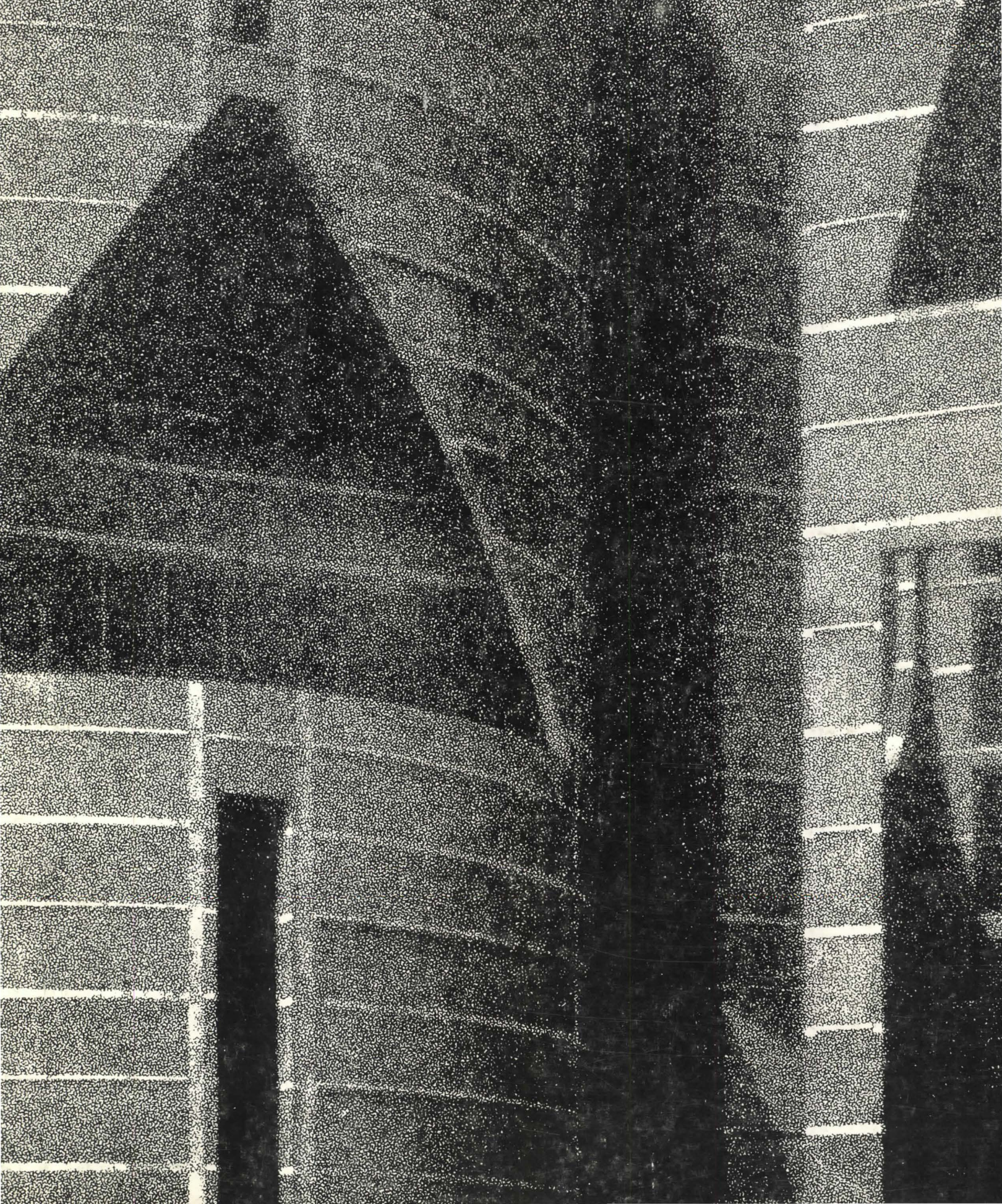


Progressive Architecture

December 1984



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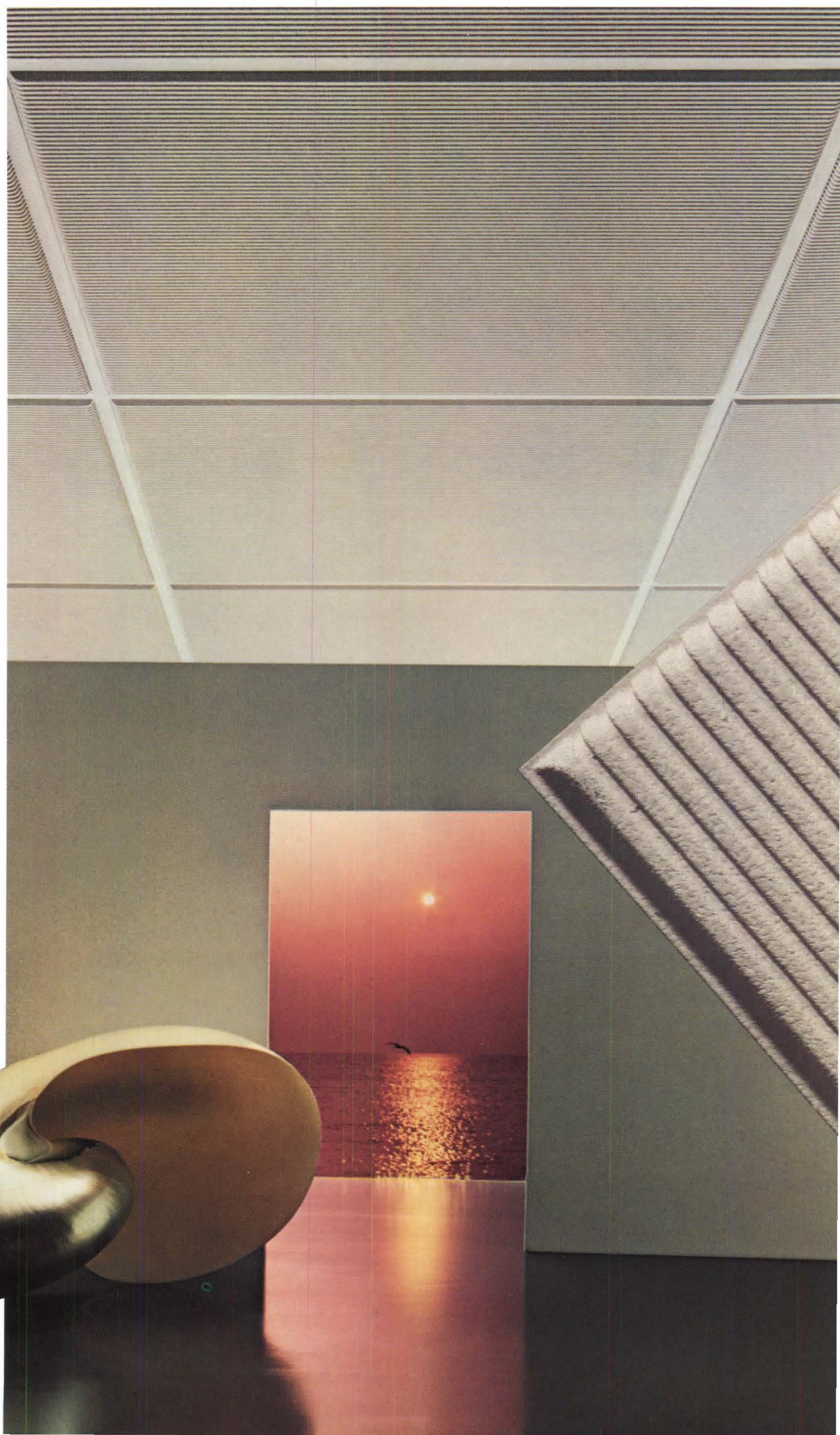
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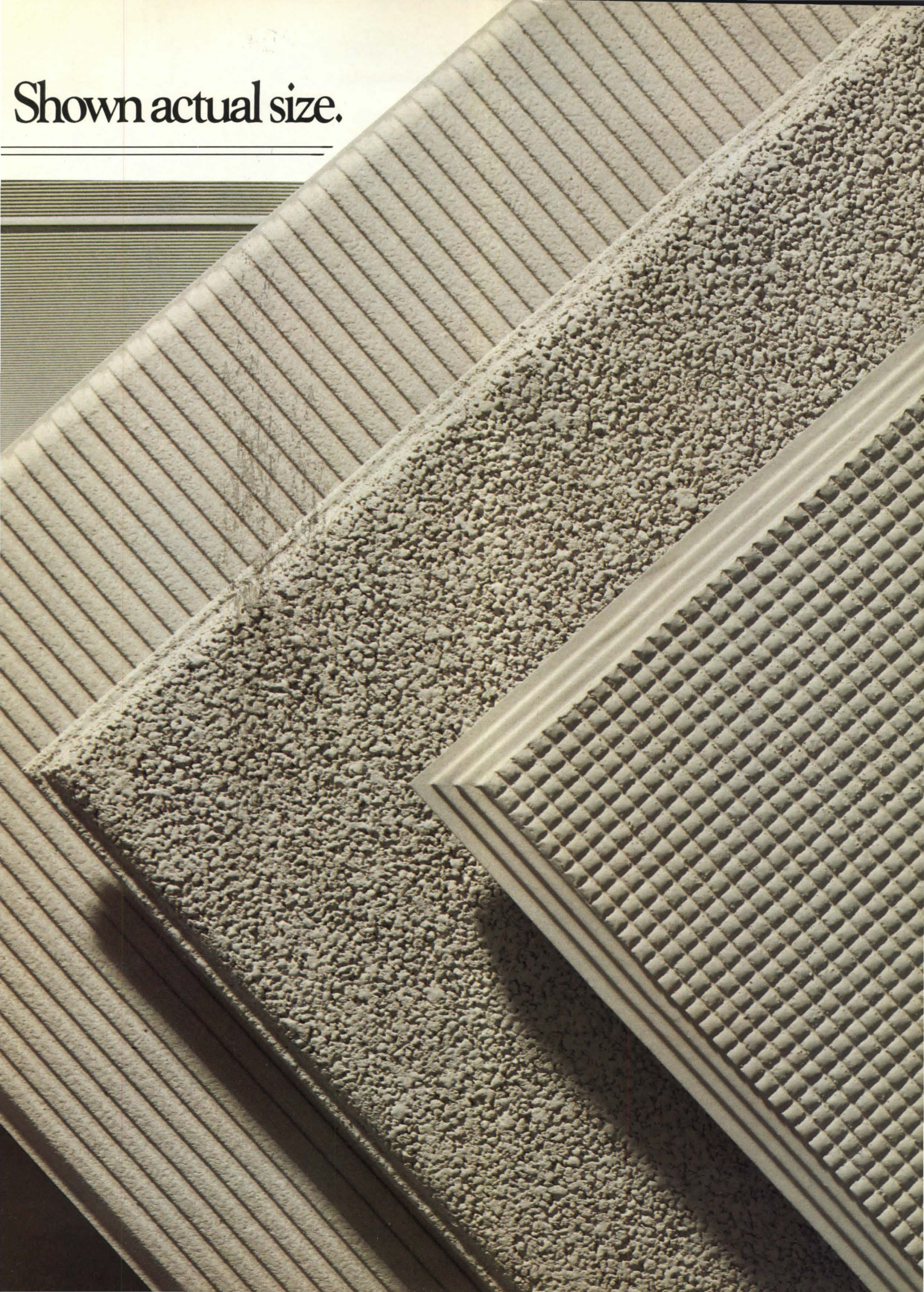
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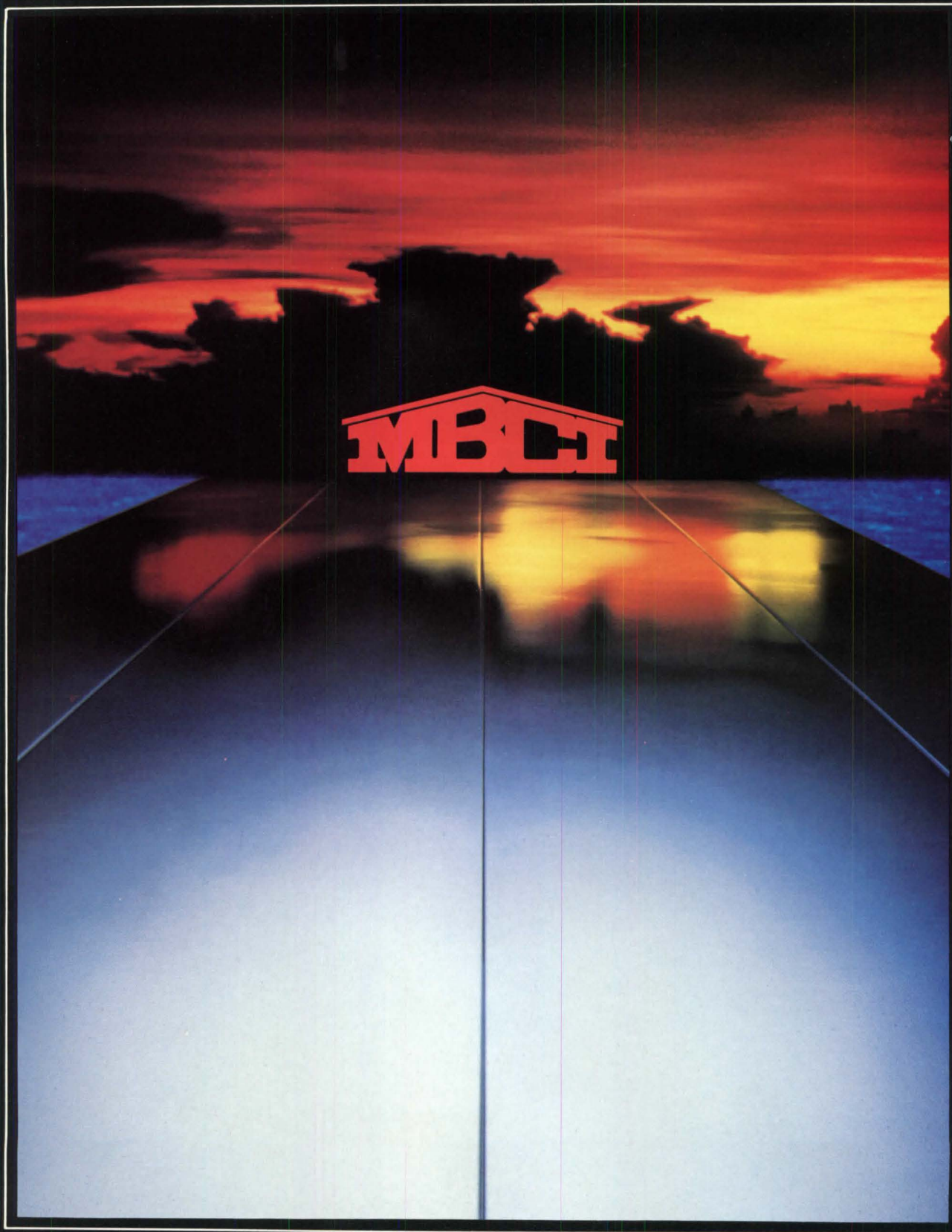
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Progressive Architecture

DECEMBER 1984

ARCHITECTURAL DESIGN

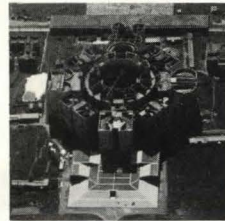
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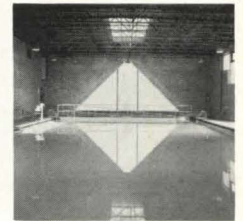
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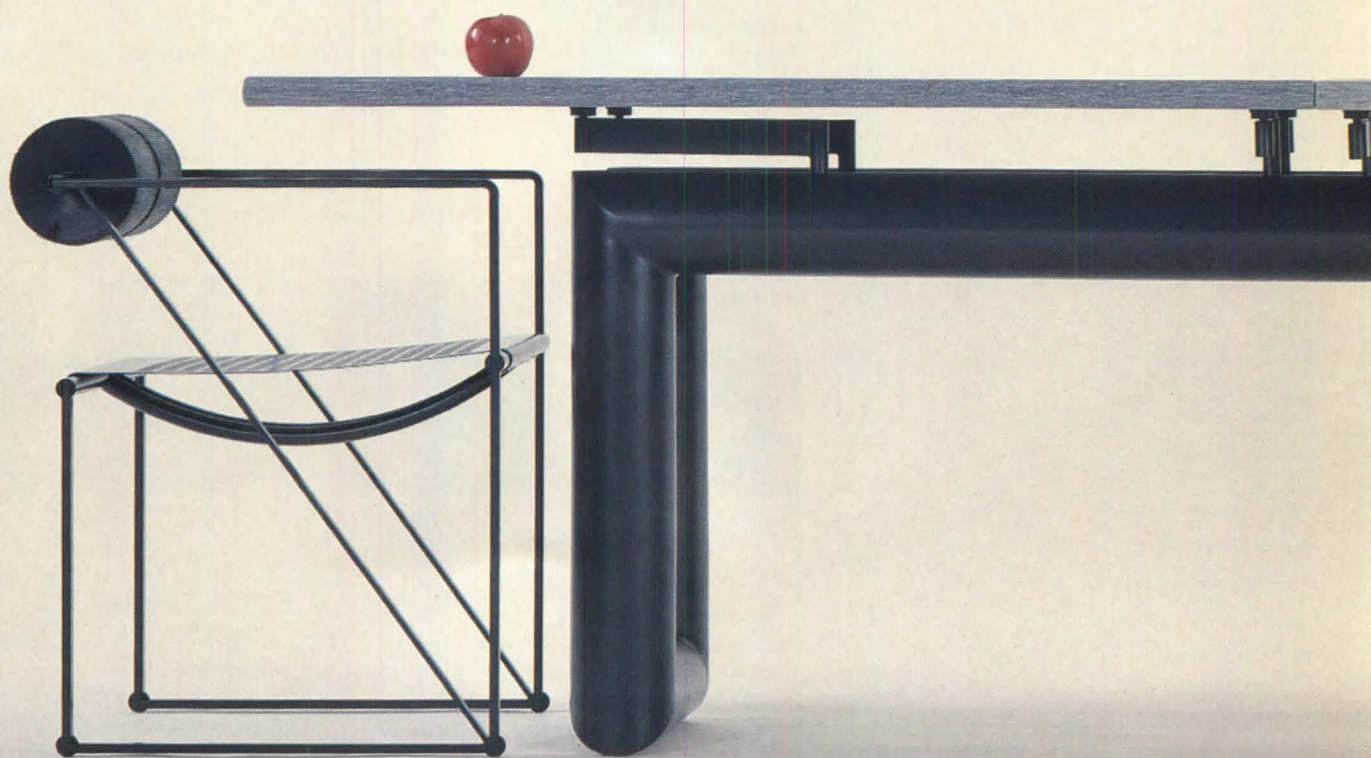
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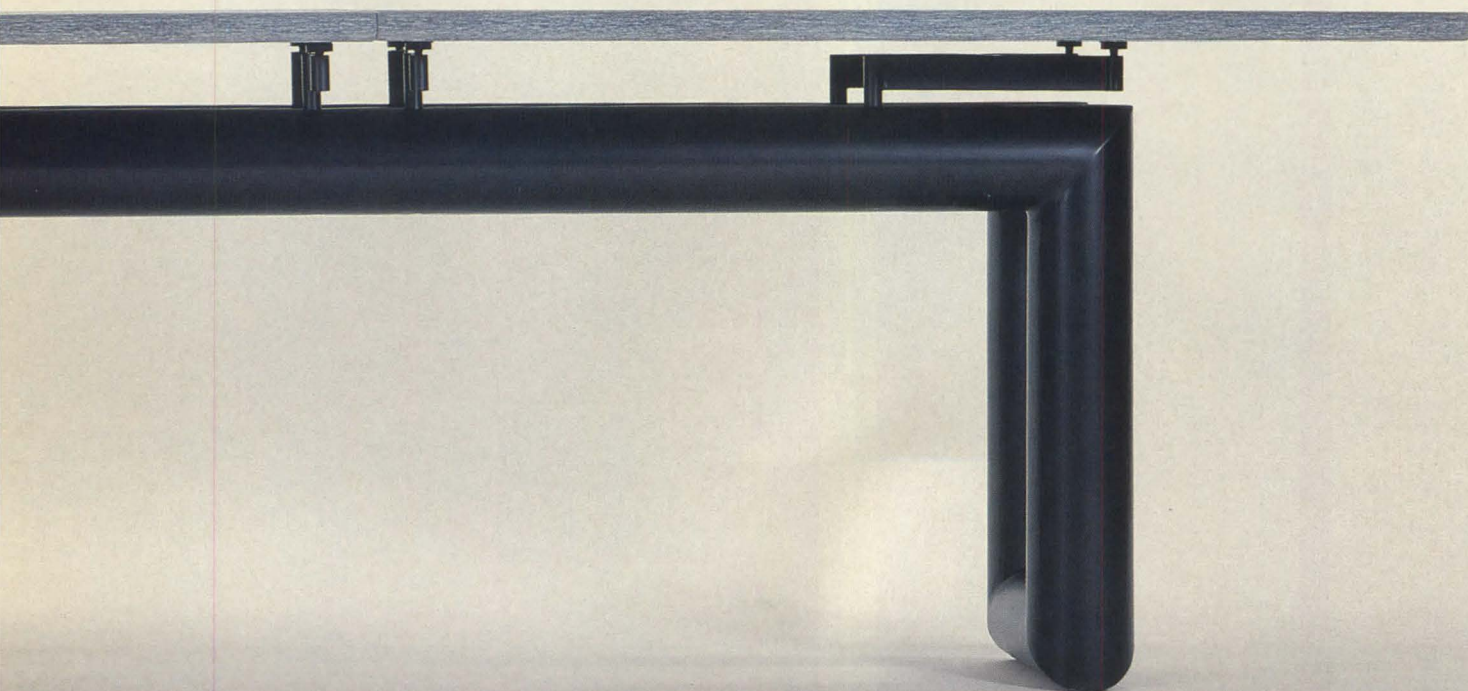
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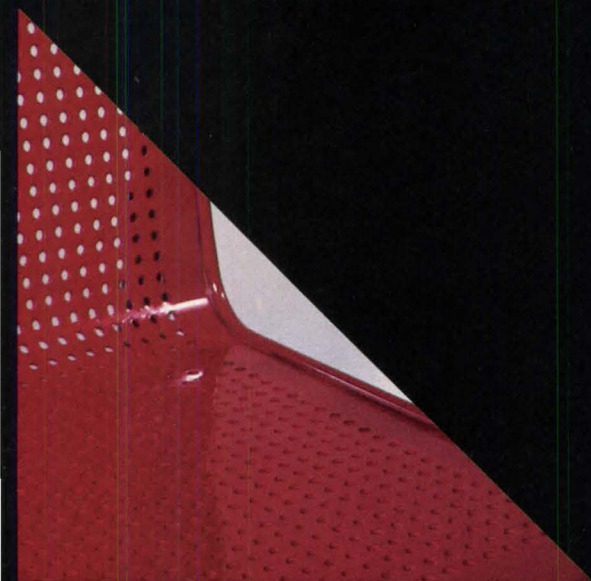
The Seconda armchair and Terzo table
Design: Mario Botta, 1982-83

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Paul Goldberger, New York Times



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Educational goals

The big event in Austin, Texas, the last weekend in October was the victory of the undefeated University of Texas football team over previously undefeated Southern Methodist. A concurrent event of far lower visibility and far greater long-range impact was a two-day conference on goals for the School of Architecture—on how a rich and respected school could become a great one.

Of about 60 participants, roughly half were from the school's administration, faculty, and alumni; the other half were invited from all over the country. These guests included a stellar collection of architecture deans and chairmen (from Harvard, MIT, Cornell, Rice, Virginia, Arizona, and Oregon), along with practitioners of architecture and related professions, developers, and an editor (me), and at least one "humanist." We arrived with intellects primed by pertinent essays by Dean Emeritus Lawrence Anderson of MIT (on architecture programs), Professor David Godschalk of the University of North Carolina (on planning programs), Professor Jonathan King of the University of Michigan (research and scholarship), and Harold Fleming of the Potomac Institute ("The Future"). A very demanding agenda set by consultant Bryght Godbold (with after-dinner sessions and writing teams summarizing proceedings into the night) produced an agreed-upon set of recommendations by the Sunday deadline.

Here are notes on some of the subjects discussed. Though it refers to some conference conclusions, this is a personal record of observations I consider worth sharing.

Curriculum: All programs must proceed from shared fundamentals in early years to specializations for differing professional roles. A need was noted for advanced "generalist" degrees as one kind of specialization—also for mid-career programs.

Educational methods: Studio learning was endorsed, after much discussion, as an indispensable vehicle for design education. But it cannot be merely "a blank check" for faculty; real-world knowledge must be imparted by incorporating methodical research, case studies, and live non-architects into studio programs. Intemperate studio criticism was blamed for undermining students' sense of self-worth, thus for the profession's problem of undervaluing its services. Architects' problems in managing time were also traced to the studio, where they could be countered by more structured schedules and explicit discussion of time management.

Broad education: The production of "architecture nerds" must be prevented by making available electives in other arts, humanities, business, etc. Faculty should stress cultural connections in lectures and studios. Students should be urged to attend various performances and lectures—so abundant at universities—and possibly required to report on them.

Student selection/recruiting: Educators complained that undergraduate admission policies stress conventional math/verbal skills over the "right brain" or eye-mind skills needed for design; some pointed out, however, the value of conventional intellectual skills for some roles in the profession. The near absence of black students in this school was attributed to factors such as the "white" image of architecture today, its lack of dependable rewards for the underprivileged, and the perception that other state institutions—some originally "black" schools—are more affordable and hospitable. Mexican-Americans comprise most of the school's "minority" students, and seem to have effective peer support. Special recruiting and counseling for blacks were recommended.

Faculty: In part because both school and state are large, inbreeding has to be resisted by

recruiting outsiders. Rather than trying to fill vacancies with the "best" candidates, the conference recommended hiring to fill well-defined needs—a good way to attract the best, anyway. Practice opportunities in Austin—reported to be better than in many larger, older cities—should be made better known.

Reputation: Crucial to the recruiting of students and faculty is a school's perceived quality, determined largely by the grapevine. Scholarly "centers," conferences, publications, and overseas programs were given due weight, but conferees stressed impressions taken away by visitors; one suggestion was to brief students before guest lectures so they will respond more knowingly—and possibly learn more, too.

Scholarship: Texas was urged to make its extraordinary library a base for stronger visiting scholar programs. With a related scholarly publication program, this could contribute to both learning on campus and reputation beyond.

Related professions: The school was urged to establish degree programs in interior design and landscape architecture. First-rate offerings in these areas could fill nationwide needs and strengthen existing architecture and planning programs.

The future of the profession was discussed—impact of computers, attitudes of the public, etc.—as background for recommendations. Valuable thoughts on those broader areas may turn up in future editorials.

John Morris Difer

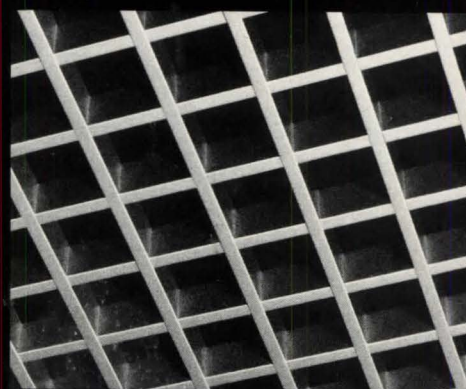
A conference on goals for the University of Texas School of Architecture raises issues of concern to all schools and all design professionals.



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Views

Public confidence vs. Post-Modernism

Your reporting on the childlike projects of the so-called post-modernists has been distressing to many of your subscribers who saw it as a "grave" mistake, for history has shown that all post-periods are degenerate.

Recognizing the need of a professional journal to report the full range of current work, it has appeared that the editorializing in compliment of ugly collections of ill-proportioned classic elements has not been conducive to commanding respect for us all from those outsiders who happen to read *Progressive Architecture*.

Thus your editorial in the October issue is important, timely, and supportable. The effective way to build confidence in architects is to bring them to do better work.

As a good friend of Kenneth Reid and a former writer for *Pencil Points* I am very happy to see this change—if indeed it is one.

Robert Ingle Hoyt, FAIA
Santa Barbara, Calif.

[It is a narrow and now passé reading of history that interprets "Post-periods" as "degenerate." We find that the use of the word in this context recalls Nazi art-burning. We agree with the writer that ugliness is not to be promoted, but apparently don't agree on what's ugly.—Editors]

Graves Library reference

In response to your editorial note below Mr. Thomas's letter (P/A Views, Sept., p. 12) regarding the San Juan Capistrano Library, please let me say that I have visited the Library many times, almost every weekend, and Mr. Thomas is correct.

Not only are the users to be pitied, but the whole town who has to look at this *pile of junk* on a daily basis.

Do buildings have to be ugly to get published in New York?

Sam Carson, Architect
Laguna Beach, Calif.

Vancouver values

"Throwaway Chic" in your September issue (pp. 124–125) was most interesting.

In the interest of accuracy I thought I should respond to your statement "the Island is attractive to architects, . . . also because rents are subsidized, with space costing less than half of that in Vancouver." Messrs. Robins and Cavanagh are sub-tenants in Creekhous and I do not know what rent they are paying. However I do know that I recently negotiated a lease with the renovator of the building, Creekhous Ltd., at a full

market rent. It is true that rents in Creekhous Building would be less than in the new Park Place in the very heart of downtown, but this cannot be construed as a subsidy.

Congratulations on an interesting issue.

J. Allan Hammond, Project manager
Canada Mortgage and Housing Corporation
Granville Island Project Office
Vancouver, B.C.

Ceramic tile sources

I thoroughly enjoyed your article on ceramic tile in the October 1984 issue of *Progressive Architecture*.

I do find error in the fact that you state Italy, Japan, Korea, Spain, and West Germany as the largest importers. Enclosed is a copy of the government's import consumption list supplied to all Ceramic Tile Distributor Association members. You will note that you failed to include our neighbor, Mexico, in the top five list.

Our company manufactures ceramic floor tile in Chihuahua, Mexico. We have one of the largest and most modern plants in all of North America. This year's production should amount to approximately 34,000,000 square feet of Monocottura/Frost Proof floor tile.

Terry O'Connor
National Sales Manager
Interceramic
El Paso, Texas

[Our error. This list should have read Italy, Japan, Mexico, Korea, Spain, etc.—Editors]

Window properties

In your August 1984 issue there was an article entitled, "Technics, Replacement Windows," written by Thomas Vonier, AIA. On page 105 of this article there was printed a table of comparative properties of the different types of replacement windows. Under "Disadvantages" of vinyl-clad wood, there appeared a couple of statements which I feel were quite subjective.

The one with which I wish to take issue especially was, "vinyl subject to breakage and very difficult to repair once broken." I cannot speak for other manufacturers of this type of window, of course, but in regard to our Perma-Shield windows and patio doors, this statement is not factual.

At one time, early in the development of our system, this may have been partially true. In cold weather it was then possible to crack the vinyl sheath sometimes with a blow from the edge of a hammer or some similar source of impact. Over the years, our vinyl formulation has been refined to the point that it is now extremely difficult to damage or rup-

ture the vinyl sheath with anything short of an act of vandalism.

Also, we have several methods for repairing ruptures that are very simple for a trained service representative and relatively easy even for the untrained layman.

The last statement, "Can be heavy," is quite subjective. What is heavy? The majority of the weight of any window is directly proportionate to the glazing material and the type of glazing unit (single glass, double-pane, triple-pane, etc.). Therefore, the comparative weights of the different types of windows, with the same glazing would be relatively the same.

Jack M. Ullrich, Manager
Sales Promotion & Publicity
Andersen Corporation
Bayport, Minn.

[Thomas Vonier replies: As its caption clearly noted, the chart was not intended to be definitive for specific manufacturers' windows. It raised points that should be considered in the course of product selection. The reference to breakage in vinyl-clad windows included the prospect of vandalism, a real concern today in all too many circumstances. In my own practice, where vinyl-clad wood windows are specified regularly, we have seen vinyl breakage result from accidental dropping of masonry units or careless handling of construction debris, even in warm weather. It is reassuring to note that simple repair techniques are available. As to weight: The glazing notwithstanding, wood frame and sash assemblies tend to be heavier than their solid vinyl or metal counterparts, simply due to the structural sections employed and the properties of the materials. Lest the wrong impression linger, I reiterate the article's point that vinyl-clad wood windows are an excellent choice for many replacement situations.]

Photo credit corrections

In the October Technics article, both photos on page 116 should have been credited to Hanley/Gary Fleming.

Paint diagram correction

In the Technics article on paint, November P/A, the headings "Alkyd film formation" and "Latex film formation" on page 133 were transposed.

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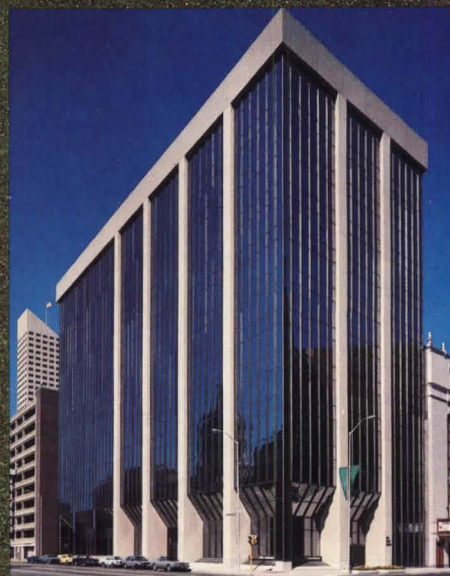
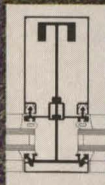
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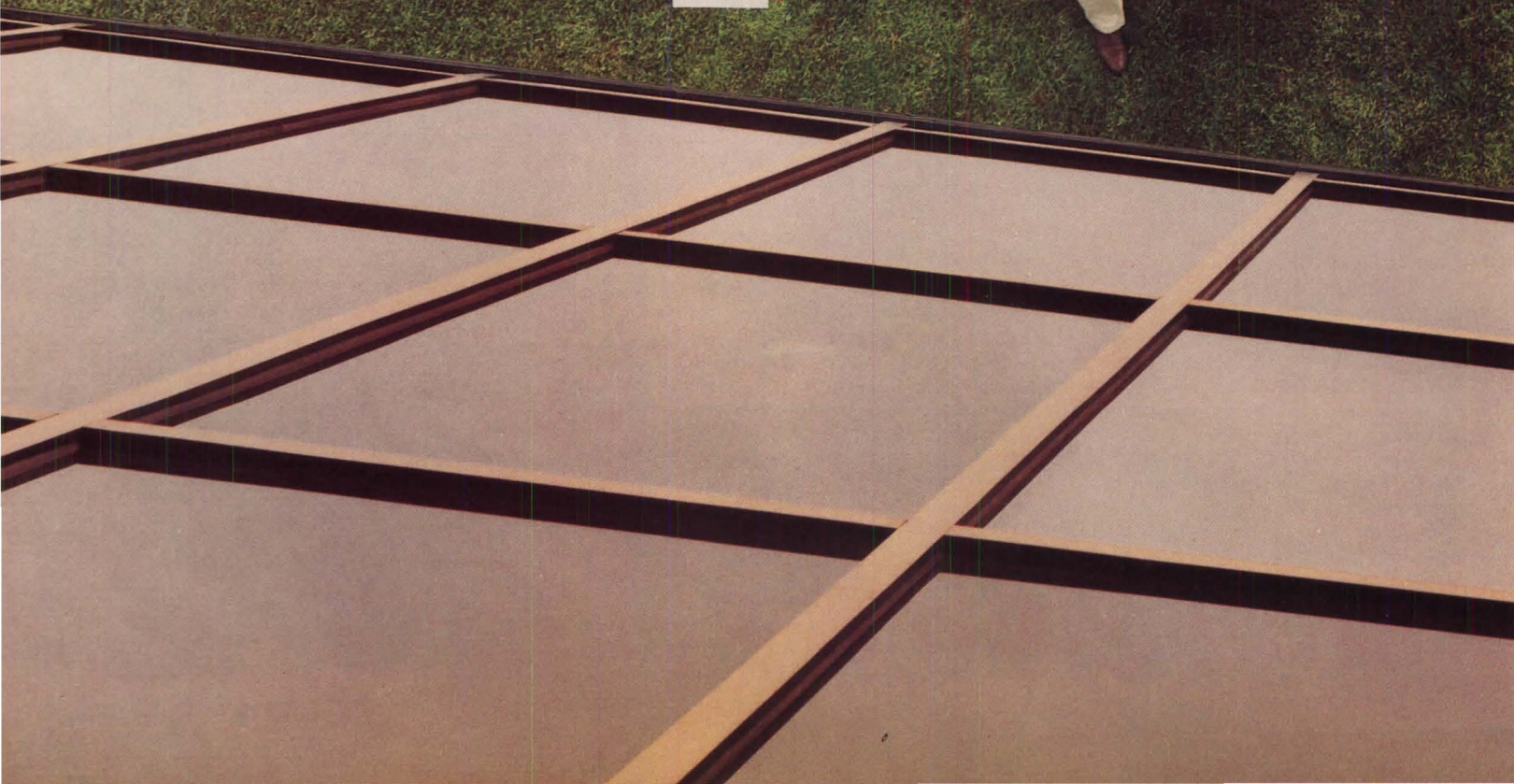
For complete information about Kawneer Curtainwalls contact: Kawneer Company, Inc., Dept. C, Technology Park-Atlanta 555 Guthridge Court Norcross, GA 30092



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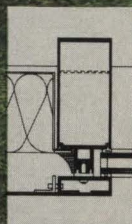
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Kawneer
The designer's element

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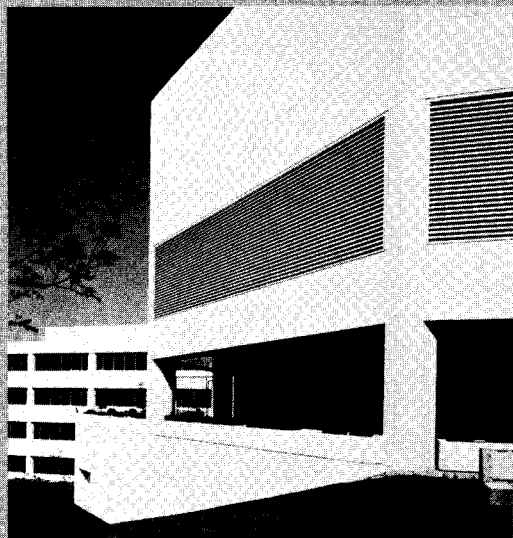
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P/A News report

Milan: The message is modern

For the nearly 155,000 people who attended the 24th annual Salone del Mobile in Milan (September 19-24), it was clear that while historicism still waxes strong, the stylistic excesses of Post-Modernism are on the wane. The products shown by the fair's 2500 exhibitors signaled a return to smaller scaled, carefully edited forms whose historical references, if any, were to early 20th-Century Modernist prototypes. Rodney Kinsman's Due mirror for Bieffeplast recalled Eileen Gray's famous Satellite mirror, while at Pallucco, Regis Protiere's Lizzie chair, with its delicate metal spokes, looked almost Viennese. Wood chairs such as Gae Aulenti's Rossini armchair for Cappellini, or

Aldo Rossi and Luca Meda's Teatro chair for Molteni & Co. (introduced in 1983 but shown this year in different versions) took the prize for formal austerity, while Zanotta's Palmira, a wood-legged leather sidechair by De Pas, D'Urbino, and Lomazzi, went for a bit more whimsy.

Many manufacturers continue to carry the flag for classic Italian design, as in Kartell's trolley, designed by Centrokappa in black or white plastic with matching or contrasting handles, or Cassina's Veranda 3 by Vico Magistretti, whose side seats pivot

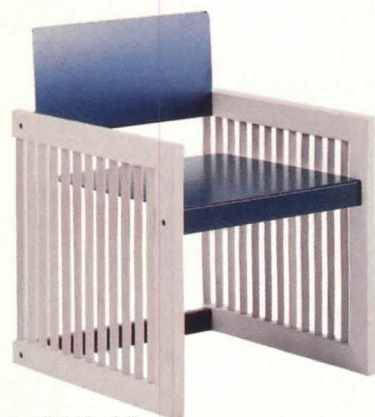
around the central one. As always, some of the most interesting designs were impossible to categorize; Richard Sapper's Nena chair for B&B has a folding fiberglass frame and hangs by a hook, a feature that the manufacturer cleverly played up by hanging the chairs in garment bags on a rolling rack. Haigh Space's Tux chair (and table) for Bieffeplast, the first winning entry in the P/A International Furniture Competition (P/A, May 1984, p. 178) to go into mass production, looked suave in a pale gray frame with mint-green perforated steel seats, backs, and table tops.

Among the foreign exhibitors, one of the best Scandinavian offerings was the Finnish company Inno's steel tube chair by Pentti Hakkala; its seat plane extends back to the floor, where it rolls around on casters. London-based One-Off Ltd.

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- 18 *National Trust convention*
- 20 *Napa Valley vineyard*
- 22 *Innovations in housing*
- 33 *In progress: Antoine Predock*
- 38 *P/A Calendar*



Fontana Arte table lamp



Cappellini, "Rossini"



Bieffeplast, "Due"



Pallucco, "Lizzie"



Zanotta, "Palmira"

Pencil points

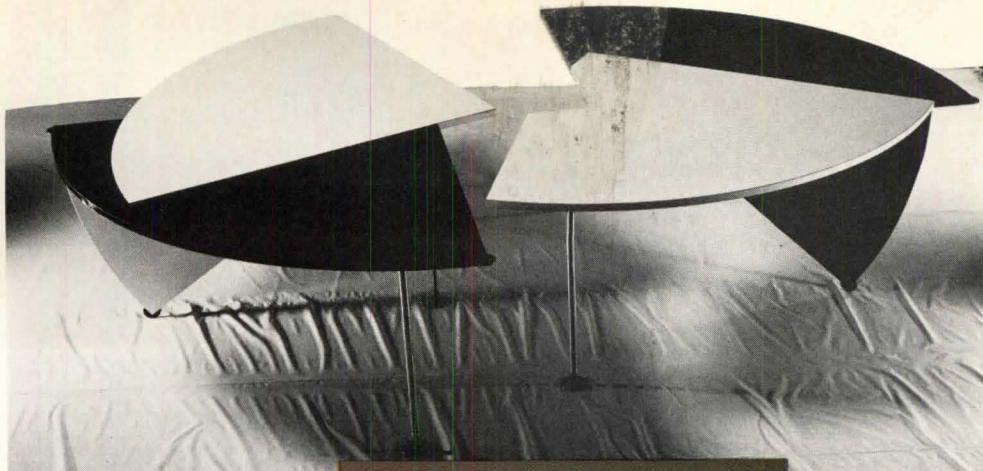
Richard Meier has been selected architect for the \$100 million J. Paul Getty fine arts center in West Los Angeles. The Getty complex will include a new museum, a study center for the arts and humanities, and a conservation institute.

- The selection of Meier ends an 18-month search conducted by a committee of seven professionals who chose seven semifinalists (P/A, April 1984, p. 26), then narrowed the list to three: Meier, James Stirling, and Fumihiko Maki.

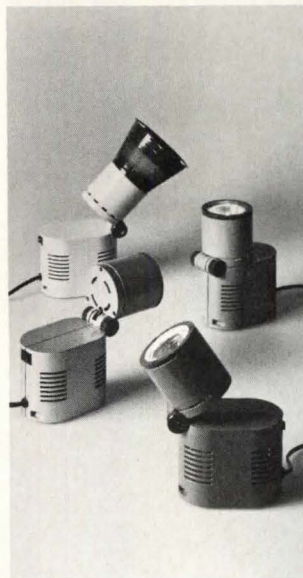
- Meier says he will move his office and home from New York to Los Angeles for the project's duration. Construction should begin in the fall of 1987, with completion expected by 1991.

Twenty years in the making, Philadelphia's Center City Commuter Tunnel and the new Market East Station are finally open.

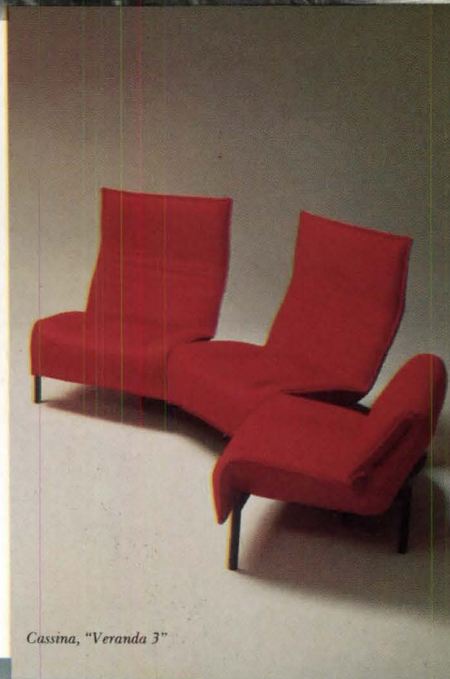
- The tunnel consolidates the independent Pennsylvania and Reading lines. The station, designed by Bower Fradley Thrower with Gerald Cope, is the hub of new downtown development that includes a proposed con-



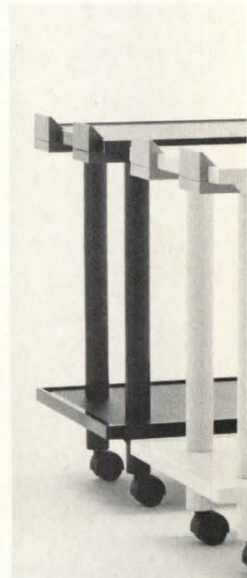
Ingo Maurer table



Artemide Litech, "Pilade"



Cassina, "Veranda 3"



Kartell trolley



Bieffeplast, "Tux"



Inno armchair



Molteni, "Teatro"

vention center and hotel, a symphony hall, and office towers.

The oversized statue of three servicemen, selected to satisfy those who found the Vietnam Veterans Memorial too abstract and unheroic (P/A, March 1983, p. 7) was unveiled Veterans Day weekend in Washington, D.C.

- As envisioned by sculptor Frederick E. Hart, the 7-foot figures of a white man, a black man, and one of unidentified race face the black granite walls on which are inscribed the names of 57,939 men and women who died in the war.

made quite a splash with owner Rod Arad's adjustable-height rocking chair, while Ingo Maurer of Munich, known for his brilliant lighting designs, branched out into furniture with a table of interlocking halves.

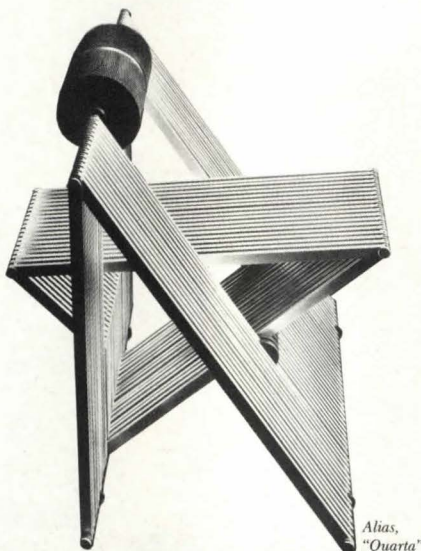
At Euroluce, the fair's lighting show, small was big. Fontana Arte's halogen table lamp by Piero Castiglioni, and two adjustable lamps, both called Jack, by Alberto Fraser for Stilnovo and Alberto Meda for Luce Plan, respectively, were three of the tiniest but brightest lights of the show. Ernesto Gismondi's Pilade table lamps for Artemide's Litech division looked much like miners' lanterns, and Artemide also brought out

Richard Sapper's classic Tizio lamp in *white* (trend-spotters, take note), as well as Emilio Ambasz's Agamennone standing lamp, whose rotating head is a sophisticated exercise in geometry. Stilnovo also introduced Sigheaki Asahara's Palomar, an extraordinarily elegant floor lamp.

Outside the fair, Alias showed Mario Botta's Quarta chair (a stunning object, but don't try to sit in it), and chair designs by Man Ray, Gerrit Rietveld, and Theo van Doesburg, recreated from drawings and photographs by Studio Giandomenico Bellotti for Alias's Masters'Pieces collection, in an excellent exhibition at Studio Marioni.

Memphis brought out its relatively conservative new pieces with little fanfare; Arquitectonica joined the collection with a massive table whose top looked just like a kidney-shaped swimming pool. De Padova showed its reproductions of original Shaker designs, while Knoll unveiled its showroom, elegantly remodeled by Cini Boeri, who wisely pulled the new entrance back from the landmark building's original arcaded façade. And even though EIMU, the office furniture show, has gone biannual and didn't occur this year, Marcatré introduced its Air Mail chair in a spectacular showroom by Perry King and Santiago Miranda, the chair's designers. [Pv] ■

Stilnovo, "Palomar"



Alias, "Quarta"



One-Off rocking chair



B&B, "Nena"

A serious chair at the Walker

About four years ago, designers Bill Stumpf and Don Chadwick set out to create an office chair for Herman Miller that would be comfortable and basically self-adjusting for everyone, and which would be as technologically uncomplicated as possible—a tall order. The end product of this quest, Equa, was introduced last June at NEOCON, and attests to the designers' success in reaching their goal. *How* they got there is a fascinating story; it is also the subject of *A Serious Chair*, an exhibition organized by the Walker Art Center in Minneapolis, where it can be seen until January 6. Comfortably small in size but comprehensively broad in scope, the show explains in edifying and entertaining detail both the philosophy behind the chair's design and the complex, lengthy process behind its manufacture.

The visitor is first confronted by an array of seemingly disparate objects that embody the notions of playfulness and physicality—two qualities that Modernism (especially of the technological branch) has gradually isolated, according to the designers, from everyday life. A Wooton Patent Desk, a Wurlitzer jukebox, an Italian racing bike, a pair of running shoes, and an ultralight canoe made of Kevlar are among those items that exemplify Stumpf and Chadwick's belief that design must be reconnected to human experience. A doorway is formed by an Ionic column on one side and on the other a column of what the Walker's Design Curator, Mildred Friedman, dubbed the Veg-O-Matic order: a tower of cast-off electronic and mechanical junk, donated by Herman Miller employees and consisting of everything from miniature televisions and battery-operated animals to the aforementioned slicer-and-dicer, set on a base of tricycle tires and topped by a wagon capital with blue-wheel "volutes." A machine that tests the flexibility and strength of a chair shell by subjecting it to thousands of repetitive motions—a mundane sight in any chair factory—is rendered in high-design componentry and encased in a steel and plexiglass case that Carlo Scarpa would have admired. At the far end of the gallery, photomural "flats" and an "assembly line" on which chair shells move slowly through the air offer an engaging recreation of Herman Miller's chair plant.

Nearly an entire wall of the gallery is given over to illustrating the process by which the chair was created. A succession of shell molds and prototypes, various versions of the

chair's innovative "knee-tilt" mechanism that allows the sitter to keep both feet on the floor while leaning back (often promised but seldom delivered), and numerous photographs and captions explain how and why forms and materials were tried and accepted or rejected. Other goodies, such as tool molds, a mirror with outlines of human height percentiles, the Robert Abel-produced Equa video that was such a hit at NEOCON, and seven versions of the actual chair (for test rides) further engage the viewer in the design process.

The only thing missing from the show is



Veg-O-Matic order.

a clear statement at the beginning of *why* the chair exists—i.e., what market need (or designer need) prompted Stumpf and Chadwick to design yet *another* ergonomic chair. A binder containing the complete history of the project can be read while one is standing at the "process" wall, but there should be something more prominent: as it is, the visitor must infer that the designers felt there was no chair on the market that adjusted to all body types with just one shell size, and that did not require an engineering degree to operate. There is, however, in the issue of *Design Quarterly* (no. 126) that accompanies the exhibition, ample explanation of these and all the other aspects of the chair's conception and execution, in excellent articles

by William Houseman as well as in Stumpf's literate, informed, and eloquent statements on design in general and the philosophy behind Equa.

That the show is so good is no surprise—the Walker is known for that—but what is even more encouraging is that the chair embodies a discernible return at Herman Miller to the tradition of design research that marked the days of Charles Eames, George Nelson, Alexander Girard, and Robert Propst, who were themselves the focus of an exhibition on Herman Miller design at the Walker in 1975. There are, at present, no



Chair shell prototypes.

plans for the show to travel, which is a shame. It ought to be seen—by laymen curious to know just what design is and why anyone bothers to do it in the first place, and by designers themselves, who are often totally ignorant of how a product is created. The current confused state of design only serves to promote the stereotypical extremes of the fashionable architect who sketches a chair on a cocktail napkin, never seeing the real thing until it hits the showroom floor, and the reactionary industrial designer whose "functional" products lack any formal grace whatsoever. But there are still a few idealists around who don't buy this view, and if you hurry to Minneapolis, you can see the story of two of them at work. [PV]

Dollars and design at the National Trust

Registrants at the 38th National Preservation Conference (Baltimore, Oct. 24–28) could pick and choose from eight simultaneous tracks on current issues, historic districts, historic resource management, landscape conservation, preservation civics (lobbying, law, and language), real estate, and maritime heritage (the third National Maritime Heritage Conference, which ran concurrently with the National Trust meeting for the first time this year).

By far the best attended sessions, however, were those on design. Historian Richard Longstreth opened with the sweeping statement, "Design may be the most important issue in preservation today." The definition of "good design," however, proved a sticky wicket. Longstreth cited several examples of successful, contextual design, including the Douglas County Administration Building in Castle Rock, Colo., by Hoover Berg Desmond (P/A, Oct. 1983, pp. 96–100); the headquarters building for Procter & Gamble in Cincinnati, designed by Kohn Pedersen Fox (P/A, Oct. 1983, pp. 90–91); Frank Gehry's Temporary Contemporary (P/A, March 1984, pp. 80–85), and Charles Moore's design for the Beverly Hills Civic Center (P/A, Dec. 1982 News Report, p. 21). Longstreth's analysis of *why* these examples succeed depended *not* on the specific approach taken (recreation, imitation, contrast) but on one very basic factor: the "talent of the designer." He expressed strong reservations about Faneuil Hall (this year's whipping boy, castigated for the casual adaptation of a venerable historic structure) and a second Boston building—the SOM addition to the Ritz Hotel. The latter's attempted "contextualism" (duplicated details, cornice lines, etc.) "is not invalid," said Longstreth, "but it does tend to breed uncreative and disrespectful solutions," that "trivialize or tokenize" the historic structure. On the other hand, Williamsburg, a whipping boy in years past, was recalled with forgiveness and even fondness by many, including historian David Gebhard who found acceptable its invented vision of Colonial America but preferred the living examples of Santa Barbara and Carcassonne, both reconstructions of historic towns that house contemporary communities.

A second session on the design track tackled guidelines. Historian David Chase took the Secretary of the Interior's standards (the "ten commandments") to task, singling out as particularly onerous two that prohibit imitative design that "fakes" historic fabric and promote modern design that is clearly "of our time." The product, Chase claimed, is either cartoon historicism or milktoast modernism: "compromised solutions that invariably look compromised." Chase advocated changing the guidelines themselves; others on this panel promoted an appeals process that could review exceptions.

While the content of guidelines was debated, the importance of intelligent, sensitive interpretation and application by review boards was graphically portrayed in a case study session. Boston architect Graham Gund alternated with John Harrell, formerly with the Boston review board, in the presen-



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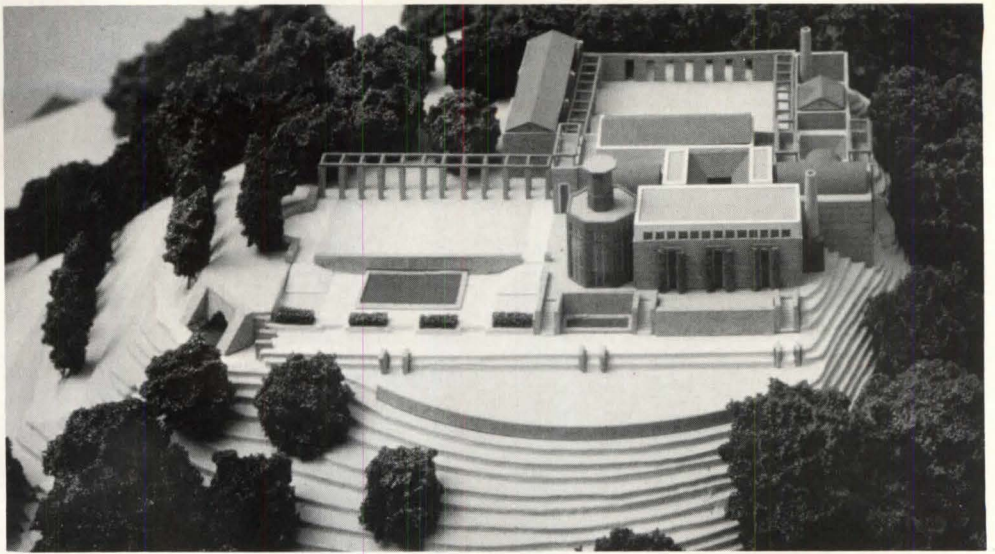
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tation of three projects—Gund describing his solutions and Harrell reading from the board's recommendations. (Gund admitted to developing some 110 façade studies for an office building in the search for an acceptable solution.)

Outside the theme sessions, the main attraction was Re-HABITAT, the first products show for historic preservation. More than 100 manufacturers of everything from oilcloths to chemical cleaners were present, together with several architects and consultants who hoped to catch new clientele. Although the quality of products and presentations was uneven in this first show, its very existence underscored the fact that preservation is now an industry, expending \$20 billion yearly.

That dollar figure was this conference's constant refrain. Four years of Reaganomics have forced preservation advocates to argue their case as good economic, not social policy. In his report, Acting President Harrison B. Wetherill, Jr., outlined the impact of PRIME, a newly computerized tracking system that traces the actual economic impact of contemplated legislation such as reduced tax incentives (targeted to each congressman's constituency). The new president, lawyer J. Jackson Walter, whose appointment was announced in Baltimore, brings a strong background in real estate development and public management to the job. His agenda includes the ambitious aim to make the Trust financially self-sufficient, a goal our President will no doubt admire. [SD, DDB] ■



Graves and Schmidt, winning scheme.

The mountain of Pegasus

Architect Michael Graves and artist Edward Schmidt have won the competition for a Napa Valley winery sponsored by the San Francisco Museum of Modern Art. Actual clients Jan and Mitsuko Shrem intend to create a landmark to viticulture and the arts on the valley's "winery way," Highway 29. The Shrem's art collection includes Odilon Redon's painting of Pegasus, which inspired the winery's name, Domaine Clos Pegase.

Graves and Schmidt were selected from a

group of five architect/artist teams designated last July as finalists in the three-stage competition. Also designated were Andrew Batey and Mark Mack with Peter Saari; Robert Mangurian with James Turrell; Stanley Saitowitz, Toby Levy and Pat O'Brien with Elyn Zimmerman; and Dan Solomon, Ricardo Bofill, Patrick Dillon, and Barbara Stauffacher Solomon with Ed Carpenter.

The three main program components, sited on and around a gentle knoll, include an operating winery (adequate for production of 50,000 cases of wine per year), which

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Photos: Ben Blackwell

Mangurian and Turrell.

also contains exhibition space for the owners' art collection; a sculpture garden open to the public, incorporating, if feasible, a small open-air theater; and the owners' residence. The clients requested a "rustic" theme for their domicile, complete with atrium, living room, study, four bedrooms, a pottery workshop, and a Japanese bath with a floor-to-ceiling glass wall looking out on an enclosed garden. A small swimming pool and whirlpool were other required outdoor elements. Both house and sculpture garden were to be sheltered from the outside world, merging with

the landscape. The program was embellished with statements such as "wine's subjectivity is not the least of its charms; its sensual aspects are a necessary ingredient to uplift man's spiritual side."

Of the five schemes, the winning one most successfully engages the landscape and differentiates project components. The working parts of the winery complex are clearly distinguished from ceremonial ones. The sculpture garden is entered through an open, terraced rotunda lined by poplars without and murals within. This romantic

emblem of classical antiquity is termed the "mountain of Pegasus." The garden's circulation plan skillfully loops around the lower slope of the hill and back to the winery. The residence atop the hill is designed as a variation on the composition of the winery.

The Mangurian/Turrell scheme, which took the unofficial second prize, was praised by the jury as an innovative interpretation of the program. Architectural documents were accompanied by a detailed written account describing the use and effect of light (Turrell's specialty) in combination with the natural landscape. Tunnels cut through the knoll were to channel light during the spring and fall equinoxes into special rooms in the residence. The model, brightly colored with red, yellow, and green pigments derived from local volcanic rock, emphasized the abstract qualities of the composition.

Like the Mangurian/Turrell scheme, those of the three northern California teams had strong axial compositions. The competition was judged by curator Mary Beebe, theatrical designer Craig Hodgetts, Robert Mondavi of Mondavi Vineyards, landscape architect Hideo Sasaki and SFMMA Director Henry T. Hopkins. Donald Stastny of Portland, Oreg., acted as professional advisor and Helene Fried, planning coordinator for the Museum's Department of Architecture and Design, as competition coordinator. Fried will curate the Museum's June 1985 exhibition, "Art + Architecture + Landscape," which will document the competition.

[SALLY WOODBRIDGE]

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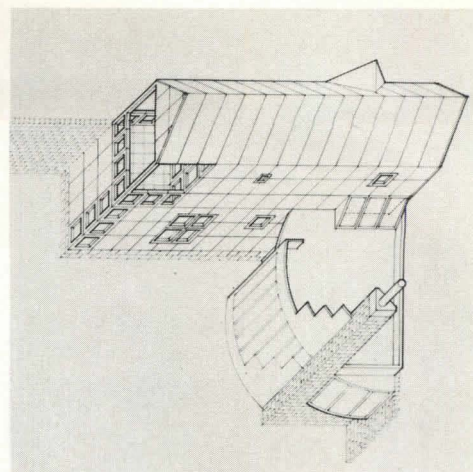
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Innovations in Housing '84

James W. Ritter of Alexandria, Va., won the \$5000 Grand Award in the sixth annual Innovations in Housing design competition, sponsored by the Wood Products Council, which includes the American Plywood Association, the American Wood Council, the National Forest Products Association, the Southern Forest Products Association, and the Western Wood Products Association. Citations of Merit were given to Gordon Ashworth, associate professor, University of Florida, Gainesville; William Freund, Wilkinsburg, Pa.; Robert King, New York;

Michael Siegel, Booth/Hansen Associates, Chicago; and Peter Zweig, associate professor, University of Houston.

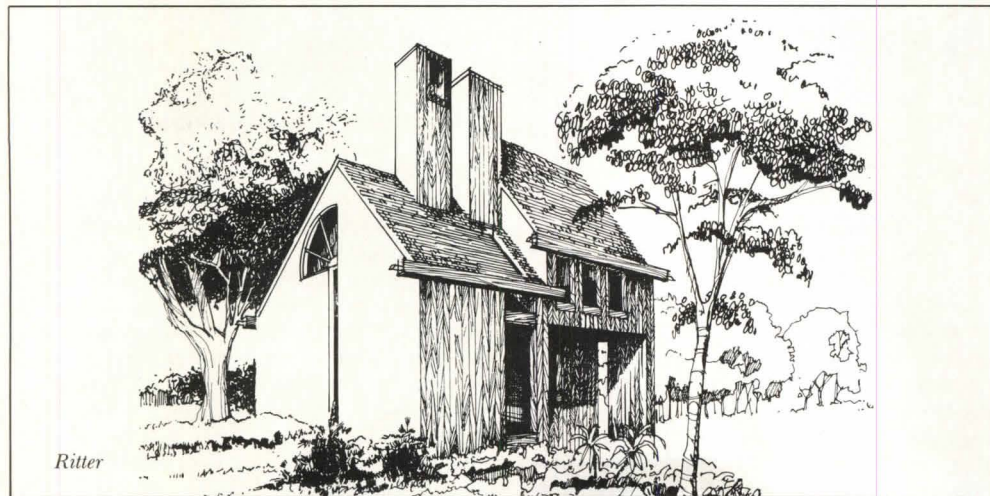
The competition, which was developed to encourage solutions to the problem of affordable, energy-efficient housing, called for a 1200-square-foot (maximum) house that addressed energy as well as space-saving concerns, and which made extensive use of wood products. The 225 entries came from the U.S., Canada, and Europe. This year's jury included builder Mac McKinney, president, McKinney Homes, Houston; Ralph Rapson, professor and head emeritus of the Department of Architecture, University of Minnesota, Minneapolis; Bill Nolan, associate



Ashworth

editor, *Better Homes & Gardens*; Deborah Woodcock, new products editor, *Builder*; and Pilar Viladas, senior editor, *Progressive Architecture* (these magazines also acted as sponsors of the competition).

Ritter's award-winning design proposed two venting stacks (one of which acts as a thermal chimney), masonry mass wall, heat pump, and underfloor plenum to save energy, and was cited for its extremely efficient floor plan (quite a few entries exceeded the square footage requirement). Zweig's "simple homestead" won him his fourth Innovations in Housing citation to date. Freund's reinterpretation of the New England saltbox was cited for its "thoughtful 'small house'



Ritter

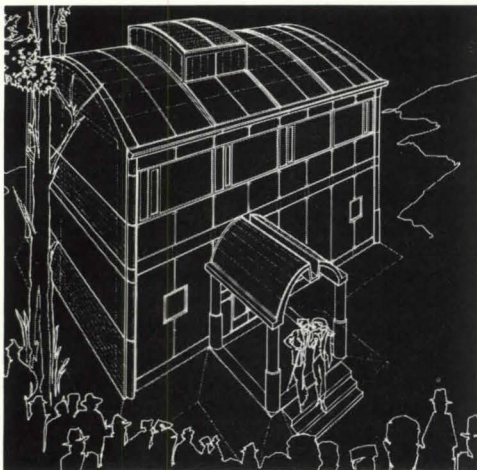
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character" and featured a simple, uncluttered plan. King's combination of Modern and historicist vocabularies was singled out for its sense of rhythm and proportion. Siegel's design, one of the more controversial entries, proposed bolted-on plywood panels and a curved roof, and while it was deemed too radical to appeal to a mass market, the jurors nonetheless applauded its fresh approach. Finally, Ashworth's L-shaped patio house was the only one of the winning designs that addressed the possibilities of multiunit planning. Ritter's design will be built by McKinney Homes for display at the National Association of Homebuilders show in Houston, January 26-29, 1985. [PV] ■

CONDES '85

CONDES '85, the Dallas-based contract design show, will take place January 23-25. These dates coincide with the opening of InfoMart, the nation's first information processing market. Appropriately enough, the CONDES '85 theme is "InfoWorks: Information that Works (Design, Technology, Productivity)."

Megatrends author John Naisbitt and his wife Patricia Aburdene, coauthors of *The Beginning of the New: Re-Inventing the World We Live In*, kick off the event Tuesday evening, January 22, with a talk on reinventing the corporation.

Wednesday, January 23, is Technology Day. The "Eye Opener" session features a panel of facility managers, moderated by Anne Fallucchi, editor of *Facilities Design & Management*. This is followed by a day of InfoWorksessions in participating showrooms, with a focus on "high technology." In the evening, the Dallas Museum of Fine Arts will celebrate its first anniversary.

Thursday is Productivity Day. The "Eye Opener" session presents Paul Hawken, author of *The Next Economy*, who will explore the transition from mass consumption to the Age of Information. InfoWorksessions will focus on the topic of competitiveness. At the end of the day, Tom Wolfe, author of *From Bauhaus to Our House*, will speak on the state of architecture at the end of the century.

On Friday, Design Day, the "Eye Opener"

speaker is Mike Vance, former creative director of Disney World, who will lead a workshop on creative thinking. The InfoWorksessions will focus on differentiation, or how to distinguish good design from non-design.

Concurrent business seminars will address problems of profitability, marketing, and stress. A separate series will study "Texas in the Year 2000" and "The Great Southwest Quality of Life Battle." Participants include business analysts, planners, and developers from Dallas, Houston, Austin, and San Antonio. For more information and a detailed schedule, write or call InfoWorks, Dallas Market Center, 2100 Stemmons Freeway, Dallas, Texas 75207, 1 (800) 527-1451 or (214) 655-6116. [JW] ■

Gracie Mansion refurbished

After a year of living in the construction himself, Edward I. Koch of New York last month unveiled the results of a \$5.5 million restoration and redecoration of Gracie Mansion, the mayor's official residence. The 1799 house is the last remaining country house in New York still on its original site, and it is, according to the mayor, "the second most famous house in the country." Although some might give that distinction to Mt. Vernon or Monticello, one presumes the mayor meant to say *lived-in* house. And *that*, in fact, is very much what this ongoing work is and will continue to be about.

From the beginning, the mayor was adamant that the house not be turned into a



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Pach Bros., New York Historical Society



Gracie Mansion Conservancy



museum, and that it be made more accessible to the public. He also required final veto on all decoration decisions. The results, under Gracie Mansion Conservancy Chairman Joan K. Davidson, are almost all highly laudable. A large part of the budget went into non-cosmetic work such as a direly needed new HVAC system, structural repairs, refurbishing of the security guards' basement quarters, and rerouting access from the mansion to its 1966 addition not, as previously, through the kitchen.

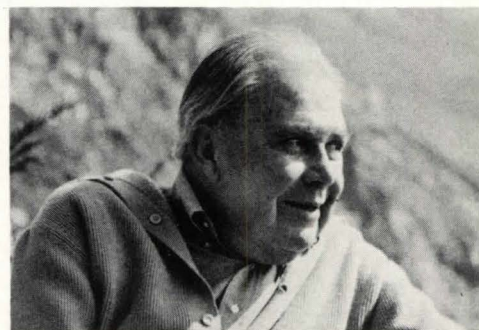
As far as the rest of the house is concerned, almost anything would have been an improvement. The place, frankly, was an embarrassment. Rooms were poorly and haphazardly furnished, upholstery was grimy and worn. Colors were awful: the ballroom was acid powder blue; a cutesy yellow bamboo-motif bedroom was across the hall from one in garish, red flocked wallpaper, where heads of state were put up on visits to New York.

The house is now vastly improved, but at least for this viewer, instead of being downright tacky as before, it is now, unfortunately, too "decorator." It still, it seems, is not the "real" home the mayor wanted. As example, the main entrance hall, seen here in its transformations of 1890 (top), 1983 (middle), and at present (below), show that its latest reincarnation, in rambunctious *faux bois* and *marbre*, may still need some rethinking. [DM] ■

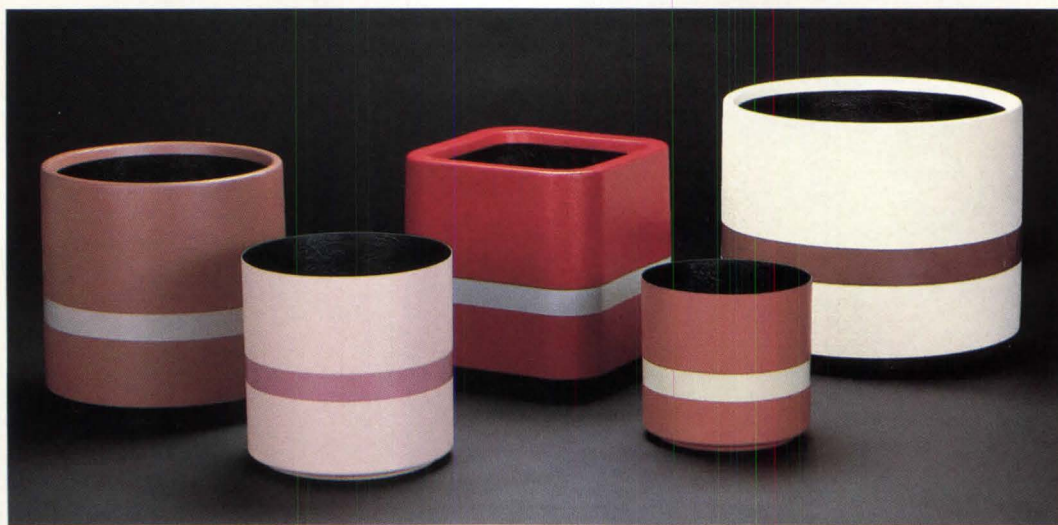
Nathaniel Alexander Owings

Nathaniel Alexander Owings, founding partner of Skidmore Owings & Merrill, died June 13 at the age of 81. Although the "architect" of the largest and perhaps most influential architectural firm in the world, Owings did not consider himself a fine designer, describing his role at SOM instead as that of a "director of an ever changing symphony filled with masters of various instruments . . . I don't do drawings," said he, "just as the conductor doesn't play an instrument."

Owings and his brother-in-law Louis Skidmore founded their partnership in Chicago in 1936 (John Merrill joined a short while later). Over the years, SOM evolved into a multidisciplinary firm of international renown, with over 1400 professionals in offices in New York, Chicago, San Francisco, Portland, Washington, D.C., Boston, Houston, Denver, and Los Angeles.



Nathaniel A. Owings.



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In 1962, the AIA bestowed its first "Architectural Firm Award" on SOM; 20 years later the Institute honored Owings with its highest personal award, the Gold Medal, recognizing both his professional career and his personal efforts in urban and environmental planning. (His partner Louis Skidmore was also a Gold Medal recipient.)

Appointed Chairman of the President's Advisory Council on Pennsylvania Avenue by President Kennedy in 1962 and later acting as a member of the Pennsylvania Ave. Development Corporation Board, Owings championed the incremental redevelopment of that decayed but historic axis connecting the Capitol and the White House. Owings also served on the Secretary of the Interior's Advisory Board on National Parks, Historic Sites, Buildings and Monuments, serving as Board Chairman from 1970 to 1972.

In his later years, Owings turned against the style his firm had helped to establish through such landmarks of Modern architecture as the 1952 Lever House, the 1961 Chase Manhattan Bank in New York, and the 1974 Sears Tower in Chicago. In his Gold Medal acceptance speech, Owings asked, "Is it, indeed, the personal touch of humanity that we have imprisoned and denied in our glass boxes?" Characteristically, he used the opportunity to urge architects to exercise leadership in environmental affairs. Owings' own efforts, undertaken with his wife Margaret, to preserve Big Sur in California and to save the adobe churches of Santa Fe, New Mexico, were, he felt, his greatest legacy.

[DDB]

John Entenza

John Entenza, editor and publisher of *Arts and Architecture* magazine from 1939 to 1962 and director of the Graham Foundation from 1960 to 1971, died on April 27 at the age of 78. With the aid of Charles and Ray Eames, Entenza transformed *A+A* from a provincial paper to a unique, nationwide forum for good design. *A+A*, writes Esther McCoy, "was a discoverer of talents . . . a rallying point for all the arts." Entenza, who was not trained as an architect, nevertheless initiated one of the most innovative programs in contemporary architecture—the Case Studies Houses—and personally financed the building of 23 houses.

As director of the Graham Foundation for Advanced Studies in the Fine Arts, Entenza perfected the use of the small "seed" grant. Under his direction, the Foundation supported a number of landmark public exhibitions on architecture, among these the definitive Le Corbusier exhibition (MoMA, 1962) and an equally definitive show on Mies van der Rohe (Art Institute of Chicago, 1968). A staunch supporter of Modern architecture (and a resident of Mies's Lake Shore Drive apartments), Entenza told a Chicago reporter in 1979, "Certainly Mies will be re-



John Entenza.

membered as one of the significant forces in architecture in our time." Then he added with a wink, we are told, "And me too."

[DDB]

Thomas H. Creighton

Thomas Hawk Creighton, Editor of *Progressive Architecture* from 1946 to 1963, died recently at the age of 80. He had spent the last 18 years in private practice in Honolulu. His wife, the sculptor Gwen Lux, survives him.

During his many years as editor of *P/A*, Creighton made lasting contributions to architectural journalism and to architecture itself. Under his editorial direction, the magazine completed its transition from *Pencil Points*, the magazine of the drafting room, to a critical journal of international stature. He made the publication, which previously had been indecisive about style, into a strong supporter of Modernism. Under his leader-

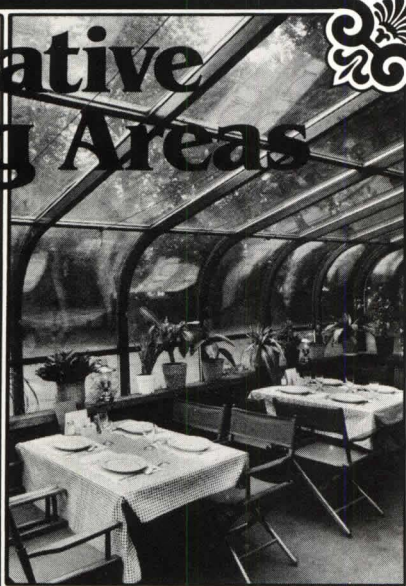
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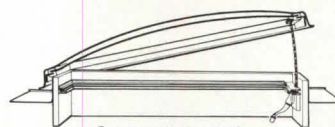


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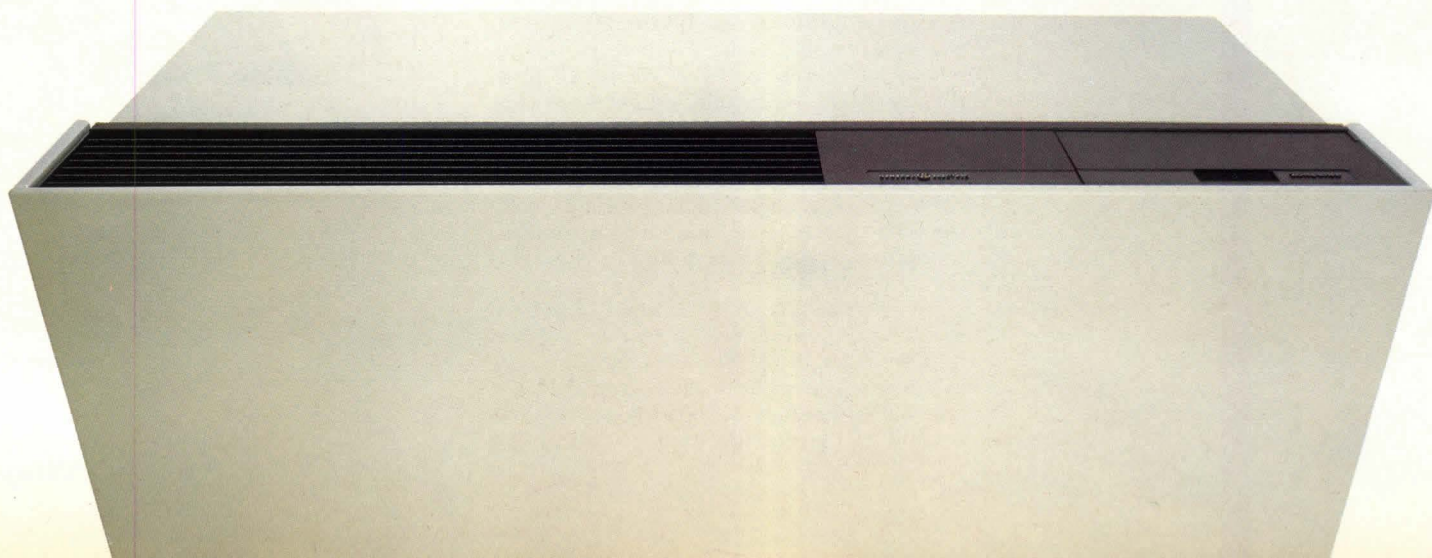
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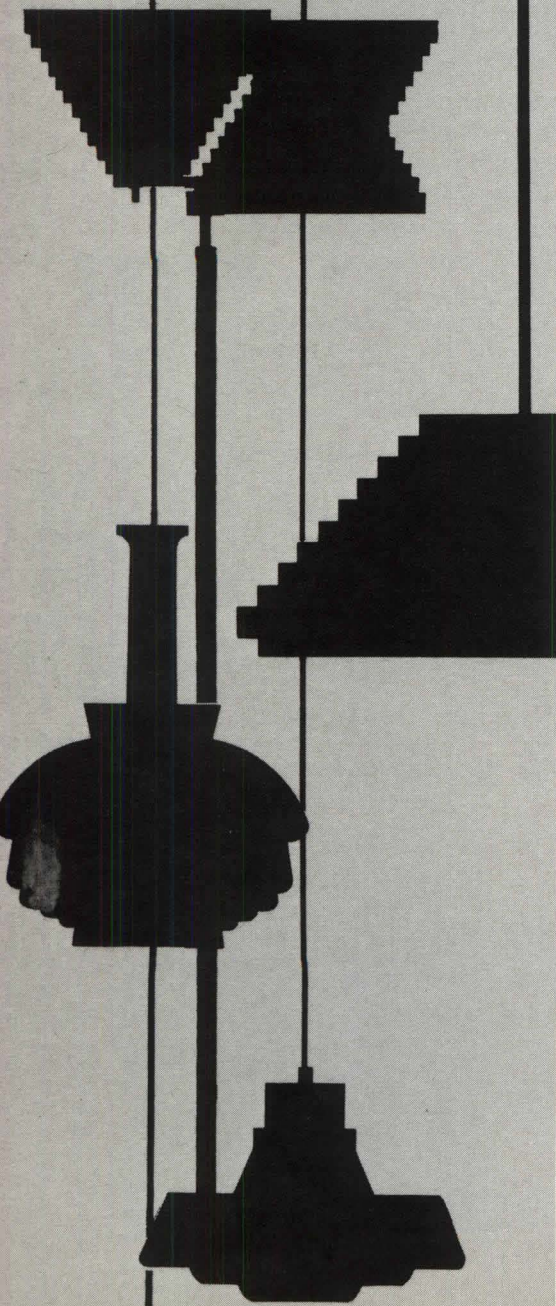


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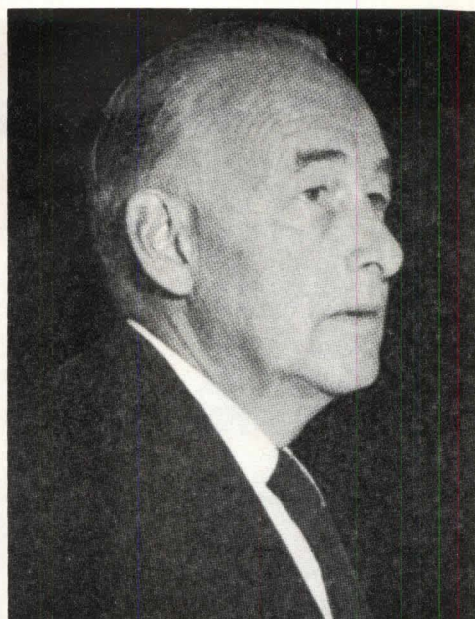
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P/A News report



Thomas H. Creighton.

ship, the P/A Awards competitions were initiated in 1953, and quickly became a major annual event; he also oversaw the introduction of interior design and urban design as regular subjects for an architectural journal.

A graduate of Harvard and the Beaux Arts Institute of Design, Creighton worked for architecture firms in New York and in Burlington, Vt., before joining P/A. He made an auspicious debut as guest editor of the January 1946 special issue, entitled "Since You Went Away," which deftly analyzed developments in design and practice during the World War II years. In May 1946 Creighton was listed on the masthead as Editor.

A conservative gentleman in appearance and manner, Creighton was remarkably liberal on some issues. One of his early signed columns, for instance, challenged the notion that architects do not need to solicit work, and even questioned the profession's ban on advertising as based on a wishful self-image. He supported a national commitment to decent housing, community facilities, and effective planning, and during the early 1960s he vigorously opposed a massive national bomb shelter program as a futile diversion of resources. Creighton also believed in writing about architecture for the public, and was author (or coauthor) of eight books on houses, competitions, and other subjects.

In 1963, Creighton left P/A to become a partner of John Carl Warnecke Associates, San Francisco, saying that he was seizing a last opportunity—at age 59—to return to active practice. He soon moved to Honolulu, where he represented the Warnecke firm; then, in 1966, he established his own office there. In addition to his architecture and planning practice, he wrote columns for the *Honolulu Advertiser* and was a member of the city's planning commission. In 1982, when the AIA met in Honolulu, he contributed a thoughtful article on planning in Hawaii to the *AIA Journal*.

All of us at P/A, and the many who have worked here and moved on, owe a great deal to Tom Creighton. Those of us who were privileged to work with him carry with us a memory of intelligent, forceful, yet temperate editorial leadership. [JMD]



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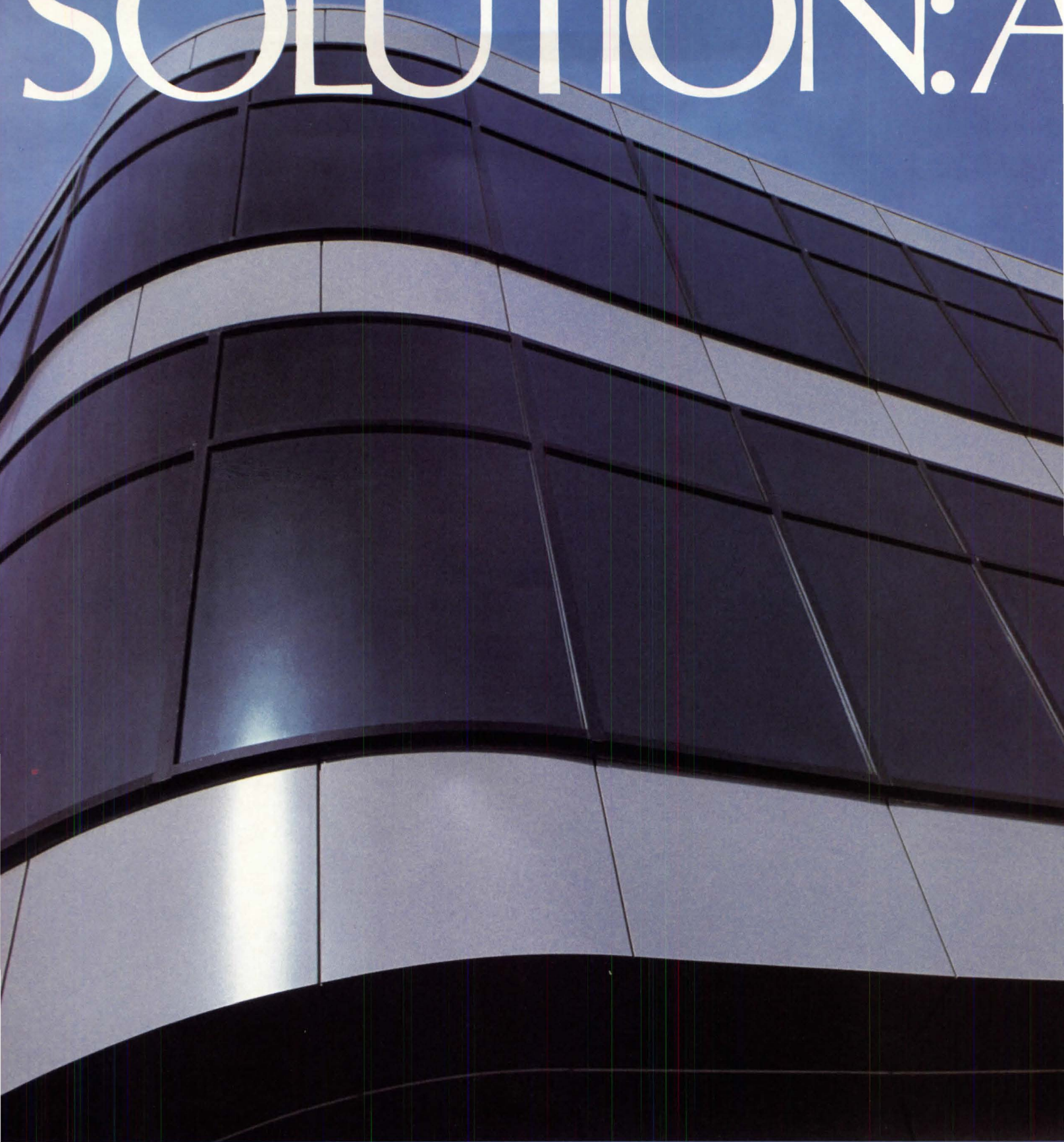


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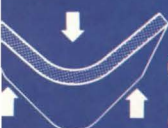
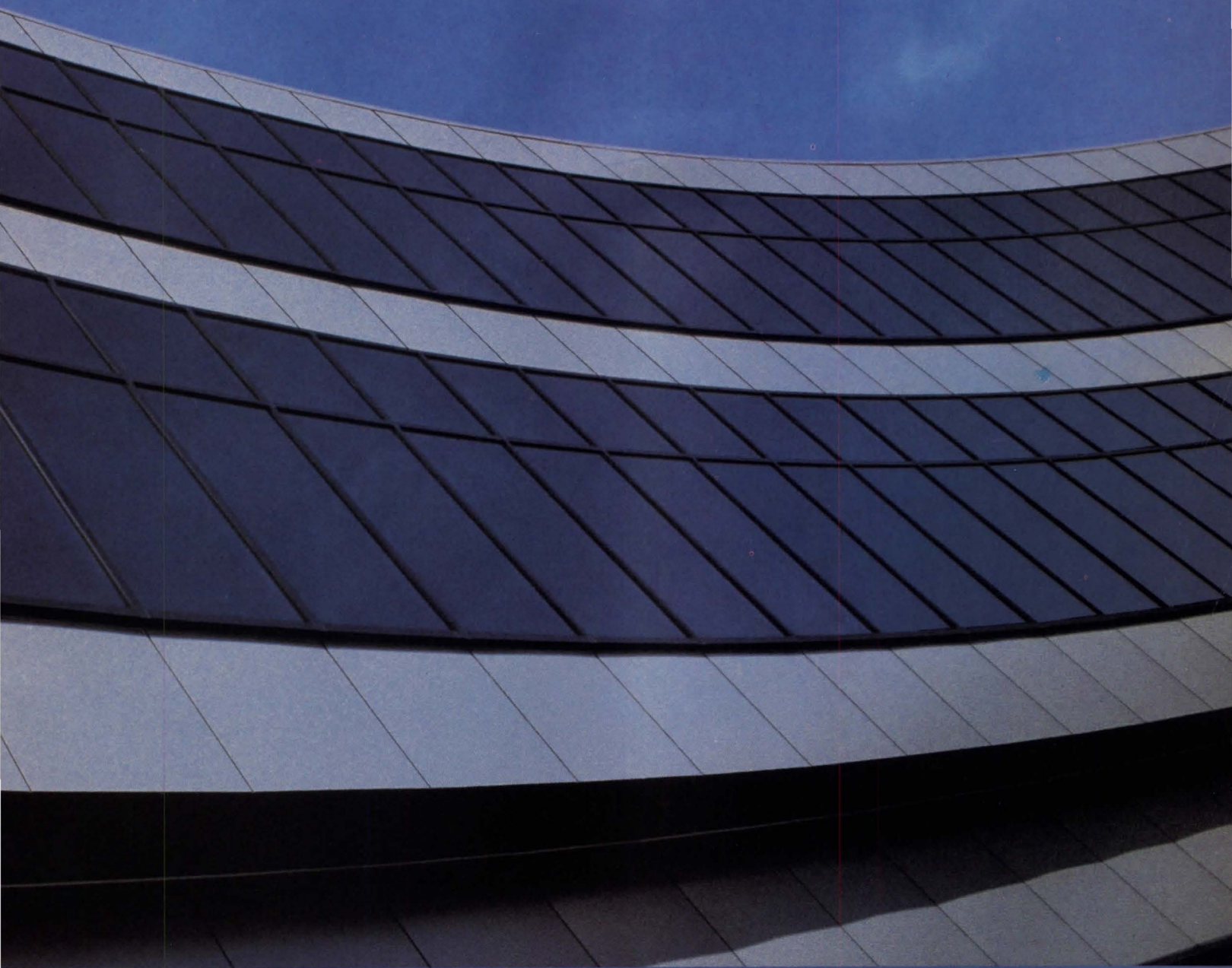


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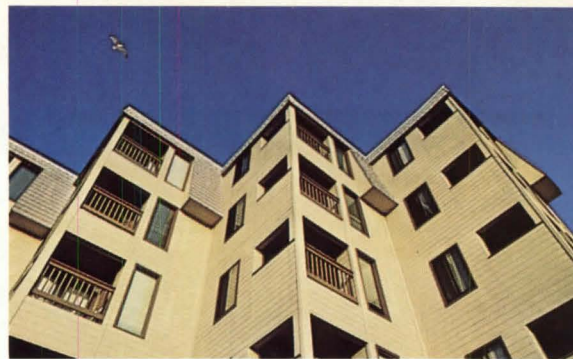


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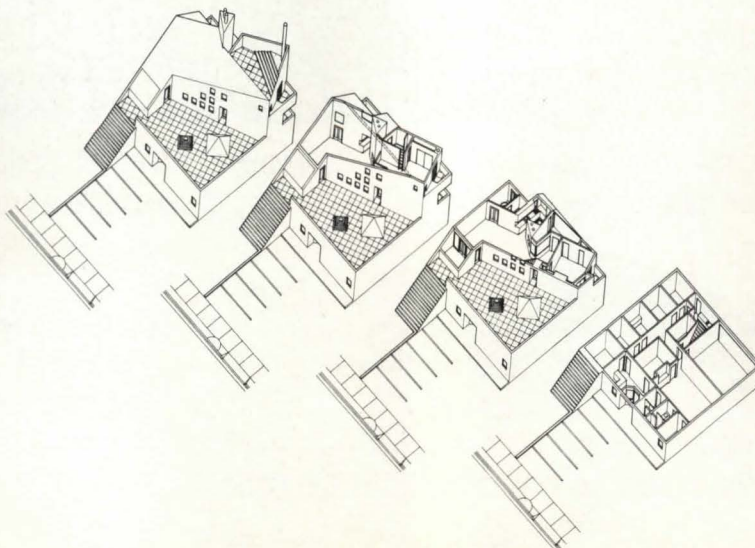
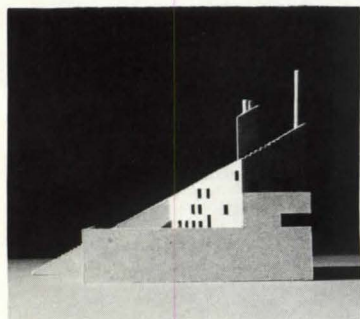
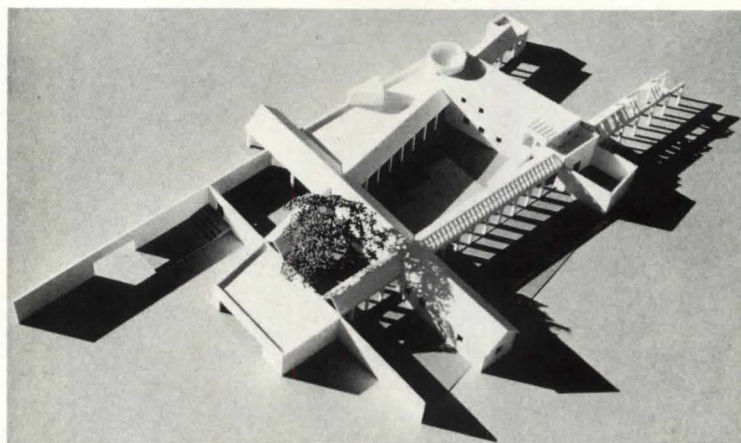
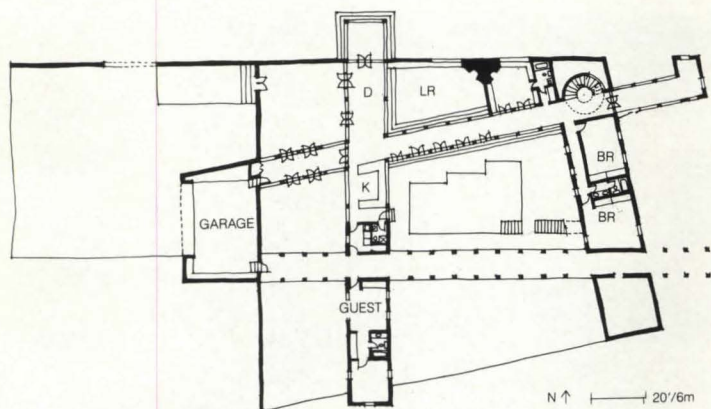
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In progress



These four residences designed by Antoine Predock of Albuquerque, New Mexico, respond to the "richly accreted content" of the American southwest, its climate and its culture. All four, says Predock, "have a story to tell."

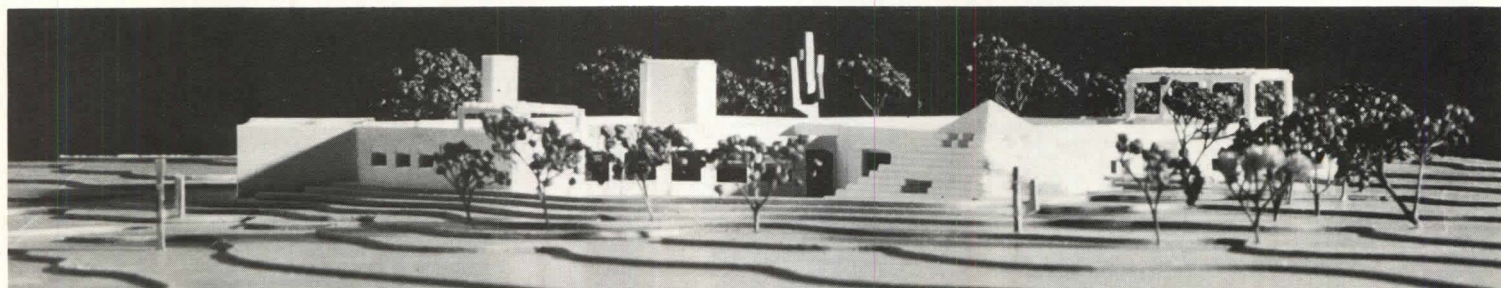
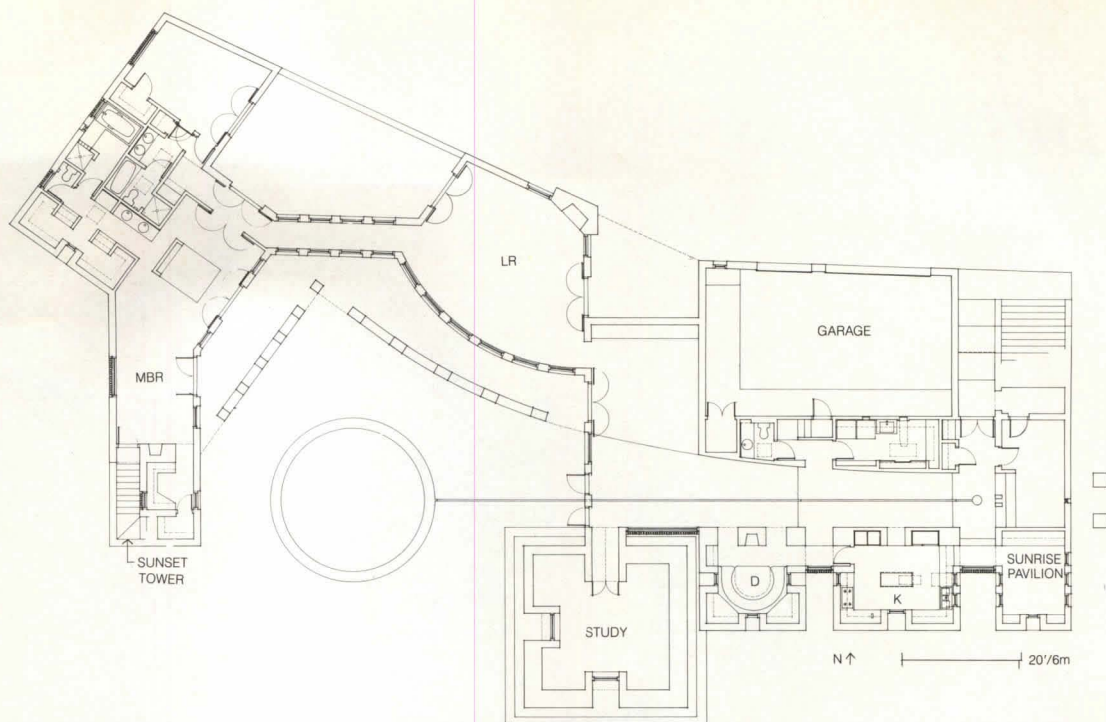
Robinson/Burney House, Albuquerque, N.M. Architect: Antoine Predock, Albuquerque, N.M. Set in the north valley of the Rio Grande where development is rapidly replacing agricultural land use, this private residence for two physicians turns inward to focus on enclosed courtyards. The long, low profiles of pitched metal roofs, pergolas, and walls extend into the landscape. The sunken living room is a cool oasis against the north wall. The bedroom wing rises two stories, and the master bedroom suite is reached by a circular stair encased in its own "silo."



Clinico Equipe, Albuquerque, N.M. Architect: Antoine Predock, Albuquerque, N.M. Designed to suit a social pattern that has become increasingly commonplace, this combination residence/workplace for a sports medicine doctor is a contemporary version of the apartment-over-the-shop. The earth-brown clinic base conforms to the surrounding city grid; the sky-blue house above turns toward views of the distant Sandia Peak. Construction is due to start in 1985.



Fuller House, Albuquerque, N.M. Architect: Antoine Predock, Albuquerque, N.M. This residence derives its "story" from the site. Sunrise and sunset pavilions flank a central pyramid housing the study. As in the Tesuque House (facing page), the separate pieces of the program are clearly articulated; here, however, the fragments are pulled together into a single building mass.



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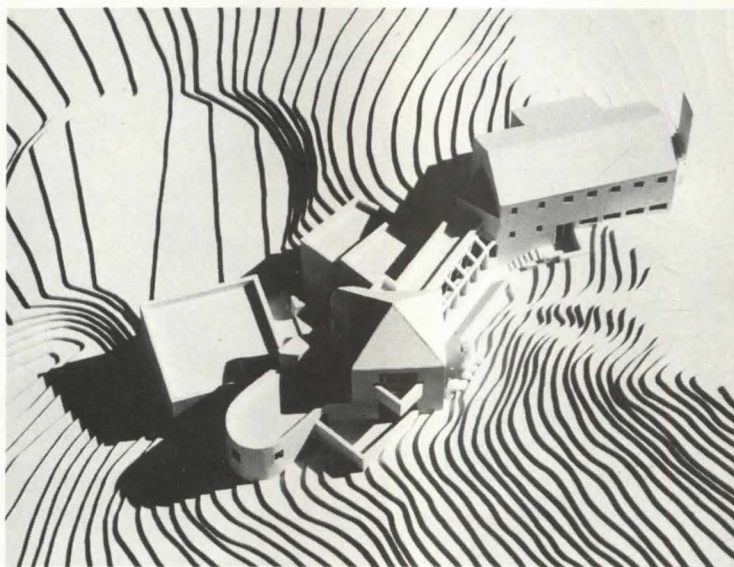
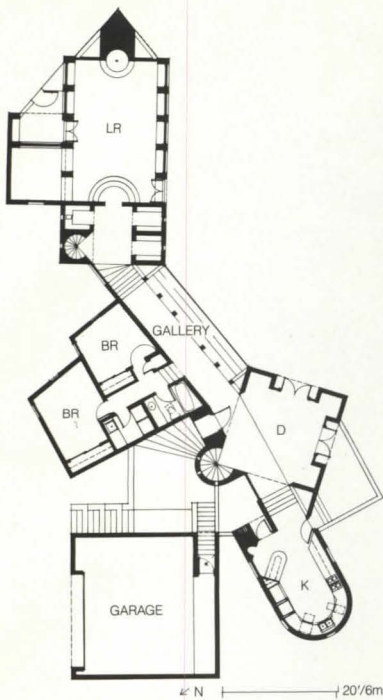


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Tesuque House, Albuquerque, N.M. Architect: Antoine Predock, Albuquerque, N.M. Envisioned as a remote "village," the individual pieces of the program, each a separate building, climb the steep ridge, reached by a circuitous dirt drive. The topography has been used to heighten the processional path through the house from its garage entrance, up through a gallery/greenhouse, and out onto the living room's "balcony."

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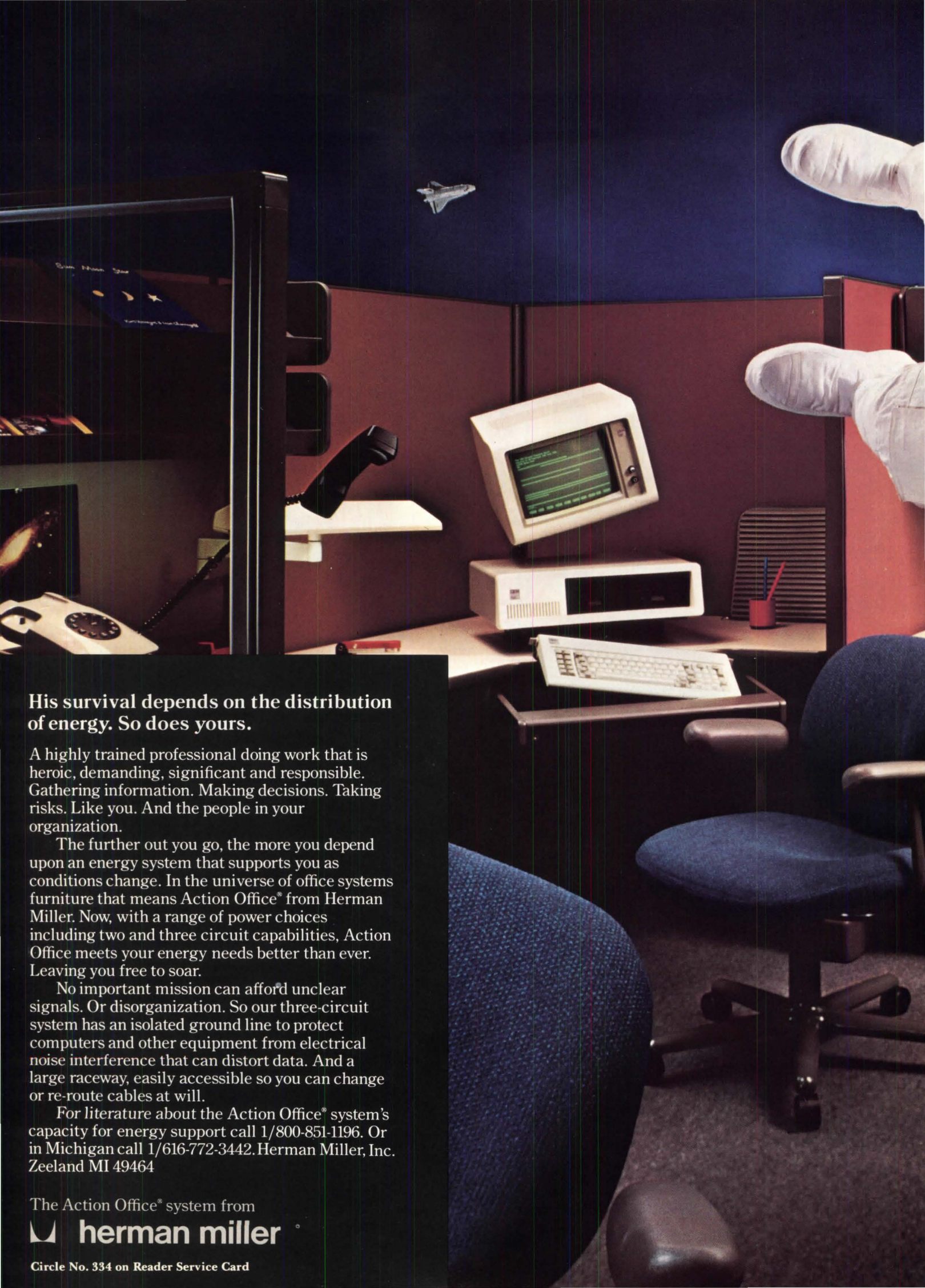
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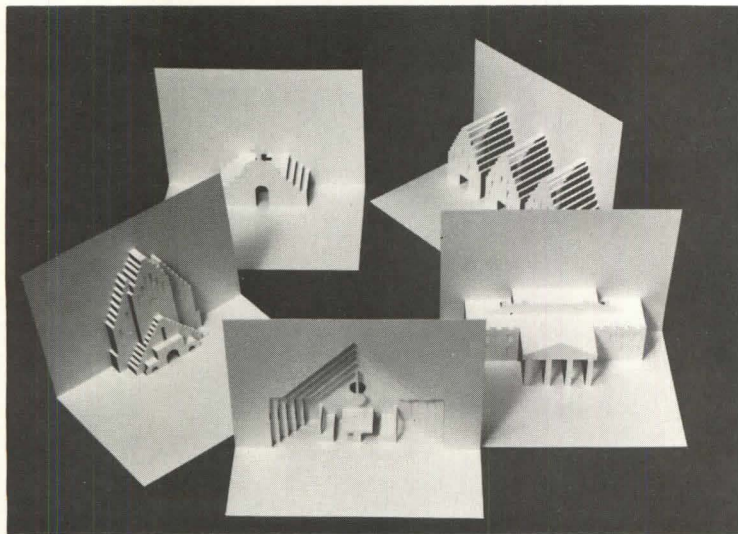
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P/A Calendar



Origamic architecture, Masahiro Chatani; Gallery 91, through Dec. 22.

Exhibits

Through December 21

Great Architectural Drawings from the Royal Institute of British Architects. Ransom Center, University of Texas, Austin.

Through December 22

Frank Gehry: Fish and Snake Lamps. Metro Pictures, New York.

Through December 22

Origamic Architecture: Masahiro Chatani. Gallery 91, New York.

Through December 28

Barbara Stauffacher Solomon: Grids on the Port of Saint Francis. Philippe Bonnafont Gallery, San Francisco.

Through December 31

Late Entrance to the Sears Tower. Prairie Avenue Bookshop, Chicago.

Through January 6

The Byrdcliffe Arts and Crafts Colony: Life by Design. Delaware Art Museum, Wilmington, Del.

Through January 6

Chicago and New York: A Century of Architectural Interaction. The Octagon, Washington, D.C.

Through January 6

A Serious Chair, designed by Bill Stumpf and Don Chadwick. Walker Art Center, Minneapolis, Minn.

Through January 13

Post-Modern Color: New Furniture in Formica's Colorcore® by British, American, and French Designers. Boilerhouse Project, Victoria and Albert Museum, London, England.

Through January 13

Visions of Liberty: photographs of the Statue of Liberty. The New York Historical Society, New York.

Through January 20

Arquitectonica: Yesterday, Today, Tomorrow. Center for the Fine Arts, Miami, Fla.

Through February 17

White City: International Style Architecture in Israel. The Jewish Museum, New York.

Through February 22

Mackintosh to Mollino: Fifty Years of Chair Design. Barry Friedman, Ltd., New York.

Through March 17

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

Through April 7

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

January 11-March 2

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

Competitions

December 31

Postmark deadline, Light in the 21st Century, International Design Competition. Contact Ziggurat/Lighting Company, P.O. Box 2654, La Jolla, Calif. 92038 (619) 299-1686.

December 31

Postmark deadline, First Annual Kitchen Design Awards. Contact ICF, 305 E. 63rd St., New York, N.Y. 10021, or any local ICF showroom.

January 2

Postmark deadline, National Trust for Historic Preservation Preservation Honor Awards. Contact Center for Preservation Training—Awards, National Trust for Historic Preservation, 1785 Massachusetts Ave., N.W., Washington, D.C. 20036 (202) 673-4136.

January 4

Entry deadline, International Interior Design Award 1985. Contact The Secretariat, International Interior Design Award, Interior Design International Exhibition, Audit House, Field End Road, Eastcote, Ruislip, Middlesex H4A 9XE, England 011-44-01-868-4499.

January 17

Postmark deadline, P/A's fifth annual International Furniture Competition. See p. 115 for information and entry form.

January 30

Registration deadline, Cityscape Competition for downtown urban park, St. Paul, Minn. Contact Douglas Foster, Competition Director, Dept. of Planning and Economic Development, 25 W. Fourth St., St. Paul, Minn. 55102.

February 22

Submission deadline, 27th Annual S.M. Hexter Awards for the Interiors of the Year. Contact S.M. Hexter Co., 2800 Superior Ave., Cleveland, Ohio 44114.

March 15

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

Conferences

January 9-12

Heimtextil, interior textile trade show. Frankfurt Fair Grounds, Frankfurt, West Germany. Contact German American Chamber of Commerce, 666 Fifth Ave., New York, N.Y. 10103 (212) 974-8830.

January 9-14

International Lighting Exposition 85, Parc des Expositions, Porte de Versailles, Paris. Contact Salon International du Luminaire, 22 av. Franklin-Roosevelt, 75008 Paris, France (1) 225-70-94.

January 19-26

Fifteenth World Congress of the International Union of Architects, Cairo. Contact Congrès-Services UIA, 15 rue Eugene-Varlin, 75010 Paris, France.

January 23-25

CONDES '85 and INFOMART, contract design and information processing show. Dallas Market Center, Dallas, Texas. Contact Dana Collins (214) 655-6258.

January 26-29

National Association of Home Builders 41st Annual Convention & Exposition. Astrodomain complex, Houston, Texas. Contact Betty Christy, Assistant Staff V.P., NAHB, 15th and M Streets, N.W., Washington, D.C.

January 28-31

International Air-Conditioning, Heating, Refrigerating Exposition. McCormick Place and McCormick Place West, Chicago. Contact International Exposition Company, 200 Park Ave., New York, N.Y. 10166.

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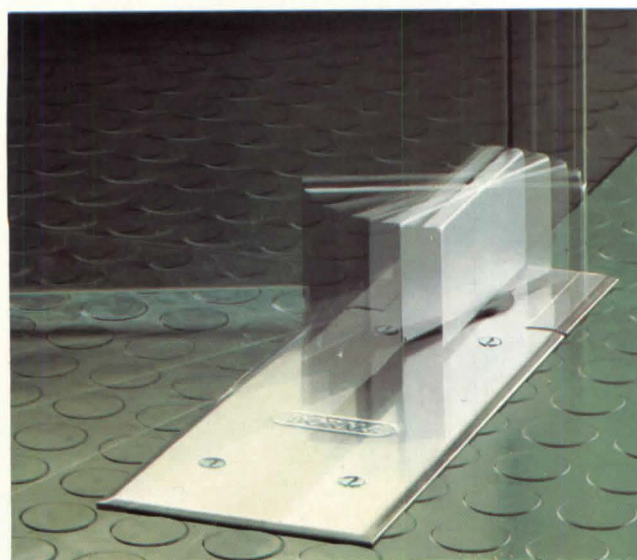
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P/A Practice

Law: Negligence liability to third parties

Whether an architect has a responsibility to parties involved in the construction process, other than his client, to whom he may be subject to liability is a question that has not been fully resolved and may be inconsistently answered in different jurisdictions. This issue was recently adjudicated in Georgia in a case involving the installation of defective tile in a renovation project for Macy's (*R.H. Macy & Co., Inc. v. Williams Tile & Terrazzo Company, Inc.*).

The architect involved in the above case had designed a renovation project in Lenox, Georgia. The specifications called for a tile known as "Virtue Summer Wheat 102," which had been selected based upon the architect's past experience with that tile. The owner had contracted directly with a contractor ("Williams") to install the tile, which was ordered from W.D. Virtue Company ("Virtue"). Virtue was given a request for a specific color tile with a nonabrasive surface, and with this limited knowledge, Virtue ordered the tile directly from a manufacturer.

Virtue sent the architect samples of the tile, which were labeled "W.D. Virtue Summer Wheat 102," but this tile was manufactured by a company different from the one that had produced the tile for the architect's other projects. The architect did not test the samples and assumed he was dealing with a product he had previously used and with which he was satisfied. Shortly after the installation, however, problems of the quality of the tile arose and the tile turned out to be defective.

The owner instituted suit against the installer Williams under the installation contract, which guaranteed the quality of the tile; and the installer filed a third-party suit against Virtue for furnishing defective tile. Both Williams and Virtue asserted a claim against the architect for contribution, contending that the architect was negligent in failing to provide appropriate specifications or to investigate the tile before making a final selection and for not inspecting or testing the tile. It was contended that the architect knew or should have known that the tile was unsuitable for the purpose for which it was selected and that the architect failed to exercise the degree of care required of professionals under the same or similar conditions.

The architect moved to dismiss the claim against him on the ground that he owed no duty to Williams or Virtue and could not, therefore, be subject to liability to them. The



Court described the threshold issue as follows:

"... the question here becomes whether (the architect) owed a duty of care to Williams and/or Virtue such that an action for negligence will lie. ... The cases most relevant to this issue concern the duty of care owed by professionals to a third party with whom they have no 'professional relationship.' These decisions are factually distinguishable from each other and from the present case. To complicate matters further there is a substantial conflict among them."

The Georgia Court affirmed that in certain types of situations an architect may owe a duty of care to a party with whom he has no contractual relationship. As an example the Court referred to a case (*Bodin v. Gill*) in which a landowner was allowed to recover damages arising from the negligence of an architect who was employed by an adjacent landowner, pointing out that the law imposes upon architects the obligation to exercise a

reasonable degree of care, skill, and ability for the benefit not only of his client, but of persons who may be injured or property damaged as the result of the architect's negligence. However, the *Bodin* decision was distinguishable from the case before the Court, as in that case the architect caused direct property damage to the plaintiff. In the case before the Court, the alleged negligence of the architect caused direct damage only to his client and not to the parties asserting the claim.

The Court also referred to a line of decisions (which did not involve direct damage to the claimant) that held that a third party having no contractual relationship with the professional could not rely on a professional duty that might give rise to a negligence action had the injured party been in privity

43 **Law:** Norman Coplan

46 **Specifications:** Walter Rosenfeld

47 **Marketing:** Gregory Putnam

48 **Research review:** Thomas Fisher

IBM ON TELECOMMUNICATIONS

Q. CAN A CABLING SYSTEM UNTANGLE TELECOMMUNICATIONS?

A. With all the various devices a company uses to process, move and store information, it's easy to lose sight of one important element—the need to connect all these devices together. That's where a uniform, structured cabling system fits in. But are you just substituting one set of wires for another? Here are some questions and answers that might help you better understand the role a cabling system can play both in solving your communications problems today and in protecting your telecommunications investment for tomorrow.

Q. First of all, just what is a cabling system?

A. A cabling system is designed on a “wire-once” concept. Just as electrical wires are run in buildings today, a cabling system is a permanently installed set of wires that connects the computers, terminals, workstations, telephones and PBXs within a large office building or a campus. This cabling system should also be the foundation for local area networks of the future.

Q. Aren't my computers and telephones already hooked up to a cabling system?

A. It's not so much a cabling system as it is a bunch of cables. Look above the drop ceilings in most office buildings, and you'll discover miles and miles of all kinds of cable. And much of it, strangely enough, is unused. The reason for this waste is that few devices (i.e., telephone, terminal, personal computer, etc.) use the same type of cable. Consequently, when a new device is installed or when one is moved from one office to another, it's quicker, easier and cheaper to run a new cable than it is to remove and reroute the old cable.

This is not to suggest, however, that running a new cable is quick, easy or inexpensive. Relocating just one terminal can cost as much as \$1,500. Not to mention a week or two of downtime while the wiring gets done. And when you think about how often office workers move from one workplace to another,

you can see that we're talking about a considerable expense.

Q. How can a cabling system help solve my wiring problem?

A. Once installed, a cabling system can make wiring for a new or relocated terminal as easy as moving a plug from one socket to another. The IBM Cabling System calls for the one-time installation of a single cable running from each workplace, inside the walls, and into a central “wiring closet.” In the office, that cable terminates in a standard faceplate on the wall, not unlike an electrical outlet. In the wiring closet, the cable terminates in a patch panel that can connect it to any number of devices.

The installation of the IBM Cabling System should be considered if you're adding a number of new workstations, installing a PBX, doing a major renovation or building a new office building. In many cases the “wire-once” benefit will cost-justify the IBM Cabling System in five years.

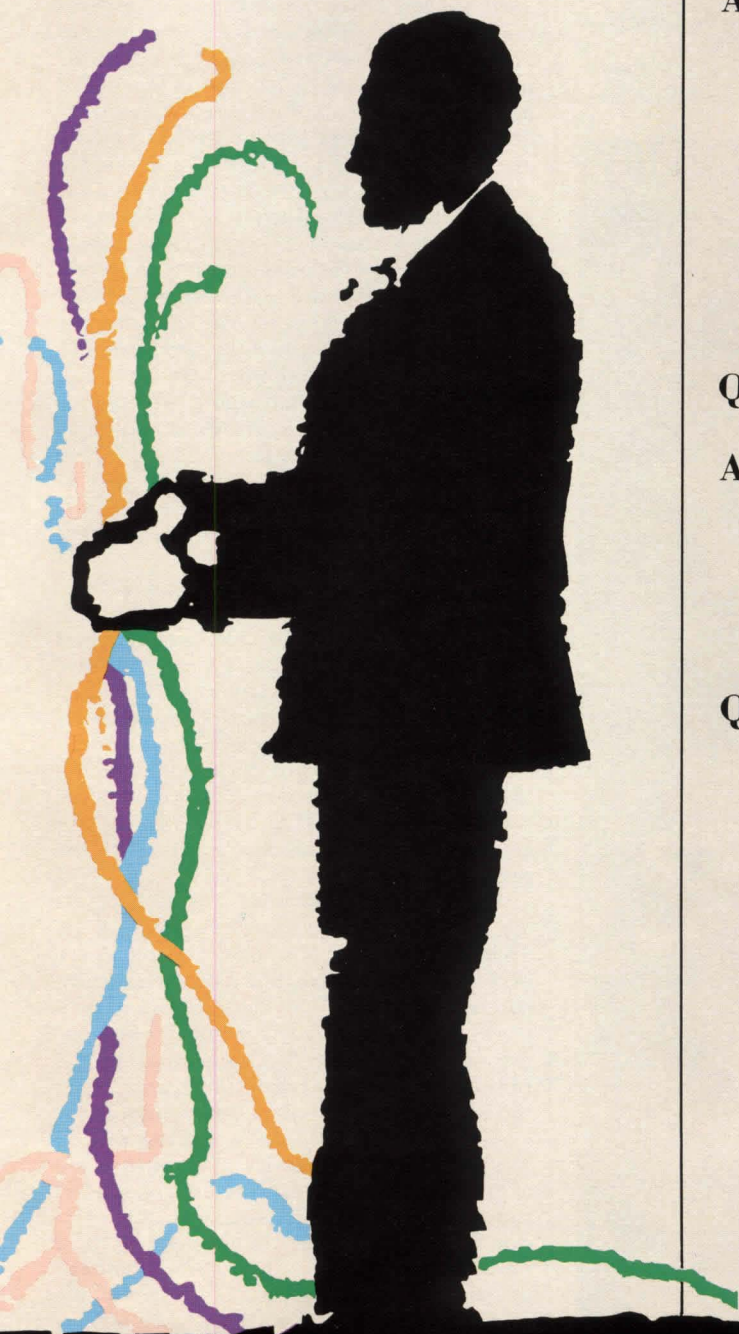
Q. How do the telephone and the IBM Cabling System work together?

A. The IBM Cabling System can be used for data only, or for both data and voice. When the voice capability is used, the voice wires are separated from the single cable in the wiring closet and run to a telephone switching system. Several major PBX manufacturers have tested their PBXs and telephones with the IBM

Cabling System. They report that the voice wires fully support their PBX features and transmission speeds.

How can the IBM Cabling System help me today?

Currently being installed in office buildings, the IBM Cabling System can connect most of the available



Michael M. Brown

IBM data devices, such as personal computers and workstations, small and intermediate computers. We expect that it will also connect many devices made by other manufacturers.

Q. How will the Cabling System help answer my telecommunications needs of the future?

A. The quality and reliability of the IBM Cabling System enable it to transmit data at very high speeds. This makes it the ideal foundation for IBM's planned general purpose local area network (LAN). This LAN, utilizing a "token-ring" technology, can be implemented gradually to connect different workstations, departmental systems and large processors. So by investing in the IBM Cabling System today, you'll not only save money on current installation and rewiring costs, you'll also be better prepared to meet your telecommunications needs of the future.

Q. How do I go about getting the IBM Cabling System?

A. There are a number of design and installation companies that can plan your cabling system and do the actual wiring. The cable and accessories are available through authorized distributors. Your IBM marketing representative can provide you with the names of these companies. The cable and accessories can also be ordered directly from IBM.

Q. Where do I go from here?

Installing the IBM Cabling System today is really installing the foundation for your company's future in telecommunications. So you'll want to plan quite thoughtfully. We can help. If you'd like a free copy of the brochure, "The IBM Cabling System," call 1 800 IBM-2468, Ext. 594, or return the coupon.

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with the professional. As an example, the Court referred to a case in which an accountant was absolved from liability to a party not his client who had relied on a negligently performed audit. However, the Court concluded that this line of cases was also distinguishable from the case before it.

The Court then referred to decisions in which a professional was held liable to a third party with whom he had no contract premised upon the nature of the professional relationship between them. Representative of this type of case was one involving a claim by an insurance company or bank who had relied on the architect's certification, which had turned out to be inaccurate. The Georgia Court finally concluded, however, that the relationship between the architect and the contractors in the case before it was not of such nature as to impose liability on the ar-

chitect. The Court said:

"... the court concludes that neither Virtue nor Williams has a viable claim against (the architect) for negligence. (The architect) owed no duty of care to Williams or Virtue as a professional, since there is no indication that any type of professional relationship existed between them or that their relationship 'approaches that of privity.' There is no evidence that (the architect) was engaged by (the owner) to examine the plans for tile installation or to supervise the companies involved in tile installation."

Whether, and under what circumstances, an architect may be subject to liability to a contractor for negligent performance is a subject of continuing question and litigation in all jurisdictions. [NORMAN COPLAN]

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

Specifications: Games specifiers play

As previously noted in P/A Practice articles, contractors, architects, and owners occasionally behave somewhat deviously in common project-related situations. Specifiers too sometimes indulge in game-playing to overcome obstacles presented by others in the course of their work. It's not that the direct approach doesn't work; it usually does. Yet there are times when special weapons and tactics are required to carry out the coordination, documentation and execution of the project in spite of such obstacles. Here then are a few games specifiers sometimes play.

Shell Game: Three manufacturers are required for each product by a government authority's zealous enforcer. That's okay for most products (the office master has three of each already researched anyway) but what about the occasional product made by only one or two manufacturers? Under some jurisdictions, it's acceptable to list the available two and for the third to state "No other known manufacturer." If that doesn't satisfy requirements, perhaps an existing not-quite-right third product will work with some modifications. Or the specifier can always write (at length) a descriptive or performance specification for the item. Just inventing names isn't a good idea. Naming two versions of the same product by different suppliers doesn't usually work either. When the contractor goes out to buy one of the shady versions, the specifier will be found out, and if the product is imaginary, the embarrassment will be real.

Guess What? Domestic and overseas owners, wanting maximum product competition (or fearing collusion between the architect and manufacturers or suppliers) sometimes give instructions not to use any manufacturers' names in the project manual, but just to describe the products desired. It's time-consuming and tedious, but the specifier can do this if it's really necessary by using national standards (ANSI, ASTM, DIN, BS, etc.) and carefully indicating all characteristics of the product.

The trouble arises when the documents are out to bid and contractors start calling. "What is this thing, who makes it and where do I get it?" they'll ask. Since the "descriptive specification" is usually based on some real-world product (otherwise it can't be bought) the specifier knows its name and model number, and (owner permitting) can give out the information verbally even though he or she is forbidden to write it into the project manual. In these cases it's prudent to keep a loose-leaf scrapbook near the phone arranged by Masterformat or specification section index with cuts and manufacturers' data on all the products to help answer bidders' questions when they call. On occasion the owner may even ask for a copy when reviewing the specifications before bidding. The field staff will also need a copy during construction in order to check on contractors' submissions. This is not the specifier's game of choice, since it is so indirect and time-consuming, but he or she can play it well if necessary.

Trade-off: If either of two trades can do it, which one should be chosen to do it by in-

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cluding the work in one trade's section or the other's? For example: interior brick paving (depending on thickness) can be set by masons or by tile-setters. The degree of precision wanted, the type and thickness of bed and jointing and the cost of labor are factors to be considered in making the choice. Should certain sash be shop-glazed or field-glazed? Again, cost and work sequence determine which section gets the write-up. Should plumbers or drain-layers do piping lines on site outside the building? Labor cost, type of pipe, and type of joint will determine which way to go. Where the work is specified generally determines how it will be assigned and bid. To play this game, the specifier needs to be aware of trade jurisdictions, trade practices in the locality, and even area wage rates. It's best to investigate thoroughly before deciding where to specify such items.

Left-overs: Take access panels. It's hard to predict exactly how many will be needed on some projects. Aside from carrying a unit price (complicated by the product's variety of sizes and installation situations), what can the specifier do to be sure all the necessary panels are included in a lump-sum bid? Since most panels are required for access to mechanical equipment, it's logical to assign responsibility for furnishing them to the mechanical sections. But what about other access situations difficult to predict exactly?

The buck stops with the general contractor when the specifier requires, under Miscellaneous Specialties or a similar section, that "All required access panels not furnished under another section be furnished under this section" with typical panel sizes and situations described for pricing. All the bases are now covered and the panel-counting is done by the contractors pricing the work (who are responsible for quantities anyway) rather than by the architect.

Is this a sly game? Not really. As long as the responsibility is clearly assigned and pricing is possible, the specifier has performed his task adequately. And, what is just as important, no gaps in the work are left since all panels are provided in one section or, by default, in another. Without this strategy there is often a moment during construction when representatives of the general contractor and several subcontractors are all standing around the field office disclaiming any responsibility for access panels at all since they were not included in each one's section of the project manual and no one carried them. This scene usually results in the owner facing an annoying (and often expensive) extra to the architect's embarrassment.

Specifiers develop such tactics as these after similar repeated incidents to overcome the inevitable frustration that would result if no remedy were sought. Making life easier for the specifier sometimes makes doing the project manual, and the project, a little easier as well. [WALTER ROSENFELD, AIA, CSI]

The author is a principal of The Architects Collaborative in Cambridge, Mass.

Marketing: Selling your firm

Much has been written since the early 1970s on selling architectural and engineering services. Marketing is the planning, organizing, and controlling of resources to get business. Part of this process involves the decision to market the firm to a particular type of client through advertising, either directly, such as in publications, mailings, or television, or indirectly through public presentations, publications, and entertainment. Selling, on the other hand, is the direct presentation to prospective clients looking for a specific service.

The most important part of a sales presentation is the first minute. By then, good salespeople will have their audience convinced that the presentation is worth listening to.

Practice these steps before a presentation:

1 Tell the audience what they are going to hear and what the presentation is going to cover. Use a written agenda in a formal setting; if the presentation is informal, briefly outline what will be covered.

2 Tell the audience why they should listen. Find out what they want to hear and tell them that the presentation will answer their questions.

3 Emphasize what they want to hear. Keep it short and to the point. If their attention drifts, emphasize a point that they may want to know more about, or ask them a question about their interests.

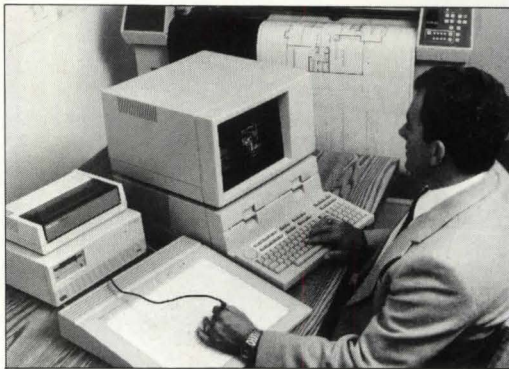
4 Finish by telling the audience what they have just learned, summarizing the key points of the presentation. Repeat the points that brought the biggest response.

Most architects, during sales presentations, discuss their work and spend little time ad-

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addressing the prospective clients' real concerns. Or they emphasize design without addressing why good design is good for the client. Design for design's sake will attract only a very small group of clients; most look for other things in a project.

Developers look for a return on investment. This may involve quality design that sells space, but in most cases, developers want to know how the firm will help make the project a financial success. Stress the ability to meet deadlines and maintain project budgets.

Corporate clients also look for financially successful projects. At the same time, corporations realize that the more attractive their building, the greater their image and potential for stock sales.

Public agencies look for cost control, schedule maintenance, and project management. Design, while important, usually takes second place to those other concerns. Public

and supervisory embarrassment and unexpected extra work for the agencies' employees are their real concerns.

Recognizing the importance of client interests, one midwestern firm conducted a survey of its existing and prospective clients. Using an independent marketing consultant, it learned what clients considered when selecting architects, listed below from most to least important:

- Budget control
- Schedule maintenance
- Capability of the project manager
- Ability to get along with project manager
- Clear understanding of the project
- Prior relevant experience
- Responsiveness and appearance of the proposal and the presentation
- Design of similar size and scope projects
- Input from references
- The fee

While it is encouraging to see "fees" at the bottom of the list, note that design is not far from the bottom. Not all clients believe that design is eight out of ten, but in this firm's case, they had to rethink how they presented themselves to their clients. All firms should conduct such a survey either formally or informally, and should follow the results or change their clients.

Design-oriented pictures or eye-catching brochures may get the attention of clients, but the real sale comes when the architect, either personally or in writing, proves that the firm can solve their problems, on time and on budget. If there's any doubt as to the success of that approach, remember that 15 years ago, the word "sales" was not even in the design professional's vocabulary.

[GREGORY B. PUTNAM]

The author is an architect and the founder and president of Putnam Management Consultants, Inc., Piedmont, Calif.

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Research Review: Housing Pretrial Inmates

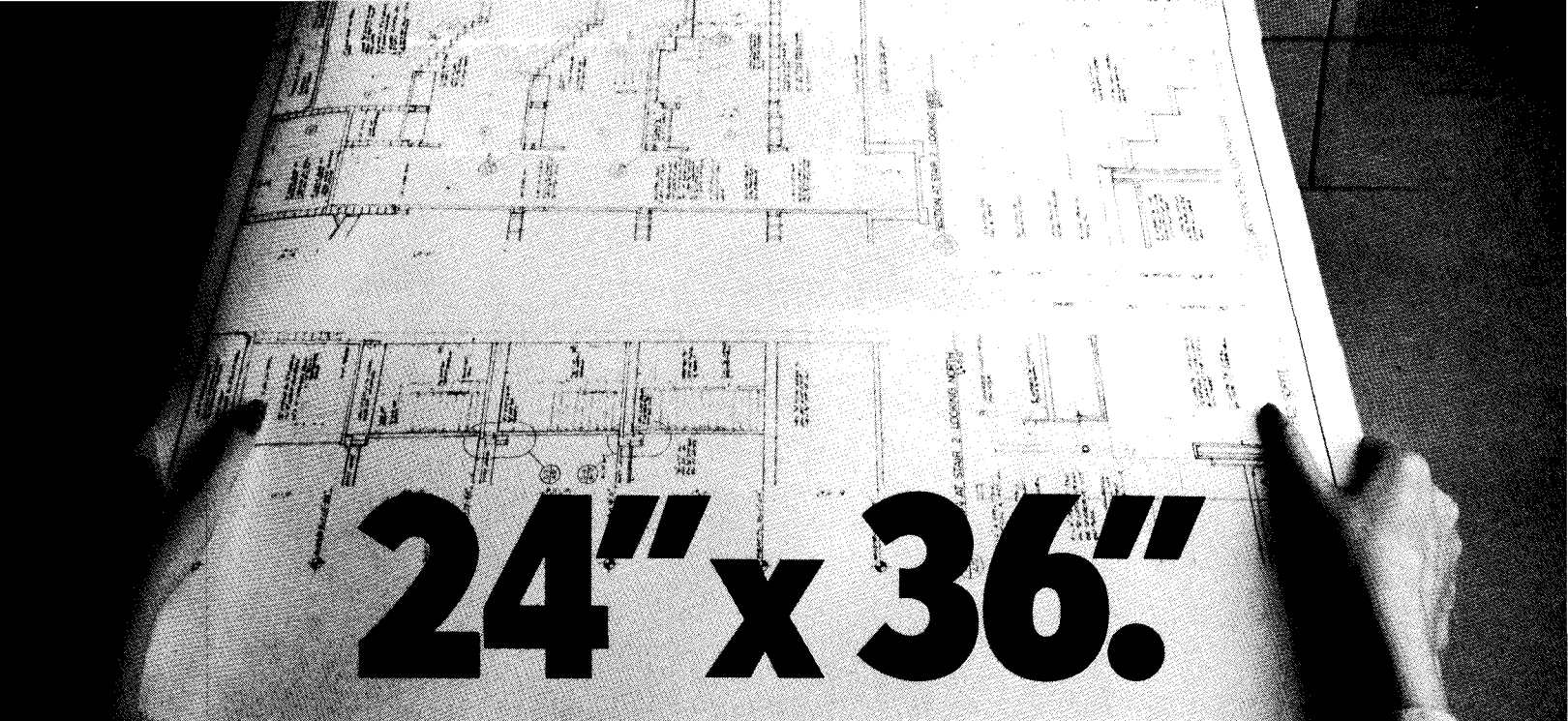
This research, "The Costs and Benefits of Single Cells, Multiple Cells, and Dormitories," conducted by Jay Farbstein & Associates for the Sacramento County/Board of Corrections, looks at four types of pretrial housing—single cells, double cells, eight-bed cells, and sixteen-bed dorms. The multidisciplinary research team (consisting of an architect, a jail manager, a constitutional lawyer, an environmental psychologist, and a cost estimator) wanted to find out which type of housing performed best in terms of construction cost, staffing, safety, legal liability, and manageability.

They reviewed the literature on corrections and legal decisions; surveyed the incidence of personal injuries in jails; and interviewed jail managers and officers. To compare construction costs, the researchers developed model jail housing units, keeping things such as unit size and construction type constant.

They found that the single cells performed best in all areas except in initial cost. Single cells require less staffing, create a more positive attitude among inmates, reduce the incidence of personal assaults (and thus personal injury suits), and reduce the tension, stress, aggression, and illness among inmates. Single cells present a safety problem only to suicidal inmates. What's significant about the research is that, by factoring in the savings in staffing costs over the 30-year life of the building, it shows that single cells, while higher in initial cost, have a net cost comparable to eight- and sixteen-bed cells and less than double cells.

The researchers found that double cells performed second best in their study and sixteen-bed cells, third. They recommend against eight-bed cells because they lack the space of single and double cells and the social constraints of dormitories.

A limited number of reports are available from the California Department of Corrections, 600 Bercut Dr., Sacramento, Calif. 95814. [TF]



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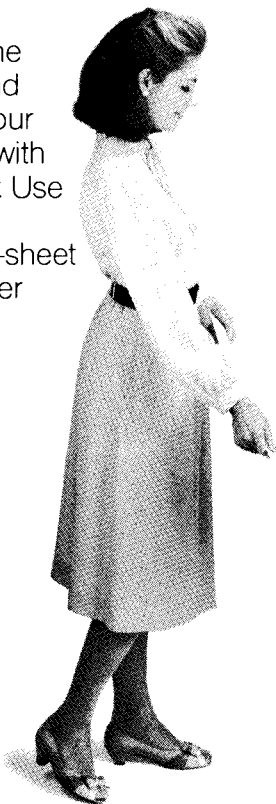
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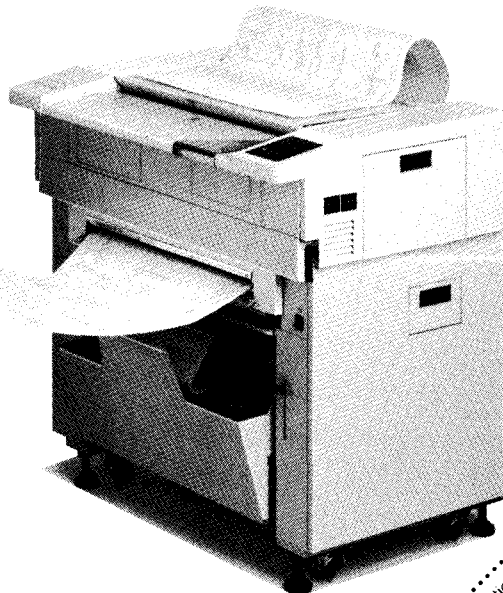
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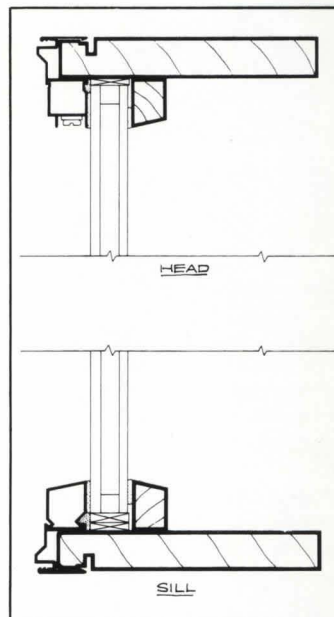
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The legacy of Louis Kahn



*At the time of his death
in 1974, Louis I. Kahn
was at the peak of his
powers and influence.
In this special issue, P/A
examines both the legend
and the legacy.*

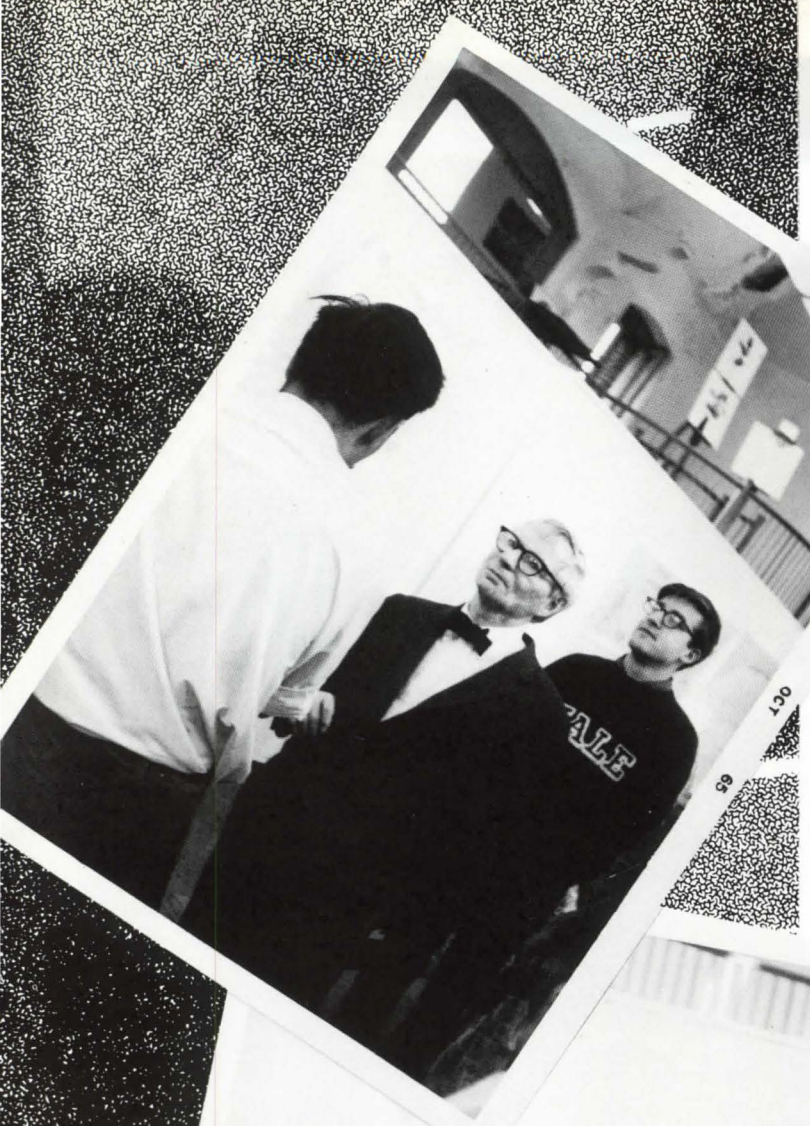
Ten years after his death, Louis Kahn (1901–74) remains an enigma, and his position in the pantheon of 20th-Century architects difficult to assess. With the completion this year of the National Capital of Bangladesh in Dacca, centerpiece of this issue, the last of his “successor” firms has effectively closed up shop. Kahn’s contemporaries, those who taught with him at the University of Pennsylvania or worked in his atelier, are nearing or past retirement. His students have scattered, and the Philadelphia School, first described and then discounted in the pages of this magazine (April 1961, pp. 130–163 and April 1976, pp. 58–63) is no longer a viable force, even in its home town.

Yet Kahn’s star continues to rise. Eclipsed for a period but never obscured, his oeuvre and its impact have been the subjects of steadily increasing scrutiny. Several Japanese publications commemorated the ten-year mark with “anniversary” issues, and two European magazines are reportedly at work on similar efforts. Kahn’s daughter Alexandra Tyng published her memoirs *Beginnings: Louis I. Kahn’s Philosophy of Architecture* (John Wiley & Sons, New York) this year. John Christopher Knowles, a former student of Kahn whose practice is considered in this issue (p. 74), is at work on a biography, and Alessandra La-tour plans a festschrift of essays and interviews. Richard Saul Wurman, who published the early *Notebooks of Louis I. Kahn* (1962), is now completing a massive volume of writings, photographs of the architect, and reminiscences by family and associates (expected distribution through Rizzoli next spring). Wurman then expects to donate his large archive of Kahnabilia to the Louis I. Kahn Collection at the University of Pennsylvania. The Collection, in an excellent position to monitor interest in Kahn, reports an ever increasing flood of visiting scholars and architects, reaching such proportions as to task severely the small, dedicated staff headed by Julia Converse.

With this rise in interest has come inevitable reassessment of Kahn’s influence and example. The tendency to mythologize the master, born of the cult of personality which Kahn himself seems to have enjoyed and encouraged in his later years, has not abated. Much of the literature written about Kahn is couched in prose as difficult as his own inchoate musings, if not more so. Against what Fumihiko Maki calls “these obscured remembrances and legends told of Louis Kahn,” however, are ranged the realistic, if at times bitter recollections of his engineer collaborator August E. Komen-dant, and the objective assessment of Dean Holmes Perkins, who first brought Kahn to Penn and structured his activities there, even selecting those students who would attend his studio.

It is difficult to trace an architectural legacy for Louis Kahn, even among these students. The complete list of those in his Masters’ studio, compiled by Penn this year, shows the expected high percentage of foreign students—reaching 50 percent of the class in later years—and Philadelphia architects, including Charles Dagit, Louis Sauer, Cecil Baker, Carlos Vallhonrat, and others. This post-Philadelphia School generation, following in the footsteps of Kahn, Aldo Giurgola, Robert Geddes, and Robert Venturi, has failed to form a “school” of their own. The presence in the Penn chronicle of such well-known figures as Bernard Huet, critic and former editor of the French journal *Architecture d’Aujourd’hui*, Miguel Angel Roca, Jaimini Mehta, and A.J. Diamond testifies to the widespread network





of former Kahn students. It is not possible, however, to trace a consistent body of work or theory tying these graduates together; there is no evident Kahn "school" or even style.

Instead, Kahn's influence can best be traced in a certain attitude towards architecture, communicated most strongly in a method of architectural education that emphasizes "beginnings" or archetypal ideals. Lee Copeland, a former Kahn student and present Dean of Penn's

Graduate School, terms it the ability to "communicate one's own process of inquiry . . . as a demonstration of how to think . . . Good teachers," says Copeland, "convey their thought process as well as their conclusions." The corresponding

image of teacher as "first among equals," learning from his students as he teaches them, has proved a powerful and lasting model. An unusually high percentage of Kahn students have remained in academia: Copeland reports that at last summer's Cranbrook Teachers Seminar, some quarter of the attendees were former students of Kahn, now teaching all over the country and indeed around the globe.

While these former students bear witness to his ideals and example, the generation of students now attending or recently graduated from architectural schools encounter Kahn as a historical, not a contemporary figure. His work is typically categorized as a key transition from orthodox Modernism to the more pluralist attitudes of today. But where Kahn (together with the Modern Mannerists Saarinen, Yamasaki, and Stone) has long been interpreted as the link in a linear progression from Mies to Venturi and beyond, his work is at present being reexamined for other readings. Kahn's particular, personal

blend of Beaux-Arts and modern methods, his mix of universal archetypes and regional materials, and his emphasis on tectonics have new relevance, proposed this time as an alternative not to Modernism but to Post-Modernism.

Several of the architects whose work is shown in this issue never knew Kahn personally but take their inspiration from his buildings and writings; others attended his studio or befriended him during his lifetime. Similarly, some of the work shows an explicit, formal consonance with Kahn's; other projects suggest a more subtle affinity reflected in the handling of space or light. Kahn's disparate legacy is traced through the work of Philadelphia architects BJC/Knowles, whose principals were both students of Kahn. There follows a survey of the work of Japanese architects influenced by Kahn, and two projects by Mario Botta, a leader of the Neo-Rationalist Tendenza movement, Kahn's European apologists.

Kahn's own work is represented through an extensive analysis of the Trenton Bath House, a building crucial to Kahn's development but one now imperiled by decay and neglect, and through the National Capital at Dacca, his final, posthumously completed work. The capital complex, occupied now by squatters whose presence is a daily reminder of the country's failure to achieve its democratic dream, has already acquired the character of a ruin, recognizable as a piece of 20th-Century architecture yet apart from that continuum. The project, undertaken by Kahn at nearly the same age as Le Corbusier was when he designed the Capitol of Chandigarh, reconfirms the architect's ideals and his achievements. [DARALICE D. BOLES] ■



Photographs of Kahn Studio by John Christopher Knowles

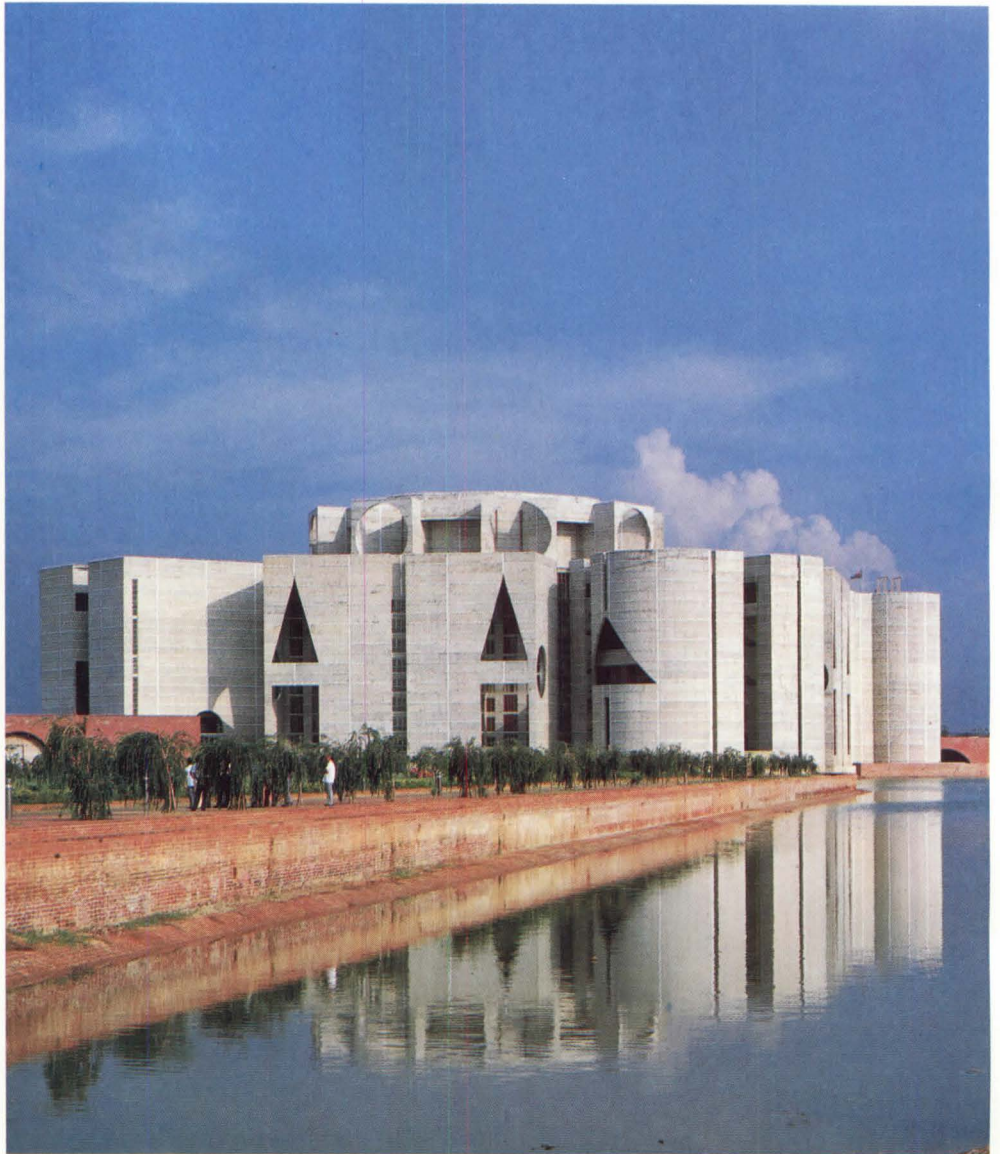
Kahn's epilogue

In 1947, the British India Empire collapsed. The resulting partition produced India and Pakistan, the latter composed of two territorial units separated by 1500 miles. Autonomy movements sprang up quickly in the eastern half, challenging the domination of West Pakistan. In 1970, terrible floods devastated the eastern territory, and in the face of West Pakistan's complete passivity, agitation for independence increased, culminating in the civil war of 1971. With the support of India, East Pakistan acquired some semblance of independence, although the newly named Bangladesh remained under the tutelage of India for some

With the completion this year of the Assembly Building, Kahn's last work—The National Capital of Bangladesh—is finished.

time. The most densely populated country in the world as well as one of the poorest, Bangladesh is today dependent on other countries for its very survival.

In 1962, Louis Kahn was called upon to design what inhabitants of Dacca still call the "second capital" or Capital of East Pakistan. From the beginning, the complex was to be a symbol of modernization, looking towards western prototypes, construction techniques, and work methods. Construction commenced in 1966, but stopped in 1971 when civil war intervened. The Assembly complex, then about 75 percent complete, was converted to use as a temporary military camp.

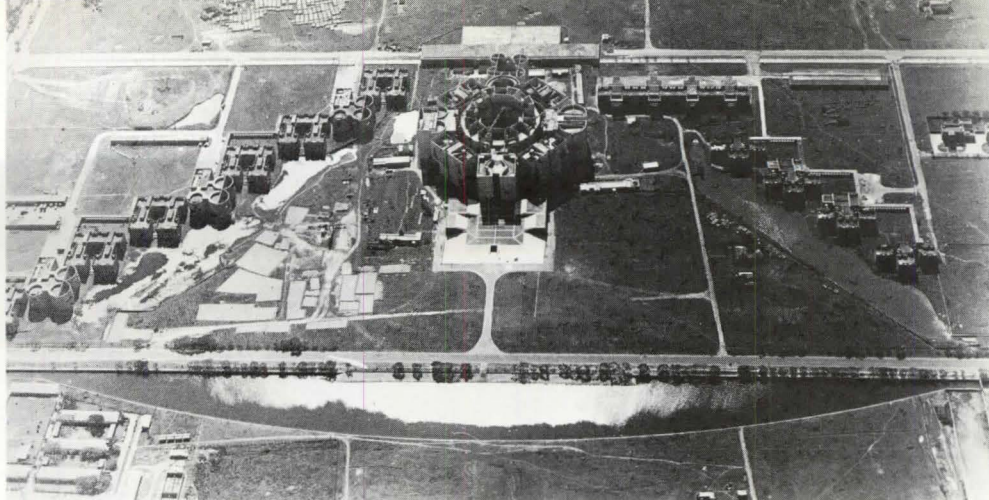


"Because this is delta country," wrote Kahn of the National Capital of Bangladesh, "buildings are placed on mounds to protect them from flood. The lake was meant to encompass the hostels and the assembly and to act as a dimensional control. The assembly, hostels, and supreme court belong (to) the Citadel of Assembly . . . suggesting a completeness causing other buildings to take their distance . . ." (AIA Journal, June 1971). The National Assembly Building (above and facing page) is almost completely surrounded by water; the north façade (overleaf) fronts a large, ceremonial plaza.









Anwar Hossain

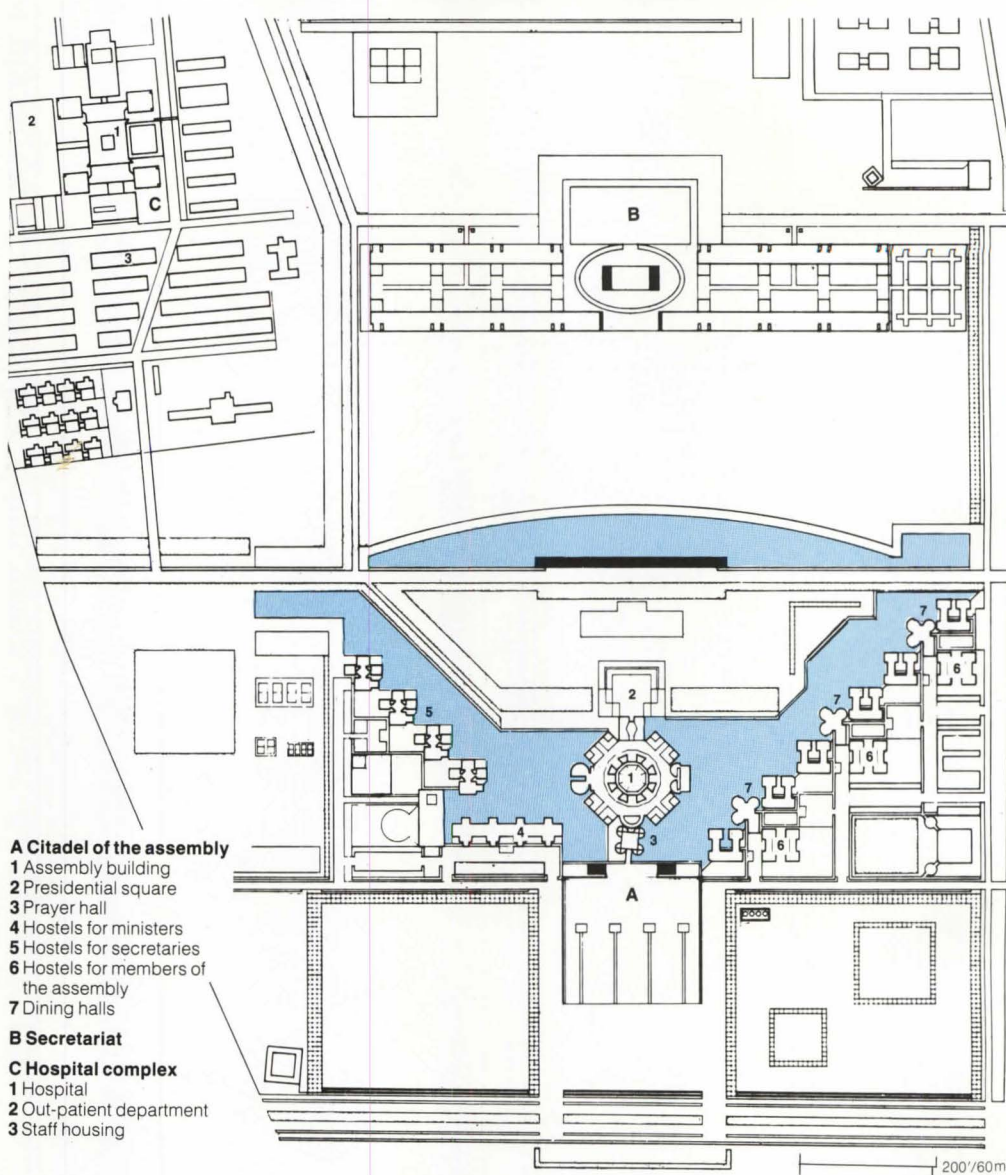
Symbol of a past era, the project was neglected after independence; however, over the years, construction slowly resumed. In 1983, some 20 years after its beginning, finishing work and site development for the National Capital at Dacca were completed.

The spirit of place

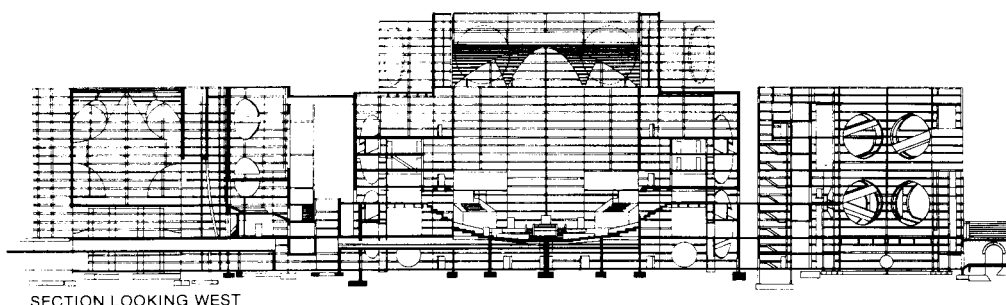
Louis Kahn's aim in Bangladesh, says associate V.B. Doshi, was to perceive the "spirit of the place, the essence of program and its potential future." Like the Institute of Management in Ahmedabad, India, this project was the work of a man who brought his talents to the service of the Institution, whose values he first redefined and then expressed.

As programmed by Kahn, the government center was to be divided into two sections situated at either end of a major north/south axis and linked by a large public park. The "Citadel of Assembly" contained the Assembly Building and its support facilities, including the hostels for ministers and Assembly members, dining rooms, lounges, and kitchen. The "Citadel of Institutions" was to include a center for athletics and water sports, an arts school, a science institute, a bazaar, housing, and hospital center. This Citadel of Institutions, a place nourishing physical and spiritual well-being, was as important to Kahn as the Citadel of Assembly in which the laws of the country were prescribed.

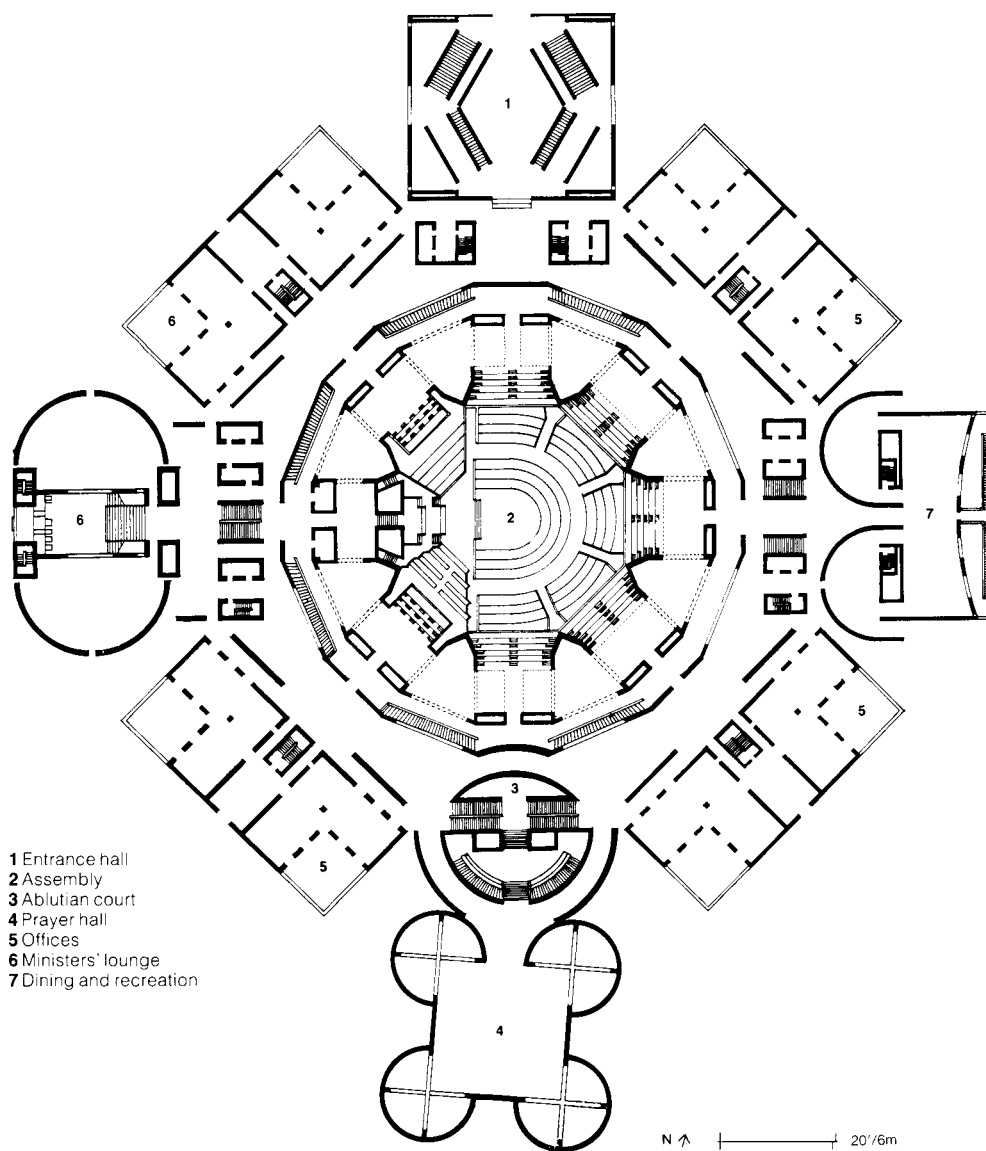
The ambitious program passed through many phases. At present, only the Assembly, hospital, and housing district stand as Kahn intended. (Other services occupy a later civic center.) Kahn quickly discovered that the 200-acre site reserved by the government would not give the project the importance it merited, and after a two-year effort, he obtained 840 acres more from the government. (This process of expanding upon a given program was entirely typical of Kahn.—



Kahn's ambitious program for the Second Capital of Pakistan, later the National Capital of Bangladesh, balanced the Citadel of Assembly against a Citadel of Institutions, including an arts school, science institute, bazaar, and other cultural facilities. This component of the program was later replaced by the Secretariat building (unbuilt, B above). Kahn completed all architectural work on the hospital and hostels himself; the National Assembly Building (under construction, top) was carried out after his death by David Wisdom & Associates.



SECTION LOOKING WEST



- 1 Entrance hall
- 2 Assembly
- 3 Ablution court
- 4 Prayer hall
- 5 Offices
- 6 Ministers' lounge
- 7 Dining and recreation

At a lecture at Princeton University (March 3, 1968), Kahn described his inspiration for the National Assembly Building, shown in plan and section, above: "A house of legislation is a religious place. No matter how much of a rogue you are as a legislator, when you enter the assembly, there is something transcendent about your view. . . . The prayer room changed to a mosque in my mind. And the three thousand square feet of space which was allocated for this prayer room turned into thirty thousand square feet. . . . The mosque

was an absolute necessity for the assembly, because the way of life involved the mosque five times a day. I extended the idea . . . realizing that the place of assembly was really the maker of institutions." The mosque (No. 4, above), tilted towards Mecca, is the only element to deviate from the symmetrical plan.

Editors.) Kahn's sketches define and redefine the different elements of program and their interrelationship. The problem, as he understood it, was to give order to the principal components.

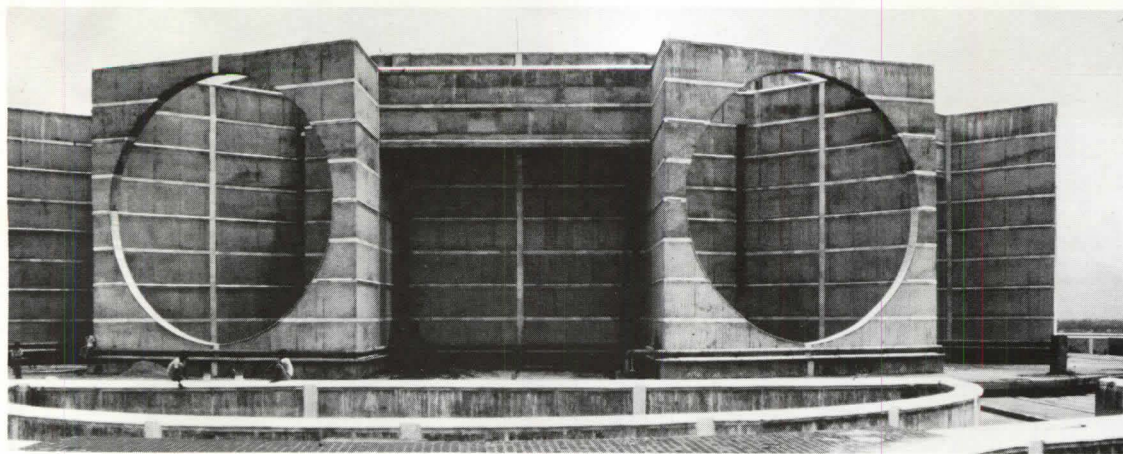
From the beginning, the image of the mosque appeared inseparable from that of the Assembly—religion being a prime reason for the existence of Bangladesh. Kahn wanted an obvious reading. One of the first drawings shows the mosque with four minarets. In a later sketch, the mosque is shown in the shape of a pyramid, with the public entry located between the Assembly chamber (symbol of law) and the library (culture). In the final project, the public entrance is situated *beneath* the mosque.

Concerning the hostels for the minister and National Assembly members, Kahn said: "I thought immediately that it should be transformed from the connotation of a hostel to that of studies in a garden on a lake." Indeed, water has a particular meaning in this project. Sited on a delta plain, which floods annually, the Capital buildings are raised for protection. The excavation required formed the surrounding moats and lakes that give the project its unity and define its limits. The water also creates a certain distance or sense of removal, an effect that Kahn initially had wanted to suggest at Ahmedabad and one that he felt calmed the mind, preparing it for concentration.

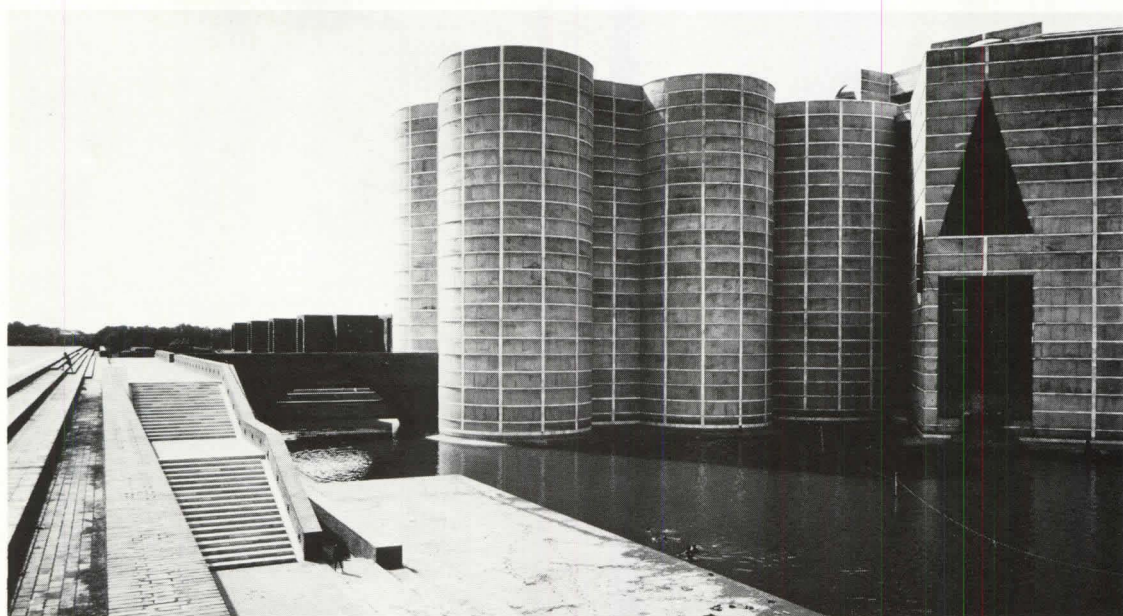
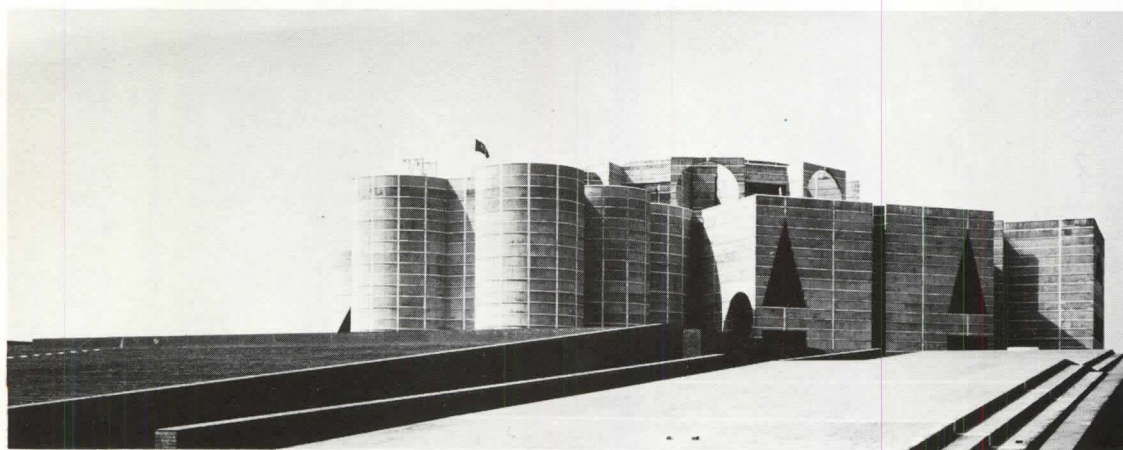
The evidence of form

The architecture of the National Assembly cannot be separated from Kahn's attitude toward the program. Its expression derives from the authenticity of the political and social intentions that gave it birth. Kahn considered the assembly of man a nearly holy function requiring a beautiful, powerful surrounding. He talked of his search to find the "evidence" of a form: "Form can become the

National Capital
Dacca, Bangladesh

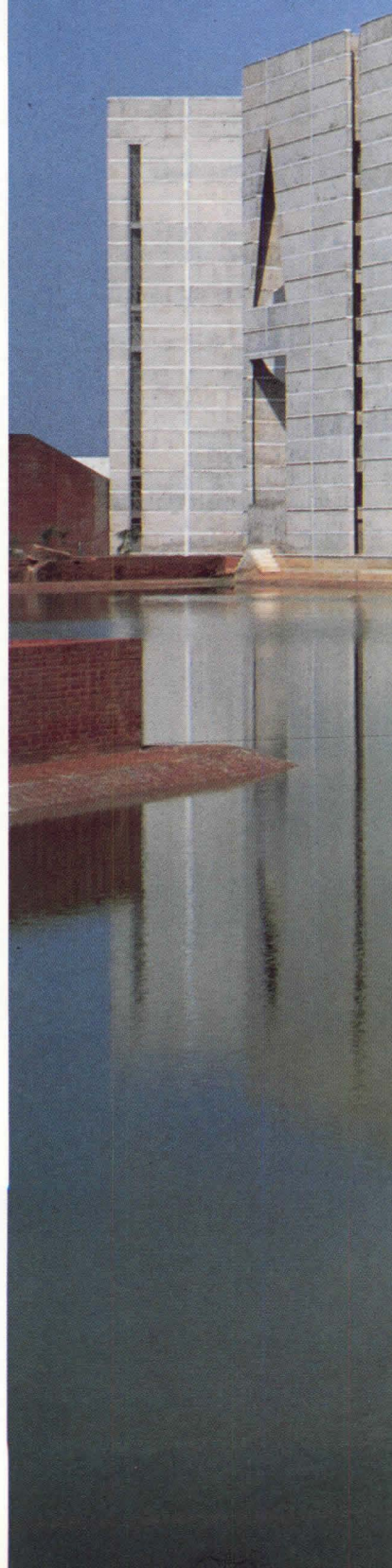


Brian Brace Taylor



The primitive construction techniques available in Bangladesh forced Kahn to rethink his use of materials: "In Dacca, I knew when I started I would get a miserable job in concrete," he reported at the First International Congress of Architects, in Isfahan, Iran (Sept. 1970). "We prepared for it by saying our pour should be no more than five feet high and then something must be left at that point, the event of the joint which can make the joint glorious and contrast with the rugged work . . . the insertion of marble is a complete recognition of the order of the material—allowing the concrete to be

what it is, allowing the marble to be what it is. You can expect perfection from marble. You can't expect it from concrete. The combination of the two has brought about a composite order which works, instead of a single order." This horizontal banding, together with the oversized geometric openings cut into the outer walls, makes the scale of the whole difficult to comprehend. Viewed from the hostels (right), or approached from the city (above, middle and bottom), the monumental citadel is more mountain than building, and the Assembly Hall roofscape (top) is particularly surreal.





nature of something. . . ." He was very careful in his studies for the mosque, for example, to examine the meaning and connotations that emerge from the form. Though ever mindful of what the final design would evoke, Kahn never put forward a semiotic interpretation of architecture.

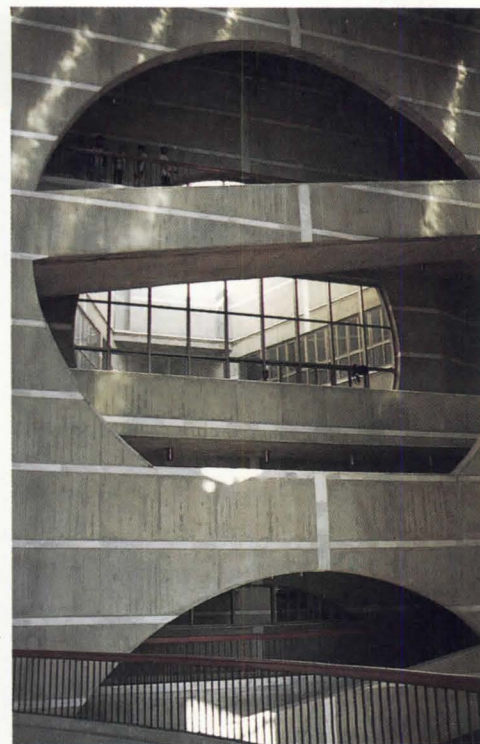
In other words, Kahn's architecture doesn't "talk." It has no conventional façades, nor is it the product of a linear thought process in which all steps are logically linked. Mute, immobile, static, it possesses its own meaning while responding to the different realities of climate, circulation, function, and program.

The severe formalism with which Kahn was experimenting at Ahmedabad and the theater in Fort Wayne, while at work on Dacca, has little basis in function but is instead concerned with the mastery of light. The well-known quotation "material is spent light" expresses Kahn's idea of materials and the importance he gave to light: light that reveals form and constitutes it, light that must be controlled. At Dacca, Kahn's idea of an empty column through which light descends into the interior of a building is expressed in the grand corner "columns" of the mosque, as well as the shafts that bring light to the circulation spaces around the Assembly hall. Similarly, the elements Kahn called "porches" consist of the multiplication of the façades, built of either brick or concrete, which soften direct, dazzling light without transforming or reflecting it through glazing.

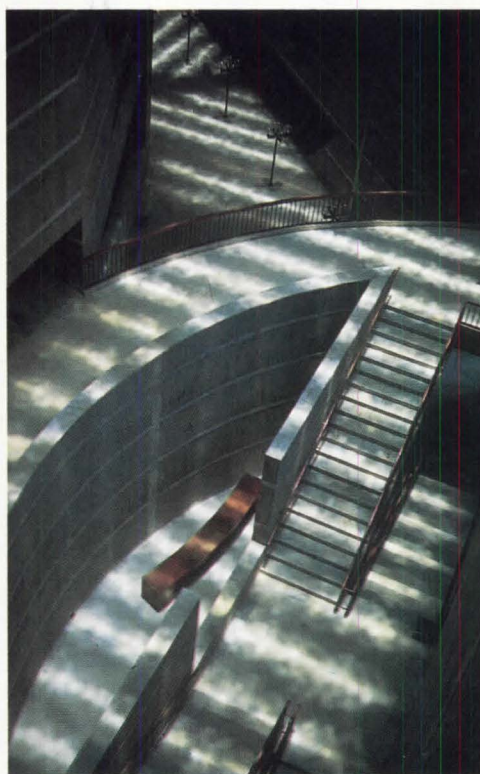
The use of brick for the hostels ties in to a long tradition of brick construction in India and Bangladesh, where its fabrication and use is attached to specific rites and practices. In Kahn's hands this material evokes Roman construction. The Assembly building also used a material new to Bangladesh: reinforced concrete, erected by construction



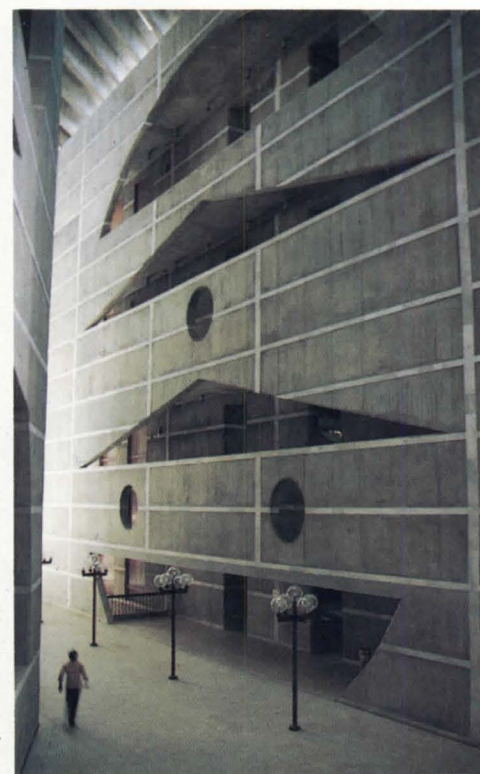
Brian Brace Taylor



Bruno J. Hubert and Michel Roy



Henry N. Wilcots, David Wisdom & Associates



Bruno J. Hubert and Michel Roy



Brian Brace Taylor

The Assembly Chamber (left, top and bottom) seats 200–350 legislators at individual desks, providing gallery seating for guests and members of the press. Light is admitted into the chamber through clerestory openings. The surrounding ambulatory (above) and the circulation stair wells to the north (above top and facing page) and south (left middle) of the central chamber are also lighted from above.



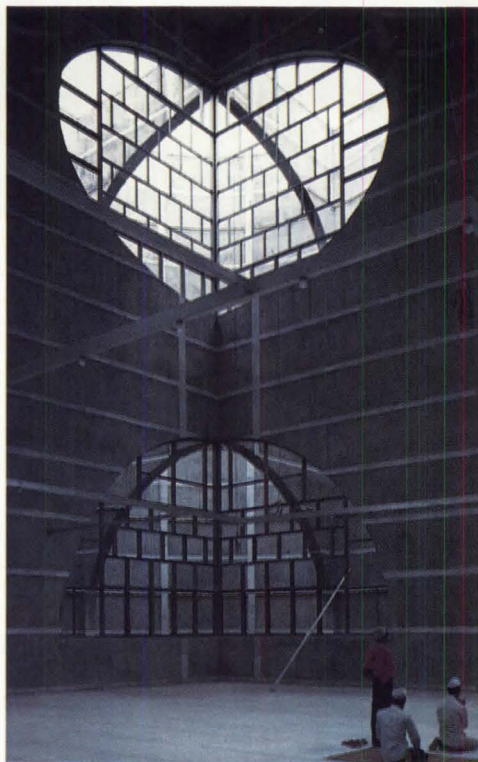
methods that evoke the building of the Pyramids. Materials were carried on the heads of workers who climbed long inclined planes to reach the top of the structure. Bamboo scaffolding of questionable stability was erected to heights of 90 to 120 feet.

This slow, primitive means of construction explains in part why the building has taken so long to complete, at a considerable cost. Symbol of national identity, the Capital complex has also come to signify the country's desire for social and technological progress, as well as for cultural integrity. It is remarkable that although the project borrows few references from Bangladeshi culture, it has become itself a component of that culture, a model for "Neo-Kahnian" architecture now blooming in Dacca and visible in the housing and public buildings near the Assembly district, in private houses, shops, and even the national airport, which welcomes visitors with its large brick circles.

Thus Kahn's work has become a standard for this country, and the architect himself, as in the U.S. and Europe, has become a true guru ten years after his death. V.B. Doshi, who worked with Kahn on the Institute of Management, compares him to a "sthashpati," the architect/priest who held the esoteric knowledge of sacred, cosmic rules and directed the building of temples and towns. "He made temples for man," says Doshi. "He was a yogi in architecture." Free from styles, and free most of all from Modern style ("Style is an adopted order"), the work of Louis Kahn remains beyond ideology and argument. "From what the space wants to be, the unfamiliar may be revealed to the architect," Kahn wrote. "Beauty will evolve."

[BRUNO J. HUBERT]

The author is a practicing architect and critic in Paris. An earlier French version of this article appeared in *Techniques & Architecture*, November 1983.



Brian Brace Taylor



Brian Brace Taylor

In an early scheme, Kahn envisioned the prayer hall with four corner minarets. As realized, the abstracted corner cylinders (top left) act as giant hollow "columns of light." The Assembly Building plan, like those of the contemporaneous Philips Exeter Library and Erdman Hall Dormitories, can be diagrammed as a central void surrounded by a dense outer shell. The concentric layers of the plan are revealed in cross-sectional cutouts (above left). Here the

horizontal marble striations in the concrete create an almost decorative effect. Kahn debated at length what form the assembly hall roof should take. Its hyperbolic vaulted ceiling (right) is a powerful unifying center to the whole.



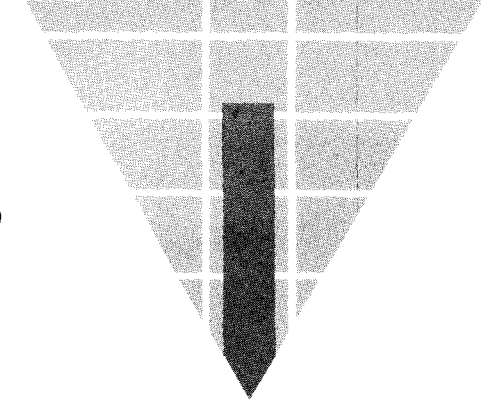
Project: The National Assembly Building, Sher-E-Bangla Nagar, Dacca, Bangladesh.
Architects: Louis I. Kahn; David Wisdom & Associates, successors, Philadelphia, Pa. (David Wisdom, Reyhan T. Larimer, and Henry N. Wilcots, project team; former associates: C. Gustav Langford, John Haaf, Albert Comly, and Gary Moyer).
Client: The President of Pakistan; The President of the Peoples Republic of Bangladesh.
Site: 840 acres of a former government agricultural experiment farm.

Program: National Assembly Chamber seating 250–300 Assembly members; galleries accommodating 400–500 visitors and 80–100 press; two political party meeting rooms of 60–75 seats each and a third of 150; prayer hall; post office; commercial bank; library; courtesy office for the president; offices and reception hall for the speaker; offices for ministers, secretaries, and other personnel; restaurant and lounge facilities. (Separate hostels for temporary occupancy during legislative sessions and a hospital completed before Kahn's death.)

Structural system: Franki piles, in situ reinforced concrete walls and floors.
Major materials: concrete walls with marble inserts; terrazzo tile floors with marble borders, dividers, and bases; wood doors and frames; aluminum windows.
Mechanical system: air conditioning and ventilation from a central plant via ducted system; cooling tower on site at ground level; municipal gas and electricity; diesel-powered emergency generator.

Bruno J. Hubert and Michel Roy
Consultants: Bangladesh Public Works Department with David Wisdom & Associates, landscape; David Wisdom & Associates, interiors; Keast & Hood; Harry Palmbaum, structural; D'Ambly, Inc., mechanical.
General contractor: Public Works Department.
Costs: not available.
Photography: Masao Arai, Shin-kenchiku © except as noted.
 * All captions quotes taken from the forthcoming *What Is Has Always Been* (Richard Saul Wurman, editor).

Beginnings



Louis Kahn's Trenton Bath House, listed in February 1984 on the National Register, is the only Kahn work not in a historic district and one of few buildings less than 50 years old with that designation. Designed and built between February and October 1955, the Bath House is a modest structure; yet this small building, comprising changing and bath rooms, checking facilities, pool director's office, and chlorination plant for the Jewish Community Center's outdoor swimming pools in Ewing, N.J., marks the crystallization of architectural concepts and images that Kahn was to develop later in larger, grander buildings. The Bath House is a pivotal but paradoxical work in Kahn's career, one to which Kahn himself returned again and again. It is also a building that allows insight into Kahn's handling of the design process at the time; and the sequence of design documents reveals that in this particular case, major decisions were influenced as much by cost and site constraints as by purely formal concerns. As important an element as roof massing was determined *after* construction had started.

The JCC has tolerated, never treasured, the Bath House. The small complex remains structurally secure but blemished by years of weathering and neglect. The addition of a snack bar (not the one proposed by Kahn) and the cementing of the atrium are the most insensitive alterations, and were effected shortly after completion. Photos in 1957 show that even at that early date, the court had been altered by the addition of a stone border, and a disfiguring shed already blocked one of the entrances by 1961.

For Kahn, however, the Bath House remained a private source of inspiration for the remainder of his life. In the 1960s he remarked to associate Charles Vallhonrat that after designing it, he never looked to another architect for examples. In the year before he

died, Kahn noted in an interview with John W. Cook and Heinrich Klotz in their *Conversation with Architects* (Praeger, 1973): "The Trenton Bath House gave me the first opportunity to work out the separation between the serving and served spaces. Every space is accounted for, there is no redundancy. I used hollow columns as entrances to the rooms, I used them as a maze, a baffle, and I used the hollow column itself as a storage area. I used it for toilets, which must be enclosed. And I found, during the expression



Photos: © John Ebsel

of this very simple building, the concept of the serving and served spaces . . . I thought of a support as being a hollow column which can be used."

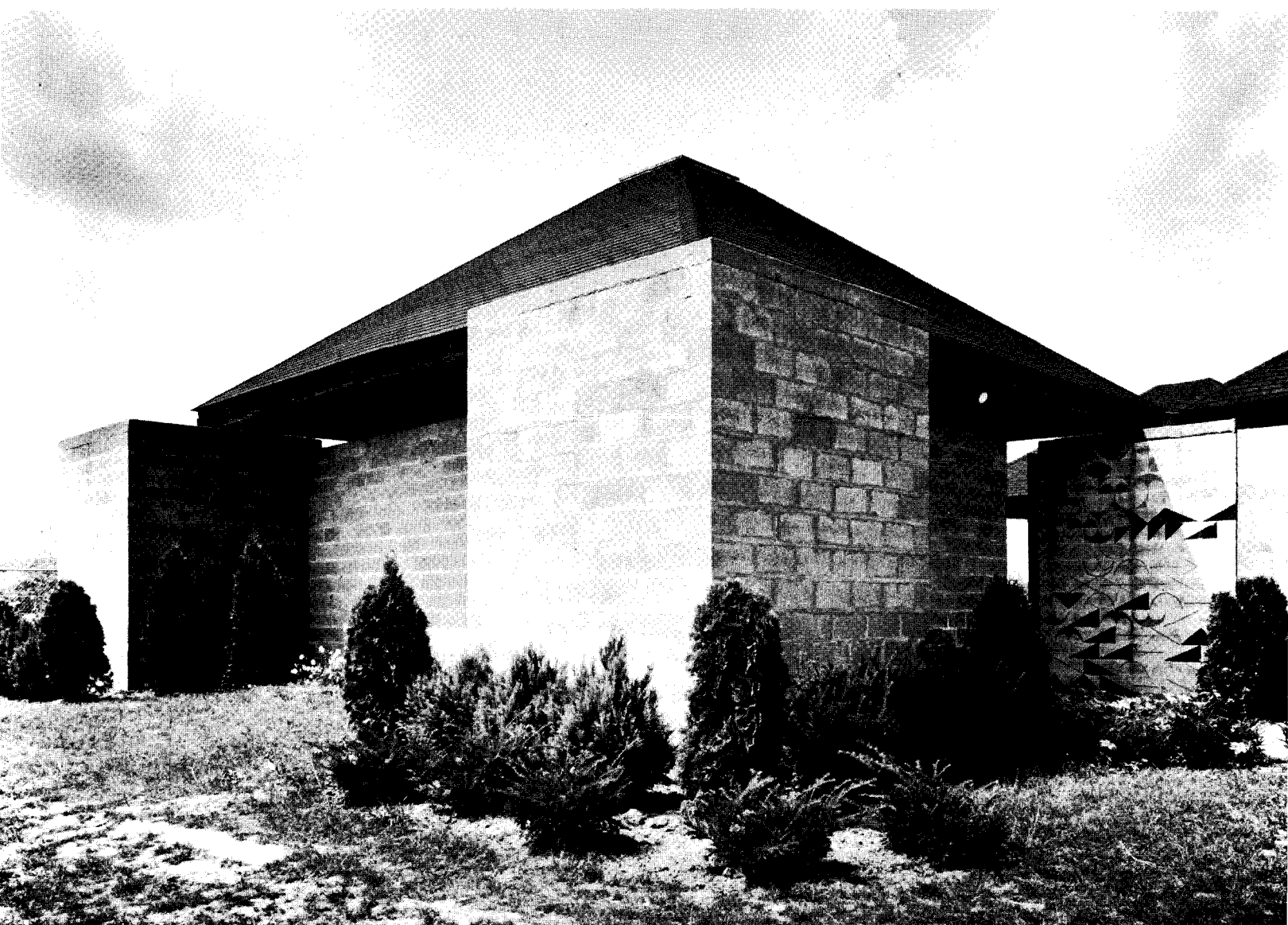
To a young generation of architects and art historians in the late 1950s, the publication of Bath House plans in 1957 had an immediate impact. Michael Graves later related how the Bath House influenced his own design thesis at Harvard. Charles Moore, teaching at Princeton in the 1950s, frequently took students to Kahn's studio while

the Bath House was underway. One student, Malcolm Campbell (now Professor of Art History at the University of Pennsylvania), recalls: "It was like the Rosetta Stone, we knew then that if we could understand that building we would understand all of Kahn's work." Younger architects, now coming of age in the profession, seem to find their own message in the Bath House. Revered as much for its functional and structural clarity as for its pure, classical symmetry, this early work appears to be acceptable common ground for contemporary polemicists.

What little written documentation remains concerning the interaction between Kahn and the JCC construction committee is now in the Louis I. Kahn collection at the University of Pennsylvania. (There are unfortunately no extant JCC records.) The extensive preliminary drawings, both drafted and personal sketches, in the Kahn collection provide excellent visual documentation of the scheme's development. The drawings also place the Bath House in proper perspective as only one component of a much more ambitious program, focused on a large community building that was to incorporate classrooms, nursery school, meeting rooms, and a gymnasium, with areas designated for a future indoor swimming pool and auditorium. (The day camp, designed and built adjacent to the Bath House in 1957, was not part of the first program.) A copy of the May 1955 contract between Kahn and the JCC indicates that more detailed drawings for the community building were to be undertaken as the Bath House went into construction. As a result, plans for the community building were never fully articulated until *after* the Bath House was completed, although the development of the Bath House itself was greatly influenced by the initial, sketchy community complex proposed by Kahn.

The discrepancy between preliminary and

Research throws new light on Louis Kahn's process of design, revealing why Kahn himself considered the Trenton Bath House a turning point in his development as architect and form-giver.



By Kahn's own admission, the Bath House (shown above and facing page shortly after its completion in 1955) marked the first full realization of his servant/served concept. The biaxially symmetrical plan did not, however, present an easily identifiable entrance. A painted mural (above), now lost, was probably intended to distinguish the main gate. In his personal notebook (LJK #22), Kahn described the problem of

enlarging sketch to reality: "Doing the mural at the Community Center at Trenton it was evident that the scale drawing was only directional and that the lines and fields had to be built up from the limits of the brush, the medium, and the surface and treated as a construction problem."

**Bath House
Trenton, N.J.**

Architectural floor plan of a building, likely a school or institutional structure. The plan shows a large central hall (labeled 100) and a smaller room (labeled 101) adjacent to it. The building is surrounded by a large, dark, textured area, possibly a courtyard or parking lot. The plan is labeled with dimensions and room numbers.

Kahn's earliest scheme for the Bath House shows a rectangle (figure 2) running parallel to the proposed Community Building. As the plan evolved from this linear arrangement to a square (figure 4) and finally to a Greek cross configuration (figure 6), the Bath House location on the site plan also changed (figures 1, 3, and 5; see text for dates). Contract documents show that the roof profile and materials were not determined until after construction had started; an early scheme dated March 19, 1955 (facing page, right) shows an inverted pyramid sloping into the center, proposed in galvanized steel. Other design elements, including a snack bar (facing page, top left) and an entrance gate (detail, bottom left) were never executed.

This is a detailed architectural floor plan of a large, multi-story building complex, likely a government or institutional structure. The plan shows various rooms, corridors, and courtyards. Key areas are labeled in Chinese characters, including '行政院' (Executive Yuan) and '立法院' (Legislative Yuan). The drawing is a black and white line drawing with some areas shaded to indicate different materials or structures.

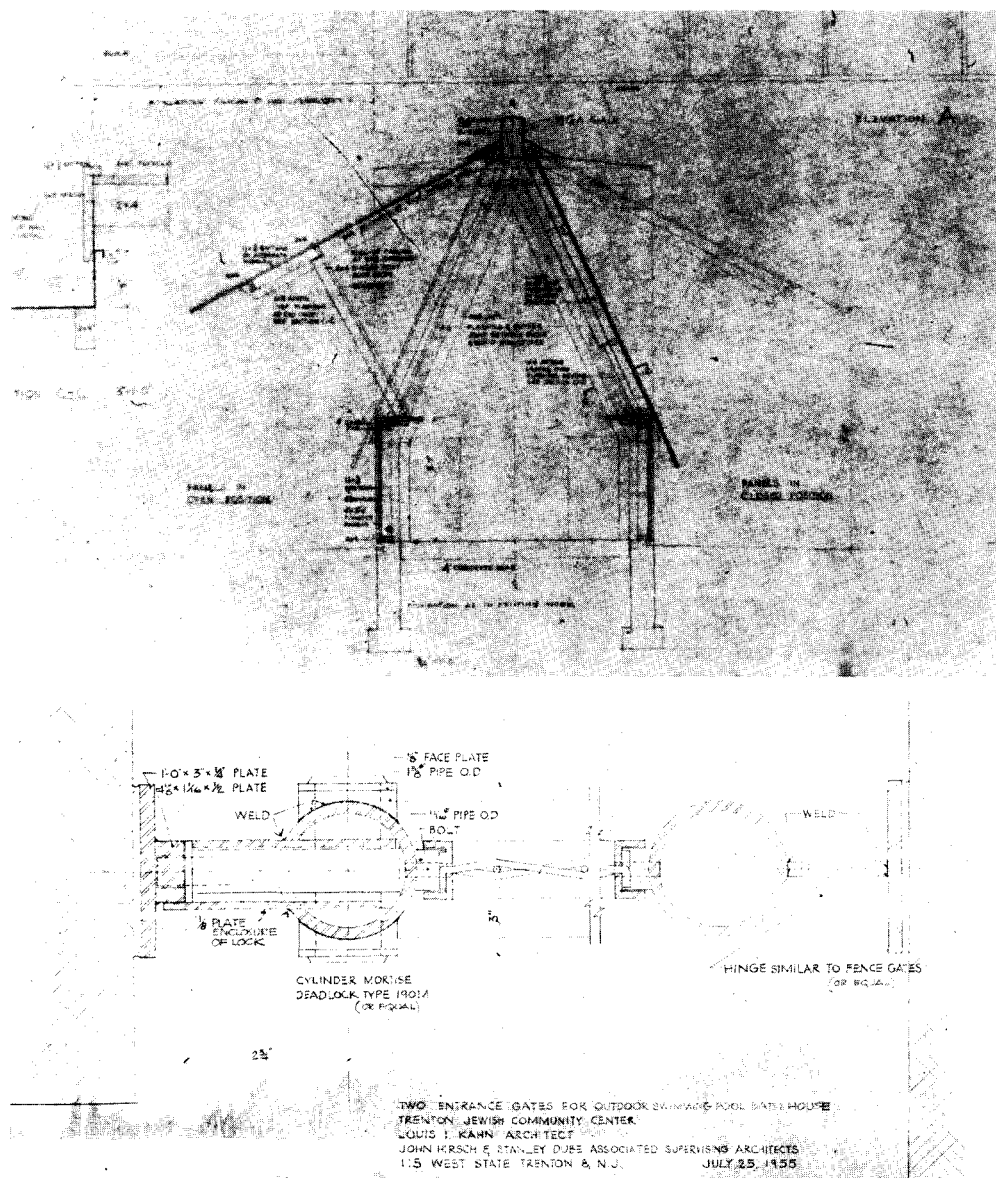
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Architectural floor plan of the interior of the New York City Hall, showing the main hall, staircase, and various rooms. The plan is labeled with numbers 1 through 10. The main hall is a large, open space with a central staircase. The plan includes detailed drawings of the staircase, the main hall, and various rooms, including a library, a museum, and a gallery. The plan is oriented with the entrance at the top. The drawing is a black and white line drawing with some handwritten notes and dimensions.

final designs for the Bath House, executed over a very short period of time, is also profound. The plan, so widely published in its final Greek-cross form, was preceded by distinctly diverse arrangements which, ironically, are not generally known. The earliest scheme, of February 7 (figure 1), shows the community building to be a wide and somewhat shallow rectangle. In this scheme, the rectangular Bath House (figure 2) parallels the community building and serves as a buffer between the almost square pool complex and a square garden, which in turn acts as the physical and visual link between Bath

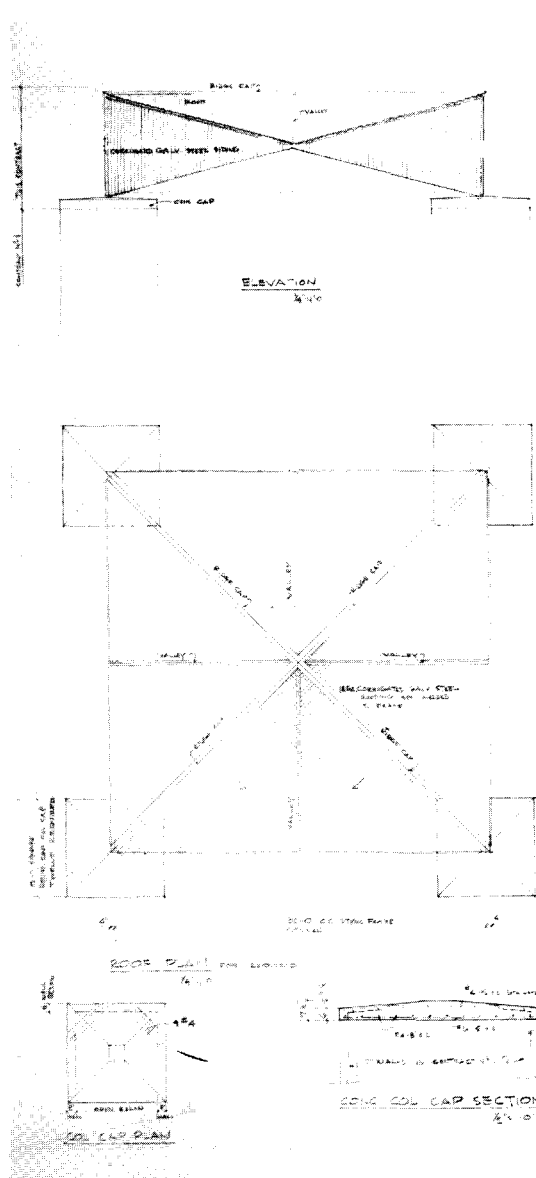
The final choice between rectangular and square alternatives seems to have been left to the JCC building committee. As Kahn wrote in a memo to staff member David Wisdom "I like the idea of your '\$ plot plan' (a drawing comparing the versions)... Explain that they are alternatives to satisfy two ideas: 1) distance for expansion . . . and 2) cost . . ." (LIK #35) The JCC committee apparently opted for the square solution: the floor plan that followed, dated March 13 (figure 4) reveals the linear scheme folded in half, with separate men's and women's entrances and poolside exits organized on parallel axes.

May 24), is a full-blown Bath House blueprint, fairly close to what was executed (and corresponding closely to an undated drawing, figure 6). The corresponding site plan (figure 5) shows that the community building has been kept at the same location, but the pool and the Bath House have been dramatically relocated. The long side of the pool now runs perpendicular to the community building; the square wading pool is shifted to a corner close to the Bath House; and the Bath House is once again adjacent to the community building. The forecourt has been abandoned, internalized, possibly as the



With permission of Esther Kahn

With permission of Esther Kahn



House and community building.

A scheme dated February 14 (figure 3) shows a totally different approach. The Bath House is now a *square* projecting from one corner of the paved pool area. The pools retain the same arrangement, but the garden and pool enclosure have been shifted to form a rectangle parallel to, and the same length as, the community building. The Bath House and its gravel entrance court combine to form a similar smaller rectangle. Kahn's decision to present a square alternative may have been influenced by his concurrent work on the Weber DeVore house (already in development) and the Adler House (started in early 1955), both schemes based upon interdependent squares or "hollow columns."

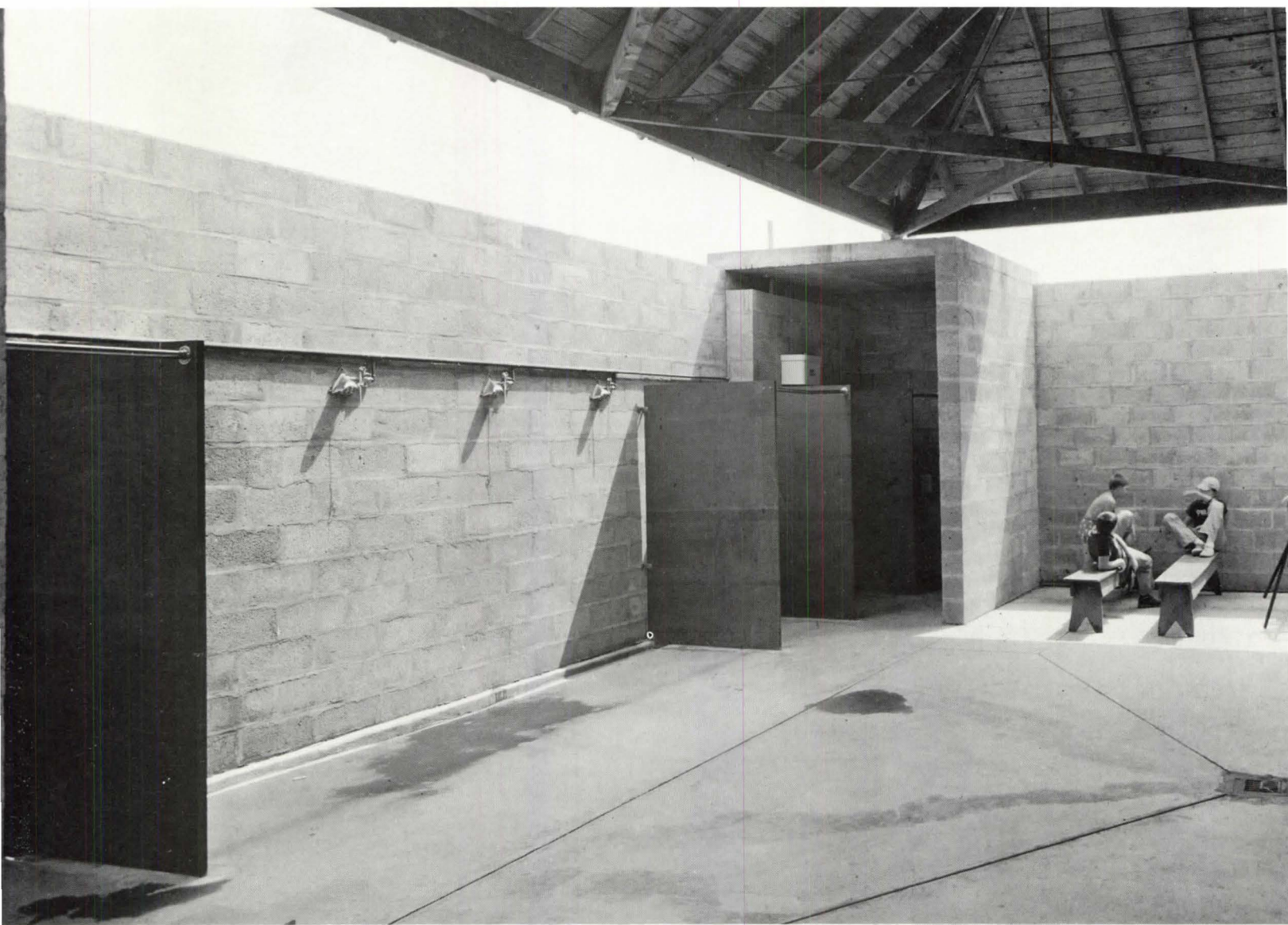
The "square within a square" denotes the roofing over the basket room, toilets, and showers. This scheme is the first with baffled entries at corners, and the first in which the basket check room area is a single central space (although with a wall dividing men's and women's access). The committee took the liberty of scrawling some suggestions directly on the drawing, such as "one central entrance," "design building so that later entire building can be roofed" and "pool director, first aid room and equipment storage to open directly to pool." There were also requests that the pools be relocated to shift the shallow end and the separate wading pool closer to the Bath House.

The next dated scheme, April 28 (revised

gravel court separating the four pavilions.

A roof plan of the same date called for corrugated galvanized steel siding spot-welded to a frame. According to David Wisdom, Kahn may have considered, too, the possibility of a canvas roof, a material visually suitable for the open steel frame. The decision to use the more durable, as well as monumental, wood pyramid came suddenly. An undated (post June 20, 1955) amendment to the contract includes the addition of 12 reinforced concrete column caps, and an October 1, 1955, note from Kahn to Trenton supervising architects Hirsch and Dube (LIK #35) mentions a payment to contractor William Ehret for additional roof work. Since a July 10 blueprint (for a snack bar) notes an

**Bath House
Trenton, N.J.**



© John Ebstel

Long a magnet for visiting architects and critics, the Bath House today is far removed from the powerful, pristine building shown in period photographs (above). Insensitive additions, including a snack bar not of Kahn's design, a fenced-in service yard, and a crude tool shed appended to one pavilion (facing page, bottom) have altered the simple, perfectly symmetrical plan. Other problems of overgrown, untended landscaping,

weathering, and staining (facing page, top) could be easily corrected. Nicholas Gianopoulos, a structural engineer consulted for the purposes of application to the National Register, believes the Bath House to be structurally sound, its problems chiefly cosmetic, and reversible.

"existing bath house wall," it is quite likely that the strong roof imagery was not arrived at until *after* construction was initiated even though there were hints in earlier sketches.

While the Bath House has long been considered an early precursor of such bold geometric forms as those Kahn developed at Exeter or Dacca, its plans also contain other details that can be seen as incipient ideas for later motifs. One of the first fully developed Bath House plans (figure 6) exhibits not only a central, circular gravel court but also a smaller version of the circle, which is repeated eleven times along the exterior of the building, where it is designated "gravel pit for roof spout." An unexecuted entrance gate plays further upon the circular motif, with one of the circles broken by a metal plate, foretelling the bold, broken circles used in the entrance of Erdman Hall at Bryn Mawr College.

In contrast to such meticulously thought-out details, more spontaneous action might appear evident in the fish mural placed at one of the Bath House entrances, now lost to fading and repainting. As members of the construction committee recall, Kahn simply appeared one weekend with some assistants and they quickly executed an intriguing design, probably intended to distinguish the primary entrance. In Kahn's unpublished notebook (LIK #22), however, he wrote at length about mural preparation, and the problems of enlarging a scale drawing to the size and texture of concrete block.

The deterioration and eventual loss of the mural can be seen as a metaphor for the fate of the unbuilt community building. The abandoning of this portion of the project can be traced in part to the untimely death of Harvey Saaz in the spring of 1958. Saaz, a Trenton lawyer and former president of the JCC, was the individual responsible for putting the JCC in contact with Kahn initially

and was also the local visionary who pushed for approval of Kahn's plans. After Saaz's death, no one at the JCC assumed his role as aesthetic arbiter. Kahn reworked the community building drawings through August 1958, and bids were finally let in the fall of that year. But the plans dragged on; the costs ran high; in a December 1958 memo, Kahn noted the "cost of original design abandoned due to architectural change and revisions."

Today, despite its historic designation, the Bath House remains a defenseless gem. There are no New Jersey laws or Ewing ordinances to protect it from demolition or alteration. (Only federally or state financed projects are required to hold a hearing or review before tearing down a registered property.) More imminently, the Bath House continues to be threatened by further physical deterioration. It is clear that the JCC, faced with limited funding and an increasingly diffuse membership spread across a wide geographic area, does not have the financial resources or the programmatic incentive to undertake any revitalization project. Perhaps an independent effort by the architectural community is necessary to convince the JCC that an international constituency exists that could be tapped for funds and services to restore the Bath House. Extensive plans, including at least two different snack bar concepts designed by Kahn, exist that could make the fulfillment of unrealized ideas possible. If those who have made the pilgrimage to this site could make a strong professional commitment, perhaps the JCC would take the appropriate steps towards protection and restoration of its neglected landmark. [SUSAN G. SOLOMON]

The author, former curator of the Slide Collection at Princeton University's School of Architecture, is now a student in the historic preservation program at the University of Pennsylvania. She and Lydia M. Soo prepared the Bath House application to the National Register.



Photos: Susan G. Solomon

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After Kahn

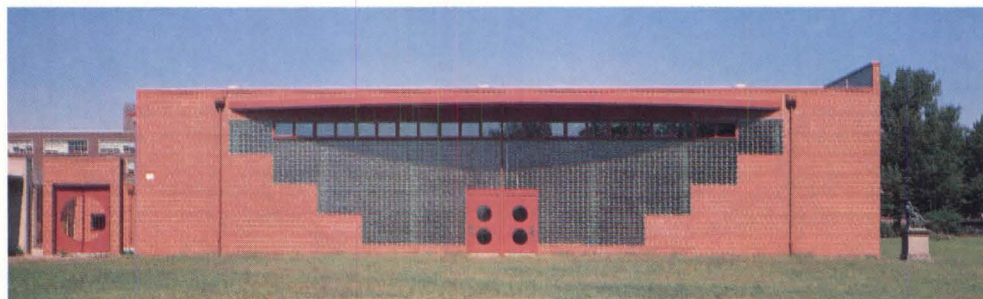
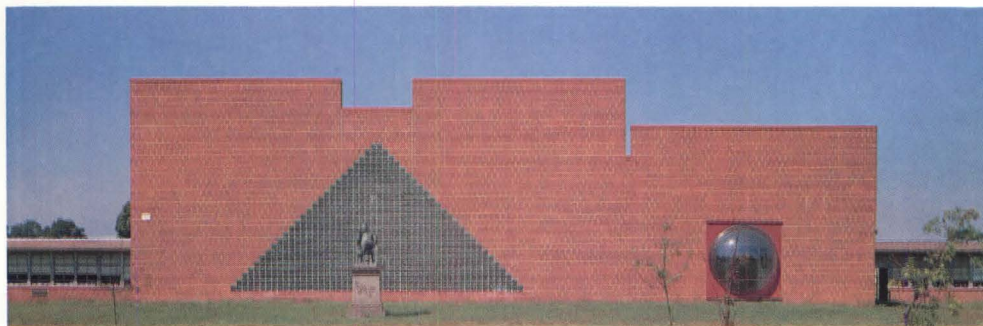
John Christopher Knowles attended the Kahn Masters Studio in 1965, his wife and partner Brigitte in 1971. For both architects, as for so many others, that intensive one-year experience and the continued contact with Kahn until his death has proved to be the single most significant influence on their careers. Kahn remains their mentor, his notebooks their touchstone, his buildings their pilgrimage.

As faculty at Temple University, both bear witness to the "spirit" of Kahn, teaching a generation of students who never knew him. John Knowles, founding chairman of the Department of Architecture (1970–79) teaches

*Self-styled disciples,
Philadelphia architects
Brigitte and John
Christopher Knowles
continue to follow their
teacher's example.*

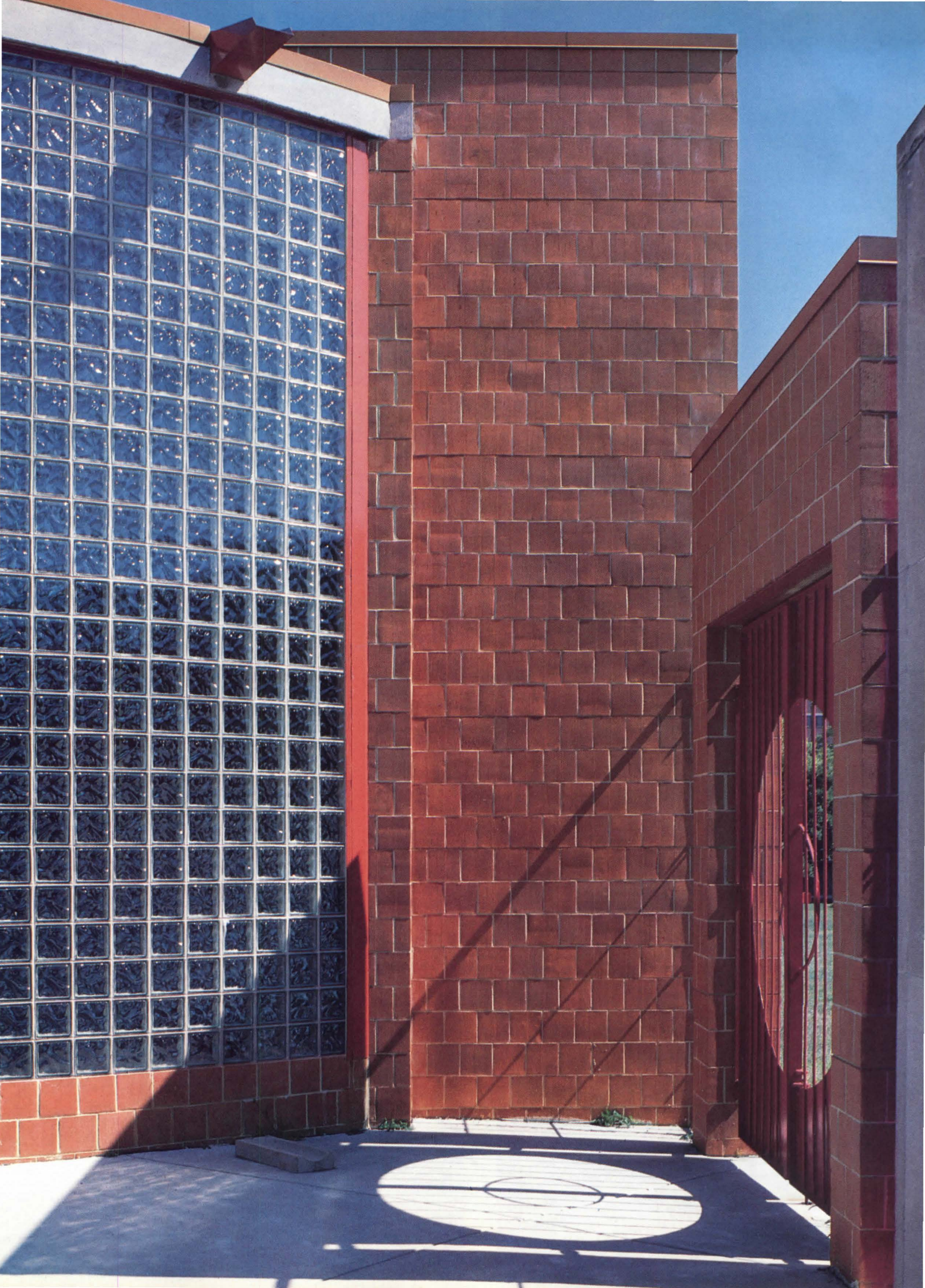
a seminar on Kahn that requires weekly "hands-on" sessions in the Kahn Collection at the University of Pennsylvania. The course outline is derived from Knowles' research in preparation for a biography of Kahn.

Knowles' own research notebooks reveal as much about their author as they do of his subject. Knowles has carefully copied sketches, paragraphs, and even whole pages from Kahn's original notebooks. Part facsimile, part invention, these surrogate notebooks show an edited Kahn; the scribe has both transferred and transformed original material, and in the process has attempted to rationalize and codify their contents.



The first moves made by BJC/ Knowles for this pool addition to the Widener Memorial School were to re-site the building, placing it on axis with a grand but unused entrance gate on Broad Street, and relocate Widener's statue to this more prominent street frontage. The otherwise simple box volume of the pool enclosure is animated within by the exposure of structural members and the manipulation of light brought in through a skylight and frankly expressive glass block "cutouts." The sharp shadow of the canopy (above, middle); the powerful shapes of the cutouts and their reflections (below);

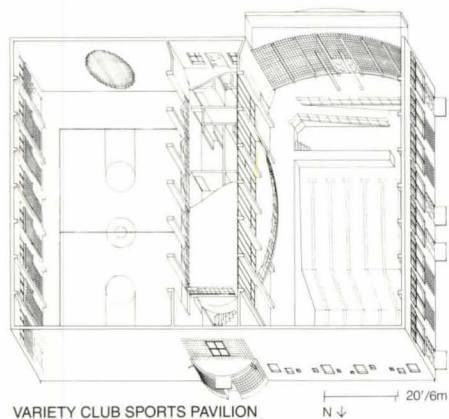
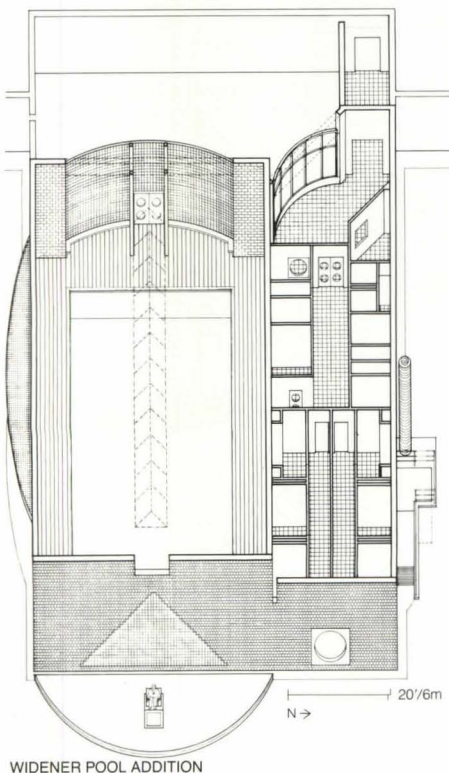
and the deliberate compression of space in the courtyard (facing page) separating pool from adjacent school building—all are effects calculated to monumentalize a minimal program. The touch throughout is lighter than Kahn's, and the clever use of the bubble skylight as a "bay window" (top) has become something of a signature for the architects.



Indoor Sports Pavilion and Pool Addition, Pennsylvania

The strict organization of program into served and servant spaces evident in the 1982 Widener School pool addition (below) is made more complex in the 1984 indoor sports pavilion (bottom) at a suburban Variety Club camp for handicapped children. The central spine, composed of lobby, locker rooms, and support facilities, and mezzanine above (facing page, bottom left) is marked on the exterior by the curved glass-block entrance (facing page, top right). The pool's "apse" of light

(viewed through a bubble skylight/bay window, facing page, below right) is the building's strongest sculptural gesture. Fenestration on the east and west façades (facing page, top right) produces a less powerful overall image than that of the Widener pool addition (preceding pages). Similarly, the circular glass-block cutout of the gym's end elevation (facing page, bottom right) is severely compromised by a central vertical support, deemed necessary by a cautious contractor.



This research also constantly informs work in the atelier. The Knowleses were fortunate to find a steady patron in the Widener Foundation, and their portfolio shows a quantity of institutional commissions unusual for a relatively young firm. The more recent projects shown on these pages—a pool addition to the Widener Memorial School (1982) and an indoor sports pavilion at the Variety Club camp (1984), both for handicapped children—document ongoing preoccupations, among these the manipulation of light and volume, the preference for plan over elevation, the careful handling of materials, and the organization of program into served and servant spaces—themes clearly derived from the teachings of Kahn.

The language with which they describe their work is also Kahnian in spirit: "Space is the residue of the mold," they wrote, "the building . . . activated and transformed by the play of light." "We work for a beautiful plan, a plan of substance . . . we work for a tighter and more fundamental building." "We are not interested in the answer, but in the search for answers." Architectural history is studied not for the specifics of style but for the more generalized concepts of volume, plan, and structure; thus John Knowles speaks of an "apse of light" at the Variety Club. This approach too is derived at least in part from Kahn who reduced all architecture, regardless of its style, to one common denominator, "the thoughtful making of the space."

Just as the Knowles notebooks are at once more, and less, than their prototypes, so the architecture shows subtle but significant departures. In the Widener pool addition, the separation of structure (steel) from skin (masonry) produces a thinner shell (and betrays John Knowles' early exposure to the International Style at the University of Nottingham and Harvard). Similarly the wood

beams and ornamental balconies of the Variety Club sports pavilion produce a more delicate, decorative effect. "Our architecture is lighter," says John Knowles; "Kahn would have used concrete." Brigitte Knowles is more emphatic. "We're not copying Kahn," says she. "This is 1984, not 1974. We're dealing with different problems."

Still, the Knowleses consider themselves keepers of the flame, entrusted with the task of practicing and passing on the essence of Kahn's philosophy. Their steady adherence to this "theology" has set them apart from many of their contemporaries. They speak with disdain of Post-Modernists as "writers, not builders of architecture" and criticize "fashionable, facile" work that avoids the "struggle of serious architecture." They even find fault occasionally with other architects who claim to have been influenced by Kahn, describing the architecture of GRAU (P/A, May 1982, pp. 138-145), for example, as "pure geometry searching for function."

This strict keeping of the faith can be a lonely vocation. The absence of a sympathetic peer group (the Philadelphia School is long gone) has forced the Knowleses to clarify and at times defend their philosophy: "The concerns for a utilitarian clarity of material and use is not a 'Plain Jane' aesthetic but is instead an aesthetic of truth to material," they have written, challenged perhaps by the current trend towards surface ornament and other Post-Modern "effects." At the same time, the office seeks to explore and expand its own doctrine, participating in architectural competitions "to clarify our position so that when we come to build we can do more meaningful work." They pursue this doggedly old-fashioned course of self-initiated study in an Oxfordian isolation (John Knowles quotes Shelley, not Barthes), secure in the belief that history will vindicate their allegiance to "Lou." [DARALICE D. BOLES]

Project: George D. Widener Indoor Sports Pavilion, Variety Club Camp for Handicapped Children, Worcester, Pa.

Architects: BJC/Knowles Architects Planners, Philadelphia, Pa. (Brigitte L. Knowles, John Christopher Knowles, partners in charge; Aldo Acitelli, Franco Possemato, Mark Topetcher, staff).

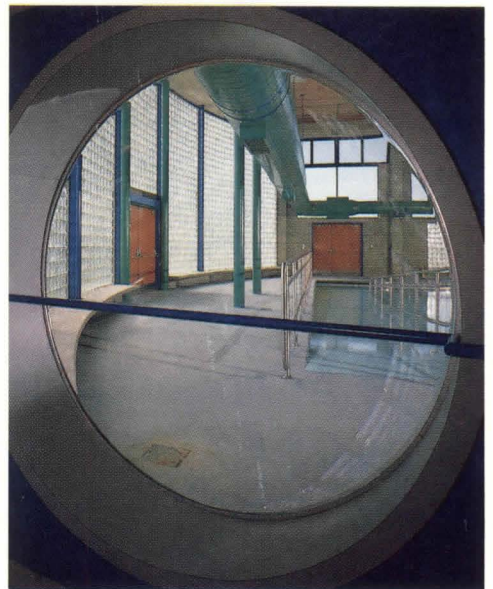
Client: The Widener Foundation and the Variety Club of Philadelphia.

Site: 70-acre recreational camp.

Program: natatorium with Olympic-sized pool; gymnasium; observation deck; locker rooms and support facilities; totaling 22,800 sq. ft.

Structural system: cast-in-place concrete foundation and floor slab; reinforced masonry piers; roof structure of laminated wood beams and cast-in-place concrete canopies.

Major materials: walls—concrete block, glass block; ceiling—tongue-and-groove cedar planking; lightweight structural steel; masonry bond beams (see Building materials, p. 112).



Mechanical system: oil-fired boiler; forced-air heating and cooling systems; unit HVAC in staff offices.
Consultants: Keast and Hood Engineers (Tom Leidigh, partner in charge); Energy Management Consultants, mechanical.
General contractor: Kelly Construction Co.
Cost: \$1,650,462.

Project: Pool Addition, Widener Memorial School for Handicapped Children, Philadelphia, Pa.
Architects: BJC/Knowles Architects, Planners, Philadelphia, Pa. (Brigitte L. Knowles, John Christopher Knowles, partners in charge; Aldo Acitelli, Franco Possemato, Mark Topetcher, staff).
Client: The Widener Foundation and the School District of Philadelphia.
Site: existing school complex on Broad Street.

Program: natatorium, locker rooms, and support facilities.
Structural system: steel frame and block bearing walls; open web steel joists; poured concrete slab and foundation.
Major materials: lightweight steel framing; ceramic and vinyl flooring; gypsum drywall and block interior; brick veneer; glass block (see Building materials, p. 112).
Mechanical system: oil-fired boiler, forced-air heat, operable windows for natural ventilation (no air conditioning).

Consultants: Keast and Hood Engineers (Tom Leidigh, partner in charge); Paul H. Yeomans Inc., mechanical.
General contractor: Unkefer Brothers Construction Co.
Cost: \$937,390.
Photography for both projects: Tom Bernard.

Kahn and Japan

In a sense, the Japanese encountered Louis Kahn three times: first, on Kahn's one trip to Japan in May 1960 to attend the World Design Conference in Tokyo; second, in his office and studio in Philadelphia; and third, through his buildings. Each encounter showed Kahn in a different perspective: as a compelling yet inscrutable philosopher and creator of huge, futuristic projects; as a teacher and architect steeped in architectural history, building as if for the ages; and as a master in the use of light and building materials. For many Japanese architects, Kahn's work epitomized the Western tradition, yet they also sensed a very close

As this brief survey shows, Kahn's impact on Japan's architecture remains in evidence 25 years after the architect first visited that country.

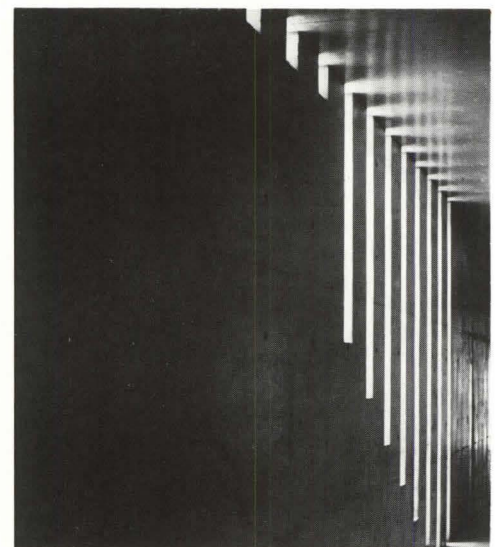
kinship with him. Kahn was all that they were not, but at the same time he seemed one of their own. Such is the paradoxical nature of that special place Louis Kahn has occupied for Japanese architects over the past quarter century.

The 1960 World Design Conference was the most ambitious event of its kind ever staged in Japan, and it left its mark on the history of modern Japanese architecture, industrial design, and graphic design. Japan today is flooded with news of the architectural scene overseas, but at that time, Japanese architectural journalism focused predominantly on domestic developments.

Moreover, restrictions limiting travel abroad for the Japanese remained in effect until 1969; consequently, the conference provided the first opportunity for many Japanese architects and designers to view the latest foreign work and meet their confrères from the United States and Europe. Thus, it was with the greatest eagerness that the Japanese welcomed the foreign participants who included, besides Kahn, architects Peter Smithson, Ralph Erskine, Minoru Yamasaki, and Paul Rudolph.

Kahn took part in a conference seminar, then spoke on May 13 at Waseda University on "City Planning and the Future of Architecture" and showed slides of his work. Nobuo Hozumi, now a professor at the same university, who was then a young man only recently returned from a stint in Eero Saarinen's office, served as interpreter. Here, thought Hozumi, was an extremely serious architect: "He never smiled." Kahn talked of "realization," "form," and "design." That same evening, Kahn was invited to the house of Kiyonori Kikutake, a member of the fledgling Metabolist movement. Fifteen to twenty young Japanese architects—including Metabolist critic Noboru Kawazoe and architects Kisho Kurokawa, Fumihiko Maki, and Masato Otaka—questioned Kahn about his ideas until two in the morning. Maki, in Japan on a leave of absence from Washington University, served as the evening's interpreter. "Kahn was very enigmatic," says Maki now, "but in Japan, we're accustomed to the enigmatic style of Zen catechisms; we didn't have to understand him intellectually to be impressed."

Maki's remark is made only half in jest, for despite the barriers imposed by Kahn's distinctive, personal terminology and his hosts' limited English, Kahn appears to have made a very powerful and lasting impression on the Japanese during his brief visit, particu-



Although Tadao Ando never met Kahn in person, his work clearly shows Kahn's influence. The dramatic chiaroscuro and sheer visceral impact of the 1981 Koshino House (above and right) with its austere exposed concrete interior is a concentrated dose of Kahn.



larly on the Metabolists, who were to produce a stream of megastructural proposals in the following decade.

Critic Kawazoe published a lengthy article two months after the conference explaining Kahn's ideas as he understood them and suggesting their roots in Aristotelian philosophy. He closed his article with the following statement: "Louis Kahn will no doubt become a master of world architecture in a short time, and it is possible to predict with near certainty that his ideas will exert a wide influence." The other Metabolists were of the same persuasion. Kurokawa, whose *Helix Plan* (1961) has a number of things in common with Kahn's "city tower" project of 1957, has written that "in the early 1960s, Louis Kahn was the architect we most admired."

A year after the conference, Kikutake published a paper called "A Tentative Theory of Design" in which he put down his own thoughts on the design process. Specifically, he proposed that design had three stages: *Ka* (which he translated as order) was the programmatic objective, *kata* (type) the solution at its most abstract, and *katachi* (form) the solution as built. In a note, Kikutake acknowledged the debt he owed to Kahn. His very literal, systematic interpretation of Kahn's highly poetical musings on the design process was carried through into practice: For a time, Kikutake's office was organized into three teams, each concentrating on one of the three stages of design as Kikutake, following Kahn, had defined them. Similarly, Maki acknowledges that some of his insights into group form outlined in the seminal "Investigations into Collective Form" of 1964, owe much to Kahn's early projects, particularly the Trenton Jewish Community Center.

Although Kahn, with his Beaux-Arts sense of order, and the Metabolists, with their preoccupation with change, would seem strange bedfellows, the Japanese found in

Kahn's work a confirmation of many of their own ideas. Kahn's project for Center City, Philadelphia (1956), with its megastructural approach to city planning, shows that the affinity the Metabolists felt to Kahn was not entirely a misperception. The Adler and De Vore houses and the Richards Medical Research Building were certainly open-ended—a quality particularly prized by the Metabolists, who sought to express the dynamic process of urban growth. The Richards building, in particular, with its articulated served and servant spaces, was a forerunner of many Japanese projects that glorified the service tower—the most celebrated example being the Yamanashi Press and Broadcasting Center by that proto-Metabolist, Kenzo Tange.

Kahn made no second trip to Japan, but over the years a number of Japanese went to Philadelphia to work at his office or to study with him at the University of Pennsylvania. Among those who took his Masters studio was Hisao Koyama, now an associate professor at Japan's most prestigious university, the University of Tokyo. Koyama had studied in Japan under a professor known for a statistical approach to programmatic analysis. His education prior to Penn was entirely typical of the Japanese system: Architectural programs were customarily incorporated into engineering departments, where speculative, aesthetic issues were neglected in favor of a more pragmatic, rationalist approach. Furthermore, no strong relationship tied architectural design to the study of architectural history in Japanese schools. Penn, with the active interest in the history of architecture evinced by people like Kahn and Robert Venturi, came as a revelation to Koyama. Kahn's attitude towards architectural history, Koyama feels, remains a relevant model for Japanese architectural schools today. In his atelier at the university, Koyama is trying to

get students to regard the study of history as a vital part of the design curriculum. Despite their shared interest in history, Koyama faults Post-Modernists for their lack of "seriousness." "Architecture should not be art that produces only a momentary splash in the ongoing tide of history," he has written; "it ought to bring forth something of splendor that endures for eternity . . ."



Sakura

Others would claim, perhaps, that the classicizing monumentality advocated by Koyama and exemplified in Kahn's work are utterly alien to Japanese culture. Many works of traditional Japanese architecture are characterized by fragility, a result not only of wood construction but of a prevailing belief—with roots in Buddhism—that a house is an ephemeral shelter meant to last no more than a generation or two. Koyama argues,

however, that ephemerality in architecture has come to be prized in buildings only since the Edo period (1615–1868). Furthermore, a very different tradition is represented by structures such as temples from the Asuka (522–646) and Nara (649–794) periods and by folkhouses—solid, imposing structures built to last, albeit in wood. It is to this tradition that Kahn appeals.

Other Japanese architects who did not attend Penn nevertheless made "pilgrimages" to Kahn's buildings. Hozumi, for example, once traveled to California, to see the Salk Institute. For architects of a younger generation who did not know him personally, Kahn's philosophy and teachings seem to matter less than the sheer physical presence of his completed work: the building's relationship to the site, the play of light and shadow, the choice of materials, and the detailing. The Osaka architect Tadao Ando, for example, never met Kahn but has been influenced by his work; he visited the Yale Art Gallery, the Richards Medical Building, and the Salk Institute in August 1967, the Kimbell Museum in 1973, and the Indian Institute of Management in Ahmedabad in 1977. It is the buildings in Ahmedabad that Ando most admires for their response to available technology and local climate. Ando's low opinion of much of contemporary culture may also explain his preference for Kahn's Ahmedabad buildings. Most contemporary Japanese architects, he asserts, merely pander to mass taste; Kahn's stark buildings are an austere existentialist alternative.

As Vincent Scully has written, Kahn's resistance to compromise resulted in the 1950s in projects that even those who respected him called "the ugliest buildings in the world." Like many others around the world, the Japanese admire the ruthless directness in Kahn's work, even as they are somewhat repelled by its physical consequences. Japanese

The projects shown on these pages draw rather literal references from specific Kahn works. Hisao Koyama's Kyushu Institute of Design (above) shows an affinity to Kahn's Salk Institute in La Jolla; his 1978 Shimoji House (facing page, middle) emulates the concrete vaults of the Kimbell Art Museum in Fort Worth. (Koyama's essay on Louis I. Kahn and photographs of his buildings were published in the A + U monograph on Kahn, November 1983.) The 1983 YKK Guesthouse (P/A,

May 1983, pp. 142–146) in Kurabe City (facing page, top) and other works show Fumihiko Maki's debt to Kahn, whom he met in 1960 at the World Design Conference in Tokyo. The 1967 Hozumi House (facing page, bottom) designed by Nobuo Hozumi is derived in part from Kahn's Trenton Bath House (page 68).



Taisuke Ogawa/Shinkenchiku



Taisuke Ogawa/Shinkenchiku



Shokokusha Publishing Co.

architecture has long shown a streak of asceticism, expressed in very subdued colors and simple materials. "But most of us don't want to go to Kahn's extreme," says Ando. Hozumi agrees. "Ultimately, a Japanese architect makes concessions; that is, he relents and relaxes his rules in at least one place in a building so that people can feel comfortable with it." He likens the difference between Kahn and contemporary Japanese architects to the difference between two tea masters of the Azuchi-Momoyama period (1573–1600), Sen no Rikyu and his disciple, Furuta Oribe. The former stressed the ethical character of the tea ceremony and was resolutely straightforward in his designs of tea cottages and gardens, while the latter thought of the ceremony as a source of pleasure and was not above employing gratuitous visual effects that were intended to be "merely" interesting.

While Kahn was clearly tied to a Western European tradition, his works and philosophy show an affinity to Eastern ideals, and it is not surprising that he should exercise such a profound influence on Japanese architectural development. The master who traded Zen questions and answers until two in the morning with Metabolist acolytes, the exemplar of a new Japanese classicism, and the ascetic whom even the Japanese find difficult to emulate—this was Louis Kahn as seen by the Japanese. While differing camps have appropriated his example for occasionally contradictory purposes, a genuine kinship with and respect for Kahn has remained constant over the course of 25 years. The history of contemporary Japanese architecture could not be written without mention of this, the "Japanese" Louis Kahn.

HIROSHI WATANABE

The author, an architect in Tokyo, has frequently served as correspondent in Japan for P/A.

Botta's paradigm

Influenced by Louis Kahn's concept of the "house-within-the-house," a device which Kahn largely reserved for public structures, Botta's domestic model has crystallized over the years around the ideal format of a symmetrical cubic volume. It has moved away from the "barn" paradigm of his Cadenazzo and Ligornetto houses* of the first half of the 1970s, while still retaining some aspects of the initial agrarian metaphor. The linear asymmetrical structure of these early houses has now given way to the frontalized format of the villa-cum-belvedere type. Deriving from the spectacularly contoured topography of the Ticino region,

Notable for their sculptural presence, the two most recent houses by Mario Botta in Ticino show a strong affinity to the work of Louis Kahn.

the belvedere theme first appeared in Botta's work with the asymmetric tower house he built in Riva San Vitale in 1973. The axial rearrangement of this paradigm emerged with the Pregassona house of 1979, and thereafter almost all of Botta's houses have been predicated on a centralized scheme.

Despite this formality, Botta's later houses still adhere to the policy of framing the landscape. The perimeter walls are arranged in such a way as to reveal and conceal the irreducible features of the site; that is to say, they focus on the original agrarian vista and screen the adjacent suburban environment. In this regard, Botta has remained faithful



The house in Origlio is entered from the west (above) where chevron stripes indicate the garage doors. The house, however, is actually oriented to the south (top), astride a site that terraces up toward the hills at the north (facing page). The main view, from which the second-level, double-height living area is directed, is toward the south and down the valley. The entrance at the west faces the street and houses across from it.



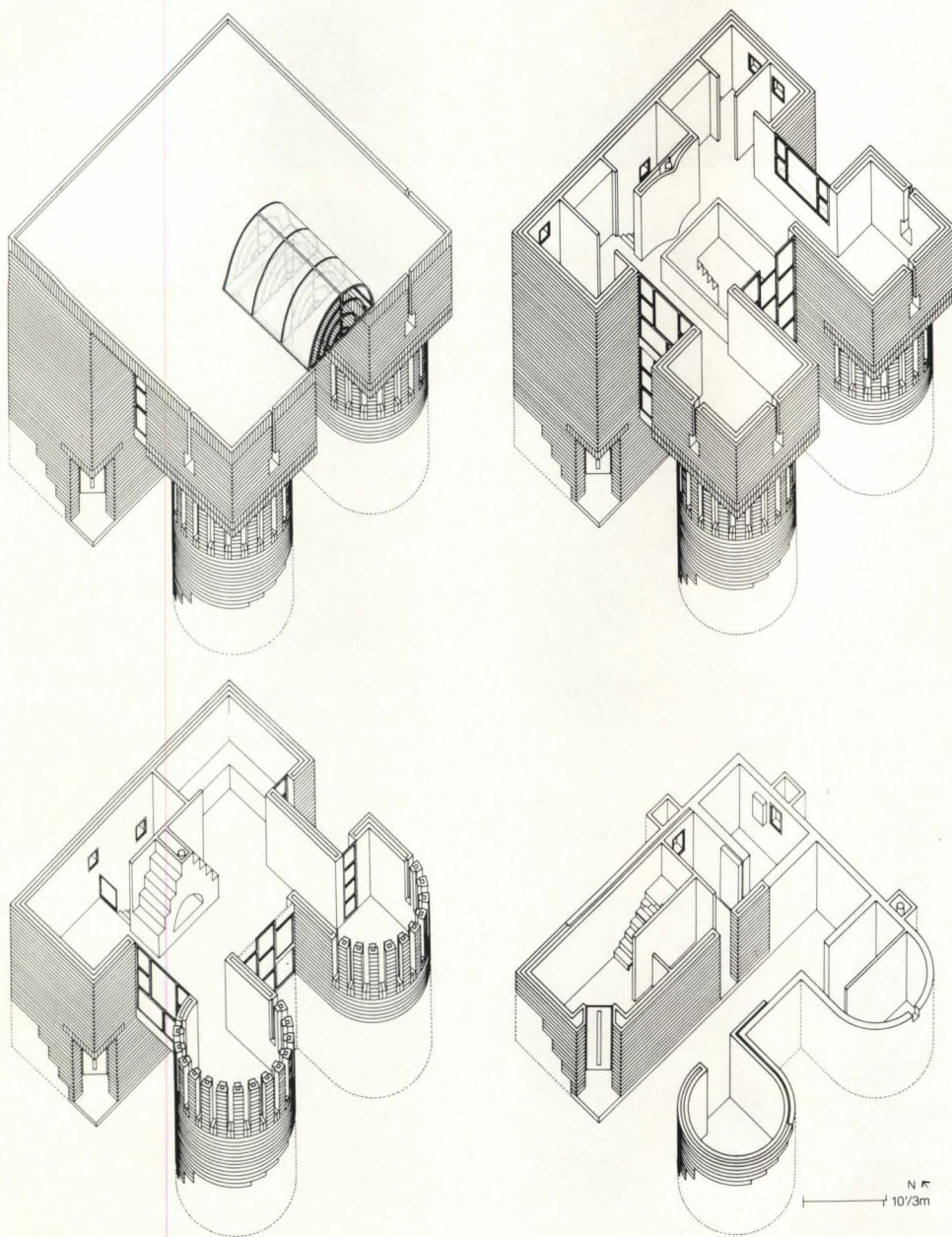
**Houses in Origlio and
Morbio Superiore, Switzerland**

to the principle of "building the site" not only in terms of inflecting these later houses towards the orientation and the landfall, but also in terms of bracketing the view. This consistent approach derives from the density of development in the Ticino as a whole, the region having experienced a continuous building boom since the mid 1960s, with existing farms and vineyards being progressively broken up into plots for single-family homes.

As his project for terrace houses in Riva San Vitale of 1979 clearly indicates, Botta's belvedere model was originally conceived for high-density application. In fact, the Pregassona house and the San Vitale terrace houses, which date from the same year, were almost identical versions of the same basic scheme. Botta's subsequent play with this format has given rise to a series of carefully regulated permutations based on the same square "butterfly" plan and grid. The north/south central axis of this plan is always organized around three fundamental focuses: an access stair at the northern end, a ferro-vitreous roof-light suspended over an axial, double-height void, and a cut out southern façade or "diaphragm," which permits controlled views of the landscape. At the same time the flanking eastern and western walls are variously manipulated in accordance with the situation. Thus in the Pregassona house, built on a flat site, these flanking walls oscillate from being "open" to "closed" to "open" as one passes from the ground floor, through to the first and second levels. In the Viganello house (1980), on the other hand, they are virtually closed on all three floors because of the impingement of a sloping site. A similar contrast obtains between the recent Origlio and Morbio Superiore houses, for where the former is open (that is to say cut out) for the full height of its flanking walls, the latter is virtually closed after the entry on the top



Inside the Origlio house, the double-height living area at the second level looks out to the west (above right), and also to the south (above left). The cylindrical turrets flanking the south façade (top right) contain single-bed rooms, while the cubes above them hold double-bed rooms flanking the mezzanine's well, which is opposite the stairwell at the north end of the house (top left, and facing page axonometric, top right).



floor because of the descent of the house into the slope.

Aside from the agricultural metaphor, the Origlio and Morbio Superiore houses elaborate the bunker theme, which is the other alien "figure" informing Boschi's domestic work. As part of Boschi's defensive stance towards the rapacious development of the Ticino region, this introspective effect derives in the main from the full-height gridded glazing, which is set back within the volume of the cube, thereby causing the occupants to look out over "cavelike" recessed terraces and covered forecourts. This cavernous motif has become increasingly elaborated over the years, with Boschi departing from the expansive and limpid volumes of the Pregassona house to create houses whose volumetric configurations border on the "baroque."

Such spatial elaboration seems to have been accompanied by an increasingly emblematic attitude towards the overall appearance of the structure. Unlike the Pregassona house, where a symmetrical façade is progressively cut away from the central axis, the tendency in the Origlio and Morbio Superiore houses has been to assert an arbitrary "sculptural" figure which, while still based upon the cube, presents a singularly different and distinct gestalt. There seems to be an affinity in these works for the Neoclassical procedure of deriving the "figurative" image of a work from the arbitrary assembly of Platonic solids. This has perhaps never been so marked as in the Massagno and Origlio houses (1979 and 1981), both of which display a distant resemblance to the work of C.N. Ledoux, specifically to his Water Surveyor's house of 1773 and his Parisian Barrières of 1785.

This double preoccupation with "baroque" volumes and "emblematic" façades has led recently to the creation of internal spaces that

**Houses in Origlio and
Morbio Superiore, Switzerland**

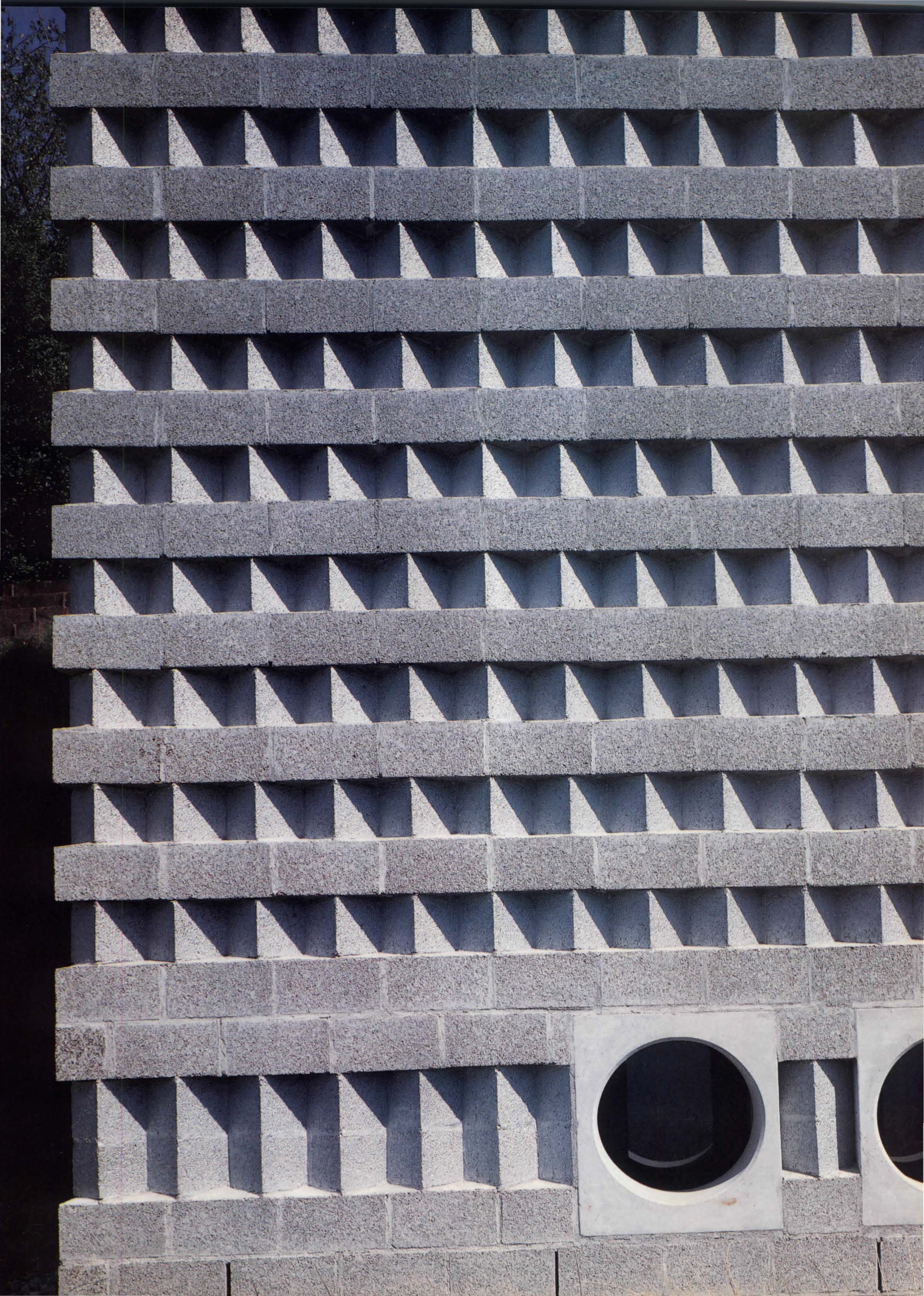
seem almost residual when compared to the appropriately modulated and syntactical interiors of Botta's earlier domestic work. This has never been more manifest than in the first floor of the Origlio house, where the living area seems to be devoid of any focus despite the double-height slot of the "Neo-classical" chimney. Botta's attempt to compensate for this loss of center, with a number of illusory alternative focuses created by the furniture, testifies to the tendency of the space to disperse to the four corners of the initial cube, thereby leaving the core empty. This disconcerting effect is strangely exacerbated by the superimposed central skylight and by the "fortified" slot fenestration introduced into the corner cylinders. Moreover, this is not the only floor to suffer from this regression towards "leftover" space, which is residual in the sense that its *raison d'être* is the generation of exterior mass rather than the provision of an appropriately modulated internal volume. This degenerative tendency is evident in the layout of the ground and second floors, although there is no space that is truly unused or unusable.

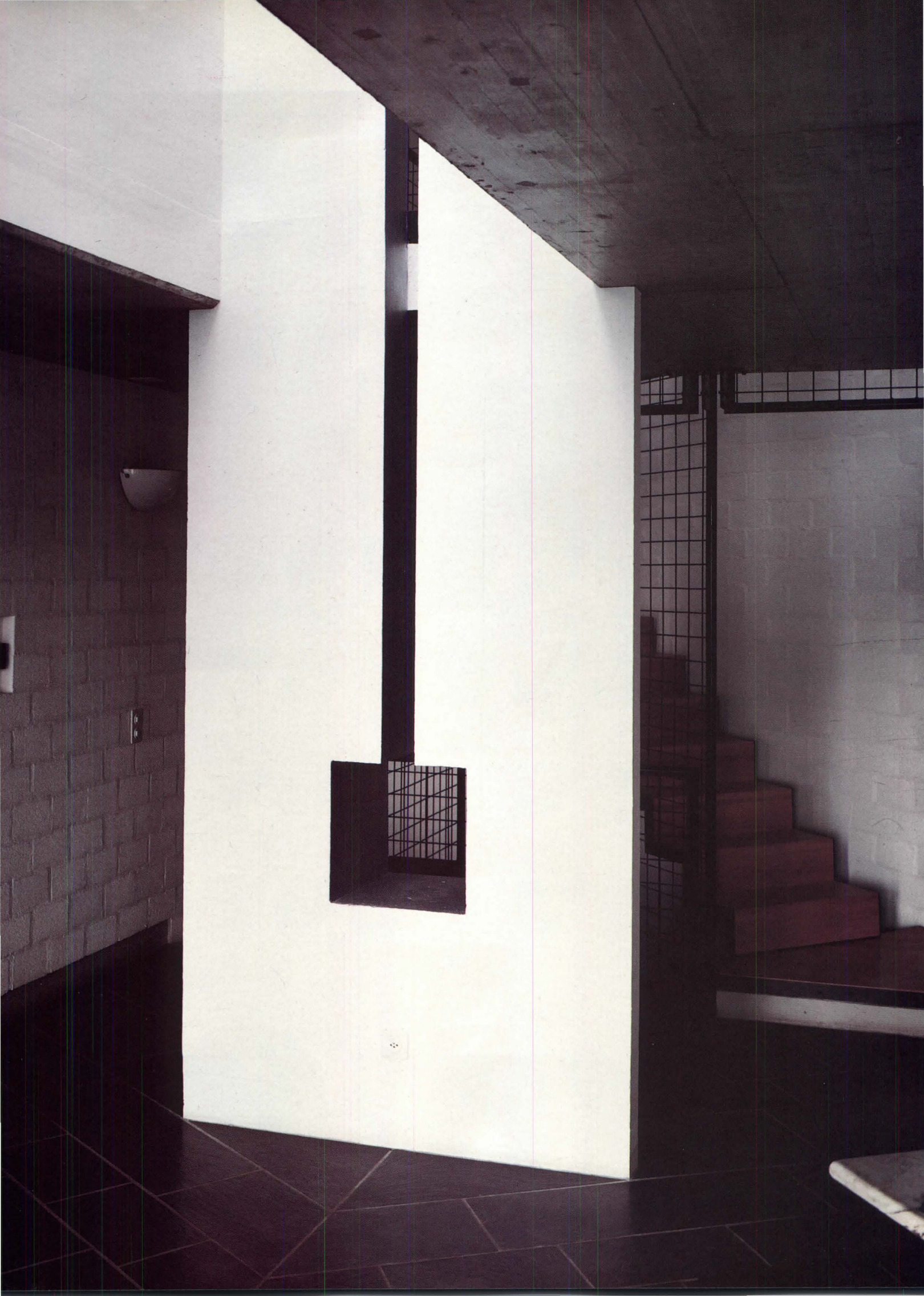
The internal space of the Morbio Superiore house also is hardly free from such formalistic tendencies, as we may judge from the lowest floor, the so-called *livello cantina* with its long line of porthole windows. This curiously "blind" plan, embedded into a steep slope, is understandably usable for only 50 percent of its area (other than services and storage) and even then the space seems somewhat ill defined (i.e., the shallow living volume of the bomb shelter provision required by law). Altogether the awkwardness of this buried floor contrasts strongly with the elegant planning of the upper levels.

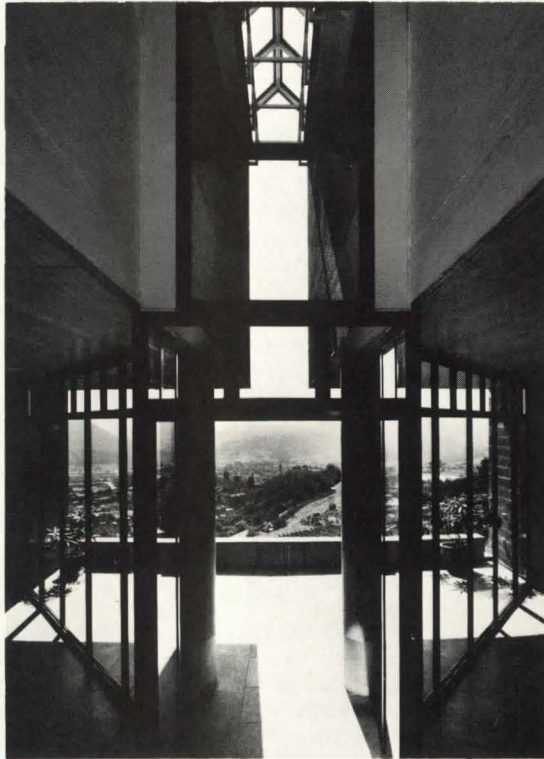
The houses at Massagno, Viganello, and Morbio Superiore concentrate most of their plastic energy on the superficial elaboration of their belvedere façades. Unlike Botta's



Like the house in Origlio, the later one in Morbio Superiore (these pages) also faces south, where details of its concrete block façade have been "picked-out" in silver paint. The north side of the house (directly above) is the entry side. From there, the house descends for three levels down the hill; its main living area is at mid-level (middle, above) and is directed toward views down the valley to the south. The lowest level (facing page) has portholes directed to the same view.

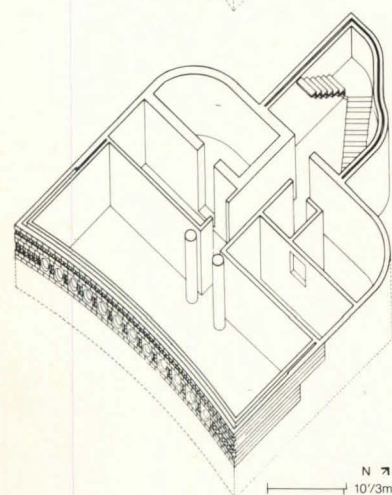
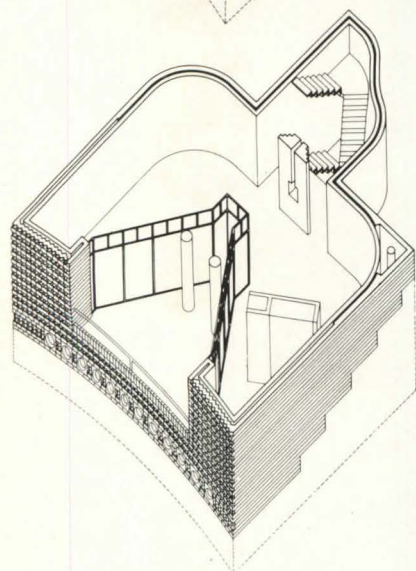
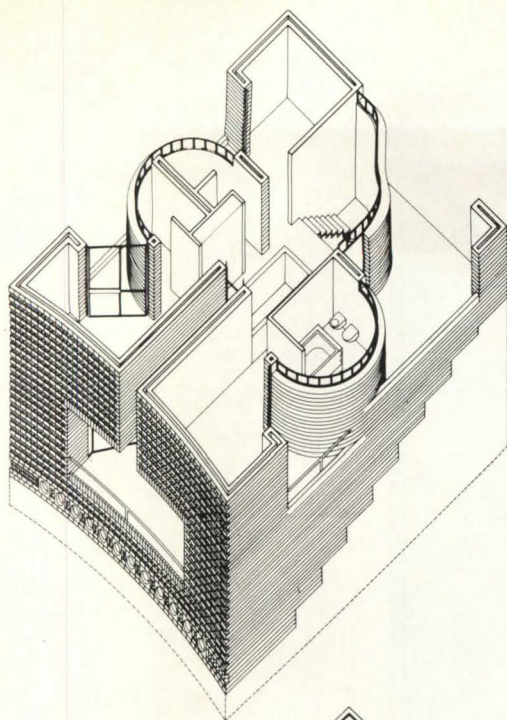






At the top, entry level of the Morbio Superiore house (top right) one has only a hint of the panorama to come; the whole view is reserved for the mid-level living area (above right), which is gained by stairs (above left) descending behind a concrete partition (facing page).

In the Morbio Superiore house, a master bedroom suite and two smaller bedrooms are at the top, entry level (left), living is at mid-level (middle left), and a family room and a state-required bomb shelter are at the lowest level (bottom left), where portholes provide views from the family room.



previous domestic work, these fronts seem to be on the verge of becoming deliberately divorced from their tectonic substance. At this level, they display, as Botta himself was to concede in a recent interview, an unexpected affinity for the later work of Michael Graves, and in this regard they have to be seen as scenographic in both intention and effect. Palladio may be adduced as the common ground here, and in fact the "hillcrest" siting of these houses is such as to insist on their presence as distant signs in the landscape—as "billboards" even; that is, as devices that are preferably to be looked at rather than looked out of. It is difficult to imagine a more paradoxical outcome for a *parti* where the initial intent is to create a *bella vista*.

In all three houses, the main motivation has been to elaborate the front façade in such a way as to respond to constantly changing conditions of climate and light, an intent which, at least as far as Viganello and Morbio Superiore are concerned, is kinetic rather than scenographic. These ever-changing, scintillating surfaces derive from the low-relief interplay of alternating bands of concrete block, arranged in a counterchanging chevron formation. In the case of the Morbio Superiore house, the slightly concave façade, plus the accenting of its surface with silver, adds to the vivacity of the effect.

In the end, these recent houses derive via Kahn's influence from both Palladian and Roman prototypes; the former never more evident than in the twin columns that run down around the central axis of the Morbio Superiore house; the latter in the fact that Botta's villa-belvedere type embodies, within its highly condensed form, the compressed "remains" of the Roman atrium type. Despite a tendency to degenerate into formalism, this remarkably consistent typological elaboration is ultimately sustained by Botta's superb

craftsmanship and tectonic mastery—a level of *techne* which is becoming increasingly rare.

For those who have never seen his work this command of craft can perhaps be best perceived in his book *La Casa Rotonda* (Milan, 1982), which contains the basic working drawings for the cylindrical house that Botta realized at Stabio in 1980. Here, double-sided, fair-faced concrete block walls set out in accordance with different circular radii, demonstrate a standard of masonry all too infrequently encountered in Western practice today. This tectonic exactitude bestows upon an inexpensive, ordinary material a standard of precision normally associated with the nobility of dressed stone. A comparable level of lucid technique can be found in the simple precision of the steel fenestration and in the steel-framed armature-cum-balustrade and stringers that together enable the timber treads of Botta's standard domestic stair to be carried free of the masonry enclosure. The vibration of the going, underfoot, is an essential part of one's experience of these houses—the springiness of the steel contrasting sharply with the inertia of block walls. This architectonic repertoire has been applied with variations in all his recent domestic work, and it is this that gives these later houses a poetic resonance—a sense of tactile presence that lies beyond the limits of the camera. [KENNETH FRAMPTON] ■

The author is professor of architecture at the Graduate School of Architecture and Planning, Columbia University, and author, most recently, of *Modern Architecture: A Critical History*, published by Oxford University Press.

* All of the works referred to in this text can be found in the book *Mario Botta: Buildings and Projects 1961–1982*, published in 1984 by Electa/Rizzoli, New York, and the later works can be found in *P/A*, July, 1982, pp. 54–63.

Project: one-family three-story house, Origlio, Switzerland.

Architect: Mario Botta, Lugano, Switzerland.

Site: a sloping, terraced site at the convergence of two perpendicular axes that point west to a valley and south to a garden.

Program: four-bedroom house with double-height living spaces and top-level work spaces.

Structural system: bearing masonry cavity wall exposed inside and out; concrete floor poured in place.

Project: one-family three-story house, Morbio Superiore, Switzerland.

Site: on a mountain ridge above the Chiasso plain.

Program: a three-bedroom house with main living area at mid-level, bedrooms at top level, lighted by skylight; concave main elevation frames views.

Structural system: bearing masonry cavity wall exposed inside and out; concrete floor poured in place.

Photography: Mario Carrieri.

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Make mine metal

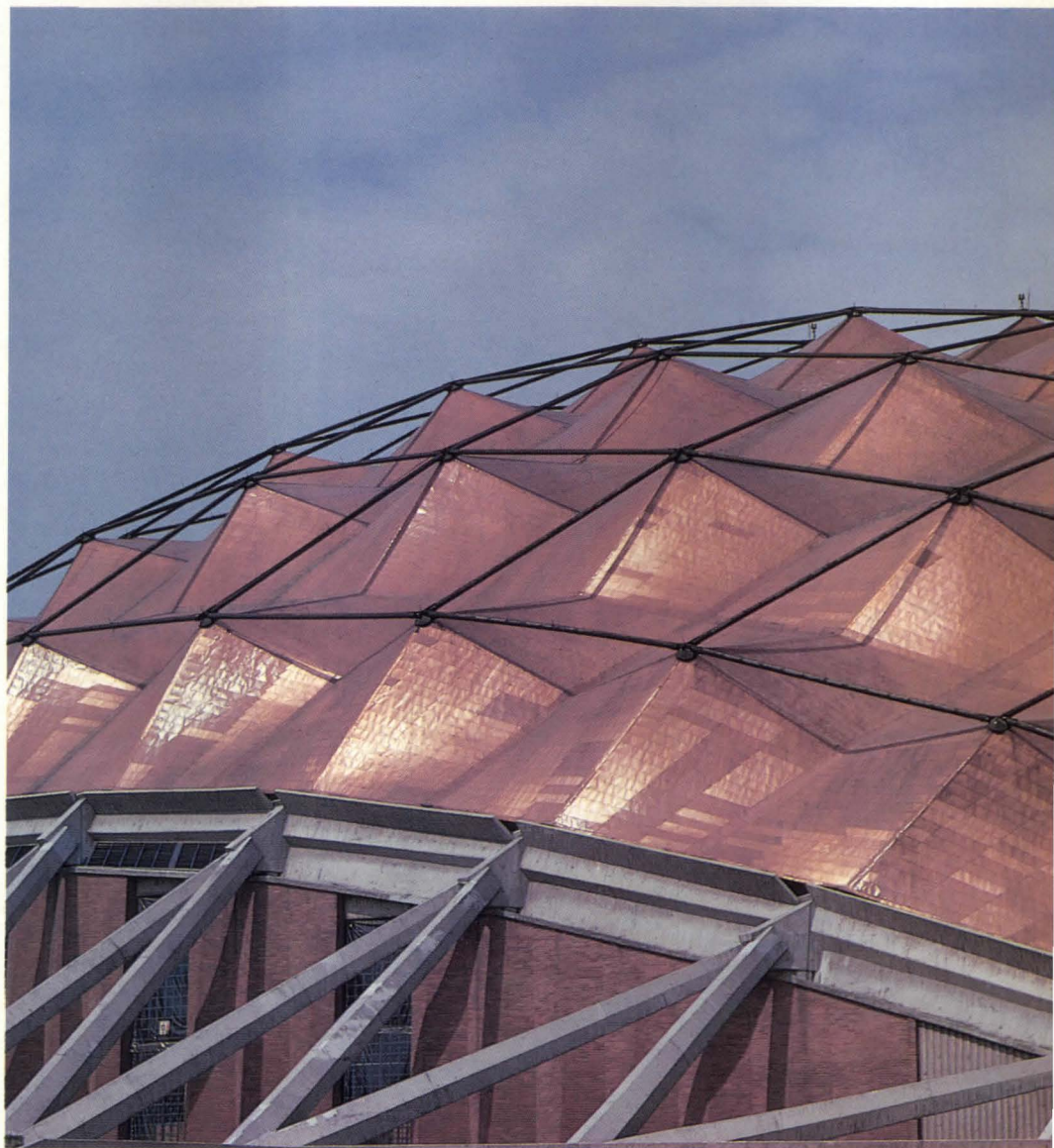
What better way to clad a building surrounded by metal cars, metal signs, metal fencing, poles, and wires, than—you guessed it—in metal. For a long time, custom-fabricated curtain walls and hand-seamed metal roofs provided the only real option for cladding a commercial building in metal. The less expensive but much less attractive corrugated metal panels offered little competition. That situation has changed. Mass-produced metal panels and roofing systems have emerged, over the last few decades, as a major exterior finish for commercial buildings, offering the same durability and almost the same appearance

Metal panels and roofing have emerged from humble beginnings to become high-class systems. Their story is worth hearing.

as custom-fabricated products at a considerably lower cost.

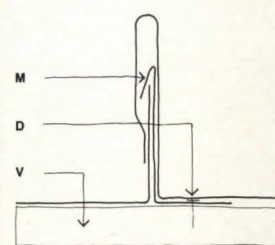
That emergence has been a long time coming. The first mass-produced metal panels—corrugated sheets with a galvanized finish and exposed fasteners—became popular in the 1920s as a cladding for industrial structures, and in World War II, as a cladding for Quonset huts. It wasn't until after the war, though, that manufacturers of those panels went after the commercial building market then dominated by the custom-fabricated curtain wall. The aesthetics and long-term performance of the panels grew accordingly. Coatings became more durable, with a broader range of colors. Panels, at the same time, acquired a cleaner appearance with the

Copper Development Association



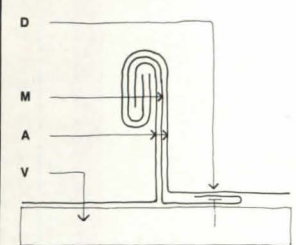
The Mexico City Sports Palace (above) shows the luminous effect of metal roofing. The details (right) indicate the variety among metal panel and roofing systems. Key: A. metal panel; B. liner panel; C. insulation; D. fastener; E. neoprene washer; F. insulating core; G. impact-resistant core; H. honeycomb core; I. polyethylene core; J. sealant; K. backer rod; L. girt; M. clip; N. extrusion; O. gasket; P. batten; Q. gutter; R. flexible membrane; S. antisiphon groove; T. flashing; U. gypsum board; V. sheathing; W. aluminum plate.

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Technics: Metal panels and roofing

development of flat surfaces, concealed fasteners, and flush joints; improved thermal performance with the introduction of panels with foam insulation cores; and improved strength with the introduction of thick metal plate and composite panels. Meanwhile, the development of automatic seaming machines reduced the installation time of metal roofing. Today, there are a large number of companies producing a wide range of systems from pressed metal shingles and corrugated sheets to panels in almost any color, size, shape, or profile. Sorting through those systems is no easy task.

Minding your metals

Let's begin with the metal itself. Most systems use either aluminum or cold-rolled steel. Aluminum panels range in thickness from .020" and .025" (considered minimums for interior and exterior uses respectively) up to 1/8" for aluminum plate. Steel panels typically range in thickness from 18 to 26 gauge. Aluminum has the advantage in its greater corrosion resistance, its lower weight, and its better heat reflectivity, while steel has the advantage in its slightly lower cost and greater puncture and buckling resistance. In the end, those differences probably cancel out each other. The lighter aluminum allows a lighter structure; the stronger steel, fewer structural members. Aluminum requires more lateral support or a thicker panel; steel, some form of coating to resist corrosion.

A few companies offer panels or shingles in copper, zinc, and stainless steel. All three metals, while more expensive than aluminum or steel, have the advantage of not needing protective coatings. Copper forms a blue-green patina of copper sulfate; zinc, a gray patina of zinc oxide. The chromium and nickel in stainless steel both resist corrosion, although they do not change color as the stainless steel weathers. Properly installed and protected from impact damage and galvanic reactions, these three metals can last many times longer with much less maintenance than aluminum or steel.

Metal covers

Any consideration of metal leads, inevitably, to that of metal coatings. Galvanizing or aluminizing remain among the most common methods of coating steel, accomplished by running the metal through a hot bath of molten zinc, aluminum, or zinc-aluminum alloy. (The zinc also can be electroplated.) Zinc alloys generally cost less and provide better galvanic protection than aluminum,

which has the advantage of a longer life. The zinc-aluminum alloys, while the same cost as aluminum, combine the advantages of both, with two to four times the longevity of zinc and more galvanic protection and structural strength than aluminum.

Another metal alloy used to coat mainly steel roofing and fascia panels is terne, an alloy containing 80 percent lead and 20 percent tin. Terne receives paint and solder easily, resists corrosive environments and chemicals such as gasoline, and has considerable ductility and a low coefficient of expansion. Precautions to take when using terne-coated steel include laying it over rosin-sized paper and a dry substrate, and, like zinc, adequately ventilating its underside.

Anodizing aluminum involves an entirely different technology. An electrochemical process, anodizing advances the natural oxidation of aluminum by immersing the metal coil in an acid bath and subjecting it to an electrical current. The thickness of the coating, which depends upon the type of acid and the strength of the electrical current, affects the aluminum's durability. The Aluminum Association recommends Class I anodized coatings, 0.7 mils or more in thickness, for locations exposed to weathering or abrasion and Class II anodized coatings, between 0.4 and 0.7 mils thick, for locations not subject to wear. Coloring the anodized surface involves using color-giving electrolytes, placing colored pigments in the acid solution, or saturating the surface with dyes or pigments after the anodized surface has formed. Once colored, the aluminum's open pores are sealed with a boiling water wash and, often, clear lacquer. When compared to most paint, anodized coatings cost more, have a more limited color range, and stain more easily, especially in contact with uncured concrete or mortar. Their advantage lies in their greater abrasion resistance and, especially hardcoat anodizing, greater resistance to fading.

Hardcoat anodizing demands specially formulated aluminum alloys and the placement of individual panels in the acid bath for longer periods of time. That produces very dark colors with excellent abrasion and ultraviolet resistance, but the process costs more than ordinary anodizing and results in considerable variation in color among panels.

Paints have come to dominate the metal panel and roofing industries mainly because of their relatively low cost and broad color range. Some panel manufacturers offer the

less expensive acrylic or polyester coatings, and chemically resistant urethane or plastisol coatings for panels intended for marine or industrial environments. Panels subject to damage during transport can receive a protective coating or film, although it must be removed following the panels' installation to prevent the light-sensitive film from staining the metal.

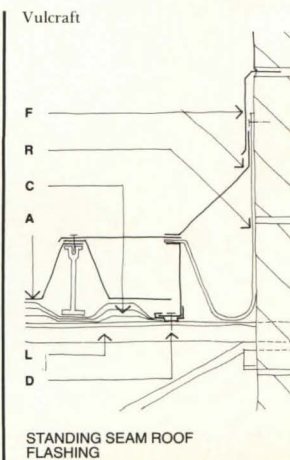
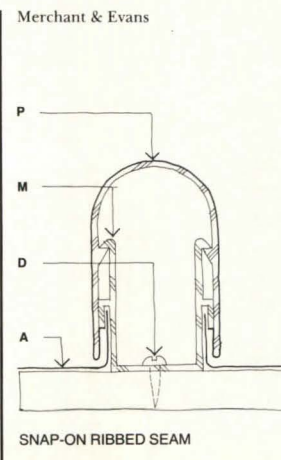
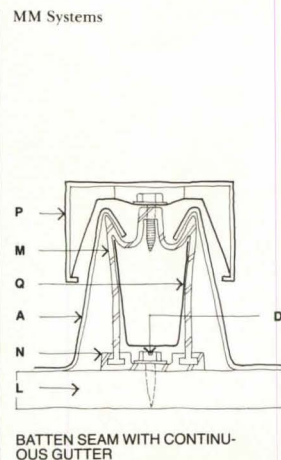
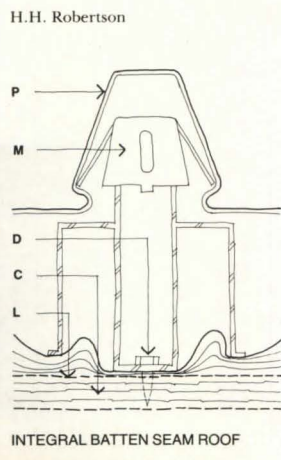
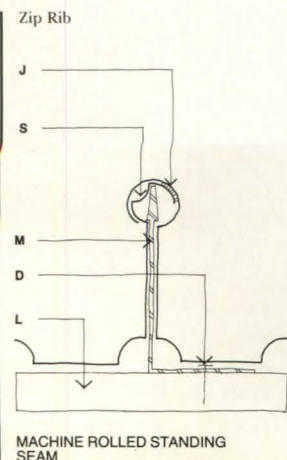
Most panel systems use one of two coatings over an epoxy primer: siliconized polyesters and Kynar-based fluoropolymers (the latter based on Pennwalt Corporation's Kynar 500® resin). The siliconized polyesters cost less, have a good life expectancy, good color retention, and chalk, fade, and mar resistance. Their limitations include having only a modest chemical and stain resistance.

The Kynar-based fluoropolymers, in comparison, have excellent color retention, film adhesion, flexibility, and stain, abrasion, flame, and acid resistance. They have a fairly wide range of colors (although they do not come with a high gloss finish or in deep rich colors because of the short life of many organic pigments) and they have an extremely long life, allowing most manufacturers to offer 20-year warranties. They also have a premium cost.

To get a coating with a similar performance, we must turn to an inorganic material: porcelain enamel. Made by combining granules of glass with inorganic pigments, clay, and water; grinding the mixture; spraying it on the metal; and firing it at 1500 F—porcelain enamel has excellent hardness; chemical, abrasion, and heat resistance; and color retention. It has a brittleness, however, that can lead to cracking if struck by a hard object or if subject to too much expansion or contraction. Also, the firing process can place certain limitations on the size of panels. Nevertheless, both the fluoropolymer and porcelain enamel coatings have done much to improve the image and durability of metal panels.

Roofing matters

While the performance of a metal or coating is important, what most affects the performance of metal cladding is its details: its connection to the substrate, to other panels, and to dissimilar materials. Those details become particularly critical in metal roofing, for there, a connection failure can be catastrophic. The traditional methods of installing metal roofs—with hand-crimped standing seams and soldered joints—required extensive hand labor. What allowed metal



roofing to shed its high-cost, hand-made character was the simplification of details, the development of automatic seaming machines, and, oddly enough, the energy crisis, which increased the cost of petroleum-based roofing products and made metal roofing more competitive.

The appearance of metal roofs has changed little since the 19th Century. Most manufacturers offer a standing-seam and/or a batten or ribbed roof; a few also offer a variety of metal tiles and shingles. The tiles and shingles still require a fair amount of hand labor to attach the interlocking units with concealed fasteners or cleats. However, they are no more labor intensive than competing materials such as slate or clay tile and they weigh considerably less, allowing savings in the roof structure.

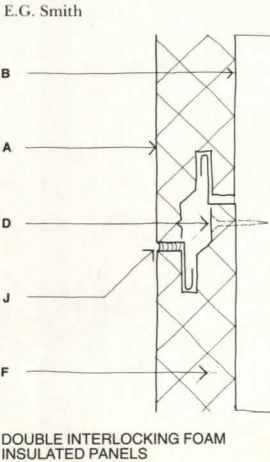
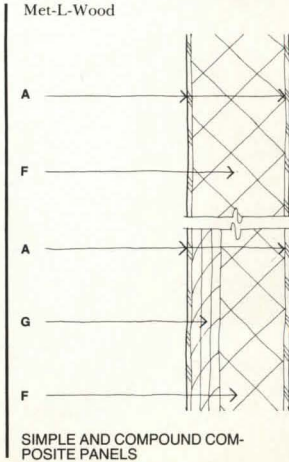
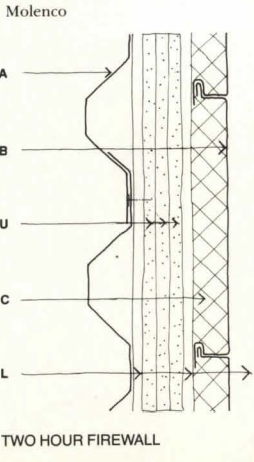
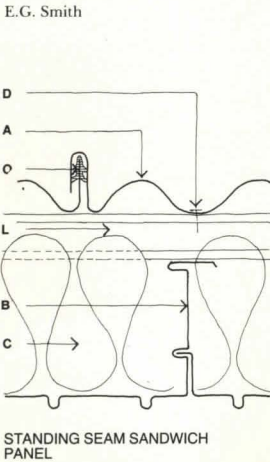
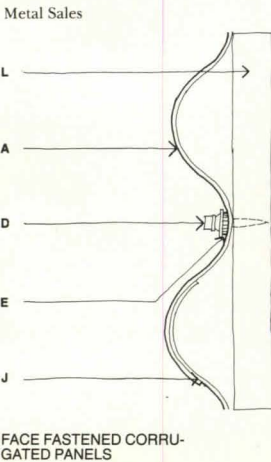
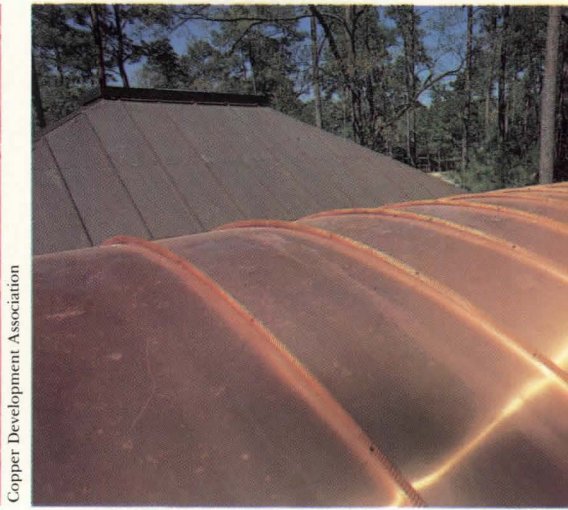
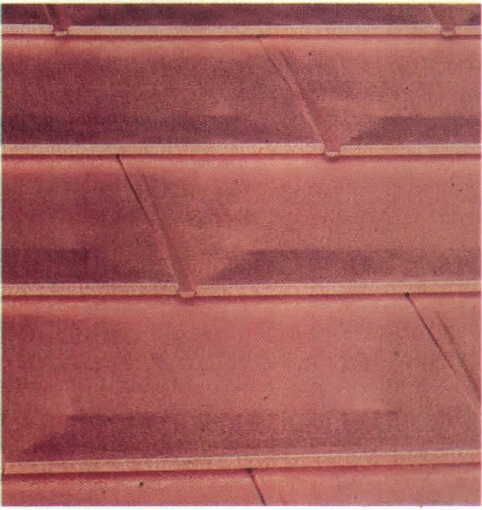
The standing-seam, batten, and ribbed roofs allow faster installation and have a larger scale, making them more popular for commercial buildings. They also have more varied details. For instance, some panels come from the factory with interlocking profiled edges that snap together by hand; some come with upturned edges that require the use of an automatic seaming machine to fold the edges over a clip in either a single- or double-lock configuration; and some come with upturned edges meant to receive a cap that is usually installed by hand and held down with special clips or fasteners. Some seams have continuous "anti-siphon" grooves to resist capillary action; some, double overlaps to resist wind uplift; and some, factory-applied sealant in prebent panel edges to ensure watertightness. (Most manufacturers also recommend the field caulking of seams if the roof has a slope less than 1/2:12.) Choosing the right seam may depend more on appearance than on performance. Some people claim, though, that the hand-snapped seams go together faster and ease the replacement of damaged panels, while the machine-sealed seams, especially those with a double lock and a caulked edge, offer a tighter connection.

The methods of attaching a metal roof to its substrate or to dissimilar materials display an equal variety. Because metal roofs undergo considerable expansion and contraction, they must have fasteners and connection details that let the metal move. The least costly roofing systems have exposed fasteners with neoprene washers holding the metal panels to the sheathing or purlins. The more costly systems usually have some form of flexible cleat or clip inserted in or fastened to a

Metal coatings have become more durable and much broader in their colors, as the Memorial Park Postal Station by Clovis Heimsath Associates (top) shows. Metal roofing, be it shingles or standing, batten, or ribbed panels (bottom), also has become more competitive with advances in its fabrication, with the use of field rolling machinery, and in its installation, with the use of automatic seaming machines, sliding clips, and snap-together panels.



H.H. Robertson



Technics:
Metal panels and roofing

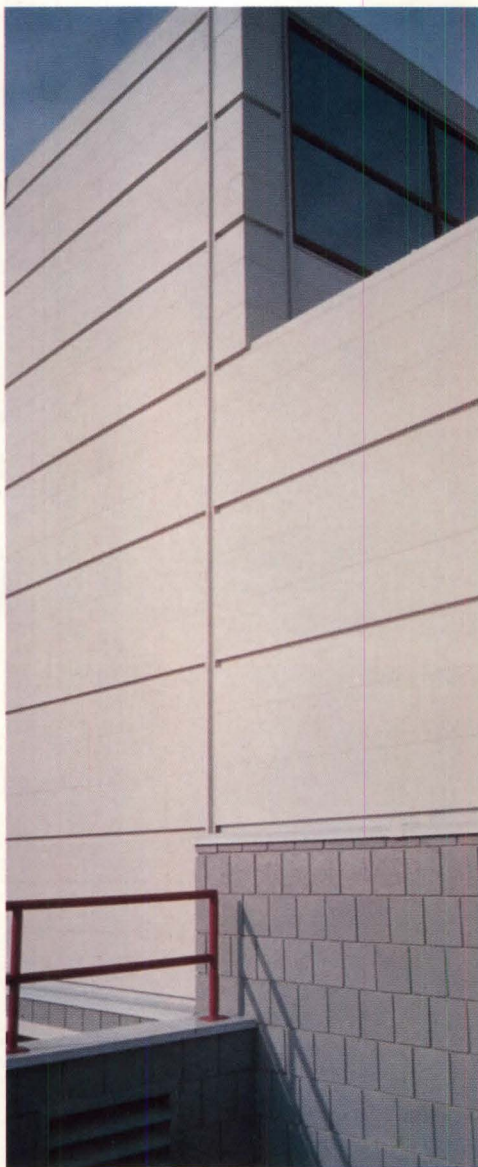
MIT's Facility for Arts & Media Technology (below), by I.M. Pei & Partners, uses a 1/8" aluminum plate system as its cladding. Each four-foot-square panel, bolted to continuous channels, has a perimeter expansion joint to accommodate movement and to collect and drain runoff so that it won't streak the panel surface. The panels have a white, and the channels, a black Kynar-based coating. The wall system was factory-assembled and field-glazed.

The Tri-county YMCA by Kahler, Slater, Torphy, Engberg (below) combines standard one-foot-wide, 12-gauge aluminum panels into visually larger units, defined by two-inch horizontal and vertical channels. The panels have concealed fasteners and the U-shaped vertical channels have face-mounted screws with neoprene washers—all attached to a subgirt system. Neoprene flashing backs up the channels, which act as gutters.

Roche and Dinkeloo, in their headquarters for General Foods (below), also make the common uncommon, using aluminum siding to clad a large office building and garage. Relating the building to the adjacent residential area, the siding creates a finely textured wall articulated with aluminum extrusions at expansion joints. The siding is attached to sheathing and metal studs, with shaped aluminum plates protecting the siding edges.



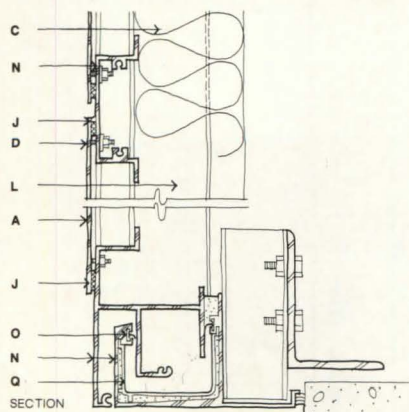
Sandy Pei



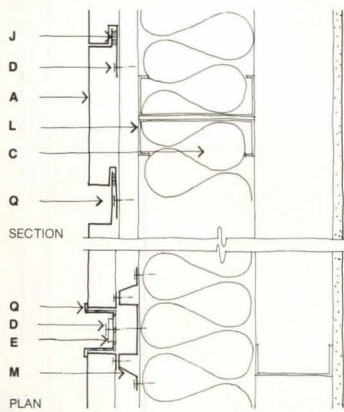
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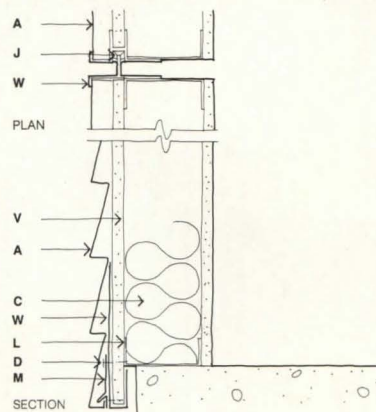
KRJDA, Ronald Livieri



ALUMINUM PLATE SYSTEM



METAL PANELS WITH HORIZONTAL AND VERTICAL GUTTERS



ALUMINUM SIDING ON METAL STUDS

slotted angle or bar to accommodate movement. Profiled panels or flat panels with small "pencil" ribs in their field reduce the incidence of oil-canning, while rolling panels in the field, using truck-mounted jigs, reduces the number of end joints and thus the possibility of leaks. (The length of panels fabricated in the factory is limited by the length and maneuverability of trucks: usually from 60 to 90 feet.)

At major expansion joints or connections to dissimilar materials, panels require fairly elaborate details to allow enough room for movement without buckling or leaking. Some manufacturers minimize those details, relying upon simple metal covers with ample material or a free edge to accommodate movement. Others emphasize the potential problems that can occur, providing such things as internal gutters under each seam, flexible membranes under every major joint, or perforated asphalt paper and rosin paper as insurance against leaks. Those same differences emerge with roof insulation. Some manufacturers pay little attention to it; others provide such things as thermal blocks beneath the fasteners, raised sub-girts to accommodate extra insulation, and liners to support suspended batts. Metal roofing only appears simple. Beneath its sleek surface lies a complexity of detail that, however light the material, cannot be taken lightly.

Against the wall

We judge a metal roof mainly by its performance. With metal wall panels, appearance becomes another factor affecting our decisions. In addition to considering a panel's thermal performance and impact resistance, we must weigh its color, shadow pattern, panel size and shape, joint width, and surface gloss. The type of metal and coating obviously affects that; less obvious is the construction and attachment of the panel itself.

The least costly wall panels usually have some kind of ribbed pattern, be it simple corrugations or more complex stepped sections, to give the thin metal greater bending resistance. Many also have face-mounted fasteners, usually self-drilling or self-tapping screws with neoprene washers, to simplify construction. Designing with those panels involves, in essence, designing the shadow patterns they create across a surface.

The trend among the more costly panel systems has been toward a minimum of shadows, achieved with concealed fasteners, flush joints, and flat surfaces. With most thin metal panels, the face of the panels stands

out from their interlocking edges to conceal the joint and fastener (as well as to provide more room for insulation). With composite panels—panels with a core material enclosed within a metal skin—the very thickness of the panels conceals any fasteners.

The thin metal panels, especially when made of aluminum, have profiled sections since most of those panels have little continuous support when used with sandwich assemblies of metal studs, batt insulation, and liner panels. Composite panels have a reinforcing core, so most can have a flat surface. The cores of composite panels consist of either a foam insulation such as polyurethane or the more flame-resistant isocyanurate, or materials that enhance the panels' impact resistance such as polyethylene, aluminum or paper honeycomb, or plywood.

Most insulated panels have a skin that completely wraps the core to minimize water intrusion or damage to the foam and to form an interlocking joint with adjacent panels. When horizontal, a double interlocking joint can collect water. Some manufacturers offer panels with a different horizontal profile to shed water; others don't vary their panel joints, expecting the water that may collect between panels to drain down the vertical joint. The composite panels with cores that won't deteriorate upon exposure to water, such as polyethylene, often leave the inner layer exposed at their edges.

Composite panels, for all of their advantages, can delaminate or oil-can if the adhesive fails or the panel itself hasn't enough room to expand or contract. That has occurred most often with panels containing a core of foam insulation because of the temperature differential between the two metal skins. While improved adhesives have greatly diminished the problem, its incidence has led to the development of metal plate systems, with aluminum as thick as 1/8" over an insulated wall assembly. Most of the plate systems have panels that clip to continuous horizontal and vertical tracks attached to the building's frame. That simplifies the replacement of a damaged panel by allowing its removal from the front without affecting adjacent units, but the alignment and attachment of the continuous channels demands a fair amount of field labor. The plate systems and the best of the composite panel systems, though, come very close to matching the look of a custom-designed curtain wall.

Part of that look comes not just from precise joints and smooth surfaces, but from the tight curves now possible with many panels.

Ribbed panels usually accept only the shallowest curves. In contrast, plate systems accept very tight curves using brake presses on the cold metal, while composite panels accept slightly shallower curves using vacuum presses or Platten presses, which subject the panels to slow pressure under heat.

The mettle of metal

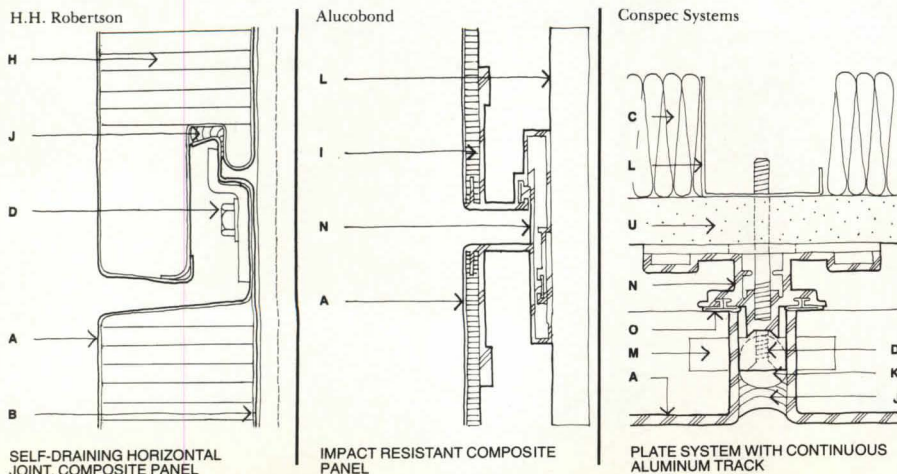
The metal cladding industry has come a long way in the last few decades. From very modest beginnings, it has developed mass-produced products that almost match, in appearance and performance, custom-fabricated or hand-made systems. It has also expanded its product lines to a point where some companies now take responsibility for the entire cladding of a building, from the roof and coping to the walls and windows, blurring whatever distinctions once existed between custom curtain wall and mass-produced panel systems. However remarkable that improvement in quality and expansion in responsibility, though, it is not unique. The metal cladding industry has taken a course repeated so many times before in so many other industries that it has taken on a certain inevitability: the refining of mass-production to the point where it overwhelms in quantity and almost matches in quality that which is custom made. [THOMAS FISHER]

Acknowledgments

We would like to thank the following people for their contribution to this article: James Gigante, Berridge; Thomas Skrabis, Chicago Metallic; Theodore Manick, E.G. Smith; J. Brad Craig, Reynolds; Pat Nickles, Robert Sheldon, AllianceWall; Jack Geortner, Conspec; Joseph Budd, John Stover, Metal Building Manufacturers Association; Gregg Hellman, Consolidated Aluminum; Jay Carey, Follansbee; Sharon Stratton, Butler; V. Srinivasan, Howmet Alumax; Brian Jentsch, Insulated Building Products; Brian Baillie, Inryco; Vernon Naden, DeSoto; Glen Black, Mizell; Robert Moorman, Glidden; Frank Austin, Steelite; James Hannett, Ferro Enameling; Michael Petersen, Petersen Aluminum; Dan Hager, AEP Span; Terry Lancer, Metal Sales; James Evens, American Building; Paul Anderson, Copper Development Association; W.F. Short, Cheney; Thomas Black, ASC Pacific; Danny Coggins, Vulcraft; William Goodwill, Alucobond; Mary Curtin, Roche Dinkeloo; Thomas Woo, Sandy Pei, Scott Koneicko, I.M. Pei & Partners; Charles Engberg, Kahler, Slater, Torphy, Engberg.

Further reading

Tops among the recent books on metal cladding is A.J. Brookes' *Cladding of Buildings* (Construction Press, Longman Inc., New York, 1983). The Architectural Aluminum Manufacturers Association's *Aluminum Curtain Wall Design Guide Manual* (AAMA, 35 East Wacker Dr., Chicago 60601) and John Mock's *Introduction to Prefinished Metals* (TECHNOMIC, Lancaster, Pa., 1983) also contain much useful information on aluminum and metal coatings, respectively.





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Books

Wright about town

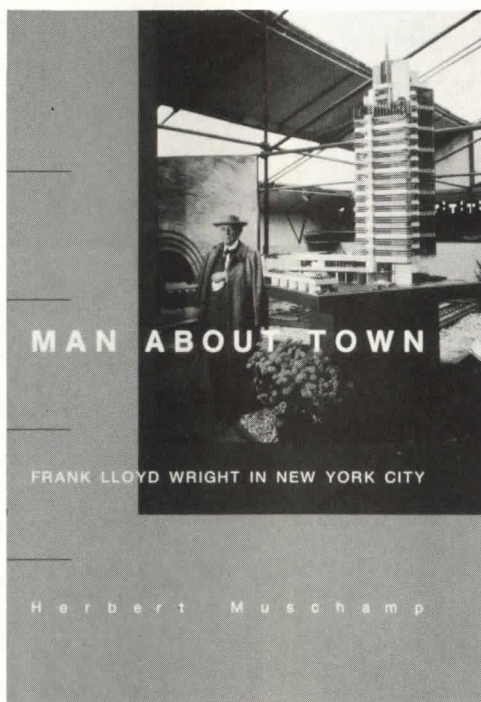
The vast amount of writing about America's greatest architect has followed in the course of some nine decades two distinctive directions and patterns. First are the writings by Wright, himself, and his worshipful disciples, most of which tend to deify the subject in tones of frequently embarrassing hagiolatry. Next are the admiring but critical assessments of Wright's life and architecture by more detached scholars and historians.

Herbert Muschamp's *Man About Town: Frank Lloyd Wright in New York City* falls into neither of these categories. Described on the dust jacket as a book that "will infuriate acolytes," Muschamp has not deferred to the "Taliesin cult." Instead, as a self-proclaimed "New York writer," he has used the architect to write a New York cult book. His essay reminds one of an "I Love New York" bumper sticker, with the word love replaced by a flaming red heart.

This is unfortunate since beneath the hype there obviously lurks a writer of wit, perception, and sophistication. His way with words is frequently impressive and, as a string of one-liners, the book is quite engaging. For example, he observes that "a Wright-designed house was a house designed for Wright, in which residents were often made to feel like guests at a private viewing of his art" (p. 89). Yet the book as a whole is rhetoric in search of a subject. Taken alone, Muschamp's two protagonists have indisputable "star quality." Most enlightened observers love both Wright and New York, however ambivalent they may feel about particular qualities of each. The problem lies in Muschamp's matchmaking. The strained, arranged marriage simply does not work.

Wright designed four projects for New York that were never built: the improbable Steel Cathedral, including Minor Chapels for a Million People (1926); St. Mark's in the Bouwerie Apartment Tower (1929); a Manhattan Sports Pavilion (1956); and a hotel and apartment project for Ellis Island (1959), the latter two of which are not discussed in the text. Two small projects, the Usonian Model House (1953) and the Air House (1957) were designed, built as temporary exhibition structures, and respectively dismantled and demolished. Only three projects were permanently constructed: the unremarkable Hoffman Jaguar (later Mercedes-Benz) showroom at Fifty-Sixth and Park (1955); the small, prefab Cass House, Staten Island (1959); and, of course, the monumental Guggenheim Museum, completed after Wright's death in 1959.

With the exception of the latter, it is not an impressive offering, far less interesting than Wright's work in and around San Francisco—to take one area beyond his own Chicago environs. Still, the title of Muschamp's book and the potential explication of Wright's New York life and work suggested the possibility of a fresh and diverting contribution to Wright studies. Unfortunately it is neither—despite the euphoric dust jacket blurbs—for the author has not truly explicated any of the projects. We are told *nothing* about any of the New York clients and their psychological journeys towards commissioning a Wright building,



not even the Guggenheims or the Rev. William Norman Guthrie, the elusive client-sponsor of both the Steel Cathedral and the apartment towers at St. Mark's in the Bouwerie. And given the author's commitment to cover Wright's involvement with New York, it is strange that he says virtually nothing about the architect's long, complex relationship with the Museum of Modern Art.

Muschamp's imaginative, but somewhat fatuous thesis is that after 1926, when Wright first "retreated" to New York to escape creditors and predators and compose the Steel Cathedral, his "ambivalence" toward New York formed the greatest single negative and positive inspiration for his remaining life's work. "What Chicago had been for him in 1888," the author argues, "New York was for

him now in negative." In New York, "Wright recognized the advantage of narrowing the range of infinite reactions to focus upon one physically compact, culturally cohesive nerve center . . ." (p. 44).

Here he forgets that, earlier and later, Wright retreated to other regenerative locations, including Europe, Japan, and California, when he could not cope with life at home. And he ignores the crucial role that Wright's third wife, Olgivanna, played in the 1920s and 1930s in the resuscitation of his life and career. The author singles out New Yorkers who helped Wright weather his personal and financial crises while ignoring his equally dedicated and far more numerous benefactors in Wisconsin and elsewhere. He takes too literally Wright's ludicrous threat in one embattled moment to burn down Taliesin and move to New York.

The book is smothered with paeans to Gotham. Of Wright's early unbuilt designs for Guthrie, "begun at a time . . . when the city itself was advancing toward its mid-century cultural supremacy, these designs are evidence of Wright's commitment to participate in the most dramatic architectural event of his country and time . . ." (p. 22). While admitting that Wright's New York houses were "three of the most trivial designs he ever produced," they were, presumably since he did them for New York, "at the heart of his investigation into the nature of his art . . ." (p. 40). Finally, Wright's "passage from the 'worm's eye view' of New York in the 'twenties to a treetop-view suite at the Plaza in the 'fifties was just the kind of success story for which Manhattan has always provided a thrillingly dramatic backdrop" (p. 100).

One of Muschamp's recurring themes is that Wright's revulsion/attraction to New York was the major, partially unconscious motivation for the antithetical Broadacre City, the sprawling antiurban "city of the future." But that is like saying that William Faulkner's ambivalence to New York, where he occasionally lived and wrote and enjoyed visiting editors and "getting away" from home, was the negative inspiration for his rural Mississippi saga of Yoknapatawpha County. Wright's "negative inspiration," moreover, could have come from other cities, including the Chicago he had known from the beginning.

More important, however, as a possible "positive" reference was another city for which Wright felt ambivalence, a city which, next to Chicago, he perhaps knew best of all: the Los Angeles of the 1920s where he built his "pre-Columbian," concrete block, "middle period" masterworks—the city which, then and later, would commission more

Man About Town: Frank Lloyd Wright in New York City by Herbert Muschamp. Cambridge, The MIT Press, 1983. 214 pp., illus., \$15.

Books

Wright designs, built and fantasized, than any city outside the Middle West. Los Angeles prefigured Broadacre City, which, as historian Vincent Scully has suggested, was Wright's decidedly nonvisionary comment "on the way things were going in America anyway."

Yet, in addition to dismissing the residual impact of Chicago on Wright's psyche and later development, the "New York author" has particular problems with his subject's involvement in "the *tabula rasa* of 1920s West Coast no-culture" (p. 40). The Los Angeles buildings with their "clunky orientalia" were "more art direction than architecture, perhaps, with a period piece monumentality worthy of de Mille. Still, while not inappropriate to Hollywood in the 1920s, their impressive theatricality seemed a substitute for the confidence Wright lacked in their execution" (pp. 31, 36, 40).

When he finally begins to discuss the Guggenheim, the author's contrasting views of the two cities become manifest: "The defensively introspective impulse that in the Los Angeles houses had produced fortresses of gloom here was transfigured at it broke through recklessly into the Guggenheim's sun-splashed rotunda: cascading light, a wishing-well fountain, the pleasure garden of a mind liberated at last . . ." (p. 117). He then disparages the building's exterior as a "fat *fillette de joie*, importuning passersby on the city's most solemnly decorous street" (p. 142). After a long discursive tangent on the New York School of Abstract Expressionist paint-

ers who protested Wright's design as an inappropriate space for exhibiting art, the author ends his surprisingly brief treatment of the building with a shrug of the shoulders: "Whether the Guggenheim is or is not a good museum," he observes, "was long ago resolved as a matter of personal taste. You like it or you don't, you admit to mixed feelings . . . you move on to books and plays . . ." (p. 142).

What this book moves on to is a 50-page rehash of the tensions and discussions in the 1960s and 1970s of "contextual urbanism" vs. the solitary "art building" and the related "Post-Modern" critique of "Modernism"—a discussion the author believes was largely inspired by Wright's New York *oeuvre*. Full of obvious and unassailable bromides, the essay is also so full of caveats that it reads in places like a team-written compromise by Tom Wolfe and Walter Gropius, making this short 200-page volume seem, as the saying goes, "twice as long as *Parsifal*, but not as funny."

Muschamp's interesting, but seriously flawed book is not exactly equivalent to the emperor's new clothes. With editing, it could have been a refreshing journal article. But as a book from a major university press, it is too much ado about far too little.

[THOMAS S. HINES]

The reviewer teaches cultural, urban, and architectural history at UCLA. He is the author of Burnham of Chicago: Architect and Planner and Richard Neutra and the Search for Modern Architecture. On his last trip to town, he was guest cocurator of the Neutra retrospective at MoMA.

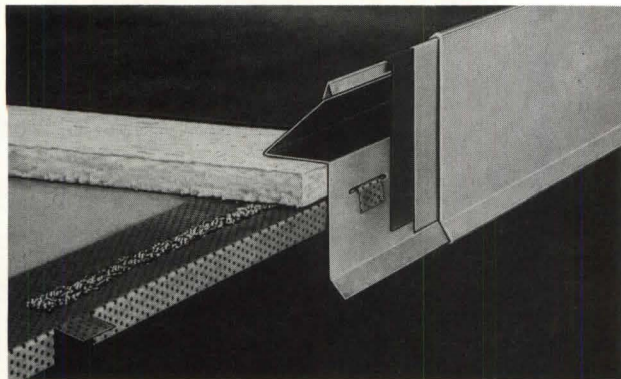
Italian furniture

Mobile come Architetture: il disegno della produzione Zanotta (Furniture as Architecture: The Design of Zanotta Products), in Italian, by Stefano Casciani. Arcadia Edizioni, Milan, 1984. 172 pp., It.L.42,000 (about \$24), from Zanotta, Via Vittorio Veneto 57, Nova Milanese 20054, Italy.

Although this very handsome publication is in fact a manufacturer's catalog, it is also, for those conversant with Italian, a very informative general history of Italian furniture. It begins by covering the period from the Bauhaus, and then concentrates on Italian wares from the 1930s, with Terragni's furniture for the Como Casa del Fascio, to the present. The book originally came about as the catalog for an exhibit at the 13th ICSID Congress in Milan (P/A, Jan. 1984, p. 21) where a historical exhibition of Zanotta products from 1954 to the present featured furniture by such renowned designers as Giuseppe Terragni, Gabriele Mucchi, Gae Aulenti, Achille and PierGiacomo Castiglioni, Joe Colombo, Max Bill, Marco Zanuso, Ettore Sottsass, Alessandro Mendini, and Superstudio. Most of the pieces shown, including Terragni and Mucchi's masterpieces of the 1930s, are currently in production. ■

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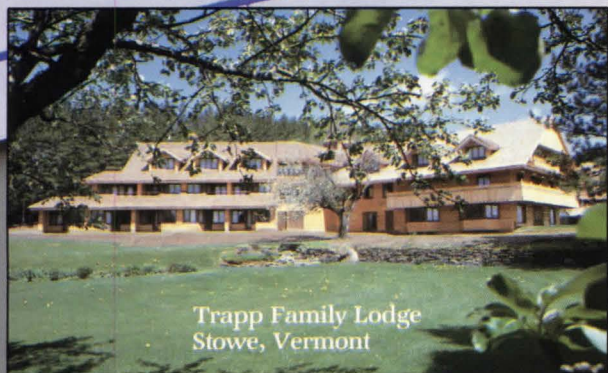
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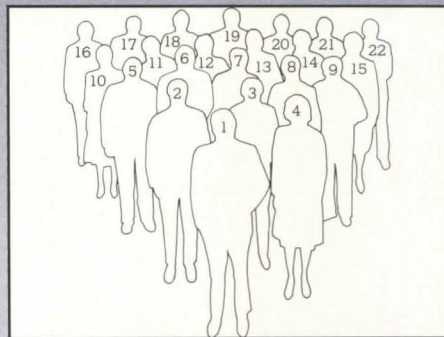
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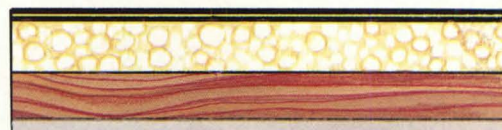


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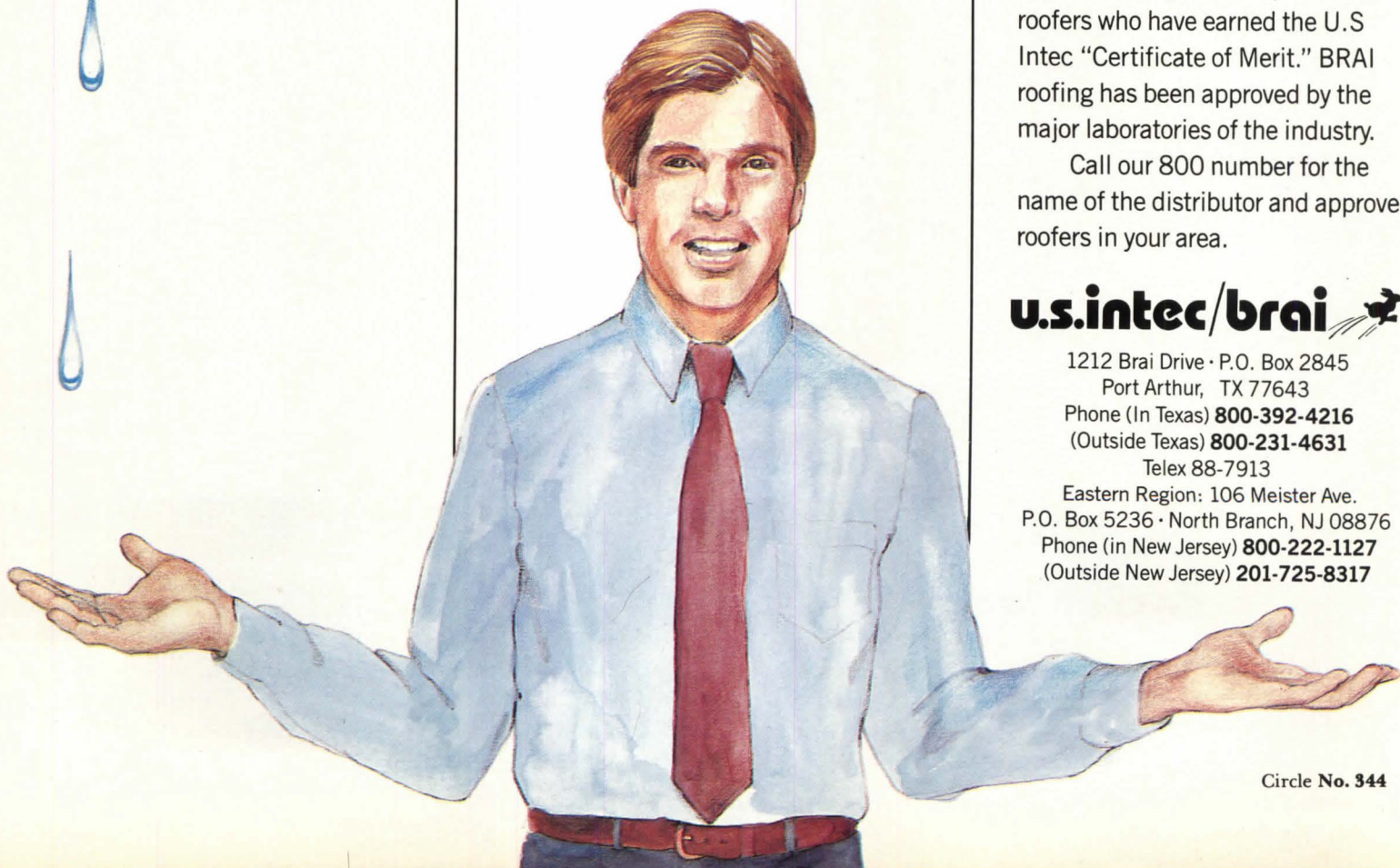
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P/A Products and literature

105 *Colored stainless steel.*

106 *Metal panels for roofing and siding, related to the Technics article (p. 93).*

Colored stainless steel

Prismatic Stainless Steel, a division of B & M Finishers, now offers, for the first time in the United States, colored stainless steel. The colors, which range from black and bronze to green, gold, blue and red, occur as light refracts in a film of chrome oxide applied to the surface of the stainless steel. Controlled by computers and regulated by precise timing in a series of chemical baths, the thickness of the film affects the amount of refraction and thus the color of the surface. The colors, since they depend upon reflected light, differ when viewed in natural or artificial light.

The stainless steel comes in various finishes—satin, polished, alligator embossed, matte, basketweave, and mirror—and accepts various modifications—bending, notching, punching, drawing, and embossing—without losing its color intensity or integrity. Tests exposing the stainless steel to 1000 hours of salt spray in 95 degree heat produced no signs of corrosion. Tests also are underway on laminating the colored stainless steel panels.

Designers in Europe, Japan, and Australia, where colored stainless steel has been available for a number of years, have used the material in everything from exterior and interior cladding to furniture, planters, lighting, outdoor signs, and swimming pool lane markers. Because colored stainless steel can selectively absorb solar radiation while emitting little heat, it also works well as an absorber plate in solar panels.

Prismatic offers the stainless steel in gauges ranging from 14 to 22, in sheets up to 4 x 8 feet. Costs vary with the color, gauge, and finish, but according to Prismatic's president, Bill Bramson, "The costs . . . are competitive with other commonly used curtain wall materials." [TF]

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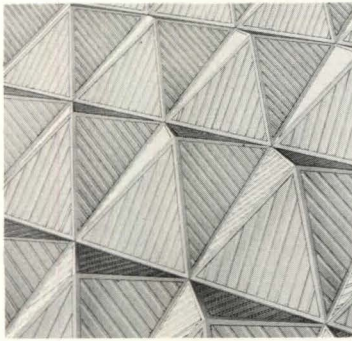
Archimedia, Masaaki Sekiya



B&M Finishers Inc.

The roofscape (top) crowns Yoshio Kato's new dance school in Japan. The red and white stripes of stainless steel help identify the school and give it a less massive, more playful quality. The curved forms and shallow roof slopes show the versatility of the stainless steel. The table (bottom) by Eva Reichl, E&E Designs, combines colored stainless steel and glass. She has taken full advantage of the material's ability to be cut, shaped, and bent.

P/A Products and literature



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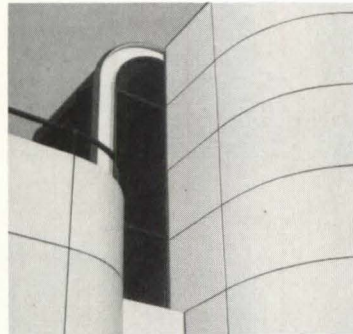
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Metal roofing, mansard, fascia, and soffit systems, roll-formed from aluminum alloy or galvanized steel, are described and illustrated in a 20-page brochure. Drawings show installation details, and color photographs show the panels in use. There are high-seam and low-seam panels; snap-on, square, and structural batten panels; and standing-seam panels. Finishes include Polycron Super D, siliconized polyester, Galvalume®, Kynar 500®, and "Weathered Copper." Span Metals Corporation.

Circle 200 on reader service card

Seam-Loc 24 roof system has a double standing seam and uses a field-applied sealant. Panels are 24 inches wide; maximum length is 40 feet. Concealed clips in the panel secure it to the purlin and a seaming machine forms the final seam between panels. Seam-Loc 24 can be used over various types of insulation. Coatings include siliconized polyester or zinc-aluminum on 24-gauge material. Metal Sales Manufacturing Corp.

Circle 105 on reader service card



Aluma-Tech aluminum-plate custom curtain wall system

offers variable sizes and formability that make it adaptable to almost any configuration. It is nontoxic and noncombustible, and is available in anodized finishes, Kynar®, and Duranar® XL metallic finishes in several standard and special colors. The curtain wall system is compatible with the company's Therm-A-Frame window system for energy efficiency. E.G. Smith Co. Construction Products, Inc., Cyclops Corp.

Circle 106 on reader service card

Porcelain-enameled steel panels are available in two forms. Veneer panels can be used to retrofit existing walls, as glazing panels to replace window glass, or in conjunction with glass in window-wall construction. Insu-

lated porcelain-enameled steel panels with polyisocyanurate cores are said to equal the insulation value of a 12-inch brick wall. An eight-page brochure describes the process of porcelain enameling on steel, shows panel finishes available, and provides technical data on construction, fastening, and wind-load deflection. AllianceWall Corp.

Circle 201 on reader service card

Metal panels for roofs, walls, soffits, and mansards are made from prefinished coil stock. Primer, finish coat, and strippable protective coating are individually applied and baked on. Finishes available include Kynar 500® fluorocarbon in several colors, and Berridge's copper-cote and aged copper-cote. Panels in several configurations, individual pieces with the appearance of Spanish tiles, shakes and shingles, and Colonial siding that looks like narrow clapboards are offered in several colors. Berridge Manufacturing Co.

Circle 107 on reader service card

Tech Wall™ is a solid aluminum panel .120" thick, with brake-formed edges and welded corners ground smooth. It is formed before coating to avoid cracking and crazing possible with precoated materials. Tech Wall is available with clear or bronze anodized finish; 20 Kynar® Tri-X metallic finishes; or 20 standard Kynar 500® fluoropolymer coatings. Front-access fastening allows individual panels to be removed. An internal drainage system directs condensation to the outside. Conspec Systems, Inc.

Circle 108 on reader service card

Batten seam roofing panel

FRP-24 is available in 24-gauge steel, Grade D, hot-dipped galvanized, finished with either Resin Tec 20 full-strength Kynar 500® fluorocarbon paint or nonsiliconized polyester two-coat paint in a choice of colors. Each panel covers 24 inches of roof surface and is held in place with stainless steel clips. Fashion, Inc., Subs. of Kidde, Inc.

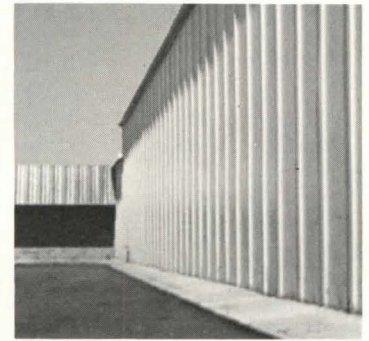
Circle 109 on reader service card

Riblok® standing seam roof is offered in two grades, RL-1 and RL-2, the latter providing additional thermal insulation. The panels are 26 or 24 gauge zinc-aluminum alloy coated steel, 30 inches wide, in lengths to 39'-6". Components snap in place to form weathertight joints without the use of seaming machines. Kirby Building Systems.

Circle 110 on reader service card

Duranar® XL coil coating, based on Kynar 500®, offers exterior coating durability, color consistency, and resistance to atmospheric contaminants. The four-coat system consists of corrosion-resistant primer, barrier coat, metallic color coat, and clear topcoat. It can be factory-applied to aluminum or galvanized metal, and requires minimum maintenance. PPG Industries.

Circle 111 on reader service card



The MultiPanel System is offered in three configurations: CF90 wall panels have a tongue-and-groove joint that conceals fasteners; H&M uses exposed through-fasteners for economy; RL 80 roof or wall panels are joined by a snap-on clip that hides fasteners. Panels are galvanized, prepainted steel with an insulating foam core having an R-value of 8.7 for 1-inch-thick to 31.4 for 4-inch-thick panels. Both standard and premium finishes are available in several colors. Insulated Building Products, Inc.

Circle 112 on reader service card

Prefabricated metal products

described and illustrated in a 16-page brochure are mansard, batten, standing seam, fascia, and soffit panels. Framing systems, concrete and masonry reglets, and through-wall flashing are also included. Panels are formed from aluminum and are available in a choice of colors. Drawings show panel profiles and specifications are included for each item. Cheney Flashing Company.

Circle 202 on reader service card

Kynar 500® polyvinylidene fluoride base for metal finishes is described in an eight-page brochure. Color photos show buildings on which these finishes have been used and lists firms licensed to use the product, along with coating tradenames. Pennwalt Corp., Plastics Dept.

Circle 203 on reader service card



OUR TERRACE DOOR NOT ONLY LETS YOU SEE THE VIEW. IT ADDS TO IT.

No door provides a more striking opening to a terrace, patio or garden.

The large glass area affords an excellent view of the outdoors. And the wood frame makes the door, itself, beautiful to look at.

THE BEAUTY ISN'T JUST IN THE EYE OF THE BEHOLDER.

It's also in the pocket of the owner.

That's because the Marvin terrace door is incredibly stingy with heat and air conditioning.

Whether it's used in new construction, or to replace old, inefficient aluminum patio doors, its heavy wood frame and double or triple glazing greatly reduce heat transmission. Even the optional true divided

lites can be insulated. And the foam-filled weatherstripping virtually eliminates air infiltration.

MADE TO ORDER. AND MADE TO LAST.

The Marvin terrace door is available with many options, including solar bronze glazing.



A 2¾ inch backset will accommodate most any style of lock. And there are a wide variety of sizes to choose from. So you can have a door made to order for your installation.

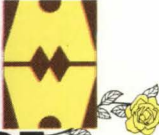
And every Marvin terrace door is built to last.

Each door features four commercial grade hinges for greater durability and smoother operation. It also features extra wide stiles and a long-wearing LEXAN® sill.

As an insulator, LEXAN is in the same class as wood. Its insulating properties are 1,400 times that of aluminum. Yet it wears many times longer, never needs painting, and keeps its weather-tight fit.

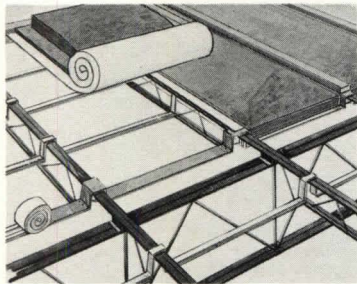
For more information and a free copy of our catalog, write us at Warroad, MN 56763. Or call 1-800-346-5128 toll-free. In Minnesota, call 1-800-552-1167.

**MARVIN
WINDOWS
ARE MADE
TO ORDER.**



Metal roofing and mansard panels are shown in a 12-page brochure. There are prefinished galvanized steel, aluminum, Galvalume®, copper, and terne-coated stainless steel in 15-inch panels, with more limited metal and finish selections in 12-inch and 18-inch widths. Drawings show panel profiles, fastening methods, flashing, and framing details. Engineered Components, Inc.

Circle 204 on reader service card



MI-T-R® insulation for weather-tight standing seam roof panels has its own steel support system suspended between bar joists. The insulation is faced glass fiber blanket available in R-19 (6"), R-26 (8"), and special thicknesses. Lapping and pressure sealing side joints on top of joists maintains vapor barrier integrity in unexposed locations. It is adaptable to several structural shapes and spaces. Mizell Bros. Co.

Circle 113 on reader service card

VCF-series panels, attached with concealed fasteners, are available in 18 through 24 gauge G90 galvanized steel. They have a side interlocking joint that provides an airtight, watertight caulked seam. Standing seam M-series panels are fastened with a concealed clip and subgirt member. Finishes available are VIN-COR TFS coil-coated PVC thick film with UV stabilizer, and VIN-COR 653, which offers color retention, chalk and fade resistance. Manta Vin-Cor Steel Corp.

Circle 114 on reader service card

Urethane coatings for metal buildings are discussed in a 12-page pamphlet. A one-component system cures on exposure to the atmosphere. A two-component system has a hardener that completes the coating and acts as curing agent. The pamphlet describes urethane components Desmodur E-21 and N-75, which are supplied to paint manufacturers. Mobay Chemical Corp., Plastics & Coatings Div.

Circle 205 on reader service card

Molenco Therm-U-Wall panels of 24 and 22 gauge embossed steel have foamed-in-place insulation said to exceed 6½ inches of fiberglass. Panels are finished on both sides in any of eight standard Kynar® colors. The company's Therm-Vue Windows, in a style to suit nearly any requirement, can be integrated into the wall panels. Moncrief-Lenoir Manufacturing Co.

Circle 115 on reader service card

Terne-coated stainless steel (TCS) roofs, flashing, and gutters are covered in an eight-page specification and data manual. It includes standing seam, batten seam, and flat locked seam specifications. TCS is nickel chrome stainless steel coated on both sides with terne alloy (80 percent lead and 20 percent tin) that weathers to a uniform gray. It withstands severe industrial, chemical, and marine environments. Follansbee Steel Corp.

Circle 206 on reader service card

Nubelar™ architectural coatings, factory-applied to aluminum and galvanized metal components, are based on Kynar 500®. An eight-page brochure provides technical data on properties and testing methods for Nubelar and Aqualure III® water-borne acrylic latex finishes and primers. Glidden Chemical Coatings, SCM Corp.

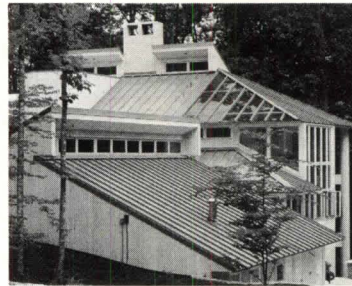
Circle 207 on reader service card

Alucobond® brochure illustrates in color a variety of buildings on which Alucobond has been used. Consisting of two thin sheets of aluminum with a thermoplastic core, it is also suitable for lightweight, weather-resistant signage. Technical information includes product description, finishes, flamespread, sound transmission characteristics, wind load data, temperature resistance, and bonding strength. Specifications are provided for Alucobond and the newer stainless Steel-O-Bond®. A color chart is included. Consolidated Aluminum.

Circle 208 on reader service card

'The Changing Moods of Stainless' is a portfolio of buildings, shown in color, on which stainless steel panels have been used. Drawings show details of wall construction and glazing. Each building is identified by name, location, architect, and contractor. The stainless steel finish used is also indicated. Cupples Products Div., H.H. Robertson.

Circle 209 on reader service card



Microzinc® 80 roof panel systems and accessories covered in a four-page brochure include standing seam and batten seam systems, flashing, and accessories. The material is an alloy of zinc, copper, and titanium that weathers to a gray patina. It is maintenance-free and self-healing, requiring no protective coating. Specifications are included. W.P. Hickman Co.

Circle 210 on reader service card

Klip-Rib™ wall and roof system consists of high-rib profile panels that fasten securely without nail or screw penetration. Standard finish is Zinalume® applied with a continuous hot-dip process. Other finishes are available for panels that are to be used in harsh environments. ASC Pacific, Inc.

Circle 116 on reader service card

'Systems Buildings, California Planning and Architectural Guidelines' includes suggestions for site work, a variety of building forms, wall materials, appropriate roofs, and location of windows and doors. Developed for the metal buildings industry, the 20-page guide involved the California Building Institute and the California Systems Builders Association, and was funded by the California Field Iron Workers Administrative Trust Fund. Full-color photos illustrate the planning suggestions. California Building Systems Institute, Inc.

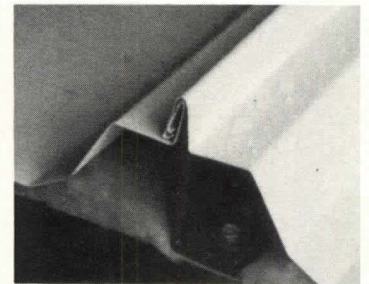
Circle 211 on reader service card

Doubl-lam™ metal building panels have a factory-applied 2-mil-thick Korad acrylic film on the exterior that carries a 20-year warranty against chalking, fading, chipping or peeling. Applied as a solid film, it has no thin spots or pinholes where rust can begin to form. Tuff-bac™ 1-mil-thick polymer applied to the opposite side prevents rust damage caused by condensation on the inside. Several panel styles are offered with the Doubl-lam finish, which is available in a wide choice of colors. American Buildings Company.

Circle 117 on reader service card

Mansard, fascia, and wall systems catalog includes steel or aluminum Decor-Rib® and Decor-Seam™ panels, light gauge framing, Decor-Shake™ shingles, and aluminum Deco-Wall® and Decor-Shadow™ wall panels. Finishes offered are 20-year Kynar®, Duracoat 2000, Durametallic 2000, 10-year Durapolycoat 1000, or 20-year Ageing Copper. Howmet/Alumax, Building Specialties.

Circle 212 on reader service card



Weather Roof™ standing seam roof system of all-steel attaches with interlocking clips to the subframing members. The Grade D G90 steel is prepainted with silicone polyester; optional coating is Galvalume™. Panels cover a 24-inch-wide space and have a factory-applied sealant on the underside that has a 20-year life expectancy when it is protected from UV radiation. Metallic-Braden Building Systems.

Circle 118 on reader service card

Color-in™ is a two-step process for permanently coloring anodized aluminum coil or sheet for exterior or interior applications. The process provides uniform color, fade resistance, and formability after anodizing. It is offered in light, medium, and dark bronze finishes. Lorin Industries, Coil Anodizers Div.

Circle 119 on reader service card

Architectural Wall Systems brochure covers panels for walls, mansards, and fascias and roofs for new construction and renovation. The panels can be installed with concealed fasteners or, where economy is a factor, with exposed fasteners. The brochure describes metal types and gauges, paint finishes, and insulation. Information on air and water infiltration and fire-rated walls is included. There are nine standard colors, with custom colors available on special order. Chicago Metallic Corp.

Circle 213 on reader service card

domus

MONTHLY REVIEW OF ARCHITECTURE INTERIORS DESIGN ART

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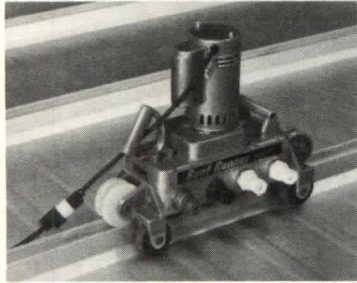
The Romans took over 4 years to build it. You'll only need a few hours, a pair of scissors and some glue to make it.

Model to a scale of 1:100 + 40% drawn and realized by Jesus Moctezuma (copyright Editoriale Domus).



Ultra-Dek 124™ standing seam roof is made from Galvalume™ steel sheet, 12, 18, or 24 inches wide. The panels snap together at the sides and are reversible end-for-end. Drawings in a 12-page brochure illustrate details of eave, rake, ridge, corner, and end-lap applications on both metal and conventional buildings. Specifications are provided. Metal Building Components.

Circle 214 on reader service card



MR-24® standing seam roof panels are permanently seamed together by means of a roll-forming machine called Roof Runner. Panels are attached to supporting structural members with clips that do not penetrate the panel. The roof system, which has a UL Class 90 wind uplift rating, is made from 22 and 24 gauge aluminum-zinc coated steel. Aluminum-coated steel and pure copper panels are also available. Coatings include Butler-Tone® and Butler-Cote® 500 FP containing Kynar 500® resin. Butler Manufacturing Co.

Circle 120 on reader service card

Total Performance Roofing System manual explains and illustrates roof design considerations and installation procedures. The 40-page brochure describes roof fasteners and subgirt systems and provides design details for sealing, venting, and flashing. Suggested specifications are included. H.H. Robertson Company.

Circle 215 on reader service card

Metal roofing and siding is available made from galvanized steel, aluminum, aluminum-zinc alloy coated steel, and stainless steel. Finishes include siliconized polyester, Kynar®, and vinyl plastisol. Several ribbed configurations and standing-seam systems are described and illustrated in a 16-page brochure. Also shown are structural forms and accessories. A table provides load spans for the different panel profiles. Fabral, Alcan Building Products.

Circle 216 on reader service card

Roof & Wall Renovation brochure explains the use of Steelox® panels for weathertight, maintenance-free building exteriors. Several case studies illustrate typical renovations. Other systems discussed are ARW-IV wall and roof panels and KOR/MET insulated panels with a U-value of .05. Armco Building Systems, Inc.

Circle 217 on reader service card

Rib-Roof Technical Manual for continuous steel roofing and siding describes the product features, shows the clip system for locking panels in place, and describes the material. The 20-page manual suggests design considerations and shows construction details for roof and panel installation. A guide specification outline is included. Rib-Roof Industries, Inc.

Circle 218 on reader service card

Aluminum roofing and siding panels for commercial buildings, one-third the weight of steel, are shown in a variety of profiles in an eight-page brochure. The products are prefinished with Colorweld® 200 fluoropolymer coating available in six standard colors. The brochure provides load span data, design criteria, and suggested specifications. Reynolds Metals Company.

Circle 219 on reader service card

PAC-CLAD panels of galvanized steel or aluminum for roofing, fascias, and walls have a Kynar 500® coating. The finish is available on 24 gauge steel in eight standard colors and on 22 gauge in Dark Bronze. A 12-page brochure describes PAC-CLAD and anodized aluminum panels and provides specifications. Included in the panels brochure are descriptions of PAC-LOC coping and PAC-SYSTEM gravel stops. Petersen Aluminum Corporation.

Circle 220 on reader service card

Steelite roof and wall panels are fabricated from galvanized steel, Galvalume™, aluminized steel Type II, and stainless steel. Among the exterior coatings for galvanized steel is Corrtan®, which is especially resistant to corrosive atmospheres. The roof and wall panels are described in a 24-page brochure that offers span charts for each type of panel, shows panel configurations, and provides results of fire endurance, acoustic, and air-infiltration tests. Steelite, Inc.

Circle 221 on reader service card

THE DUPONT ANTRON® DESIGN AWARD OFFICIAL ENTRY BLANK

(Please print.)

Company Name

Individual Name

Telephone

Client/Site

Address

Type of Commercial Environment

Carpet Manufacturer

Style Name

Fiber Brand

Dealer/Distributor

Mill Contact

Date of Completion of Interior

E

To qualify for judging, your entry must include this form completely filled in and mailed with slides and design rationale, postmarked by March 15, 1985.

DuPont Antron® Design Award
Room X-39534
Wilmington, DE 19898

Prizes First prize will be a trip for two to Italy and the Milan Furniture Fair and the prestigious DuPont ANTRON® Design Award itself. At the judges' discretion, additional prizes of \$1,000 each may be awarded for those entries considered worthy of honorable mention.

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.

All entries become the property of DuPont Company and may be used in advertising, brochures, and publicity releases.



Win this award for design excellence and you'll win a great trip to Italy to boot.

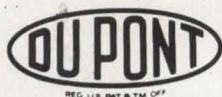
The DuPont ANTRON® Design Award is an award for commercial design excellence. It rewards the winner with an all-expense-paid trip for two to Italy and the Milan Furniture Fair.

Additional prizes of \$1,000 each may be awarded for those entries judged worthy of honorable mention.

This is the third year DuPont is inviting designers to submit interiors that incorporate carpet of ANTRON nylon. In offices or banks. In restaurants, hotels, motels, or resorts. In airports, theaters, or convention centers. Even residences where commercial carpet is used.

DuPont wants to encourage and recognize outstanding work in the design profession and demonstrate how carpet of ANTRON can be used as a major design element.

Choose your best interior design from an installation completed since June 1983 and enter it in the Third Annual DuPont ANTRON Design Award Competition. It may turn out to be *the* best design in the eyes of the judges, too.



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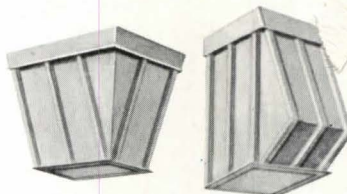
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Circle No. 335 on Reader Service Card

Building systems brochure covers framing, roofing, and wall systems and accessories. There are Slope Beam®, rigid, and modular frames, and several roofing and wall systems described and illustrated in color in specific applications. A chart shows colors available for roofing and wall panels, including one for harsh atmospheres. Inryco, Building Systems Division.

Circle 222 on reader service card



Customform mansards, soffits, and fascias brochure describes formed snap-on batten systems, extruded snap-on batten systems, watertight roofing panels, and fascia panels. Drawings show profiles and fastening details. Accessories include coping, gutters, cover plates, gravel stops, and scuppers. Finishes include baked enamel, Kynar®, and Duranodic. Color photos show the products in use on several buildings. Merchant & Evans Industries, Inc.

Circle 223 on reader service card

Met-L-Wood laminated building panels have metal facing and backing sheets with cores of paper, metal, or plastic honeycomb, balsa, foams, particle board, hardboard, or plywood, alone or in combination. Metals can be painted steel, painted aluminum, stainless steel, copper, or bronze. Typical combinations are aluminum and aluminum honeycomb; aluminum and polyurethane foam; steel and polystyrene foam; and steel and plywood. Met-L-Wood Corp.

Circle 224 on reader service card

Building materials

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

George D. Widener Indoor Sports Pavilion, Variety Club Camp, Worcester, Pa. (p. 74).
Architects: BJC/Knowles Architects, Planners, Philadelphia. Glass block: Pittsburgh Corning. Windows: Hope's Windows. Double dome skylight: Bohem. Doors: Eggers Hardwood. Exterior paving: Vickery Stone. Vinyl tile: Armstrong. Gym flooring: Crossfield. Ceramic tile: Ameri-

can Olean. Caulking: Pecora. Insulation: U.S. Gypsum. Roof drains: Jay R. Smith. Paint: M.A. Bruder Paint, Chester. Hardware: Sta. Hardware, Baldwin, Russw. Brookline. Locks: stainless steel gutter, Paddock Pool Equipment. Pool equipment: Whitten Co. Handrails: BJC/Knowles, design; C&B. Cemental Iron, fabrication; Nichols Co. Lighting: Prescolite (exterior); Abolite, Progress, Prescolite, NuTone, Sterling (interior). Back-up generator: Onan. Plumbing: American-Standard (fixtures); Sloan Valve, Bobrick Washroom Accessories, Sunroc Corp., Jay R. Smith (parts). Oil-fired boiler: Weil McLain. Electric heaters: Federal Pacific Electric Co. Ventilators, fans: Penn Ventilator Co.

Widener Memorial School Pool Addition, Philadelphia, Pa. (p. 76).
Architects: BJC/Knowles Architects, Planners, Philadelphia. Block cavity wall, 8" x 8" brick: O.W. Ketchum. Glass block: PPG. Steel frame windows: Hope's Windows. Double dome skylight: Bohem. Bubble skylights: Wasco Products. Ceramic tile: American Olean. Vinyl tile: Azrock. Roofing vapor barrier ("Pyro-Kure"): St. Regis Paper Co. Caulking: Pecora Corp. Insulation: Amspec. Custom steel scuppers and gargoyles: McCallugh & Sons. Paint: M.A. Bruder & Sons, Capricorn Industries. Hardware: Hager, Baldwin, Norton, Corbin. Washer/dryer: Whirlpool. Security: Gamewell. Lockers: Lyons. Signage: Slatz. Lighting: Keene Lighting, Stoncolite, Comfortex, Solo/Prescolite, Yorklite. Pool lift for handicapped: Stranco. Plumbing: American-Standard (fixtures); Jay R. Smith, Chatham, Powers-Fiat, Sloan, Sanymetal Products, Bobrick, Halsey-Taylor (parts). Oil-fired boiler: Weil McLain. Water heater: State Water Heaters. Air handlers (no air conditioning): Trane. Roof ventilators: Greenheck Fan Corp. Fire dampers: Venco Products. Grills, registers, and diffusers: Krueger. Temperature control: Honeywell. Pool filter: Pacfab. Equipment: Paddock Pool Equipment.

International Furniture Competition

WINNING PROJECTS TO
BE DISPLAYED AT MAJOR
INDUSTRY EVENTS

PROGRESSIVE ARCHITECTURE announces the fifth annual competition recognizing outstanding furniture and lighting design proposals, not yet being marketed by any manufacturer as of entry deadline, January 17, 1985. The competition is intended to give the design professions a forum to express ideas about the next generation of furniture design, at a time when architects and designers are increasingly custom-designing furniture for their projects and manufacturers are increasingly open to fresh ideas. The competition is specifically aimed at furniture intended for use, but the design need not be constrained by existing production or marketing practices. Entries may be based on either fabricated pieces or project drawings. Designers are encouraged to consider the aesthetic and ideological implications for furniture design implied by the current concerns within architecture and other design disciplines.

WINNING PROJECTS will be published in the May 1985 P/A and they will be displayed at major industry events during the year. Winners will be honored in New York City at an awards ceremony in early March attended by press, designers, and industry manufacturers.

In addition to the exposure afforded the submissions, the competition will encourage further discourse between the entrants and respected furniture producers. Any ongoing discussions will, of course, be up to the individual designers and manufacturers, but benefit to both is anticipated.

SUBMISSIONS are invited in all categories including chairs, seating systems sofas, tables, desks, work stations, storage systems, lighting, beds, and miscellaneous furniture pieces.

THE JURY FOR THIS COMPETITION

Gae Aulenti, architect, industrial and furniture designer, Milan, Italy.

Thomas H. Beeby, partner, Hammond Beeby and Babka Incorporated, Chicago, architect and furniture designer.

Ralph Caplan, writer, editor, and critic, New York.

Charles Gwathmey, partner, Gwathmey Siegel & Associates, New York, architect and furniture designer.

Richard Schultz, industrial and furniture designer, Barto, Pa.

JUDGING

will take place in New York City during the month of February. Designations of *first award*, *award*, and *citation* may be made by the invited jury, based on overall excellence and advances in the art.

[Turn page for rules and entry forms]

DEADLINE FOR SUBMISSION
JANUARY 17, 1985

Entry form International Furniture Competition

Please fill out all parts and submit, intact, with each entry (see paragraph 11 of instructions).
Use typewriter, please. Copies of this form may be used.

ENTRANT:
ADDRESS:

ENTRANT PHONE NUMBER (day):
(evening):

CATEGORY:

ENTRANT:
ADDRESS:

DESIGNER(S) RESPONSIBLE FOR THIS SUBMISSION
(Identify individual roles if appropriate):

I confirm that the attached entry meets eligibility requirements (paragraph 1-3)
and that stipulations of publication agreement (paragraphs 4-6) will be met.
I verify that the submission is entirely the work of those listed on this form
(or an attached list as necessary).

SIGNATURE
NAME (typed)

FURNITURE COMPETITION
Progressive Architecture
P.O. Box 1361, 600 Summer Street,
Stamford, CT 06904

(Receipt)
Your submission has been received and assigned number:

ENTRANT:
ADDRESS:

ENTRANT:
ADDRESS:

ELIGIBILITY

1 Architects, interior designers, industrial designers, and design students from all countries may enter one or more submissions.
2 Design must be original. If found to be substantially identical to any existing product design, entry will receive no recognition.
3 Designer may be under contract to or in negotiation with a manufacturer for this design, but design must not be available in the marketplace as of entry deadline.

PUBLICATION AGREEMENT

4 If the submission should win, the entrant agrees to make available further information, original drawings or model photographs as necessary, for publication in the May 1985 P/A and exhibition at major industry events.
5 P/A retains the rights to first publication of winning designs and exhibition of all entries. Designer retains rights to design.
6 P/A assumes no obligation for designer's rights. Concerned designers are advised to document their work (date and authorship) and seek counsel on pertinent copyright and patent protections.

SUBMISSION REQUIREMENTS

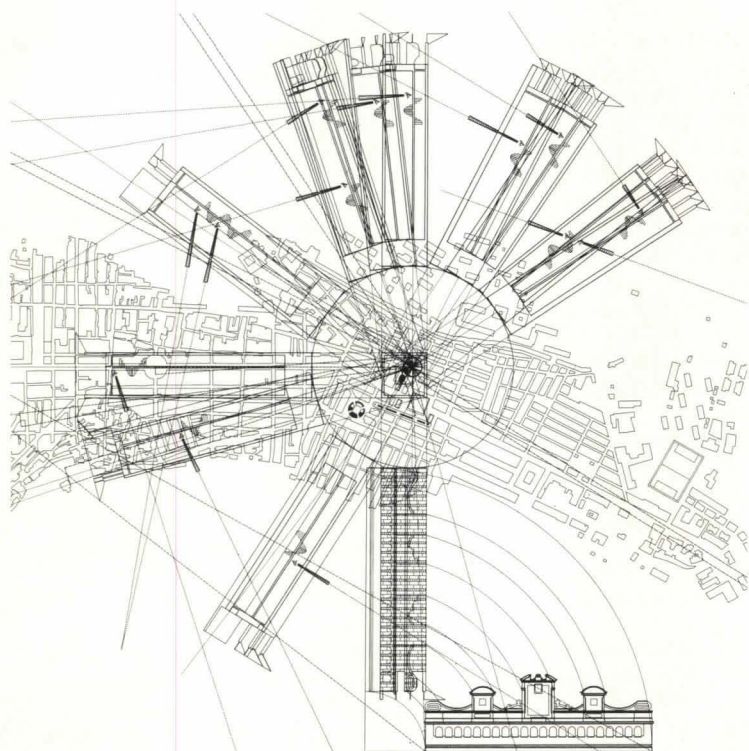
7 **Submissions will not be returned under any circumstances.** Do not use original drawings or transparencies unless they are sent with the understanding that they will not be returned. P/A will not accept submissions with outstanding custom duties or postal charges.
8 Drawing(s) and/or model photo(s) of the design should be mounted *on one side only* of one 20" x 30" foamcore board presented horizontally. **Any entry not following this format will be disqualified.**
9 There are no limits to the number of illustrations mounted on the board, but all must be visible at once (no overlays to fold back). No actual models will be accepted. Only one design per board.
10 Each submission must include a 5" x 7" index card mounted on the front side of the board with the following information typed on it: intended dimensions of the piece of furniture, color(s), materials, components, brief description of important features, design assumptions, and intentions. This information is to be presented in English.

11 Each submission must be accompanied by an entry form, to be found on this page. Reproductions of this form are acceptable. All sections must be filled out (by typewriter, please). Insert entire form into unsealed envelope taped to the back of the submission board. P/A will seal stub of entry form in envelope before judging.
12 For purposes of jury procedures only, projects are to be assigned by the entrant to a category on the entry form. Please identify each entry as one of the following: Chair, Seating System, Sofa, Table, Desk, Work Station, Storage System, Lighting, Bed. If necessary, the category "Miscellaneous" may be designated.
13 Entry fee of \$35 must accompany each submission, inserted into unsealed envelope containing entry form (see 11 above). Make check or money order (no cash) payable to *Progressive Architecture*.

14 To maintain anonymity, no identification of the entrant may appear on any part of the submission, except on entry form. Designer should attach list of collaborators to be credited if necessary.
15 Packages can contain more than one entry; total number of boards must be indicated on front of package.
16 Deadline for sending entries is January 17, 1985. First class mail or other prompt methods of delivery are acceptable. Entries must show postmark or other evidence of being en route by midnight, January 17. Hand-delivered entries must be received at street address shown here by 5 p.m., January 17.

ADDRESS ENTRIES TO:
International Furniture Competition
Progressive Architecture
600 Summer Street
P.O. Box 1361
Stamford, CT 06904

P/A in January



Drawing from P/A Awards, to be identified in January P/A.

P/A Awards

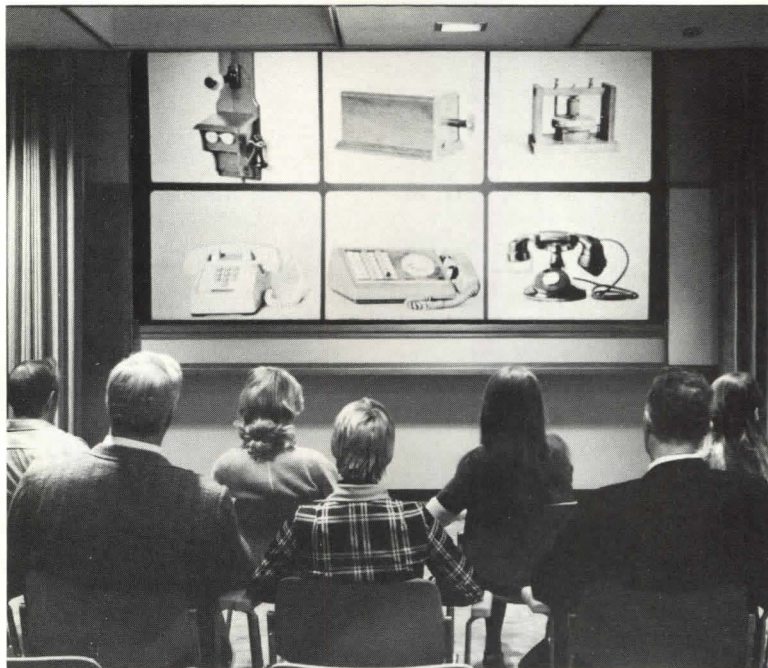
Statistically, this year's P/A Awards competition is remarkably close to last year's. The latest jury selected 31 entries out of 933; last time, it was 29 out of 934. And four of last year's winning firms repeated that success.

Beyond that, there is little similarity. Every year, the P/A Awards reveal new ideas and new talent—in architectural design, planning, and research—that could never be predicted. Perhaps that's why readers tell us repeatedly that this is the most eagerly anticipated issue of any architectural magazine, every year.

P/A in February

As we customarily do, P/A will complement its January issue on projects not yet executed with generous coverage in February of completed buildings and interiors; this February's issue will include exceptional buildings by architects well-known and little-known, in the U.S. and abroad. It will include, as well, a thoroughgoing Technics feature on sealants.

Specify Da-Lite

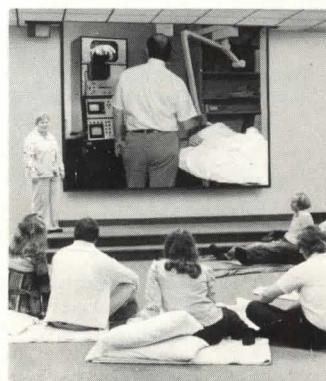


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Progressive Architecture

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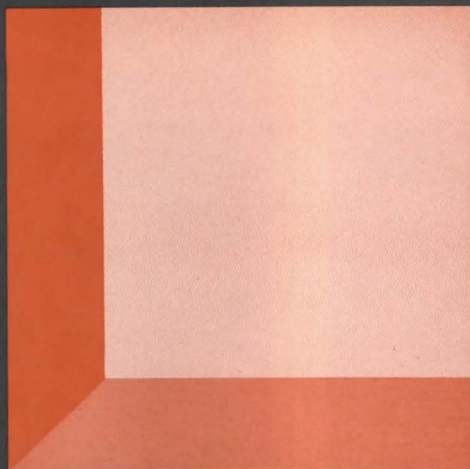
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Bernard Jacobs Architects: *Skyway Typology: A Study of Minneapolis Skyways*, Minn. (Jan., pp. 152-153).
Philip Johnson (see also John Burgee with Philip Johnson): *Introduction to firm profile* (Feb., pp. 65-69).
Louis I. Kahn: *The Legacy of Kahn* (Dec., pp. 53-55); *The National Capital of Bangladesh* (Dec., pp. 56-67); *Bath House*, Trenton, N.J. (Dec., pp. 68-73); *Kahn and Japan* (Dec., pp. 78-81).
Michael Kalil: *Apartment renovation*, New York (Sept., pp. 126-127).
Kelbaugh & Lee: *Roosevelt Senior Citizen Housing*, Roosevelt, N.J. (July, pp. 66-68).
BJC/Knowles: *Widener Indoor Sports Pavilion*, Variety Club Camp for Handicapped Children, Worcester, Pa.; *Pool addition*, Widener Memorial School for Handicapped Children, Philadelphia, Pa. (Dec., pp. 74-77).
Karl Korth: *Taylor Residence*, Clear Lake, Calif. (Jan., pp. 106-107).
Lane/Frenchman: *West Broadway housing rehabilitation*, Boston (July, pp. 78-81).

Andrew Leicester: *Memorial sculptures*, Rapid City, S.D., and *Frostburg State College*, Md. (Oct., pp. 94-97).
Lewis & Kacar: *Ranch House*, Guadalupe County, Texas (Jan., pp. 114-115).
Christian Meyer, with Wolfgang Rischka and Georg Kargl: *Galerie Metropol*, Vienna (March, pp. 78-79).
Missing Link: *Kuoni Travel Agency*, Vienna (March, pp. 70-71).
Mitchell/Giurgola: *Union Theological Seminary library renovation*, New York (June, pp. 84-87).
Moore Grover Harper: *Lenz Winery*, Peconic, N.Y. (June, pp. 80-83).
Morphosis: *Hermosa Center*, Hermosa Beach, Calif. (Jan., pp. 108-109); *Experiment with CAD* (May, pp. 146-149).
Eric Moss: *Petal House*, Los Angeles (June, pp. 100-106).
Brian Alfred Murphy (see *BAM Construction/Design*).
Mutlow Dimster Partnership: *Plymouth Place Housing*, Stockton, Calif. (July, pp. 72-73).
Barton Myers Associates: *Portland Center for the Performing Arts*, Portland, Ore. (Jan., pp. 92-95).
Olcott & Schliemann: *Private Residence*, Princeton, N.J. (April, pp. 110-113).
Netherlands Engineering Consultants: *Borobudur*, Java, Indonesia, restoration (Nov., pp. 104-109).
Page Anderson & Turnbull: *Historic Presidio Maintenance Project* (Jan., pp. 156-158).
Harry Parnass: *Parachute Shops*, Chicago, Bal Harbour, New York (Sept., pp. 86-93).
Payette Associates: *Molecular Biology Building*, Princeton University, Princeton, N.J. (Oct., p. 93).
I.M. Pei & Partners/WRT Associated: *Mission Bay*, San Francisco (Jan., pp. 142-144).
Gustav Peichl: *Ground Relay Station*, Aflenz, Austria (March, pp. 72-77).
Perkins & Will: *Pacific Lutheran University Music Center*, Tacoma, Wash. (Jan., pp. 88-91).
Peterson, Littenberg: *Lake West housing rehabilitation*, West Dallas, Texas (July, pp. 78-81).
Boris Podrecca: *Neuropsychiatric Institute*, Vienna (March, pp. 60-63).
Powell-Tuck, Connor, Orefelt & d'Avoine: *Research Recordings, Ltd.*, London (Sept., pp. 94-99).
Antoine Predock: *Desert Highlands*, Pinnacle Peak, Ariz. (Jan., pp. 126-127); *Rio Grande Nature Center and Preserve*, Albuquerque, N.M. (March, pp. 86-90).
Matteo Raverti: *Ca' d'Oro*, Venice (Nov., pp. 100-103).

[Continued on page 123]



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PLACES II

Columbus Coated Fabrics, producers of Guard® contract vinyl wallcoverings, announces The Second Annual Architectural Competition, PLACES II. Last year, Columbus Coated Fabrics inaugurated an unusual design competition for students and young architects.

The competition centered on a design problem set by a panel of distinguished architects who later juried the results. They were: Peter Chermayeff, Robert A.M. Stern, Stanley Tigerman, with Charles Gwathmey participating in the composition of the problem, and James A. Murphy of PROGRESSIVE ARCHITECTURE as moderator. They gave the competition its name, PLACES, and set a standard designed to draw out the best in imagination and skill.

This year, the PLACES competition continues. Philosophically, it is the same, but in other respects it is totally new—in its theme, its presentation, its prize structure, and, of course, its panel of architects.

THE PANEL:

Thomas Beeby, Hammond Beeby & Babka, Inc., Chicago
Charles Gwathmey, Gwathmey Siegel & Associates, New York
Robert H. Timme, Taft Architects, Houston
Susana Torre, The Architectural Studio and Columbia University, New York
William Turnbull, MLTW/Turnbull Associates, San Francisco
James A. Murphy, Profession & Industry Editor, Progressive Architecture (Moderator)



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A Wall of a Room in a Tower
You are invited to design a wall of a room in a tower, within a virtual volume that is 10' wide x 16' high x 4'6" deep.

The project is to be submitted as a model in 1½" scale, i.e., 15" x 24" x 6¾".

Four groups of Guard® wallcoverings will be available for the project. Included are three patterns just introduced: "Cerritos," a 12-ounce vinyl with a tiny diamond-weave embossing, in 30 colors; "Montego Bay," 15-ounces with a clean-cut, raised pin-stripe and a slightly glossy surface, in 30 colors; and "San Moritz," 24-ounces with a geometric dot and a textile-like surface, in 40 colors. The fourth group is the classic "Stipple," 24-ounces, lightly textured, and available in 80 colors.

PRIZES, AWARDS & RECOGNITION

There will be three prizes in each division, Student and Professional, as follows:

First Prize:	\$2,500
Second Prize:	1,500
Third Prize:	1,000

Note: For team projects, prizes will be shared among team members. Honorable mentions will be awarded at the discretion of the jury. All winners and honorable mentions will receive the PLACES award, an engraved lucite plaque. Winners and other projects will be exhibited in Chicago during Neocon 1985. They may also be exhibited in New York and elsewhere at the discretion of the sponsor.

TIMETABLE:

Entry requests will be filled from November 1, 1984 to February 1, 1985. Deadline for submissions is March 4, 1985.
Judging: March 28, 1985
Awards Presentation: June 11, 1985.

INFORMATION:

For full details, please contact
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Columbus Coated Fabrics
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Howard Reitzes: *Comme des Garçons, New York* (July, pp. 88–91).

Rivkin/Weisman Architects: *Bank of Bavaria, New York* (Sept., pp. 100–105).

Robins & Cavanagh Architects: *Robins & Cavanagh offices, Granville Island, Vancouver, B.C.* (Sept., pp. 124–125).

Carlo Scarpa: *Ca' d'Oro, Venice, restoration* (Nov., pp. 100–103).

Mario Semino: *Ca' d'Oro, Venice, restoration* (Nov., pp. 100–103).

Shelton, Mindel Associates: *Emanuel Residence, New York* (Sept., pp. 136–139); *Emanuel & Company Offices, New York* (Sept., pp. 140–143).

Skidmore Owings & Merrill: *Arcadia Creek, Kalamazoo, Mich.* (Jan., pp. 140–141); *United Gulf Bank, Manama, Bahrain* (Jan., pp. 104–105); *Computers in design* (May, pp. 140–145); *Enerplex, Princeton, N.J.* (Aug., pp. 82–89).

James Stirling, Michael Wilford & Associates: *Stirling in Stuttgart—Introduction* (Oct., pp. 67–69); *Neue Staatsgalerie* (Oct., pp. 70–83); *Precedents of Staatsgalerie* (Oct., pp. 84–85); *Portfolio of work in progress* (Oct., pp. 86–87).

Tai Associates: *1171 Sansome Street, San Francisco* (Jan., pp. 99–101).

Tanner & Van Dine: *California DataMart, San Francisco* (Jan., pp. 112–113).

Stanley Tigerman, Margaret McCurry: *Weekend House, Western Michigan* (April, pp. 118–121).

UKZ: *Knee Residence, North Caldwell, N.J.* (Jan., pp. 124–125); *Experiment with CAD* (May, pp. 146–149).

Francesco Valcanover: *Ca' d'Oro, Venice, restoration* (Nov., pp. 100–103).

Van der Ryn, Calthorpe & Matthews: *Somerset Parkside Housing, Sacramento, Calif.* (July, pp. 69–71).

Venturi, Rauch & Scott Brown: *Khulafa Street Development, Baghdad* (Oct., pp. 88–89); *Children's Zoo and Primate Facility, Philadelphia Zoological Garden* (Oct., pp. 90–92); *Molecular Biology Building, Princeton University, Princeton, N.J.* (Oct., p. 93).

Vignelli Associates: *Artemide Showroom, Milan, Italy* (Sept., pp. 110–113).

Steven Winter Associates: *Affordable Housing through Energy Conservation* (Jan., pp. 146–147).

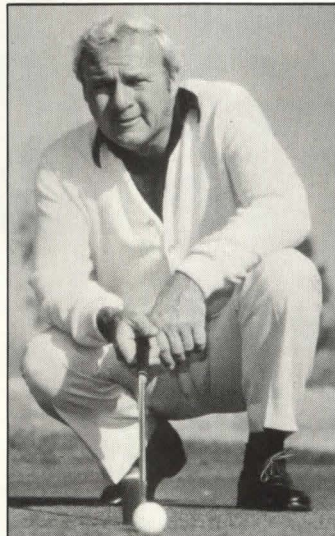
Zimmer Gunsul Frasca: *Banfield Transitway, Portland, Oreg.* (Jan., pp. 130–132).

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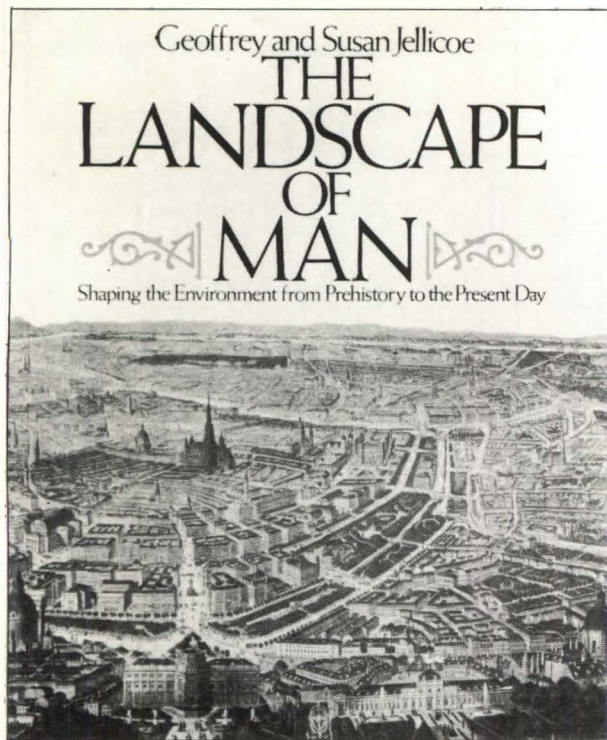
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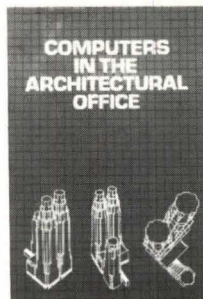
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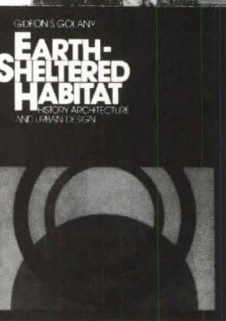
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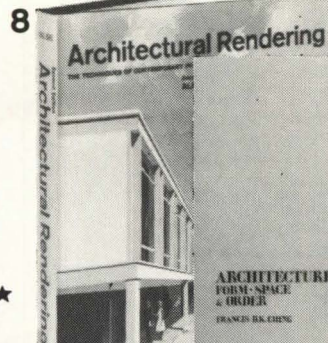
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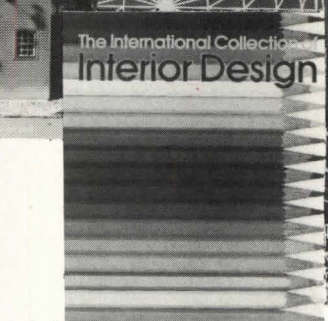
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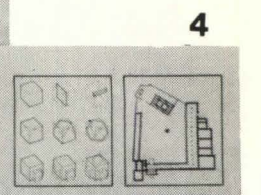
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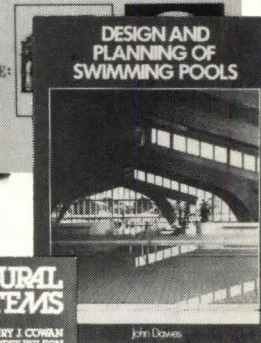
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cal matters, such as structural problems and how to solve them, finishes, filtration, circulation and water treatment, heating and ventilating.
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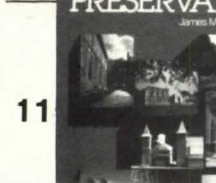
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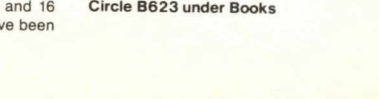
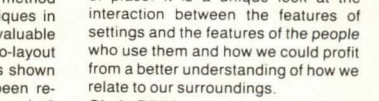
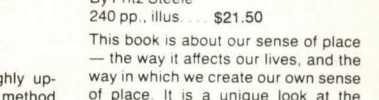
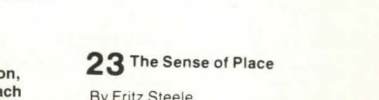
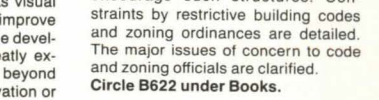
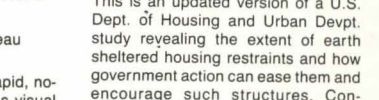
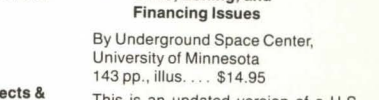
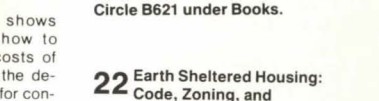
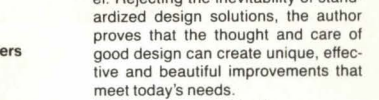
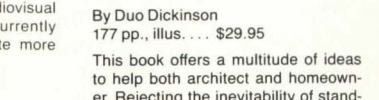
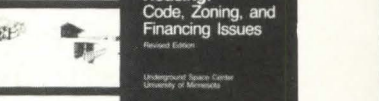
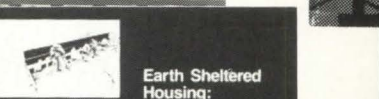
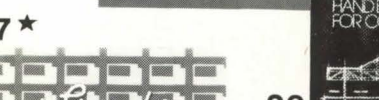
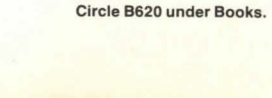
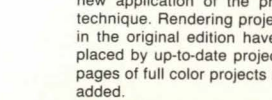
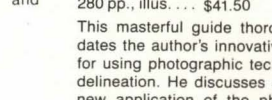
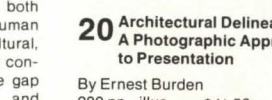
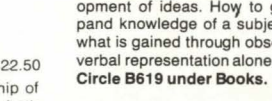
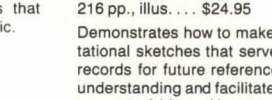
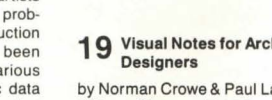
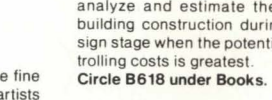
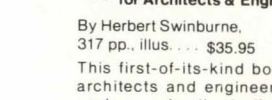
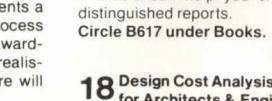
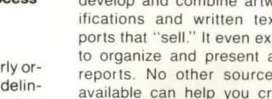
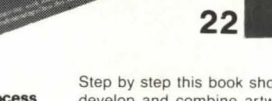
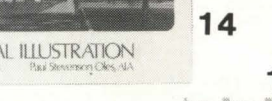
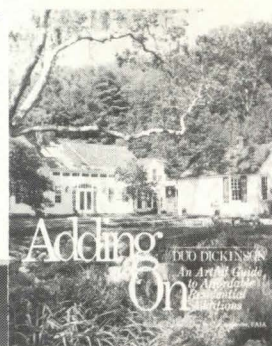
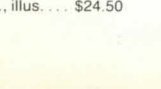
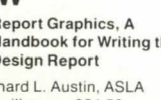
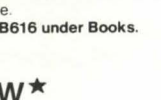
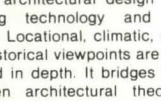
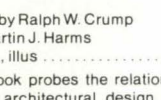
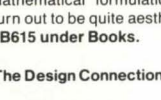
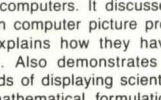
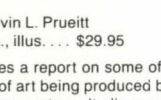
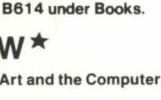
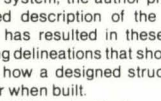
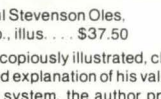
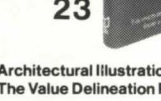
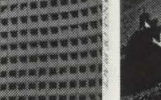
Visual Notes for Architects and Designers

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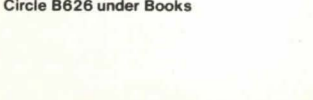
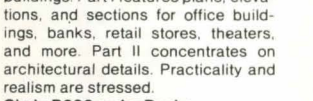
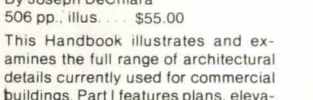
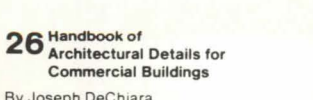
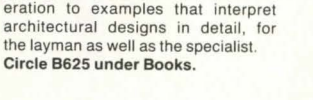
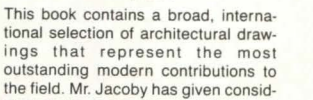
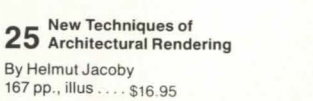
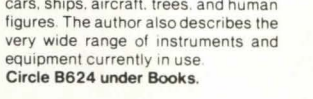
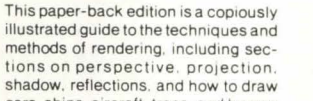
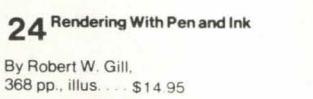
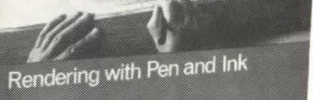
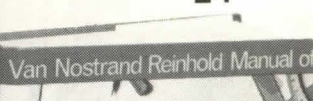
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ART AND THE COMPUTER



16

24



14 Architectural Illustration: The Value Delineation Process

by Paul Stevenson Oles, 288 pp., illus. . . . \$37.50

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

Circle B614 under Books.

NEW★

15 Art and the Computer

By Melvin L. Prueitt, 246 pp., illus. . . . \$29.95

Provides a report on some of the fine works of art being produced by artists using computers. It discusses problems in computer picture production and explains how they have been solved. Also demonstrates various methods of displaying scientific data and mathematical formulations that often turn out to be quite aesthetic.

Circle B615 under Books.

16 The Design Connection

Edited by Ralph W. Crump and Martin J. Harms, 184 pp., illus. . . . \$22.50

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

Circle B616 under Books.

NEW★

17 Report Graphics, A Handbook for Writing the Design Report

By Richard L. Austin, ASLA, 159 pp., illus. . . . \$24.50

Step by step this book shows how to develop and combine artwork, specifications and written text into reports that "sell." It even explains how to organize and present audiovisual reports. No other source currently available can help you create more distinguished reports.

Circle B617 under Books.

18 Design Cost Analysis for Architects & Engineers

By Herbert Swinburne, 317 pp., illus. . . . \$35.95

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

Circle B618 under Books.

19 Visual Notes for Architects & Designers

by Norman Crowe & Paul Laseau, 216 pp., illus. . . . \$24.95

Demonstrates how to make rapid, notational sketches that serve as visual records for future reference, improve understanding and facilitate the development of ideas. How to greatly expand knowledge of a subject beyond what is gained through observation or verbal representation alone.

Circle B619 under Books.

20 Architectural Delineation, A Photographic Approach to Presentation

By Ernest Burden, 280 pp., illus. . . . \$41.50

This masterful guide thoroughly updates the author's innovative method for using photographic techniques in delineation. He discusses a valuable new application of the photo-layout technique. Rendering projects shown in the original edition have been replaced by up-to-date projects and 16 pages of full color projects have been added.

Circle B620 under Books.

NEW★

21 Adding On

By Duo Dickinson, 177 pp., illus. . . . \$29.95

This book offers a multitude of ideas to help both architect and homeowner. Rejecting the inevitability of standardized design solutions, the author proves that the thought and care of good design can create unique, effective and beautiful improvements that meet today's needs.

Circle B621 under Books.

22 Earth Sheltered Housing: Code, Zoning, and Financing Issues

By Underground Space Center, University of Minnesota, 143 pp., illus. . . . \$14.95

This is an updated version of a U.S. Dept. of Housing and Urban Devpt. study revealing the extent of earth sheltered housing restraints and how government action can ease them and encourage such structures. Constraints by restrictive building codes and zoning ordinances are detailed. The major issues of concern to code and zoning officials are clarified.

Circle B622 under Books.

23 The Sense of Place

By Fritz Steele, 240 pp., illus. . . . \$21.50

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

Circle B623 under Books.

24 Rendering With Pen and Ink

By Robert W. Gill, 368 pp., illus. . . . \$14.95

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

Circle B624 under Books.

25 New Techniques of Architectural Rendering

By Helmut Jacoby, 167 pp., illus. . . . \$16.95

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

Circle B625 under Books.

26 Handbook of Architectural Details for Commercial Buildings

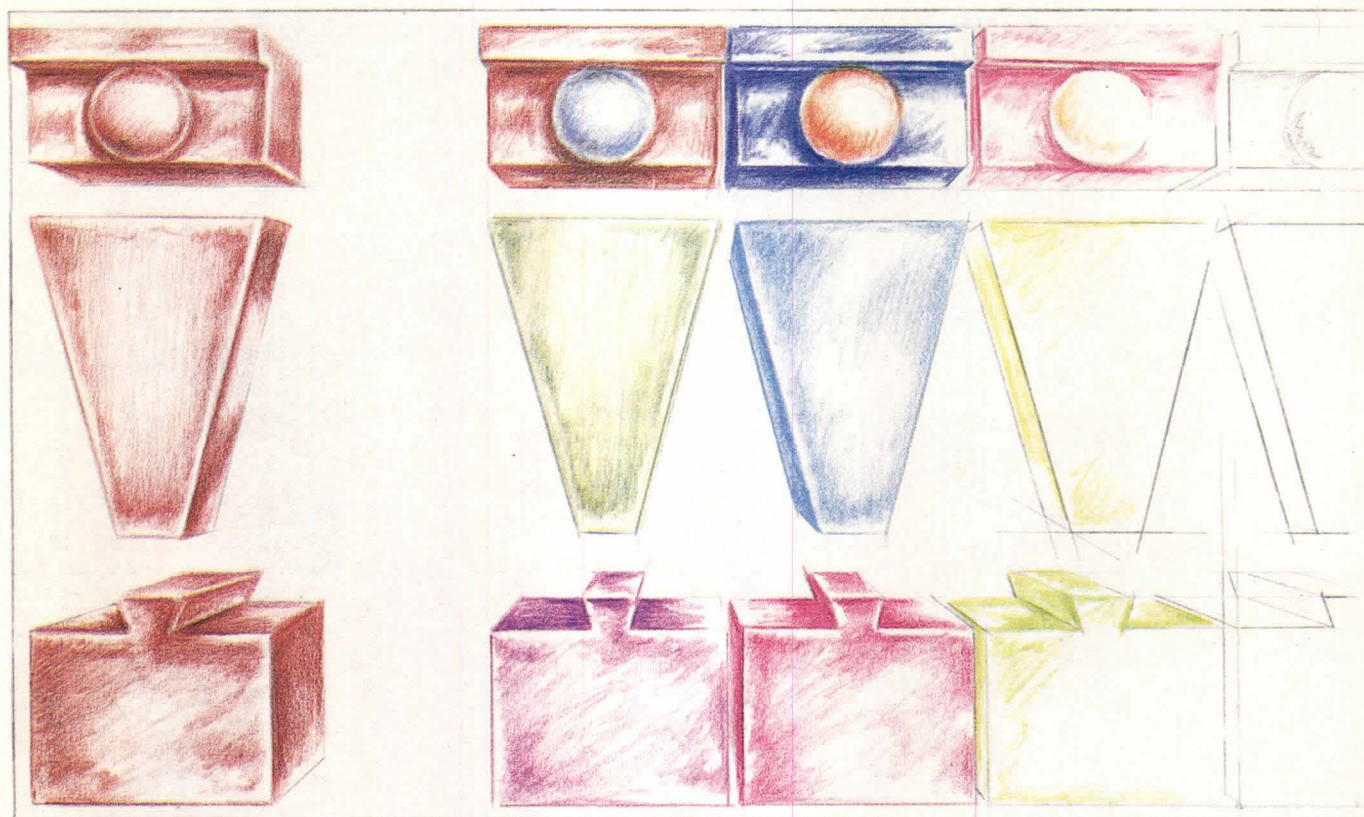
By Joseph DeChiara, 506 pp., illus. . . . \$55.00

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

Circle B626 under Books.

THE CONTEMPORARY TERRA COTTA COMPETITION

1985 COMPETITION AND EXHIBITION



TERRA COTTA ("Baked Earth"): A material as old as the building arts themselves. Moldable into practically any shape or form. Produced in an almost unlimited variety of colors and finishes. Famous for its texture and durability. Praised for being lightweight and cost effective. Terra Cotta—the material for architecture of the 1980's.

THE CHALLENGE

The competition challenges architects, designers, artists, students and all others interested in terra cotta to create new designs for a modular terra cotta panel that can be used as decoration or cladding on either the exterior or interior of a building, and a scheme for its use on an existing or imaginary building.

JURY

Hardy Holzman Pfeiffer:
Hugh Hardy, FAIA

SITE Projects
James Wines

Taft Architects:

John J. Casbarian, AIA;
Danny Samuels, AIA;
Robert H. Timme, AIA (Team)

Tigerman Fugman McCurry:

Stanley Tigerman, FAIA

Venturi, Rauch and Scott Brown:

Robert Venturi, FAIA

Zimmer Gunsul Frasca Partnership:

Robert J. Frasca, FAIA

AWARDS

Each of the six jurors will choose the design he believes best fulfills terra cotta's potential for contemporary decoration, and will create a drawing illustrating how he would conceive of using the module in a design for a real or imaginary building. A new product line of the winning designs will be created by the Ludowici Celadon Company, Inc., one of the oldest manufacturers of terra cotta in the United States. The winners will receive royalties from the sale of their designs, in addition to a cash prize of \$750.

TRAVELING EXHIBITION

An exhibition of the six winning designs molded in terra cotta, the prize-winning entries, related jurors' drawings and material illustrating the history of the use of terra cotta in the United States will open at the National Building Museum in

Washington, DC in 1985. It will begin a national tour, circulated by the National Building Museum Traveling Exhibition Program, in 1986.

REGISTRATION

To receive the Registration Package which includes all necessary background material and the rules of the competition, send your name and address with a non-refundable check or money order of \$15 (US) made payable to the National Building Museum to:

The Contemporary Terra Cotta
Competition
National Building Museum
440 G Street, NW
Washington, DC 20001

Registration fees must be postmarked no later than February 15, 1985. Entries will be due on May 1, 1985.

ADVISORY PANEL

Theodore H. M. Prudon; Associate
Principal, The Ehrenkrantz Group
de Teel Patterson Tiller; National
Park Service, Denver, Colorado
Susan Tunick; President, New York
State Chapter, Friends of Terra
Cotta

ORGANIZED BY THE NATIONAL BUILDING MUSEUM
MAJOR SUPPORT FROM THE LUDOWICI CELADON COMPANY, INC.

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P/A Job mart

Situations Open

Announcement of Faculty Vacancies—The School of Architecture, University of Maryland, invites applications for full time tenure track positions beginning academic year, 1985–86. The successful applicants will be expected to provide a major commitment to the design studio and to teach in one of the following areas: Architectural History; Theory; Environmental Controls and Technology. The faculty will evaluate candidates on the basis of scholarly work, research, proven teaching ability, and architectural practice. Salary and rank are commensurate with experience. Applicants are asked to submit letters of inquiry including a curriculum vitae and the names, addresses and phone numbers of three references by January 1, 1985 to: Chairman, Search Committee, School of Architecture, University of Maryland, College Park, Maryland 20742.

Architects—CUH2A, one of the largest design oriented A/E firms in the northeast, is seeking talented professionals to fill the following positions created by our continued growth: Graduate Architects with 2 to 5 years experience, B.Arch. or M.Arch. degree, demonstrated design skills, working drawing experience and desire to advance. Applicants should be interested in the generation and development of quality design ideas and in the processes that result in the conversion of these ideas to reality. Project Managers with 8 to 10 years experience, architectural degree and registration and proven ability to manage large scale corporate, institutional and government projects. Applicants should be team-oriented with strong organizational, management and presentation skills. These positions offer excellent growth potential, competitive salaries and benefits. Reply with resume to: CUH2A, 600 Alexander Rd., CN-5240, Princeton, NJ 08540-8040, Attn: Kenneth W. Gardiner, AIA. EOE, M/F.

Carnegie-Mellon University, Department of Architecture, is seeking persons for full-time, tenure track faculty positions for 1985–86 with substantial theoretical knowledge that is integrated with architectural design, persons with a focused pedagogy for design studio and/or management or computer aided design. In addition to teaching, successful candidates will be expected to supervise students in graduate and undergraduate programs, conduct research and participate in committee work. Salary and rank will be commensurate with qualifications. Send resume and list of references to Omer Akin, Head, Department of Architecture, Carnegie-Mellon University, Pittsburgh, PA 15213. Carnegie-Mellon is an EO/AA Employer.

Department Head, Architecture, California Polytechnic State University, San Luis Obispo, California—The recent appointment of Gar Day Ding (formerly of University of Illinois) as Dean of

the School of Architecture and Environmental Design, effective January 1985, allows the closing date for this position to be extended to January 14, 1985. Evidence of administrative competence; teaching experience in an accredited architectural program; a professional degree in architecture and a master degree in architecture or related field or certified foreign equivalent; architectural registration by examination in the U.S., or equivalent foreign license. Professorship rank; position available July 1985; salary commensurate with qualifications and experience. Candidates are preferred with advanced degrees, applied research experience and a record of professional and civic involvement. Inquiries and request for application forms should be sent to Prof. Paul Wolff, Chair, Search and Screen Committee, Architecture Department Head, School of Architecture and Environmental Design, California Polytechnic State University, San Luis Obispo, CA 93407. Affirmative Action, Equal Opportunity, Title IX Employer.

Director of Design—Phoenix based mid-sized and growing architectural firm with diversified practice has opening for qualified Architect capable of assuming position of Director of Design leading to principal role. Candidates should have strong Academic background and a minimum of ten years experience in designing architecturally significant buildings and proven skills in marketing. Candidates, send resume and salary history in confidence to: Metz Train Youngren of Arizona, Inc., 2721 North Central Avenue, Suite #1102, Phoenix, Arizona 85004.

Director, Planning and Construction—Arizona State University in metropolitan Phoenix has an enrollment of over 40,000, over 6000 faculty and staff. Under the direction of the Vice President for Business Affairs, the Director of Planning and Construction, provides direction and support for all aspects of physical and environmental planning and construction. Specific responsibilities include: coordination and monitoring of architectural and engineering firms providing design and construction services; management of in-house design and construction projects; direction of space management activities; development of planning and construction strategies and policies; development and management of project budgets. Requirements: A bachelor's degree in architecture, planning, or a related discipline, and nine years experience at the middle or upper administrative level is required. Considerable knowledge of, and/or experience in, the following areas is also required: institutional planning, design, cost estimating, construction and project management; research, instruction and administrative service functions of a major institution; codes and ordinances regulating building construction and operation; budget formulation, execution and control; and organization management. Salary: Negotiable, depending on experience. Application: Direct resume, with salary history, names, addresses, and telephone numbers of three references to Personnel Department, Arizona State University, Tempe, Arizona 85287, by January 15, 1985.

Faculty Position—Building Construction Program, Virginia Polytechnic Institute & State University. Qualifications: BS and MS in Construction, Architecture, Architectural Engineering, Civil Engineering, or Engineering Technology and appropriate construction industry experience preferred (including field and project management and administration experience). Teaching experience at university level together with capability and interest in computer usage desirable. Position Description: Undergraduate professional instruction with primary responsibilities in planning/scheduling, estimating and cost analysis, and other construction management techniques. In

addition, teaching and research in one or more additional subjects such as construction graphics, computer applications, structural/foundation systems, construction practices and technique, construction law, project development and business practice. Appointment is a tenurable position effective immediately at the rank of assistant or associate professor; rank and salary dependent on qualifications and experience. Applications, including the names of at least three references, should be sent to Dixon B. Hanna, Assistant Dean, 202 Cowgill Hall, College of Architecture and Urban Studies, Virginia Tech, Blacksburg, VA 24061. Virginia Tech is an Equal Opportunity/Affirmative Action Employer.

Faculty Position—Building Construction Program, Virginia Polytechnic Institute & State University. Qualifications: BS and MS in Construction, Architecture, Architectural Engineering, Civil Engineering, Mechanical Engineering, or Engineering Technology and appropriate construction industry experience preferred (including field and project management and administration experience). Teaching experience at university level together with capability and interest in computer usage desirable. Position Description: Undergraduate professional instruction with primary responsibilities in mechanical and electrical systems and their installation. In addition, teaching and research in one or more additional subjects such as construction graphics, estimating and planning/scheduling, construction management, computer application, structural/foundation systems, construction materials and equipment. Appointment is a tenurable position effective September 1985 at the rank of assistant or associate professor; rank and salary dependent on qualifications and experience. Applications, including the names of at least three references, should be sent to Dixon B. Hanna, Assistant Dean, 202 Cowgill Hall, College of Architecture and Urban Studies, Virginia Tech, Blacksburg, VA 24061. Virginia Tech is an Equal Opportunity/Affirmative Action Employer.

Faculty Vacancy, Architectural Engineering, The Pennsylvania State University, University Park, PA. The Pennsylvania State University is seeking someone for a Tenure-track, Asst. Prof. level position. Primary duties include teaching materials and methods of construction, working drawings and residential and light commercial construction to students in architecture and architectural engineering. Requires Masters degree in architecture or architectural engineering, Architectural registration and 3–5 years office experience. Experience in computer graphics or computer-aided drafting desirable. Closing date: February 1, 1985 or until position is filled. Send curriculum vitae to Mr. J.S. Futrick, Admin. Aide, Dept. of Arch. Eng., Box D, 104 Engineering A, University Park, PA 16802. An Equal Opportunity/Affirmative Action Employer.

Interior Design Faculty—Two positions, tenure track. Qualifications: Background in interior design; professional and/or teaching experience required; professional affiliations desirable; terminal degree, Ph.D. preferred. Research/publication record or strong evidence of potential for successful research/publication. Rank and salary commensurate with professional training and experience. Available March 1, 1985. Send letter of application, vita, letters of reference (3 minimum), transcripts and slide portfolio to: Dr. R.G. Blakemore, Chairperson, Search Committee, Department of Textiles, Merchandising and Design, College of Home Economics, The University of Tennessee, Knoxville, TN 37996-1900. Application deadline: Feb. 1, 1985 or until qualified applicant identified.

Kansas State University, College of Architecture and Design, Department of Pre-Design Professions encourages applications from those candidates who wish to join a faculty dedicated to interdisciplinary environmental design. Department faculty are primarily responsible for the common first two years of five year professional degree programs in Architecture, Interior Architecture and Landscape Architecture. Positions are available in the areas of Beginning Design Studio, Environmental Technology, Graphics, Preservation and/or History. The department anticipates four or more new tenure track or temporary positions August 1985. The Masters or terminal degree is required. Candidates are expected to have teaching and professional experience. Teaching responsibilities include beginning environmental design studio and/or lectures and seminars each semester. To insure consideration applications should be received no later than February 1, 1985. Please submit application, resume, and the names of three references to Donald Watts, Coordinator, Faculty Search Committee, Department of Pre-Design Professions, College of Architecture and Design, Seaton Hall, Kansas State University, Manhattan, Kansas 66506, (913) 532-6846. Kansas State University is an Equal Opportunity/Affirmative Action Employer.

1985-1986—Texas Tech University, Division of Architecture: for graduate and undergraduate programs. Two Assistant and one Associate Professor positions available. Tenure status and salary open. Application deadline March 1, 1985. Design Studio Instructor and Lecturer; terminal degree, prior teaching, registration, research effectiveness and/or scholarly/creative accomplishments required. Special consideration given to graduate level instructional capabilities. Send for resume format to: Search Committee, P.O. Box

4140, Texas Tech University, Lubbock, Texas 79409. EEO/AA.

Regional Sales Manager, Architectural Products—MBCI, a major manufacturer of preformed metal roofing and siding, currently needs professionals to develop major markets in Texas, Colorado, Georgia, and Florida for its architectural metal product line. Ideal candidates must have experience obtaining architectural specifications and be a seasoned sales person. Interested candidates who welcome a challenge and responsibility should send their resume and geographical preference, in confidence, to: George Stroker, MBCI, P.O. Box 38217, Houston, TX 77238.

Senior Architects—Gee & Jenson, a recognized Florida leader with nine offices throughout the Sunshine State, has an exceptional opportunity for a registered professional with an extensive knowledge of commercial and institutional building types. The individual must have had a significant amount of project and contract management experience in addition to design and production of contract documents. This position will challenge the individual in all phases of professional practice, and offers an excellent opportunity for someone who has demonstrated a commitment to personal and team accomplishment. Send resume and work examples to: Joseph Sowards—Personnel Manager, Gee & Jenson Engineers-Architects-Planners, Inc., Drawer 4600—ATTN 10-1, West Palm Beach, FL 33402. Equal Opportunity Employer.

Tenure track professorships are available beginning September 1985. Rank and salary commensurate with qualifications and experience. Teaching areas, one or more of the following: Upper and/or

Lower Division Design, Practice, Graphics, Environmental Control Systems. Applicants to the area of Environmental Control Systems with experience in architecture preferred. Send request for application and qualifications to: Chairman, Search and Screen Committee, Architecture Department, California Polytechnic State University, San Luis Obispo, CA 93407 (805) 546-1316. Closing date: February 15, 1985. Affirmative Action/Equal Opportunity Employer.

The School of Architecture at Oklahoma State University is seeking qualified candidates for the position of Assistant or Associate Professor. The appointment will be a tenure-track appointment. Rank and salary are to be commensurate with the successful applicant's qualifications and experience. Qualifications include holding an earned Professional Degree in Architecture or Engineering with a professional license and experience in both teaching and private practice preferred. The successful applicant must have background in and a clear working knowledge of HVAC systems, alternative energy systems, illumination, fire safety and plumbing. Duties will include primary responsibility for teaching three required Environmental Control Courses per year coupled with some elective offerings and adjunct service in upper level design studios. The School specifically seeks applicants who are excited about developing innovative teaching techniques which will be effective in introducing environmental control concepts and practices to architectural students. Application with vita plus references to: John H. Bryant, AIA, Head, School of Architecture, OSU, Stillwater, OK 74078. Deadline for application is February 15, 1985. OSU is an Equal Opportunity Affirmative Action Employer and actively seeks candidates who are women or are members of minority groups.

ARCHITECTS

A challenging opportunity exists for qualified individuals to join the Port Authority's Engineering Department, which consists of architects and engineers responsible for designing, building and maintaining projects for the New York/New Jersey metropolitan region's major airports, bridges, tunnels, marine terminals, Trans-Hudson rail rapid transit system, container ports, transportation centers, industrial parks and the World Trade Center.

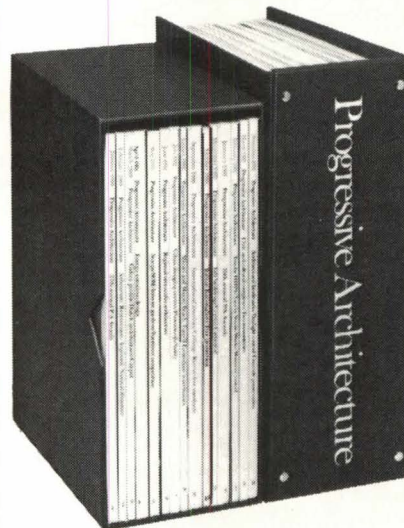
We are seeking to fill several career positions for Registered Architects. These positions require a Bachelor of Architecture degree, a minimum of 10 years of experience, and a comprehensive background in all facets of the practice of architecture. Candidates must be able to demonstrate experience in all phases of preliminary and contract design. Successful candidates will report to senior architects, be responsible for development and coordination of architectural projects from inception through contract award, and supervise lower level designers and draftsmen.

We offer an excellent starting salary and our outstanding benefits program includes health, dental and life insurance, retirement and tuition reimbursement. Please send resume to: **PA Placement, Box ARCH,** 1250 Broadway, New York, NY 10001.

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The School of Architecture at The University of Tennessee seeks candidates to fill up to three positions at the Assistant Professor level—two-thirds teaching time in design and one-third in related disciplines. Appointments beginning September 1, 1985 will be for one year, renewable up to three years. Qualifications sought are Masters Degree in Architecture or equivalent, experience in practice and teaching. License for practice preferred. Letter, resume and three references to Roy F. Knight, Dean, School of Architecture, The University of Tennessee, Knoxville, TN 37996-2400 by February 1, 1985. The University of Tennessee Knoxville is an EEO/TITLE IX/Section 504 Employer.

The School of Art and Architecture of the University of Southwestern Louisiana, a multi-purpose, state-supported institution with over 16,000 students, is seeking the Head of the Architecture Department. Applicants need an earned terminal degree in Architecture (Master or Doctorate), substantial teaching experience, administrative experience and architecture registration in the United States. Salary and rank negotiable. Applicant should furnish resume, 3 letters of recommendation, a statement of philosophy with regard to the education of architecture students and the relationship of architecture to the other arts, and additional supporting materials. Complete application materials must be received no later than February 1, 1985. The University of Southwestern Louisiana is an Equal Opportunity Affirmative Action Employer. Inquiries should be made to: Dr. Robert Everding, Chairman, Q-S-N Committee, Department Head of Architecture, School of Art and Architecture, USL Box 43850, Lafayette, LA 70504.

Up to one year full-time lectureship appointments

available for 1985-86 AY. Teaching areas, one or more of the following: Upper and Lower Division Design, Practice, Graphics, Environmental Control Systems. Applicants to the area of Environmental Control Systems with experience in architectural applications are preferred. Salary is commensurate with qualifications and professional experience. Send request for application and qualifications to: Chairman, Search and Screen Committee, Architecture Department, California Polytechnic State University, San Luis Obispo, CA 93407 (805) 546-1316. Closing date: February 15, 1985. Affirmative Action/Equal Opportunity Employer.

Situations Wanted

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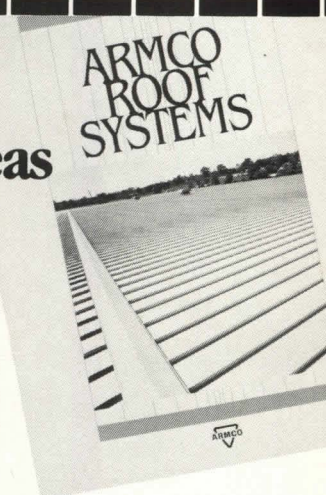
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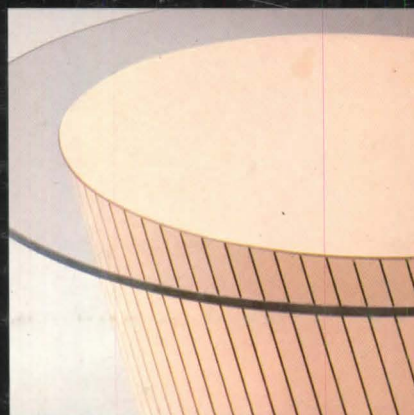
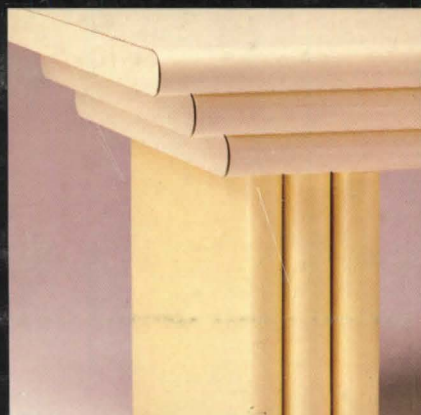
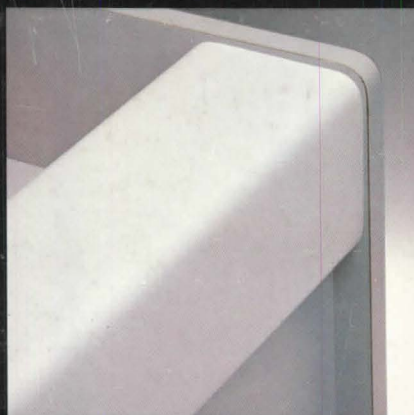
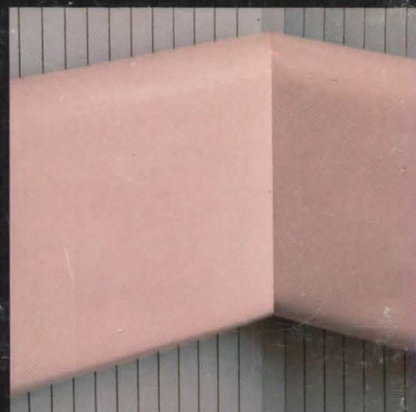
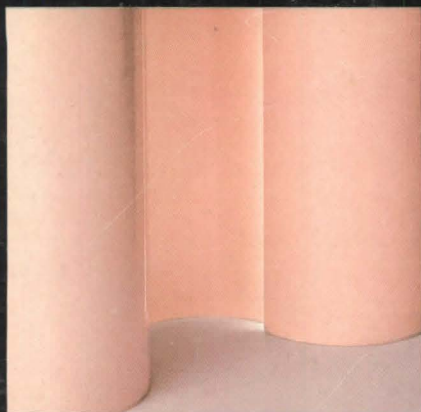


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