honor and Intimacy: Architectural Drawings by AIA Gold Medalists, 1907-1983. The Octagon, Washington, D.C.

Through April 7

Chicago Furniture: Art, Craft & Industry, 1833-1983. Renwick Gallery, National Gallery of American Art, Washington, D.C.

Through April 7

The European Iceberg: Creativity in Germany and Italy Today. Art Gallery of Ontario, Toronto, Canada.

Through May 11

For the Floor: Contemporary Artists' Rugs. American Craft Museum II, New York.

February 15-April 14

Kandinsky in Paris: 1934-1944. The Solomon R. Guggenheim Museum, New York.

February 17-April 7

Edward and Nancy Reddin Kienholz: Human Scale. Walker Art Center, Minneapolis, Minn.

February 21-March 21

Tadao Ando: Intercepting Light. The Urban Center, New York.

March 24-June 2

New England Furniture: The Colonial Era. DeCordova and Dana Museum and Park, Lincoln, Mass.

Competitions

March 1

Registration deadline, American Society of Interior Designers 1985 Interior Design Project Awards Program. Contact ASID National Headquarters, 1430 Broadway, New York, N.Y. 10018 (212) 944-9220.

March 15

Postmark deadline, 1985 Du Pont "Antron" Design Award Competition. Contact Gary Johnston (302) 774-6124.

March 15

Deadline, Innovations in Housing Design Competition. Contact Innovations in Housing, P.O. Box 11700, Tacoma, Wash. 98411 (206) 565-6600.

March 22

Registration deadline, Strycker's Bay Neighborhood Council Design Competition for a Neighborhood Bicycle Shelter. Contact Gail Boorstein, Strycker's Bay Neighborhood Council, 561 Columbus Ave., New York, N.Y. 10024 (212) 874-7272.

April 30

Registration deadline, The Homeless at Home. Contact Glenn Weiss/Kyong Park, Storefront for Art and Architecture, 51 Prince St., New York, N.Y. 10012 (212) 431-5795.

Conferences

February 26-27

2nd National Urban Environmental Design Forum. American Institute of Architects, Washington, D.C. Contact Linda Kahn, Community Design Exchange, 1346 Connecticut Ave., N.W., Washington, D.C. 20036 (202) 833-9087.

March 12-14

International Conference on Building Use and Safety Technology, Los Angeles, Calif. Contact National Institute of Building Sciences, 1015 Fifteenth St., N.W., Suite 700, Washington, D.C. 20005.

March 14-18

AIA Research & Design 85 Conference, Los Angeles. Contact Kim Leiker, Research & Design 85, AIA, 1735 New York Avenue, N.W., Washington, D.C. 20006 (202) 626-7560.

March 25-27

13th Annual Federal Programs Conference, Committee on Federal Procurement of Architect/Engineer Services. Loews L'Enfant Plaza Hotel, Washington, D.C. Contact COFPAES, % ACSM, 210 Little Falls St., Falls Church, Va. 22046.

March 27-29

West Week 1985: Form and Purpose. Pacific Design Center, Los Angeles, Calif. Contact Jim Goodwin, PDC (213) 657-0800.

April 16-18

Lighting World III: International Advanced Illumination Conference & Exposition, New York Hilton Hotel. Contact Robert A. Weissman, Vice President, National Expositions Company Inc., 14 West 40th St., New York 10018 (212) 391-9111.

June 3-7

A/E Systems '85. Convention Center, Anaheim, Calif. Contact A/E Systems '85, P.O. Box 11318, Newington, Conn. 06111.

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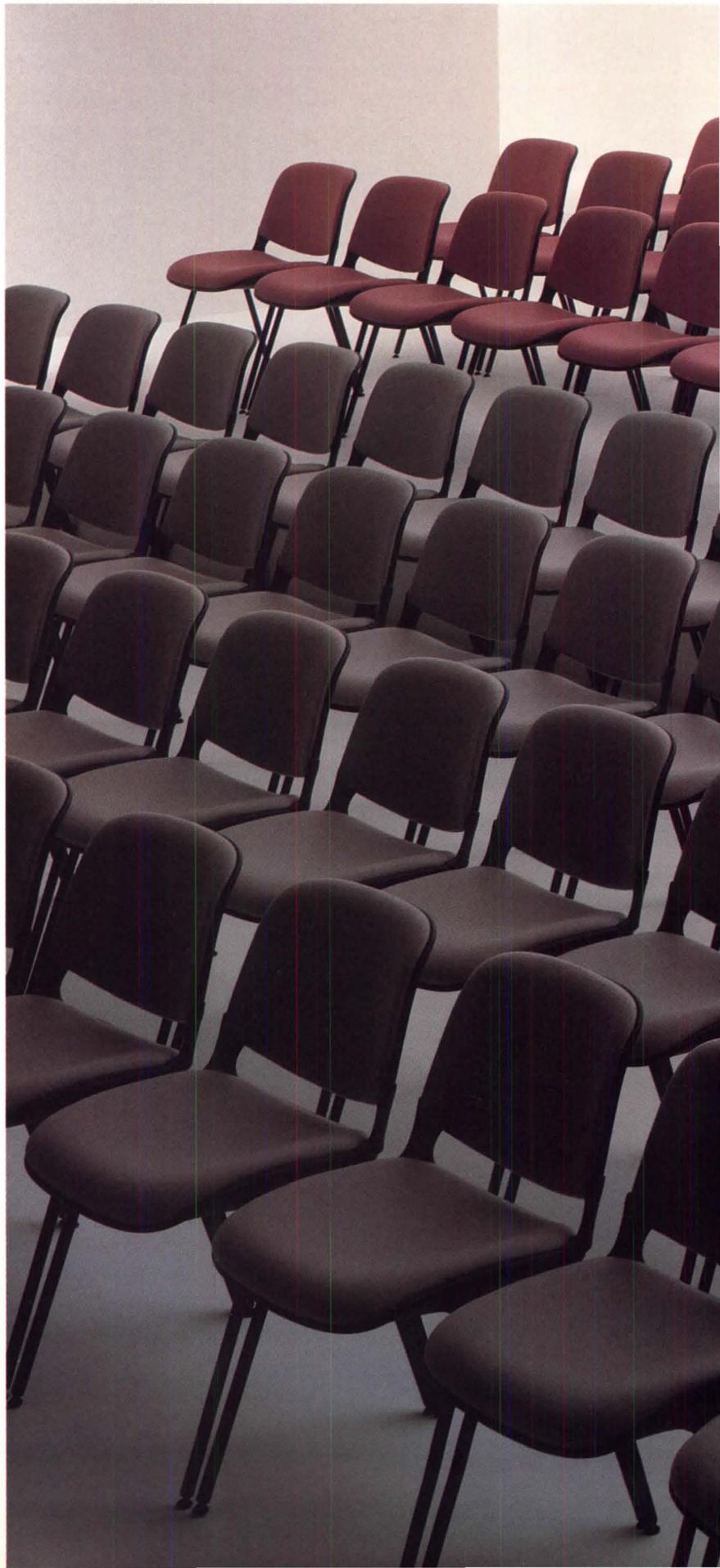
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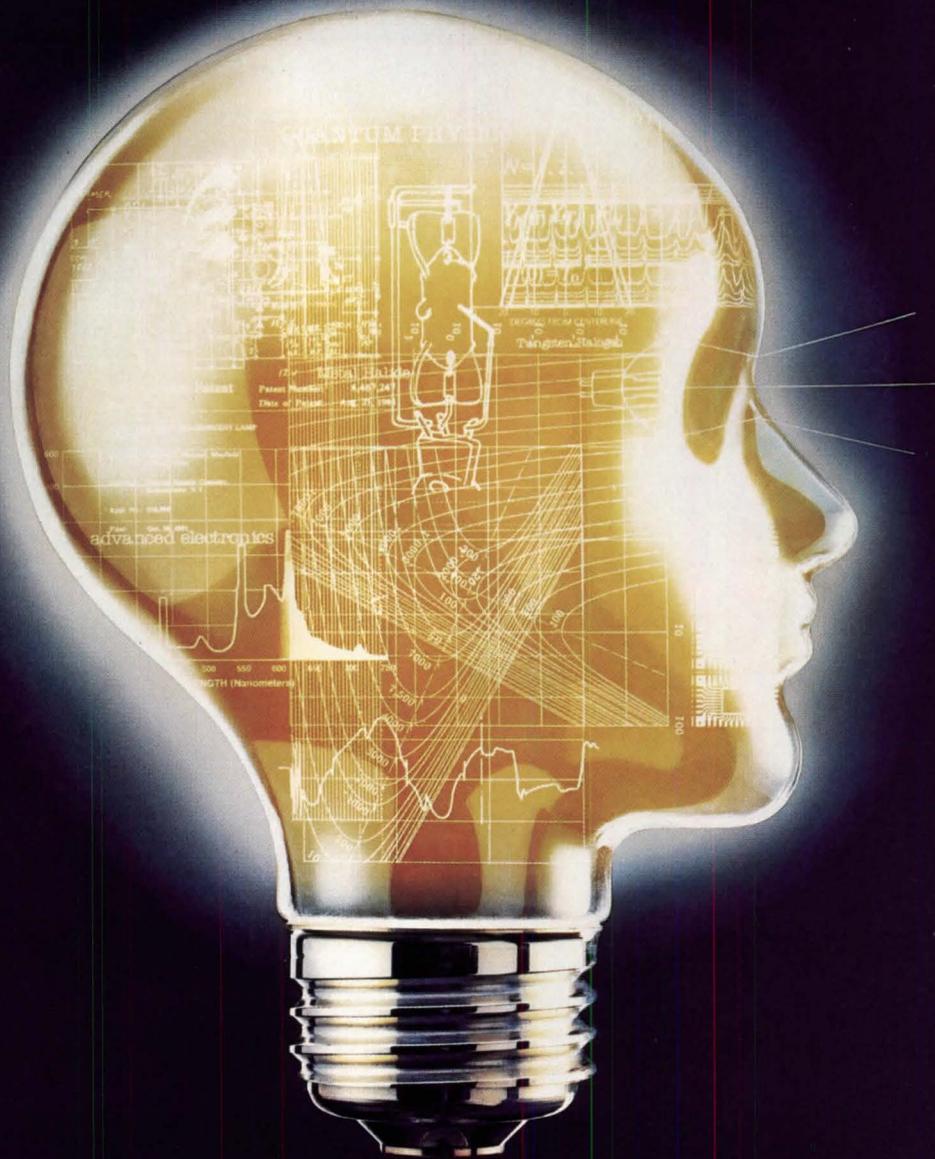
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P/A Practice

57 **Building failures:** Raymond DiPasquale

62 **Law:** Norman Coplan

63 **Research review:** Thomas Fisher

Building failures: *A failure information file*

Broadly speaking, building failures fall into two major categories: those initiated during conception or execution. Some failures are built right into the design or detail of a building by the design professional; others arise from a perfectly good design or detail poorly executed by the contractor.

During the design phase of every project, many things can influence the performance of a building: **1** Lack of experience on the part of the designer or specifier. **2** Lack of critical review by the chief designer, principal, field expert, outside consultant, or someone who *does* have the experience. **3** Unrealistic time demands imposed by the client, which compress or eliminate the research time or just plain "thinking" time. **4** Lack of understanding of how dissimilar materials work together or how systems move under structural loads or temperature gradients. **5** No empathetic understanding of how systems or assemblies *want* to work.

During the construction stage of a project, certain actions by the contractor can precipitate a failure or jeopardize an otherwise well-designed detail: **1** The contractor doesn't follow the drawings or specifications. **2** The architect or field representative doesn't monitor the construction closely enough to ensure compliance with the drawings and specifications. **3** The contractor doesn't employ experienced workmen or entrusts important details to inexperienced personnel. **4** The contractor doesn't provide enough or knowledgeable field supervision. **5** Work is covered up too quickly for adequate inspection, or work is unprotected from the elements, causing premature deterioration.

The design professional should establish an active case file on building failures. Some publications (*Engineering News Record*, *Civil Engineering*, future issues of *P/A*) publish information about failures on a regular basis. The file should contain clippings from these various publications as well as information about personal experiences and notes from colleagues willing to share their problems. Ideally this information should be arranged in a standardized format, with the CSI numbering system used for easy access and review as well as cataloging. For collecting data, a printed form that follows the case study's format is helpful in organizing the information and in reminding one of things to look for when reviewing and recording an incident.



Case study examples of brick veneer.

At the rate failures are being recorded in our industry, the accumulation of performance information in a file may soon become a storage problem. Computerization is the next step. Those firms that have already computerized facets of their operation will find this data base an easy one to add. Those who don't want to establish their own data base can tap into an existing one through a modem or personal computer: The Architecture and Engineering Performance Information Center (AEPIC). (The Center, located at the University of Maryland, can be reached at (301) 935-5544.) This national building performance data base should become a valuable resource for sharing infor-

mation about building failures among design professionals and other interested parties. This resource, along with personal files, has many uses: **1** In planning new or similar projects. **2** As a resource for the resolution of disputes. **3** As an aid in developing new details and new methods of construction. **4** For developing quality control procedures both in the office and in the field. **5** For preparing research papers, professional texts, and professional seminars. **6** As a resource for teaching case studies in the college classroom. **7** For use in modifying codes and regulations. **8** For creating an in-house resource base with lessons to be learned from the performance of past projects.

Conducting in-house quality assurance programs is a very effective way of preventing failures from happening in the first place. The programs form a valuable communication link within an organization and can change attitudes about professional practice and building construction. A failure information file can form the basis for such in-house programs, but it takes someone in charge to see that such a program is done on a regular basis, not just immediately after an incident. By consciously preventing repetitions of poor practices, we can assure a healthy growth in our industry.

Case study

1 The Problem

The brick veneer in a three story structure in the Northeast showed excessive cracking at building corners and ends of lintels. Outward movement of the veneer at relieving angles and squeezing out of sealant at brick control joints was also noted. Sealant at joints of brick sills had deteriorated.

(Photos left)

2 Background Data

Building was constructed in 1973. It has a steel frame and concrete block back-up with 8" x 8" face brick veneer. Design documents indicated a solid exterior wall construction with metal ties, and the joint between the veneer and the back-up filled solid with mortar. Continuous relieving angles for the veneer were at window or door head height. Fabric flashing was installed at relieving angle. Architect had a full-time clerk-of-the-works during construction. Test cuts were made in 1983.

3 The Causes

A The major cause of the distress noted in the veneer of this building can be attrib-

Raymond DiPasquale

uted to the fact that the exterior wall was not built as it was detailed. Test cuts made during the investigation showed that as much as 4½" of void space existed between the back-up block and the inside face of the brick. Metal ties were missing, broken, poorly installed, or present but not installed in the brick joints because they were either bent over or too short. Excessive mortar droppings were present in the space. There had been some attempt at back-parging the brick.

B The wall was *designed* as a solid wall but *functioned* as a cavity wall without the insulation, proper ties, or weep holes that are necessary for the success of a cavity wall system. There were no weep holes present even though the contractor built the wall with a large cavity.

C Excessive independent movement of the veneer, due to temperature cycles and wind forces along with a lack of a tie system to provide adequate restraint to the backup, caused cracking at corners and sliding at the relieving angles. Thermal expansion caused control joint material to be squeezed out. In-and-out movement of the veneer also caused the control joint material to be pushed outward progressively.

D Water penetration through the veneer joints and cracks had no way to get out. Freeze-thaw cycles caused veneer to move outward. This was particularly noticeable at relieving angles where the flashing trapped the water in the void space and saturated the mortar droppings that had collected there; freezing provided the expansive forces.

E Excessive bearing stresses at angle lintel ends caused brick crushing. Most relieving angles and lintels were designed and detailed to be hung from structural steel above. Vertical slotted holes for adjustment were specified to be welded after installation. Some hangars had showed signs of movement creating bearing conditions that were not meant to be.

F Relieving angles did *not* have a *soft joint* beneath them. In fact, in many areas brick was tight to the bottom of the angle. Brick distress was noted at these joints.

G Brick joints in brick window sills were not adequately prepared to receive sealant. They were merely recessed square mortar joints filled with a sealant.

4 Implications

A Since there were flagrant violations of the contract documents during construction, one wonders where the Architects' Clerk-of-the-Work was while all this was going on. And what was the contractor's foreman doing while the masons were at work?

B The Architect didn't do his homework on the techniques for keeping brick sills watertight, or on the proper way to detail a relieving angle. (Review of the documents did not reveal any large-scale detail of relieving angle.)

5 The Fix

The discrepancies noted in the overall veneer system were so wide-spread that the ideal solution would have been to remove completely the veneer and reinstall it properly. However, the practical procedure is one of stabilizing the veneer against future movement and relieving all points of obvious distress. Accordingly, the fix consisted of the following:

A In a 3' x 3' grid on all building elevations, remove one or two bricks and in the space thus created install galvanized steel bent plates anchored to the concrete masonry backup with bolts in expansion shields and at the other end in the replacement brick joint.

B Before the openings have been closed with new brick, pour cement grout in the void space starting at the lowest level and stopping at each level of openings long enough to replace the brick before proceeding up the wall. Do not replace the existing flashing because, in the final construction, it will serve little purpose. Care must be taken that the lateral pressure produced by the grout does not cause the veneer to move outward. Bracing may be required, but since the lifts are done in three-foot increments, this should not be a problem.

C At the bottom of all relieving angles, cut a ⅜" slot and install an asphalt-impregnated cushion, backer rod, and sealant.

D At all vertical control joints install a backer rod and new sealant. (One of the problems here was the fact that the original construction had only a fiber filler and did not have a round backer rod to provide the correct curvature for the sealant and the necessary bond breaker.)

E At the brick sills, remove all sealant, deepen the mortar joint, install a backer rod and new sealant.

6 How to Avoid (a checklist)

A As a design professional, make sure that the contractor builds the details the way you have shown and specified.

B Always show important details at a large enough scale to clearly indicate the design intent.

C Always provide a soft cushion joint below any relieving angles.

D Be sure that relieving angles are adequately supported so that there will be no rotation due to the eccentric masonry load. If they are detailed for field adjustment, be sure that they are adequately welded after the adjustments have been made. This requires close attention to the field operation since this is a critical detail.

E Always provide control joints with enough width to accommodate the anticipated movements during a full year of temperature variations.

F Provide backer rod, bond breaker and the proper sealant for all joints. Be sure that joint preparation and sealant installation is done by competent workmen.

G If a fully bonded wall is desired, make sure that the tie system is adequate to do the job. Rigid truss type ties that are in the joints of both the backup and the veneer are best. Do not use a flimsy piece of corrugated metal stuck into the joint of the backup, and not in the joint of the veneer.

Follow the National Concrete Masonry Association (NCMA) recommendations and details for good solid masonry wall construction.

H Grout is always more effective for filling the space between the veneer and the backup rather than mortar because it assures a void free condition. Do not depend on parging the back of the veneer to do the job.

I Make sure the mason understands the details on the drawings. This is a communication problem which must be continually monitored during the construction phase.

7 Lessons to Learn

A There is no substitute for adequate field inspection when portions of the construction are critical or when an incorrect construction procedure could affect the overall long-term performance.

B You've heard a lot of stories about field supervision from the legal experts but, it's your building and the buck stops with you. If a particular detail is important, then you must get in the field to make sure that it is done the way you want it.

C It is a good idea to emphasize certain procedures *on the drawings* when they are critical to the overall building performance. In this instance, it would have been well for the architect to *note* on the drawings that the space between the veneer and the backup was to be filled solid. This would have emphasized in words what was shown already in the detail, but because it was important for the overall performance, it should have been *re-emphasized*.

D Clerk-of-the-works may have more age than experience! Enough said.

E Always show critical details at large scale. It is important to communicate your intentions at a large enough scale to avoid misinterpretation. Large-scale details tend to command more serious concern and respect by the contractor over small-scaled fuzzy indications. It clearly expresses *your* understanding of what is happening in the detail.

8 Legal Case References

This particular lawsuit against the contractor and the design professional was settled out of court. Since the contractor was bankrupt, the design professional paid most of the damages.

9 Other References

National Concrete Masonry Association (NCMA) Tek notes.

"Joints and Sealants," a publication of the American Society for Testing and Materials (ASTM). See *Technics*, p. 105.

Raymond A. DiPasquale ■

The author is an Associate Professor of Architecture at Syracuse University and heads a firm in Ithaca, N.Y. that specializes in structural consultation and building failures investigation.



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Law: Architect's liability for shop drawing approval

Much of the litigation between contractor and architect involves the rights of the contractor and the liabilities of the architect regarding losses or liabilities sustained by the contractor. It is less common for litigation to involve the claim of an architect against a contractor for indemnity or contribution for the liability of the architect to third persons. Such a claim, however, was the subject matter of a recent ruling by the United States Court of Appeals involving a building project in South Dakota (*Henningson, Durham & Richardson, Inc. v. Swift Brothers Construction Company and Egger Steel Company*, 739 F.2d 1341).

The architect was the subject of a judgment for damages, in favor of two workmen

injured, under the following circumstances: The architect had designed an office building in Sioux Falls, S. Dak., and under his contract with the owner, he was required "to review and approve shop drawings only for conformance with the design concept of the project and for compliance with the information given in (the construction contract documents)." The specifications called for a stairway with 10-gauge steel landing pans and angle supports. Contrary to these specifications, the subcontractor prepared shop drawings for the landing pans calling for 14-gauge steel and no angle supports. Neither the contractor nor the subcontractor notified the architect of the change. The architect approved the shop drawing with a stamp that stated that the review was for conformance with design concept only and that any deviation from specifications not noted by the con-

tractor had not been reviewed. The stairs were fabricated in accordance with the shop drawing and subsequently the landing pan collapsed, seriously injuring the two workmen.

Subsequent to the finding by the jury that the architect was liable to the workmen, the architect sought indemnity from the general contractor and the subcontractor premised upon their failure to prepare shop drawings in accordance with the specifications and for failing to provide the architect with notice that the shop drawing deviated from the specifications. The construction contract provided that the contractor was to indemnify the owner and the architect against all claims arising out of the work caused in whole or in part by any negligent act or omission of the contractor or any subcontractor. The architect sought to base his claim for indemnification on this contractual mandate.

The construction contract also provided, however, that the obligation of the contractor to indemnify "shall not extend to the liability of the architect arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications." This limitation in the obligation to indemnify was required by the laws of South Dakota. In sustaining the dismissal of the architect's claim, the United States Court of Appeals concluded that under the foregoing language, the approval of shop drawings was excluded from the indemnity requirement of the construction contract, stating:

"In (the initial action) this court analyzed the issues and affirmed the judgment against (the architect). The opinion makes it plain that liability was based on (the architect's) contractual duty to review and approve shop drawings for conformity with the specifications and its approval of drawings in breach of that duty. It clearly follows that the liability arose out of 'approval of . . . drawings' as the terms are used in the indemnity provision and statute. We are not persuaded by (the architect's) attempt to establish that these terms are inapplicable. Accordingly (the architect's) claim for contractual indemnity is barred."

Although the court stated that the approval of shop drawings clearly constitutes the "approval of drawings," a function excluded from indemnity, such conclusion is debatable. It can be argued, as the architect contended, that the approval of drawings referred to in the contractual exemption from indemnification refers to drawings in preparation and in connection with the design of the project, whereas the approval of shop drawings is a function of supervision or administration during construction. It therefore does not fall within the intention of the parties or the scope of the relevant statute insofar as the approval of drawings is excluded from the indemnification responsibilities of the contractor. Although this court was not persuaded by that distinction, a review of the statutory history of those states that have adopted similar statutes would indicate that certainly the emphasis and concern, from a public policy point of view, was to relieve the contractor from an obligation to indemnify in connection with liability that arose from the plans prepared by the architect for the construction of the project as distinguished from any liability that was related to the function or activity of

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an architect during construction in his supervisory or administrative role.

It is also of interest and concern that the further claim of the architect that, independent of the construction contract, he was entitled to common law indemnification under the rule that a primary tortfeasor is subject to the obligation to indemnify a secondary tortfeasor was rejected. The United States Court of Appeals ruled that the purported failure of the architect to discover the deviation from specifications was not secondary to the affirmative failure of the subcontractor to prepare shop drawings in accordance with specifications and to notify the architect of any deviation. Implicit in this conclusion is a further extension of the architect's potential liability while at the same time limiting the contractor's liability in connection with his direct and affirmative negligence.

Norman Coplan

The author is a member of the law firm Bernstein, Weiss, Coplan, Weinstein & Lake, New York.

Research review:

Single-family transformation

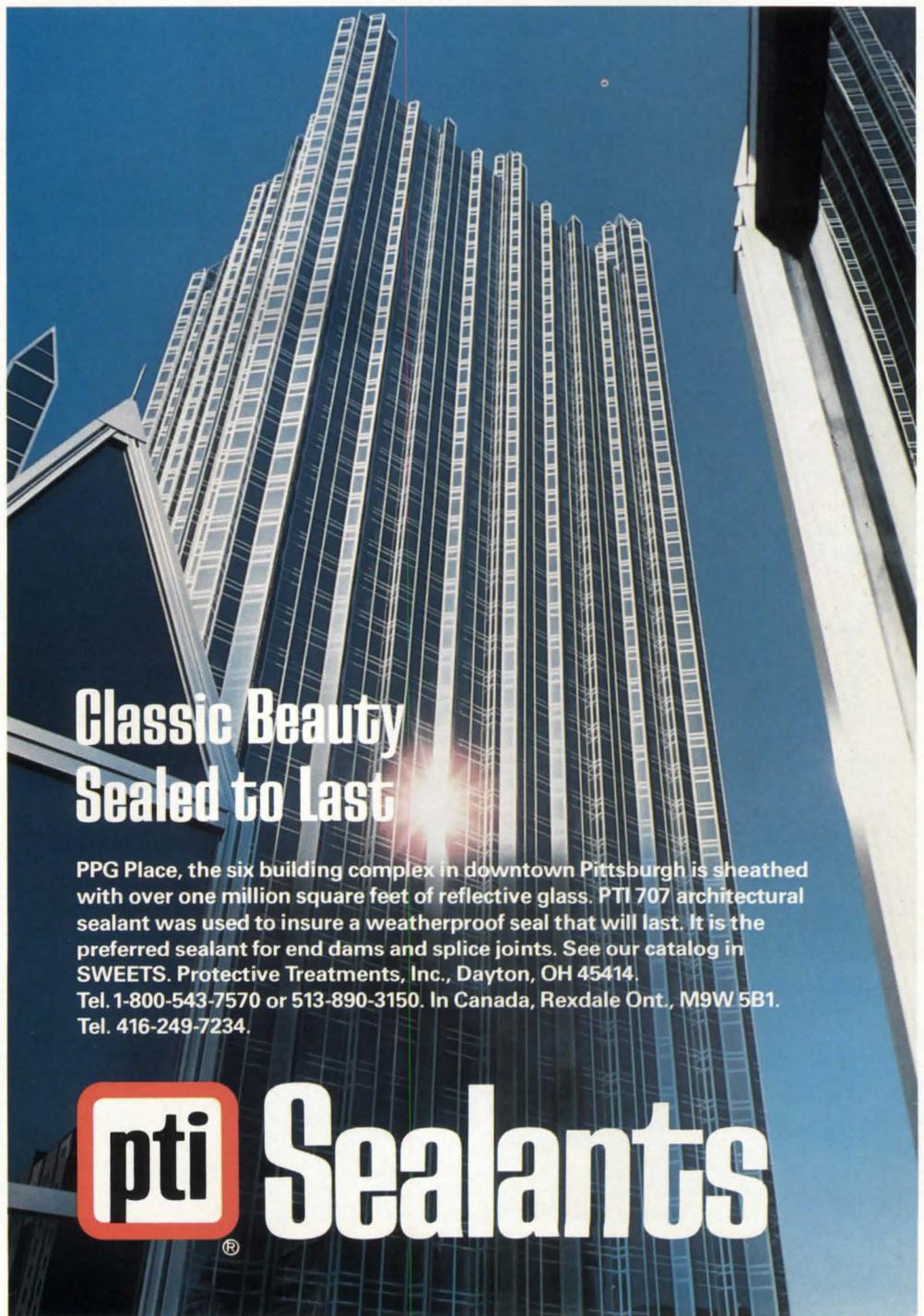
"To what extent can the existing (housing) stock be recycled to accommodate (our) . . . changing social structures?" That question forms the basis for this research, entitled "Transform! A Typology of Consolidation for Single-Family Properties and Neighborhoods." Directed by Anne Vernez-Moudon from the University of Washington with the collaboration of Chester Sprague from MIT, Marina Botta from the Technical University in Stockholm, and Hartie Hartman from Brasilia, the research looks at the various ways in which communities have consolidated their single-family housing: by subdividing houses, adding a separate structure on the same property, subdividing lots, or assembling small lots for more intense development.

The most commonly subdivided houses are large 19th-Century structures or more recent tract houses with attached garages or raised basements. Converting a detached garage or erecting one of the prefabricated "granny flats" now on the market offers the most common means of adding structures to a lot. The researchers also discuss examples of how large lots have been subdivided or small lots assembled. The report mentions several issues to keep in mind when increasing the density of an existing neighborhood: the need for more carefully planned private and public space, for a greater utilization of shared access and street parking, and for separating pedestrian access to each unit.

The major obstacle to consolidating single-family neighborhoods, though, stems not from physical limitations but from restrictive building and zoning codes. This research

doesn't offer specific recommendations on how existing codes might be changed so much as "a tool for analyzing existing neighborhoods (and) . . . planning and evaluating their future." What it shows is that consolidation is a "normal process of urbanization," a position supported by estimates that the conversion of single-family properties accounts for 12 to 20 percent of our housing supply. As the authors state, "It's naïve to think that transformations are special occurrences, and . . . dangerous and mostly wrong to think of them as preventable."

For more information on the research, contact Associate Professor Anne Vernez-Moudon, Urban Design Program, University of Washington, Seattle, Wash. 98195. **TF** ■



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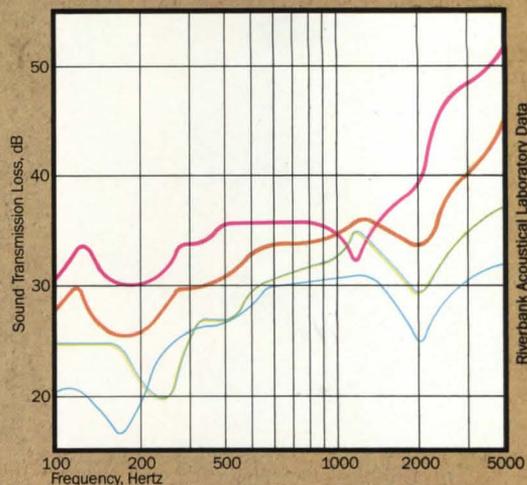
The building shown at left is Ten Five Sixty Wilshire Boulevard and shown below is Mirabella. The architect for both buildings is Maxwell Starkman.



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Form follows ferment

“I accept the American city the way it is,” maintains Frank Gehry, “but I have a fantasy . . . that I will slowly co-opt it.” A lot of architects share that fantasy, but too often they seem more intent on co-opting than accepting. In the first two phases of a planned five-phase expansion of Loyola Law School in Los Angeles, Gehry has done the right amount of each. By applying his preference for fragmentation to a frequently monolithic building type, he has designed a project that is both architecture and urban design, as inwardly complex and powerful as it is outwardly respectful and unassuming.

Initially, the school asked Gehry to design a new building adjacent to its existing home (designed by A.C. Martin & Associates), on a narrow site near downtown Los Angeles. The new building would house faculty offices, small classrooms, lecture halls, and a chapel. Loyola’s architect selection commit-



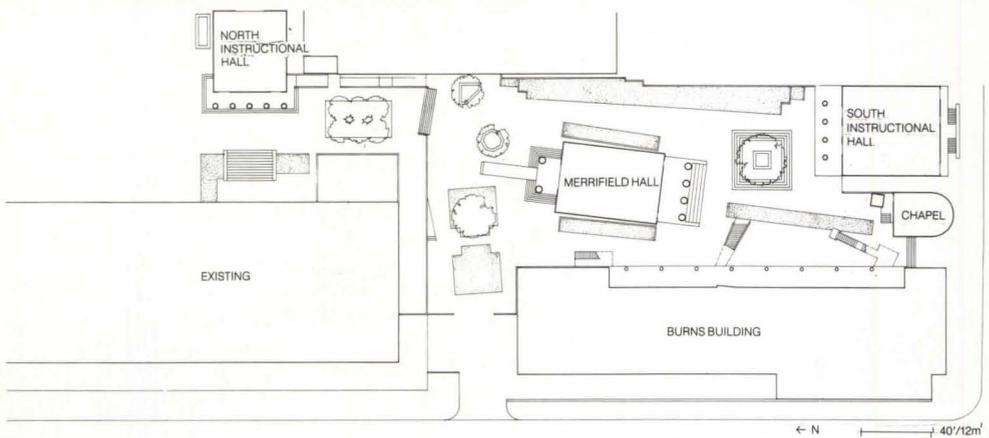
tee had chosen Gehry both for his quirky creativity and for his ability to bring projects in on budget—in this case, under \$5 million for Phases I and II. Both faculty and students expressed a desire for a sense of place and design that embodied the dignity and traditions of the legal profession, and the administration wanted a building that fit unobtrusively into its low-rise, low-income, ethnically mixed surroundings.

In Gehry’s discussion with the school about what constituted an appropriate law-school architecture, Loyola voiced a strong preference for the symbolic forms of Classicism. While Gehry, predictably, argued for a “minimal” symbolism, he and his client were not, in fact, so far apart. Gehry once described his vision of a law school as “a fleeting image of a pileup of buildings like an acropolis, with stairs leading up to it.” And it was about at this time that Gehry happened to visit Rome, where he was taken with the images of the

When asked to design a new building for Loyola Law School, Frank O. Gehry & Associates created a campus that raises questions of modernity common to both architecture and the law.



Michael Moran



OLYMPIC BOULEVARD

On Olympic Boulevard, the southern edge of Loyola Law School's "campus" (above) maintains the neighborhood's small scale; the south end of the Fritz B. Burns Building, the plywood-clad chapel, and the concrete-block rear porch of South Instructional Hall hold the street line.

SIH's stucco tower echoes the forms of the skyscrapers in the distance. From the street (facing page), the layering of the blocklike forms of chapel and campanile and the jagged motion of the steel stairs against the punched screen of the Burns façade hint at the juxtapositions of forms within the courtyard. The site plan (above) illustrates Gehry's "undesignated" placement of buildings as sculptural objects. Further expansion (Phases IV and V) will occur to the east of the campus.

ruins of the Forum and the perspectival manipulations of Baroque buildings such as the Quirinal Palace.

The net result was that Loyola got its symbolic forms and Gehry got his pileup of buildings. He proposed, rather than one large building, several smaller ones, specifically, a "background" building of offices and classrooms (the Fritz B. Burns Building), with the three lecture halls and chapel each housed in its own little building. The architect suggested that such a miniature campus would encourage interaction among faculty and students, humanize the scale of the project, and make it cheaper to build by eliminating the need for the clear-span structure of a large building. Moreover, the disposition of these buildings around the site—with the Burns Building serving as city wall and the smaller buildings as landmarks in a town square—takes the project into the realm of urban design in a way that no single building could ever do.

But Loyola Law School is a private institution, and Gehry purposely stages this architectural drama just beyond the reach—although not entirely out of view—of the passer-by. The street sides of Burns, clad in modest light-gray stucco, look downright anonymous. The main pedestrian access on Olympic Boulevard is slipped between the Burns Building and the chapel; the latter holds the street line, along with one of the lecture halls, from behind a steel fence. The zigzagging forms of Burns's steel exit stairs are hard to miss, but the view into the campus is only a partial one, a "loose screen" that is neither impenetrable nor overly inviting; it is simply there if you're interested.

It isn't until you climb the short set of steps to Loyola's "acropolis" that the design really unfolds. The reference point, of course, is Burns, with its yellow-stucco façade split by a massive, twisting stair that climbs off-center to a rotated greenhouse atop the building.



TOW-AWAY
NO STOPPING
7 - 9 AM
3 - 7 PM
2 HOUR
PARKING
9 AM - 3 PM

Yellow pedestrian crossing sign with a black silhouette of a person walking and the word "STOP" below it.

Against this “wall,” Gehry juxtaposes forms and materials: the gabled brick box of Merrifield Hall, with its screen of squat concrete columns; South Instructional Hall, whose concrete-block street façade barely hints at its arresting entrance façade of galvanized steel columns and lintels; and the tiny chapel and campanile, thin-shelled volumes of light clad in Gehry’s latest find, a Finnish plywood that was developed for concrete formwork. (North Instructional Hall, which is next to the existing Law School building now under renovation as part of Phase III, is not shown here.) As in so much of Gehry’s work, reductive forms and banal materials are manipulated to achieve maximum power.

Each of these buildings commands attention on its own, but it is the organization of the pieces, with their shifting perspectives and fragmented views, that constitutes the real strength of Gehry’s design. The perspectival compression and distortions of the pedestrian “promenade” propel and entice the visitor through this miniature town square. The idea of creating a microcosmic townscape in the middle of an existing urban fabric (however loose) skates on the thin ice of kitsch, but under Gehry’s direction, the whole achieves that sense of accretion over time that characterizes a city: “This is not a site plan. I carefully *un*organized it; I wanted it to look undesigned,” the architect insists.

Loyola is only one of a number of projects—beginning with the Ron Davis studio of 1971, and including the Indiana Street studios of 1981 (P/A, March 1981, p. 73), the Whitney residence project of the same year, and a recently completed Beverly Hills residence, among others—in which Gehry takes a single structure and explodes it into a series of smaller, essentially one-room buildings. But while many of the other projects are residential, thus requiring the various pieces to be linked physically, Loyola’s components

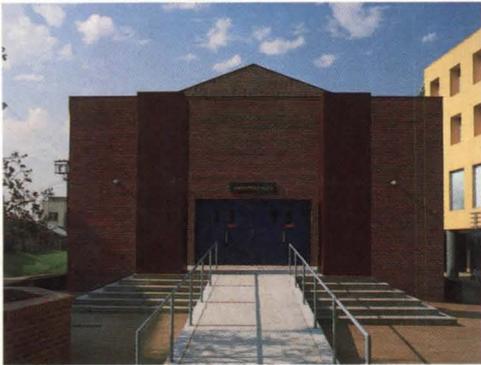


Up a few steps from Olympic Boulevard, a vista of overlapping forms in the courtyard (left) ends in the column screen of Merrifield Hall (top). The building was originally intended as a moot court, and Gehry rotated it in plan to emphasize its importance as the symbolic center of the school. This rotation was a major bone of contention between architect and client, but Gehry won, only to have Loyola decide to locate the moot court in the existing law school building (renovated in Phase III), with Merrifield becoming a conventional lecture hall. Its stocky, 18-foot-high

columns are small-scaled to play off the sweeping backdrop of the Burns Building (facing page), with its powerful central stair and greenhouse that “split” the façade off center. The gathering of students in the courtyard is a common scene, and typifies the increased interaction and heightened sense of community that has resulted from the creation of this miniature campus.







Even without windows, the skylighted interior of Merrifield Hall (top) is light and spacious. At the rear of the building (center), square columns are clad in the chapel's Finnish plywood. Gehry designed the blank panels on the building's east side (above) to hold murals (as yet uncommissioned) and also hopes that a sculpture by Claes Oldenburg and Coosje van Bruggen will be installed as a "tilted fifth column" for the building, near the oak-tree berm.





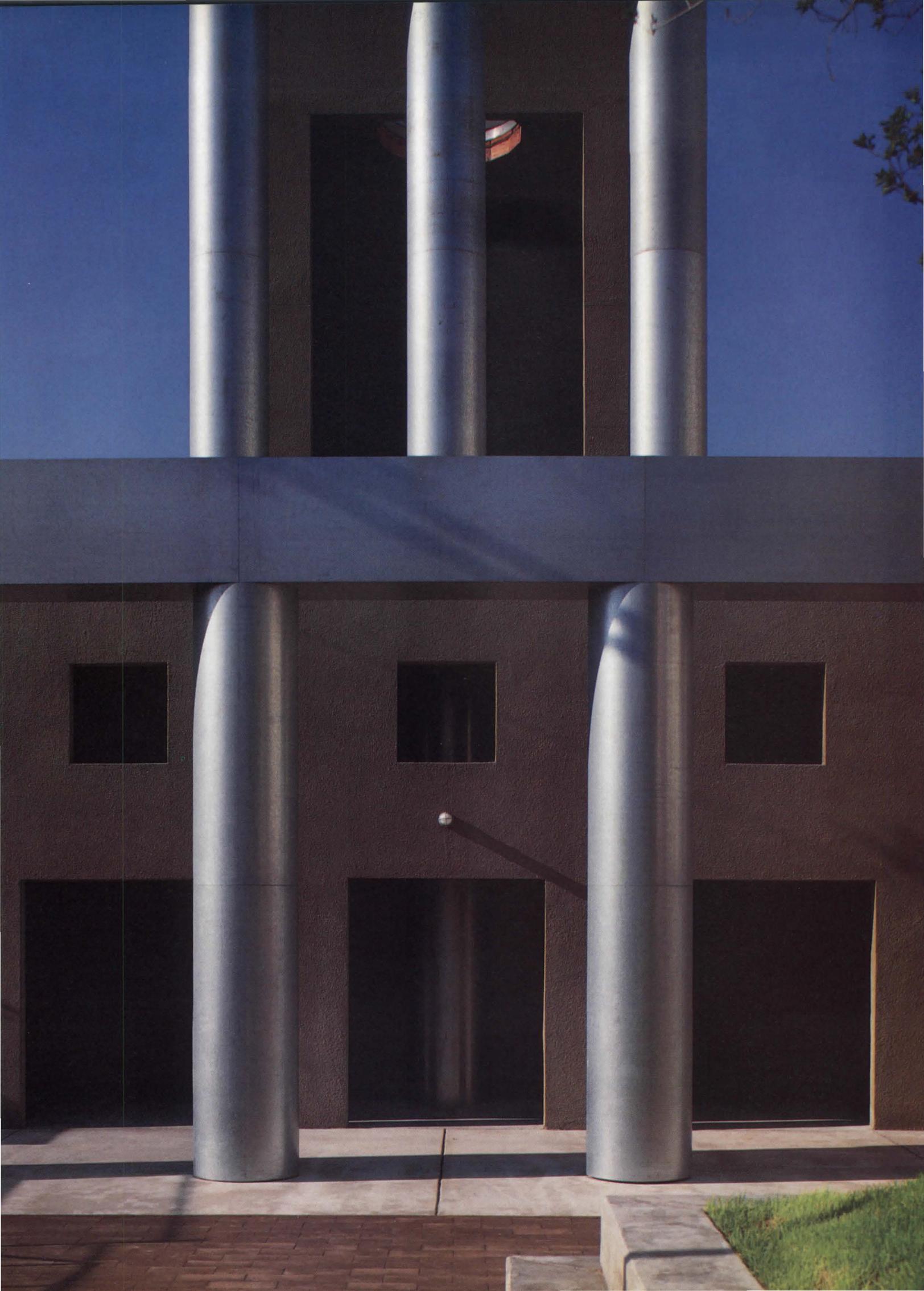
can stand as discrete buildings, thereby justifying the urban design metaphor. Another of Loyola's distinguishing features is its clear—and for Gehry, atypical—historicism. The austere Burns Building façade, with its deep, punched windows, appears almost Neo-Rationalist, while its stair-to-greenhouse sequence is clearly Baroque. And the smaller buildings are Classical and Romanesque models, albeit stripped to archetypal simplicity. While he is quick to point out that all his work is referential, the references are usually so thoroughly digested and abstracted that they are unrecognizable to most eyes—which is one of the most impressive aspects of Gehry's work. But the fact that Loyola's forms are recognizable as reductions of historic prototypes has much more to do with the client's particular concern for content than with the architect's Italian travels. These references are literal enough to be read by the legal profession, but not so literal that they appear nostalgic. For Gehry, outright historicism is simply not an acceptable choice. "We're part of a much bigger picture, politically and economically, so why go back to Europe or the past?" he asks. True, Gehry's conception of Loyola was colored by precedents going all the way back to ancient Greece, but his transformations are those of a modern sensibility. He can rattle off his own list of influences, including Constantin Brancusi's studio, with its careful placement of sculptures; or the still-life paintings of Giorgio Morandi, with their endless manipulations of a limited number of objects. In the process of digestion, Loyola's various pieces became sculptures in their own right, "referential but personal."

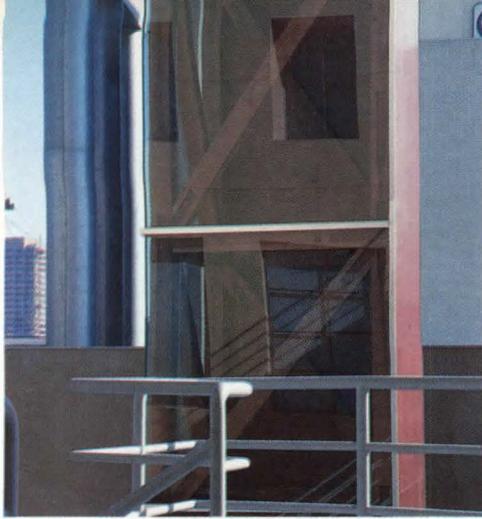
The Law School itself takes more than a passing interest in the issue of modernity. Robert Benson, professor of law at Loyola and a member of the architect selection committee, believes that the campus design sym-



Michael Moran

The façade of South Instructional Hall (above and facing page) is stripped-down Classicism in galvanized steel, its entrance porch pierced by punched windows and a wood-framed oculus. Gehry originally envisioned the courtyard as a field of decomposed granite punctuated by planters, but the school wanted more greenery, so Gehry designed a courtyard surface of pavers and concrete walkways, with berms flanking Merrifield Hall, and the central stepped pyramid topped by an oak tree.

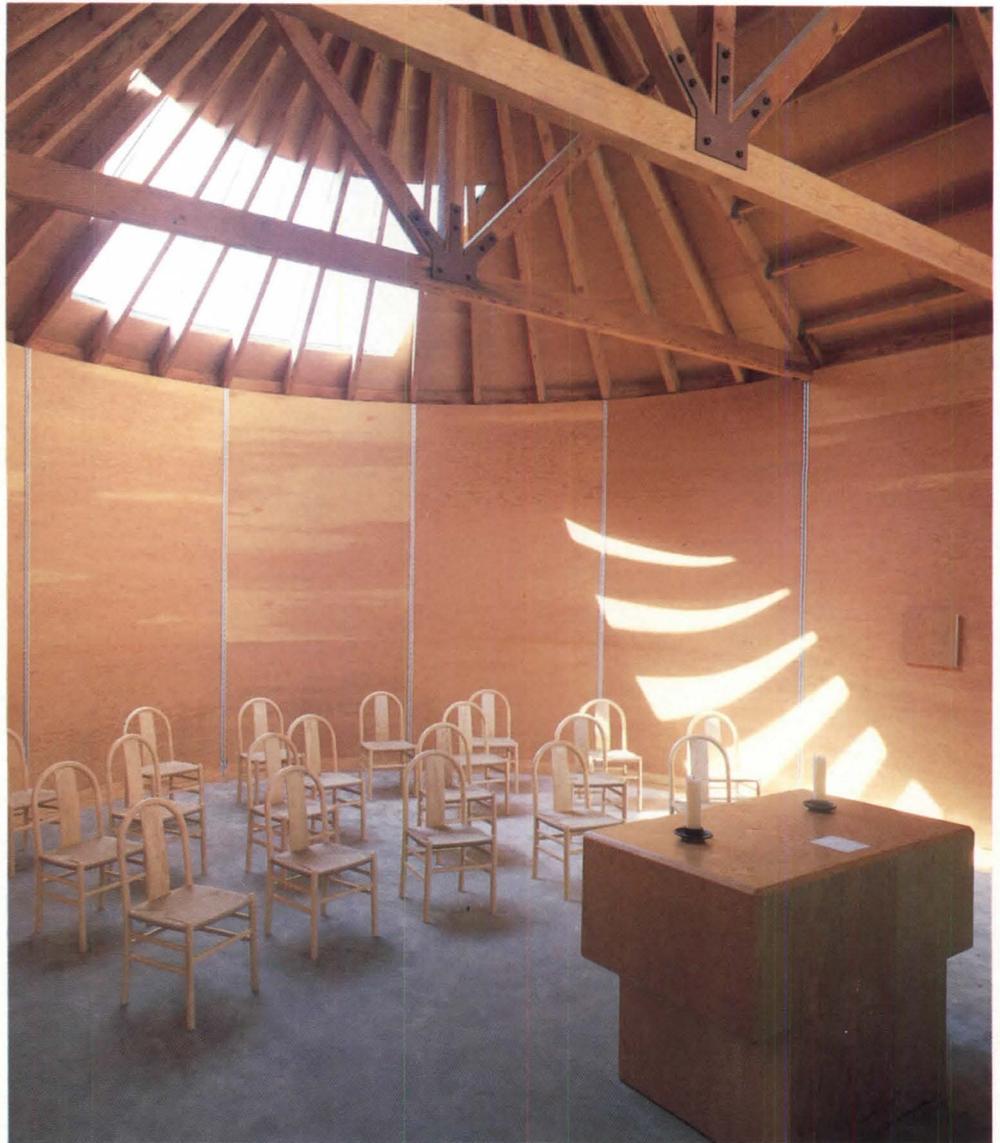




Michael Moran

bolizes the current ferment in the law as well as its traditions: "In the rejection of past rationalism, there is a search for new forms and coherence. The 'breaking up' of the Burns Building is the physical expression of what is happening in the law today." (Benson took Gehry's approach seriously enough to commission a house from the architect.) But while symbolizing evolution, the campus has also "done wonders to promote a sense of community," according to Robert A. Cooney, Assistant Dean for Business and Development. Students now spend more time on campus to talk with each other and with their professors. "We have an academic village," boasts Dean Cooney.

The campus design was fortuitous for both architect and client; it offered Gehry the chance to take a favorite idea in a new direction, and it offered Loyola more school for its buck, as well as the sense of place and content that it wanted. What it offers the rest of us is architecture that is both responsible and exciting. It is a good neighbor as well as a cloister unto itself. It is a formal tour de force that doesn't shout for attention. It makes us think twice about how forms and materials are put together, but you can still go to classes in it. Dean Cooney calls Burns "the best office building I've ever worked in." Intended for a limited audience, Loyola is as publicly reticent as it is privately eloquent, and it speaks in a language that is as intensely private as it is universal. **Pilar Viladas** ■



Project: Loyola Law School, Los Angeles, Calif.

Architect: Frank O. Gehry & Associates, Venice, Calif. (Frank O. Gehry, FAIA, principal in charge; Hak Sik Son, Greg Walsh, Sharon Williams, Rene Illustre, Robert Hale, David Kellen, project team). Brooks/Collier, Houston, Texas, associate architects.

Client: Loyola Marymount University, Los Angeles, Calif.

Site: 150,000 sq ft fronting a major thoroughfare, with existing library and classrooms, and garage structure.

Program: faculty offices, conference lounges, student lounge, cafeteria, classrooms, faculty library, chapel, bookstore, and student organization office.

Structural system: reinforced concrete footings, grade beams, and slabs; concrete-filled metal deck floors and roofs; steel columns, beams, and girders.

Major materials: stucco; copper; galvanized steel; glass; and plywood (see *Building materials*, p. 180).

Mechanical systems: roof package variable-volume cooling system with hot-water terminal heating and package rooftop gas-electric, single-zone heating and cooling units.

Consultants: Land Images, landscape; Erkel & Greenfield, structural; D.F. Dickerson & Associates, mechanical; Athans Enterprises, electrical.

General contractor: CMC (Phase I); Miano Constructors (Phase II).

Costs: \$3,700,000, Phase I; \$1,100,000, Phase II.

Photography: Tim Street-Porter, except as noted.

The two glass-enclosed sides of the chapel's campanile are seen through the steel railings of the south stair of the Burns Building (top). Inside the chapel (above), Gehry's fondness for exposed structure endows the room with a poetic simplicity. Seemingly solid blocks from the street, the chapel and tower are revealed from the courtyard as delicate volumes, their almost miniature scale contrasting with the much tougher Burns Building at right (facing page).



In response



Anyone who has ever experienced the working innards of an Air Force base would find parallels at the Hanford Nuclear Reservation in Eastern Washington. Spartan, no-nonsense buildings on aluminum-clad umbilical cords affirm that this is government territory, and suggest that no architects need apply. However, the Seattle office of HDR ignored the suggestion, and was commissioned to design a new emergency response/plant support facility for a Richland, Washington, power plant complex. Although the Washington Public Power Supply System (WPPSS) is a public utility, there can be no mistaking the amount of government involvement in nuclear power generating facilities. Hence the expect-

A teaching and readiness complex in Washington by HDR addresses an uncompromising climate and a demanding function.

tation of very limited building "personality" would be reasonable; it just is not fulfilled in this facility.

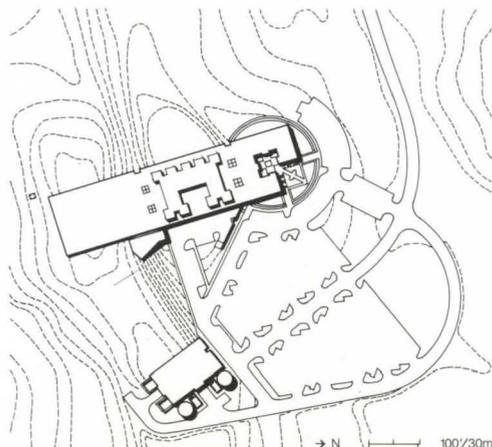
In the mind's eye, the mention of Washington State corresponds with lush greenery, perhaps a slight excess of rain, and mountain and seacoast grandeur. That vision is at odds with the eastern parts of the Pacific Northwest. Precipitation, when it occurs, is snow more frequently than rain. In summer, the area bakes in the sun; the result is an arid, desertlike environment that challenges Montana's exclusive on the "Big Sky."

Add to the sometimes harsh setting the mini-"climate" of the Hanford Reservation, and the resulting implication is one of austerity. An approach to the new facility leads a



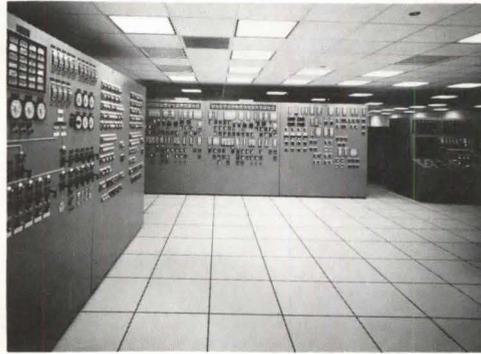
visitor through sparsely vegetated terrain, utilitarian buildings, above-ground and overhead steam lines, and curious bullpens for many kinds of spare parts and equipment. Proceeding beyond this mélange and its centerpiece, the main reactor facility (there are three on the reservation), about one-half mile intervenes before the response and support buildings come into focus.

Approximately fifteen gently rolling acres of the Supply System's leased land on the reservation was set aside for the new facilities, comprising the main building and the separate laundry building. Even without comparison with nearby buildings, the new ones are striking. A strongly horizontal stroke, the main building glides across a de-



Complementing its length (over 500 feet), the building façade's horizontal banding accents the seemingly endless expanse of the surrounding landscape. Windows on the lower level of the west side (above) are in offices only; upper level fenestration, also in offices and a classroom, is absent from the south end enclosing the simulator. Mechanical rooftop enclosures punctuate the central portion of the building, centered on the ravine below.

Response center



pression between two ridges and picks up the seemingly endless sweep of its surroundings. Banding of different shades of concrete block reinforces this horizontality, and square window openings punctuate it without interrupting its flow.

By taking advantage of the natural topography in this way, the areas required by the program to be radiation-shielded have been buried into the south ridge. Adjacent on the lower level, surface access is provided for supporting laboratories. Ground under the northern quarter of the second floor is unexcavated. Above the shielded area, second-floor simulator facilities permit the mock staging of every conceivable reactor malfunction, with postulated conditions and correc-

tive measures monitored by computer. Many rooms and areas in the building are designed to serve dual purposes—training and emergency response. Certain day-to-day functions are carried on here, but the main purpose of the new facility is preparedness.

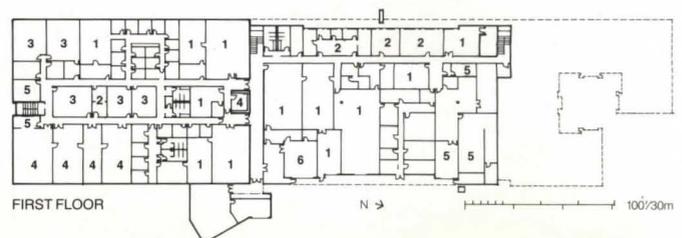
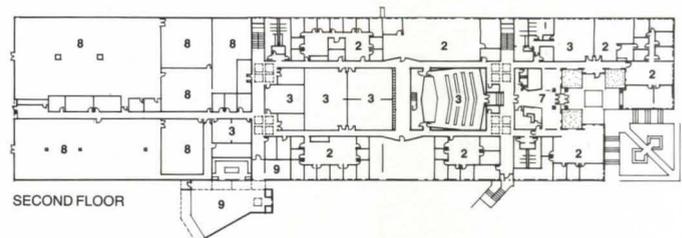
An impressive regimen takes place here at regular intervals. Drills, which take into account all external agencies involved in any form of alert, are run, changed, and run again. Communications, both internal and with neighboring areas, are tested under many scenarios. Classrooms become work areas or media briefing facilities, and everyday offices change to alert stations. For its normal nonalert functions, therefore, the building is necessarily oversized.

A forecourt incorporating both an entry ramp and stairs (below) provides a few benches for eating outside on those days that are moderate. At opposite ends of the second level, the entry court and the control room simulator (top, facing page) demonstrate the range, from informal to electronic, of the facility's functions. The courts and the circle within which the northern end of the building is inscribed feature just about the only grass for miles.

Other non-office functions are the lunchroom (facing page, center), set off by skylighted bay and angled outward, and the large classroom equipped for lecture format. The latter may be used for press briefings or orientation sessions, and indicates the dual functions many of the spaces may be called upon to serve.



- 1 Lab
- 2 Office
- 3 Classroom
- 4 Emergency data
- 5 Telecommunications
- 6 First aid
- 7 Entry
- 8 Simulator
- 9 Lunch room



Response center

Twin columns occur in the two larger square openings at stair locations on the west (below), and at a side exit leading to an adjacent antenna tower pad. Similar columns flank the entry to the lunchroom in a symmetrical plan relationship to the others, and a row of these columns articulates the structure of the attached lunchroom (facing page).



This is a serious building—which is not to say that it is forbidding; but like its neighbors, it has little room for frills. Where it shifts from the rigorous north-south axis of its double-loaded corridors, the functions are only minimally more lighthearted. The lunchroom, located over the emergency generator equipment, is at 45 degrees from the orthogonal grid, directing its view east and south away to the distance. The entry, while itself on axis, is approached through a courtyard and a 45-degree slot. One other break in an otherwise totally straightforward interior is the skylighted circulation junctions between east-west and north-south corridors on the upper level. Furnishings were not in the architectural contract. Because of cir-

cumstances and program, the architecture here is mostly external.

Put in city terms, however, this is a new kid on a tough block. But what city cousin can support the rumor (legend?) that a rattlesnake is a co-occupant? Even more to the point, how often is anything vaguely approaching architecture done under such circumstances?

External or not, the architecture WPPSS has commissioned in this facility is impressive. It is bold, in keeping with both its surroundings and its purpose, well detailed, and skillfully composed. Its materials are inexpensive and, individually considered, unimpressive. Their combination and overall effect are the opposite. *Jim Murphy* ■



Project: Emergency Response/Plant Support Facility, Richland, Wash.
Architects: HDR (Henningson, Durham & Richardson), Seattle office (Gerald Stark, project manager; Peter Anderson and Christopher Groesbeck, designers; William Witt, Phillip Lane, and Jeanette Yip, architects; William Saunderson, structural engineer; James Lynch, mechanical engineer; Richard Lang, electrical engineer).

Client: Washington Public Power Supply System.
Site: Of a 39.08-acre sparsely vegetated site, 15 acres is developed for the new facility. Broad views include river bluffs to the southeast and mountains to the southwest, with the nuclear power plants one-half mile away to the northeast.
Program: building to accommodate both emergency and day-to-day activities in support of the nearby power plants.

Structural system: "K" braced steel frame, pumice block exterior bearing walls; cast-in-place 24-inch two-way flat plate slab in shielded areas, cast waffle slab in other areas, concrete walls and columns on lower floor, concrete spread footings.
Major materials: colored block backed by metal studs and insulation, with gypsum board painted finish. Metal stud, insulation, and gypsum board inside concrete walls, first floor (see Building materials, p. 180).

Mechanical system: medium velocity, medium pressure ductwork serving both double duct and variable volume boxes. Air-handling units separate for first floor and second, with special glycol-water condensing units in critical areas. In an emergency, air-handling units will shut down, and recirculated and filtered air will be in use.
Consultants: Bruce Johnson & Associates, landscape.
General contractor: Max J. Kuney Co.
Cost: \$17.5 million (\$131.00 per sq ft).
Photography: Curt Conway, HDR.

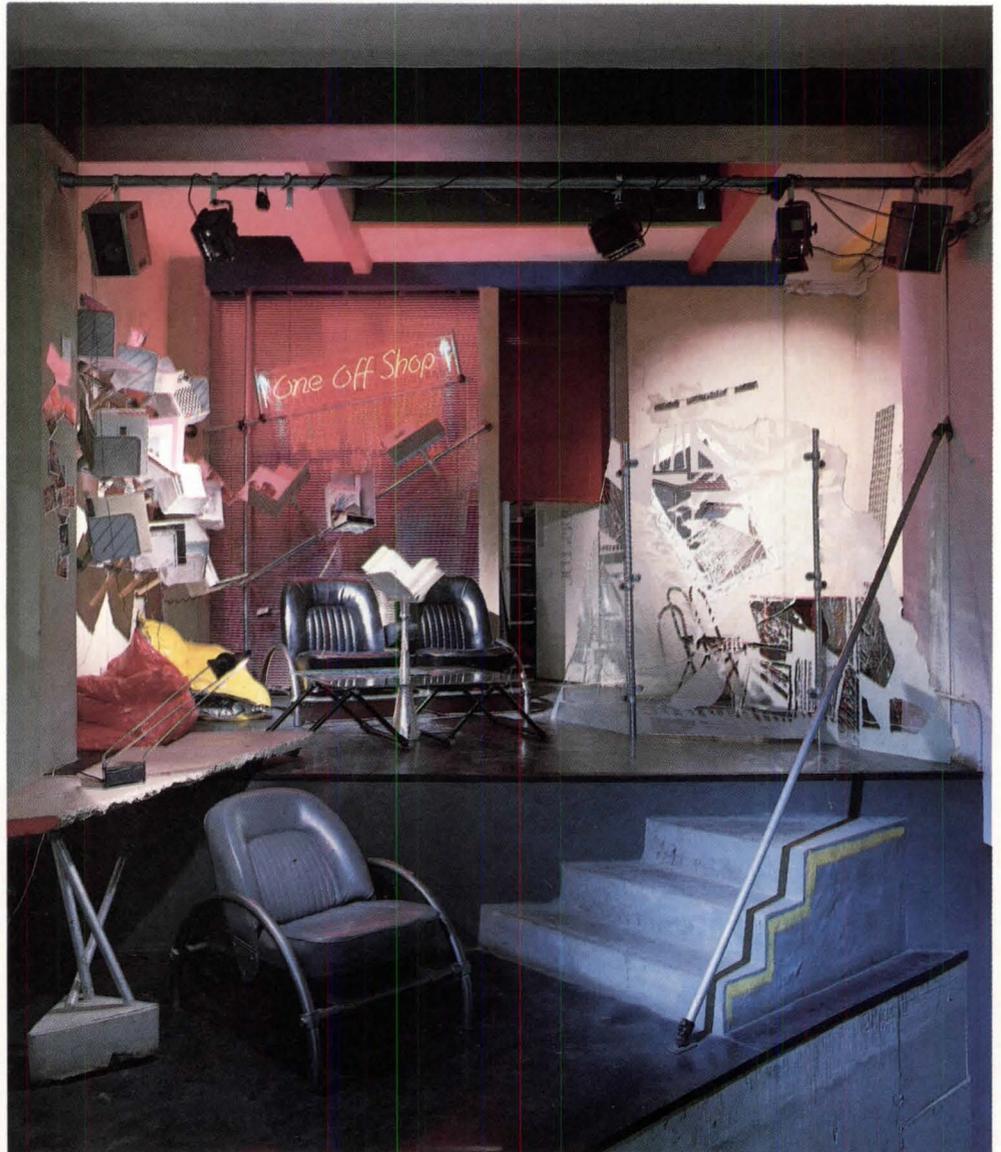
Mad hoc

Visitors to London's Covent Garden district have come to expect that festive, confident air of gentrification that now characterizes so many reborn historic commercial neighborhoods in both Europe and the United States. While Covent Garden has, for the most part, successfully avoided theme-park cuteness, it hasn't managed to escape that look of upwardly-mobile conformity that, after all, is a key selling point in such developments. But among all the purveyors of acceptably trendy food, clothing, and design objects lurks a sight that stops many shoppers dead in their tracks. One Off Ltd., a tiny showroom loaded with

Tucked away in London's sedate Covent Garden, Ron Arad's furniture showroom displays his talent for combining hip formalism and technical savvy in equal parts.

an array of astonishing objects, looks like a cross between an art gallery and a mad scientist's laboratory. Indeed, it was meant to look like a laboratory, according to One Off's owner, architect Ron Arad, who emphasizes that the shop was "not meant to look neat."

Certainly the items on display bear out the metaphor of experimentation. The Rover chair is so called because it is made from the seat of the (now out of production) Rover 2000 automobile. The "bookshop" is an assemblage of brick hods mounted on twisting steel tubes. The Mark III remote-control, ad-





A few steps inside the entrance to One Off (facing page, top), the floor drops away abruptly to accommodate a stair to the basement-level display area. The showroom houses owner Ron Arad's designs, such as the Rover Chair (facing page, top) and folding glass screens (sandblasted by Danny Lane), one of which conceals an office at the rear of the main floor (facing page, top, and above). The "bookshop" (facing page, below, and left, through screen) is fashioned from brick hods attached to steel tube supports.

A cantilevered timber stair (bottom) is connected to an electronic synthesizer programmed by resident expert Pete Keene; the treads emit various sounds when stepped on. The stair leads to the basement-level display area that houses Ron Arad's larger designs, such as the combination loft bed and closet (below) and the vacuum-formed Transformer chair (facing page).

justable lamp is made from an automatic car aerial. The Transformer chair, filled with polystyrene that is "like a lightweight synthetic sand," operates on the principle of vacuum packing: mold it to the desired shape, then attach it to a vacuum cleaner, which "freezes" the chair in that shape until air is blown back into it. Irregular sandblasted glass panels become folding screens and table tops. Each piece is stranger—and more fascinating—than the last.

Almost as soon as you enter the shop, its black linoleum floor drops sharply away to reveal a twisted, cantilevered stair that leads to the basement-level display area (the stair's timber treads are hooked up to a synthesizer, and emit strange electronic sounds when you step on them). This was Arad's solution to the problem of having only 600 square feet of space on the ground floor of the 1930s vintage, former greengrocer's shop. He removed a 12-foot-square portion of the concrete floor to make room for the new stair. The ground floor houses the sales desk, office, bookshop, and smaller objects, while the downstairs accommodates larger pieces of furniture and the electronic equipment for the stairs. The interior looks appropriately ad hoc, with rough plaster "cracked" away to reveal painted brick wall fragments, and plain black and gray floors. The shop's visual richness comes instead from the colors and textures of the objects themselves.

Arad, who received his degree from the Architectural Association in London, seems adept at mixing pragmatism and whimsy in equal amounts. The pieces are neither too sensationalistic nor too solemn; formal and mechanical invention balance each other nicely. While many of the objects do indeed wear a gloss of New Wave smartness, the basic intelligence underneath that gloss is obvious. But then who ever said that a mad scientist couldn't be chic? *Pilar Viladas* ■





Project: One Off Ltd., London.

Architect: Ron Arad, AA. Dip., London.

Program: 1800-sq-ft furniture showroom, including office and storage space.

Structural system: new triangular concrete slab and reinforced concrete wall with cantilevered timber stair and concrete landing.

Consultants: Price & Myers, structural.

General contractor: Walker-Norton Builders.

Cost: £15,000 (approximately \$22,500).

Photography: Howard Kingsworth.

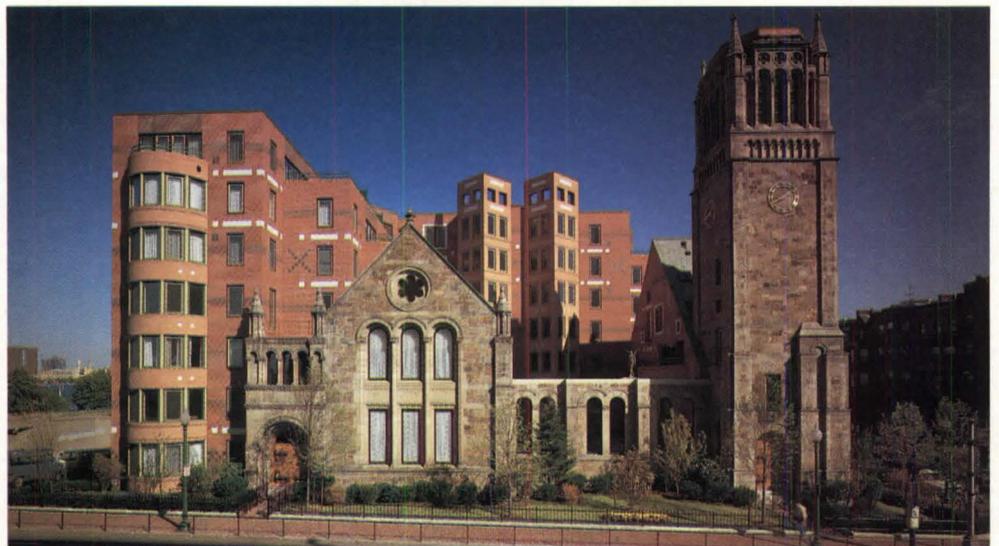
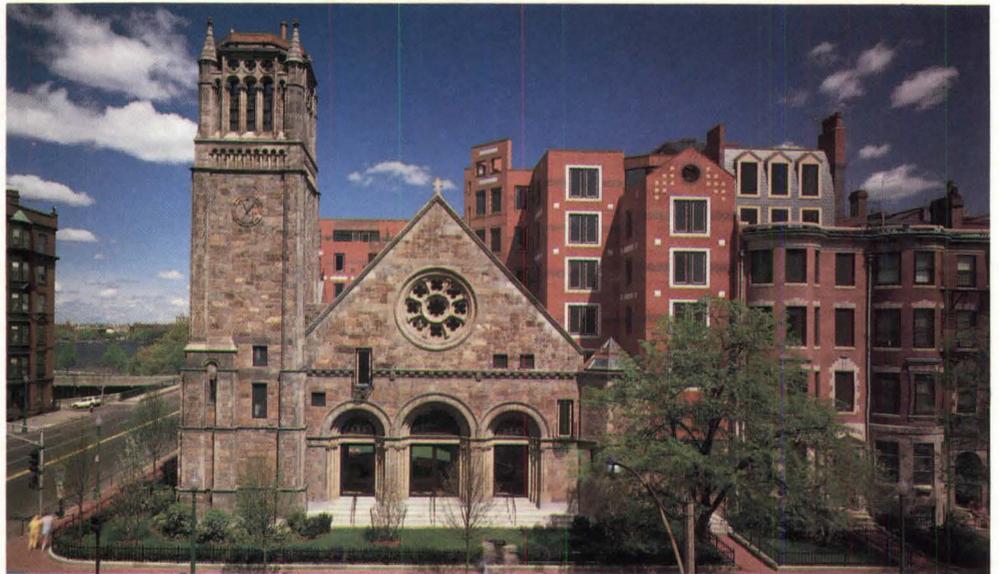
Assessing a winner

When Graham Gund's design for Church Court condominiums in Boston, Mass., was awarded a P/A Citation for architectural design in 1981, the jury termed the scheme a "very good example of urban infill," commenting that the "city benefits from the preservation, and the new work benefits from the richness afforded by the context" (P/A, Jan. 1981, pp. 154-155). Praised for design, the project is also unusual in terms of its development: Gund was his own client at Church Court, as he is for close to 30 percent of the work on his boards.

Graham Gund's Church Court was awarded a P/A Citation in 1981. A summary of design intentions is followed by a review of the completed building.

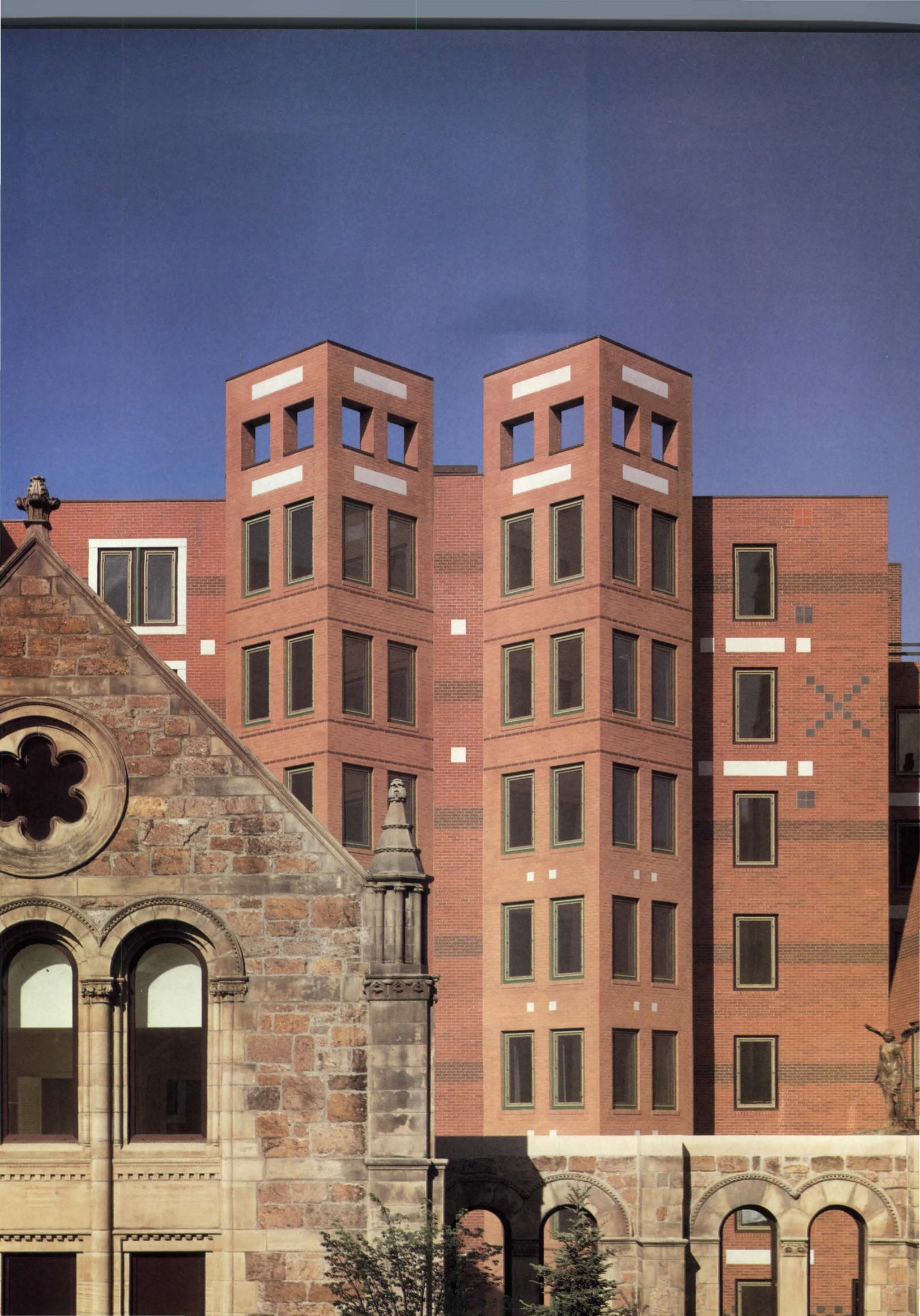
Gund purchased the burnt-out shell of the Mount Vernon Church (Walker & Kimball, 1892) in 1979. A corner site on Storrow Drive, where Massachusetts Avenue crosses the Charles River to Cambridge, gave the church unusual prominence in the Back Bay cityscape. Its congregation was long gone—having merged with another church several years prior to the fire, which spared only two walls and a corner tower.

Gund's scheme packed 43 two- and three-bedroom units into a seven-story L-shaped block set back a respectful distance from the church remains, and separated from them by a courtyard "sanctuary." Three units were



Seen along Beacon Street (top) or Massachusetts Avenue (above), sacred and secular vie for dominance. The L-shaped condominium building is set back from the church tower and street walls, all that remained after a devastating fire. Yet its overscaled, high-contrast façades pop up into the foreground (right). Most of the contextual gestures made to bridge the gap between this new building and its Back Bay neighbors have been so abstracted as to become essentially new forms and patterns. Thus, for example, a vertically stacked bay

window, executed in six stories of strip window (above, at left) is far removed from the Beacon Street townhouse model (top, at right) that inspired it. The sculpture of an angel commissioned specifically for Church Court and set atop the Massachusetts Avenue wall (right) is, in fact, the most literally historicist detail in the design.



Church Court Condominiums

built into the old church body, including an unorthodox seven-story unit stacked into the former bell tower.

The built result

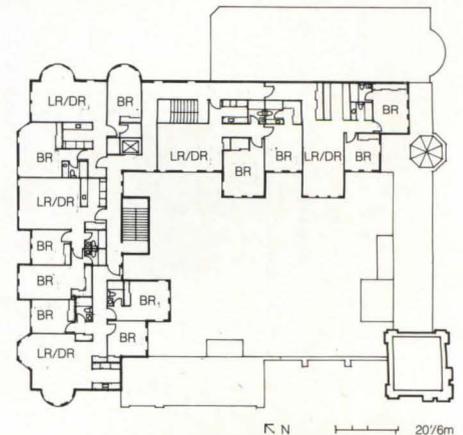
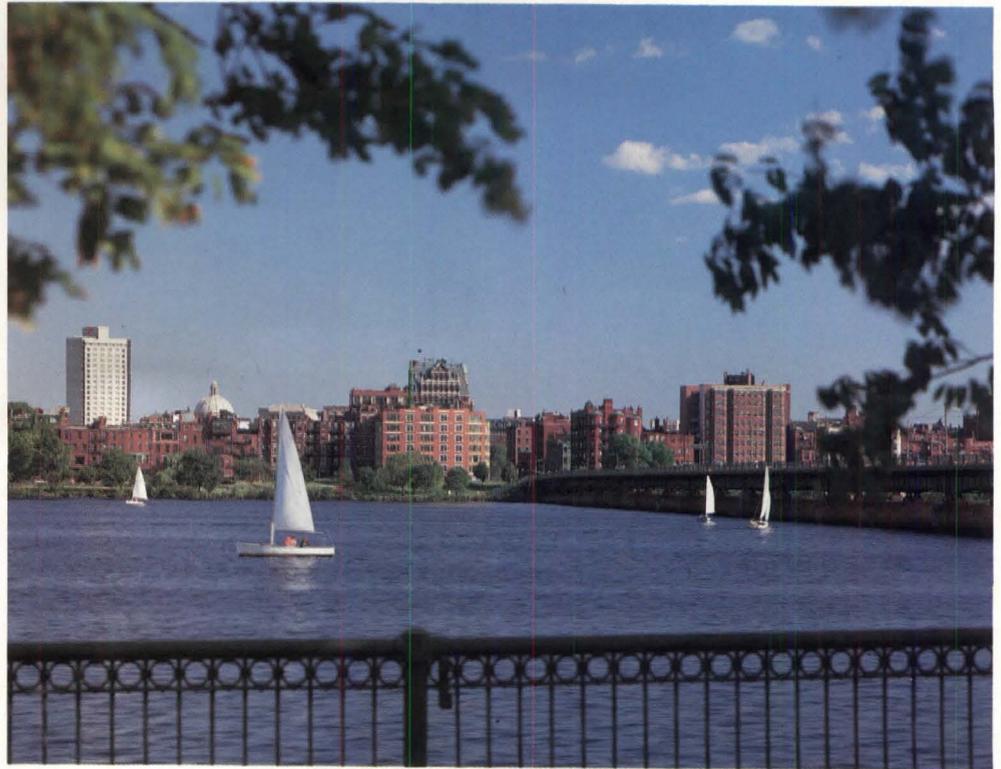
The most notable characteristics of the original scheme, and those which the P/A jurors found most commendable, were the deference accorded the church ruin and the balance achieved between new and old. Such hybrid solutions have become generic; several blocks away from Church Court stands a well-known but quite different example, Paul Rudolph's 1971 First and Second Church (P/A, Dec. 1973, pp. 44–49).

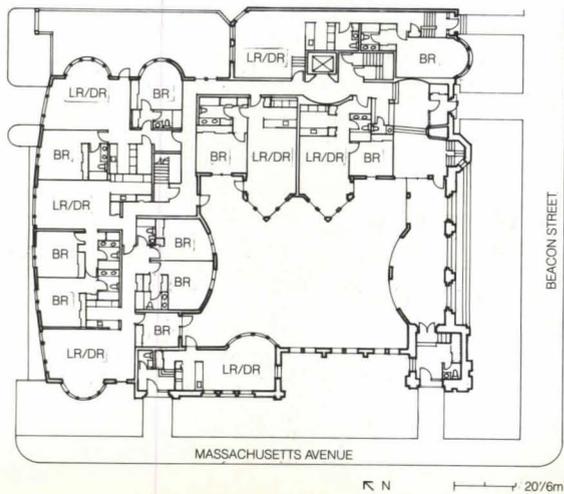
Although the basic strategy for Church Court remained unchanged throughout design development, several substantial modifications—most notably the increased bulk of the building and the exaggerated ornamentation of its façades—shifted the delicate balance originally admired by the P/A jury. As the interior unit plans proceeded, the building thickened, and its shell evolved from timid jogs to bold, big gestures. The wing on Storrow Drive in particular changed from a busy, bumpy surface to one smooth, powerful curve conceived at the scale of the Charles River. The courtyard shrank; but to compensate, its edges were redefined and corners hidden to make the space feel larger.

As the massing of the building changed, the exterior wall surface took on a life of its own. Although the horizontal banding of the façades roughly follows the traditional ordering of base, middle, and top, the pattern itself has more in common with abstract art. Gund cites artists Frank Stella and Hans Hofmann as sources, and the references are revealing: this pattern-making has little architectural content. Contrasting colors of light and dark brick and tile were used, says Gund, to create an impression of depth in the flat façade, but their ultimate effect is to underline the flatness of the wall, just as Stella's color field experiments call attention to the two-dimensional canvas. Similarly, the bands of limestone or granite that occur at lintel and sill on Back Bay brownstone façades are reinterpreted on the Church Court façades: but the bands have been shifted to butt into the window, not at head or sill, but midway between. The windows themselves, many outlined in white, draw attention to their size and single panes, giving evidence of contemporary construction while alluding in cartoonish fashion to architectural ornament of an earlier era.

These decorative effects address current preoccupations—base, middle, top; horizontal and vertical readings; figure versus ground—that architects love to talk about, but which do not in and of themselves result in a complete or compelling façade. The patterns read well—and powerfully—on the waterfront; but viewed from the Back Bay neighborhood, the stripes, crosses, and squares have the odd (and surely unintended) effect of seizing the foreground. Thus while the building has been carefully massed to *not* compete with the church (and was praised for such modesty by the P/A jury), its active façades prevent it from being an effective background building.

The Gund office apparently argued long and hard about a related concern: the principal façade, and where the front door





The most significant changes from preliminary (far left) to final design (left) concern the increased bulk of the building and the articulation of its façades. The switch to a big, boldly curved façade on the Charles River (facing page, top, and detail above) proved particularly effective for the prominent site. The courtyard size was also reduced, its edges made more active by projected curving and triangulated bays (compare plans; see also P/A, Jan. 1981, pp. 154–155). Most units enjoy two exposures, or, where that proved impossible, a bay window or terrace overlooking the courtyard.

Church Court Condominiums

should be. The project is in a section of Back Bay that literally turns its back to the river, which is now its greatest asset, but was a stinking marsh when the townhouses facing Beacon Street were built. The architects chose not to break that tradition. To make matters more difficult, the site itself suggested any number of possible entrances including the church's main entrance and that of the adjacent townhouse on Beacon Street, formerly part of the church property and now integrated into the condominium complex. Furthermore, as any architect who has wrestled with an L-shaped plan knows, there is no inherently obvious entrance in the diagram, so the solution as built became something of a compromise: the entrance situated off to one side of the church's main doors on Beacon, its gable-topped bay a weak twin to the stronger bell tower.

The church ruin, cleaned and restored, is made a visible part of the public domain, its doors and windows glazed to insulate the courtyard acoustically while permitting passers-by a generous and surprising view of this tiny oasis. Gund's second gift to the public was a widened, well-landscaped sidewalk on Massachusetts Avenue; his third, a bronze angel that stands atop the Avenue's church wall, commissioned from artist Gene Cauthen of Royalston, Mass.

This angel is a confident piece executed in the Beaux-Arts manner of Boston favorites Augustus St. Gaudens or William Morris Hunt. If the artist opted for historicism, the architect did not, but chose the more difficult task of "blending in" with an established 19th-Century neighborhood while also setting his work apart as a product of its own time. The façades, indisputably Church Court's first and most lasting impression, are self-consciously "contextual"; that is, they draw their rationale and original references from architectural details typical of Back Bay. Yet these details have been subjected to such rigorous Modernist abstraction that the results bear primarily an intellectual, not a visual or formal, relationship to their context. The distance between source and solution, while not unique to Church Court, is exaggerated there by a situation that requires an aggressive urban presence on Storrow Drive, but a quieter, recessive response to the church's remains. Viewed from the river, Church Court is a big, exuberant, and rather daring billboard; seen from Back Bay, the battle between deference and dominance is evident in a fascinating if flawed ensemble.

Daralice D. Boles ■

Project: Church Court Condominiums, Boston Mass.

Architects: Graham Gund Associates, Inc., Boston, Mass. (Graham Gund, David Perry, Peter Madsen, principals in charge; Richard Bechtel, project manager; Frank Chang, Eva Siu, Donna Schumacher, Ted Smith, Lowell Warren, and Leonard Bertaux, design team).

Client: Schoolhouse Condominiums, Inc.

Site: corner of Beacon St. where Mass. Ave. bridges the Charles River to Cambridge.

Program: to save as much of the burnt-out shell of an 1892 church as possible and create a new condominium residence of 43 units.

Structural system: cast-in-place, reinforced concrete slabs and columns for new construction; structural steel framing with wood joists supporting church stone façades and townhouses.

Major materials: five different colors of brick, tile, and Vermont granite (see *Building materials*, p. 180).

Mechanical system: central gas-fired heating and cooling, with individual water-fed heat pumps.

If the integrity of the church "ruin" was observed, it was not considered sacrosanct. The Beacon Street lobby (below) is made a mock sanctuary, complete with a pulpit stair landing. Three units (one at left) are built into the church walls, the most unorthodox a seven-story unit stacked in the bell tower (right). Windows lighting these units are punched through in a pattern made deliberately random to emphasize the distinction between old and new uses.



Consultants: Carol Johnson Associates, landscape; LeMessurier/SCI, structural; Bay State York Company, mechanical; J & J Electrical.

General contractor: George B.H. Macomber.

Cost: withheld.

Photography: Steven Rosenthal.

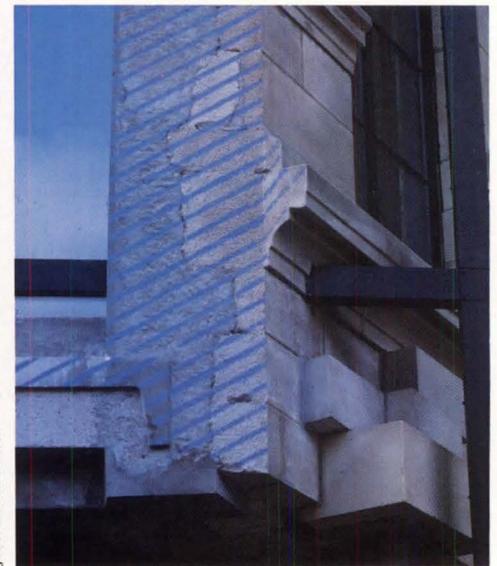
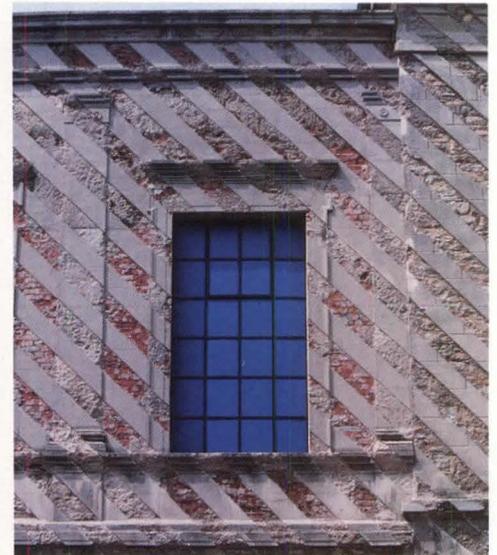


Theatrical revival

Paris architect Jean Nouvel believes that every architectural project should be approached without preconceptions: A commission is not an occasion to apply one's favorite formal devices, but to derive concepts out of the specific circumstances. His remodeled theater at Belfort is not visibly like his other recent work, which tends to be self-contained in form and technologically sleek in detail. (See his Institute for the Arab World project, P/A, Sept. 1983, p. 36.)

At Belfort, in fact, Nouvel has demonstrated his convictions by taking two sharply differing design approaches to a program with two distinct parts: a theater to be renovated with no substantial changes in form; auxiliary space to be created out of an attached former fire station. The treatment of the original theater is respectful, but hardly timid: The conventional forms of its interior have largely been retained, but articulated with startling colors and finishes. The remodeling of the addition is a visual exposé of its evolution, with layers of earlier construction displayed in juxtaposition to conspicuously modern components.

While the exterior of the original building is little altered, the highly visible new façade of the addition proclaims the willful intervention that has taken place. In order to open up a vista along the river, the old fire station structure has been sliced through cleanly at an angle, its structure displayed as in an architectural section made real. Sawed-off sections of the old construction have been striped with paint in full-scale recollection of architectural drafting conventions. Defining this new plane is a rigorously modular grid of steel framing that passes through the old wall and roof fragments. This grid has a practical role in supporting a new clear glass enclosure, but it has been extended beyond the actual envelope to assert its abstract geometrical conception.



John Morris Dixon

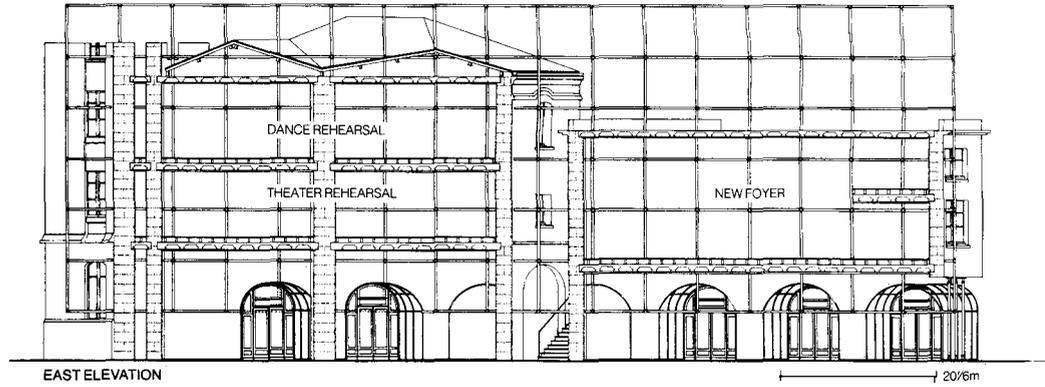
Jean Nouvel's unorthodox redesign has turned a staid old municipal theater into a dramatic presentation in itself.



Evening view of theater (above) shows transparency of remodeled addition in contrast to 19th-Century block. Lights of new glazed vestibule and parapet sign enliven original façade. New face of addition is angled to allow for riverfront promenade (once cars shown here are relocated to new lots). Extent of this new gridded plane is marked at its corners by red neon strips. Details of this façade (facing page, top left and bottom photos) show mullions on two-meter grid passing through sliced-off ends of walls and roof. Exposed edges of masonry have been striped with paint in the manner of

draftsman's section indications. Arched entries to expanded lobby and café repeat shapes of main entrances. Tower at far corner, relic of fire station once housed in this addition, has been lopped off, apparently midway through its French windows (which have actually been replaced with durable replicas). On a portion of rear wall (facing page, top right), where Classical details had been rendered in stucco, scraping in diagonal bands reveals brick masonry underneath.

Municipal Theater renovation

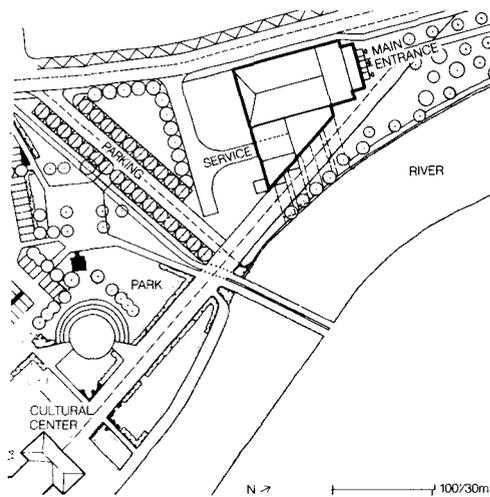
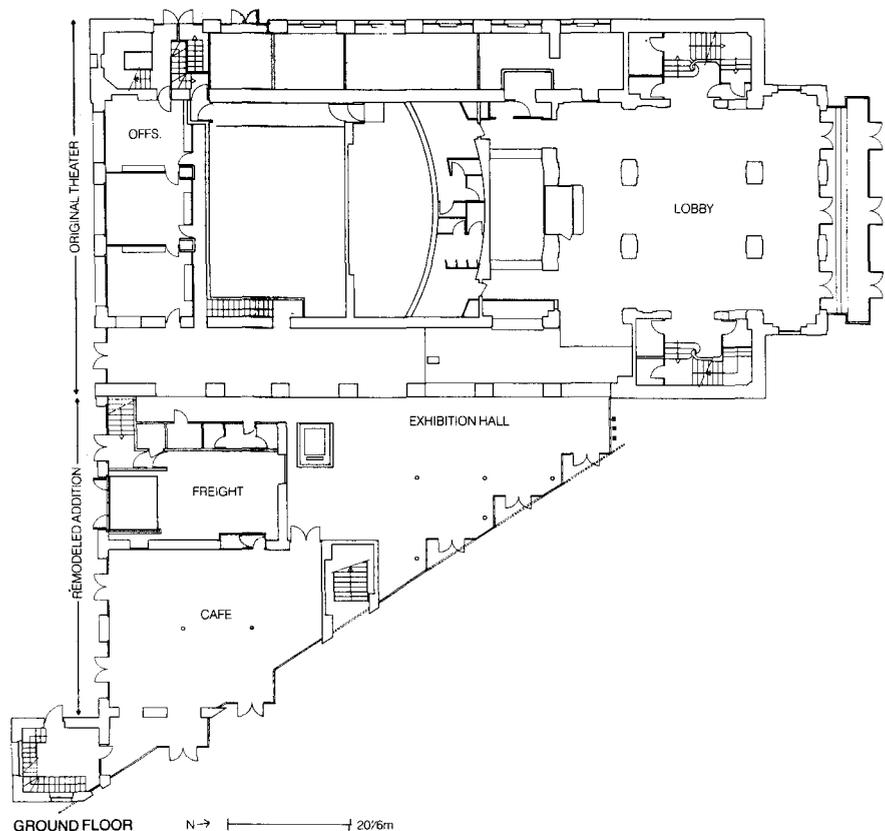
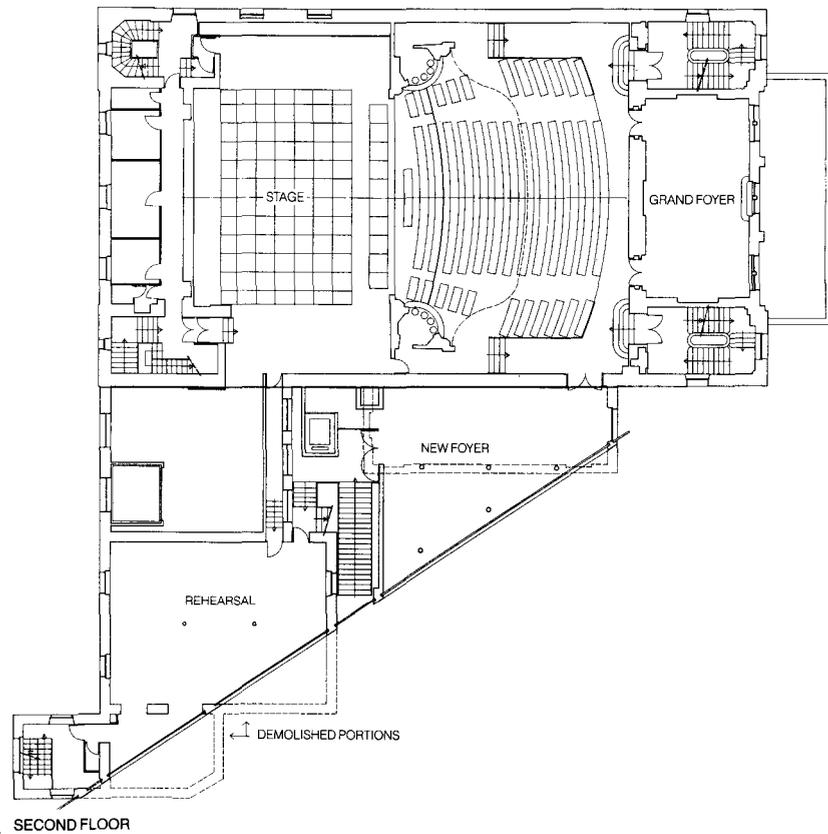


All of the visual devices used in both the renovated original theater and the remodeled annex seem to serve the same objective: to comment on the processes of change that the complex—and its world—have undergone since it opened in 1878.

The theater and the town

Belfort itself seems to have been subject to mercifully little change in the past century. A city of about 50,000 near the Swiss border, it has acquired a complement of express highways and industrial and residential sprawl, but local geography has kept them well away from the core. (The area's star attraction, architecturally, is Le Corbusier's chapel at Ronchamp, 15 miles away in relatively unspoiled hill country.) While admirably dense and consistent, Belfort's cityscape is lacking in gracious gestures; the remodeling of this theater is part of a modest arts district redevelopment that will link it and a nearby mansion-turned-visual-art-center, by a series of riverfront promenades and parks, to the town's commercial center.

The desire to develop a riverfront promenade, with a sightline along it to the art center (see site plan), gave Nouvel the contextual rationale for his slice-and-fill reshaping of the theater extension. Another strong motive was to bring visible life to the revived theater, which had been so opaque that it appeared closed even when functioning. Besides clearing the windows of heavy drapery (and of paint, which had coated the stairwell windows), Nouvel added a glazed vestibule over the steps outside the stone vestibule, creating an attractive volume of light at the main entrance. The new east façade of the addition works as a larger scaled showcase/billboard, visible for blocks along the curving river and showing off activity in the rehearsal halls above as well as the exhibition space and café at lower levels. The café is meant





Third-floor dance studio (above) shows characteristic interior of re-modeled addition, with transparent coating on old surfaces after removal of unwanted partitions. Reflected in mirror wall is view of riverfront through new clear glazing; window exit in photo leads to roof terrace. New foyer at second level (far left) has mezzanine reached from theater balcony. Inner wall (detail, near left) is much-scarred original exterior, embellished with inscribed plaster plaques and fragments of color by artists François Seigneur and Pierre Martin.

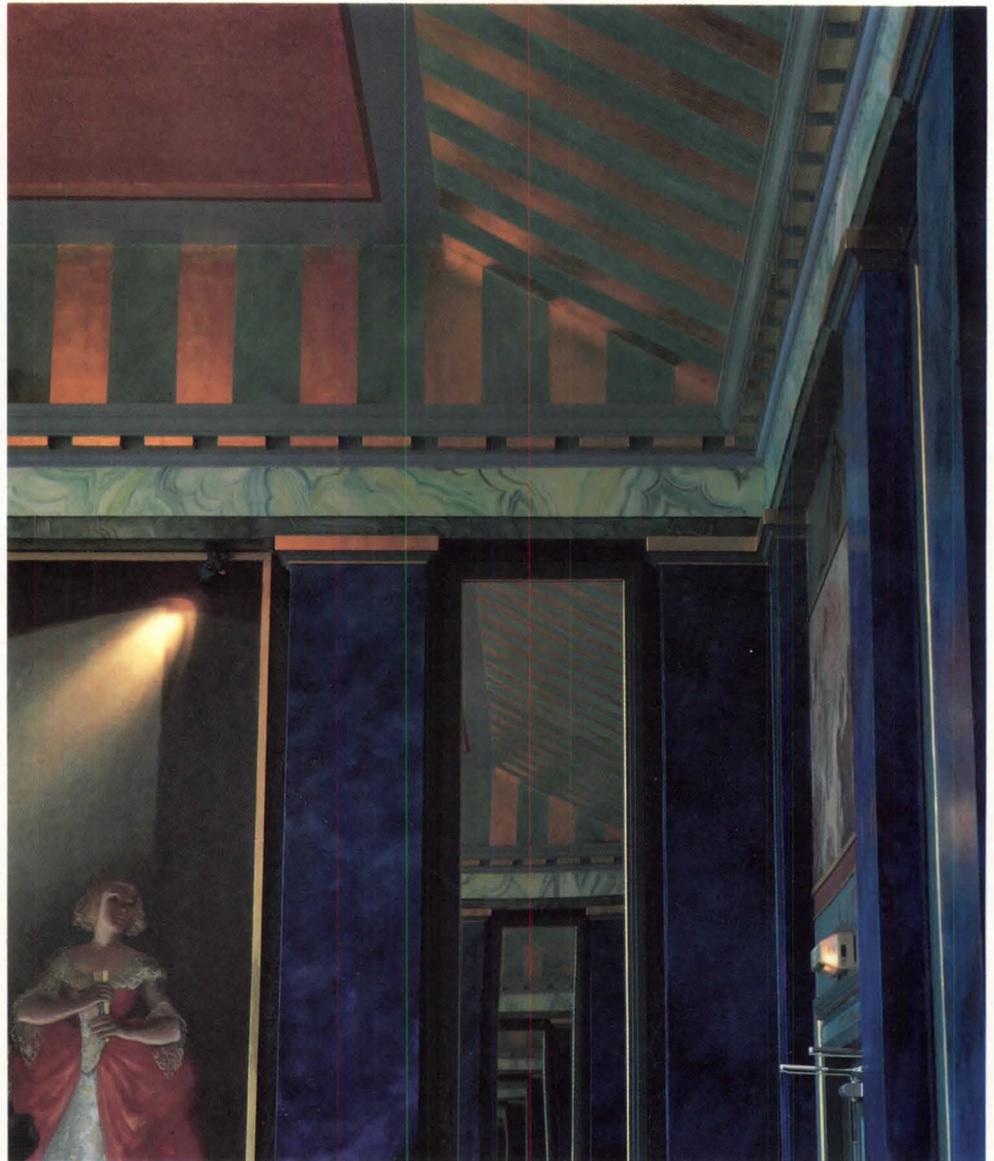
to spill out to the river's edge in good weather, under arched arbors that will be geometrical projections of the new entries.

A checkered history

The structures the designers had to work with were already the products of haphazard evolution. The fire station built against the theater's east wall earlier in this century had harmonizing Classical details, but some of them were executed in stucco rather than the stone of the theater. Around the service entries on the south side of this wing, Nouvel chose, rather than repairing the stucco, to scrape it away in diagonal stripes; the alternating bands of molded stucco and scraped brick back-up are another full-scale re-creation of a draftsman's representation. The tower that marked the outer corner of the fire station has been decapitated—at the city's insistence, says Nouvel—but the way it has been lopped off, slicing midway through its windows, underscores Nouvel's approach to alterations on this wing.

The original theater had been altered as well. Its rather amorphous provincial façades had been given a more proper Beaux-Arts order earlier in the century. In a 1932 remodeling, the interior had acquired some charming—if poorly assimilated—Art Deco flourishes, in particular some stair balustrades and a dazzle-patterned false skylight over the main theater itself. One original drawback that could not be corrected at reasonable cost was a circulation system that routes patrons from the lobby to the theater itself by way of two constricted corner stairwells. (Nouvel's remodeling provides a small elevator for the handicapped.)

For the theater interior renovation, Nouvel relied heavily on the painter Gary Glaser, a Californian living in Paris who had little previous involvement with interiors. Nouvel felt that his skill with color and





Grand foyer (above, details on facing page) is actually of modest size but grander scale. It had been painted gray-green, with some gilding on frieze and a false black marble at base. Redesign by painter Gary Glaser plays up Classical pretensions with trompe l'oeil applications of exotic stones. Mirrors between pilasters and canopy treatment of ceiling open up the volume. Murals on theatrical themes have painted highlights corresponding to spotlighting on them. Faux marbre painting on leather of 1930s settees is a light-hearted clue to the prevailing fakery.

trompe l'oeil finishes would serve well here. Glaser used paint and lighting to make the corner stairs a compelling introduction to a visual feast above. On the upper floor, Glaser and his collaborators have turned the stiff Grand Foyer into a jewel box of opulent finishes and illusions. In the main hall itself, a few changes were made: The orchestra pit was filled in and seating levels adjusted for improved sightlines; the proscenium arch was removed to provide a more flexible opening, controllable by curtains. Though most architectural elements remain in place, finishes and fabrics in vibrant Pop colors proclaim that the theater is making a new start. Colors used here are characteristic of a painter's palette, not an architect's. So, too, are the colors the architects themselves used on the remodeled addition.

Showing how it's done

Nouvel got the Belfort commission through an inventory and recommendations he had made for the French government regarding theater facilities in the Franche-Comté region. When local authorities decided to expand and update this theater on a crash schedule, his familiarity with its potential was a key asset. The theater is now in the second year of operation, with a rich international program of drama, dance, and music.

In discussing the architectural solution, Nouvel stresses his interest in stratification and "dissociation" of elements. He has tried here to heighten awareness of architecture as a process by revealing the innards of construction, juxtaposing scarred remnants to sleek new components, by coating Classical elements in unaccustomed gloss and glitter.

The resulting complex is not internally consistent, in the conventional sense. But each of the various parts serves its purpose with clarity, and all are visual expressions of the processes behind them. **John M. Dixon** ■

Project: Municipal Theater renovation, Belfort, France.

Architects: Jean Nouvel, Gilbert Lézènes; Dominique Lyon, collaborator.

Site: flat parcel along river in center of city, occupied by much altered 19th-Century theater, with attached structure formerly used for fire station and health services.

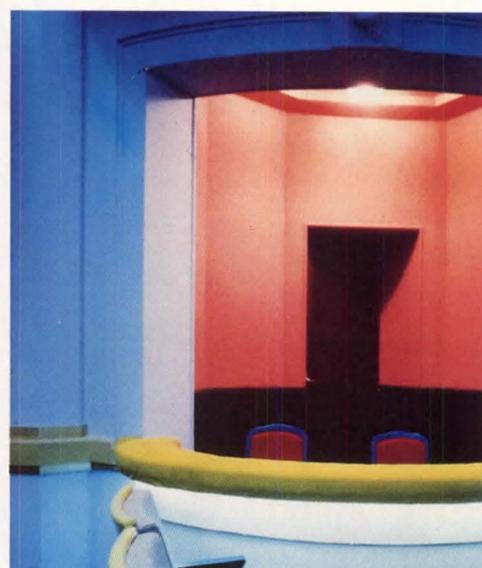
Program: renovation of 700-seat theater, foyers, stage, and backstage facilities; conversion of additions into exhibition hall, café, rehearsal rooms; insertion of a 60-seat theater in basement. Total area: about 3000 sq m or 10,000 sq ft.

Structural system: new concrete columns and slabs; steel frame for new façade.

Major materials: glass set in aluminum for new façade; variety of interior wall and floor treatments, including transparent coatings over newly exposed materials.

Interior of the main theater space (facing page) retains its basic form despite functional changes in seating and stage opening. False skylight of Art Deco period has been carefully restored. New colors and surface treatment have transformed atmosphere and clarified forms. Figurative paintings on side walls have been replaced by gilt-dappled surface and extension of frieze originally over boxes. After removal of proscenium arch, a valance in the same frieze pattern was extended across cur-

tained opening. Metallic moldings and strips of neon lighting reiterate curves of balcony fronts. Glaser chose theater seats, a model the manufacturer had just discontinued, and designed upholstery fabric for them. Stairs up from lobby (below, top right and bottom left), repainted to highlight 1930 balustrades, make stairwell seem less constricted, and generate expectation of dramatic effects as patrons climb to theater level.



Consultants: Gary Glaser, François Seigneur, Pierre Martin, interior design.

Costs: 11 million F (May 1981 value) including sitework, interiors, and furnishings.

Photography: Deidi von Schaeuwen, except as noted.



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Making ends meet

Joints are a building's Achilles' heel. One of its smallest and least expensive components, they determine its very strength and integrity—and contribute to many of its problems. The design of joints may have none of the glamour associated with architectural design, but it is no less important or challenging.

Joints vary widely. The requirements for flashing a roofing joint have little in common with those for sealing an expansion joint or forming a control joint. To accommodate that variety, joints are classified in diverse ways. There are dynamic joints with more than 5 percent and static joints with less than

What makes a wall but its joints? Its strength and very integrity depend upon them, yet their design is often ignored, to everyone's detriment.

5 percent total movement. There are butt joints in the same plane, lap joints between overlapping planes, and corner joints between angled planes. And there are one-stage joints with the sealant at their exterior edge and two-stage or rain-screen joints with the sealant at the back of the joint, concealed behind a vented air cavity and a surface rain deflector or overlapping edge.

The joint and the joined

Let's focus on one type of joint: exterior wall joints. Making a wall joint, as one sealant consultant put it, involves "removing a thin slice of the adjacent materials and inserting an



The failure of a wall joint almost always indicates either poor detailing or poor construction (See P/A Practice, p. 57). Many problems occur with joints made too narrow to accept a sealant or to accommodate the movement of adjacent materials, leading to the squeezing of the sealant from the joint (above). Remedial action might include widening the joint to make more room for the sealant or applying a "band-aid" joint.

COEFFICIENTS OF LINEAR EXPANSION OF COMMON BUILDING MATERIALS

Construction Material	in/in/°F x 10 ⁻⁶
Clay Masonry	
Brick, Clay, or Shale	3.6
Brick, Fire Clay	3.1
Tile, Clay, or Shale	3.3
Tile, Fire Clay	2.5
Concrete	
Gravel Aggregate	6.0
Lightweight Structural	4.5
Concrete Masonry	
Cinder Aggregate	3.1
Dense Aggregate	5.2
Expanded-Shale Aggregate	4.3
Expanded-Slag Aggregate	4.6
Volcanic Pumice and Aggregate	4.1
Metals	
Aluminum	13.0
Brass, Red 230	10.4
Bronze, Arch. 385	11.6
Copper, 110	9.8
Iron	
Cast Gray	5.9
Wrought	7.4
Lead, Common	16.3
Monel	7.8
Stainless Steel	
Type 302	9.6
Type 304	9.6
Structural Steel	6.7
Zinc	19.3
Glass	
Plate	5.1
Plaster	
Gypsum Aggregate	7.6
Perlite	5.2
Vermiculite Aggregate	5.9
Plastics	
Acrylics	40-50
Lexan®	37.5
Phenolics	25-66
Plexiglas®	39
Polyesters, Glass Reinforced	10-14
PVC	33
Vinyls	24-40
Stone	
Granite	6.2
Limestone	3.5
Marble	7.3

From Sealants: The Professionals' Guide (1984) by permission of the Sealant and Waterproofers Institute

elastic compound to accommodate expansion and contraction." Would that it were that easy.

Complicating factors include the expansion of the adjacent materials, the size and location of the wall joint, and the performance characteristics of the sealant. Consider just the adjacent materials. Their expansion covers quite a range, with acrylic, at one extreme, having a coefficient of linear expansion 20 times that of clay tile, at the other extreme. The dimension of a panel greatly affects those differences in expansion. Aluminum, for example, has a coefficient of linear expansion over five times that of brick. A five-foot-wide aluminum panel (holding the type of sealant constant) requires a joint only about twice that of the same size brick panel, while a 25-foot-wide aluminum panel requires a joint over five times that of the same size brick panel. Increasing the performance of the sealant can lessen the difference in joint widths somewhat, but that cannot compensate for a design that keeps temperature-sensitive materials, such as metal and plastic, relatively small.

The location, size, and aesthetics of the wall joint also affect its performance. The aesthetics, unfortunately, often has an adverse effect when a joint is omitted or made very small for reasons of appearance, over-stressing either the cladding or the sealant. As obvious as that sounds, many sealant manufacturers attribute a large percentage of joint failures to that very situation.

The proper performance of a joint dictates certain parameters. For instance, the location of a joint usually occurs wherever dissimilar materials and discontinuous surfaces or structures meet or where continuous surfaces require expansion and contraction. Joints between dissimilar materials, especially if the materials have radically different coefficients of expansion, present the most difficulties. The dissimilar materials subject the joints to nonuniform or "slip/stick" movement—the tendency of various materials to expand and contract in a series of short movements rather than in a smooth, continuous motion. Most sealants can accommodate that when it occurs rapidly from, say, the sun moving around the building. The problems occur when the joints move in slow increments and contain low-recovery sealants that tend to lose their shape over time. As a rule, the slower the movement and the more dissimilar the adjacent materials, the more important the use of higher priced, high-recovery sealants becomes.

Inside corners further subject joints to extreme hydrostatic pressure since wind-blown rain and water runoff tend to collect there. Avoiding inside corners, or at least avoiding joints at those corners, reduces the potential leaks. If impossible to avoid, inside corner joints should have high-grade sealants or a rain barrier and vented air cavity to protect less costly sealants.

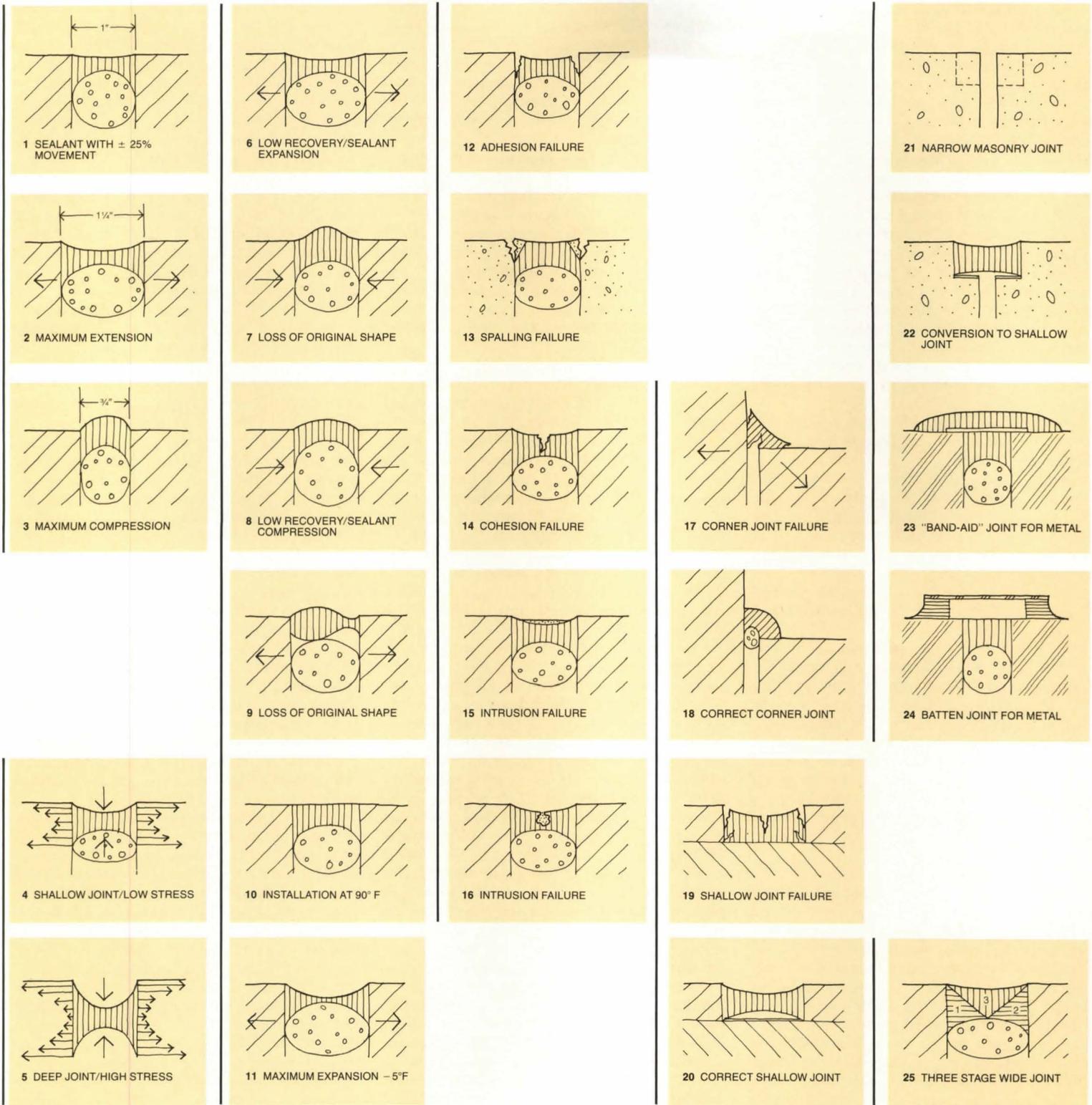
The place not to avoid joints is along monolithic surfaces where the thermal movement exceeds the material's own flexural strength. Different materials have different requirements: tiled walls, for instance, need horizontal control joints every 10 feet and vertical joints every 13 feet; concrete block, horizontal joints every 20 feet. Omitting those joints can lead to catastrophic failures: the uncontrolled cracking or spalling of masonry or the oil-canning or buckling of metal.

Sizing up joints

Assuming the proper location of the joint relative to the expansion and contraction of the adjacent materials, the next step in the design process involves sizing the joint. In terms of their width, narrow joints may not work between highly expansive materials, or wide joints in areas subject to vandalism or heavy traffic. The narrow joint may over-stress or completely squeeze out the sealant, while the wide joint may encourage the sealant's damage.

High-performance sealants can accommodate joint widths ranging from 1/4 to 4 inches and joint depths from 1/4 to 3/4 inch respectively. The same ratios hold true for the lower priced caulks and mastics, although they usually have a maximum width of about 3/4 inch. Ideally, the depth-to-width ratio of the sealant should be between 1/2:1 and 1:1 in all but the widest joints. Making the sealant deeper than it is wide sets up excessive stress at the sealant face during expansion, increasing the chances of failure.

Several backup materials can be used to fill a deep joint so that the sealant has the proper depth-to-width ratio. Those backup materials include polyethylene and polyurethane closed- and open-cell foams, rubber tubing, and corkboard and bituminous impregnated fiberboard (the latter used mainly in paving and roadway joints). Closed-cell foams lessen the chance of entrapping water in the joint and provide better support for the sealant during its tooling, but if punctured during installation, they can out-gas and create bubbles in uncured sealant. Open-cell foams avoid that problem and



Figs. 1, 2, 3 show the relationship between joint movement and sealant capacity. In a 1-inch-wide joint, a sealant with a movement capacity of ± 25 percent can extend to $1\frac{1}{4}$ inches or compress to $\frac{3}{4}$ inches before failing. Figs. 4, 5 indicate how a sealant's surface stress increases with its depth. The ideal depth-to-width ratio is $\frac{1}{2}$:1 to 1:1. Figs. 6, 7, 8, 9 suggest how low-recovery sealants fail when subjected to too great or too gradual movement. Figs. 10, 11 reveal the potential problem of a

summer installation where the sealant, adequately sized at a 90 F surface temperature, is overstressed at -5 F. Figs. 12, 13, 14, 15, 16 diagram the most common sealant failures. Figs. 17, 18 indicate how a corner joint, without a backer rod and a convex sealant profile, will fail. Figs. 19, 20 indicate the same for shallow joints without a bond breaker tape or release agent along the bottom surface. Figs. 21 through 26, provided by the sealant consultant Julian Panek, show solutions to particularly difficult joint problems. Figs. 21, 22 show how to remedy a narrow joint by cutting out the upper

corners to make a wide, shallow joint with a bond breaker tape along its bottom. Fig. 23 shows another solution: a band-aid joint with a bond breaker tape overlapped by a tapered bead of sealant. Fig. 24 shows how to solve a joint with insufficient bonding surface by applying a plate over the joint and sealing its edges. Fig. 25 shows how to fill a wide joint with three beads of sealant.

speed up the setting of moisture-cured sealants by allowing their back face to breathe. If the open cells become saturated with water in unvented walls, however, the foam can freeze and lose its adhesion. Rubber tubing provides a more water-resistant and much more expensive alternative to the foams.

It's important that the backup material be compatible chemically with the sealant to prevent its adherence, staining, or chemical attack. That raises an issue basic to the design of joints. Sealants should adhere only to opposite surfaces; adhesion to a third, perpendicular surface will prevent the sealant's movement and cause its rapid failure. Since foam backer rods or rubber tubing will not adhere to a chemically compatible sealant, three-sided adhesion rarely happens in deep joints. That improper adhesion usually occurs in shallow joints without a bond breaker tape or release agent applied to the joint's bottom.

Bond breaker tapes have uses beyond that in shallow joints. For very narrow joints, placing a tape over the joint and adhering a tapered bead of sealant to either side (called a band-aid joint) makes the width of the tape the actual dynamic width of the joint. For very wide joints, placing two strips of tape at either side of a narrower gap makes that gap the actual dynamic width of the joint. The bond breaker tape thus allows the proper depth-to-width ratio of sealant, regardless of the actual width of the joint.

Many exterior wall joints end up as butt or corner joints because of their ready accommodation of bending and twisting forces. Lap joints, subject mainly to shear forces, nevertheless have some advantages. The overlapping surfaces protect the sealant from weathering, and they place half as much stress on the sealant for a given amount of movement. The drawbacks of lap joints include difficulties in preparing and installing the joint.

Timing joints

The timing of the joint's installation also affects the amount of stress placed on the sealant. Fall and spring installations pose few problems, since the width of the joint, and thus the stress on the sealant, stands midway between its ultimate expansion and contraction. A winter installation, with joints at their widest, places the sealant under compression during the rest of the year—a problem for low-recovery but not high-recovery sealants. (Winter presents more of a problem with freezing temperatures adversely affecting

especially one-component, moisture-cured sealants.) The most joint failures come from summer installations. The joints at their narrowest place the sealant under tension during the rest of the year, leading to potential wintertime problems from sealants tearing or pulling away from the joints' sides as they expand.

Since construction schedules don't always allow the installation of a sealant during the spring or fall, we must design the joint for the worst case. Most sealant manufacturers recommend 130 F as a temperature gradient when designing joints. That may sound high, but it refers to the temperature of the joint surface, not the ambient air temperature, and in the sun on a summer day, the surface temperature of an exterior wall can easily reach 130 F.

Seals of approval

We cannot design a joint until we've decided upon the sealant. While a sealant might be subject to various bending or shear forces, its ability to expand and contract remains the most important factor in that decision. Manufacturers denote the movement capacity of a sealant as \pm a certain percentage of its width. In a one-inch-wide joint, a sealant with capacity of ± 25 percent means that the sealant can withstand the joint's compression to $\frac{3}{4}$ inch or its expansion to $1\frac{1}{4}$ inches without either the adhesive failure of its bond or the cohesive (tearing) failure of the sealant.

Choosing the sealant begins, not ends, with its movement capacity. To select the right sealant for a particular situation, we also must consider such characteristics as its service life, hardness, curing time, adhesion to various substrates, weather and chemical resistance, and recovery.

Sealants fall into three general categories according to their cost and performance. Polybutene, polyisobutylene, and oil- and resin-based caulks have the lowest cost and performance capabilities. The oil-based caulks in particular once dominated the sealant market when most buildings had bearing-wall construction and thus little wall movement. But those caulks lost that dominance in the 1950s with the advent of the curtain wall and lighter weight construction.

As a group, these lower cost caulks have a maximum joint width of $\frac{3}{4}$ inch, a movement capacity of only about ± 5 percent, a slow curing time (120 days), a low Shore hardness, a relatively short service life (about six or seven years on average), and only modest weather or chemical resistance. This suits

them mainly for static joints with little exposure—joints around residential door and window frames and siding or interior duct work, for example. The real advantage of these caulks lies in offering nearly the same performance as some intermediate quality sealants at a lower price. As a rule, they also require little surface preparation, have good adhesion, and come in easily used one-component cartridges.

The acrylic latex, polyvinyl acetate latex, vulcanized butyl, Hypalon and Neoprene sealants offer an intermediate level of performance and cost, although they have as many differences as similarities. The latexes have a maximum joint width of $\frac{3}{8}$ inch; the others, $\frac{3}{4}$ inch. The latexes and butyls have a movement capacity of ± 7.5 percent; Hypalon and Neoprene, ± 12 percent. Neoprene has a service life up to 20 years; the others, 10 years. The latexes have a curing time of 5 days; Hypalon and Neoprene, 30 days; and butyl, 120 days.

What links these sealants is their competitive position: they offer, for a higher price, a longer life than caulk. They also have significantly better performance in certain areas. For instance, the latex sealants offer compatibility with latex paint and easy cleanup, making them a favorite as an interior sealant under painted finishes. The butyl sealants have good adhesion to most surfaces and good water resistance, leading to their use in such places as door thresholds, flashing, metal and vinyl siding, and duct and pipe penetrations. The Hypalon sealants offer good UV, ozone, and chemical resistance, resulting in their frequent use in moderately moving exterior joints around doors and windows or concrete panels. (Neoprene sealant's compatibility with asphaltic concrete and bitumen makes it common in roadway work.)

The high-performance elastomeric sealants include solvent-based acrylics, polysulfides, polyurethane, and silicone. Polysulfide was the first high-performance sealant on the market in the 1950s, a major factor in the success of curtain wall systems. But since the mid-1970s, they have lost a good part of their market share to polyurethane and solvent-based acrylic sealants, and since the early 1980s, to silicone sealants. One sealant consultant accounts for the decline in polysulfide use to the ease with which some manufacturers can "water down" the material, reducing its performance and reputation.

These sealants have a long service life (up to 20 years or more), a range of movement

capabilities (from solvent-based acrylic at ± 12 percent to polysulfides and polyurethanes at ± 25 percent to silicone as high as ± 50 percent), and short curing times (anywhere from 2 days with silicone to 14 days with solvent-based acrylic). They also have minimal shrinkage, high strength, good resistance to weather and chemicals, good recovery of their original shape after compression—and a price as much as seven times that of some caulks.

Because of their performance and price, these sealants find their application most often in large-scale or high-rise buildings, with joints subject to considerable movement and with resealing an expensive or difficult operation. Some of these elastomeric sealants also have specialized uses. The silicones, for instance, have found widespread use in butt or stopless glazing because of their extremely high recovery, movement capacity, and weather resistance. But unlike the intermediate-grade sealants, these high-performance sealants largely compete in the same market for many of the same uses.

More than performance differences distinguish those three groups. Sealants differ in their application, with poured or self-leveling sealants often used in horizontal floor and roofing joints and gun-applied sealants in vertical wall joints. Sealants differ in their packaging, with one-part sealants factory mixed and moisture cured (resulting in a faster installation and longer shelf life but longer cure times, especially in warm weather) and with two- and three-part sealants field mixed and chemically cured (slowing installation but reducing the cure time and often the cost). And sealants differ in their form. Other than bulk-type, they also come as paper-backed tapes (made of a thickened mastic) or preformed gaskets (usually made of Neoprene and available either as a dense rubber or a less dense closed-cell foam) for various glazing and metal building applications.

Stuck on sealants

With the exception of preformed gaskets held in by compression, most sealants depend upon adhesion to adjacent materials for remaining in a joint. That makes the preparation of those adjacent surfaces of prime importance. Generally, the higher a sealant's performance the more surface preparation it requires, for the internal stresses that allow it to recover its shape after being extended or compressed also tax its adhesion.

The sealant comparisons (right) condense information in John Cook's and Julian Panek's book Construction Sealants and Adhesives, 2nd Edition. The advantages and disadvantages are relative; some sealants may perform somewhat better or worse than their generic type. Nevertheless, the comparisons help in the preliminary selection of sealants and show the range of sealants available.

SEALANTS

LOWER PERFORMANCE CAULKS

Oil/Resin-Based ($\pm 5\%$ movement capacity)

ADVANTAGES

Lowest Cost
Easily applied and tooled
Primerless preparation
Good color stability
Fast skinning

DISADVANTAGES

No recovery
Slow curing
Can stain substrate
Moderate shrinkage
For static joints

Polybutene/Polyisobutylene ($\pm 5\%$ movement capacity)

Good adhesion
Low shrinkage
Excellent UV/ozone resistance
Low cost
Good water resistance

Dirt pick-up
Low cohesive strength
Poor solvent resistance
Can stain substrate
For static joints

INTERMEDIATE PERFORMANCE SEALANTS

Latex ($\pm 7.5\%$ Movement Capacity)

Fast skinning & cure
Immediate paint-over
Good adhesion/UV resistance
Easy application/cleaning
No primer needed

High shrinkage
Poor water resistance
Can freeze below 0°F
Mostly indoor use

Butyl ($\pm 7.5\%$ Movement Capacity)

Good adhesion
Good water resistance
Good color stability
Little surface prep
Caps neoprene gaskets

Slow curing
High shrinkage
Low recovery
Relatively soft

Hypalon® ($\pm 12\%$ Movement Capacity)

Excellent UV/ozone resistance
Good chemical resistance
Impervious to water
Fair recovery
Remain flexible

Slow curing
Higher cost
High shrinkage
Tough gunability
Not for interior use

Neoprene ($\pm 12\%$ Movement Capacity)

Bitumen/asphalt compatible
Good water resistance
Good adhesion to metals
Low cost

High shrinkage
Only dark color
Very slow curing
Stains wood/stone

HIGHER PERFORMANCE SEALANTS

Solvent-based Acrylics ($\pm 7.5\%$ to $\pm 12\%$ Movement Capacity)

No primer required
Excellent adhesion
Excellent UV resistance
Good chemical resistance
Non-staining
Tough curing

$\frac{3}{4}$ in. maximum width
Poor recovery
Strong curing odor
Poor water resistance
Slow curing

Polysulfides ($\pm 25\%$ Movement Capacity)

Good UV/water resistance
Won't stain masonry
Fast through cure
Good adhesion/durability
Broad color range

Slight curing odor
Less UV resistance /recovery than the following
Primers for porous surfaces

Urethanes ($\pm 25\%$ Movement Capacity)

Excellent UV/ozone/tear/chemical resistance
Excellent recovery
Little shrinkage
Joints up to 6 in. wide
20 - 30 year life

Light colors can discolor
Poor water immersion resistance
Surface priming required

Silicones ($\pm 25\%$ to $\pm 50\%$ Movement Capacity)

Excellent UV/ozone/heat resistance
No shrinkage
20 - 30 year life
Excellent recovery
Non staining

Critical surface preparation
Slight curing odor
Dirt pick-up
Concrete/aluminum adhesion difficult

P/A Technics: Wall joints

Some common sense procedures apply to the preparation of every surface. They include using clean solvents and rags, protecting the face of the adjacent materials, using one rag to apply the solvent and another to remove it, and pouring the solvent onto the rag, not dipping the rag into the solvent. Health precautions include using the solvents in well-ventilated spaces, keeping them from ignition sources, and avoiding prolonged exposure.

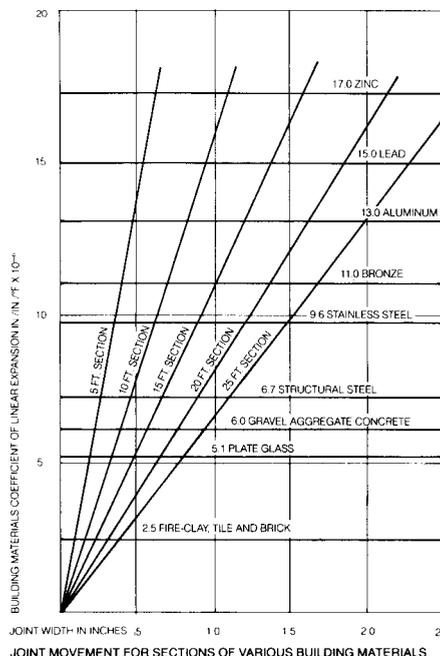
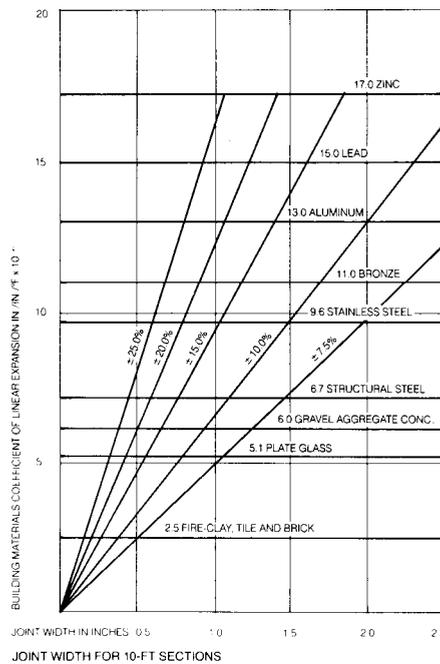
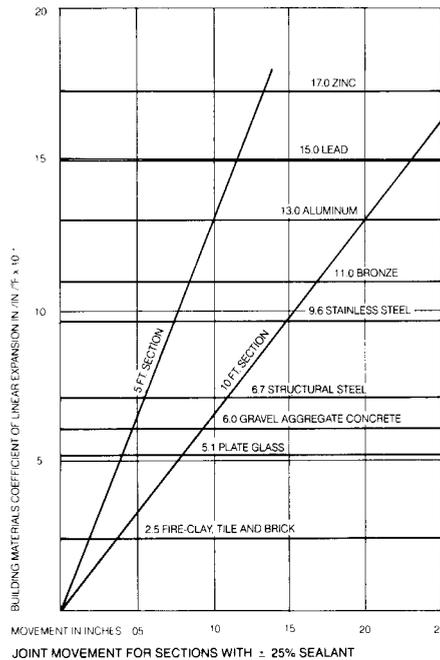
Materials vary widely in their preparation requirements. Some surfaces, such as unpainted wood, require, not solvent cleaning, but painting, since the moisture in wood (or the oils in moisture-resistant wood) can prevent sealant adhesion. Other surfaces, such as limestone and sandstone, often require little preparation beyond the removal of surface dirt or dust. Between those two extremes lie two groups of materials distinguished by their preparation requirements. Concrete and masonry form one group. Because solvent cleaning cannot remove the surface laitance and only drives the residue of release agents, curing compounds, and hardeners deeper into the concrete surface, wire brushing or abrasive blasting must suffice. Protecting the face of the adjacent surfaces and controlling the nozzle pressures becomes of utmost importance to avoid damage. Also, oil-free air compressors will not recontaminate the surface when removing the dust. Once the area is clean, solvents can then be used to remove any surface moisture immediately prior to the sealant's installation.

Metal, plastic, rubber, paint, porcelain, glass, and dense stone largely compose the second group—all suitable for solvent cleaning. Every material responds to a solvent differently, so consult the manufacturer for advice on solvent compatibility. Usually, glass and porcelain will accept most solvents; paints: naphtha and isopropyl alcohol; plastics: either naphtha (polyester, epoxy, PVC) or alcohol (acrylic, polystyrene, polycarbonate); rubbers: naphtha or, in extreme cases, methyl ethyl ketone; painted steel or aluminum: naphtha; and most other metals (once their patina or rust has been removed): xylene or methyl ethyl ketone.

Ends that meet

All of the above is necessary to make a joint work and to make it last. But to design a joint, we need know only a few facts: the total expansion and contraction at the joint (based upon the coefficient of linear expansion and the dimension of the adjacent materials), the

These three graphs allow the sizing of a joint when the coefficient of linear expansion of the adjacent materials is known. The top graph shows the amount of joint movement for five- and ten-foot panels of various materials. The middle graph identifies the joint width for sealants of various movement capacities. The bottom graph allows the calculation of the joint width for panels of various widths using a sealant with a ± 25 percent movement capacity.



temperature gradient at their surface (usually calculated at 130 F), and the percentage movement of the sealant (anywhere from ± 5 percent to ± 50 percent). Designing the joint essentially involves the manipulation of those factors. If we want to make a panel wider or switch to a cladding material with a higher coefficient of expansion, we can accommodate the greater movement by making the joint itself wider or by using a higher performance sealant. If we want to make the joint narrower, we can use a higher performance sealant, reduce the panel dimensions, or switch to a less expansive cladding material. If we want to use a less costly sealant with a lower movement capacity, we can widen the joint or, as above, reduce panel dimensions or switch materials. The design process doesn't stop there. We still must select the right joint location, type of sealant, surface preparation, and so on. But the basic steps in designing joints are not difficult.

The real difficulty is in ensuring that its design occurs at all, or that it is not left to the least experienced person in the office or to the contractor in the field. The latter can ensure a joint's failure. Giving joint design a higher priority comes with recognizing its economic importance; for however small its contribution to the total cost of a building, a joint can contribute enormously to the cost of maintaining a building, especially if it fails. Ultimately, it is a matter of making ends meet; and making them meet physically in a building's joints goes a long way toward making them meet financially for a client.

Thomas Fisher

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Further reading

The single best reference book on joints is *Construction Sealants and Adhesives, 2nd Edition* by Julian Panek and John Cook (John Wiley & Sons, 1984). The pamphlet *Sealants: The Professionals' Guide* (Sealants and Waterproofers Institute, 1984) provides a good introduction, and the book *Building Seals and Sealants*, ASTM Special Technical Publication 606, Julian Panek, Editor (ASTM, 1976), contains detailed technical articles on joint design and sealants.

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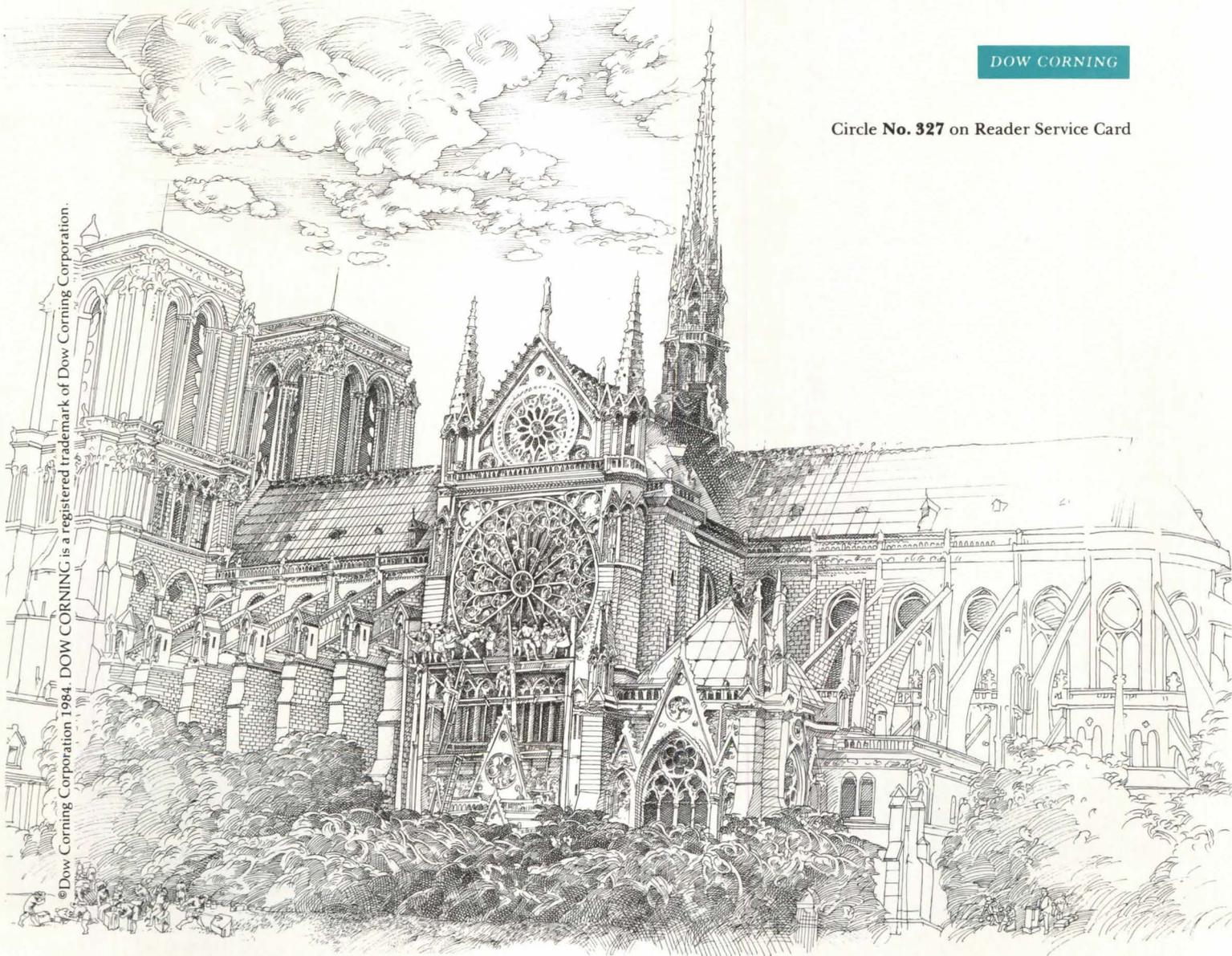
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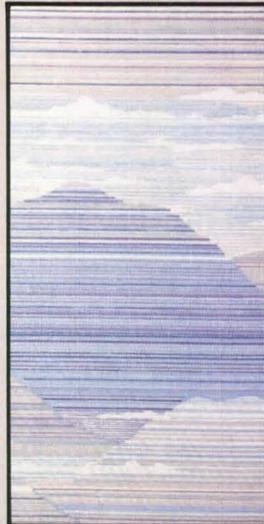


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- 653** Brunschwig & Fils
(213) 659-9800
- 116** Campaniello Imports
(213) 854-0990
- 146** Carnegie Fabrics
(213) 652-7090
- 504** Casa Bella
(213) 659-7044
- 110** Corry Jamestown*
(213) 655-8421
- 267** Design Selections
International (DSI)
(213) 654-8302
- 213** Design Tex Fabrics West*
(213) 659-9900
- 267** Gail Epstein Enterprises
(213) 659-8302
- 532** Eurotex Carpets
(213) 659-9340
- 263** Executive Office Concepts*
(213) 659-6566
- 245** Forms + Surfaces
(213) 659-9566
- 200/300** GF
(213) 655-0001
- 210** Gunlocke*
(213) 657-8922
- 257** Haller Systems*
(213) 854-1109
- 255** Harbor Universal/
Benedetti*
(213) 659-2930
- 647** S. Harris & Co.
(213) 559-5975
- 261** Harter*
(213) 657-5780
- 193** Haworth*
(213) 652-2210
- 357** Hayes*
(213) 855-0139
- 532** S.M. Hexter
(213) 659-9340
- 239** ICF*
(213) 652-2647
- 253** iil, Inc.*
(213) 659-7411
- 141** International Tile
(213) 652-2647
- 146** The Ironmonger
(213) 652-7090
- 146** Janus et Cie
(213) 652-7090
- 444** Kallista
(213) 652-7360
- 270** Kasparians*
(213) 659-2968
- 404** Kenro
(213) 659-6510
- 230** Kimball/Artec*
(213) 854-1882
- 600** Kneedler-Fauchere
(213) 855-1313
- 203** Knoll*
(213) 658-8686
- 639** Koch + Lowy
(213) 659-5660
- 530** Boris Kroll
(213) 652-9067
- 226** Krueger*
(213) 659-2133
- 406** La Cuisine 2000
(213) 652-3472
- 601** Jack Lenor Larsen
(213) 659-7770
- 678** Lee-Jofa
(213) 659-7777
- 404** Lightolier
(213) 659-6510
- 370** Maharam*
229 Herman Miller*
(213) 659-7600
- 267** Monel Contract Furniture
(213) 659-8302
- 275** Monteverdi-Young
(213) 659-7220
- 267** Nemschoff Chairs
(213) 659-8302
- 219** Pacific/Condi*
(213) 658-5500
- 406** Poggenpohl
(213) 652-3472
- 146** Harvey Probbler
(213) 652-7090
- 268** Ron Rezek/Lighting*
(213) 659-2968
- 211** Ben Rose
(213) 655-8790
- 116** Saporiti Italia
(213) 854-0990
- 433** Scalamandré
(213) 652-4242
- 222** Scandiline/CADO*
(213) 659-4226/3801
- 368** Shaw-Walker*
- 274** Shelby Williams
(213) 657-8687
- 609** Sinclair Systems
(213) 655-7633
- 384** Paul Singer Floorcovering
(213) 657-8101
- 629** Stark Carpet
(213) 657-8275
- 305** Steelcase*
- 201** Stendig*
(213) 659-7955
- 351** Stow/Davis*
(213) 652-9210
- 526** Stroheim & Romann
(213) 659-7700
- 206** SunarHauserman*
(213) 657-2030
- 404** Tivoli Lighting
(213) 659-6510
- 239** Unika-Vaev USA*
(213) 659-1387
- 250** Westinghouse*
(213) 659-4280
- 637** Winfield Design Associates
(213) 659-7075
- 600** Zumsteg
(213) 855-1313

* PDC 2 member

Schedule of Events

Tuesday, March 26

Pre-Market Event
PDC Conference Center
ASID Industry Foundation Day
Interior Furnishings and Flammability Requirements: The Designer's Role and Responsibility

Exhibits (March 27-29)

Galleria, Fifth Floor
Artists at Work in Craftsmedia:
A Celebration of Process

Sixth Floor
Ballonak: Doron Gazit, artist
Sponsored by Du Pont

Rotunda, First Floor
Progressive Architecture 5th
Annual International Furniture
Competition

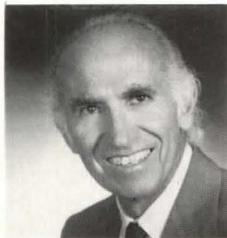
First Floor
The Executive Suite
Designed by Katherine and
Michael McCoy
Sponsored by Formica Corp.



Office design by Katherine and Michael McCoy.

Wednesday, March 27

9:00 A.M.
Showrooms open
10:00-11:00 A.M.
PDC Conference Center
"Form & Purpose in the Evolution of Mankind: Survival of the Wisest," Jonas Salk, Founding Director, The Salk Institute for Biological Studies



Jonas Salk

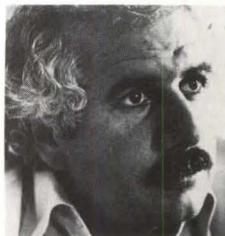
11:30 A.M.-12:30 P.M.
PDC Conference Center
"Form & Purpose in Architecture: Fitness to Purpose," Moshe Safdie, Principal, Moshe Safdie & Associates
1:15-2:15 P.M.
PDC Conference Center
"Form & Purpose in the City: Will the Center Hold?" Doris B. Holleb, Director, Metropolitan Institute, University of Chicago.



Peter Blake

2:45-3:45 P.M.
West Hollywood Auditorium
"Who Are We/Why Are We Here/Where Are We Going," Panel Discussion. Moderator: Peter Blake, Chairman, Department of Architecture & Planning, Catholic University of America, with Jonas Salk, Moshe Safdie, and Doris Holleb.

4:00-5:30 P.M.
PDC Conference Center
"Transformations of Interior & Urban Spaces: The State of the Art of Lighting," Chair: Beverly Russell, Editor, *Interiors*. Presentations: Carlo Forcolini, lighting designer; Ernesto Gismondi, President, Artemide; Stephen Kiviat, President, Atelier International, Ltd.; James Nuckolls, IALD, lighting consultant; Richard C. Peters, AIA, architect/lighting consultant. Sponsored by PDC2



Moshe Safdie



Doris B. Holleb

Thursday, March 28

9:00-10:00 A.M.
PDC Conference Center
"Contemporary Lighting: Completing the Design," Richard L. Cooper, Executive Regional Engineer, GE Lighting Div. Sponsored by ISID.



Count Panza

10:30 A.M.-12:00 NOON
West Hollywood Auditorium
"Transformations of Interiors and Urban Spaces: The Integration of Architecture and Light," Chair: Stanley Abercrombie, Editor, *Interior Design*. Presentations: Joseph Giovannini, Architecture/Design Writer, *New York Times*; Count Giuseppe Panza di Biumo, art collector; Richard C. Peters, AIA; James Wines, President, SITE. Sponsored by PDC2



James Wines

11:15 A.M.-12:15 P.M.
PDC Conference Center
"Form & Purpose in the 18th Century," Sir Humphrey Wakefield, Consultant, Baker Knapp & Tubbs.
12:00 NOON-2:00 P.M.
PDC2 Member Showrooms
Preview of new products with PDC2 designers and representatives.
12:30-1:30 P.M.
West Hollywood Auditorium
"Form & Purpose in Contextualism," Robert Venturi, FAIA, Venturi, Rauch & Scott Brown
Sponsored by AIA.

Friday, March 29

1:45-2:45 P.M.

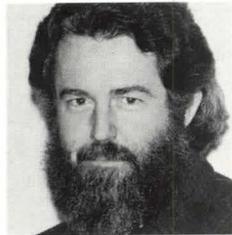
PDC Conference Center
"Form & Purpose in the 20th Century," Angelo Donghia, President, Donghia Associates, Inc.



Julia Brown

3:00-5:00 P.M.

West Hollywood Auditorium
"Transformations of Interior and Urban Spaces: The Integration of Architecture and Art," Co-Chairs: Joseph Giovannini; Julia Brown, Senior Curator, Museum of Contemporary Art, Los Angeles. Presentations: Count Giuseppe Panza di Biumo; James Turrell, artist. Guests: Sebastian Adler, Director, San Diego Art Center; Barbara Goldstein, Editor, *Arts + Architecture*; Henry Hopkins, Director, San Francisco Museum of Art; Carol King, Editor-in-Chief, *Designers West*; Christopher Knight, Art Critic, *Los Angeles Herald Examiner*. Sponsored by PDC2



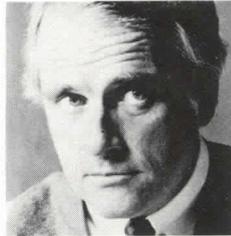
James Turrell



Henry Hopkins

9:00-10:00 A.M.

PDC Conference Center
"Financial Planning for Interior Designers," panel discussion. Sponsored by IBD.



Robert F. Maguire III

9:30-10:30 A.M.

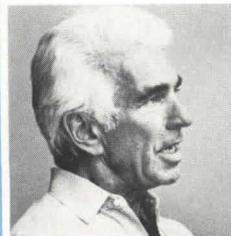
West Hollywood Auditorium
"Corporate Expressions of Design," Chair: Wolf Von Eckardt, Design Critic, *Time*. Presentations: Bruce Burdick, The Burdick Group; Neville Lewis; Robert F. Maguire III, Maguire/Thomas Partners; Warren Sweet, Project Manager, Pacific Bell. Sponsored by PDC2.



William F. Buckley

10:45-11:45 A.M.

West Hollywood Auditorium
"Reflections on Current Contentions," Speaker: William F. Buckley, Jr. Chair: Warren Bennis, USC School of Business Administration. Guests: Marty Baron, *Los Angeles Times*; Len Corlin, Co-Publisher, Editor, *Contract*; Anne Fallucchi, Editor, Associate Publisher, *Facilities Design & Management*; Michael Harris,



Warren Bennis

Editor, *California Business*; Roger Yee, Editor, *Corporate Design & Realty*.

Sponsored by PDC2.

12:00-1:00 P.M.

PDC Conference Center
"Form & Purpose in Murphy's Law: Nature's Master Editor," Ben Gurule, artist, designer, inventor.

12:00 NOON-2:00 P.M.

PDC2 Member Showrooms
Preview of new products with PDC2 designers and representatives.



Katherine McCoy



Michael McCoy

1:30-2:30 P.M.

PDC Conference Center
"Form & Purpose in the Executive Suite," Katherine and Michael McCoy, Department of Design, Cranbrook Academy of Art; Gordon Sterling, President, Formica Corp.; Gene R. Summers, President, Ridgeway, Ltd.; Charles Jencks, author.

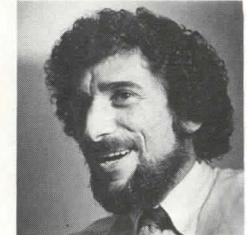


Jon Jerde

2:30-4:30 P.M.

West Hollywood Auditorium
"Transformations of Urban Spaces: Urban Theater," Chairs: Charles S. Gandee, Senior Editor, *Architectural Record*; Sam

Hall Kaplan, Urban Design Critic, *Los Angeles Times*; Pilar Viladas, Senior Editor, *Progressive Architecture*. Presentations: John Jerde, The Jerde Partnership; James Wines. Guests: Ed Helfeld, Administrator, Community Redevelopment Agency; Michael Pittas, Dean, The Otis Art Institute of Parsons School of Design; Deborah Sussman, Principal, Sussman-Prejza; Wolf Von Eckardt; Leon Whiteson, Architecture Critic, *Los Angeles Herald Examiner*.



Michael Pittas

7:00-9:30 P.M.

The Temporary Contemporary of the Museum of Contemporary Art, 152 N. Central Ave. The Party! Tickets: \$25 each (includes drinks and \$7.50 tax-deductible contribution to MoCA). Special transportation arrangements will be made for out-of-town guests; please indicate need on preregistration form.



The Jazz Composers Orchestra will perform at the party.

**Knoll introduces
The Hannah Desk System.
It puts wires where they belong:
out of the way.**



Knoll

Basic to the design of all Hannah Desk components are both vertical and horizontal wireways, with removable covers, providing virtually unlimited space for every kind of wiring and cable, and easy access for installation and maintenance.

Because the Hannah Desk System is completely modular, it can be configured to properly support any computer terminal and its peripheral equipment—to meet any user's needs. Freestanding desks, credenzas and linked system configurations can all be created simply, with little down time.

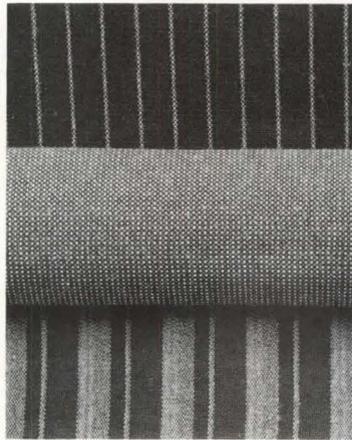
The Hannah Desk is the modular desk system that, at last, demonstrates that aesthetics and automation can coexist harmoniously in the office. And it is as accommodating to the people who use it as it is to the computers they use.

Knoll International, The Knoll Building
655 Madison Avenue, New York, NY 10021



Circle 301

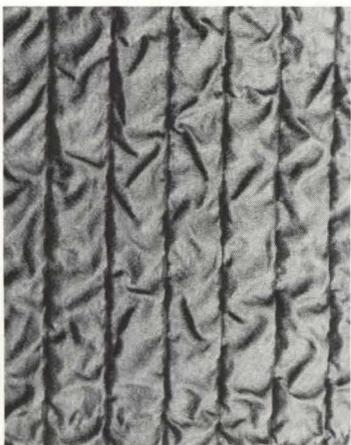
PDC Showrooms



AST Contract Textiles
AST Contract Textiles introduces Ultra-Wools[™], in stripes with coordinating textures. Ultra-Wools are available in 95 new stripe patterns in an 80/20 wool/nylon blend.
Circle 100 on reader service card



Baker Knapp & Tubbs
Baker Furniture features the flexible 9700 Series Wall System. Veneered in walnut with brass fittings, its 15 components can be deployed in a number of different ways.
Circle 101 on reader service card



Gretchen Bellinger
Gretchen Bellinger presents Sylphide[™] silk matelassé. Designed for both residential and contract use, Sylphide is part of the Window/Wall Collection.
Circle 102 on reader service card



Beveled Glass Industries
Beveled Glass Industries produces a wide variety of beveled glass panels for use in doors, windows, sidelights, transoms, table tops, and pedestals.
Circle 103 on reader service card

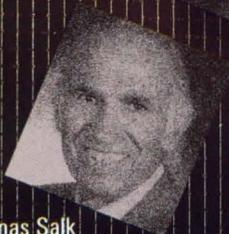
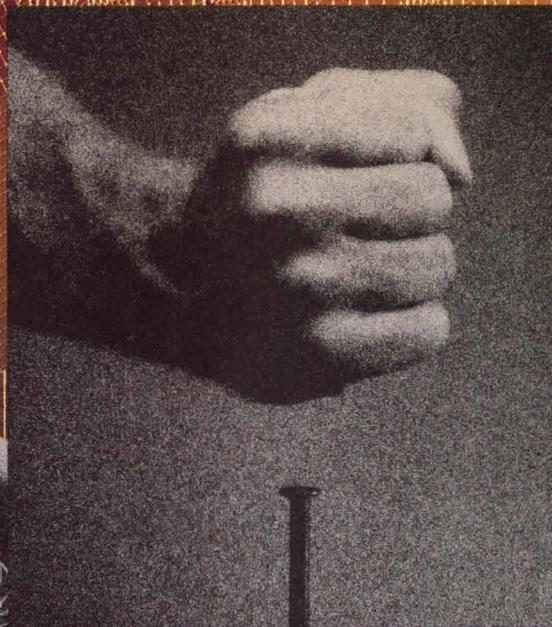


Beylerian
Beylerian features the Uvi table. Designed by Laura Griziotti, the Uvi table is available in three sizes, with a steel base and granite, marble, or glass top.
Circle 104 on reader service card

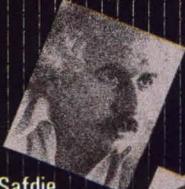
West Week 1985

March 27, 28, 29

Pacific Design Center



Jonas Salk



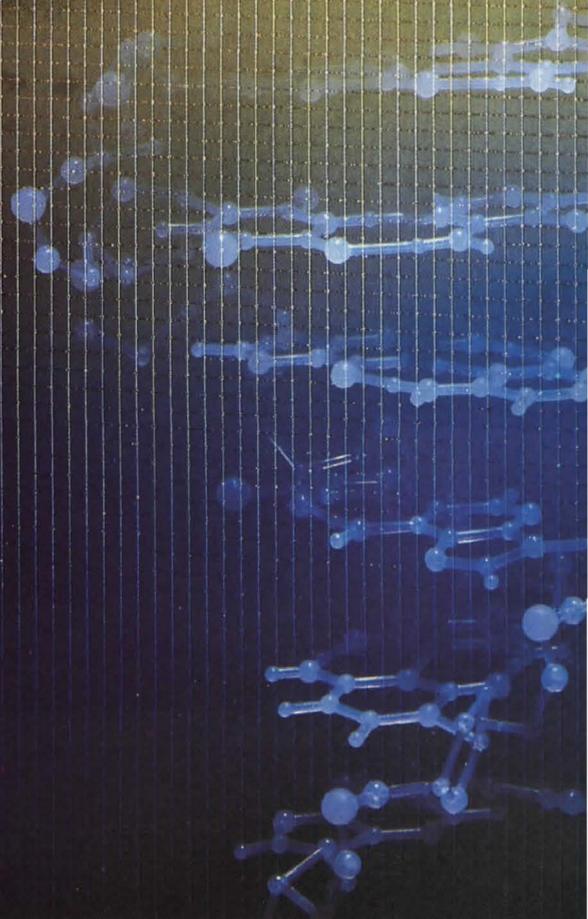
Moshe Safdie

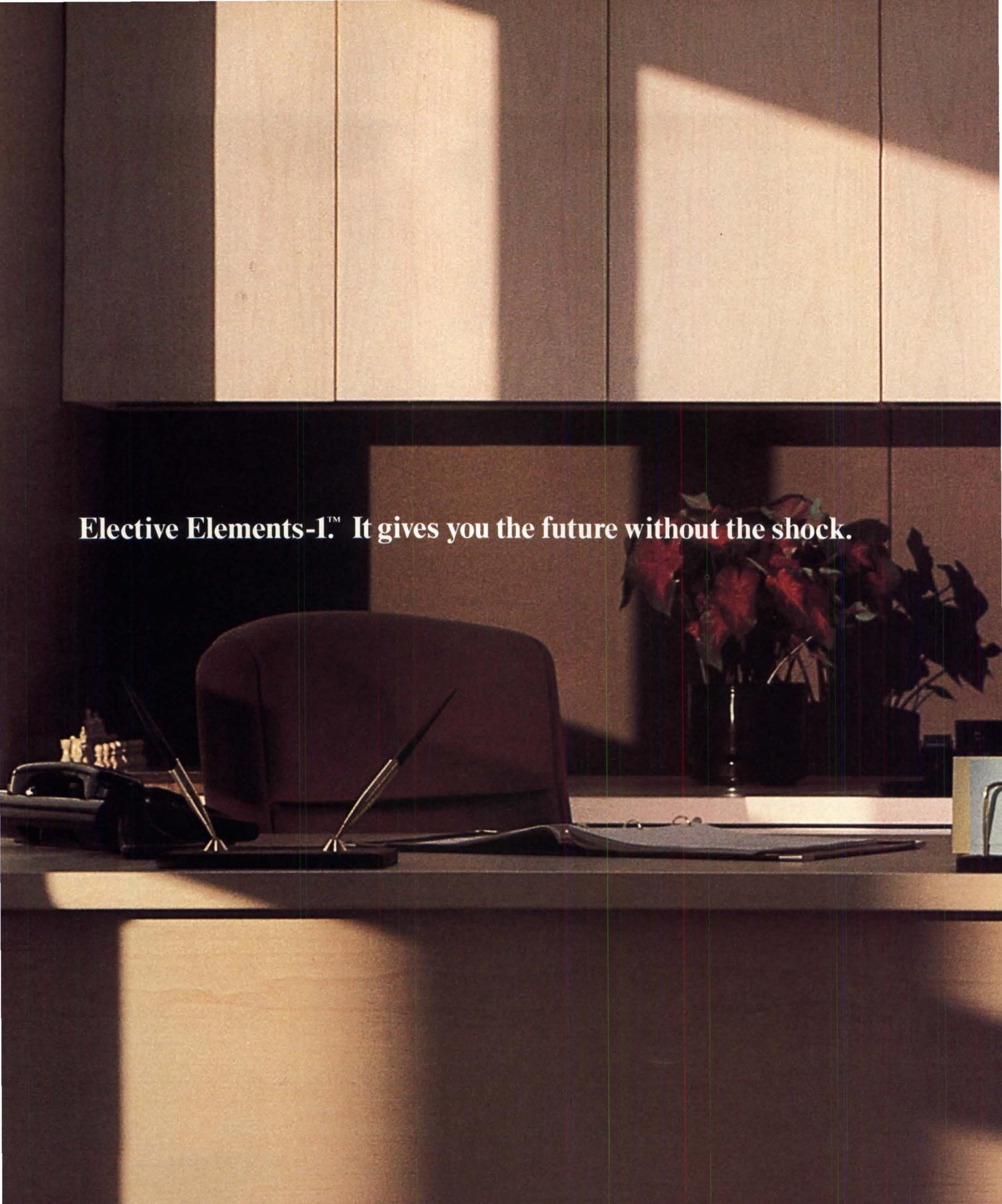


Doris Holleb



Peter Blake





Elective Elements-1.™ It gives you the future without the shock.

Office technology is coming out of the shadows and into the light. As it does, it brings new concerns to the workplace. How can a company automate without sacrificing human comfort?

Introducing Elective Elements-1™ from Stow/Davis. EE-1 is an open-plan office furniture system that provides an unparalleled dual capability: it addresses both the electronic needs of tomorrow's office and the human needs of today's worker.

EE-1's design makes progressive automation possible. For example, the Power Distribution System allows for up to four twenty-amp circuits, which can be designated for appliances or dedicated for computer equipment. The patented Energy Core™ brings power to the work surface level while managing wires and cables effectively.

EE-1 is also designed to make people feel comfortable. Its matched veneers and fabric-covered panel surfaces bring color



and texture to the work area. The complementing and contrasting details of end caps, top caps, and panel surfaces can be specified to create many different looks with one system.

If you're interested in an open-plan office furniture system that gives you the future without the shock, then visit any of our showrooms, or write us at Stow|Davis, 25 Summer Avenue NW, Grand Rapids, MI 49504.

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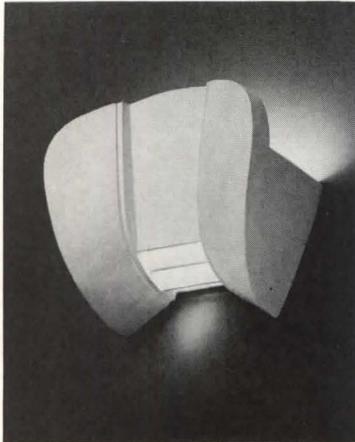
Circle No. 367 on Reader Service Card

Progressive Architecture 2:85 9WW

Tinta System







Boyd Lighting

New from Boyd Lighting is Giza, designed by Chicago sculptor Keven Kluck. Made of Hydrastone-Gypsum, Giza comes with a white interior and choice of four exterior colors: white, beige, gray, or peach.

Circle 105 on reader service card



Brayton International Collection

Brayton presents the Classic Designs in Wood Collection, designed by architect Oswald J. Beck. The collection consists of 12 different seating designs, including armchairs, lounge chairs, and two-seat sofas.

Circle 106 on reader service card



Campaniello Imports/Saporiti Italia

A group of furnishings by Italian designers is available from Saporiti Italia through Campaniello Imports. The products include two sofas, a dining table and chairs, a low table, and a Missoni tapestry.

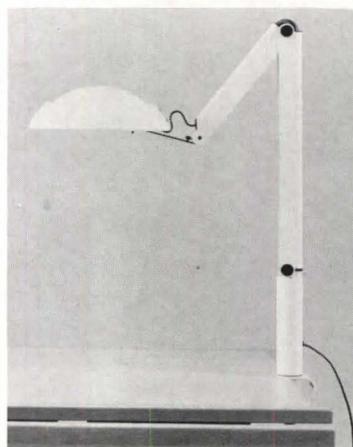
Circle 107 on reader service card



Carnegie

Carnegie presents Xorel Fabric Wallcoverings, available in four weaves and 100 colorways. Designed for use in high-traffic areas, Xorel wallcoverings are stain resistant, minimally toxic, and colorfast.

Circle 108 on reader service card



DSI Design Selections International

Available from DSI is an all-purpose, extension arm lamp from Danish cabinetmaker/architect Jorgen Gammelgaard. The lamp can be attached to a wall or table or can be a freestanding floor or table lamp.

Circle 109 on reader service card



Forms + Surfaces

Forms + Surfaces introduces eleven new Embossed Metal Geometric Patterns for West Week. A cladding material suitable for a variety of applications, Embossed Metal panels are available in stainless steel, aluminum, copper, and bronze in a variety of finishes.

Circle 110 on reader service card

SYSTEM-R

The power to respond. In business, response is everything. Specific response: "Our new

computer needs isolated circuitry."



Quick response: "Six new outlets on

this panel,



two at desk-height." Projected response: "With our telecommuni-

cations, we'll need maximum cable capacity within workstations."



And fiscal responsibility: "I know we need to add capacity, but the

comptroller says, 'No more budget overruns!'"

American Seating's R-Power™ is responsive

and economical. R-Power. It's energy to grow on.



Innovative Response... by Design

To find out how System R and R-Power can give you the power to respond, call toll-free: 1-800-253-8104, or write: "Power" American Seating Co., Grand Rapids, MI 49504.

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People Winning with Race®

Design: Bonnell Design Associates Inc.

Anticipating the inexorable march of electronics, the pervasive use of computers, Race® has earned the accolades it had received since the system was introduced at Neocon in 1978. Quite apart from the design awards are the performance testimonials from leading space planners and designers, who have said:

Sunar Ha

The materials used in Race[®] are appropriate for its function, nice to touch and nice to work on." - Douglas Ball

"It's a very simple system that solves some really sophisticated problems in today's computerized office environment."

"Race[®], with its state-of-the-art technology in wire management is a prime contender in our planning."

Race[®] can be changed easily and quickly as needs change: pads can be rearranged by anyone to alter the patterns of audio and visual privacy.

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GF Furniture Systems

New from GF is Data-TracTM, an information and material management system. Elements include a wide variety of panel-supported and free-standing components.

Circle 111 on reader service card



S. Harris & Co.

S. Harris presents three soft but hard-wearing nylon chenilles: Nova, a tonal stripe; Pulsar, a multicolored linear design; and Eclipse, a graphic stripe. All are available in 34 colorways.

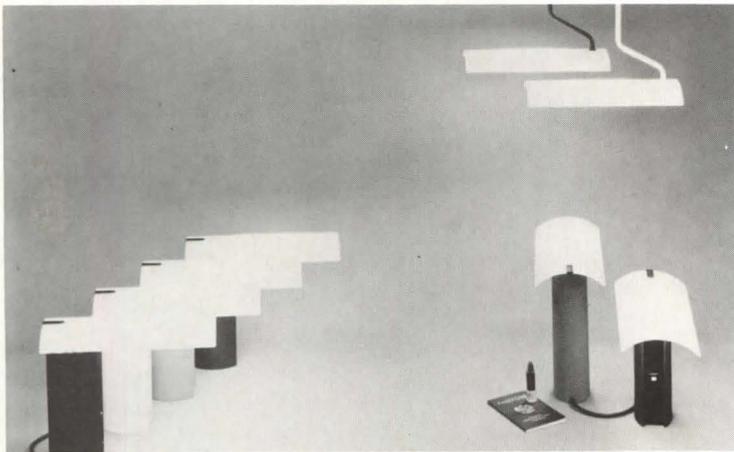
Circle 112 on reader service card



International Tile

From International Tile comes the International Collection, introducing the Gianni Versace line, designed by the renowned Italian couturier.

Circle 113 on reader service card



Koch + Lowy

Koch + Lowy features the Wings Series, designed by Piotr Sierakowski. The lamps are available in a wide variety of colors and finishes, with frosted white glass shades.

Circle 114 on reader service card



Kenro Light

Kenro Light presents the Kenro Picture Light, available in three lengths and four finishes.

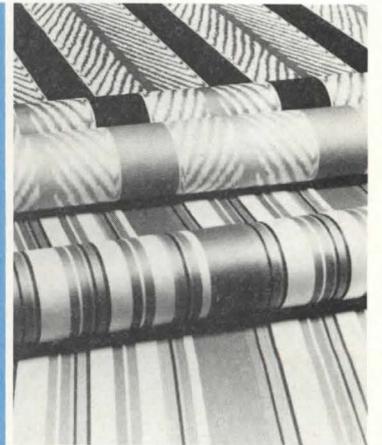
Circle 115 on reader service card



Boris Kroll

Boris Kroll presents Woodpecker, Whippoorwill, Kingfisher, Lark, and Mallard. Together they form the Avian Collection, a textile group that blends a wide array of colors, textures, and patterns.

Circle 116 on reader service card



Lee Jofa

Lee Jofa features Tournai Stripe and Carlton Stripe, two new cotton textiles available in Porcelain Palette color combinations.

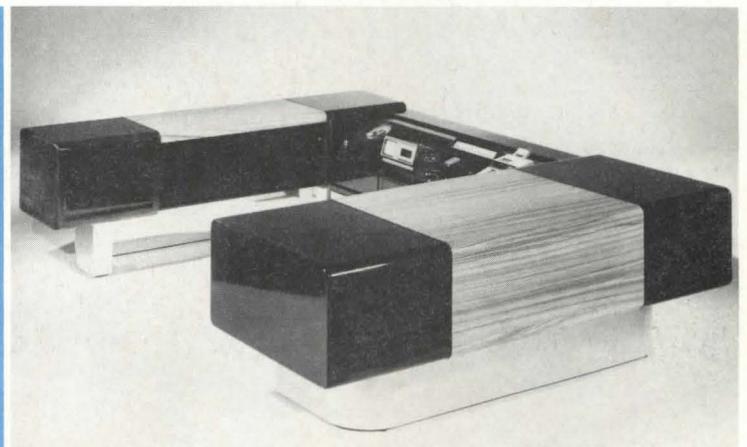
Circle 117 on reader service card



Monel

Monel Contract Furniture introduces Como, an upholstered lounge series. Designed by Studio 3, Como has a hardwood frame and includes a club chair and 2- and 3-seat sofas with ottoman.

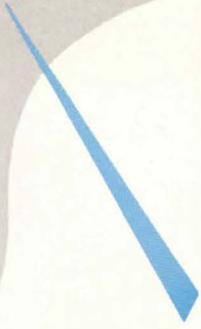
Circle 118 on reader service card



Monteverdi-Young

Monteverdi-Young presents the 1292 High Tech three-piece desk. The desk has a custom instrument panel and is available in walnut and zebra wood with a chrome base.

Circle 119 on reader service card



Mueller

Mueller introduces the Neo-Chair for West Week 1985. Suitable for residential or contract use, the Neo-Chair is available in different fabrics and finishes.

Circle 120 on reader service card



Niedermaier

New from Niedermaier is the Series 400 Madrid chair. The chair is upholstered in leather.

Circle 121 on reader service card



Poggenpohl

Poggenpohl features the MF wood series of kitchen cabinetry. Made of light-colored pine, the cabinet doors are crafted of three layers of wood to prevent warping.

Circle 122 on reader service card



Harvey Probbler

Harvey Probbler offers the Perimeter Collection, a versatile and functional desk group. The Perimeter Collection is available in a variety of sizes, in oak or mahogany veneers combined with textured black lacquer.

Circle 123 on reader service card



Ben Rose

Ben Rose introduces the Tokyo Collection, inspired by the New Wave look of Japanese design. Yen, part of a print group designed by Rob Rose, features alternating squares with a crosshatch overlay.

Circle 124 on reader service card

Trilogy called for intelligent flexibility.



Interior Design by Gensler and Associates/Architects

Thoughtful planning and Haworth open office systems provided it. Computer designers Trilogy Systems Corporation wanted their new headquarters to emphasize high technology, while affording intelligent solutions for growth. The project architects and designers created a contemporary open plan approach with standardized Haworth work stations that are easily reconfigured.

Haworth's comprehensive offering of UniTek™ Electronic Support componentry plus the electrical distribution capabilities of TriCircuit ERA-1® panels best accommodated Trilogy's widely applied office electronics. The result—an intelligent, aesthetically pleasing, systems solution.

Send for the "Haworth Case Study Package" today: Haworth Inc., One Haworth Center, Holland, MI 49423 U.S.A.

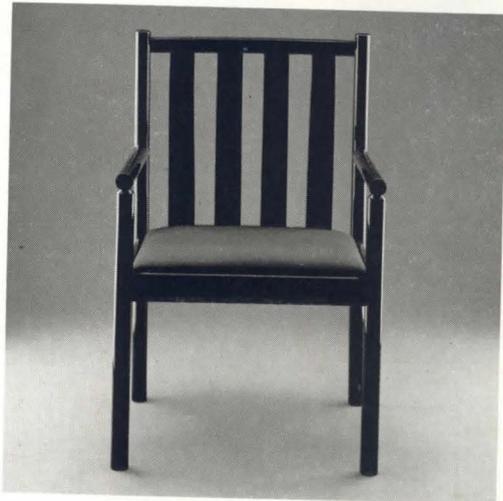


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b r i d g e h a m p t o n



the newest in a series of american furniture classics
designed by davis allen/skidmore, owings & merrill.

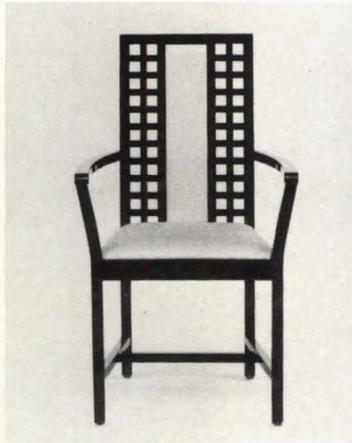
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Stendig
Stendig textiles
B&B America
Stendig International, Inc.
410 East 62nd Street
New York, NY 10021
212 838 6050



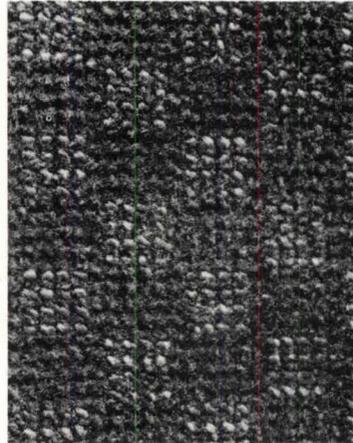
Scalamandré

Scalamandré presents Collection 91, a drapery line. Available in a wide variety of textures and fibers, in a palette of warm neutral colors, Collection 91 is designed to enhance the corporate environment at low cost.
Circle 125 on reader service card



Shelby Williams

The No. 1925 chair from Shelby Williams shows its influences clearly. Adapted from the designs of Charles Rennie Mackintosh, the chair is finished in PolyGloss™.
Circle 126 on reader service card



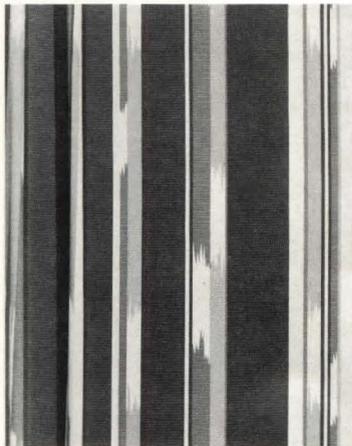
Paul Singer Floor Coverings

Paul Singer introduces a group of wallcoverings and carpeting in Du Pont Antron nylon.
Circle 127 on reader service card



Stark Carpet Corp.

Stark Carpet introduces Crans, a luxury contract carpet in 100 percent wool, available in white, beige, and gray, with a matching border.
Circle 128 on reader service card



Stroheim & Romann, Inc.

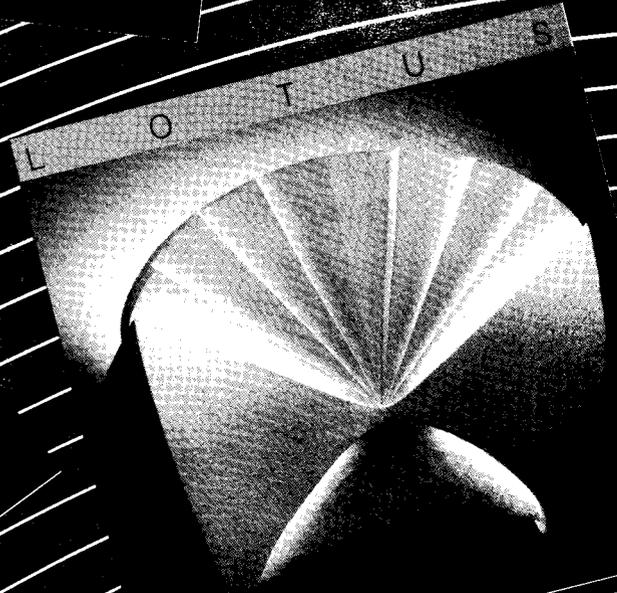
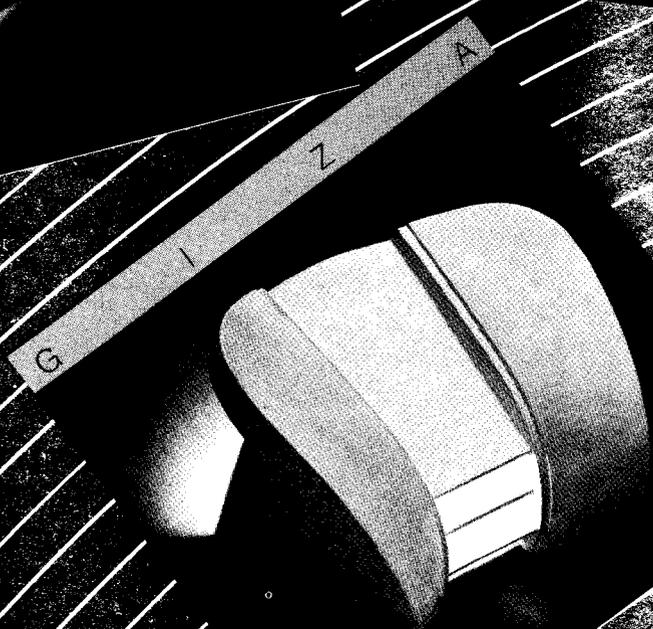
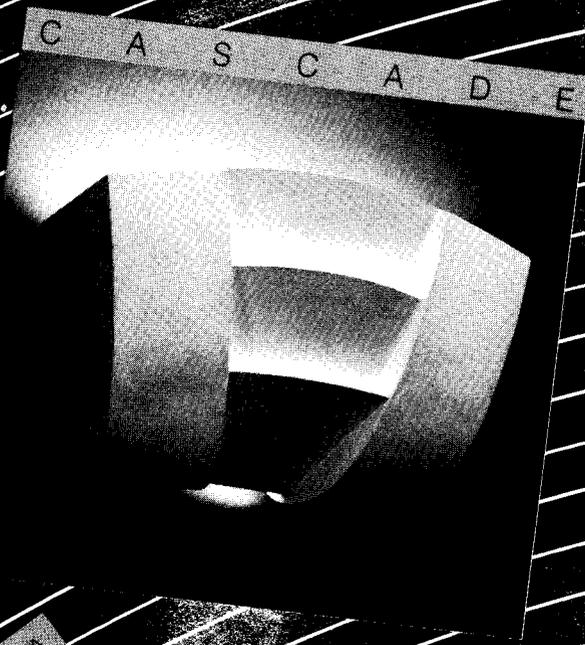
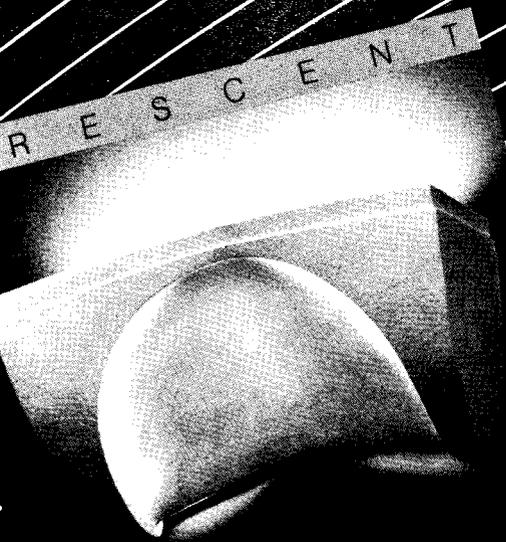
New from Stroheim & Romann is "Janissar," a stylized ikat with a miniature horizontal pinstripe, available in seven colorways.
Circle 129 on reader service card



Tivoli Industries

Tivoli Industries introduces the low-voltage Golden Rain chandelier, made of hundreds of tiny bulbs strung together in clear "light tubes."
Circle 130 on reader service card

B O Y D



Conceived and designed by sculptor, Kevin Kluck, exclusively for Boyd Lighting Company, these five exciting faux-stone wall sconces are offered in four integral exterior finishes: peach, beige, grey and off-white. To maximize reflectance, the interior color is white, with three lamping types offered: either two A-19/60W incandescent bulbs, or one PL-13W or two PL-13W fluorescent bulbs. For custom finishes, or custom illumination needs, please contact our design development team.

BOYD LIGHTING COMPANY
Fifty-Six Twelfth Street, San Francisco 94103
Telephone 415.431-4300

- Representatives**
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| Gen-Luck - Washington, D.C. | Kneidler-Fauchers - San Francisco |
| Decorators Walk - Miami | Kneidler-Fauchers - Seattle |
| E.C. Dickon - Dallas | Luminations, Inc. - Pittsburgh |
| Furnelings N. Light - Cleveland | Cy Mann Design - New York |
| Hally-Rum Ltd - Chicago | M-Geograph Company, Inc. - Boston |
| Kneidler-Fauchers - Denver | Paul B. Roulet - Atlanta |
- Boyd Lighting Company 1985
Photography: Stone & Stegert, San Francisco

Circle No. 515 on Reader Service Card

PDC 2 Showrooms



American Seating

American Seating presents *IT*—the Integrated Table Group, designed by Jonathan Giviat. *IT* offers worktops, supports, storage units, and accessories that can be grouped together in a wide variety of ways. Hugh Acton will be at West Week.

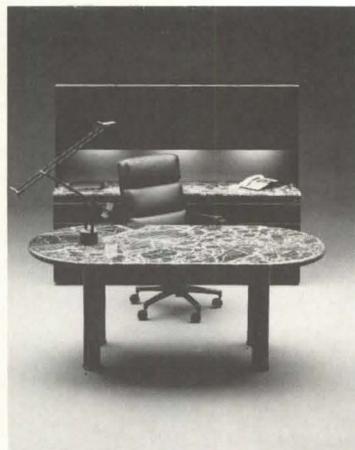
Circle 131 on reader service card



Arc-Com

Arc-Com presents the *Eurhythmic 3* print collection of drapery and wall hangings for hospital use; it is designed to induce environmental calm through use of soothing colors and patterns.

Circle 132 on reader service card



Artec

Artec introduces *Firenze*, a collection of executive furniture. The table desk features a leather top and high-gloss finishes. The collection includes credenzas, wall-shelf units and communications equipment storage units.

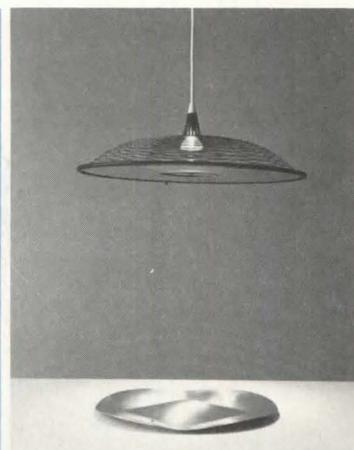
Circle 133 on reader service card



Atelier International

New from AI is the *Duo* chair. Designed by Werther Toffolini, the chair is available with two different back designs on the same base. Lighting designer James Nuckolls will be at West Week.

Circle 134 on reader service card



Artemide

Designed by Mario Marengo, *Mera* is a low-voltage suspension fixture, new from Artemide. The body is of stainless steel with a glass diffuser.

Circle 135 on reader service card

The Fifth Annual PDC 2 International Contract Furniture Design Symposium

“Transformations of Architecture: Space and Light”

The Third Annual PDC 2 Business Conference

“Reflections on Current Contentions”
by William F. Buckley, Jr.

“Corporate Expressions of Design”
chaired by Wolf Von Eckardt,
design critic
TIME Magazine

American Seating Company
Corry Jamestown Corporation
Haworth

Arc-Com Fabrics
Artemide
Atelier International, Ltd.
Beelner & Thomas
Brickel Associates, Inc.
Design Tex Fabrics West
Executive Office Concepts
The Gunlocke Company
Haller Systems
Harbor Universal/Benedetti Corp.
Harter Corporation
Herman Miller, Inc.
ICF Inc./Unika Vaev U.S.A.
iil incorporated
Kasprians, Inc.
Kimball and Artec
Knoll International
Krueger
Pacific/Condi
Ron Rezek/Lighting + Furniture
Scandiline/CADO
Stendig International, Inc.
SunarHauserman
Westinghouse Furniture Systems

3
Hayes
Maharam
The Shaw Walker Company
Steelcase, Inc.
Stow/Davis Furniture Company

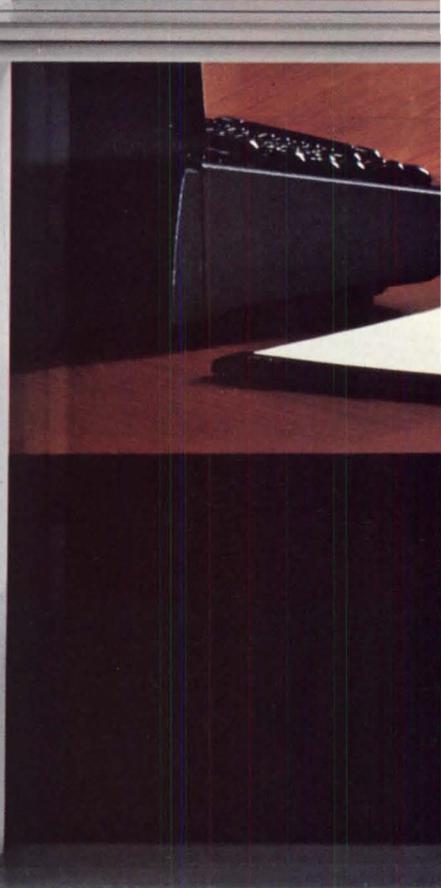
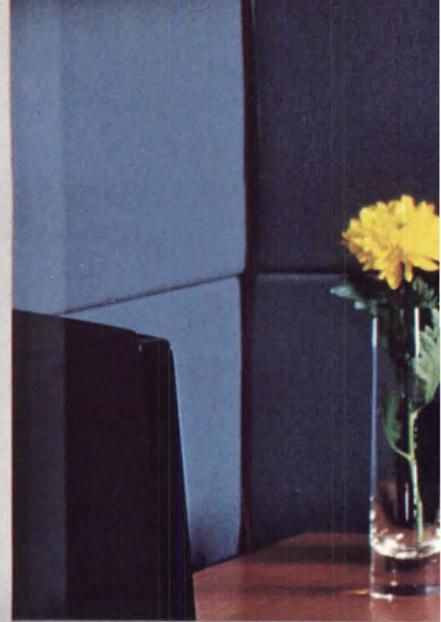
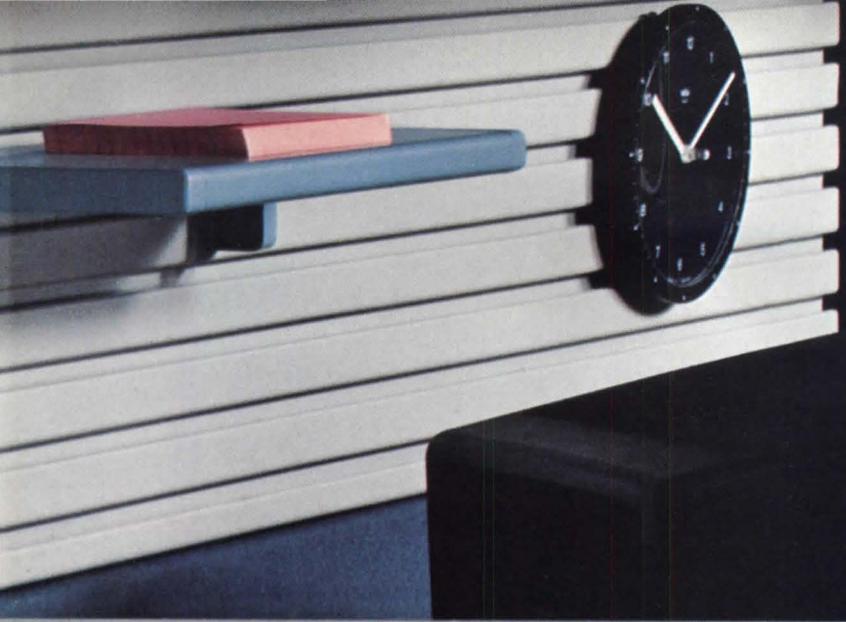
P D C 2

I

Presented by
PDC 2 Contract Manufacturers Association/West Coast
during WestWeek March 27, 28, 29, 1985

Pacific Design Center Los Angeles

Design: Sheila L. de Bretteville + Ave Pildas



Architectural Presence

Certain rooms have it; few offices do. No wonder our Ethospace interiors group has caused so much excitement in the design community. It brings the solid presence of architecture into the communicative freedom of open, adaptable office space.

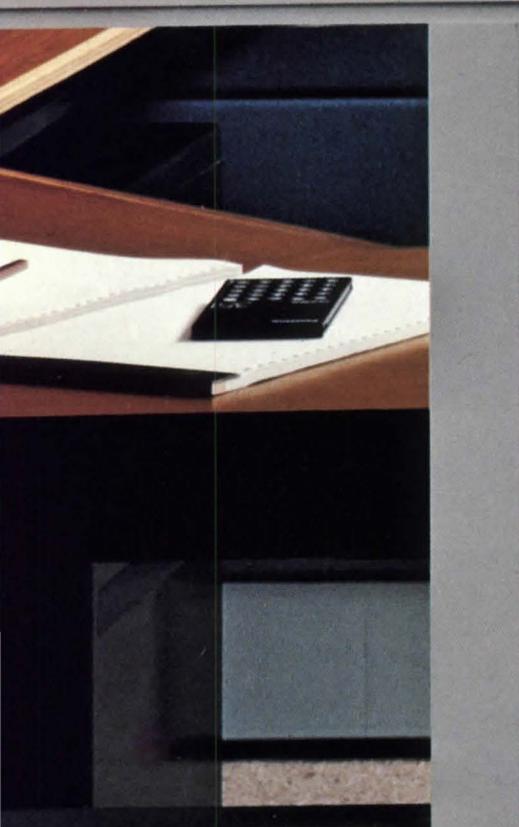
Ethospace walls are faced with modular tiles, any or all of which may be glazed. So they let the light in. And with floor-to-ceiling and three other heights to choose from, the walls themselves let light in—as much as is consistent with the privacy you need. Equally important, they let space in. Now workplaces that were open solely as a means to productivity are open to increased comfort and pleasure as well.

Ethos: the spirit of a culture. Ethospace™ interiors: work environments that reflect the spirit of a culture.

 **herman miller**

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Circle No. 354 on Reader Service Card





Beelner & Thomas

Beelner & Thomas introduces the InterCase System of interchangeable case components, task surfaces, and storage components. Included are table desks and credenzas.

Circle 136 on reader service card



Brickel

Brickel introduces the Oculus Chair, designed by Ward Bennett. The chair is a wood-frame armchair meant for use in boardrooms and executive offices, and is available in a wide variety of finishes. Ward Bennett will be at West Week.

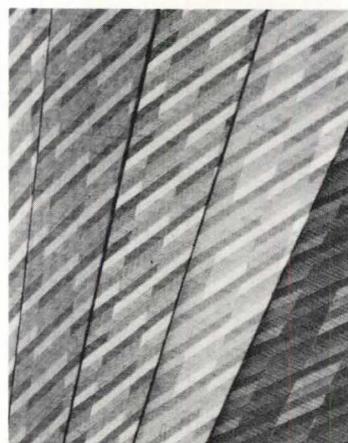
Circle 137 on reader service card



Corry Jamestown

Corry Jamestown features additions to the 1000 System: pedestals with new details and curved upholstered panels in various heights, added in response to designers' requests. Also featured is a fabric program of 35 newly available weaves.

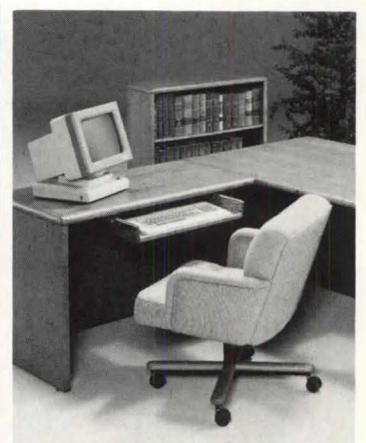
Circle 138 on reader service card



Design Tex Fabrics West

Design Tex features the Renaissance Collection, a group of softly colored jacquard wool blends for use in executive offices and meeting areas. Designer Hazel Siegel will be at West Week.

Circle 139 on reader service card



Executive Office Concepts

EOC expands its Decision Series with desks and workstations. Among the new items are computer terminal desk returns in two heights.

Circle 140 on reader service card



Brunschwig & Fils

75 Virginia Road, North White Plains, New York 10603 Through architects and interior designers.

Circle No. 316 on Reader Service Card

LE TWEEED: texture



Gunlocke

Gunlocke premieres the complete line of the award-winning Courthouse Chair, designed by Kenneth H. Walker, who will be at West Week. Stanley Felderman, who designed the Los Angeles showroom, will also be present.

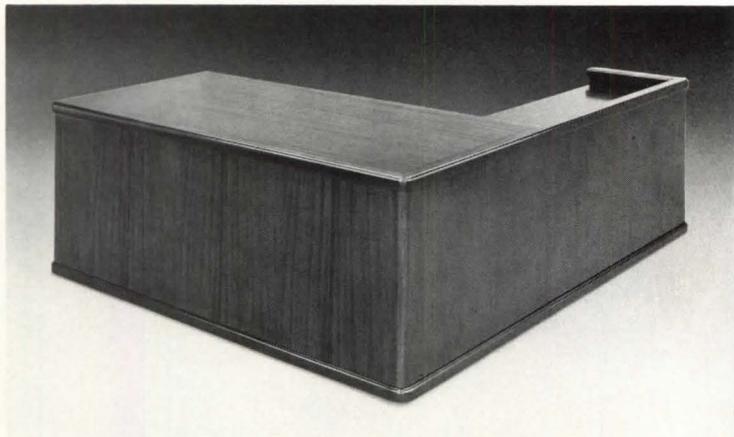
Circle 141 on reader service card



Haller Systems

Haller Systems features the Open Office. Designed by Fritz Haller, a Swiss architect, the Open Office was created to meet the specific requirements of the constantly changing contemporary work environment.

Circle 142 on reader service card



Harbor Universal/Benedetti

Harbor Universal/Benedetti presents Magnum, a transitional office furniture series in mahogany, walnut, or white oak. Harbor features its latest mobile pedestals, media storage files and cabinets, and storage walls.

Circle 143 on reader service card

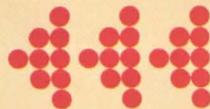


Harter

Harter features I/F, a modular, freestanding system of furnishings and accessories especially designed for the integrated office. It is also compatible with the HarterWall panel-supported furniture system for greater flexibility.

Circle 144 on reader service card

V



ALUE:

A measurement of worth, integrity, and importance. An equitable exchange on the principle of quality.

Through this definition, the Gunlocke Panel System continues to be the measurement from which others are judged. Its intrinsic value is proven every day in major installations throughout the country. A proven resource by today's leading designers.

Persuasive evidence of our continued vision. Providing creativity, responsiveness and value for new expectations within the business environment.



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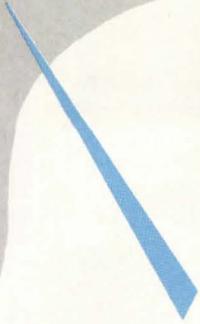
Circle No. 378

The Dillon Chairs
Design: Charles and Jane Dillon, 1978

A complete family of ten office chairs, ergonomically designed, and adjustable to your body with the greatest simplicity, negating the need for a Swiss watchmaker to repair them or a Swiss bank account to pay for them.







Haworth

Haworth introduces two Convergent Work Surface configurations at West Week this year. Each is suited to departmental or team conference use and provides support for electronic data/communications equipment.

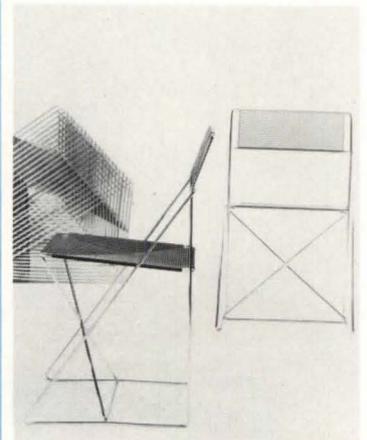
Circle 145 on reader service card



Hayes

The Hayes Company introduces the 336-14 (casters) and 336-80 (soles) armchair for 1985. The chair is available in a variety of fabrics and leathers from the Hayes Collection of textiles. Ray Zimmerman will be at West Week.

Circle 146 on reader service card



ICF

Featured at West Week 1985 is ICF's Network Chair. Designed by Danish architect Niels Jorgen Haugenson for use in commercial food establishments, Network combines toughness with economy.

Circle 147 on reader service card



iil

Pylon tables are manufactured by iil in a broad range of sizes, from occasional tables to the conference variety, in 15 wood finishes with optional glass and marble tops. Designer Manfred Petri will be at West Week.

Circle 148 on reader service card



Kimball

Kimball offers the diversified 7500 series at West Week 1985. Designer Rich Thompson has created a modular group and an assembled group for the series. Both feature Centra locking for security. Earl Koepke will be at West Week.

Circle 149 on reader service card

Artemide

Flight of Icaro

Sales Headquarters:

Artemide Inc.

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150 E. 58 Street, New York, NY 10155

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Regional Offices:

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Houston

Space 10002

The Decorative Center

Telephone 713/663-2284

Los Angeles

266 Pacific Design Center

Telephone: 213/659-1708

Icaro by Carlo Forcolini, a new halogen wall mounted fixture, is now being introduced by Artemide.

The Icaro consists of a grey anodized aluminum wall plate, with a triangular cut crystal diffuser and chromed perforated steel dowser surrounding the 150 Watt halogen bulb.

To receive a new 1985 color catalog featuring Icaro and Artemide's full line of lighting, furniture and accessories, write Artemide on your letterhead, or circle number 313.





Knoll

Knoll presents the Heli Collection, designed by Otto Zapf, and Niels Diffrient's Drafting Stool. The Heli sofa and chair are available in fabric or leather. Otto Zapf will be at West Week.

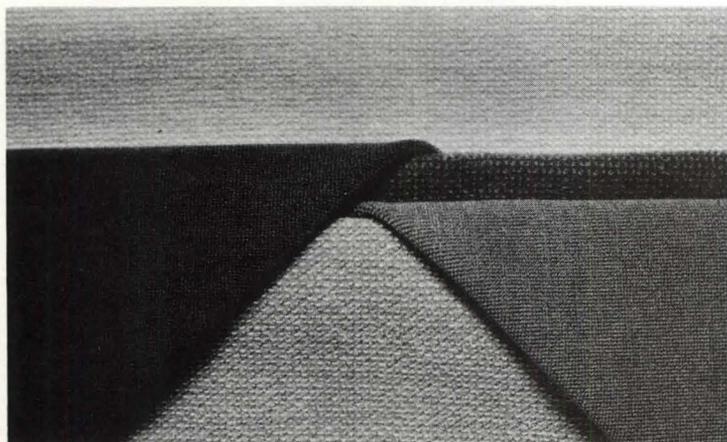
Circle 150 on reader service card



Krueger

Krueger features the Com System at West Week 1985. Winner of an IBD Gold Award, the open-plan system offers some new additions: acoustical panels, modesty panels, an adjustable keyboard, and a power pack.

Circle 151 on reader service card



Maharam

Maharam introduces several new textiles at West Week, including Wool Sheen, an upholstery fabric in worsted wool, available in 32 solid colors suitable for contract use.

Circle 152 on reader service card

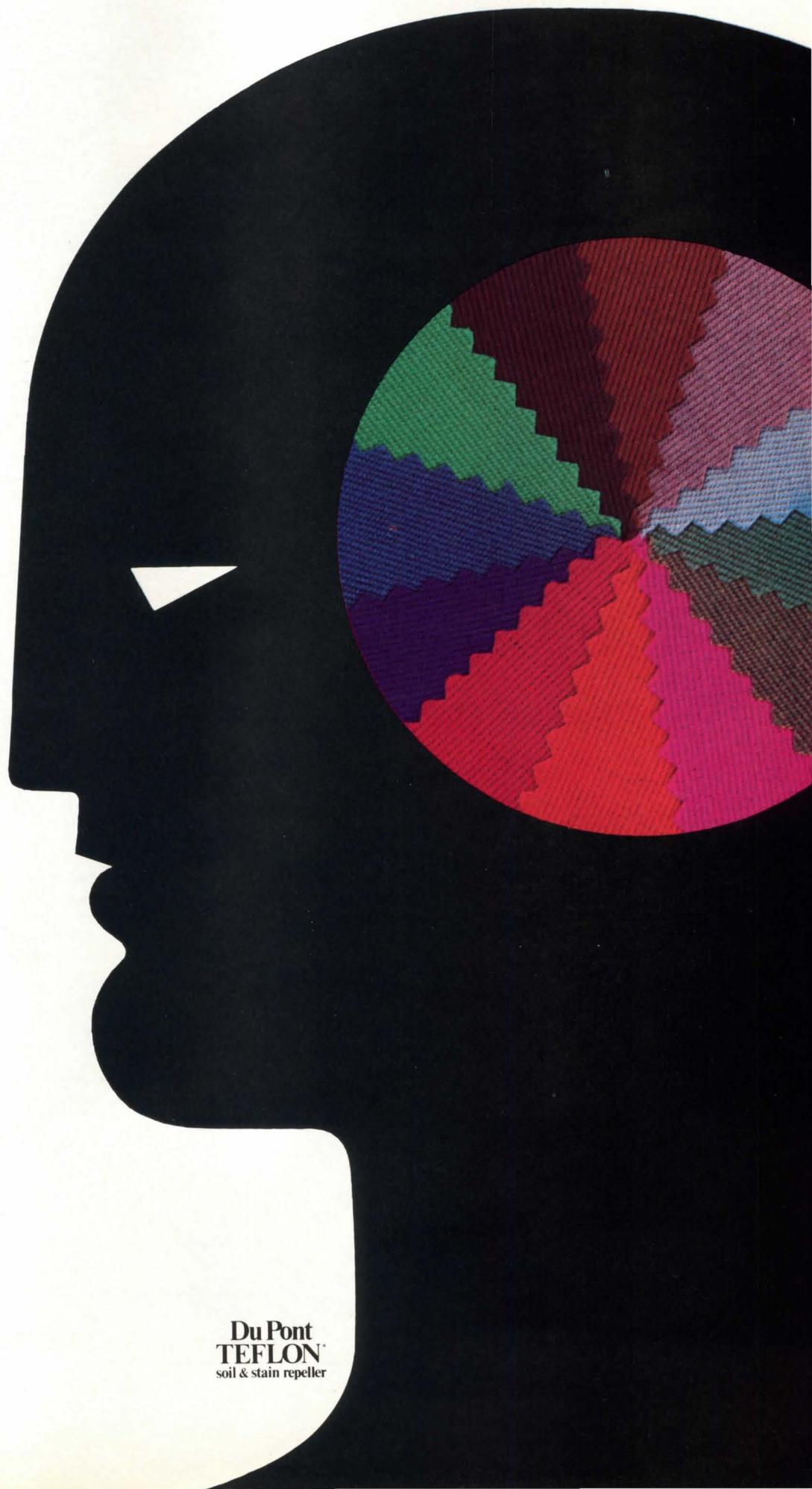


Herman Miller

New from Herman Miller this year is the Ethospace[®] office system, designed by Bill Stumpf in collaboration with Jack Kelley and Clino Castelli. Also new is the Color Compendium, a reference tool for Herman Miller products, designed by Clino Castelli. Bill Stumpf, Jack Kelley, and designer Don Chadwick will be at West Week.

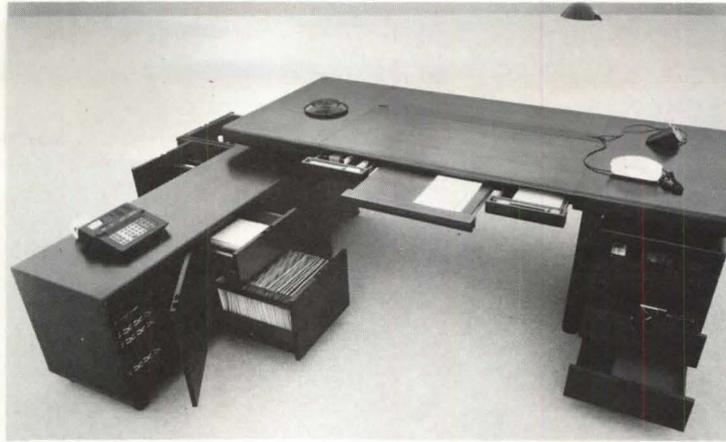
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Pacific/Condi

Pacific/Condi presents two desk systems. Megalfa is available in walnut and enameled aluminum. Dual is a group of modular components in walnut and light oak veneers. Designer Charles Gibilterra will be at West Week.

Circle 154 on reader service card



Ron Rezek/Lighting + Furniture

New from Ron Rezek is the Squiggle Desk, constructed from corrugated aluminum, steel, and Colorcore™. The desk is available in two lengths and incorporates a three-drawer file, also designed by Mr. Rezek.

Circle 155 on reader service card

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Scandiline/CADO

Scandiline offers Domain, a new generation of office systems, for West Week 1985. Domain presents myriad useful options and can be easily adapted to fit user needs. Designers Edward Friedrichs and Stan Hutchinson will be at West Week.

Circle 157 on reader service card



Shaw-Walker

Shaw-Walker presents a new direction for the Tempo 3 Radius system, in response to end-user requests. They also offer a new line of Computer Support Furniture.

Circle 156 on reader service card



Steelcase

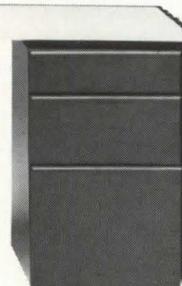
Steelcase offers an expanded line of computer support furniture for West Week. Six new introductions to the line include computer and printer tables, shelves for small printers, paper storage units, and portable VDT stands. Designer Warren Snodgrass will be at West Week, along with Orlando Diaz-Azcuy, designer of the Los Angeles showroom.

Circle 158 on reader service card



The Squiggle Desk **combines structural corrugated aluminum and colorcore laminate tops to form a clean functional work station.**

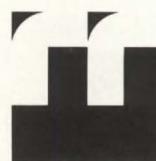
The new Squiggle Series **includes: desks with wireways and returns, storage pedestals, and conference tables.**



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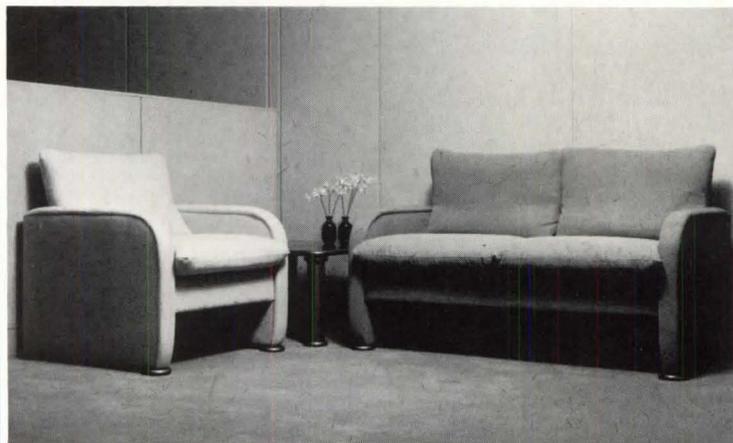
Circle No. 361 on Reader Service Card



Stendig
Stendig introduces the Bridgehampton sidechair and armchair. The chair has a beech frame with a cane or foam seat, and comes in a variety of glossy and matte finishes. Designer Gere Kavanaugh will be at West Week.
Circle 159 on reader service card



Stow/Davis
New from Stow/Davis for West Week is Ogg Seating, featuring a wooden perimeter that is structural as well as decorative. The chair comes in three versions: low- and high-back swivel-tilt, and a side chair. Richard Ogg will be at West Week.
Circle 160 on reader service card



SunarHauserman
SunarHauserman presents the Zapf Collection of lounge seating and tables, designed by Otto Zapf. Also, at SunarHauserman Textiles, is the new leather collection, Abacus, product of a collaboration between director Linda Thompson and tanner Wolf Ciecierski. Designers Douglas Ball and Niels Diffrient will be at West Week.
Circle 161 on reader service card



Unika-Vaev
Software is a durable high-tech textile from Unika-Vaev USA. Woven on a wire loom of natural fibers, Software comes in a range of colors, from primaries to pastels, suitable for contract use.
Circle 162 on reader service card



Westinghouse Furniture Systems
Westinghouse premieres the Wes-Group furniture system, which consists of a number of integrated subsystems that provide for office needs.
Circle 200 on reader service card

HarterWall™: Landscape Definition for the Integrated Office

The unique compatibility of the components of HarterWall and Harter I/F™ freestanding furniture defines exactly what today's interior landscape should be—efficient and ergonomic. Work surfaces and supports, overhead storage, pedestals and all accessories interface in coordinating designs, colors and finishes to solve specific task and people needs.

Mobility permits rearranging the same components in different configurations to customize areas to your work requirements. Also, interchangeability of components makes for more productive use of your resources and greater simplicity of inventory of systems parts.

Put HarterWall and I/F together to suit your application needs. Work stations/offices take shape, can be expanded, amended or changed overnight to meet future demands.

Use HarterWall as a complete panel system, simply as a perimeter or space divider to add acoustical and visual privacy. Pair it with I/F and the two add up to much more than the sum of their parts.

Harter Seating Systems complete the task-efficient environment resulting in extra productivity and human comfort. With Harter Task Systems, the Integrated Office is defined in which People, Information, Technology and Facilities work in perfect harmony.

Harter helps transform the quality of worklife.

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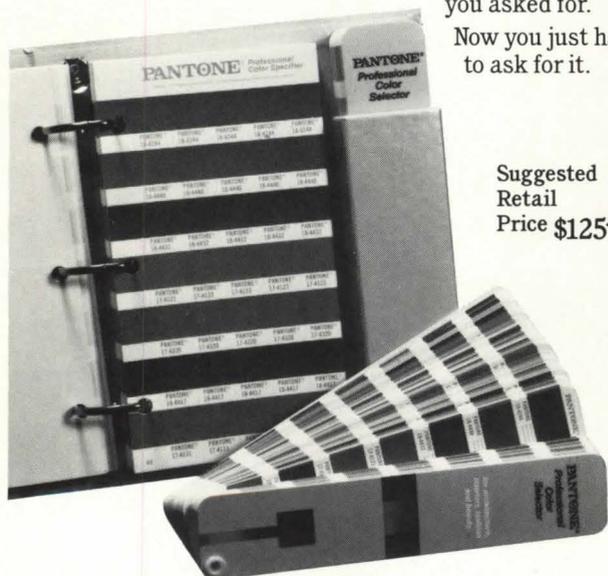
This color system represents the state-of-the-art in color selection today.

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*Pantone, Inc.'s check standard trademark for color reproduction and color reproduction materials.
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So why look at the world through ordinary small windows when you can add on the *Window* that comes with its *Own Room!!!* The FOUR SEASONS GREENHOUSE. Get back to nature and open up your home to air, light, sunshine and that *Great Outdoor Feeling*. It will change your lifestyle and make your home exciting. A perfect add-on for a kitchen, family room, hot tub or spa enclosure, dining area, commercial enclosure, solar collection or any room that needs more light or space. Send for our FREE Color Catalog for ideas.

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Pella Type E double glass.



Look for this mark on
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Pella's new Type E System knows no season.

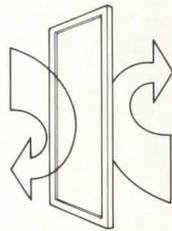
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Type E is for Energy, summer and winter, night and day. The new Type E System saves more energy and provides more comfort than triple glass, whether you choose Type E glass or Type E Slimshade®.

So wherever you want to keep the sunlight and the view without heat buildup, heat loss, or furniture-fading ultraviolet rays, Pella has a beautiful Type E solution in windows, doors, sunrooms and skylights.

U.23. The best value yet. Other high performance U values hover around U.30, but a Pella double glass window with the Type E Slimshade, closed, has a U value of .23. Spectacular. You have U and R values better than heavy triple insulating glass, and management capabilities as well.

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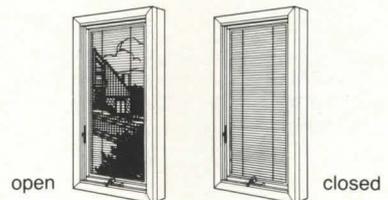
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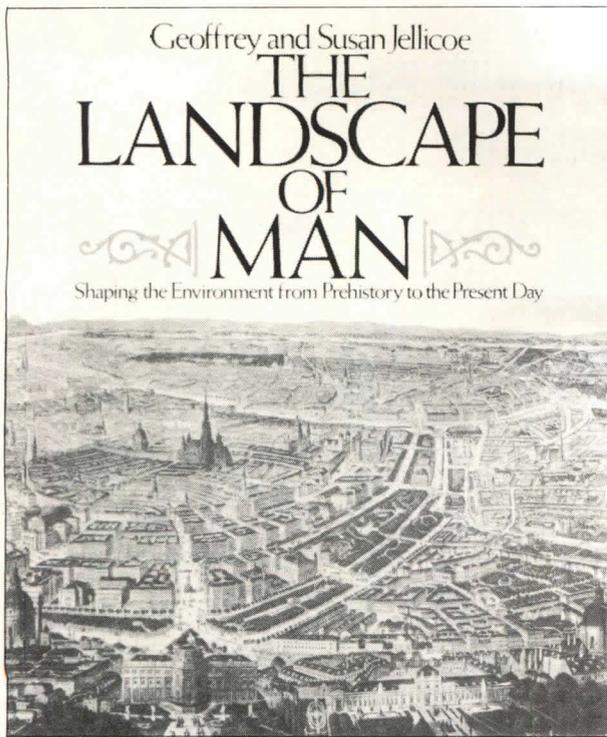
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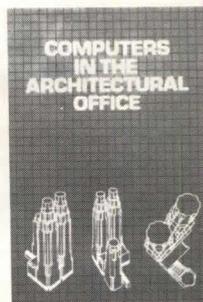
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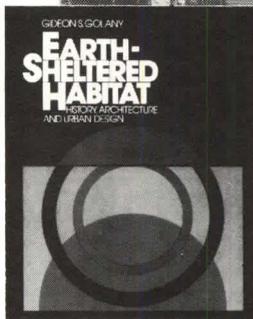
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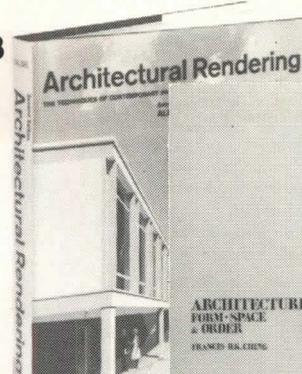
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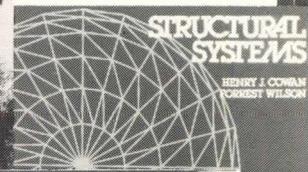
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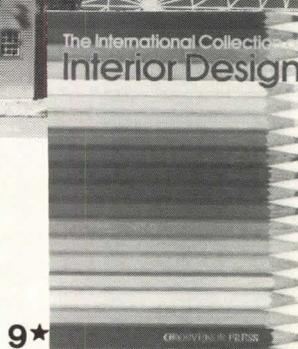
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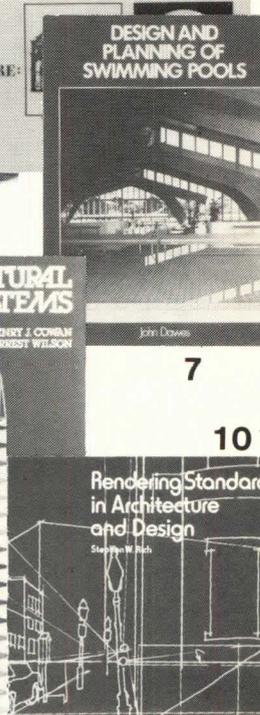


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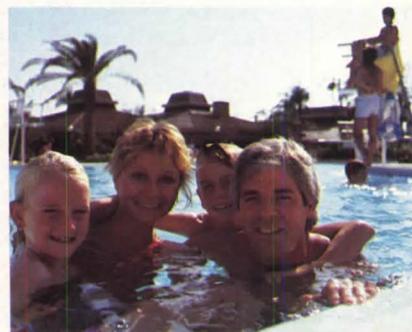
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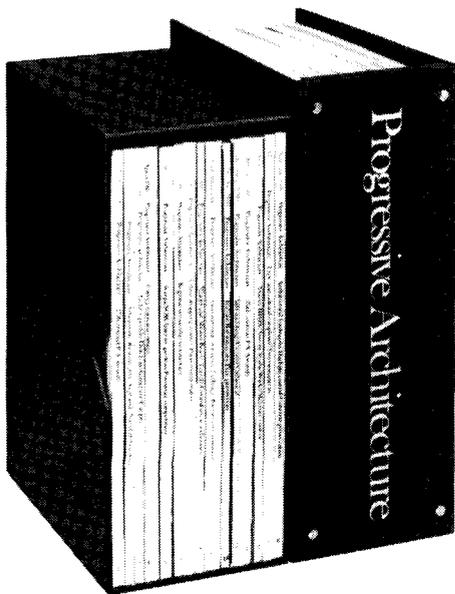
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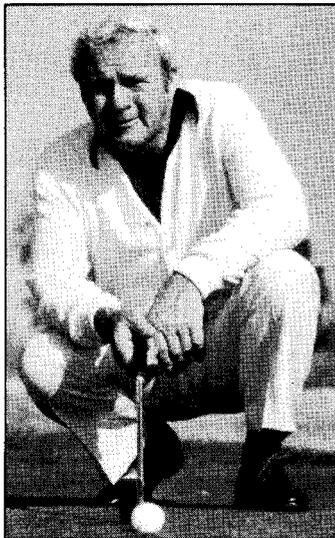
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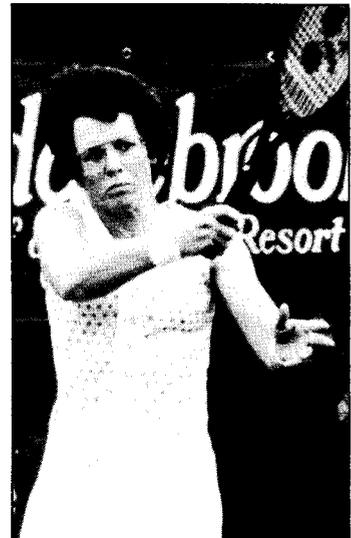


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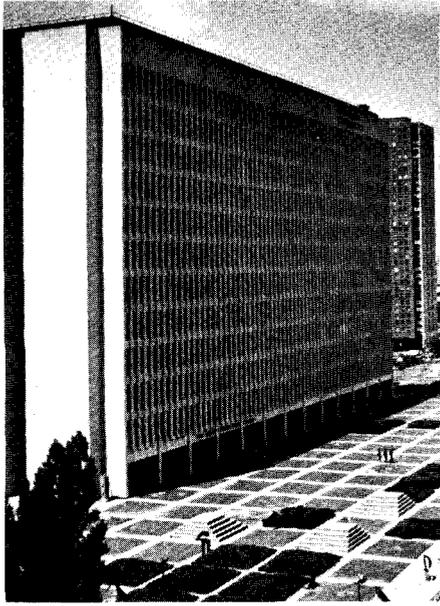
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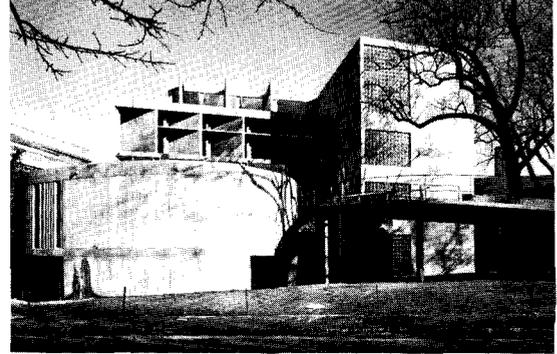
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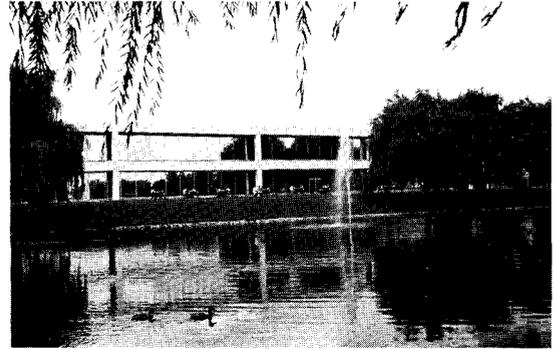
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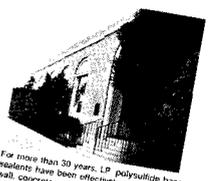
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The Almighty Wall: The Architecture of Henry Vaughan never answers the essential editorial question to be asked in any resurrection of a long-forgotten designer: why bother? The brief text, indifferent photographs, and copious white space where floor plans should have been all lead one to the same conclusion: that Vaughn cannot be judged or concluded. He was, says the author, an enigma, a nonentity of a man whose merits as a designer were so subtle and conjectural as to escape comprehension.

The title of the book begs for a discussion of the nature and function of Gothic architecture, both in its original and in its revived

forms, and then dismissed as an intensely private person. We learn little of his milieu or theories. His influence is hinted at, and his buildings, at least, are dutifully described, and careful note is taken of the fact that they often did not work very well. Yet even his most notable client, Edward Searle, for whom he built numerous commissions, is defined as inscrutable and unanalyzable. One is left wondering why, in the Bourne Whaling Museum, "... the total effect is not unlike an early Christian basilica, or perhaps even the inside of a whale," and why Searle could or would build a medieval Wuthering Heights for himself in the lonely New England countryside; or why Vaughan's buildings were such popular models when they had major functional problems; or even how

results were at times magnificent and this volume, set in a type designed by Goodhue, displays the architect's best work in at least some of its splendor. Goodhue was a master at the picturesque, at the assemblage of disparate elements—whether of decoration or of function—into a whole which clearly conveyed an ideology of civic or ecclesiastical pride sufficiently vague in its historical self-justifications to suit its newly sophisticated democratic American clients. Oliver's book achieves much the same result with many of the same elements.

The author is clearly enamored of his subject and gives him the benefit of the doubt on just about everything: the tensions with his erstwhile partner Cram are glossed over, his alcoholism is not even mentioned, and

The Almighty Wall: The Architecture of Henry Vaughan by William Morgan. New York, The Architectural History Foundation, in collaboration with The MIT Press. 1983, 210 pp., \$30.
Bertram Grosvenor Goodhue by Richard Oliver. New York, The Architectural History Founda-

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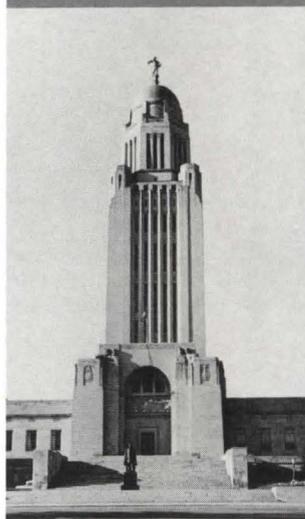
THE ALMIGHTY WALL



The Architecture of Henry Vaughan

WILLIAM MORGAN

BERTRAM GROSVENOR GOODHUE



Richard Oliver

ON THE EDGE OF THE WORLD



Four Architects in San Francisco at the Turn of the Century

RICHARD LONGSTRETH

form. The most recent rewriting of the history of Gothicism, based on the work of such scholars as Focillon, stresses the importance of the staving, articulation, and dissolution of the wall. Neither a discussion of why such a strategy was revised in the late 19th Century, nor a general hypothesis on why an almighty wall might otherwise be a unique and important architectural element as a bulwark, limit, or container for design motivation, takes place in Morgan's elusive text. Vaughan, who apparently studied with Bodley in England, became in Boston a member of a slightly mystical, devout, and influential Anglican movement, and built a number of small parish churches as well as the first version of the National Cathedral. He is intro-

duced to us, and then dismissed as an intensely private person. We learn little of his milieu or theories. His influence is hinted at, and his buildings, at least, are dutifully described, and careful note is taken of the fact that they often did not work very well. Yet even his most notable client, Edward Searle, for whom he built numerous commissions, is defined as inscrutable and unanalyzable. One is left wondering why, in the Bourne Whaling Museum, "... the total effect is not unlike an early Christian basilica, or perhaps even the inside of a whale," and why Searle could or would build a medieval Wuthering Heights for himself in the lonely New England countryside; or why Vaughan's buildings were such popular models when they had major functional problems; or even how

he came up with his paradigmatic suburban churches. In short, one wonders why Vaughan was a Gothacist, why he built the programs he did, and why the National Cathedral looks so coldly the way it does. Richard Oliver at least makes it very clear in *Bertram Grosvenor Goodhue* that, working in the same America of quickly changing programs, production techniques, sites, scales, habits, and preferences, Goodhue did a much better job at justifying Neo-Gothic design in particular, and the reuse of historical styles in general. Oliver hardly doubts that Goodhue sought to pose a marriage of historicism and Modernism as a way of structuring this change, rather than merely adroitly picking up on the latter fashions, but it is much to his credit that he at least mentions the latter possibility. In either case, the re-

most disturbing, his megalomaniacal and disastrous suppression of less forceful architects, such as Gill, is airily excused. This monograph never makes us realize the other way in which Goodhue and his immensely influential buildings can be viewed: as the dry products of a large office leaning on outdated models to produce a kind of New York Beaux-Arts straitjacket for every climate and for every design problem.

Oliver spends a lot of time on Goodhue's ecclesiastical work, carefully noting his elaboration of Gothic structural systems into decorative romances and his inflection of plan to suit urban sites, without ever asking why the architect chose to speak this particular architectural language even after the generous awards that its picturesque compositions

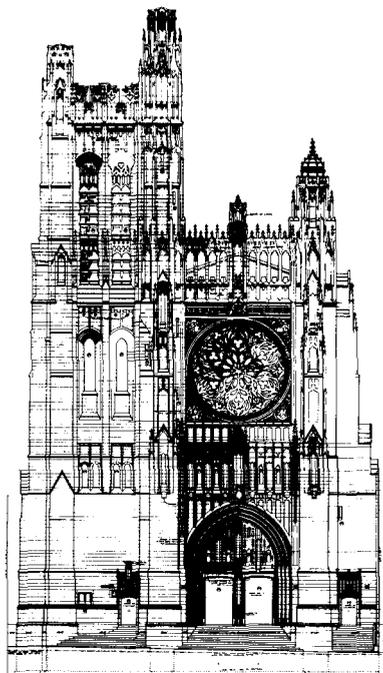
yielded proved to be all but useless in the scale and texture of the city. Without speculating on the relationship between fact and fantasy, Oliver dwells on Goodhue's charmed visions of make-believe towns in Germany or Italy, which distill the vision of enchanted Gothic and Classical motifs dripping down bare walls rising out of misty cliffs into which Goodhue tried to transform his projects and his world.

Goodhue's best work, in this book, is revealed to have been created when he was given a chance to realize such a dreamlike vision. Whether it was a church in Washington Heights, a mansion in Westchester or Monceno, or the West Point Academy—in short, wherever there was money, a visionary client, and the wish to readjust existing functions, materials, and sites into the patterns of fairy tale—Goodhue succeeded.

One can only wish that Oliver, rather than feeling the need to defend every Goodhue church, had given himself more room to discuss the major civic commissions that honed the architect's talents in preparation for the competition for the Nebraska State Capitol. That, instead, stands as enigmatically on the landscape of this book as it does on the wheatfields around Lincoln, a *deus ex machina* that proves the usefulness of Gothic principles in their marriage to the modernization of the vernacular in America's mid-century burst of civic pride. Oliver is sufficiently fascinated with Goodhue's cooperation with the sculptor Lawrie, but not enough with the wholly novel shape that the architect gave to that collection of civic spaces and bureaucratic offices. Just as George Hersey has brilliantly explained the peculiar marriage of aggressive tower hierarchies with the democratic dome to produce the model for State Capitols all across America, so Oliver has the chance to show us the synthesis of such types as the skyscraper, the rational office compound, and the Beaux-Arts *projet*, to create a powerful embodiment of the potential of American government.

We must be grateful to Oliver for his ability to turn his stewardship of the Goodhue papers into a coherent catalog of one of this century's most active architects. The book is a perfect jumping-off point for scholars less interested in convincing us of the majesty of every church he produced, or in idealizing what still may be seen as Goodhue's opportunistic use of historical styles, political or social savvy, and romantic illusionism.

The architects discussed by Richard Longstreth in *On the Edge of the World* need less excusing, for the simple reason that they were not nearly as successful at imposing their will on the country in which they worked, and were much more—vitaly—confused about their architectural direction. The Longstreth book echoes this confusion in its continual interweaving of the careers of Polk, Coxhead, Schweinfurt, and Maybeck, but the fragmentary construction of the tale of these pioneering California designers is both inevitable in a book of this scope and useful in the illuminating juxtapositions between building types, design attitudes, and contextual frameworks that it provides. This is the most ambitious of the three volumes and the most successful, precisely because it does not idealize the architects. They instead are placed, or almost



Elevation of completed Saint Thomas's Church, New York, by Cram, Goodhue & Ferguson, 1905–1913.

buried, in the geographic, urban, and intellectual climate in which they worked. Finally, Longstreth provides us with the clear thesis on the role of architectural precedent and invention, which is lacking in the other volumes.

Longstreth's thesis is elaborately, if not always sequentially, spelled out in a first chapter and in numerous asides throughout the book. It appears upon reflection to posit a reversal of the traditional interpretations of the roles of academic and eclectic strategies for structuring a design. Eclecticism is to Longstreth no polymorphic fairy tale of possible styles, but instead an all-encompassing order, exactly the kind of synthesizing force hinted at by Oliver. It allows previously disparate functions and sites, whether they be ranches for artists' colonies or rambling country houses on small lots on the steep hills of San Francisco, to be merged into a new site-specific environment, not unlike the sheltered worlds of the Eastern Shingle Style or the self-confident American Renaissance of the Chicago Columbian Exposition. Unlike the latter, however, there are no academic traditions, Classical orders, and scholastic references to provide an air of permanence and elitism to these San Francisco edifices. Instead, many of the same architectural techniques employed by such firms as McKim, Mead & White were used in this seamless world of newly emerging and merging forms to create changeable hints of fashion, witty asides, and unexpected scale shifts. Especially in the city houses of Polk and Coxhead, one is presented with constantly shifting interior planes built around dark centers and long hallways, against which Classical elements are played as purely fanciful, fairy-tale-like devices: a Spanish balcony for a nonexistent lord here, a witty reversal of the orders in a corner there, the latest cornice detail here, a staircase that fuses all the spaces into a theatrical stageset there. Eclecticism provides the stable, shifting, unconscious given; academic architecture the frivolous and responsive decoration. The same sort of reversal seems to be taking place in the rustic retreats designed by the same architects for members of a Swedenborgian community in a dense urban setting while

they were at the same time creating tight, civilized houses in the wilderness of Marin County.

Perhaps the most brilliant design to come out of this exciting era of California architecture is Coxhead's entry to the Hearst Competition for a new campus for the University of California at Berkeley, commissioned to create the image of an ideal academic community in the Bay Area. Longstreth goes on at great length to detail the insecurity which led Maybeck to frame the competition to ensure the victory of a European or East Coast design, thus effectively throttling the work and futures of the local talent, including his own. This kind of insecurity and self-doubt is ironically what creates the energy in many of the designs exhibited here. Coxhead's entry, though, goes a long way towards the creation of a more appropriate, accommodating, and complex California architecture. The design's many floor plans, each a perfect Beaux-Arts archetype, are composed as if they were picturesque fragments, and the site is treated as the grand absolute, generating a romantic assemblage of neurotic, witty, and appropriate Classicism clad in a Spanish regional coat.

The language that evolved from such attempts came to be known as Spanish Regionalism, and according to Longstreth, was invented by Schweinfurt for the 1893 Chicago Columbian Exposition California Pavilion. The enduring power of this synthesis speaks well of its creators. Yet the balance between academic freedom and eclecticism described by Longstreth was always a tenuous one: *On the Edge of the World* sometimes reads like a suspense story about who will survive continual critical and economic deprivation, lack of clients, and loss of nerve. No wonder California at the turn of the century, a new society frantically trying to define itself, and not sure how to be daring and pioneering at the same time as it was civilizing itself, produced neurotics like Bernard Maybeck, with whom Longstreth closes this book.

Leaving aside Maybeck's late and more familiar work, Longstreth concentrates on the architect's early, uncomfortably assembled and often bizarre houses. He illustrates how Maybeck used Viollet-le-Duc's structural diagrams—not his systems—and Semper's examples of style as ordering principles. Regionalism, whether German or Spanish, here became the basis, even if it was an invented foundation, for an architecture whose formal devices appeared like dreams escaped from the unconscious traditions of the profession and the site. The whole construct then became "... a maze that obscures the rationale of its parts." Maybeck was, according to Longstreth, "struggling throughout to find 'brief moments of eternal reconciliation' through beauty in art," and he, as well as his fellow Northern Californians, seems to have found those moments. It is the virtue of *On the Edge of the World* that it is not merely a historical resurrection or re-assessment, but is itself such a complex, confused, and tenuous brief moment that presents both itself and the work of which it is a mirror as viable models for current practice and theory.

Aaron Betsky

The reviewer is assistant professor of architecture at University of Cincinnati.

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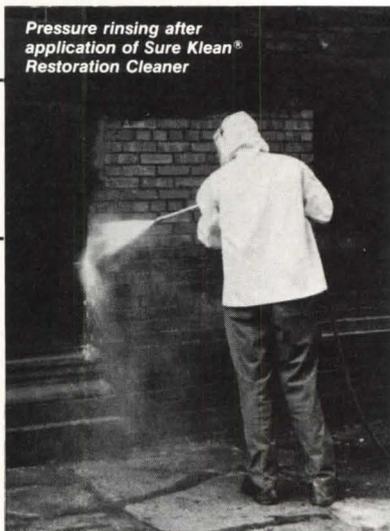
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Randolph Tower /Chicago, Illinois
White terra cotta surface is shown
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P/A in March



Volvo Corporate Headquarters, Sweden, Mitchell/Giurgola, Architects.

K. Helmer-Petersen

Accomplished architecture

Serenity and refinement are the salient qualities of the Volvo Corporate Headquarters in Gothenburg, Sweden, by Mitchell/Giurgola, the subject of P/A's lead article in March. In the same issue will be thorough examinations of two excellent but different hospitals—one in Scottsdale, Arizona, the other in Bayonne, New Jersey. Completing the design features in March will be a Bay Area house with Roman ornament by Thomas Gordon Smith, and a boutique for Issey Miyake on Fifth Avenue.

Technics: Elevators and Miss Liberty

Two technics features in this issue will cover considerations in choosing elevators and the fascinating techniques being used in the Statue of Liberty restoration.

P/A in April

Energy-conscious design will be taken up in a selection of new buildings and a Technics article on insulation. Other notable architecture will round out the issue.

P/A Products and literature

- 175 *19th-Century wallcovering back in production*
- 176 *Products related to joint design (see Technics, p. 105)*
- 176 *Products and literature of general interest*

The democratic wallcovering

Long out of production in this country, Lincrusta and the related Supaglypta and Anaglypta wallcoverings are once again available in the U.S., distributed by Mile Hi Crown Inc. for the English manufacturer Crown Decorative Products Limited. Lincrusta, developed in 1877 by the inventor of linoleum, Frederick Walton, has a deeply embossed surface made by applying a mixture of linseed oil and other resins to a paper backing and running it through engraved rollers. Supaglypta, a lighter weight wallcovering developed by Walton's associate Thomas Palmer in 1887, contains cotton paper embossed while still pulp. Anaglypta achieves an even lighter embossed paper with wood pulp bonded by adhesive to a specially formulated backing paper. Crown also produces a vinyl Anaglypta.

Lincrusta's density makes it well suited for walls subject to abrasion. Supaglypta and Anaglypta, because of their lighter weight and lower cost, find more use on ceilings or on walls less subject to abuse. Crown manufactures these wallcoverings from original 19th-Century molds, making them particularly well suited as replacement materials in restoration projects.

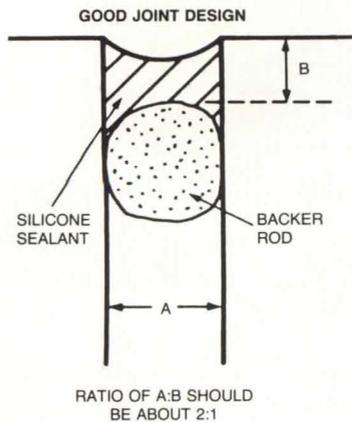
Supaglypta and Anaglypta require a careful installation since the papering brush can damage their hollow embossing; Lincrusta's solid embossing offers much more resistance. The wallcoverings, to meet ASTM E84-80 Flame Spread Characteristics, must be painted.

Lincrusta has been called the "democratic wallcovering" because it was the first embossed paper made by machine and sold to a mass market. In its durability and design, however, it is without equal. *TF*

Circle 201 on reader service card



The embossed surface of these wallcoverings (top) can simulate that of plaster relief. With the application of glazes, lacquers, or enamels, they also can simulate pressed copper, tooled leather, or woodgrain. Crown uses molds that date as far back as 1896, enabling the production of patterns ranging from the Classical revival (top) to the more flamboyant Art Nouveau or Arts and Crafts (bottom). Crown also produces "pellets"—decorative borders for the tops of walls—that come in such Classical patterns as the Greek fret or palmette.



Silicone sealant brochure contains a comparative chart of sealant properties and performance data. Descriptions, typical applications, features, specifications, architectural recommendations, details, and a case history are provided for each of several sealants. Dow Corning Corp.
Circle 203 on reader service card

Joints Design Digest is an 18-page illustrated guide to the use of LP® polysulfide-based sealants for expansion joints and glazing. It discusses structural sealing, anticipated joint movement, joint width for various building materials, established width-to-depth requirements, and typical sealant uses for metal curtain walls and concrete masonry/construction. The brochure includes typical glazing combinations and conditions for glazing. Morton Thiokol, Inc.
Circle 202 on reader service card

Ter-Polymer Sealant #5000 Series includes several grades for sealing expansion joints. They are water-based, one-part sealants having high solids of acrylic resins and selected pigments that cure upon exposure to the air. A Spec-Data® sheet describes the products, which meet Federal Specification TT-S-00230C(2), and provides technical data and application information. VIP Enterprises.
Circle 204 on reader service card

Sealant selection and application design guide explains preparation procedures before applying sealants; backup materials and primers; proper applications; sealant selection to suit application; and glazing system specifications. The eight-page brochure provides property information for Silicone 1200 sealant, Silglaze, and Silpruf sealant. General Electric Co. Silicone Products Div.
Circle 205 on reader service card

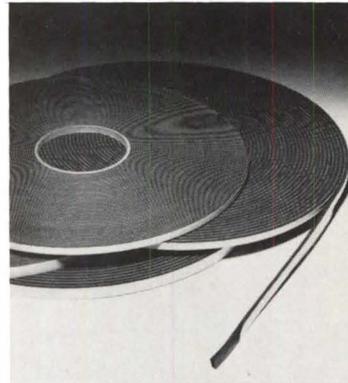
DAP 230 sealant meets the performance requirements of Federal Specification TT-S-00230C, Type 2, Class B, according to the manufacturer. It maintains a durable seal that prevents air and moisture penetration, even during severe weather and seasonal temperature changes. It is described in a four-page brochure that provides performance characteristics, property data, and application information. DAP, Inc.
Circle 206 on reader service card

Sealtight® Ceramar™ highly resilient synthetic polymer foam is used as a backup and joint filler for horizontal and vertical applications to accommodate expansion and contraction movements. It offers ultraviolet resistance and is more resistant to fatigue and stress than polyethylene. It will not stain or bleed and is compatible with today's sealants. W.R. Meadows.
Circle 207 on reader service card



Phenoseal vinyl caulking adhesive is permanently flexible, heat resistant, and waterproof. Construction uses are caulking door and window frames of wood or metal, gluing mitered joints of interior or exterior trim, sealing gutter joints and mitered corners of wood or metal, and caulking chimney and gable flashing. It

also can be used to cement wood studs to masonry. Gloucester Co., Inc.
Circle 208 on reader service card



Glazing tape TC-DFBPV series for interior or exterior windows and window walls is a double-faced, closed-cell tape made from polyvinyl chloride. Thickness ranges from 1/32 inch to 3/8 inch; densities are 15 and 25 pounds. The tape is available in black and gray and has optional repositionable adhesive on one or both sides. Gaska Tape, Inc.
Circle 209 on reader service card

The Pecora sealant system was designed especially for joints in multilevel parking structures and similar joints in stadiums, plazas, malls, and industrial areas. A data sheet explains the two stages of the system: treatment of expansion joints and treatment of control joints. It describes the design of each and the appropriate sealant to be used to provide watertight joints and reduce spalling. Pecora Corp.
Circle 210 on reader service card

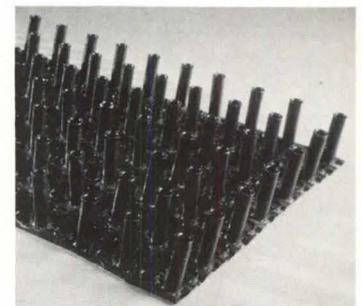
Chemjoint silicone sealant is formulated to produce a durable expansion joint that will remain flexible. It offers excellent adhesion, weatherability, and chemical resistance and forms a liquid-tight bond to brick and tile, aluminum, and primed steel. It can be applied at a temperature range of -30 to 120 F. Atlas Minerals & Chemicals, Inc.
Circle 211 on reader service card

Joint sealant Construction 2000 is a one-component elastomeric sealant that remains flexible for years. Its adhesion properties are said to improve with age and weathering. Construction 2000 meets applicable standards of TT-S-00230C, Class A, Type II and ASTM C 920-79, Type S, Grade N.S., Class 25 requirements. Geocel Corp.
Circle 212 on reader service card

Sonolastic® Omniseal is a one-component, low-modulus, moisture-curing silicone construction sealant for expansion joints. It is suitable for joints in precast concrete, masonry, metal curtain walls, and perimeter window caulking. It provides a highly flexible, durable, weather-resistant seal with exceptional movement capability, according to the manufacturer. Omniseal is available in several colors and complies with Federal Specifications TT-S-001543A, TT-S-00230C, and ASTM-C-920. Rexnord Chemical Products, Inc., Sonneborn Building Products Operation.

Circle 213 on reader service card

Wabo® Thermobarr pyro seal joint system, described in a four-page brochure, delays or inhibits the spread of fire throughout a structure. It helps to seal out the spread of noxious fumes and smoke by providing a heat barrier and smoke seal. There are also sealants to meet seismic performance requirements. Watson Bowman Associates, Inc.
Circle 214 on reader service card

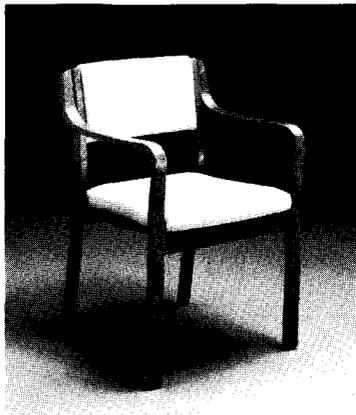


Hydaway™ drain to keep water from entering building foundations or basements consists of heavy-duty filter fabric permanently bonded to an internal supporting core. Water passes through the filter fabric, then flows into the core conduit around the perimeter of the foundation, and empties into a drain outlet such as a storm sewer. The system is fastened directly to the foundation with a nail gun or glued to the wall with mastic. Monsanto Company.
Circle 215 on reader service card

PlayForm play structures feature bright yellow and orange nonfading reinforced plastic laminate panels. Structural supports are select heart grade redwood. There are tunnels, spiral slides, log rolls, chain ladders, swings, and trolley rides that can be used in many combinations. Landscape Structures, Inc./Mexico Forge.
Circle 216 on reader service card

The Shogun Collection of fabrics consists of five jacquard designs, four based on a diamond shape and the fifth of stylized flowers. The simple motifs, of Far East inspiration and made in France, are available in neutrals and deep tones. Three patterns are produced in five colorways, two in six colorways. The cotton and viscose fabrics are 52 inches wide. Manuel Canovas, Inc.

Circle 217 on reader service card



The Companion chair for contract seating can be used as a stacking chair or in tandem in auditoriums, restaurants, conference rooms, and lobbies. It has laminated hardwood arm and back posts, with natural beech veneers finished in walnut, medium oak, or beech on exposed surfaces. Cushions are made with high-resilience, fire-retardant polyurethane foam on the seat and back. La-Z-Boy.

Circle 218 on reader service card

Williamsburg Museum Prints, reproduction wallcoverings, consist of 25 patterns and 6 borders. Derived from 17th- and 18th-Century documents, the collection includes florals, stylized geometrics, and small overall prints. Katzenbach & Warren, Inc.

Circle 219 on reader service card

FuturaLok™ electronic security system created for hotel room security uses a card with a coded magnetic strip, programmed at the front desk, where a central computer records all transactions and issues printed management reports. Because the code changes for each new room occupant and keys are eliminated, guests have greater security.

The system uses mortise lock technology already used in large hotel chains worldwide. Corbin Div., Emhart Hardware Group.

Circle 220 on reader service card

The Alameda bench for interior public areas combines vertical and horizontal lines. The bench is of solid oak construction and has a durable finish for years of service. Landscape Forms.

Circle 221 on reader service card

Faucet and matching bath and shower valves feature Crystalac handles. The wide spout has an aerator and pop-up drain assembly. Handles have a concealed mount. Units are equipped with 2.75-gallon-per-minute water-saving flow restrictors. Elkay Manufacturing Co.

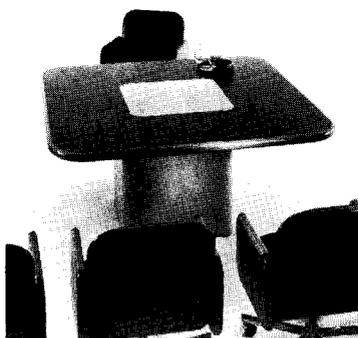
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Camelia brass fittings for washbasins, bathtubs, showers, and bidets were designed by Junko Enomoto for Zazzeri of Italy. Scalloped edges on the handles offer a comfortable grip for operation ease. Finishes include combination polished chromium and polished brass, all chromium, and six stain-resistant baked enamel colors. Watercolors, Inc.

Circle 223 on reader service card

Graphix 2 type-generating system creates lines of lettering 1/4" to 2" (24 to 192 points) and is an alternative to dry transfer, manual, and other traditional methods of lettering. Lines of type can be used to label drawings and specifications, for callouts, title blocks, presentation sheets, and on models. The letters are prespaced and aligned automatically. Graphix 2 is available with wet ink technical drafting pens in sizes from #00 to #3. Gerber Scientific Products, Inc.

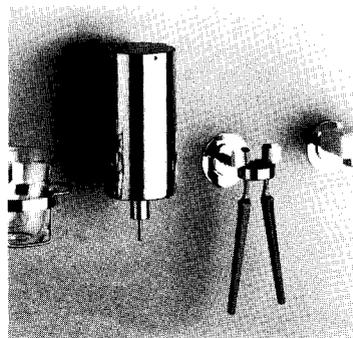
Circle 224 on reader service card



The double veneered table, designed by Paul Mayén, has a veneered panel in the center the same size as the base, giving the impression that the base extends through to the table top. A solid wood bullnose edge also matches the base veneer. Tops are available in five sizes and any two of

13 veneers offered. The table is suitable for conference room or dining room, or as a desk. Intrex Furniture Div., Habitat.

Circle 225 on reader service card



Sanitary fittings from a moderately priced brass modular group consist of mixing valves, outlets, plates, and accessories, all designed by Arne Jacobsen. The fittings are available in ten epoxy colors as well as polished chromium or brass. There are 20 wall-mounted accessories, such as towel brackets, rails and hooks, soap and toothbrush holders, and liquid soap dispensers. Kroin, Inc.

Circle 226 on reader service card

Pedestal lavatories in small scale are offered in white, indigo, or black porcelain and in a variety of hand-painted designs on porcelain. The 23" x 19" x 32" high lavatories have the capacity of standard-size fixtures. They coordinate with water closets, bidets, fittings, wall tiles, and wall coverings. Sherle Wagner International.

Circle 227 on reader service card

The Pacer II electric eraser works as a cord unit for prolonged periods of heavy erasing or as a cordless unit under normal conditions. Its power system, Power Pak II, recharges the battery for cordless operation; it also has the ability to operate without a battery. Pierce Business Products, Inc.

Circle 228 on reader service card

Rapidomatic® automatic fine-line pencils have pushbutton continuous advance of up to 12 leads, lead degree indicator, and nonslip sleeve. A straight bushing makes it possible to draw with a thick straightedge, and a hexagonal barrel resists rolling. Color-coded barrels indicate lead diameter. Koh-I-Noor Rapidograph, Inc.

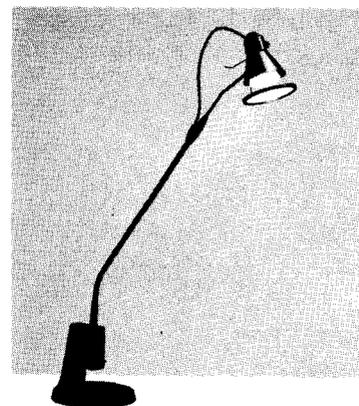
Circle 229 on reader service card

Pirelli rubber flooring, designed by Pierre Charian and Bernard Bijvoet and first introduced in 1932, is now available in 37 colors, including white. It is produced in several thicknesses, sizes, and stud profiles, including a new chamfered stud and a ribbed pattern. The products are described and illustrated in color in an eight-page brochure that also shows stair treads and provides architectural specifications, a color chart, recommendations for adhesives, and installation information. Jason Industrial, Inc.

Circle 230 on reader service card

Plotter supplies catalog offers pens, points, inks, adapters, and accessories. The 38-page catalog provides specifications, and packaging information. Products of several well-known manufacturers are listed. Graphic Controls Corporation, Industrial Products Div.

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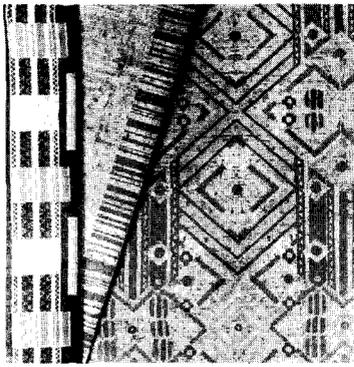


The "Jack" lamp, designed by Alberto Meda for Luce Plan, has a joint that can be inserted in a table base, clamp, or plate for wall attachment. It is made from anodized aluminum in natural, black, light blue, or red, and uses a 35-watt, 12-volt dichroic halogen bulb. There is a three-position switch for two lighting levels and there are three filters to change the color temperature of the light. Innovative Products for Interiors.

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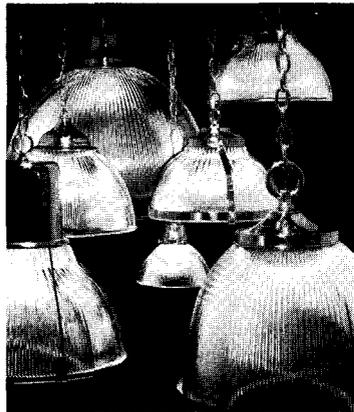
Curtain wall and window wall systems brochure provides construction, glazing, and performance specifications for stick-type curtain walls and strip-type window walls. Detail drawings of each are included, along with photos in color of buildings where the systems were used. Bruce Engineering Co.

Circle 233 on reader service card



The Viewpoints collection of wallcoverings consists of 27 patterns designed in smaller than usual scale to suit smaller homes and apartments. Among the designs are African-inspired (left to right) Sudan Border, companion pattern Sudan, and Dashiki. Others in the group include florals, with companion stripes, and a scenic. There are coordinated fabrics of 100 percent cotton sateen for 14 of the patterns. Albert Van Luit & Co.
Circle 234 on reader service card

Hardwood floors catalog includes over 40 color photographs of wood floors available, tips on floor care, and wall treatments using wood. The 20-page catalog shows residential use of plank, herringbone, block, and parquet flooring. Bruce Hardwood Floors.
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Holophane® Classic Series luminaires combine polished brass and prismatic glass shades. The luminaires can be used in restaurants, stores, showrooms, and other commercial interiors. A four-page brochure illustrates the nine models available, provides dimensions and recommended wattages for each, and shows the different shades, brass caps, and brass trim provided. Holophane Div., Manville Corp.
Circle 236 on reader service card

The Old-House Journal Catalog lists 1348 companies and the more than 10,000 products they

make for restoration projects. Included are millwork, cornices, columns, tin ceilings, hardware, bathroom fixtures, paints, lighting fixtures, and windows, to mention only a few products. Each listing provides company name, address, phone number, and information about brochures available. The catalog costs \$13.95 and is available from The Old-House Journal Catalog, 69A Seventh Ave., Brooklyn, N.Y. 11217.

'Fire-Rated Hollow Metal Doors and Frames' presents data on current fire-tested door and frame assemblies. Published by the National Association of Architectural Metal Manufacturers, this second edition covers design limitations, local regulations, and architects' responsibilities, and provides descriptions of types and sizes of fire-rated doors and frames now on the market. The manual costs \$15 plus \$2.50 to cover handling and is available from NAAMM Headquarters, 221 N. La Salle St., Suite 2026, Chicago, Ill. 60601.

Movable walls, 2½ inches thick, provide privacy and security not available in open plans. The panels slide into floor and ceiling runners without disrupting work. The gypsum panels have a one-hour fire rating; aluminum door frames have a 20-minute fire rating. Surface options include paint, vinyl, fabric, fabric wallcoverings, and wood veneer. The system is described in an eight-page brochure that includes 20 architectural drawings and photographs. Vaughn Walls, Inc., Subsidiary of Herman Miller.
Circle 237 on reader service card

Silent Elegance™ wall panel and ceiling fabrics in eight shades match Conwed's free-standing and system panels. Shown in a six-page brochure, the products offer sound control and privacy. Wall systems have an NRC of .60-.70; ceiling squares an NRC of .70-.80. Conwed Corporation, Interior Products Div.
Circle 238 on reader service card

Bronze plaques shown in a 12-page, full-color catalog include award and memorial plaques, building identification and dedication tablets, church and temple honorary plaques, donor plaques, three-dimensional portraits, and letters. All-Craft Wellman Products.
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Eligibility: To qualify for judging, entries must show commercial environments incorporating carpet of 100 percent DuPont ANTRON nylon used as a major design element in a creative manner. Entries may include environments completed since June 1983 and may involve installations in the following categories: (1) Offices (banks, etc.), (2) Hospitality (restaurants, hotels, motels, resorts), (3) Health Care (hospitals, clinics, nursing homes), (4) Public spaces (airports, theaters, convention centers), and a new category for 1985: (5) Residential (for commercial carpet used in a residential setting). All professional architects and interior designers are invited to submit entries. Students, employees of DuPont and its agencies, and employees of the firms with which the judges are associated are ineligible.

Judging: Judging of all qualified entries will take place in April 1985. Judges will evaluate the entries in terms of the overall design, as well as use of carpeting as a design element in terms of originality, innovation and appropriateness. Winners will be notified by May 15. Public announcement of winners will be made at NEOCON 17. A formal presentation of the awards will take place the following week in New York.

Submissions: Entries must consist of 35mm slides of the interior, free of any identification of firm name. At least four slides must be submitted showing the interior from different perspective points. Slides must be accompanied by a design rationale, no more than one typed page, double-spaced on plain paper, not company letterhead. Mail all of these materials in a standard 8½ x 11 envelope to: DuPont ANTRON Design Award, Room X-39534, Wilmington, DE 19898. Entries must be postmarked by March 15, 1985. Each entry must be submitted in a separate envelope with a separate entry blank. Photocopies of the entry blank are acceptable.

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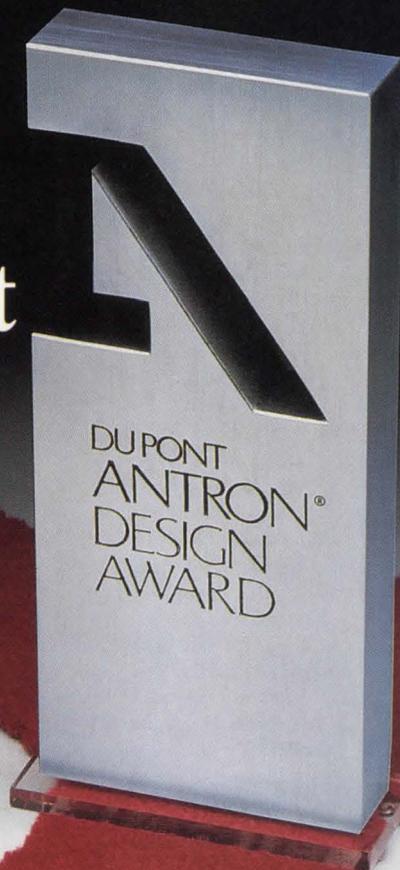
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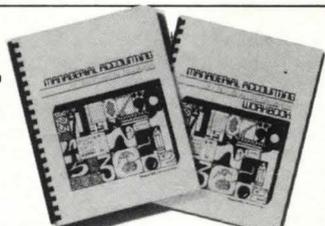
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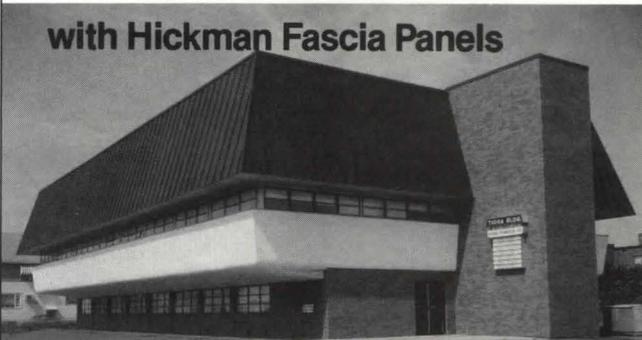
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