# Progressive Architecture

February 1980


RECEPTIONIST

# WHY BE SATISFIED WITH COLOR UNDERFOOT WHEN YOU CAN ALSO HAVE IT OVERHEAD?

## Armstrong introduces The Gallery acoustical ceiling panels in a rainbow of colors.

Gallery's colorful ceilings offer you a new design option with 12 tasteful variations, from neutral and earth-tone colors to bold accents — colors that mix and match with contemporary office furnishings and finishes.

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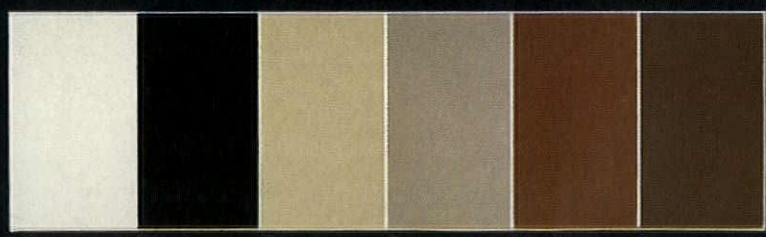
A low-glare matte finish on smooth polyester film gives The Gallery a scrubbable as well as beautiful surface.

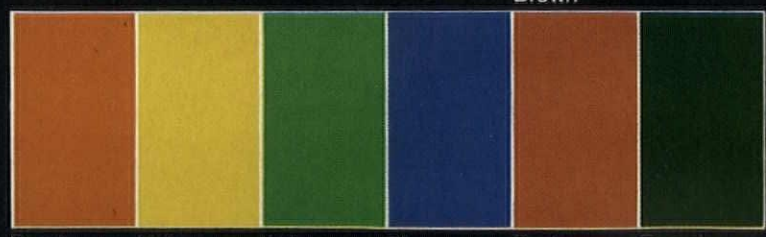
Tegular edges of the 2′x2′ panels lend a clean modern look and let you integrate painted, reflective, or metallic grids with the colored ceilings for a customized effect.

Lay-in panels are easy to install and remove.

And all Gallery ceiling panels offer excellent acoustical efficiency.



White | Black | Tan | Concrete | Medium Brown | Bronze



Burnt Orange | Yellow | Kelly Green | Blue | Rust | Forest Green

For more information on color panels with a whole spectrum of advantages, write Armstrong, Dept. 02NPA, Lancaster, PA 17604.

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Choose from four neutral shades. Or your design may call for the added drama of brown or black. Whichever color you select, Cortega Colortone gives it to you for just pennies more per square foot than ordinary white ceilings.

All six colors, shown below, are available in standard 2′ x 4′ lay-in panels. And 2′ x 2′ tegular-edged panels come in the four neutral shades. Coordinated grids are also available. Cortega's mineral fiberboard offers acoustical efficiency in an NRC range of .50 to .60, with the popular textured look of nondirectional fissures.

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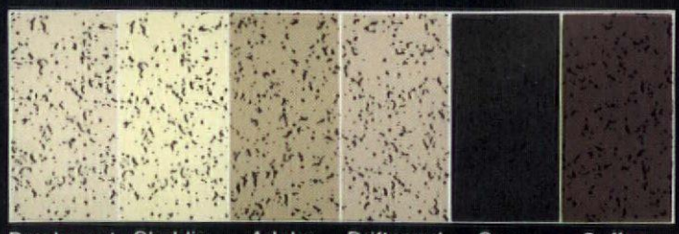
You'll see how easy it is to add color to the ceiling without turning the bottom line red.



Parchment Chablis Adobe Driftwood Onyx Coffee

FROM THE INDOOR WORLD® OF

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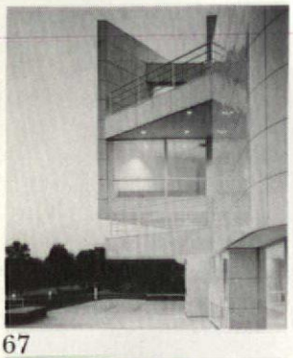
February 1980

# Progressive Architecture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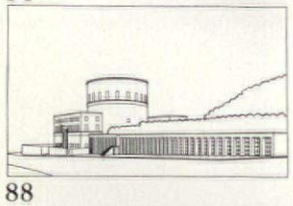
88


106

**Cover:**
*Ramp along south face of Atheneum, New Harmony, In (p. 67). Photo: Ezra Stoller © ESTO.*



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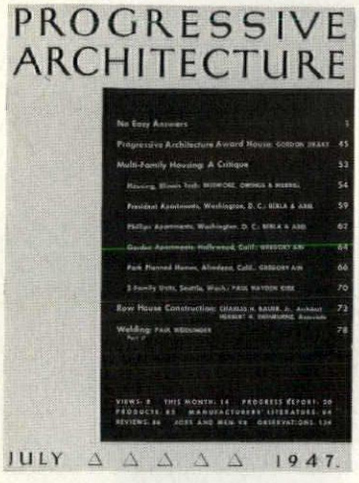
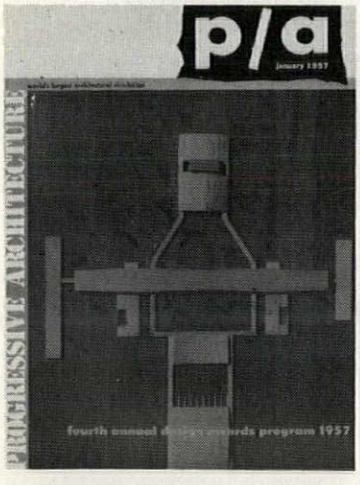
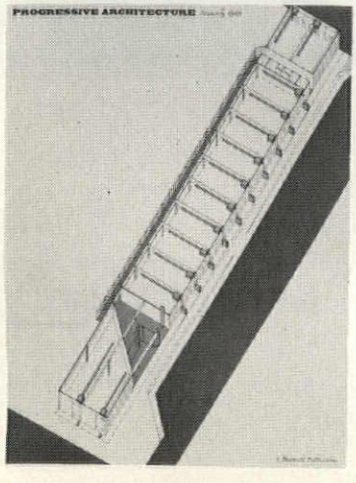
# Hanging galleys in Baskerville

**February 1980**




*P/A covers: 1947, 1957, 1969*

No, we have not let our attention stray to the hounds, to lynchings, or to maritime kitchens. The headline above is about the new design of this magazine, inaugurated last month. Right now, in fact, you are reading the words of a hanging galley—a column of text that starts at a fixed top line but may end short of a bottom limit—which is set in Baskerville type—10/10 Baskerville, 17 picas wide, justified, to give the complete "spec."

We hope you have noticed the new appearance of P/A, but we hope our design soon resumes a level of attention just below your consciousness, like the cinematography of a good movie. In a magazine devoted to a largely visual subject, graphic design should discreetly enhance that subject and make reading easier. P/A has traditionally avoided gimmicks such as sideways headlines, Victorian or Star Wars type faces, and text superimposed on photos.

Magazine design begins with a format, which establishes a visual identity and a set of standards to work by, issue by issue. Last year, we decided that P/A needed a new format for the 1980s, a decision we did not make lightly. The format adopted back in 1971, designed by Bradbury Thompson, had enabled us, after all, to win numerous awards for graphic design. Establishment of a new format takes considerable effort—and a bit of money; its adoption requires numerous people at P/A and at the printers to learn a new set of guidelines and specifications.

Our first step was to place responsibility in the hands of our own art director, George Coderre, working with editorial staff members. Prestigious outside consultants, often brought in to develop magazine formats, can never bring to the task a familiarity with day-to-day decisions. Typically, they hand down distinctive, stringent master plans that staff people will then have to work within—or bend to varying degrees. Our only consultant was Paul Grotz, formerly art director then managing editor of *Architectural Forum,* who guided the evolving format of that magazine from the inside, for decades—and won an AIA Medal for it. We also had the thoughtful advice of Sal Marino, President of our parent company, Penton/IPC, whose expertise in this area we sought.

P/A's 1970s format had the spareness and order of Early Modern design. Originally, it allowed for only two wide columns of type per page, but three-column layout was gradually adopted to give greater latitude in sizing and arranging illustrations. The Helvetica type face (see Dec. 1979 P/A) was used in a minimum of sizes and weights. But Helvetica is widely considered hard to read in bodies of text, and the chaste versions we used lent too little identity to headlines or to the front cover "logo." (We got tired, what's more, of having "I" look like "l.")

Our new format departs from that in several important respects, though the distinctions may seem as fine to you as those between, say, Georgian and Federal styles. We have replaced the classic 20th-Century type, Helvetica, with an 18th-Century classic, Baskerville; we've made columns of text look more neutral and orderly by "justifying" them—making all lines of uniform width—rather than "ragging" them on the right as your typewriter does. For many of the features and departments, we've adopted an unorthodox arrangement of two wide columns with a narrow one for captions, data, and other miscellany, allowing the narrow column to shift either right or left (see dimensions, in picas, above). Captions are narrow, "ragged," and in italics, thus differentiated strongly from the text. The new format expands our choices in sizing of plans and photos and multiplies the potential variety of our page layouts.

We have remained committed to a number of design characteristics. We will continue to have full-page cover illustrations (with occasional exceptions, like last month's); we will still begin every feature story with a standard, two-part headline and a bold-faced "deck"; and we still stick to one type face for *all* editorial material.

Though it has practical advantages, there is no doubt that our new format reflects a change in design preferences, as well. Since the early 1970s, our loyalty to the minimal aesthetic has been displaced by a comparable respect for traditional design. Helvetica type may still seem the modern choice in some quarters, but a more pluralistic view has prevailed in graphic design for decades. The greater complexity and variety of our new page layouts also reflects a preference, but we assure you we won't indulge in ambiguity—not deliberately, anyway.

The new P/A format will have a shakedown period, with small adjustments likely. You have now seen a January issue (always atypical) and this more characteristic February. We hope you like our new look and welcome your comments.

John Morris Dixon


# forms+surfaces

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Twenty-seven feet of wood bent into a spiral only 52" high; a virtuoso demonstration of Thonet technology.

In 1860, Thonet introduced the bentwood rocker, extending the application of the process to other modes of seating.

**Michael Thonet's bentwood furniture first won international acclaim in 1851, at London's Crystal Palace Exhibition. His five sons joined the Viennese firm, and in 1853 the name was changed to Gebrüder Thonet (Thonet Brothers.) An American assembly operation and showroom were established in New York, followed by showrooms in all major European capitals. When, in 1856, Gebrüder Thonet received a patent on its revolutionary technique of manufacture, the furniture industry had clearly entered the "bentwood era."**

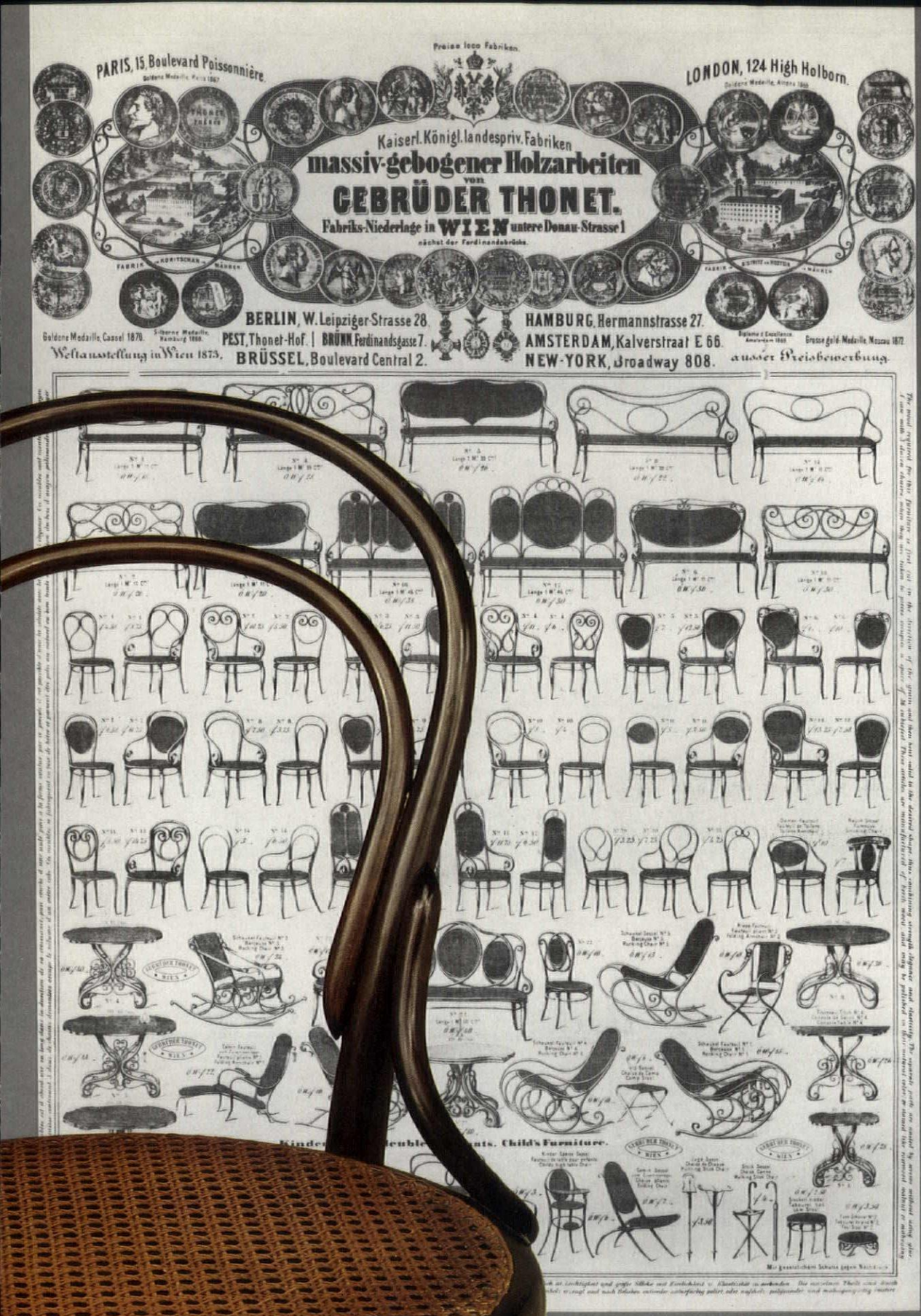
**The earliest known furniture assembly line methods were perfected at Thonet's first factory in Koritschan, Moravia (Czechoslovakia.) These advances made it possible for Gebrüder Thonet to market the first mass-produced furniture in the world.**

Thonet's first folding chair (c. 1860-1866).

Arm Chair #B9, originally produced in 1870. Le Corbusier used it in so many of his interiors that this model is widely referred to as the "Corbusier chair."

Embossed and perforated seats offered decorative alternatives to the more widely used cane.

Export Chair #18—the "hairpin chair" was introduced in 1876 and established a standard of simple elegance that remains unchallenged.




This Thonet poster, circa 1873, illustrates the enormous range of bentwood products and styles, and the international growth of the firm—from high chair to rocker, from Berlin to Broadway.

This is the second in a series of capsule histories saluting the 150th anniversary of Thonet. The entire series will be reproduced as a poster. For a free copy, write us.

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Production #14 (1859)—the "Vienna Café Chair"—was the first widely affordable Thonet design and became an extremely popular and successful model.

**One hundred fifty years of Thonet: 1830/1980**

# Views

**After the "Beyond" issue**
I just finished your December issue, a superb job which I plan to keep as a permanent addition to my library. Bravo, also to Mark Simon for creating a fine piece of Yankee Architecture. Hopefully, we will see more and more of this kind of sensitive, sensible design in the 1980s.
*Edward R. Roehm, AIA*
*The Design Collaborative, P.C./Edward R. Roehm, Architect AIA*
*Virginia Beach, Va*

Congratulations to you and your crew for the December issue. It seemed to me a marvelous summary of where P/A (if not Architecture) is at and I welcome signs that we may all be coming together again by recognizing the richness rather than the rarity of our art form.

In order to create their inviting target, it always seemed to me that Post-Modernist critics strained too hard in defining the hell out of "Modern"—placing and holding mainstream architecture at a point it passed through 30 or 40 years ago—in order to give it a swift kick. But, OK—the points, however unfairly scored, are granted.

A serious profession had become over-serious and its puritanism deserved a good dig in the ribs. Wit and humor have been most effective in broadening aesthetic horizons and loosening up tight practice. Now if P/A can continue to poke some of that same fun at the pretentious and obscurantist language of much of today's criticism, perhaps we can begin to understand one another.

It's hard to believe that Suzanne Stephens' brilliant opening piece was written by the same pen that drew your confusing "Conclusion"—maybe it's just that poetry is harder than prose. The mainstream isn't going to go away, but we will listen if talked at, not down to.
*Robert F. Gatje, FAIA*
*Marcel Breuer Associates*
*New York, NY*

All that verbal broken-field running (P/A, Dec. 1979) by Ms. Stephens, Messrs. Dixon, Morton et al. brought tears of laughter to my eyes.

My instincts tell me that P/A soon will publish excerpts from Tom Wolfe's new book "The Architected Word" (a candid look up and down the east-coast architectural axis—that mythical locus where criticism occasionally is built and architecture mostly is shot from typewriters).

To turn a Dr. Johnson (Philip, of course) quip around: "God bless the old fogies, God bless architectural history!"
*Jeremy Scott Wood*
*Weston, Ma*

It is with some embarrassment that one understands the fact that Michael Graves received the largest number of P/A Design Awards between the years 1970–79, twelve awards in ten years (P/A December issue). The P/A Design Awards are supposed to represent the most innovative and challenging architectural ideas of the period. While I find Graves' work lovely and even "darling" as my mother-in-law would say, it appears that architects unable to cope with the looming and depressing issues of energy cutbacks, when engineers dictate building plan and form, high interest rates, increasing legal battles, computerization and unemployment, are retreating into a safe and pretty fantasy world of cutouts and pastels.

While we continue to endlessly discuss pink vs. lavender or whether Eisenman's House IV is more ideologically silent than House VI, or whether Chippendale is more shocking than Roman aqueduct for skyscraper tops, the profession is fighting hard to simply keep alive. One bright note on which to end the 70's: A print of the extensively published Graves drawing of the Fargo-Moorehead Cultural Bridge is featured in the Neiman Marcus Christmas Catalog—price $3,000. There is a market for paper architecture. Get out your color pencils, unemployed and underpaid architects!
*Tara D. Lamont, AIA*
*Lamont Associates*
*Aberdeen, SD*

I read and enjoyed your December issue on Post-Modern architecture. I was disappointed, however, that two aspects of the phenomenon were not discussed.

First, it would have been worthwhile to compare Post-Modernism with similar movements in the past, such as the classical and colonial revival which buried the seminal activity of the Shingle-Style period in American architecture. Second, and more important, would have been an analysis of the socio-political aspects of Modern and Post-Modern architecture touched upon in the John Morris Dixon editorial prefacing the issue.

We tend to forget that the International Style was at least partially a product of the egalitarian aftermath of the communist revolution in Europe. (The first issue of *De Stijl,* the magazine of the Dutch modernist movement, included a "manifesto," no doubt influenced by a similar work by Marx and Engels.) A concern for the welfare of the working class, through improved mass housing and town planning, is a continuing aspect of European architecture in the 1920s and 1930s, and at least one of the determinants of the machine esthetic.

With this perspective, Post-Modernism would seem to be an American Bourgeois reaction to modern architecture, and the historical "allusions" of the style no more than bits of conspicuous consumption. In the spirit of French critic Roland Barthes, whose essays explore the symbolic content of popular Bourgeois culture, these architectural allusions are significant because they are extraneous and expensive, not because they are historical.
*James W. Hadley*
*Gaudy Hadley Associates*
*South Nyack-on-Hudson, NY*

**Unlisted winners**
I have delayed writing regarding the interesting article "Book of Lists" in the December 1979 issue by Suzanne Stephens, until I could find a reason which would make it appear as if ego alone were not my sole concern.

First, the rationalization: I am sure other architects missed out in being included for the same reason, i.e., name change of firm.

Next to the specifics. Under "Firms Awarded Most" there are listed ten which two or more times were included in P/A's Awards Program between the years 1970 and 1979. During that time, I received a citation for the proposed Office Building Annex, U.S. Embassy, Paris, while I was Senior Partner and Partner-In-Charge of the project for Shreve Lamb & Harmon Associates. This was published in January 1973.

Subsequently, as often happens in the profession, the firm was reorganized and eventually divided, in part under my name, Robert Wagenseil Jones & Associates/Architects; this project, which was unfortunately later abandoned, continued with my firm. In 1977, I received recognition in that year's program, for the Goebel Collectors' Club (P/A, Jan. 1978). I might add that in both cases my Associate was Evan Schwartz, who deserves a great deal of the credit among others.

While I realize that the connection between the two firms or their lineal descent would have been difficult to determine, I do feel justified in writing this letter. I should add that the significance of the program is an additional reason.
*Robert W. Jones, AIA*
*Robert Wagenseil Jones & Associates*
*New York, NY*

It's not too important, but maybe an example of P/A's perceived focus on the efforts of a celebrated few.

You have overlooked our two P/A Awards (Jan. 1973, p. 76, p. 108) in your "Book of Lists" and award winners of the 1970s.
*Lee Harris Pomeroy*
*New York, NY*

**What is architecture saying to them?**
The question posed in the title of the recent article "Does Post-Modernism communicate?" is moot. The important questions are:

1) What does Post-Modernism communicate?

2) Are perceived meanings uniform and do they correspond with the intended meanings?

3) Are the communicated meanings of a Post-Modern building more accessible and of greater value to human beings than the meanings communicated by a Modern building?

One more question would I ask. Should Hillingdon Civic Centre be used
[*Continued on page 14*]


# YOU MIGHT CHOOSE 8000 SERIES PANELS FOR THEIR WIRING OPTIONS ALONE.

It's a thought certainly worth considering. For here, within a highly versatile office system, is a wide variety of cost saving wiring options: You buy only what you need now—add on or rearrange as later needs for power and communications require. This same freedom of choice is apparent throughout the 8000 Series System concept... a concept that offers design compatibility with free-standing furniture... and *also* offers all the components needed for open plan offices.

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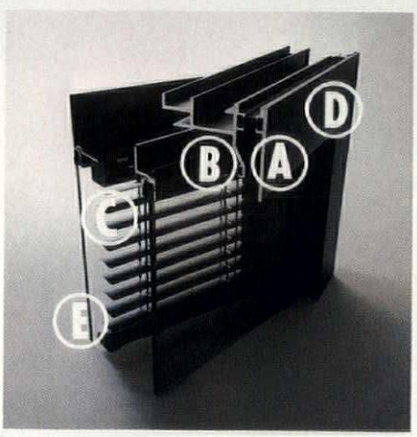
**Insulated Glass.** Sometimes the obvious answers aren't so obvious. Ask owners who've experienced seal fracture failures. They've found that insulated glass delivers improved shading coefficients when it clouds up. An unorthodox way to save energy. But tough on folks who want to look outside.

**Fixed.** The most popular commercial window system in the world today. The fixed window is simplicity in itself. Non-operable, no emergency ventilation and no chance for easy repair. If your father-in-law is a window washer, be sure to specify fixed windows.

**A.** The DISCO T-2001 reduces the initial heating and air conditioning requirements. Provides the ultimate in heat and cold transfer reduction. Reduces noise pollution by as much as 50% and dramatically lowers cleaning and maintenance costs.




**B.** The first side hinged, in-swinging aluminum casement window featuring a poured-in-place polyurethane thermal barrier. A full ⅜" separation is provided between the interior and exterior surface of the frame members. U value .47.

**C.** Wedge-glazing system provides a high compression seal between glass and aluminum, preventing air and water infiltration.

**D.** Heli-arc welded corners provide greater in-place frame stability.

**E.** Fully enclosed narrow slat venetian blinds help provide shading coefficients as low as .10 when set at 45 degrees. Virtually maintenance free.



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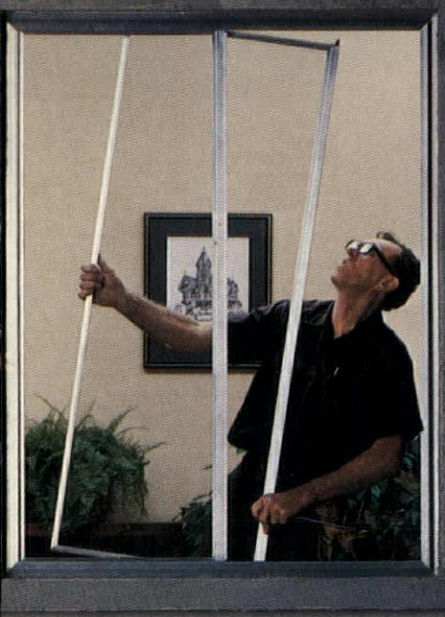
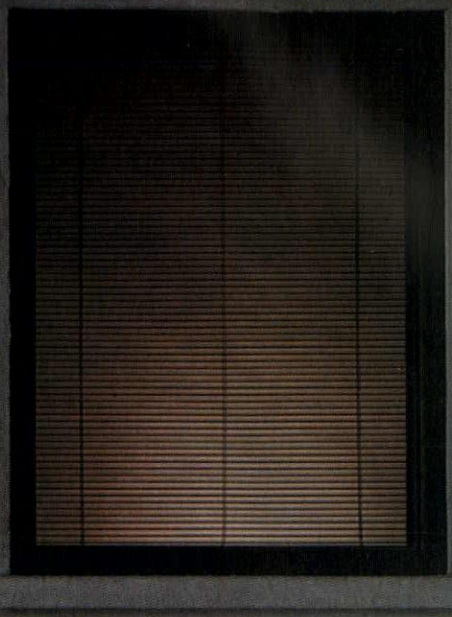
# Meet Disco...The Overachiever.

**Slider.** Try to wash this one from the inside. Better yet, try to keep it on track. Famous for easy air and water infiltration. They work best when accompanied by a repairman.

**Pivoting.** You don't have to be a fortune teller to predict the future of pivoting windows. Because they pivot across the weather stripping, they invite damage to the thermal seal. As they get older, pivoting windows let people inside know what's going on outside.

**The Overachiever.** The DISCO system. Operable, double or triple glazed. Inexpensive to clean and maintain. Side hinged, casement inswing is our favorite. The DISCO T-2001 has a U value of .47 and a shading coefficient as low as .10. No other window does more to save energy and reduce life cycle cost.





# No Other Window Does a Better Job Of Reducing Energy Waste and Life Cycle Cost.

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**Views** continued from page 10

as a model for Post-Modern design in the rare instance when my client is not an accountant?
*Paul Ashley*
*St. Paul, Mn*

The rankings given these buildings ("Does Post-Modernism communicate?" P/A, Dec. 1979, p. 84) reminds us that architecture *does* communicate in a most direct and effective way. The high-ranked examples appear to communicate that their architects had respect for the forms and materials used, and for the users of the buildings. The low-ranked examples seem to say that the architect lacked this respect, and that the forms are selected and used in an almost sarcastic and flip fashion. Ponderous pages of buzz-words such as we have been burdened with in the past few years are not needed to explain a building—the building speaks for itself.
*Harvie P. Jones*
*Jones & Herrin Architects, AIA*
*Huntsville, Al*

**Steps of Providence clarification**
[Since our January P/A Awards issue went to press, a question has arisen as to whether Rhode Island School of Design was, in fact, a "client" for the First Award-winning .Steps of Providence (Jan., p. 90) as required by the rules of the competition. The following letter sheds light on this question.—Editor.]

The purpose of this letter is to clarify the relationship between the Rhode Island School of Design and ourselves as authors of the project, "The Steps of Providence." Having discussed the situation with the president of the school, Dr. Lee Hall, we have agreed that an explanation is warranted here in order to avoid some misunderstandings as to the status of the project in relation to the institution and ourselves.

In the strict legal sense of the word the Rhode Island School of Design is not our client, as there has been no official contract drawn up or legal agreement established between the school and ourselves as architects. The project was undertaken by us acting on our own volition. Nevertheless, a situation of a more complex nature has evolved for some time which has finally led to our submission of the project to the Progressive Architecture Awards program. It was with the utmost sense of professional dedication that we wanted the project to be judged, and we felt that the project could contribute to current professional developments in architectural design. Certainly, the recognition of "The Steps of Providence" by the Awards jury has been encouraging and reassuring. So, I would like to briefly outline now how the project developed, under what circumstances it evolved and specifically the nature of our relationship with the school.

From its initial conception to its final submission to the Progressive Architecture Awards Program the project has been two years in the making; it was decided to undertake it because for some time now there have been in the school's environment informal discussions about the possibilities of completing and remodeling the present fabric of the RISD campus. Given our position within the profession and my position as professor and Head of the Department of Architecture at RISD, we considered it appropriate for us to demonstrate—through actual design—some of the splendid possibilities inherent in the buildings and grounds of this institution, as well as to present a kind of master plan for possible future development. During the year 1978/79 there was on campus a committee of mixed composition engaged in an analysis of students' physical needs and building possibilities; I met with them, and we utilized their programmatic findings in our project. These were completed with meetings with some school personalities, for instance, the then Acting Director of the Museum of Art, in order to better know their needs and expectations of growth. The information about buildings and grounds stored up in the Physical Plant Office was thoroughly consulted and completed with our own surveys. Once I informed the school's authorities about our doings they kindly reviewed it; the project was first presented to a rather large administrative meeting in the form of a rough series of sketches and drawings and it was later shown to the President and some Vice-Presidents with copies of final renderings. Permission for its submission to your Awards Program was requested and granted. Throughout my conversations with some School's Trustees I informed them about the project and about its exhibition as a conceptual design proposal, together with some others, at the Cooper-Hewitt Museum last summer. Later on when the First Award was unanimously given to the project I informed Dr. Hall and some other administrative personalities and together we acknowledged some of the positive things that such a prestigious event could bring to our School, especially in terms of its image, its constructive contribution to the development of the School and public relations in general. Reprints of the upcoming publication were ordered, as you know, and their eventual distribution to the alumni and others associated with the school was thought by the administration to be beneficial for RISD.

The project was undertaken out of loving enthusiasm for architecture, and with the belief in its possibilities as a contribution to present professional discussion and as a demonstration of the architectural potential of the RISD campus intermingled with Providence. The project is, as you know, realistic, technologically and culturally feasible. It is not utopian; the level of completion and detailing is characteristic of those projects that want to be built. We, therefore, honestly and good-heartedly believe the project qualifies to enter your competition. Given the condition of architecture in society today (that is, the architecture-versus-building confrontation, the scarcity of commissions and the fierce competition all this generates) situations like ours and some others equally difficult to define in strict professional terms are bound to occur. Their correct treatment at occasions such as the P/A Award might require some redefinition of terms and some new categories, all of which cannot but contribute to the advancement of our profession.

The content of this letter is known to President Hall and bears her approval. My apologies for the inconveniences this might have caused.
*Rodolfo Machado*
*Machado-Silvetti Architects*
*Boston, Ma*

**Corrections on reflections**
Perceptive readers may have noted that the large photo on pp. 68–69 (P/A, Dec. 1979) was "flopped" left to right; although the pool terrace is virtually symmetrical, wall treatments at the two ends of the space differ, as the plan indicates.

Experts on the New York skyline may have noticed the photo on p. 55, bottom right, is similarly "flopped."

**Amplification**
The announcement of the "Design and Energy" competition (P/A, Dec. 1979, p. 44), sponsored by the ASCA, DoE, and the Brick Institute of America, neglected to specify that the competition is open to students only.

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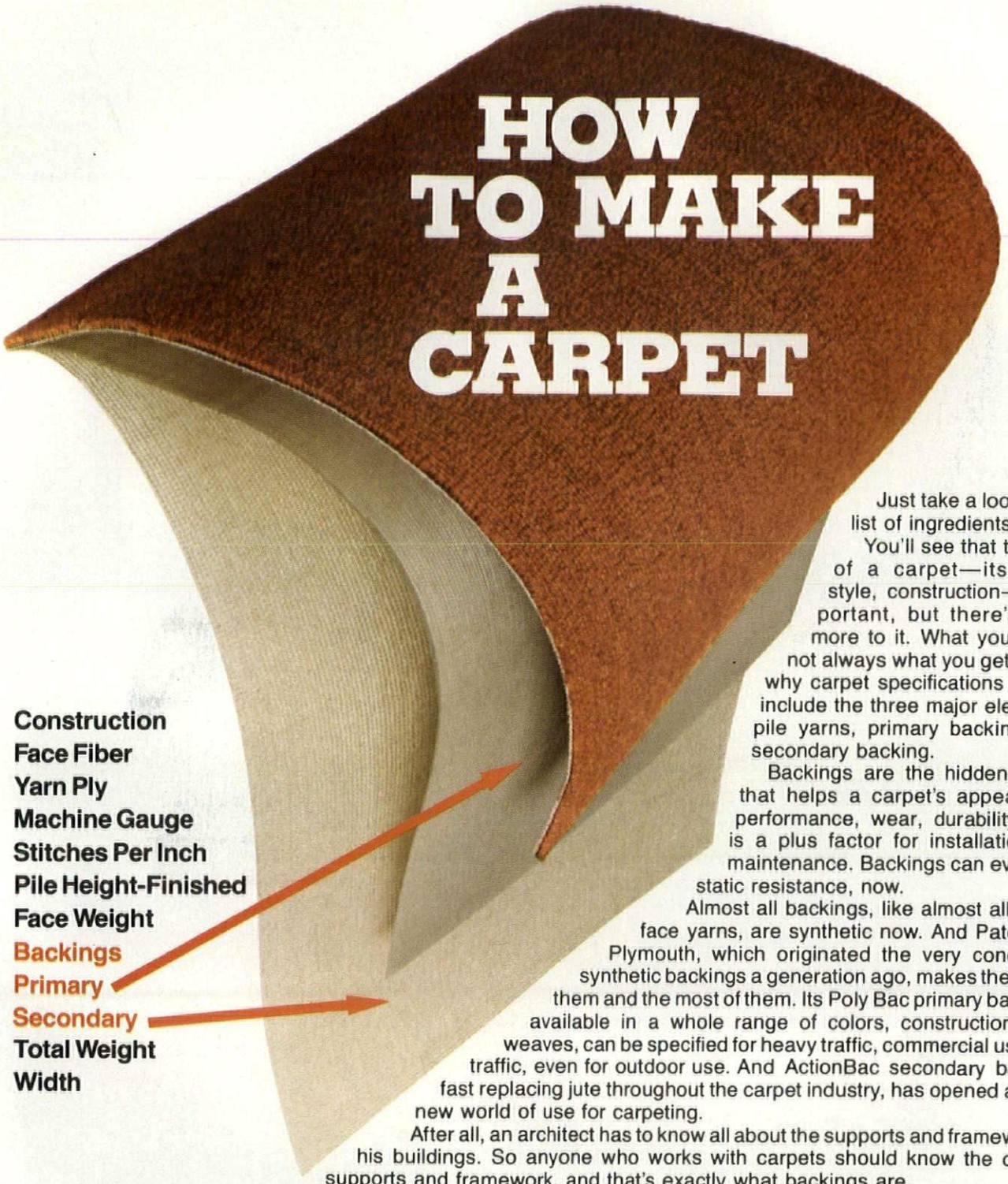
# HOW TO MAKE A CARPET



Construction
Face Fiber
Yarn Ply
Machine Gauge
Stitches Per Inch
Pile Height-Finished
Face Weight
Backings
Primary
Secondary
Total Weight
Width

Just take a look at the list of ingredients.

You'll see that the look of a carpet—its color, style, construction—is important, but there's a lot more to it. What you see is not always what you get. That's why carpet specifications always include the three major elements: pile yarns, primary backing, and secondary backing.

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After all, an architect has to know all about the supports and framework for his buildings. So anyone who works with carpets should know the carpet's supports and framework, and that's exactly what backings are.

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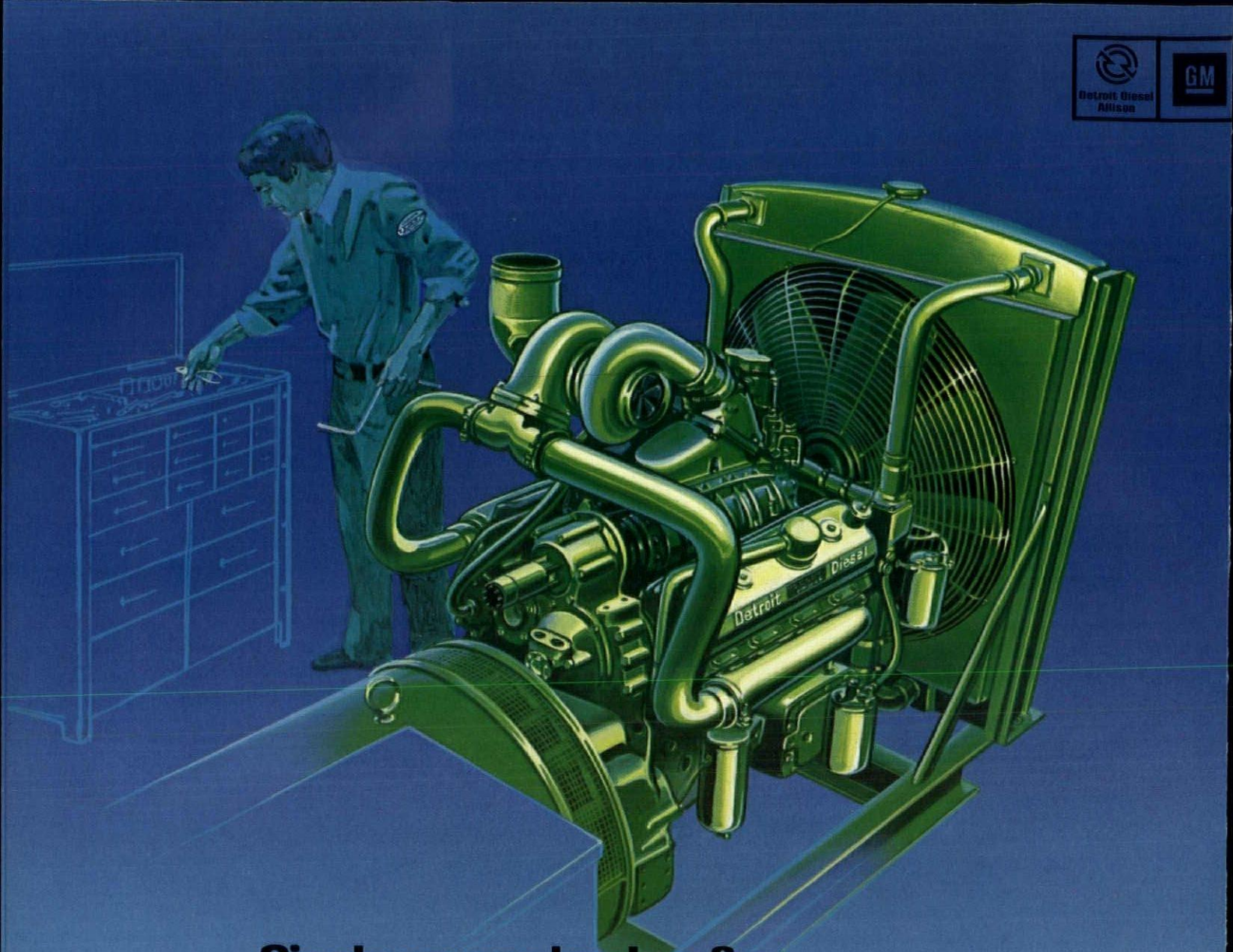


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# ANNOUNCING THE OWENS-CORNING ENERGY AWARD WINNERS FOR 1979.

**FOUR WINNERS.** Seven honorable mentions. In all, eleven designs as efficient with their environment as they are with energy.

Designs representing the labors of an elite corps of architects and engineers. Individuals who realize that the need to create exciting, energy-efficient buildings is not just a noble gesture but a necessity.

On the following pages are the four winning designs. Their creators. And the environment with which each structure will coexist.

**THE AWARD JUDGES:** C. William Brubaker, executive vice-president of Perkins & Will, Architects, Chicago/ G. Day Ding, head of the Department of Architecture at the University of Illinois/ David L. Grumman, president of Enercon, Ltd., Energy Consultants, Evanston, Illinois/ George E. Hartman, a partner in Hartman-Cox Architects, Washington, D.C./ Roderick R. Kirkwood, a partner in John Graham and Company, Architects, Seattle/ Mortimer M. Marshall, Jr., director for Construction Standards and Design, Office of the Secretary of Defense, Washington, D.C.

**PROJECT: Solar Energy Research Institute, Golden, Colorado.**

This research center is a perfect example of practicing what one preaches.

A steplike complex of two-, three- and four-story buildings interspersed with greenhouses and solar courts. All nestled in a natural "sun bowl" on the south slope of a Colorado mesa. Protected from the winds, yet open to the full force of the sun.

Over 80 percent of the building's power is passively and actively supplied by energy systems using renewable resources.

In total, this "tribute" to solar power will consume less than a quarter of the energy required by comparable buildings.

MR. DING: *This structure not only houses energy research facilities, but also demonstrates state-of-the-art technology in solar and other renewable energy sources.*

Paul Kennon, Caudill Rowlett Scott, Archt., Houston, Tex.; John Anderson, John D. Anderson & Assoc., Archt., Denver, Col.; Vic Langhart, Rogers Nagel Langhart, Archt., Denver, Col.; Fred Dubin, Dubin-Bloome Associates, Eng., New York, N.Y.

Helmut Jahn, C.F. Murphy Assoc., Archt.; Frank Bridgers, Bridgers and Paxton, Eng., Albuquerque, N. Mex.; James Goettsch, C.F. Murphy Assoc., Archt., Chicago, Ill.

**PROJECT: Department of Energy/Argonne National Laboratories Program Support Facility, Argonne, Illinois.**

It's four-fifths office building. And one-fifth water retention pond.

Circular and compact. A design that's perfectly tuned to the nondirectional nature of the building site. And one that offers minimum exterior wall space; maximum office space.

Skylights are interspersed across the undulating roof providing up to 65 percent of the interior lighting.

On the southside overlooking the pond are three canted, vertical rows of solar collectors.

The mechanical system utilizes solar for heating and cooling, internal heat recovery and a low-velocity air distribution system.

MR. GRUMMAN: *This building has a projected energy consumption of slightly over 27,000 Btu's per square foot per year. And that's quite an accomplishment in a northern climate.*

Sam Davis AIA, Berkeley, Cal.; Vladimir Bazjanac Ph.D., Berkeley, Cal.

**PROJECT: Summertree Housing Development, Sacramento, Cal.**

Think of this development as 144 individual energy-conserving dwellings. All existing on eight acres of suburban Sacramento soil.

The quintessential housing project. Combining some of the best architectural features of the single-family house with energy efficiency.

Each unit is equipped with both active and passive energy components. Including solar collectors with individual computer controls.

Landscaping and site planning contribute heavily to the development's energy performance as well as to its livability.

Each unit has a southern orientation. Double-glazed windows. And clerestory windows for natural lighting and ventilation.

MR. MARSHALL: *The project is architecturally compatible with the environment. It's refreshing to see a residential developer who is concerned with the integration of energy conservation and architecture.*

**PROJECT: California Farm Bureau, Sacramento, Cal.**

When completed, this two-story structure will be recessed into the earth. With the appropriate sides utilizing screen planting; the west side being bermed out.

The heating, ventilating and air-conditioning systems are designed to save 74 percent of the heating and cooling energy as compared to a conventional plan. The energy savings will be achieved through the evaporative cooling at night of chilled water which is stored and utilized for cooling. Also by computer room heat recovery, and a solar-assisted domestic hot water heater.

MR. HARTMAN: *Here is a very careful pairing of a simple energy-conserving design with sophisticated controls of conventional mechanical equipment.*

Bill Hutcheson, John Pflueger, Pflueger Architects, San Francisco, Cal.; Arthur Zigas, Shlomo Rosenfeld, Syska & Hennessy Inc., Eng., San Francisco, Cal.

**HONORABLE MENTIONS**—Commercial: Central Pre-Mix Concrete Co., Spokane, Wash.; Walker McGough Foltz Lyerla, P.S./Commercial: Sunstructure Office Building, Albuquerque, N.Mex.; The Burns/Peters Group./Institutional: Milford Reservation Environmental Center, Pike County, Pa.; Kelbaugh & Lee Architects./Commercial: North Spokane Branch, Seattle First National Bank, Spokane, Wash.; Walker McGough Foltz Lyerla, P.S./Institutional: Gloria Floyd Elementary School, Miami, Fla.; Saez/Pacetti Architects/Planners./Special: Solar House, Lake Tahoe, Cal.; MWM, Mackinlay/Winnacker/McNeil AIA & Assoc./Commercial: San Francisco Downtown Airlines Terminal, San Francisco, Cal.; Jacques de Brer, AIA, John Ellis, RIBA. ©1980 O.-C.F. Corp.

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# P/A News report

## P/A Awards Program wins 1980 AIA Medal

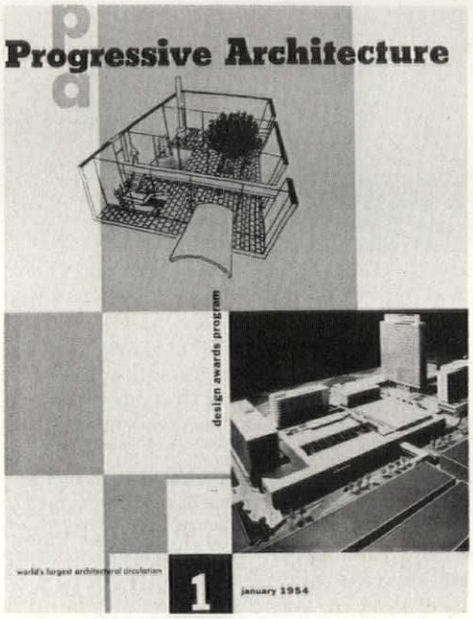
*Progressive Architecture*'s annual Awards program has been awarded a 1980 AIA Medal in recognition of its inspiration of and influence on the architectural profession. The awarding of the medal was made public, appropriately, at P/A's annual Design Awards ceremony on January 18 at the Plaza Hotel in New York.

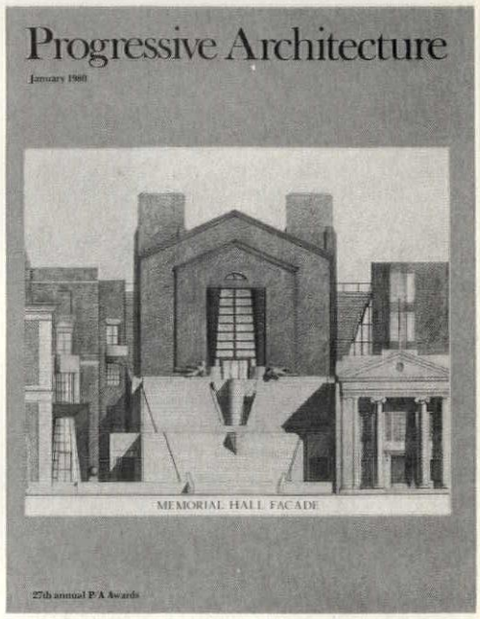
The P/A Awards program was initiated in 1953 to recognize and encourage outstanding architectural design in the project stage. Subsequently, the program was expanded to include urban design and planning projects and applied architectural research.

The competition is open to projects undertaken for a specific client by design professionals in the U.S. and Canada. Projects must be scheduled for implementation during the year in which the award is presented. The awards jury consists of eight distinguished individuals from the three areas of architectural design, urban design and planning, and architectural research. Judging takes place in September; winners are announced in January, and winning entries are featured in the January issue.

In recognizing the Awards program as "the watchword of the evolution of architecture," the AIA Jury on Institute Honors confirmed the program's success in forwarding architectural developments and bringing to realization the cutting edge of design theory. The jury praised the Awards program as "the catalyzer of the best talent and work in this country for years, producing a lively contest between—and a valid platform for—both young and older professionals to test their ideas."

Lauding the program, the jury felt that it had provided a forum for architectural concerns over the past quarter-century: "These design trends . . . were seen in the P/A awards, embodied in real projects, just as they were penetrating the consciousness of the profession as a whole. The effect has been to lend authority to new concepts and approaches, and to hasten their adoption. In attempting to pass judgment on what lay just ahead, the P/A awards program has inevitably become one of the factors influencing the course of American architecture." The medal will be presented at the AIA National Convention in Cincinnati, June 1–4.




*From 1954 to 1980: twenty-seven years of P/A Awards, recognized with an AIA Medal.*

**Other winners**

AIA medals are also being presented this year to landscape architect M. Paul Friedberg and to architectural acoustician Cyril M. Harris, both in recognition of their individual contributions to the architectural profession. Friedberg, noted for his design of urban parks and playgrounds, was praised for his ability to "introduce a new dimension of life for different ages and social groups in the urban environment." A partner in the New York firm of M. Paul Friedberg and Partners, Friedberg has been a vice president of the American Society of Landscape Architects since 1976. The founder and director of the program in landscape architecture at the City College of New York, he has also taught at Pratt Institute, Columbia University, and the University of Pennsylvania. Among his best-known works are the Riis Plaza and Amphitheater, New York; Niagara Falls Rainbow Center and Winter Garden (P/A, Aug. 1978, p. 72); and Peavy Plaza, Minneapolis.

Harris, a professor of architecture and engineering at Columbia University, was recognized for his "ingenuity and dedication . . . not only to the progress of science, but also to the development of sound within the human environment and architectural space." As an acoustical consultant, Harris has assisted in the design of such major facilities as the new Symphony Hall in Salt Lake City; Avery Fisher Hall and the Metropolitan Opera House in New York's Lincoln Center; and the Kennedy Center auditorium in Washington, DC. A member of the National Academy of Engineering, Harris received the Academy's Sabine Medal in 1977. In the same year, he was also awarded the Philadelphia Franklin Institute's Franklin Medal for his contributions to the acoustical engineering.

Another AIA medal went to Lady Bird Johnson for her "strong and continued interest in the preservation of the environment, both built and natural." The former First Lady's accomplishments include the founding of the Committee for a More Beautiful Capitol in 1965, the spearheading of the Highway Beautification Act of 1965, and the Historic Preservation Act of 1966.

The Rouse Co. of Columbia, Md, received an AIA medal as "a group responsible for specific accomplishments demonstrating the integration of several disciplines related to architecture." The award was for the Faneuil Hall Market, in Boston, of which Rouse was the developer.

Nine individuals were elected honorary members of the AIA for their contributions to architecture and allied fields: Ise Gropius, Lady Bird Johnson,

**News report** continued from page 23

Paul Mellon, Maria Fay Murray, Walter F. Pritchard II, Mario G. Salvadori, Julian B. Serrill, Mary Chapman Smith, and Mrs. Gerald H. Westby. Nine foreign architects were named honorary fellows of the AIA: John Hamilton Andrews of Australia, Gilbert R. Beatson of Canada, Adolf Ciborowski of Poland, Rafael De La-Hoz of Spain, Norman Foster of the United Kingdom, Leandro V. Locsin of the Philippines, Kingston Loo of Malaysia, Fumihiko Maki of Japan and Richard Joachim Sahl of West Germany.

## Exhibitions

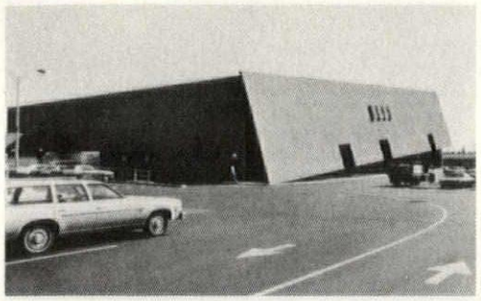
**Buildings for BEST Products**
**Museum of Modern Art, New York**
**Dec. 13, 1979–Feb. 10, 1980**

With the honesty peculiar to the commercial world, the exhibit of six architects' designs for the showrooms of the BEST Products Co. "tells all": The attitudes of the nation's largest catalog-showroom merchandiser, of the nation's foremost museum of modern art, and of some of the best-known "design" architects in the country towards the particular form of commercial architecture that the BEST showrooms represent. The show discloses the concerns of the established trend-setters of commerce and architecture and the way in which these pass at skew angles to each other.

BEST and MOMA invited architects Charles Moore, Alan Greenberg, Robert Stern, Anthony Lumsden, Stanley Tigerman, and Michael Graves to design a company showroom for Anystrip, U.S.A. Photos of built BEST showrooms by SITE, Inc., a showroom by Venturi, Rauch & Scott Brown, and the company headquarters by Hardy Holzman Pfeiffer Associates accompany the drawings and models by the six invited designers.

BEST has already acquired a reputation for its conscious concern with showroom design. Its name has come to be identified with the New York architectural firm of SITE, Inc., which has designed half a dozen BEST showrooms since 1972. SITE's approach to the problem has been to design a prototype showroom box, on which various operations could be performed to make it into a unique building. For the most part, these artistic operations have been confined to the brick showroom façade—peeling it off, crumbling it down, tilting it back—though a recent proposal calls for the box to be transformed into a "terrarium" (P/A, Jan. 1980, p. 42).

BEST clearly appreciates SITE's dualistic designing. The commission for the MOMA exhibit, sponsored by BEST, specified that the showroom box



*Two SITE showrooms: Houston's "Crumbling Façade"; Richmond, Va's, "Tilt."*

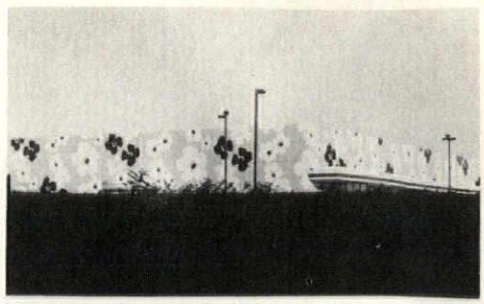
was to remain unaltered; the architecture was to take place on the outside only. BEST's view (which MOMA actively propagates in this show and in a fascinating catalog) is that architecture, insofar as it is art, consists entirely of surface decoration.

SITE's view of commercial architecture coexists profitably with that of BEST. As the photos of SITE projects demonstrate, showroom commissions provide an ideal opportunity for SITE's exercises in architecture as a phenomenological and participatory process.

A built alternative to SITE's approach is Venturi's showroom, whose gaudily flowered wrapping spoofs the architect's own renowned concept of the Decorated Shed by taking that notion to an appropriate extreme. The Hardy Holzman Pfeiffer headquarters building, which cloaks an elegantly organized plan with a graceful curve of glass block, is quite attractive, but addresses a totally different problem.

The six designs which constitute the focus of the show stand in marked contrast to the realized buildings and to the concepts those embody. As objets d'art in a museum-bound sense, they have obviously different parameters. But, while each architect interpreted the commission as an opportunity for the sort of investigation particularly interesting to himself, they are all statements on commercial shopping strip architecture significantly at variance with the comments built by BEST.

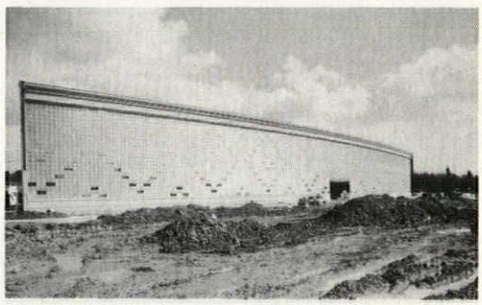
None of the six shares SITE's concern with a democratically public art, nor Venturi's receptiveness to the taste subculture of the strip. Moore, Greenberg, and Lumsden, however, accepted the BEST concept of the showroom: a box with a cover which does not describe or refer to the box's contents. Moore's glittering sculpture, a relief of abstract elephants copied in multiple from those designed for the San Francisco Fair of 1939 by architects Bakewell and Weihe



*Venturi's decorated shed-room.*

and sculptor Donald Macky, is so magnificent it neither needs nor wants the showroom as an excuse for existence. Greenberg's classical colonnade lacks the architect's customary wit. Emulating the dignity of older department stores in the center city, it would surely look like tacky fake Williamsburg on the strip.

Lumsden's design is deceptive. Although it appears at first to deal with the entire box, it merely extends to the corners as well as the planar surface of the front. The design's resemblance to a giant base molding kicked off the build-

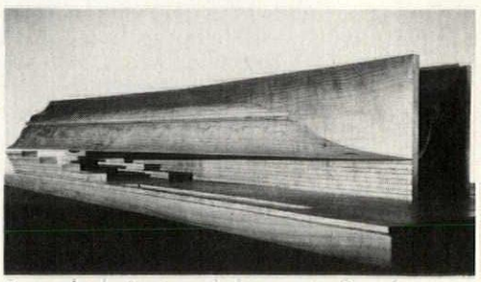


*HHPA's Headquarters for BEST.*

ing makes it appear as some sort of architectural parody of SITE's work, but closer inspection proves its form to be an outgrowth of Lumsden's own geometric concerns.

Though Robert Stern designed only a façade, it implies the building behind. Using symbolic elements from architecture and commerce, the façade describes the showroom and its activity in great detail. Columns bent under the weight of the golden pediment of the temple of commerce are also monuments to capital-ism, being topped with

[*News report continued on page 29*]



*Lumsden's proposed showroom façade.*

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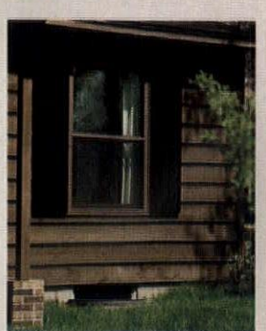

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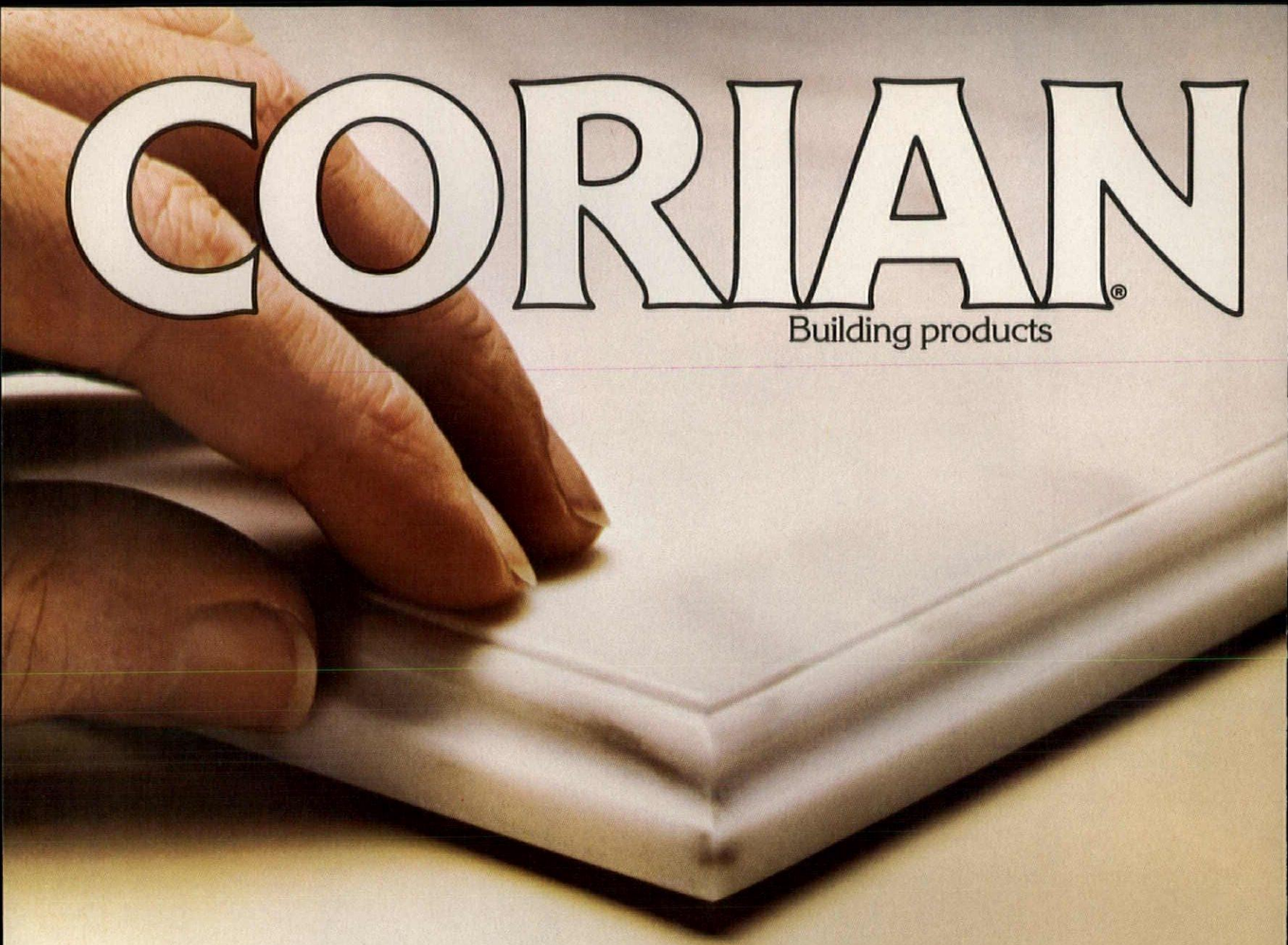


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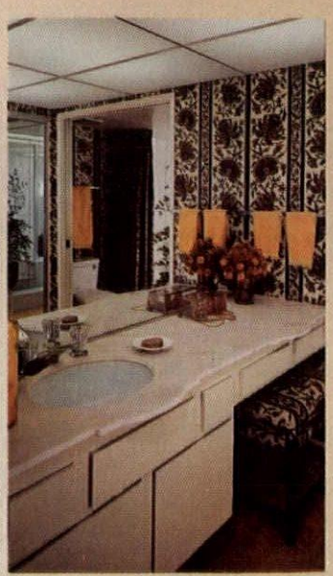

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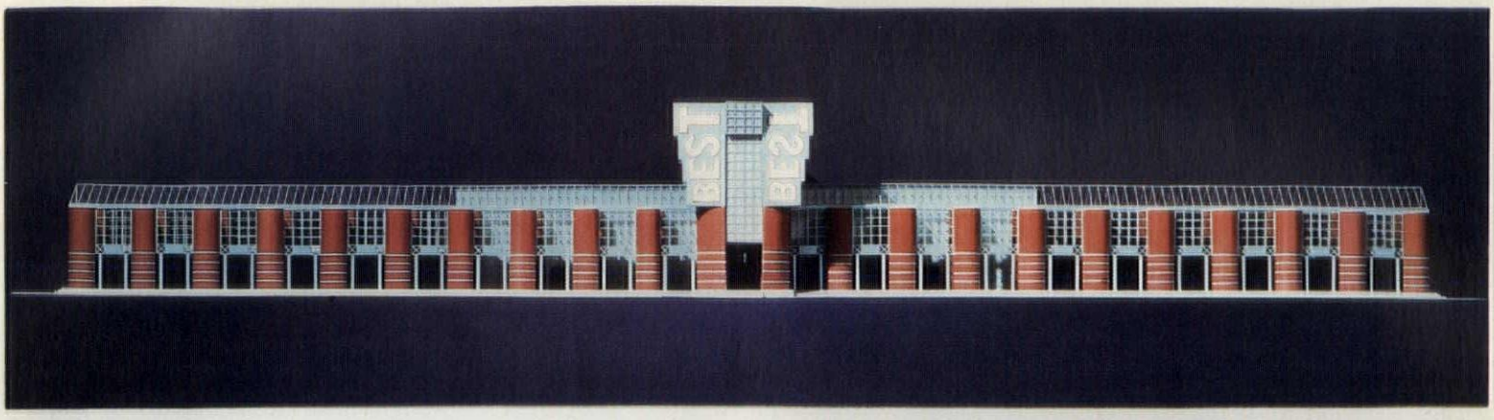
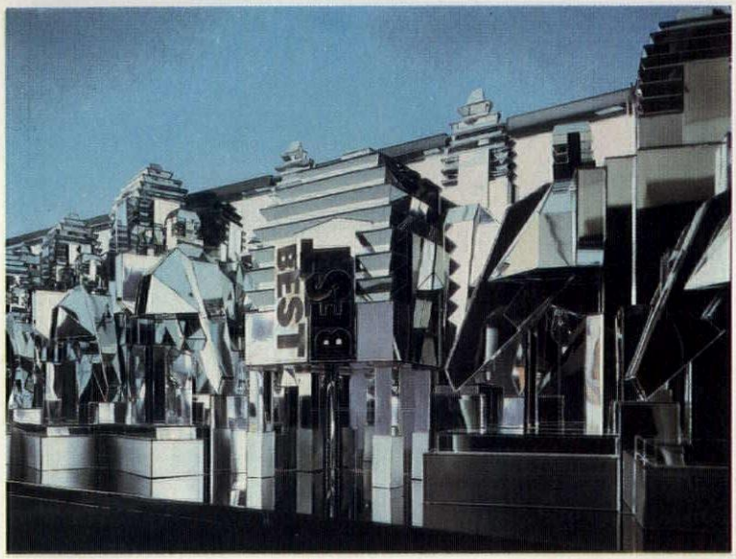
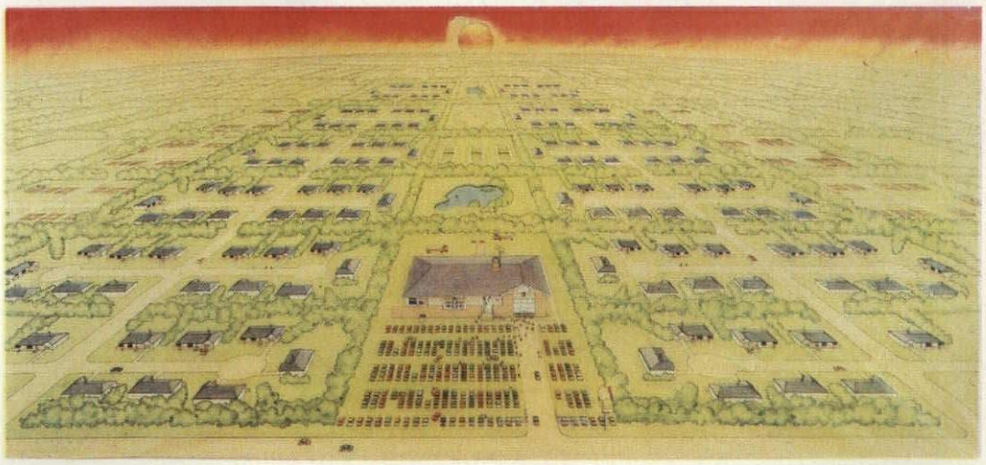




*Proposals for BEST showrooms: Michael Graves's translation of a classical stoa into modern terms, top; Charles Moore's elephant sculpture, center left; Robert Stern's temple to commerce, American style, center right; Stanley Tigerman's giant suburban home, lower right.*



**News report** continued from page 24

metope-cutouts of available items. The whole is baroquely hideous and grandly funny.

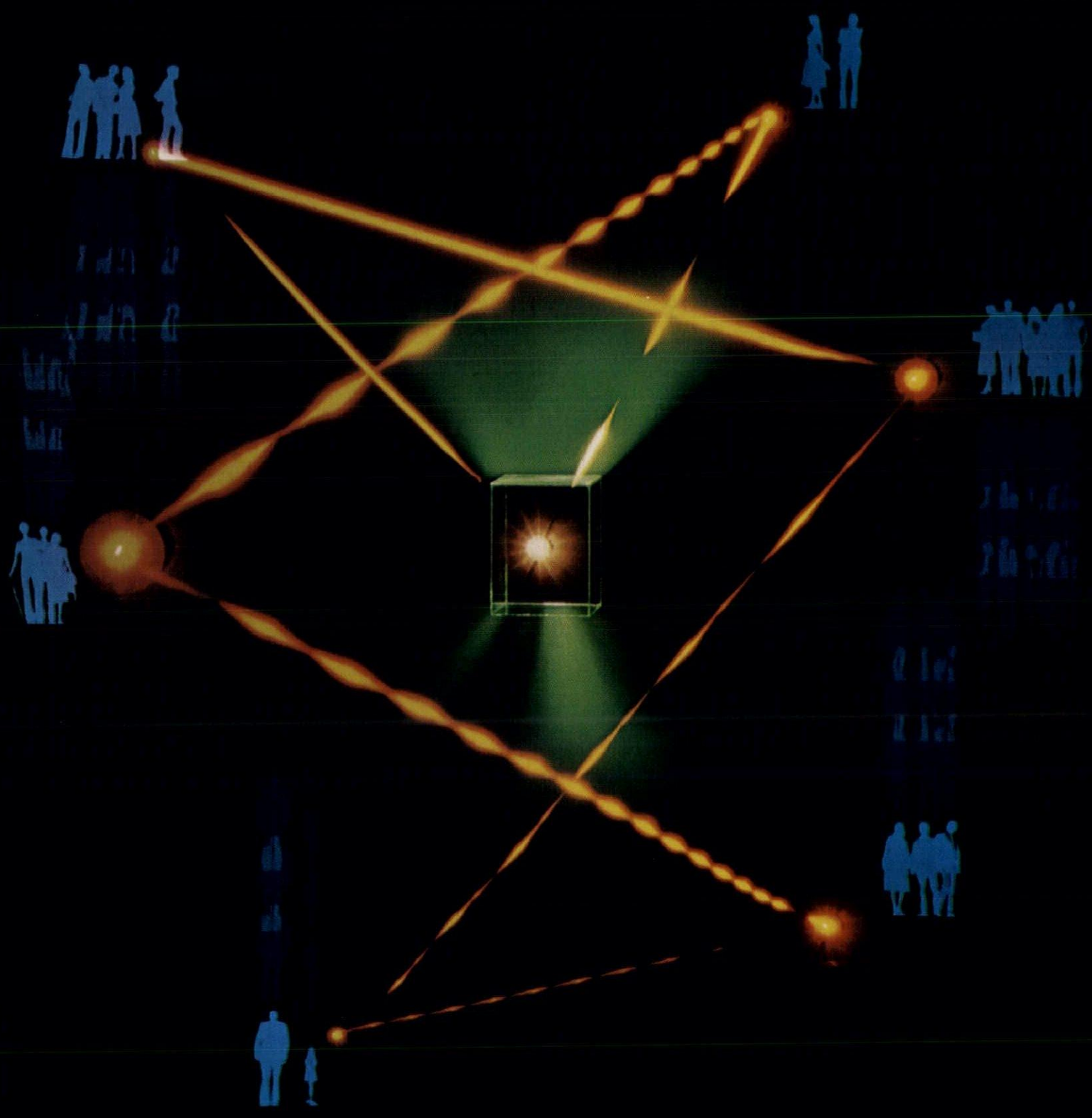
Tigerman's humor is blacker. His vision of the perfect showroom as a monstrously overscaled suburban home grasps the entire building and all it means to its users, and sadistically twists it. The identification of the shopping arena as Super-home is all the more incisive in the light of similar identifications of other commercial strip buildings with that symbol of America (e.g., McDonald's, P/A, March 1979, p. 22). And the elevation showing shoppers walking under a gaping Brobdingnagian garage door is a frightening comment on the mentality that considers man an irrelevant measure of the environment he builds.

Michael Graves's design engages issues on an ambiguous and universal plane, where statements and symbols have no simple meaning. Perhaps because his design functions on a level above any overt or implicit attack on commerce or the built forms which shelter it, the image is all the more subversive. Graves's project constitutes a serious exploration of the formal archetypes of commercial architecture and a translation of those archetypal patterns into a structure whose beauty is appropriate to its specific context. The only one to include a site plan, Graves's scheme is the only one which considers the entire building and its context in terms of architectural form. (Tigerman's house and Stern's temple façade do so in terms of architectural image.)

These schemes by architects reputed for their design talents offer some insight into the current split in the conception of architecture—"a science whose concerns are functional" vs. "an art whose concerns are formal." Out of six projects, three (Moore's, Greenberg's, and Lumsden's) abstain from describing the specific function of the building; two (Stern's and Tigerman's) treat it with a sarcasm in which a degree of condescension is perceptible; one (Graves's) treats it with respect and imagination. Out of this supposed meeting of high design and commerce comes a reinforced awareness of the vast distance between them.

[*News report continued on page 32*]

# Otis Introduces



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Multiplexing—transmitting several signals simultaneously over a single wire—has reduced traveling cables from an average of three cables, each carrying about 70 wires, to a single cable with about 50 wires, further reducing installation time.

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**News report** continued from page 29

## Les Halles I: The official plan

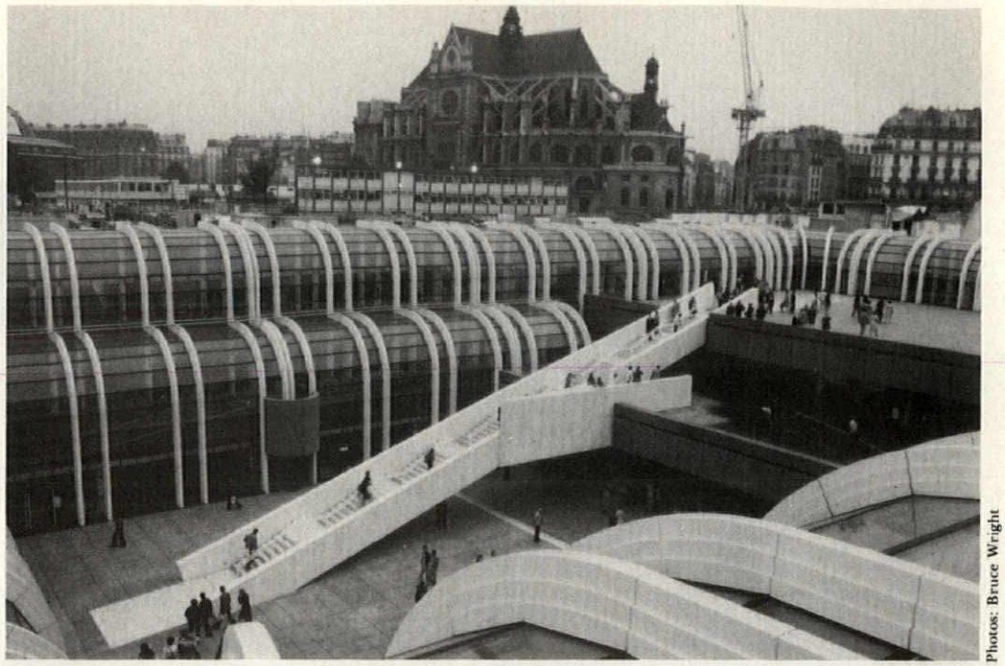
Mayor Jacques Cirac's Nouveau Plan Definitif (New Final Plan) for Les Halles, once the "stomach" of Paris, has at least one advantage over its numerous "Final" predecessors in the last ten years. One part of it has been built and opened to the public. The Forum des Halles, a 430,000-sq-ft, four-level underground shopping center, located over the intersection of the new R.E.R. mass transit system and the city's largest Metro stop, was dedicated by Mayor Chirac on September 4, 1979. The $150-million complex, designed by the Parisian architectural team of Claude Vasconi and Georges Pencreac'h is the initial step in Chirac's $1.1 billion plan for the 25-acre site created when Victor Baltard's 12 grand cast-iron and glass pavilions were razed in 1971.

The model unveiled at the Forum's opening showed: to the south of the Forum along the Rue Berger, a 100-room luxury hotel; to the east along the Rue Pierre Lescot, a commercial row; to the north along the Rue Rambuteau, a huge power plant cloaked by public housing; and to the west, in front of the Bourse de Commerce (in what is presently a large hole), another underground complex, containing anything from exhibit space to Bourse facilities, covered by a formal garden and amphitheater.

"Definitive" as it may be called, Chirac's plan does not represent an unquestionably satisfactory solution to the problem of the Les Halles site. Indeed, a group calling themselves the "Syndicat de L'Architecture de L'Île de France," disturbed both by the project itself and by the method by which it was conceived, has called a "Consultation Internationale," intended to provoke a broad architectural and urban planning debate focused around the presentation of viable alternative schemes, chosen by competition. (Results of the competition and related symposiums will be covered in a subsequent report.)

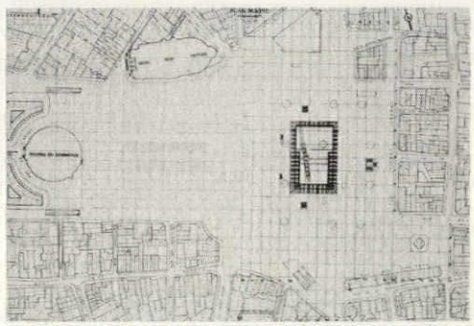
**Une mauvaise histoire**

Problematic since the 1920s—at which time Le Corbusier's Voisin plan proposed razing the entire area to erect tower blocks—the Les Halles district became a pressing issue in the late 1950s. Lacking any organized transportation system, the neighborhood could not handle the traffic generated by the 20 percent of France's food supply that the market handled. The vegetable and meat markets were moved to Rungis and La Villete, respectively, in 1969. And, despite massive protest, the pavilions, designed by Baltard in 1845 and built between 1857 and 1936, were destroyed in 1971—just at the time when the city was seriously considering the since-completed R.E.R. (Regional Express Network), an underground transit system that has done much to solve the area's transit traffic problem.

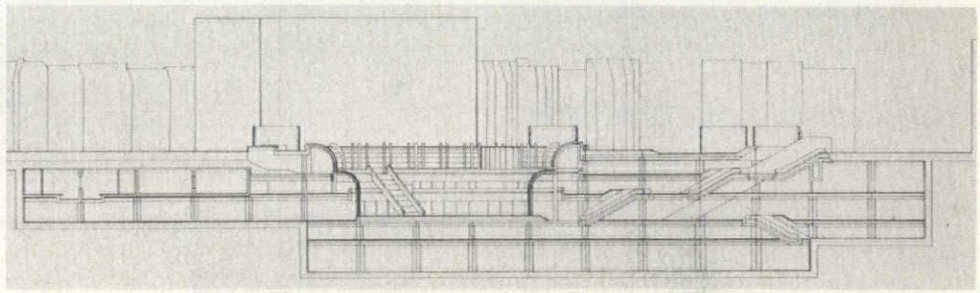


Photos: Bruce Wright

*The Forum des Halles, by Vasconi and Pencreac'h, is the first step in Chirac's controversial plan for the Les Halles site. Top, plaza; below, arcade.*



SITE PLAN



SECTION LOOKING NORTH

Despite a Trojan War of polemic, the program for the site has changed little since the plan approved in 1969 by the Council of Paris. That scheme, drawn up by the Atelier Parisien d'Urbanisme (APUR) with Louis Arretche and Pierre Faucheux as consulting architects, called for an underground pedestrian network, a forum, a hotel, commercial center, and a cultural complex—in short, a jazzed-up shopping center. Now, after a decade of reshuffling, the architects responsible for the original scheme, with its emphasis on shopping and leisure-oriented commerce, have been reinstalled: though Chirac has appointed himself architect in charge of Les Halles (!), APUR is doing the design schemes and Arretche has been named to design the formal garden.

The Forum project was won in 1973 by the Vasconi-Pencreac'h design, done for SERETE Amenagement, a development firm known for their shopping malls: the Cergy Pontoise shopping center, completed in 1974, and the La Défense shopping center, to open this year. (The former project was designed by Vasconi in association with André Georgel Architects.)

To oversee the development of the project, the Société d'Économie Mixte pour L'Amenagement des Halles (SEMAH), a public-private corporation, was created in October 1969, under the direction of M. Christian de la Malene, deputy mayor. (The SEMAH is responsible for the public-sector construction, for contracting with private-sector developers, and for the relocation of the area's residents.)

[*News report continued on page 38*]

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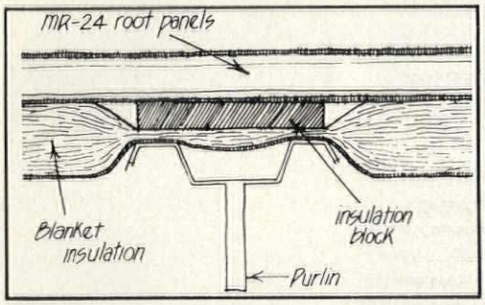


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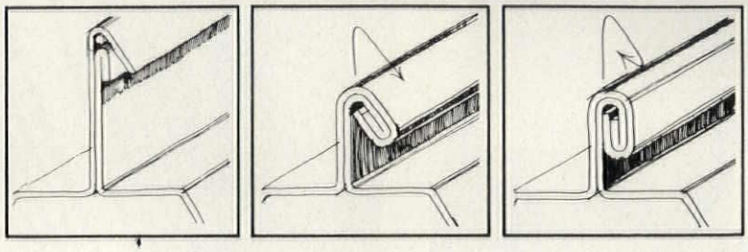

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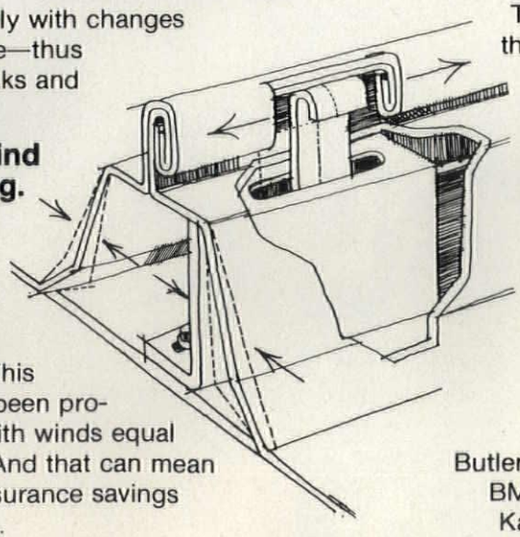

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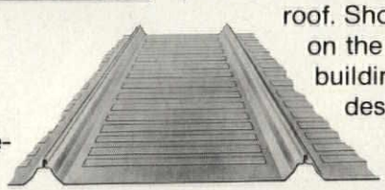

### Comparative U values.

| Roof System | *Calculated* U value | Butler tested *Actual* U value |
|---|---|---|
| 1. Built-up roof with metal deck | | |
| 2" insulation | .15 | * |
| 4" insulation | .07 | * |
| 2. Industry standard metal roof | | |
| 2" insulation | .12 | .19 |
| 4" insulation | .06 | .12 |
| 3. Butler MR-24 Roof System | | |
| 2" insulation | .12 | .12 |
| 4" insulation | .06 | .08 |
| 6" insulation | .04 | .07 |

*No tested U values available.

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HISTORY

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**News report** continued from page 32

Attacked for its failures from various sides, most of Les Halles project has so far been mired in bureaucracy and mud. Two abandoned foundations on the site testify to the unsuccessful attempts of other groups to have their interests represented: the International Trade Center, commissioned in 1973 under Pompidou to house multinational and high-tech corporations, and the "Bâtiment Bofill," a block of public housing and stores designed by the Catalan architect Ricardo Bofill in 1976.

But the Forum, backed by the "old money" of Paris, the merchants and bankers, remained an unquestioned part of the scheme. Indeed, as the first step in the new Chirac plan, it heralds the victory of the economic bourgeoisie represented by that plan.

The Forum, hailed by the establishment press as "a crater of light," an inverted glass pyramid, is a design calculated to be profitable. The Metro and R.E.R. provide a constant flow of potential clients; the nearby Centre Pompidou acts as a drawing card. An estimated 150,000 persons will pass through the Forum daily. The design, catering to the market, consciously creates a luxury image appropriate to the boutiques renting the space (for annual rents as high as $800 per sq meter). Materials, architectural elements, even daylight are manipulated to project a modern elegance. Three levels of retail space in two arched "steps" descend to a sunken plaza 45 ft below street level. On one side of this somewhat irregular rectangle rise two stepped terraces. Slashing through the two terraces, a staircase clad in white marble unites the three plazas. The vaulted glass galleries, whose steel supporting arches are clad in white enameled aluminum panels, cover walkways lined by shops. The fourth floor down, linked to the R.E.R. concourse, is lit by light wells. The arch

Photos: Bruce Wright

*Light, spacious plaza frontage, but low-ceilinged shopping areas.*

motif is recalled in a perfunctory fashion on the interior. Punctuated by pillars, the labyrinthine space is somewhat unified by the uniform treatment of the store fronts; they, like the pillars, are clad in black ceramic tile. Globe lights à la Pei define the area surrounding the courtyard as a promenade while the darker areas remind the customer that this is an interior.

If it all breathes an air of chic and cher, it's because it is. SERETE spent some $150 million on the project, of which about $50 million went to SEMAH as land taxes. The city of Paris, on its part, has invested an estimated $50 million for the infrastructure (utilities, roads, etc.) and the basic framework necessary to construct an underground structure. It is estimated that the forum represents about a billion francs of invested capital—about one-fifth of what the total Les Halles project is expected to cost. More distressing to socially minded Parisians is the fact that while 65 percent of the financing is obtained from the public purse, 85 percent of the usable space is given over to large private corporations. The CGPME, a small businessmen's association, has lodged a formal complaint with the city planning commission, and city government officials of leftist parties have attacked this "pillage of public funds."

That the Forum is one huge architectural gaffe is not the architects' fault. First, continual changes in the overall plan for Les Halles meant not only that the axis of the project had to be changed in mid-construction, but that the Forum became of necessity a self-contained unit, without reference to future surroundings. Originally, Vasconi and Pencreac'h had planned the Forum to cascade toward an open-air theater, adjoining the formal garden in front of the Bourse. But when no decision on the shape or even the existence of theater or garden was forthcoming, the decision was made to enclose the fourth side—a move which, Pencreac'h has said, "is something we regret."

Second, the program—for 40,000 sq meters of commercial space on four levels with 20,000 sq meters of pedestrian tunnels—all underground—is a troglodytic conception antipathetic to Paris, whose open-air spaces have always been the defining glories of its urban profile. Despite the remarkable success of the arched glass galleries in opening and lighting the adjacent areas, the cumulative effect of the arch motif, the 8-ft ceilings, and the disorienting complexity of the tunnel network is, in the recessed parts of the interior, like a catacomb.

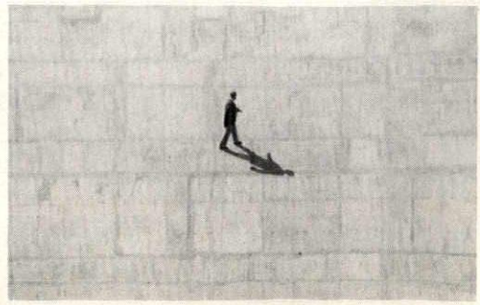
Finally, the basic architectural parti —the waterfall of arches—while cleverly conceived, was irretrievably marred in its implementation. At the corners of the galleries the elegance of the detailing can be perceived; allusions to the Gothic buttresses of neighboring St. Eustace seem, here, not too far-fetched. But the total effect is botched by the squatty, disproportionately low top arch, which falls from an unattractive 5-ft-high box. To do the architects justice, their original scheme called for the top story to arch 18 feet above ground, which might well have created the soaring effect aimed for, and would have linked the below-ground levels to the surrounding streets. Another defacement was the addition of the monumental stair, a heavy-handed bit of geometry rather at odds with the arches. Introduced at the last moment as a fire escape, the stair drastically reduces the apparent size of the central court, which the boxed-in space can ill afford.

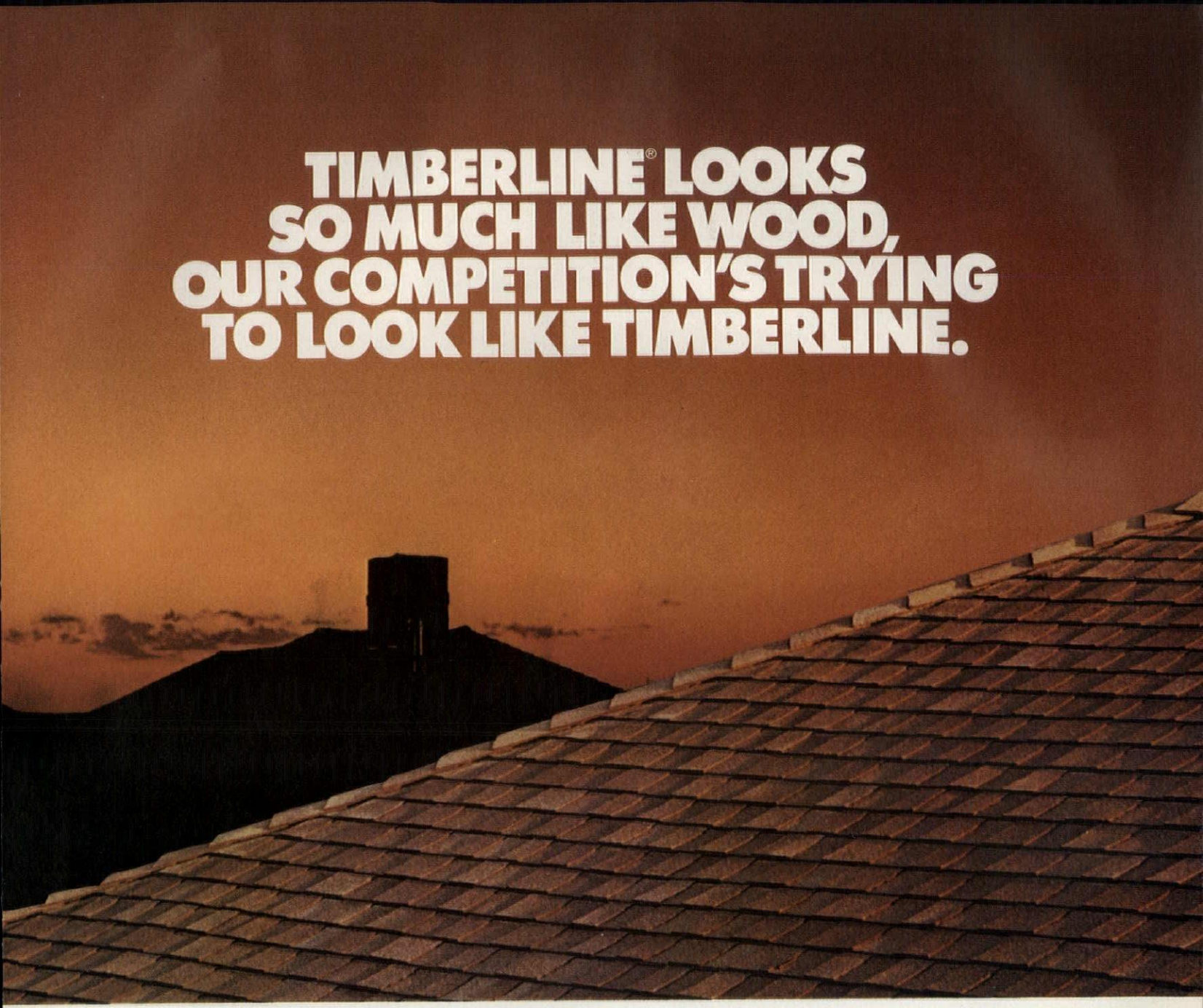
Plans for the rest of Les Halles include a great deal of cover-up for the Forum. Several above-ground excrescences remain to be camouflaged by landscaping and/or architecture. The box containing the Forum is to be concealed by a garden; the numerous ventilation chimneys by plantings. The worst extrusion of all, containing the support systems and power plant for the underground structure, a windowless, 5000-sq-ft triangle, towers above the surrounding buildings. Chirac plans to cover the "bunker"—as Parisians call this monstrosity—with a housing project which he states will be "not . . . a singular, surprising, original ambitious and prestigious urban or architectural object."

Chirac's controversial New Final Plan represents a vision of Les Halles equally domineering, but diametrically opposed to Le Corbusier's Voisin Plan of 1923. Corbusier put forward architecture as the answer to the urban blisters created when one age rubs against another. Chirac, in his pursuit of an architecture of noninterference, denies architecture any active part in the search for a better fitting environment.

*Research for this article was done by Bruce Wright in Paris.*

[*News report continued on page 42*]



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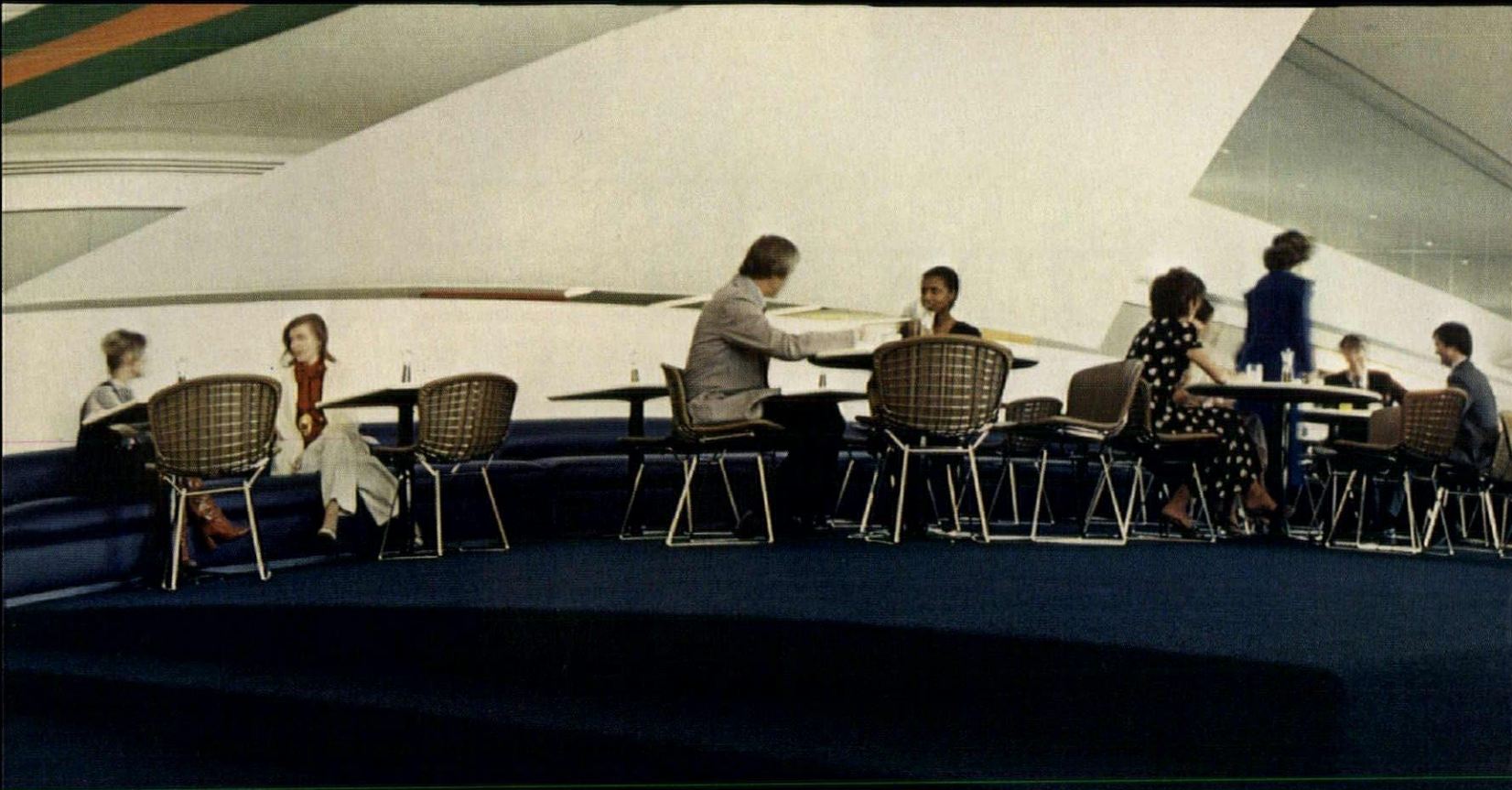

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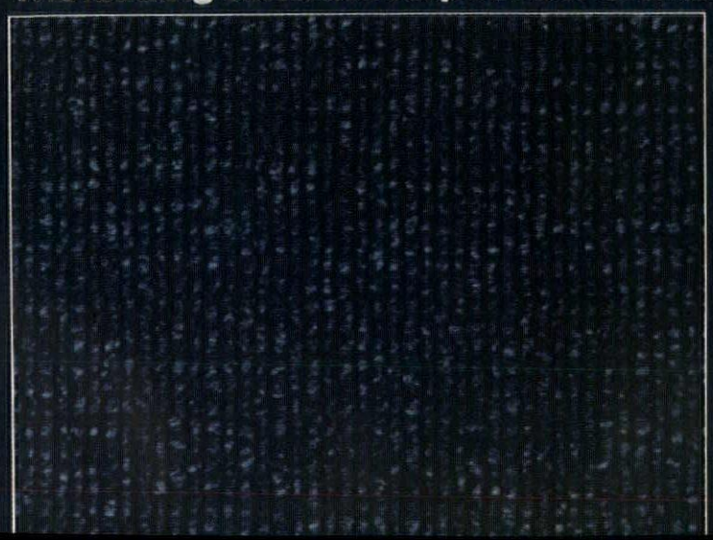

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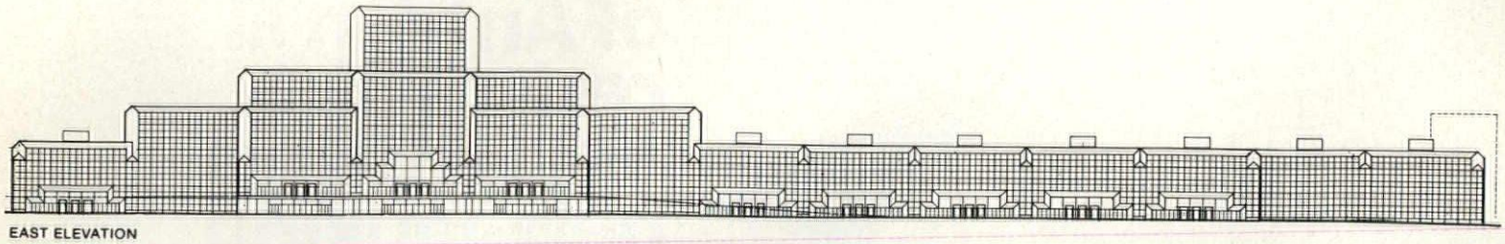
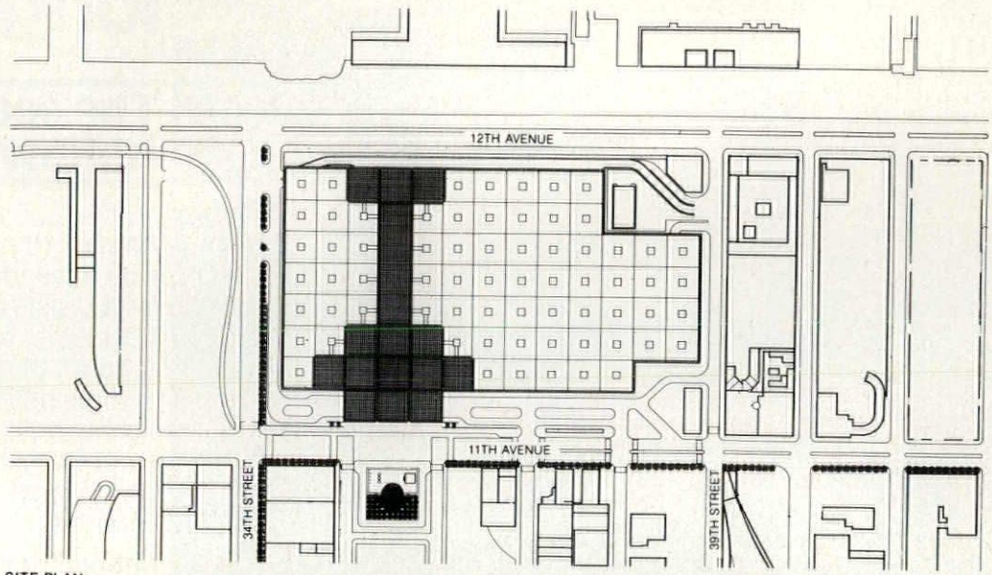
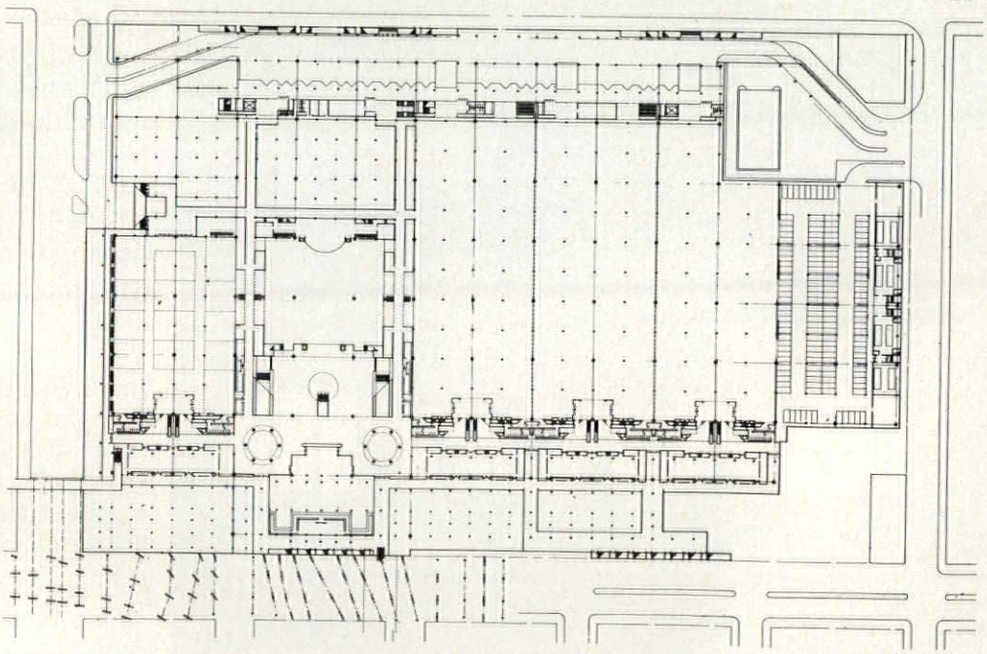


EAST ELEVATION

# Pei's Convention Center crystal behemoth




SITE PLAN



FLOOR PLAN EXHIBITION LEVEL

Unveiled before a roster of New York state and city officials last December 11, I.M. Pei's $375 million Convention Center for New York City covers five blocks in cubic masses of steel space frame and reflective glass, to form a structure surprisingly light and graceful for its bulk. The Center, whose architects are the Pei firm's New York office in association with Lewis Turner Partnership of New York directed by James Freed, will be built over Penn Central's rail yards located between 11th and 12th Avenues and 34th and 39th Streets on Manhattan's West Side. At 1.8 million sq ft, it is the largest public building constructed in New York City in several decades, and its 500,000-sq-ft exhibition hall on the upper story will be the largest such hall in the country on a single floor.

The exhibition space, arranged on two levels, is overlooked by a skylit galleria running through the building from east to west between 35th and 36th Streets. Marked on the 11th Avenue façade by a grand entrance hall, a pile of cubes of space frame and glass that rises to 130 ft at the central point, the galleria provides an off-center spine for the building, articulating and thus lightening its mass. The 12th Avenue end of the galleria side is identified by a somewhat lower cubic mass, rising above the roof of the Center, and covering a terrace restaurant with a panoramic view of the river. Adjacent to the entrance hall is the large exhibition hall on the upper level; on the lower level is another 250,000-sq-ft exhibit hall, 100,000 sq ft of meeting and special events rooms, and 35,000 sq ft of space allotted to restaurants. Running north-south through the building is a 90-ft-wide concourse, located at a level between the two exhibition halls, which will house ticketing, information, and registration facilities, as well as 35,000 sq ft of office space.

The building will be further modulated by the use of various types of opaque and transparent glass on the façades: the 11th Avenue façade will be transparent at the street level and reflective above that; the galleria and the area overlooking the water will also be wrapped in transparent "vision glass." Low and light, the structure appears to deserve Pei's description of it as inspired by the Grand Palais in Paris.

The building seems designed to perform its function admirably. The 90′ x 90′ module on which the structure is based allows flexible use of the space; each module has its own HVAC system, so that the hall can be run in slices, as it were, with only the mechanical system for the space being used in operation. A two-level entry system on 11th Avenue allows pedestrians to enter at the highest level, between 35th and 36th Streets, while channeling traffic into a two-way roadway parallel to 11th Avenue and below the pedestrian entry. Three options for mass transport are currently being discussed: a light rail; a spur line from Penn Station, or a spur from 42nd Street; and shuttle bus service is also planned.

The Center evinces a degree of re-

[*News report continued on page 46*]

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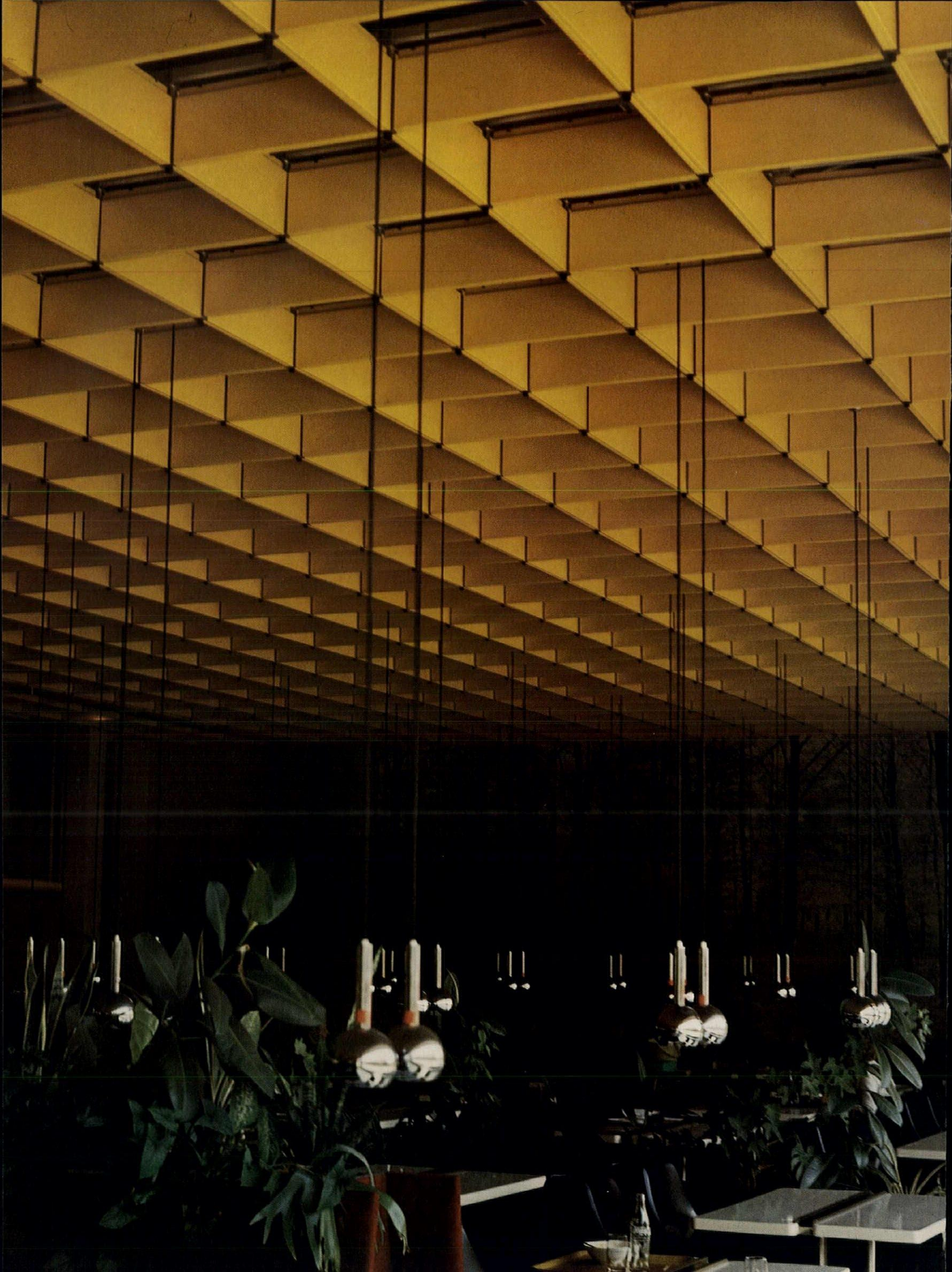

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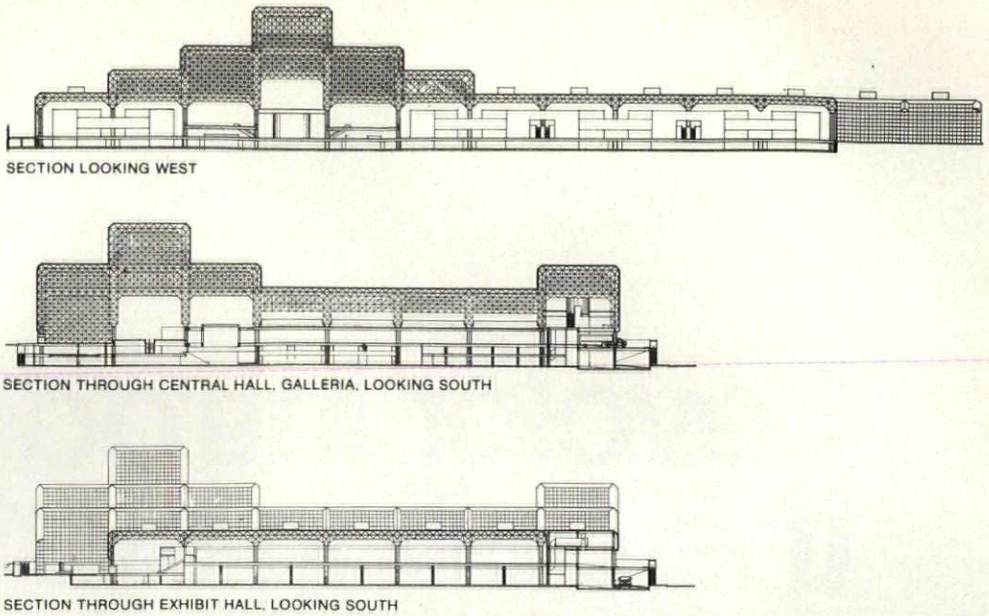
**News report** continued from page 42

spect for its urban context rare in such a grand scheme. The visual focuses of the building are its public spaces: the entry hall and gallery. These should also keep the building alive, encouraging a diversity of uses and movement within it.

The Center not only refrains from aggressively dominating the area—as much as a building that size can—but reaches out to its surroundings. Across from the major entrance on 11th Avenue, a one-acre plaza is designed to continue the galleria and its activities into the surrounding neighborhood. Whether the plaza becomes an animated space or a windswept expanse of asphalt depends on the way in which future development in the area is guided. Even the best convention center, surrounded by parking garages, is an urban cancer; mixed-use development is imperative if the area is to take advantage of what Pei is offering it with his building.

The Convention Center is a quiet, generous behemoth. It is to be hoped that all its potential to revitalize the lower West Side will be realized.




*Sections through Pei's Convention Center show its gracious yet functional resolution of the program; the space-frame exterior lightens the quiet low-lying mass.*

## Recycled headquarters for National Trust

The National Trust for Historic Preservation, following the advice it often gives others, has recycled an old building for its new headquarters in Washington, DC (P/A, Jan. 1979, p. 52).

The Beaux-Arts building just off Dupont Circle at 1785 Massachusetts Ave., NW, was designed by J.H. de Sibour as luxury apartments in 1917 (the five-story-plus-basement structure had only six units). The National Trust bought the structure in 1977 and is spending nearly $3 million to renovate and restore it. The organization moved to its new offices in August.

The building has a rich history. Andrew Mellon had the top floor apartment, and it was there that he founded the National Gallery of Art. Other residents included Lord Duveen, from whom Mellon bought the collection that started the gallery, and the legendary Washington hostess, Perle Mesta. Each 11,000-sq-ft apartment had an oval foyer, a mammoth drawing room, dining room, library, six bedrooms (as large as 25 ft square) with connecting baths and the necessary kitchen, pantry, and storage space. A separate circulation system connected the seven floors of mezzanines at the rear that had more than 40 servants' rooms. The building has 15-ft ceilings throughout, extensive plaster moldings, and 45 fireplaces, many with marble mantels.

It was converted to office use at the start of World War II (one tenant in recent years was the AIA, which moved there while its new headquarters was under construction). When the National Trust acquired the building, many of the rooms had been partitioned into small offices. Air-conditioning ducts had been attached to walls. In general, little concern had been shown for the aesthetic qualities of the space, and some of the superb detailing had been obliterated.

Nicholas A. Pappas, partner in charge of the renovation for the architects, Yerkes, Pappas & Parker of Washington, said the hardest task was installing the necessary electrical, lighting, and air-conditioning systems needed to bring the building up to contemporary office standards and codes without damaging the integrity of the space.

Nonoriginal partitions were removed and most rooms returned to their original size. Air-conditioning ducts were placed inside walls with unobtrusive grilles near the ceilings to act as returns, while the feed utilizes existing grilles under the windows. Master craftsmen recreated the plaster detailing.

A barely noticeable utility chase replaced the baseboard in most rooms, and the ceiling-mounted fluorescent lighting makes a subtle but contemporary statement. A solar collector mounted on the roof heats 60 percent of the building's domestic hot water.

Recycling of old buildings often requires the use of "found space." A polygonal vent and vertical light shaft were utilized for a code-mandated second stair, artfully—and delightfully—inserted.

The Trust, which was previously located in Decatur House on Lafayette Square opposite the White House and in six other rented locations within a two-block radius, wanted to get its staff back together under one roof. This project succeeds in that regard, as it does economically (the project cost was approximately $40 per sq ft), while allowing for expansion (the fourth and fifth floors are now leased out). And this effort also means the preservation of an important National Historic Landmark. [Carleton Knight, III]

[*News report continued on page 50*]

*Living room converted to general office, left, president's office, right.*

Photos: Carleton Knight

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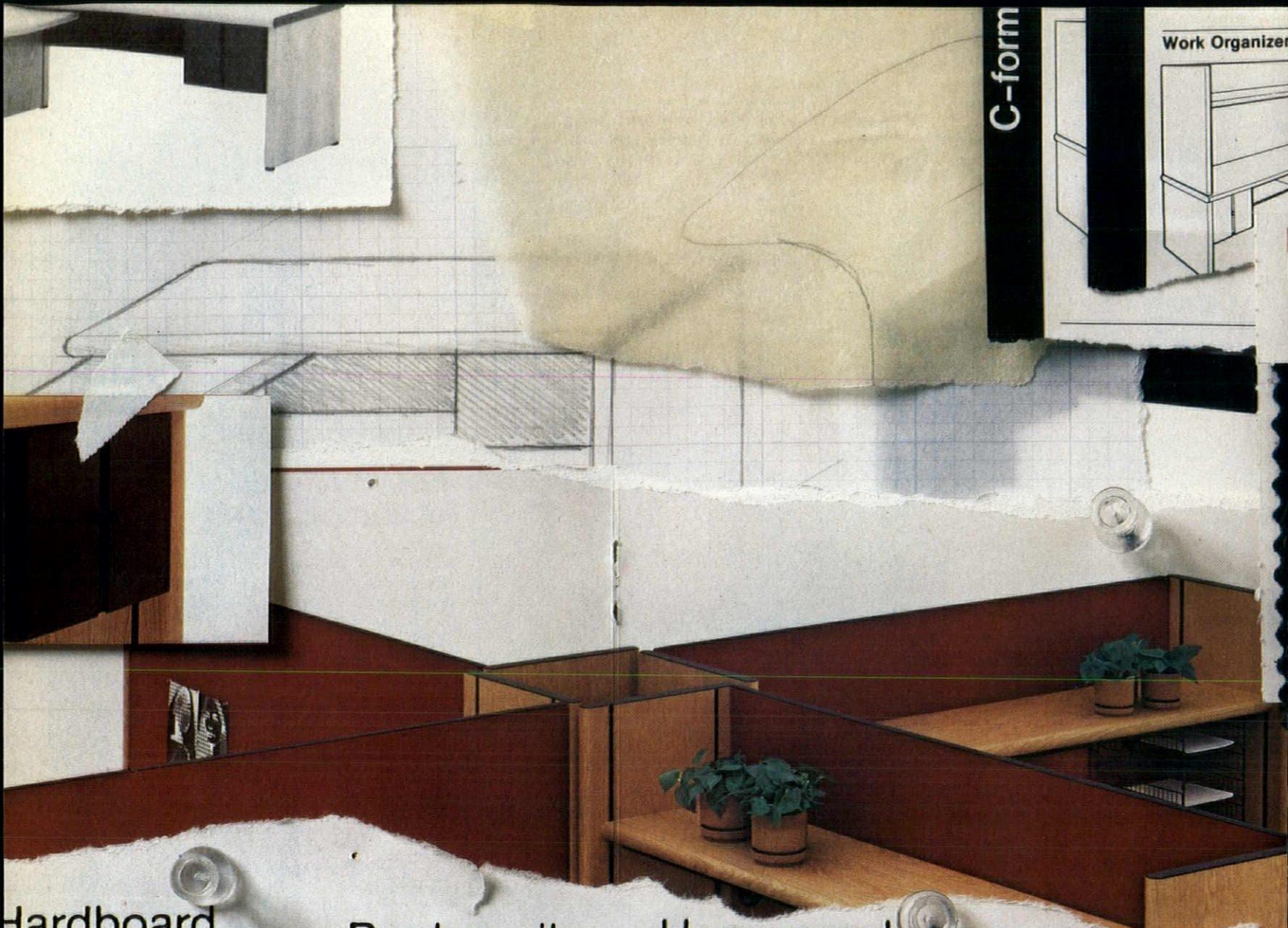

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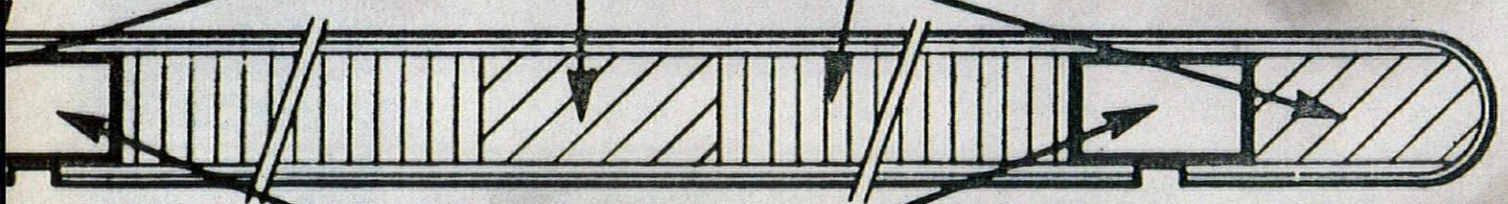

Steel tubes

edge

h 26 1/4 *(h 656)*
top size: d 22 3/4, w

pedestals: left to ri

file drawer/file draw
file drawer/2 box dra

CD275 2 pedestals ri
CD276 2 pedestals ri

h 26 1/4 *(h 656*
top size: d 22

h 62 *(h 1550)*
top size: d 22 3/4, w 70
with knee space; two she

left pedestal

CD331 file drawer
standard 3800 panel fabric
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file drawer

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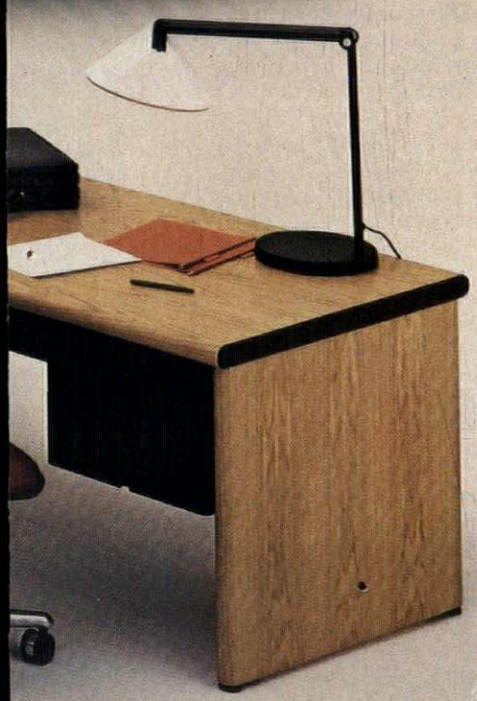
tiles
d, Michigan 49464



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**News report** continued from page 46

# Energy update

## Less wastes less in DBA design

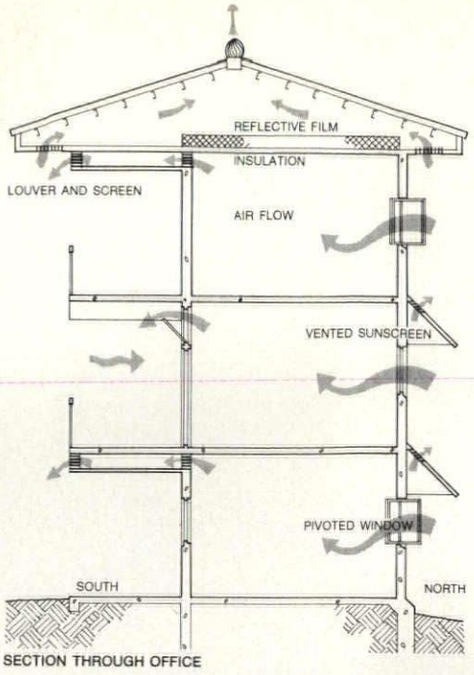
A recent redesign of the headquarters for the United Nations Environmental Program (UNEP) demonstrates how thorough programming and energy conscious design can produce a simple, energy-efficient solution. The project, in Nairobi, Kenya, was begun in 1977 by a design team composed of Mutiso Menezes International (MMI), a Nairobi firm, and Derek Lovejoy & Partners, a British firm. Mechanical engineer for the project was Carl Bro of Kenya (CBK).

In mid-September 1978, Fred Dubin, of Dubin-Bloome Associates P.C., was retained by the architect on the recommendation of the UN. Although preliminary design had begun, Dubin's role as design and energy consultant had a profound effect on the design.

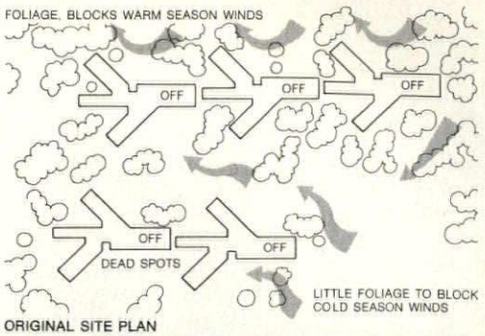
The basic program called for two large conference halls, a group of six office blocks, a library, and several support buildings, 325,000 sq ft in all. The new buildings are intended to supplement the seven existing office blocks that serve as the temporary UNEP headquarters. The UNEP wanted a decentralized campus plan, with buildings three stories high or less to eliminate the need for elevators.

Nairobi's high altitude and sunny climate (temperatures average 82 F in summer from October to May) create a greater need for natural cooling than heating, though the chilly winter mornings (when it can drop to 55 F) make a degree of passive solar heating through direct gain not unwelcome. The primary climatic parameters were the brutal equatorial insolation patterns and the steady winds. The precise interaction of these two factors with the location and nature of the site, a small hill on the city's edge, was determined through microclimatic and topographical data analysis. DBA also visited and interviewed the occupants of the existing UNEP office blocks, of downtown offices, and of local buildings to determine what building types and characteristics made for the most comfortable workplace.

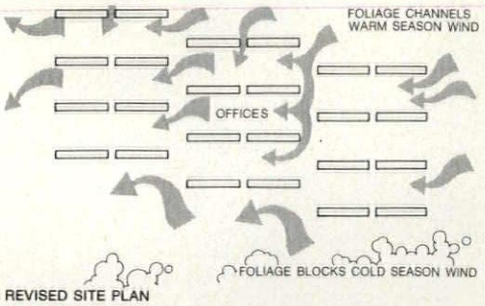
In the preliminary MMI scheme, the two conference halls and six office blocks were aligned evenly along a central E-W axis. The office blocks were double-loaded "barracks," as Dubin terms them, with a single wing extending diagonally NW or SW from the rear of each. DBA found that the site plan would not provide adequate ventilation, cooling, or heat-gain control, and that the configuration and alignment of the winged office buildings and their orientation would also create many "dead" spots. DBA recommended an alteration to the design: that the office buildings be simple three-story rectangles, with single-loaded corridors, oriented to the NNE and staggered to take maximum advantage of the prevailing winds. Site planting was added to the original design to help channel the winds.



SECTION THROUGH OFFICE



ORIGINAL SITE PLAN



REVISED SITE PLAN

Dubin then proposed an alternative building section for the office buildings. In it, the north-facing offices have eccentric-mounted casement windows, opening so as to increase wind penetration from the NE. Air is vented through the office space by convection, through operable transoms over the doors to the corridor on the south side, and through a dropped ceiling in the corridor, which has grilles on the exterior and the room face. Barriers in the ceiling space create individual vents for each office, thus minimizing the transfer of voice sounds.

Solar control was equally crucial. While the internal heat load of the buildings and that from transmission is relatively light (some 325,000 Btu/hr for the conference center), the impact of the sun's heat on the roof produces a heat gain of over 3 million Btu/hr. To reduce heat gain on the upper floors of the offices and the conference space, DBA developed a roofing system which calls for a series of rotating, wind-driven globe ventilators inserted at the ridge peak, with inlet louvers under the eaves, inducing cooler air through the attic space. The upper surface of the ceiling is insulated with a layer of reflective insulation. For the flat-roofed service buildings, Dubin used a system he'd observed in Israel: a double roof with reflective film on insulation, globe ventilators, and funnel-shaped intake vents with north-facing openings.

The north-facing offices sheltered by the corridor on the south were designed to get no direct sun in summer, and a sun control louver on the north windows cuts off winter sun after 9:30 a.m. To counteract intense heat buildup from insolation on the east and west ends of the buildings, DBA proposed that the end walls of the new blocks be cavity construction and that plantings should be put in to shield the east and west façades of both old and new construction. Awnings were recommended for the old buildings, and a double row of trees, one to shade the upper, one the lower windows, would be planted to replace the awnings when they wore out.

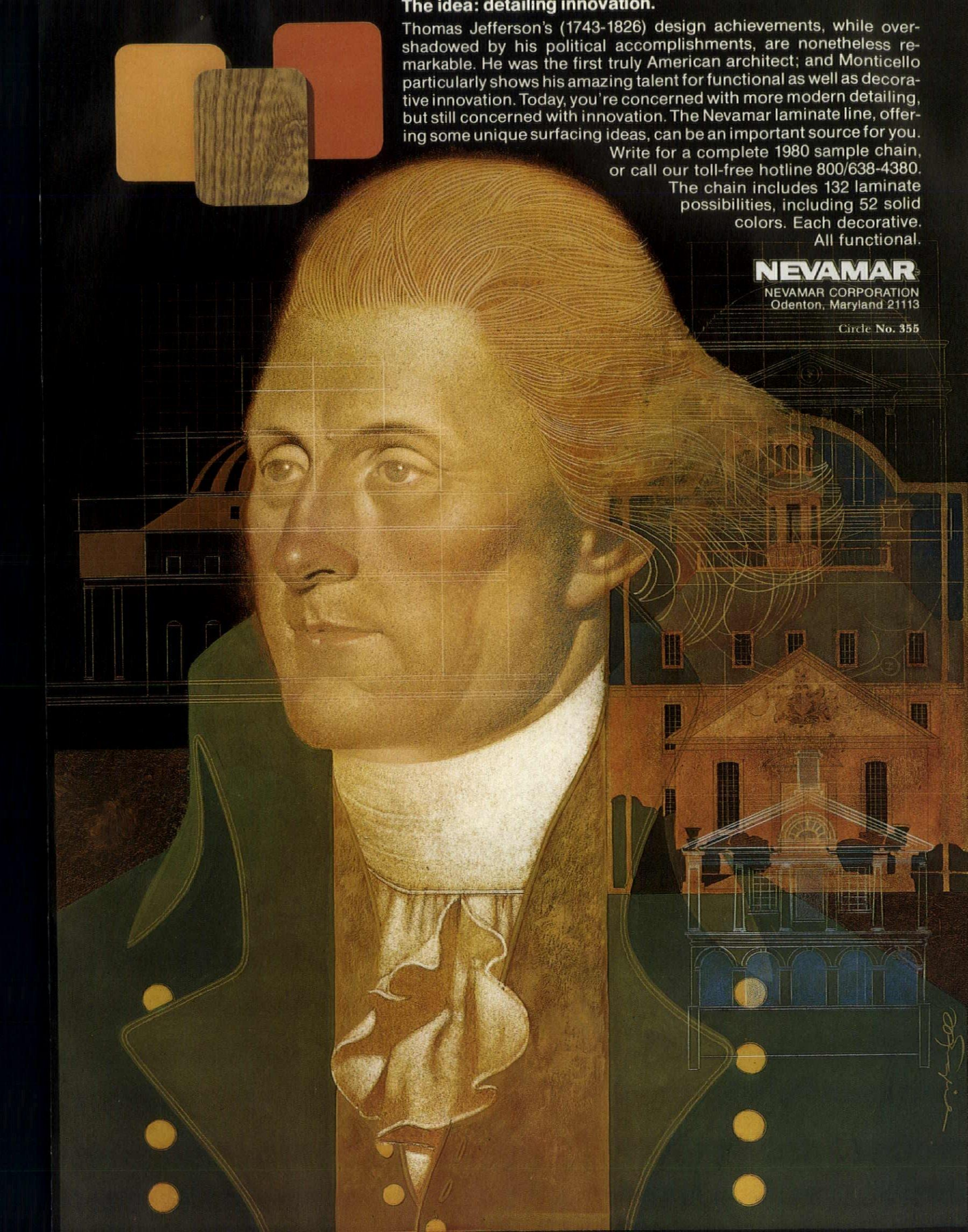
To improve the mechanical system, Dubin chose again to profit from natural energy. By increasing the natural lighting, he cut the lighting demand from 3 watts per sq ft to 1.3 watts per sq ft. The electric domestic hot water heating suggested originally was changed to solar. The proposed conventional air-conditioning system for areas of high internal load (conference rooms, committee and caucus rooms, kitchen, computer room) was abandoned in favor of an evaporative cooling design. Wind-powered irrigation was suggested for the site.

To reduce costs and make the building harmonize with its surroundings, all materials are local. The main building material is a local rock block, which looks like stone, and concrete block; the roofs are of clay or cement tile. Light earthtones minimize heat absorption.

The DBA design solutions appear simple. "That's an engineer's job," says Dubin, "to minimize the mechanical system." The project is still in a period of adjustment. The extensive predesign phase—the programming, data-gathering, and analysis—has been a process of evolution. Most of the site planning, mechanical, and physical energy improvements have been adopted by the architect. The principles which maintain an increase in natural light, ventilation, and sun control have been integrated into the design for good, although the office plans still contain a double-loaded corridor.

Part of the Dubin proposal was the creation of an energy demonstration center and energy educational program for UNEP and developing countries. If the plans are approved, the new buildings will house the center. No doubt the traditional Kenyan bush buildings contain a more eloquent school that is centuries old. It seems, however, that Newcastle has not yet learned to mine its own coal. [EC/RR]

[*News report continued on page 54*]



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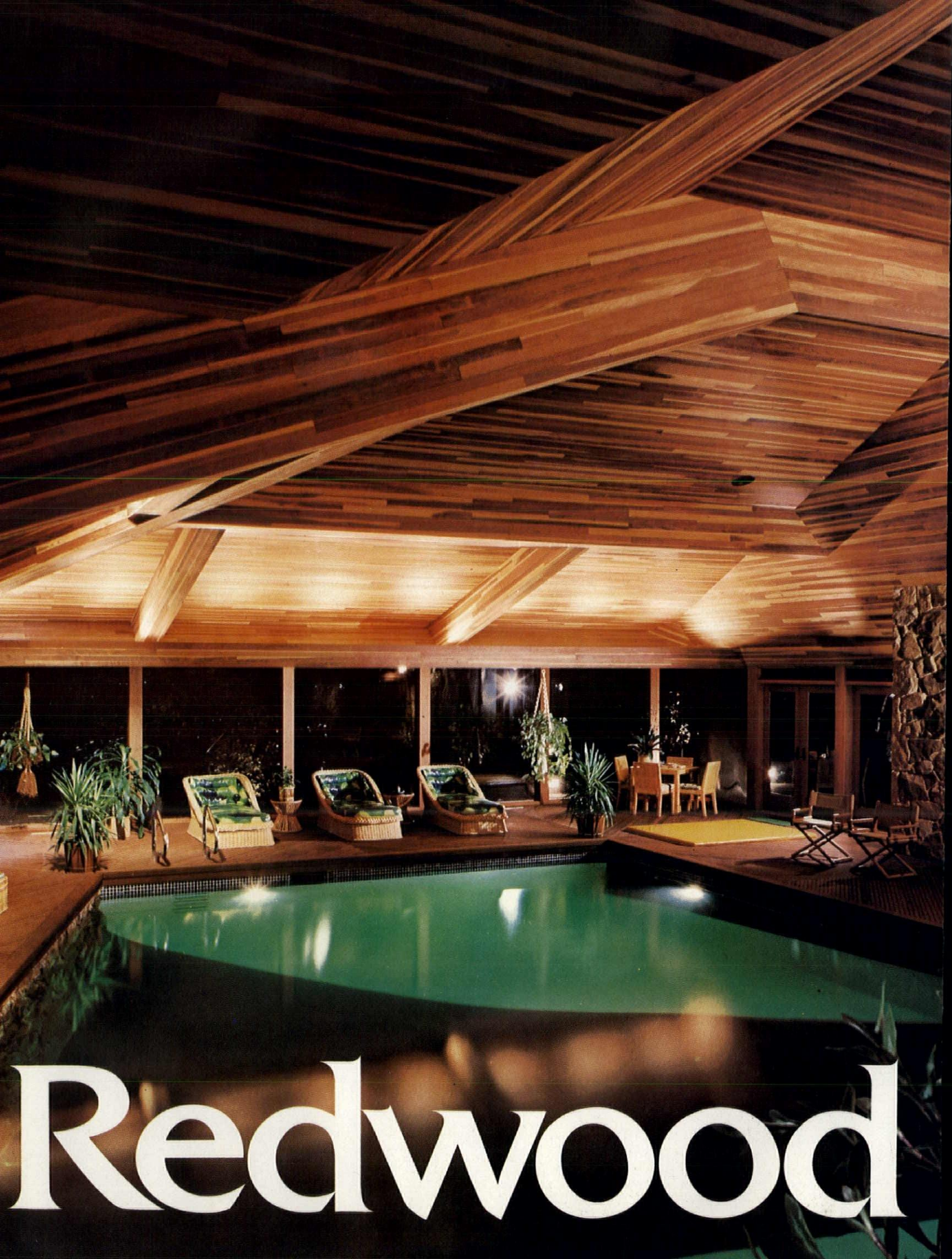
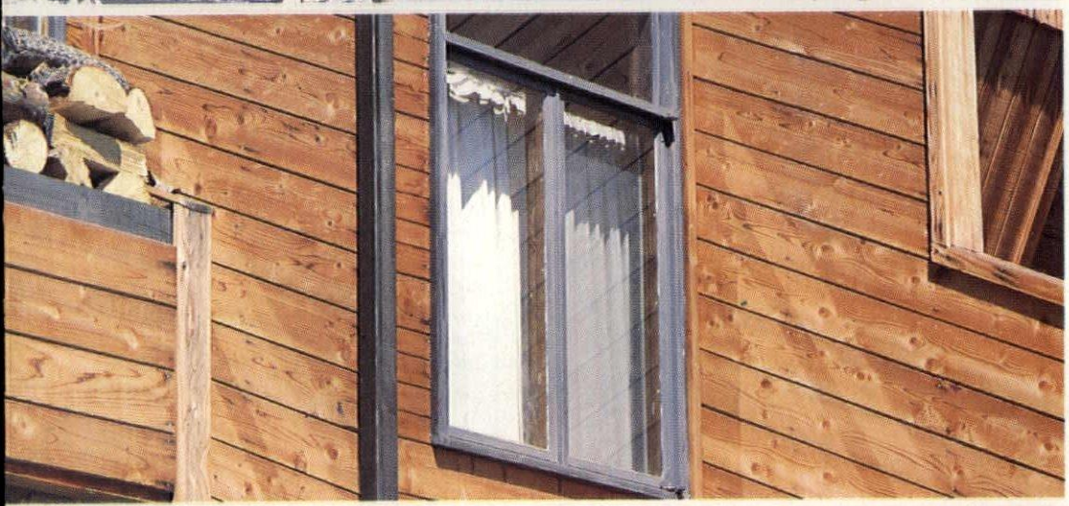
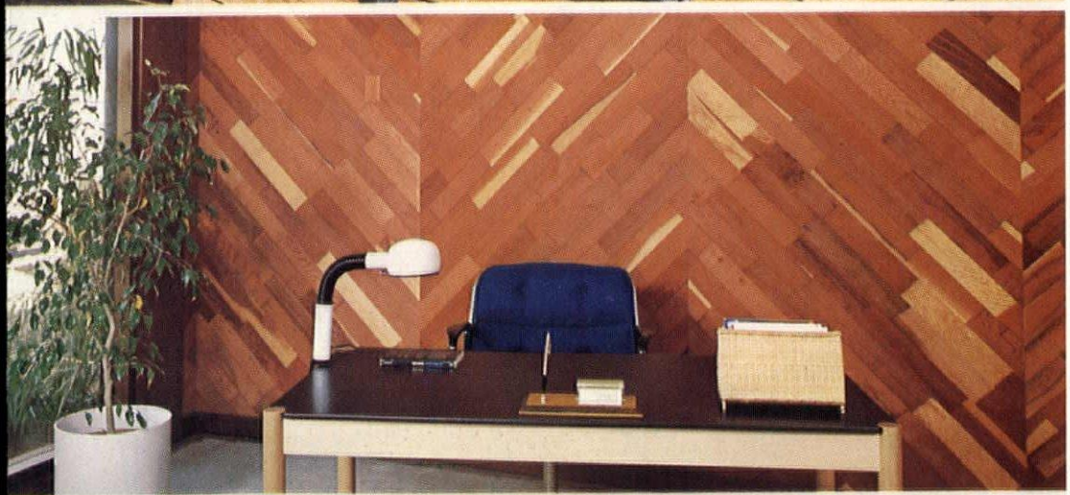

Redwood





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## Report from Buffalo

In September, the Buffalo/Western New York AIA chapter cited the Buffalo firm of Hamilton, Houston & Lownie for two of this year's four design awards. Significantly, both awards were for additions to institutions whose buildings are city landmarks: the Red Cross Blood Center and Mt. St. Joseph's Academy Elementary Division.

Both clients' commitment to their long-established urban locations seems to have encouraged the architect's particularly appropriate response to each context. In both instances, HHL designed background structures which do not compete with, but are informed by, the originals' material, color, scale, and proportion.

The contextual aspect of the Red Cross Blood Center was particularly challenging. The 30,000-sq-ft blood manufacturing plant is located within a tight urban campus on the city's prestigious Delaware Ave. As the first structure to be built within a newly designated preservation district, the addition was subject to review by the city's Landmark Board. Dominating the site is an adjacent Tudor Gothic mansion built in 1913 by Buffalo architect Edward Green, designer of the Albright Art Gallery and many of the city's well-known surviving buildings.

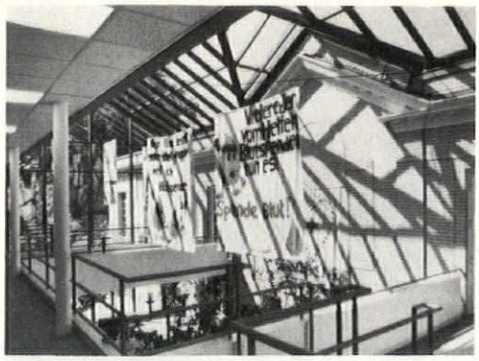
Physically and functionally linked to a Renaissance Revival structure—built as a private tennis court—the Red Cross Blood Center follows the established coursing rhythms in its precast concrete panels. The older building's gracious viewing lounges on the second floor set the formal precedent for placing large public spaces—the donor rooms—on that level, while service functions such as laboratories and processing and shipping areas are located on the ground floor.

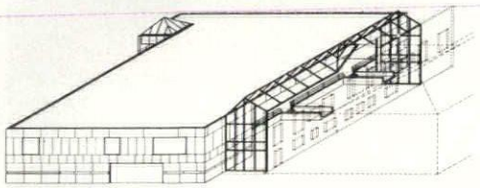
Relationships between old and new are subtle: the sizing and proportion of windows, or the scoring and joinery of the precast panels. These modulate the surfaces while recalling, respectively, Renaissance Revival proportions and the color of Green's smooth detailing.

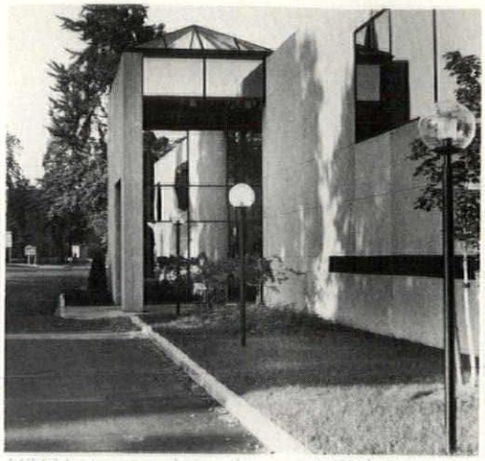
Most of the Delaware Ave. mansions emphasize entrance, and since this is a public building open 24 hours a day, the focus is on a skylight-topped two-story open porch whose spidery configurations are reminiscent of the many iron and glass porte-cocheres nearby.

A refreshing interior, following an almost too modest reception area, utilizes a simple, well-chosen palette of materials and color. The spaces are outlined by red-enameled pipe railings following staircases, balconies, and pedestrian bridges.

The four jurors remarked on the building's glass-topped "street" joining the new Center to its older Renaissance neighbor: "Excellent connection of new to existing . . . the tie into and relationship with the scale of (existing) buildings is well done. . . ." This small "street," whose roof's pitch and axis follow those of the neighboring buildings, serves as an employee lounge and as a bright, comfortable space for meetings, while bringing lots of light into both buildings. Here HHL's careful juxtaposition of old and new elements appears clearly; the glass roof follows the lines of a classic pediment form, the pedestrian bridges are slotted in where balconied windows used to be.







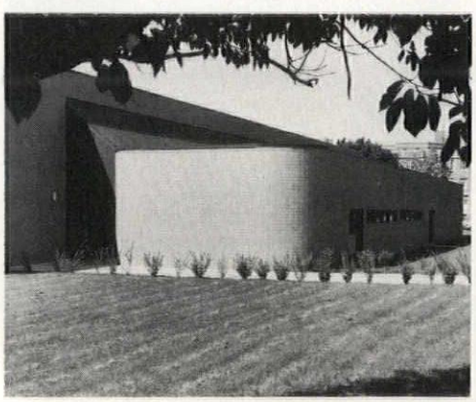
*HHL's purposely understated Red Cross Blood Center adopts elements from its architectural context such as the glass-topped porte-cochere.*

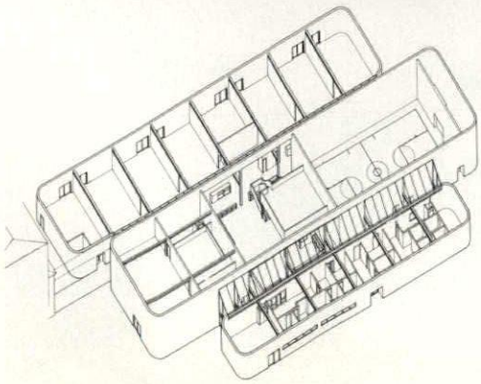
Mt. St. Joseph's Academy Elementary Division, HHL's other prizewinner, was cited by the jury for its "clean, interesting façade," although they found the contrast to the existing building, a great, red-brick Victorian structure, "somewhat questionable." Established at its Main St. location since 1851, this independent Catholic school is by no means a landmark site in the usual academic sense. But it is a familiar structure in an otherwise nondescript area.

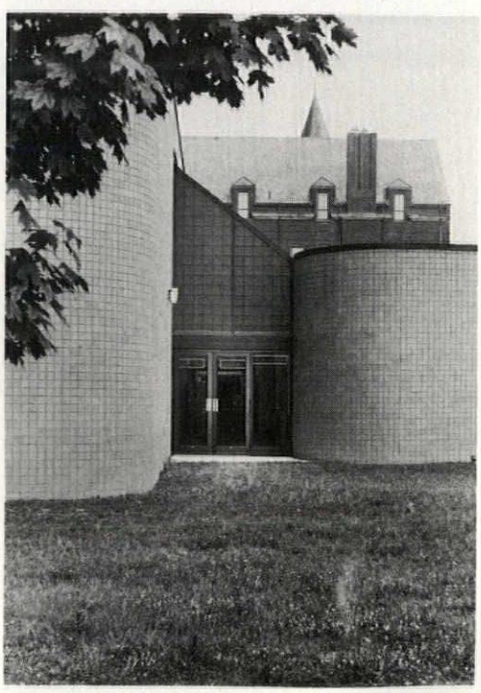
Clad with a nondirectional fawn-brick skin whose darker-colored joints are distinctively compatible with the adjoining high school's patina, the one-floor school addition houses 193 children in grades K–6. Rounded corners emphasize volumes generated by a straightforward plan which sympathetically accommodates the faculty's stated requirements: to develop flexible, interconnected instructional space with common areas, while retaining privacy for more intimate programs. A 30-ft-long connection drawn up in the original plans has yet to be built.

Since this is Buffalo, energy considerations were determining factors for several important decisions. Double-layered translucent insulating fiberglass in eight-inch-square patterns covers the broad corridor links and provides a generous amount of warm, diffuse

[*News report continued on page 58*]







*The Mt. St. Joseph's Academy addition, also by HHL, complements the old building without overwhelming it.*

Photo courtesy of Virgil R. Carter, Architect; Environmental Planning & Research, Inc.

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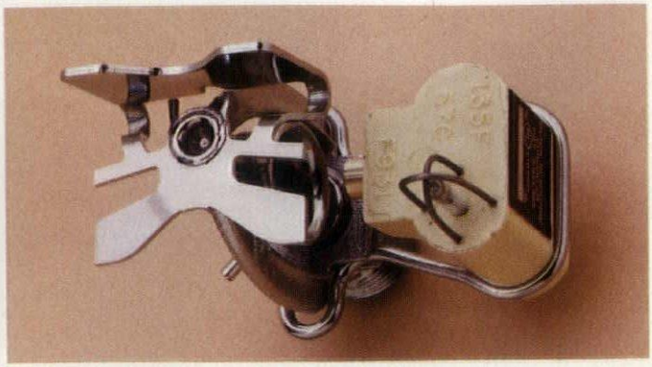

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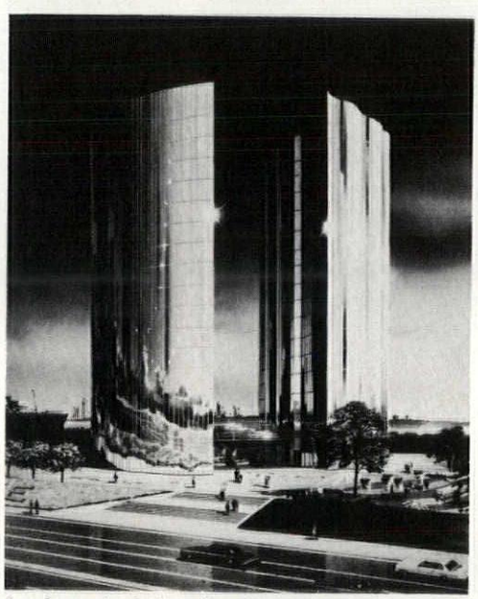
**News report** continued from page 54

light. The jurors were impressed by the "good use of overhead natural lighting in the corridors" which were "warm, bright, and scaled to children."

Window openings were kept to a minimum, and since this is not an air-conditioned building, all openings were fitted with pairs of sliding glass doors, thereby providing maximum ventilation. Heating units function as railings, working more efficiently when placed two feet above the ground rather than in their usual floor-level position. By fitting the old high school with new double-hung sash, the new facility can be comfortably heated without expanding existing boiler capabilities.

Mt. St. Joseph's interiors were specifically cited by the jurors as "well handled, well detailed" and praised for the "excellent use of color." Bold, simplified abstraction and thoughtful placement of industrial components are richly yet sparely composed. Dominated by a sunny yellow used on all the structural steel and roof decking, the interior space focuses on a two-story open reading and resource center. The potential sound problems usually accompanying the industrial design vocabulary were muted by acoustically treating the metal roof deck and carpeting a good portion of the facility.

The two HHL projects are fine examples of local architects working with Buffalo's handsome building stock. [Jill Radler]



*Luckman's design for Oceangate.*

## Form follows sunpath in Long Beach towers

As the result of a limited competition, the Luckman Partnership has been awarded the commission for the "theme" complex at the Long Beach Oceangate development project. The theme the architects chose was a symbolic gateway—twin towers forming a shiny cylinder bisected by a slot which frames a view of the harbor and the Queen Mary. The 15-story towers, the final phase of the development, are oriented diagonally to the street on their 4.1-acre site. The development itself is strategically placed at the end of the Long Beach Freeway and the beginning of the drive along the city's changing shoreline.

The two semicylindrical towers are shaped differently from each other. The surface of the south tower undulates in response to the sun, and along its undulations the surface of the curtain wall varies from steel panels to reflective glass. The semicircular undulations neatly define executive office and conference areas, some of which have spectacular harbor views. The outside surface of the north tower is one continuous curve, having neither the same problems of solar gain, nor the same dramatic views.

A translucent glass canopy in the shape of a cascading wave joins the two halves, sheltering outdoor eating areas and admitting light to the parking levels below. Surrounding the building are a Japanese garden, relief sculptures of aquatic life inscribed in the pavement, a lecture area, fountains, and a pool.

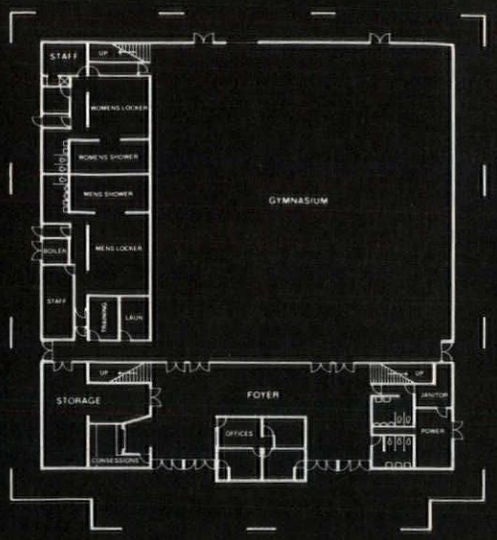
It is difficult to predict exactly how the building will finally relate to the development, or to Long Beach's changing waterfront. In the last few years this area of the city has been redeveloped with many new cultural and civic buildings. Oceangate, as the complex is informally called, is intended to act as the western gateway to Long Beach; and over time it may assume this symbolic significance. Already, on the strength of the design and location, the buildings are more than half rented. Completion is expected late in 1981. [Barbara Goldstein]

## Audio-visual architecture and design library founded

A new series of slide/tape talks on architecture and design topics, put together by British architectural journalist Monica Pidgeon, P/A's London correspondent, former editor of the *Journal of the RIBA* and prior to that of *Architectural Design*, features eminent architects and designers speaking, for the most part, about their own work. Collaborating with Ms. Pidgeon is Leonie Cohn, known as a producer of BBC Radio talks. Designed for use in architectural schools, the audio-visual programs constitute a valuable library of primary source material. "The purpose of the series," explains Ms. Pidgeon, "is to give students of architecture and design the opportunity to hear professionals to whom they might not normally have access. Second," adds the former critic, "I always think it is more interesting to hear what an architect or designer has to say about his work, rather than to listen to the opinions of critics."

The first series, issued in late September 1979, features seven architects:

[*News report continued on page 62*]

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*Architects: Kolbo, Bowman, Smallwood & Associates.*

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**News report** continued from page 58

*Soane's breakfast room, from Series I.*

Alison and Peter Smithson, Sir John Summerson, Philip Dowson, Nicholas Grimshaw, Peter Cook, Richard Rogers, and Cedric Price. The second, just released in January 1980, offers Norman Foster, Theo Crosby, Maxwell Fry, Peter Blundell-Jones, Jack Pritchard, and Moshe Safdie. Each cassette is accompanied by 24 color slides, printed information, and the speaker's photograph. The cassette/slide sets are available from: World Microfilms Publications, exclusive distributors for Pidgeon Audio Visual, 62 Queen's Grove, London, NW8 6ER, U.K., at £35.00 each.

## The RIBA/SIAD Conference

The Royal Institute of British Architects (RIBA) Annual Conference has traditionally been the occasion for architects to talk architecture to other architects. The title selected is usually momentous and, though each speaker would refer to the subject, few would really deal with it. The conference, in fact, has become something of a ritual—enjoyed by many as a get-together, but hardly cutting new intellectual turf.

Things started to change last year. It had been discovered that several of the delegates from the International Design Conference at Aspen would be passing through Europe, and a mini-conference was quickly organized. The American stars inspired this year's conference held in early October; having selected a momentous title, "Frontiers of Design," (for speakers to ignore), RIBA set up jointly with the Society of Industrial Artists and Designers (SIAD) to produce a conference with the most impressive and wide-ranging cast ever.

Dr. Ivan Illich was brought over from Mexico, Tom Wolfe from New York, Frei Otto from Germany. The British stars were architects Norman Foster and Cedric Price. At least two lords contributed, as did a car manufacturer, a computer artist, swo silicon-chip men, a design historian, an energy-in-building specialist, and a "consumer stylist."

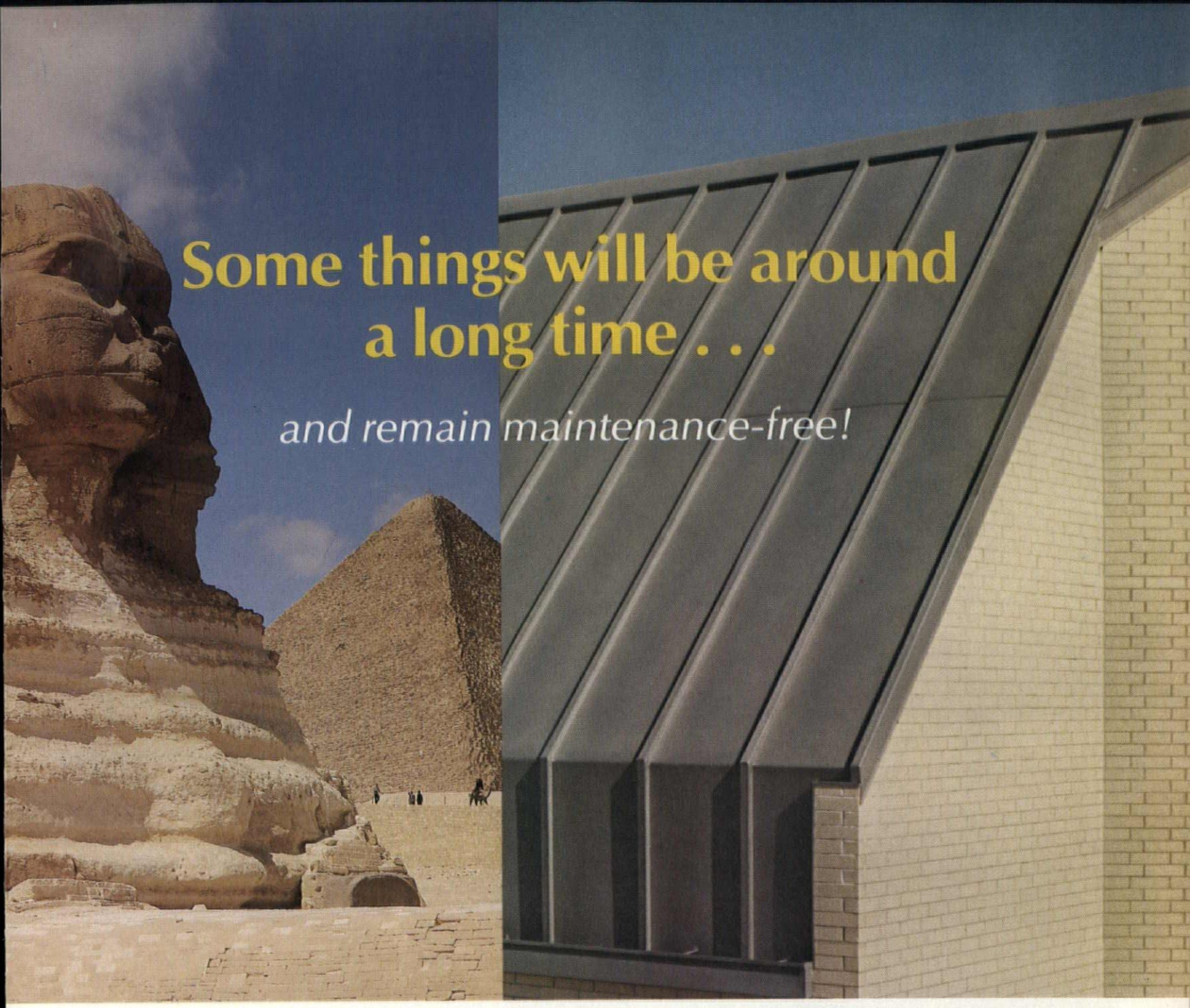
Tom Wolfe opened the conference with a performance of pyrotechnic brilliance. His central thesis was the distance between architects and what he termed "the Spirit of the Age." The massive applause he received was less for this rather unpalatable insight than for his entertainment value.

Illich, by contrast, was obscure and gloomy. Every other speaker stood at a lectern, but Illich sat center stage in the manner of one about to impart the Truth. Cedric Price, annoyed as much by his manner as his content, challenged him vigorously from the back of the hall in one of the electrifying moments of the conference. Illich's advocacy of the bicycle and a compulsory human speed limit of 30 mph had not prevented his use of a 747 to attend the conference, commented Price.

Frei Otto spoke of his continuing search for structural inspiration in natural forms. Often merely an excuse to get some pretty images on the wall, this idea was here painstakingly built up as a philosophy of bio-mechanics which was actively informing Otto's professional life. He showed the predictable tension enclosures but also discussed his projects for massive pneumatic structures to control the silting of the Rhine. The scope of his continuing experimentation silenced the audience. There were images of diatoms and cows' intestines, illustrations of forms made of honey and hot cheese, pictures of bubbles created in the world's smallest wind tunnel—all delivered with absolute modesty. Otto is "determined not to hurt the next century."

The two micro-processor men did not seem to be welcome. One spoke of the technical advances while the other discussed consumer applications. Neither seemed prepared to deal with the fundamental changes that their technology would bring, and so the delegates easily dismissed their contributions as less than relevant.

[*News report continued on page 64*]




National Federation of High School Associations Headquarters, Kansas City, MO., *Architect:* Kiene & Bradley Partnership, Topeka, KS., *Installation:* Kaw Roofing & Sheet Metal, Inc., Kansas City, KS.

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**News report** continued from page 62

Norman Foster, who started with a lengthy review of over-familiar past projects, was speaking extremely quickly by the time he reached his current work, including his project for his own house. The concluding section was devoted to developments in glider technology, Foster's obsession. This could have offered an illuminating nonarchitectural insight, but it was presented with haste and thus lost.

In all, it was a friendly, stimulating, incoherent event. It was curious that, while the number of architect speakers had been cut down, SIAD did not present a single designer for the platform. And the conference title, mentioned often, was never dealt with. Frei Otto's concern for the next century, a real frontier 21 years away, is one that too few of the speakers and delegates seemed to share. [Michael Glickman]

*Michael Glickman, design partner in the London firm of Glickman & Hollington, has practiced as an architect and product designer in England and in the U.S. for the office of Charles Eames.*

## Calendar

**Exhibitions**

**Through Feb. 15.** "Between Buildings and Bodies." Rizzoli Gallery, New York.

**Through Feb. 16.** "John Hejduk: Recent Drawings." Max Protetch Gallery, New York.

**Through Mar. 2.** "Mott B. Schmidt: An Architectural Portrait." Katonah Gallery, Katonah, NY.

**Through Mar. 16.** "Gift to the Street: a Patternbook of Victorian Architecture." The Octagon, Washington, DC.

**Feb. 2–April 6.** "A Thing of Beauty: Art Nouveau, Art Deco, Arts and Crafts Movement and Aesthetic Movement Objects in Atlanta Collections." High Museum of Art, Atlanta, Ga.

**Feb. 5–April 6.** "Isamu Noguchi: The Sculpture of Space." Whitney Museum, New York.

**Feb. 15–Mar. 15.** "Isamu Noguchi: New Stone Sculptures." Pace Gallery, NY.

**Feb. 16–Mar. 12.** "Isamu Noguchi: Tables." Andre Emmerich Gallery, NY.

**Feb. 7–April 1.** "Eileen Gray" and

**Feb. 21–Mar. 30.** "New York City Exposition and Convention Center." MOMA, New York.

**Feb. 20–Mar. 23.** "Marc Treib: Peripheral Ephemera/Recent Posters." The Art Museum. U. Cal., Santa Barbara, Ca.

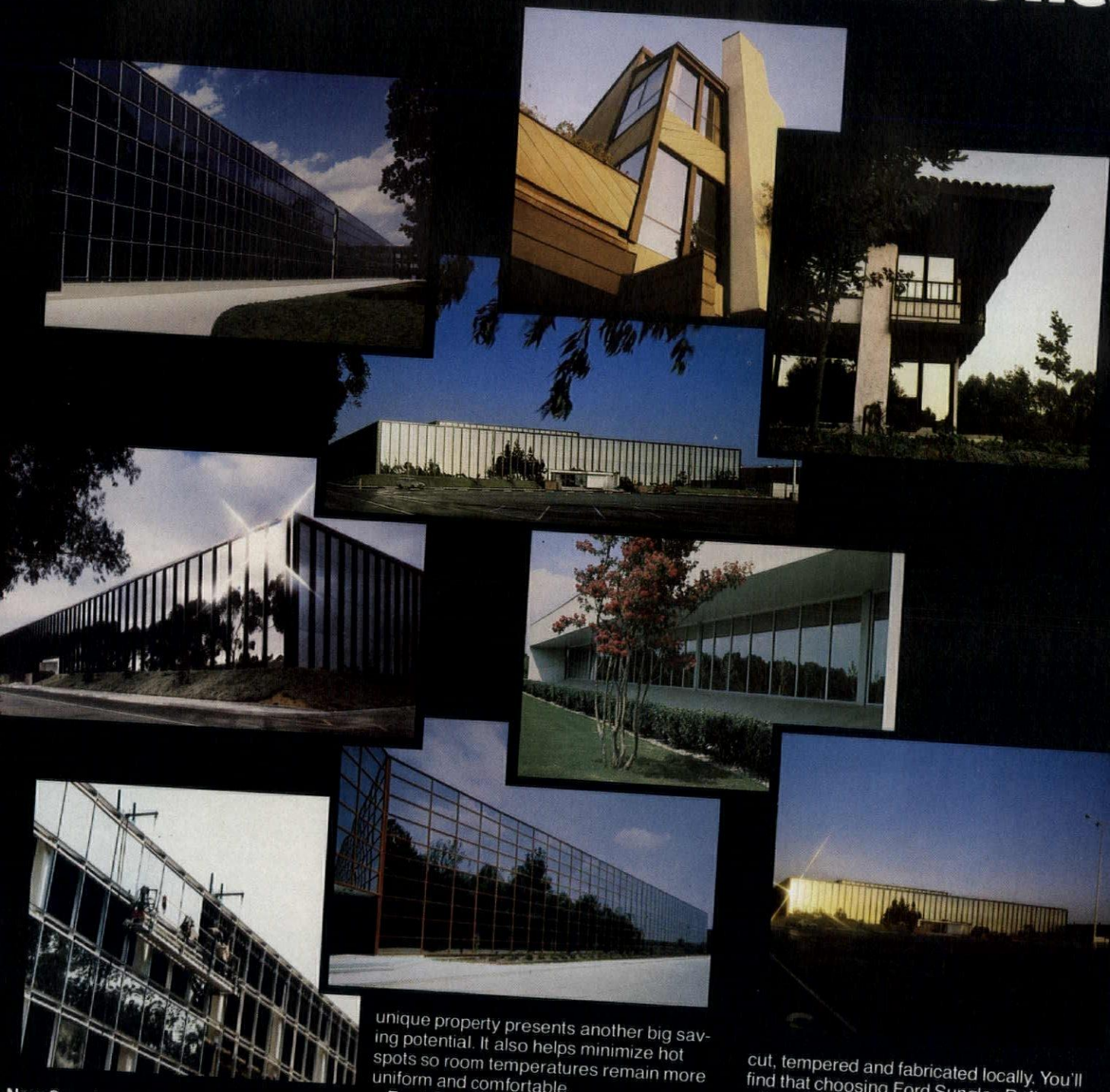
**Competitions**

**Deadline Mar. 1.** Applications for the $10,000 Arnold W. Brunner Grant for advanced study. Contact: New York Chapter, AIA, 20 West 40 St., New York 10018 (212) 730-1221.

**Deadline Mar. 31.** Competition for a graphic symbol of the Oikos Centre. Contact: Centro Internazionale dell' abitare, OIKOS, Padiglione EN, Piazza della Costituzione 11, 40128 Bologna, Italy.

[*News report: Eleni Constantine except as noted*]

# Introducing Sunglas® Reflective it blocks up to 65% of the sun's he



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# Emblematic edifice

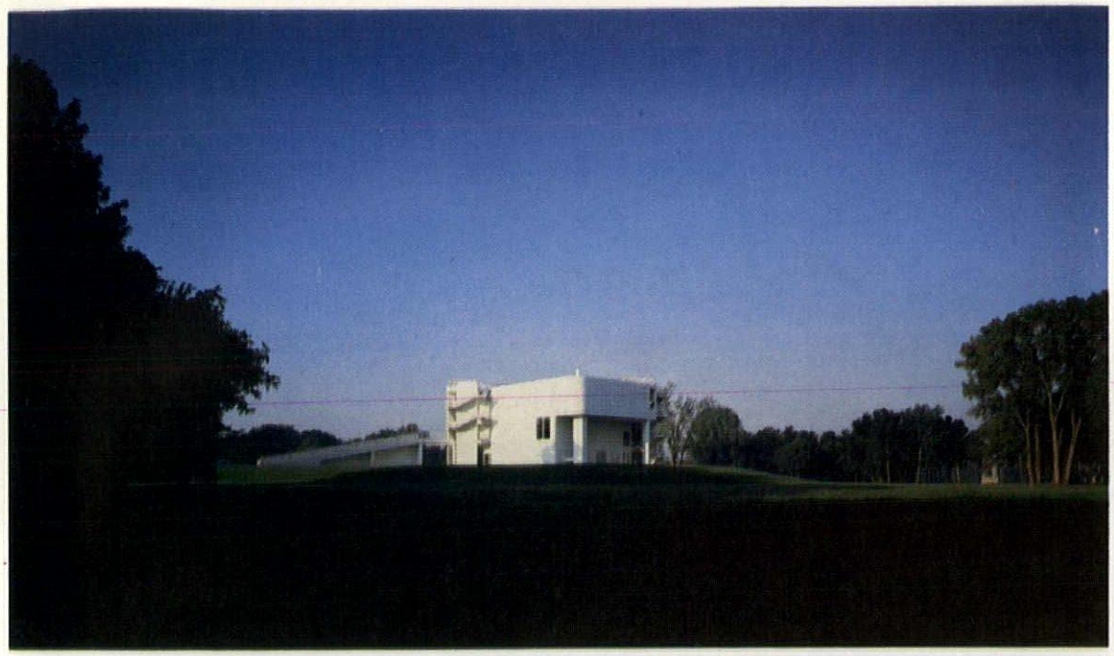
**The Atheneum, New Harmony, In**

**This visitor's orientation center serves as a reference point for analyzing the design directions of Richard Meier & Associates.**

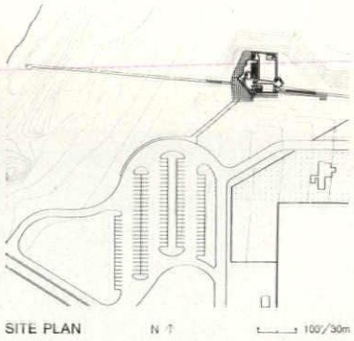
Winner of an award in the 26th annual P/A Awards program, Richard Meier & Associates' scheme for the Atheneum was lauded for its "considerable diversity of contrary forms" (P/A, Jan. 1979, p. 72–74). Upon the dedication of the building last October, Ada Louise Huxtable of the *New York Times* called it the "perfect vehicle for Meier's intensely personal, intricate and highly sophisticated style."

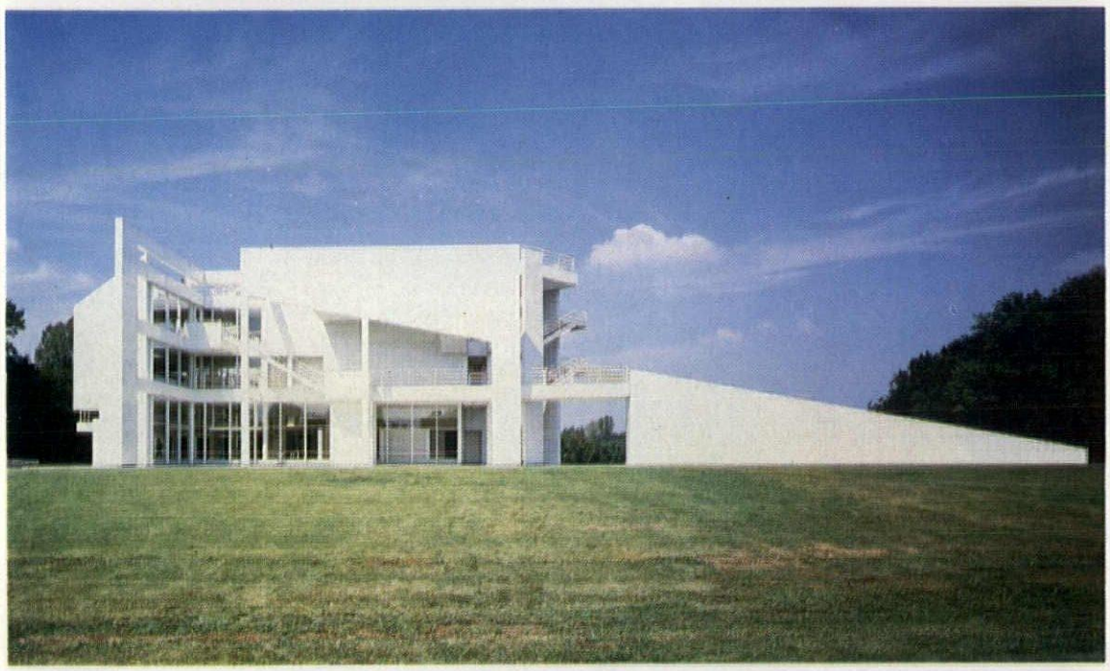
In presenting the Atheneum with P/A's new graphic format, we have decided to experiment: We will first show the building with photographs, drawings, and descriptive captions; then follow that with a two-page critique and illustrations of the town of New Harmony.

*In explaining his intentions for the design of the 15,000-sq-ft Atheneum, architect Richard Meier refers to the building as a place of "arrival," a "threshold," that begins the route for the tour through the town of New Harmony. At the edge of the Wabash River, the entrance (above) is oriented toward the river banks. A wall at the entry is turned diagonally to the orthogonal grid of the building to acknowledge the real point of arrival—the parking lot to the south.*

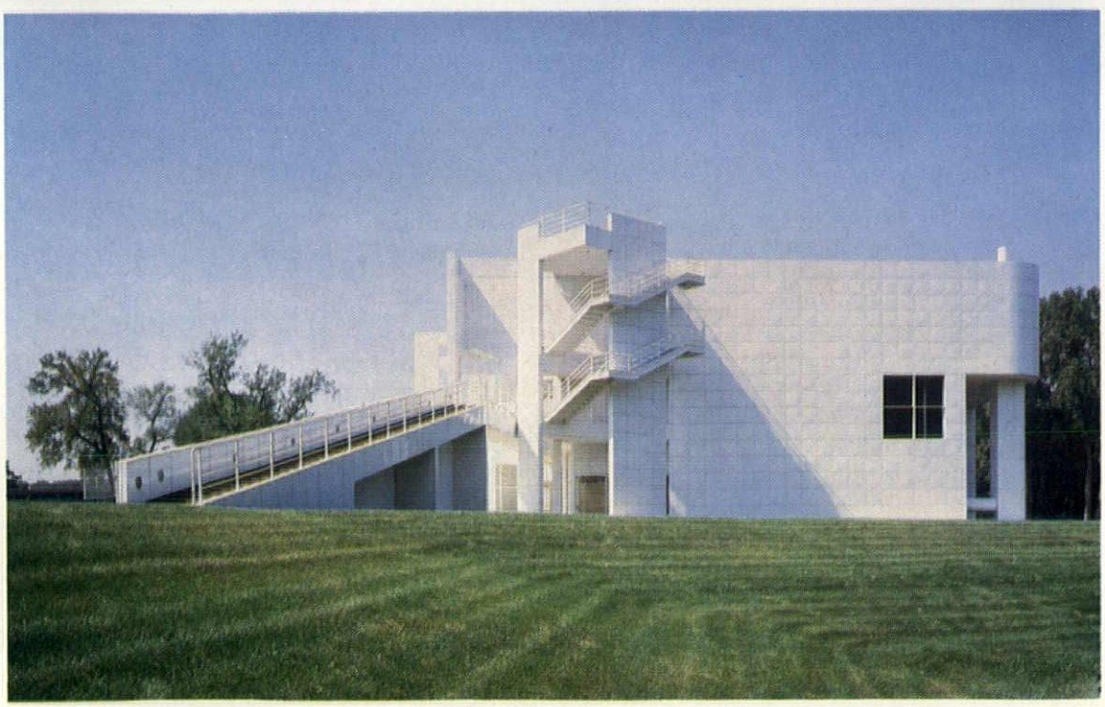


*The Atheneum floats on a 7.8-acre grassy mound surrounded by forests at the northwest border of the town. The steel-framed white porcelain-paneled visitors' orientation, conference, and exhibit center contrasts dramatically with the log cabins and brick structures of the historic community.*

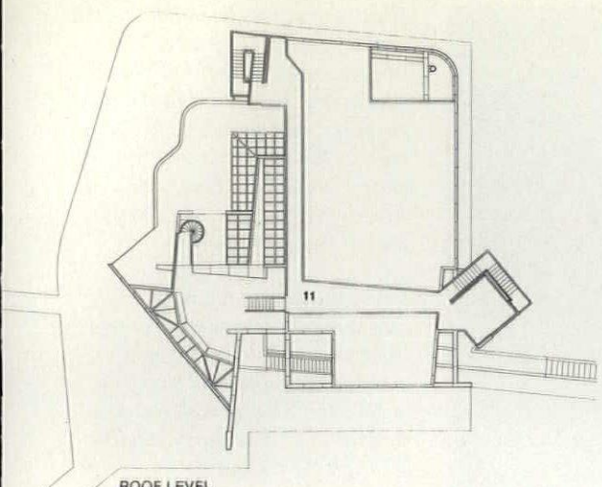


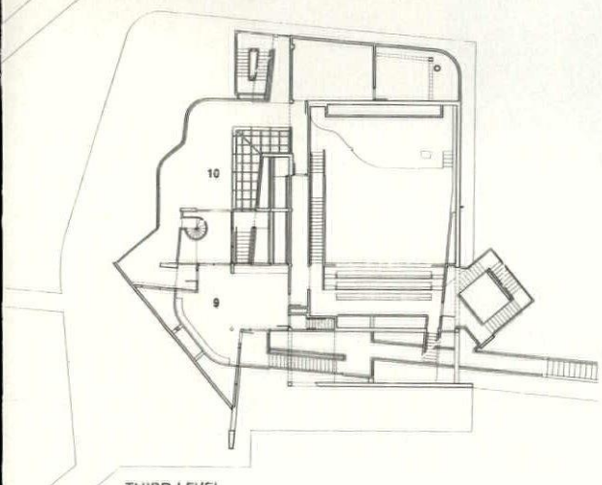
*Overlying the orthogonal grid is another grid cranked on a five-degree diagonal to the main one. This geometric device induces a compression of spaces at certain points within the building: When the outside ramp extending along the south elevation approaches the interior ramp at a perpendicular, the five-degree shift makes itself particularly felt. It inflects one circulation path towards another, forcing a visual perception of spaces narrowing, then opening—of grids almost colliding. The five-degree skew of soffits, paving, and walls acts in counterpoint to spaces arranged on the orthogonal grid.*



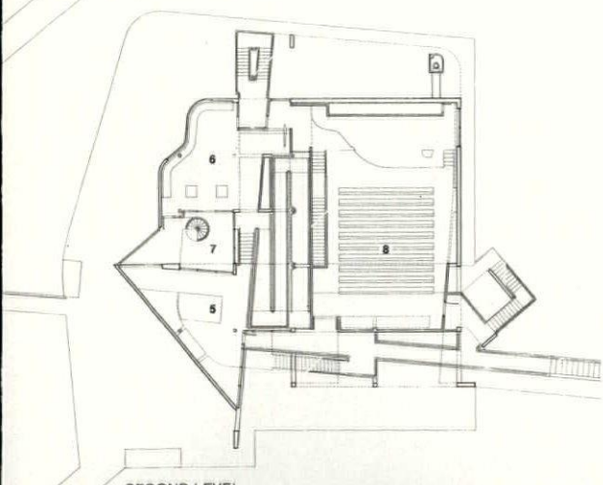
*The program called for a 180-seat auditorium, four exhibition galleries for permanent and changing exhibits, observation terraces, visitor facilities, and a centralized computer ticketing desk for the New Harmony tour. Richard Meier & Associates emphasized the circulation component of that program by designing a building that exploits to the fullest opportunities for promenade and procession. The exterior and interior ramps (photos left, drawings opposite) and the stairs twisting up to the observation decks and the roof form the essential organizing elements of the spatial development.*



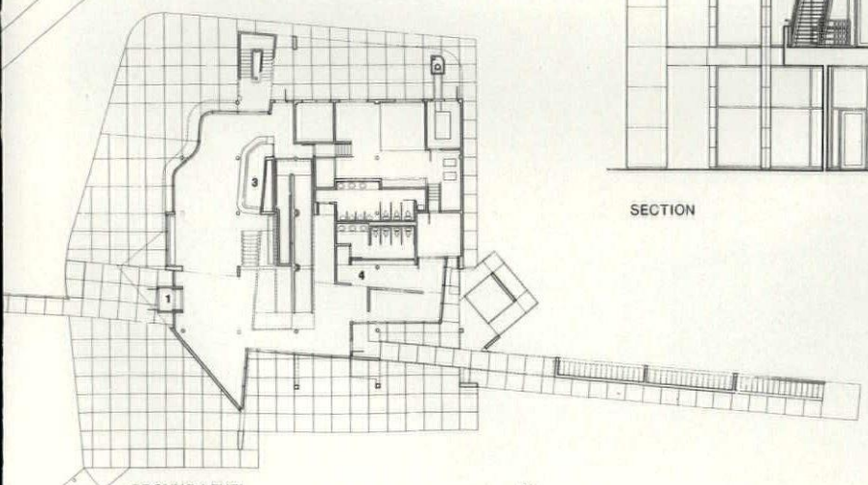

ROOF LEVEL




THIRD LEVEL



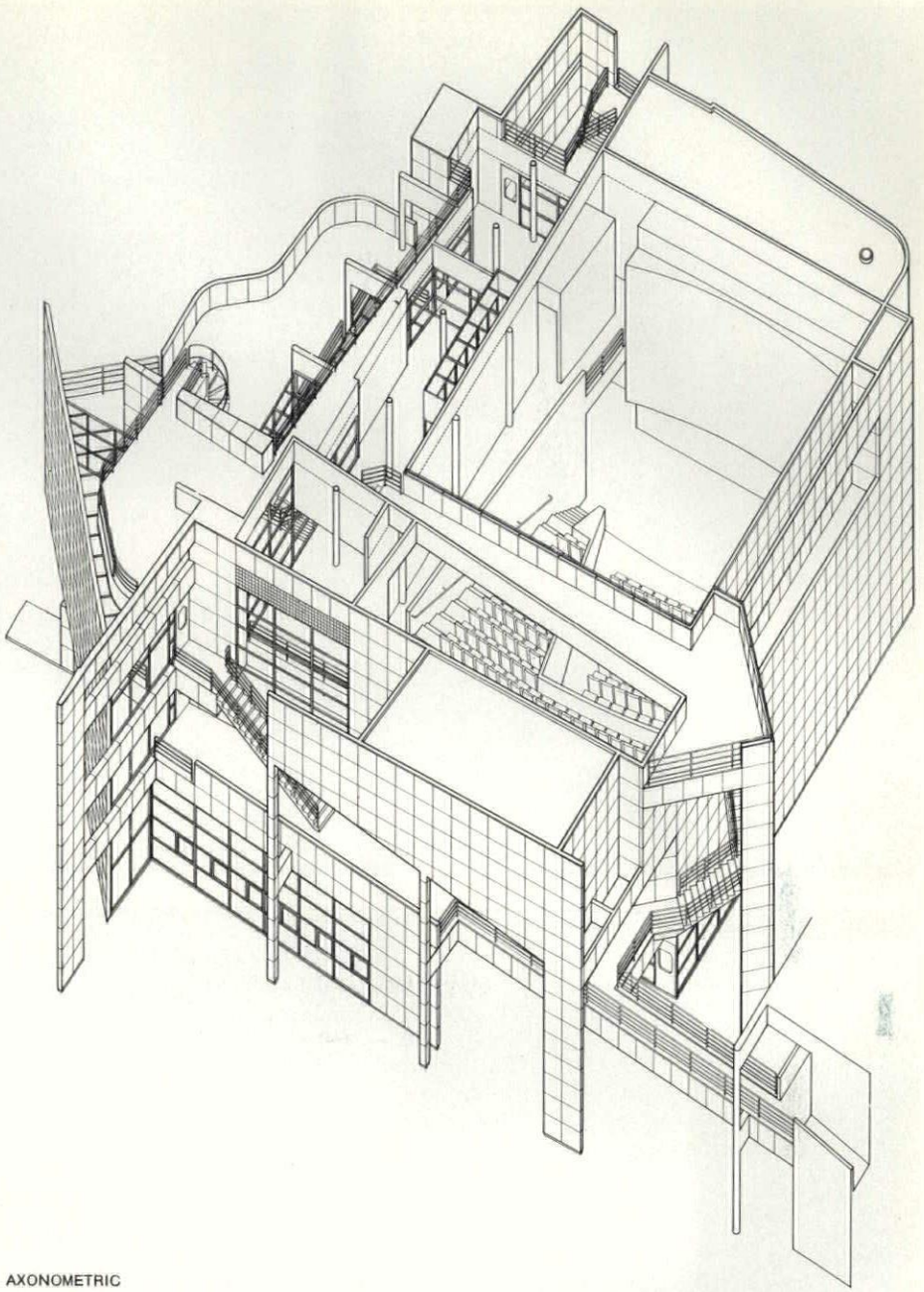

SECOND LEVEL



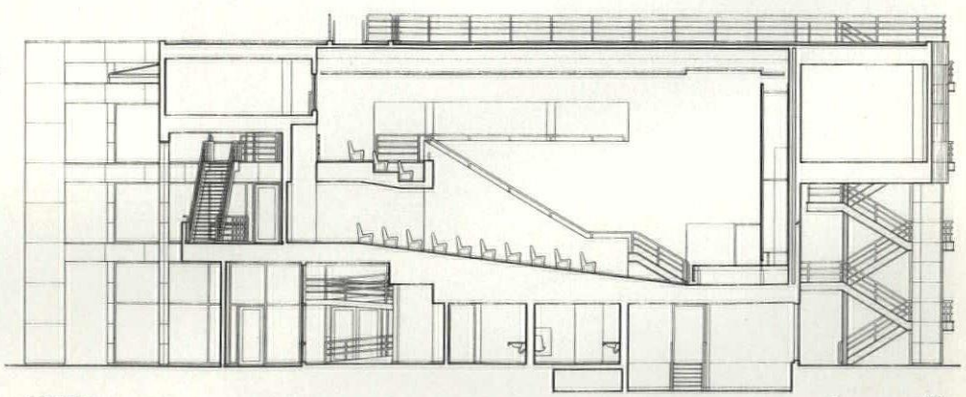

GROUND LEVEL

N

20'




AXONOMETRIC



SECTION

10'

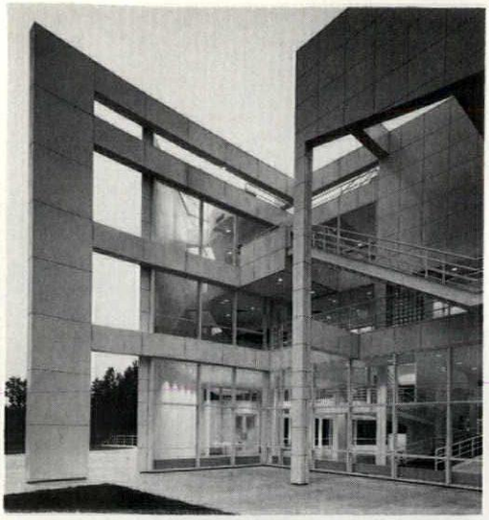
**Legend**

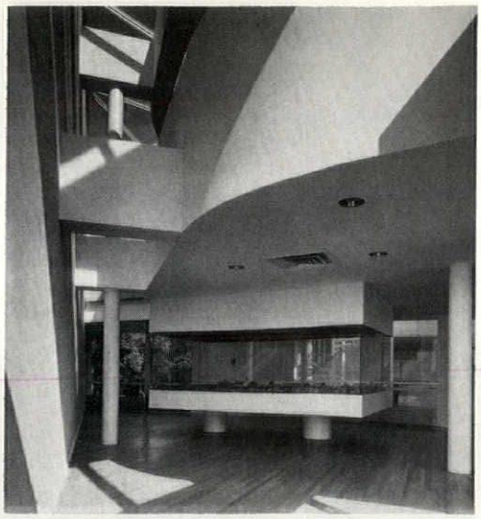
**1** Entry
**2** Lobby/exhibit
**3** Orientation desk
**4** Gallery space
**5** Model display
**6** Exhibit
**7** Court
**8** Auditorium
**9** Conference room
**10** Terrace
**11** Roof terrace

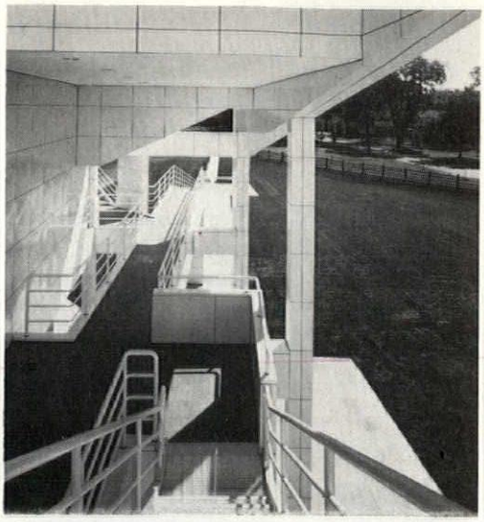
*Routes of egress from the rooftop and upper-level terraces take visitors through punctured planes and screen walls and past curved surfaces, most of which are covered by the 2'-6" porcelain-enameled panels. One wall at a five-degree angle is sheathed in panels five feet square.*

*Skylights behind framing walls and screen walls admit natural light to circulation and exhibition spaces within the building (opposite). Skylights dematerialize planes and demarcate paths through the building.*

*The 180-seat auditorium uses a limited palette of materials—white-painted gypsum board with charcoal gray carpet on the raked floor and pewlike wood seating.*







*The framed views revealed through walls serve as the best orienting devices, operating between the building and the town it serves. The second-floor exhibit space contains a model of old New Harmony in a specially designed vitrine encased under a low soffit and lit dramatically by the canted skylight (middle).*

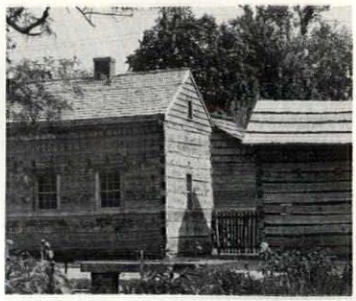
**The Atheneum**

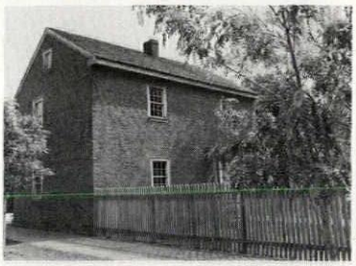
*The town of New Harmony's varied past resulted in its having several different identities associated with its history. It began as a "new town" for a German Lutheran group led by George Rapp. The German community of 800 had first settled in Pennsylvania before making its way down the Ohio Valley to New Harmony in 1814. Developing a self-sufficient community with farms, sawmills and other light manufacturing, the Harmony Society built about 150 log and brick structures. Because they believed in celibacy as a form of selfdenial the members, mostly single, lived in dormitories. Rapp decided to move the community back to Pennsylvania in 1825. He sold the town to Robert Owen, a Welsh industrialist and William Maclure, a Scottish philanthropist and geologist.*

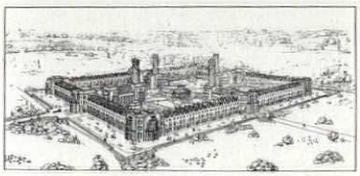
*By 1814 Owen had already made a name with the New Lanark mills in Scotland. The benevolent employer had developed a utopian type of company town there. His* New View of Society, or Essays on the Formation of Character, *published in 1813–14, argued that the environment and education could improve man and should shape society. Cooperative villages were formed in Scotland, and then in New Harmony, where the residents were to be housed in a centralized complex (right) designed by Stedman Whitwell. The experiment did not go well, and Owen withdrew three years later with heavy losses, returning to Scotland.*

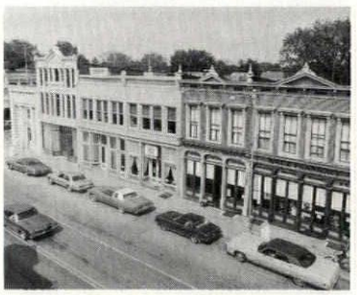
*Although the projected complex was never built, Owen's sons and his partner Maclure remained and attracted other geologists and scientists to the town. The education goals began to take effect. The town would soon boast the first kindergarten, the first infant school, the first vocational school, the first free public school system and the first free library in the U.S.*

*The Owen family has continued to live in New Harmony. The support of Kenneth Dale Owen, a geologist, and his wife Jane Blaffer Owen, has led to commissioning of modern architecture, such as the Roofless Church designed in 1960 by Philip Johnson, the New Harmony Inn designed in 1974 by Evans Woollen Associates, and a pottery shed designed in 1978 by Richard Meier & Associates. When the Historic New Harmony Inc. was formed in 1973, Ralph G. Schwarz, an urban planner, was brought in to spearhead the effort. With grants from the Lilly Endowment, Historic New Harmony has been acquiring properties in town for restoration of the community. Houses have been moved, streets resurfaced, and parks improved. And now there is the Atheneum.*









# Critique

Two contradictory reactions come to mind when visiting the Atheneum. Architect Richard Meier's sense of artistry, of polished detail and skillful composition, should, justifiably, attract major museum and cultural center commissions in the future. On the other hand, the Atheneum, the first such completed building by Meier's firm, does not support this assertion. The building offers an array of stunning fragments. These fragments, however, fail to cohere into an integrated whole.

Meier's reliance on geometry as a generator of form seen here bears some similarity to I.M. Pei's larger East Building of the National Gallery (P/A, Oct. 1978, p. 49). The East Building disappoints more bitterly than the Atheneum because of an overdependence on turgid geometries. But if the Atheneum is more subtle geometrically and more sophisticated formally than the Pei addition, it suffers more from a lack of resolution. Where the Atheneum goes astray, at least it does so with a shimmering sort of agitation.

The building shows Meier at a transitional point in his architecture—between the cool planar, cube-like forms that reached their apogee in the Bronx Developmental Center (P/A, July 1977, p. 43) and whatever comes next from his drafting boards.

The stunning elaborations on the Modernist vocabulary that Meier and his associates exploited in previous work are all assembled—the taut skin (here of white porcelain panels), the attenuated ramps dramatically sweeping through interior and exterior spaces, the sculpted stairs, the framed views, the crisply outlined forms.

Perambulations around the center, however, are not enriched with the serenely contemplative or even the floating, transcendental quality expected after experiencing Meier's earlier work. The reasons, difficult to pinpoint, are worth exploring. They hint at the difficulties of "enriching" Modernist architecture with discordant juxtapositions of forms and scale.

**Conflicting modes**

Architects who employ a Modernist language of form are faced with a dilemma when designing large buildings requiring monumental expression. The Modernist qualities of abstract asymmetrical composition, floating weightless planes, fluid space, and mass dissolving in light are difficult to effect in such buildings. Scaleless blank-walled behemoths of ponderous vanilla-fudge-like concrete attest to the difficulty. It is to Meier's credit that he appears earnestly trying to offer an alternative to this formula, while breaking away from the abstracted clarity and meticulous rigor of his own previous architecture.

Thus he seeks to rework Modernism's language of architectural elements through compositions that elicit complexity and am-

biguity from the ordered whole. The intention at the Atheneum is to create richly intricate patterns, abstracted but comprehensible, from architectural components like stairs, ramps, handrails, windows, and framing elements. Spaces are held by taut opaque membranes, pierced by voids, modulated with light, set in movement by shifting planes and changing ceiling and floor heights. The framing elements, the screen walls and punctured planes, are pulled away from the contained space of the auditorium at the core of the orthogonal grid. Most of these elements indicate that another grid shifted five degrees has been laid over the main orthogonal one. Even the 2 ft 6 in. panels shift to 5-ft square ones on a framing wall that delineates the separation of lobby from auditorium.

By exploding the exterior walls outward from the inner core, then condensing them back into the elevations, the architect gave the elevations a density. The voids created by breaks in the shifting membranes further reveal the intricacy of the levels within. But despite the contrast between scales and sizes of elements, despite the dramatic pressures or the lesions and voids created by shifting or pierced planes, the density of the montaged elevations overly complicates the reading of the ensemble. Furthermore, wrapping a contained volume—the auditorium—with this intensely wrought envelope, and penetrating the area between with ramps and stairs, and covering it with skylights does not create a spatial dynamic.

**Spatial play**

The placement of one grid at a slight angle to a major one suggests that a compression and sense of release of space will be generated where the two grids converge. Knowing intellectually that the two grids exist, however, does not guarantee that one will sense this compression and expansion as one actually moves through the building.

As another gesture, the architect included a surfeit of circulation elements in the Atheneum. They activate the façades but prove that there is more to spatial experience than having lots of options in moving through the space. The diagram that clarifies circulation and function does not transform into a successful parti; the two-dimensional logic of plan does not assume a three-dimensional spatial totality. The pre-Modern conception of space as an enclosed, modulated, and palpable element seems to be assumed. But space reads as absence of mass. Not until one is in the prowlike rooftop balcony, which seems to shoot straight out over the grassy plain, does the visitor apprehend the uplifting and exhilarating effect the architect must have had in mind for the whole.

The auditorium design represents the real architectural achievement of the Atheneum. As an interior it is one of the best executed in the Modern idiom in the States, comparable to Wright's Guggenheim Museum auditorium. Austerity prevails, with the white walls, charcoal-carpeted floors and seating, and aluminum strip ceiling systems. The sense of refinement and polish in the detail nicely counterbalances that effect. The Aaltoesque lines, the Shaker-like forms of the pews, the white walls subtly sculpted to reflect the interaction on the elevation of the orthogonal and the five-degree grids combine to create a stunning totality. At one end of the otherwise blank northeast wall, a 10′ x 10′ window has been installed, framing a view of the first log cabin built by the Harmonists—a view immediately perceptible to those entering the auditorium. A panel automatically slides over the window when the orientation film goes on; the log cabin then appears on the screen.

**Symbolic role**

This orientation function of the Atheneum assumes a more important role than that of the learning center suggested by its name. The seminar rooms are small and few; the books and artifacts comprise an interesting but not extensive collection. The restaurant and outdoor amphitheater originally planned were lopped off for economic reasons. While detracting a bit from the building's raison d'être, the decision no doubt will help other restaurants in the small town and obviates the need for running a restaurant when tourism drops in the winter.

In terms of energy use, the building would clearly not satisfy conservationist demands. Since the most heavily used spaces do face south and west, the heating burden might be diminished in the winter when tourism is low. But summer air-conditioning requirements undoubtedly soar with the temperatures.

Clearly the building occupies that special ground of cultural artifacts—the luxury item. Like other (larger) "monuments" before it, it is a touristic event, a landmark. The Atheneum alone may be worth the visit to New Harmony. Its spectacular spaceship quality offers a far greater sightseeing attraction than a more "contextual" response would have. Removed at a certain distance from the town, the Atheneum is like some UFO sitting in a corn field, and because of this, it doesn't interfere with the rest of the experience. As an emblem of the town's utopian history and its desire to attract visitors, it makes sense.

As a prototype for architecture of the Late Modern genre it poses only questions. Taking Modernist elements and inverting them or superimposing them to provide the density, accretion of forms and spatial drama of pre-Modernist architecture does not really work. Or at least it doesn't here. Elaborations on the diagram, on circulation and on the envelope in and of themselves provide nice motifs. In combination these explorations leave open ways of creating a unified spatial construct. The fact that it has been attempted still gives one hope that a solution may emerge with future investigation.

[Suzanne Stephens]

**Data**

**Project:** The Atheneum, New Harmony, In.

**Architects:** Richard Meier & Associates, Architects. Design team: Richard Meier, Gerald Gurland, Sherman Kung, Henry Smith-Miller, Christopher Chimera, Mark Cigole, David Estreich, and Steven Forman.

**Site:** 7.8 acres on semi-forested land next to Wabash River in the northwest section of town of 900 people.

**Program:** provide visitors' orientation services, including a film, plus exhibit, display space, gallery, and conference rooms, in approximately 15,000-sq-ft building. (P/A's estimate; not available from architect).

**Structural system:** steel frame and steel stud walls, concrete on steel deck floors and roof.

**Major materials:** porcelain enamel panels on exterior walls, gypsum board on interior walls and ceilings, maple wood flooring, quarry tile paving on all terraces and walking surfaces, carpeting.

**Mechanical system:** forced cold air system; hot water radiation and forced warm air system.

**Consultants:** Severud-Perrone-Sturm, Bandel, structural; Flack & Kurtz, mechanical; Kane & Carruth, landscape architects; Peter Katz, signage.

**Client:** Historic New Harmony, Inc., Ralph G. Schwarz, president.

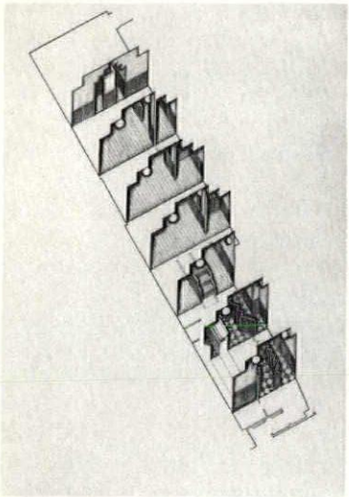
**General contractor:** Peyronnin Construction Co.

**Cost:** $1,800,000.

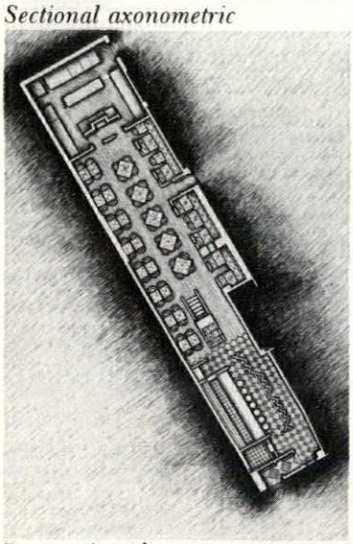
**Photographs:** Ezra Stoller © ESTO.

# Manhattan Miranda

**Via Brasil, New York**



*Sectional axonometric*



*Perspective plan*

**Geoffrey Freeman's Via Brasil sways with the samba but stays in Midtown, knowingly tripping the balance between Latin color and energy and Manhattan savoir faire.**

Architects get commissions all kinds of ways—through old classmates and cousins; competitions; on the golf course. Geoffrey Freeman got this one by being listed in the yellow pages when Luis Gomes, a proprietor of a jeans store in the fast emerging Little Brazil of Manhattan's 46th Street, decided to open a restaurant. Freeman (formerly affiliated with Elbasani Logan Severin Freeman of Berkeley and New York), whose work usually consists of large, multiuse urban centers with elaborate public/private funding, couldn't resist the unexpected call.

"The first thing we did is go out and get a Brazilian recipe book," he says. "None of us had ever eaten Brazilian food." The client, on the other hand, had something more like Tiffany lamps, wicker chairs, and hammered copper in mind. Bridging the gap became the design motif—between 46th Street and Rio, elegance and exotica, architect and client.

Underlying the vibrant Brazilian imagery, for instance, are the trappings of a fine restaurant, with decided—Freeman is English-born—gentlemen's club inclinations. The entry floor is paved in a checkerboard of marble. Circulation is accented with bronze railing. Dark wood planks form the floor and lower wall of the restaurant. And while the hardwood is actually specially imported from Brazil, wainscoting is certainly not.

It is within this framework that South American themes are introduced. The color screams tropics. Pale peach, bordering on flesh tones, is spread over the surfaces of the walls and electrified by zigzagging turquoise trim. "The color of the trim is kind of outrageous," grins Freeman, "but it embodies a whole imagery that comes out of that geographical zone. The place goes in the direction of a dark clubroom, and then that trim grabs it, perverts it, and gives it that zing." Chosen originally as a cheap way to overcome sloppy gypsum board corners, the trim is exploited not only for its color potential but its potential for movement as well. A slight machinery shift at the lumberyard gives it a continuous reentrant corner for accelerated linearity.

With a kind of cartoon/stagecraft simplicity, Freeman and project architect Vincas Meilus have suggested both refined-and-conservative-tradition and feverish-gaiety-with-an-air-of-decadence; Nigel Bruce lighting his pipe and Carmen Miranda wriggling through the samba.

But instead of Carmen's self-mockery, that knowing wink to the audience as bananas and mangoes dangle from her hat, the architects have opted for some of the high school operetta romanticism of a Caribbean cruise. With a little custom work, off-the-shelf globe lights have been transformed into a series of Caribbean moons. The mounts have been curved so the lamps "sort of grow, with a strange, organic presence," as the architects describe it. The moon effect is produced by silver-tipped bulbs which cast the front of each globe in shadow.

Accentuating the cruise imagery is the boatlike bulkhead of the stairs down to the restrooms, these brass railings taking on a double association. Multiple associations are continued by locating the bulkhead at the entrance to the dining room as if it were a maître d's lectern, then piling on potted plants, so it is simultaneously ship, Maxim's, and Amazon jungle.

All this is arranged within a typically deep, narrow-necked New York storefront. Marking the transitions is their approach to the space, and after an indifferent entrance, the architects bisect the long neck into bar and waiting queue with an aggressively jagged screen. Reminiscent of syncopated Latin rhythms, the screen angles to meet customers at the door, direct them to either side, and deliver them to the shifted center of the wider dining room.

Here the marble checkerboard adjoins the wood plank floor in a pinking-shears detail that is among the best in the house. The rite of passage from the kinetic entry to the mellower restaurant is completed by a stepped screen and the planted bulkhead. The end of the room, which bears the charge of a strong directional thrust, is handled as both focal point and architectural goalie. Its ziggurat silhouette and arrangement as a light trap draw attention as its shallow backdrop with

*Turquoise and pale peach lend a tropical flavor while Caribbean moons poke out from every alcove.*

inset mirrored panel throws that attention right back into the room.

To the architects' work, the client added his own choices of furniture: shiny mulch-green tufted vinyl booths, "Mediterranean" carved doors, restaurant catalog wood tables and chairs, and artwork. This last gap is perhaps the least well bridged. But it is, on the other hand, overwhelmed by the canny moves and indulgent imagery of two very sophisticated designers. [Nory Miller]

**Data**

**Project:** Via Brasil, New York.

**Architect:** Geoffrey Freeman, New York; Vincas Meilus, project architect.

**Client:** Luis Gomes.

**Program:** design a Brasilian restaurant capturing some of the image of South America in the ground floor of a 1930s office building; 2300 sq ft.

**Structural system:** ceiling framed out with wood and gypsum board.

**Mechanical systems:** mounted over kitchen with main air supply duct running length of restaurant within ceiling.

**Costs:** $130,000.

**Photography:** Vincas Meilus.

*The long skinny space of this typical New York storefront is organized to make the most of the visitor's rites of passage, from the aggressively syncopated screen (left), to the plant-covered stepped platform at the entrance of the dining area (above), to the ziggurat silhouette at the very back (top).*

# Industrial grove

**Greenhouse, Savannah, Ga**

Martin Filler

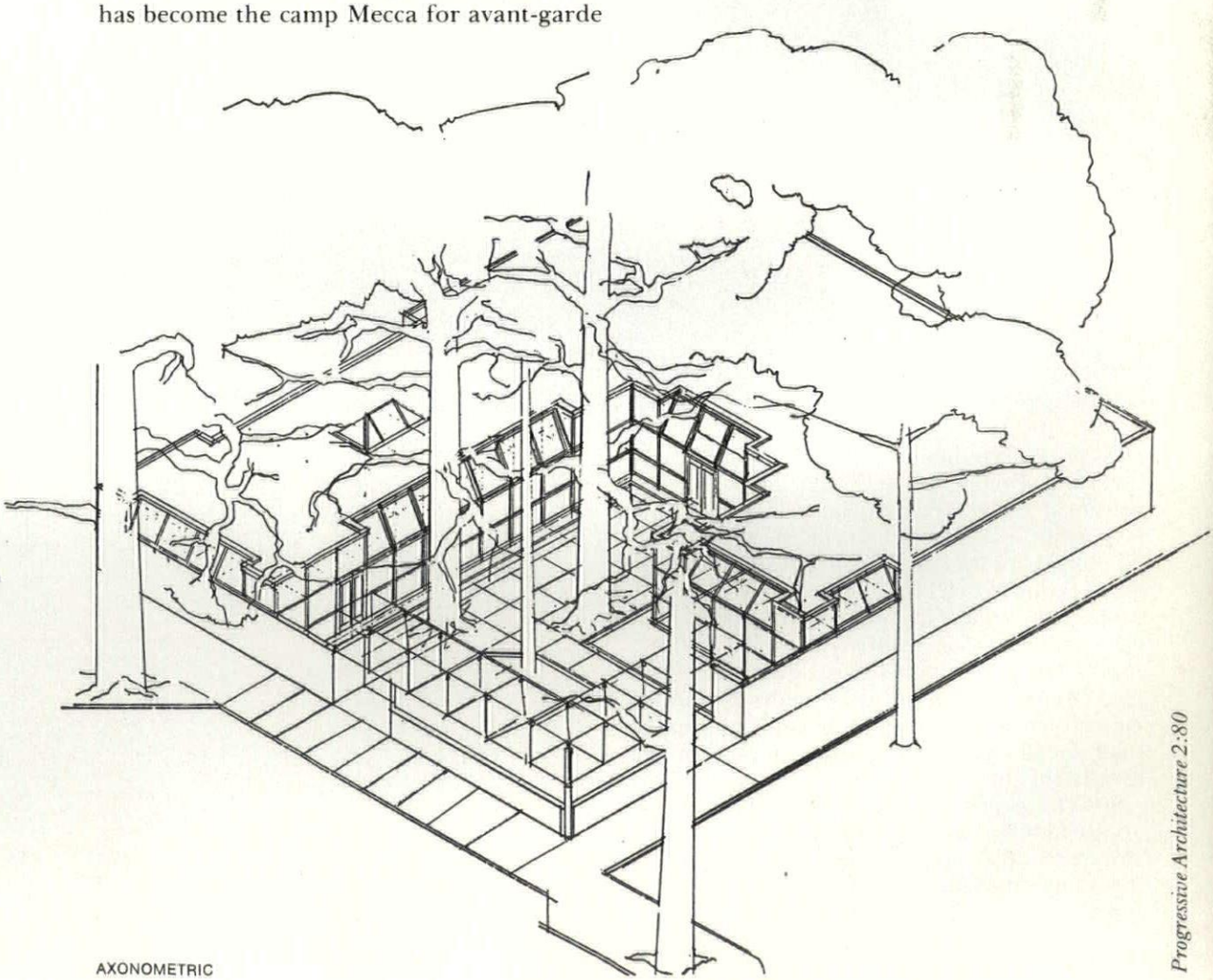
**Author:** Martin Filler, a former associate editor of *Progressive Architecture,* was recently named editor, with Denise Otis, of *House & Garden.*

**Hard by a commercial roadside strip, Donald Beach has provided a green respite, both indoors and within a sheltered court.**

Historic Savannah survives as a pristine, lifeless vestige of an age when people actually inhabited small cities. The feeling of nostalgic, arrested charm, encompassing two centuries of superior civic and domestic design, evaporates ten minutes by car from the squares of old Savannah. Then we are once again in Anytown, USA, part of the unidentifiable, interchangeable phenomenon of Roadside America, one which is the same from Framingham to Fresno.

We are what we eat, we've been told and believe; but even more, we are *where* we eat. And where-we-eat is involved with a new American tradition—Theme Dining. We all have our favorites. The fabled Madonna Inn has become the camp Mecca for avant-garde architectural groupies making the dusty auto trek between LA and San Francisco. Unwary journalists have stumbled upon an unlikely evocation of New Orleans (replete with plastic Spanish moss and restroom signs reading "Antoine's" and "Antoinette's") that serves burgers to the burghers of Grand Rapids. Even America's most ubiquitous restaurant, McDonald's (P/A, June 1978, p. 64), has come to realize that as part of its claim that "we do it all for you," it must provide suitably escapist release from the drab sameness of much suburban development.

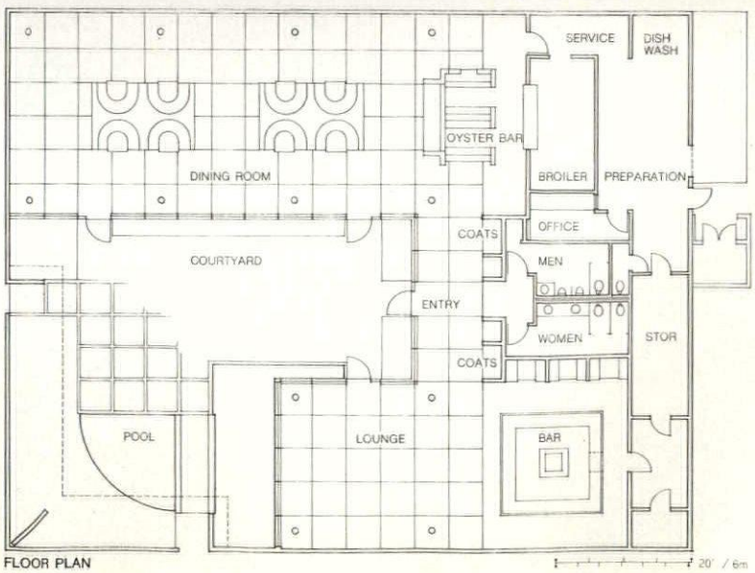
Thus it is rare to encounter a newly designed restaurant away from a downtown metropolitan area that does not cater to the seemingly insatiable public desire to be reminded of everywhere and everything except one's real surroundings. Greenhouse, on the



AXONOMETRIC

fringes of Savannah, is a fine exception. Its architect, Donald Beach, was eager to avoid the local norm of restaurant design in this important commission early in his career. Neither Good-Taste Nostalgia nor All-Out Pander was Beach's style: he wanted to design a pleasant, contemporary setting that would be protected—or, rather, would protect itself—from the inadequacies of local zoning laws. In its location just off a highway joining Downtown Savannah and a major shopping mall, there was no telling what one day might invade this low-keyed area.

Beach wanted to avoid the standard architectural reaction to sleazy roadside surroundings—turning one's back—and at the same time create a design with its own sense of place. The results are quite different from many restaurants located in roughly equivalent settings around the country, for



FLOOR PLAN

even inside the Greenhouse there is still a tangible sense of the environment from which one has just come.

The architect had his choice of four sites close to a large, popular shopping mall; he chose one graced by a stand of mature oak trees. Wisely retained, the trees have become the single most appealing aspect of an otherwise unremarkable site. The building itself is quite modest. White-painted concrete block, the exteriors are broken only by clerestory strip windows. Not until one enters a walled atrium court with its irregularly shaped pool of water, does one recognize the clever design decision. There the walls of the restaurant open up onto the protected inner view, giving the interiors an unexpected sense of openness, part reality, part illusion.

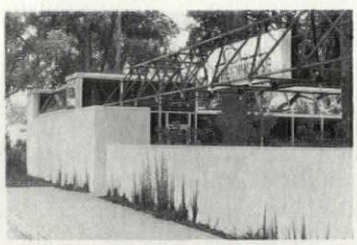
The reality is clear enough, the illusion not. The reflective qualities of the inward-facing walls of plate glass multiply the mirrored images of the small inner court while they reveal the continuing landscape of trees that extend the sylvan feeling, even though they grow from the surrounding asphalt lot. Inside, the overhead space frame, studded with small lights, employs that same reflective effect, extending our perception of what's indoors and what's outside—a feeling that is heightened as the sun sets and one's consumption of alcohol rises.

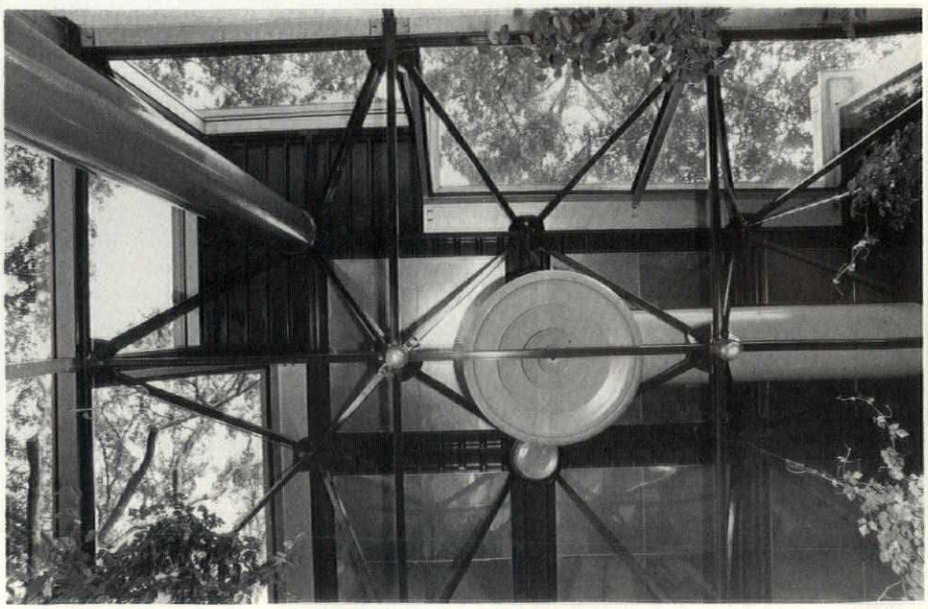
Furnishings are refreshingly simple: commercial knockoffs of Josef Hoffmann's bentwood Prague chairs, green vinyl semicircular banquettes that might appeal to Venturi & Rauch, ficus trees, hanging plants, framed botanical posters. A few things jar. Facing the entrance is an ugly coatrack where more graceful welcoming symbols—a console table and a mirror, for example—ought to have stood.

The commercial success of the Greenhouse indicates that better things might be in store for those parts of the country as yet uninitiated into the joys of quiche and white wine, butcher-block and asparagus ferns. That a good time can be had by all in something other than a red-flocked-wallpaper-and-plastic-chandelier sham of a past that never was, is a very important sign. □

**Data**

**Project:** Greenhouse, Savannah, Ga.
**Architect:** Donald Beach, Atlanta, Ga.
**Client:** Greg Butch.
**Site:** 150 ft frontage by 413 ft deep; prominent suburban location with stand of oaks.
**Program:** design a restaurant seating 125 people with a bar/lounge accommodating 60; 5500 sq ft total of which 1800 sq ft is dining, 1325 bar, with 2864-sq-ft courtyard and 70 parking spaces.
**Structural system:** steel space frame and steel joists on steel columns and concrete block bearing walls.
**Major materials:** sloped glass, custom-framed curtainwall, painted concrete block walls.
**Mechanical system:** forced-air, gas-fired rooftop units.
**Consultants:** David Webster, landscape; Saussy Engineers, structural; Rosser, White, Hobbs, Davidson, McClellan & Kelly, Inc., mechanical; Southern Scale & Refrigerator Co., food service equipment.
**General contractor:** Denmark Construction Co.
**Costs:** $43 per sq ft for the building; $57 per sq ft including sitework, parking, landscaping.
**Photography:** Tim Rhoad.





*In true greenhouse tradition, tinkertoy technology (right) is combined with simulated rainforest lushness, both inside where the dark green banquettes assist the illusion (facing page) and in the framed but open courtyard (top).*

# Inside track

**Orient Express, San Francisco**

**On the enclosed interior atrium of a large office complex on Market Street, several kinds of images converge in one restaurant.**

Given the proliferation of galleria-type spaces in all manner of buildings, the challenge of what to do around the edges is an increasingly common one. One market plaza in San Francisco is an office complex enclosing just such a space, with one edge defined by a restaurant called Orient Express—serving Middle Eastern food. Architects Daniel Solomon and Nan Hearst were asked to design an establishment including a buffet and seating area for all day service, a dining room for lunches and dinners, a bar, and a kitchen, all within a stern existing matrix.

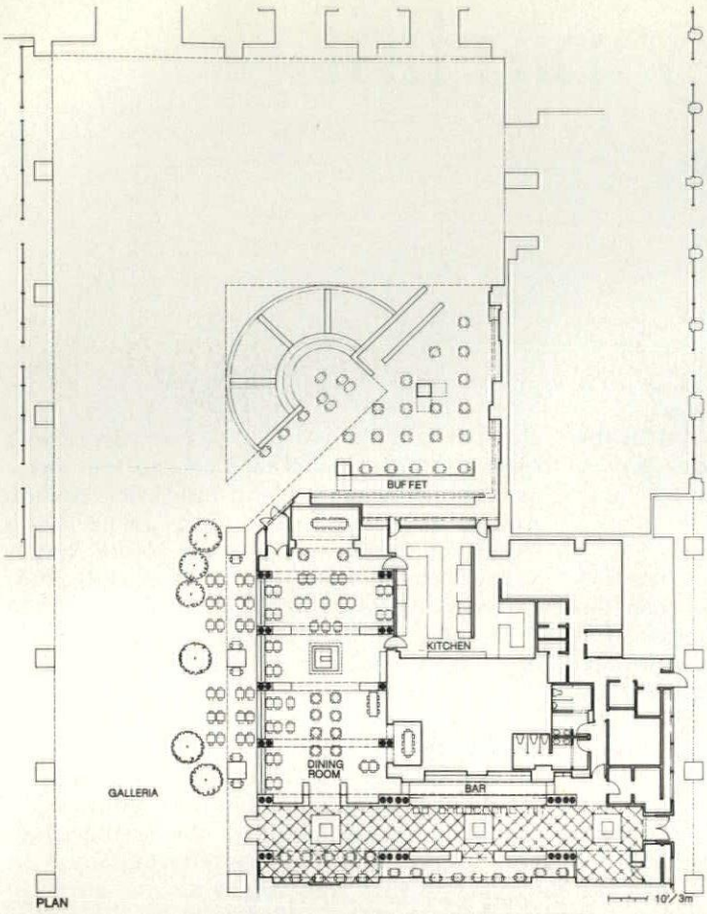
Working around the set 28-ft structural bays and substantial duct risers, the architects were given some difficult area restrictions as well. The lower leg of a roughly L-shaped series of spaces—the bar—is long and relatively narrow, with access to both the galleria and the street. Adjoining that at right angles is a wider formal dining room seating 160, and beyond that, the buffet area seating 140.

Borrowing deftly, but not literally, from the Byzantine, the architects chose long, sweeping, shallow arches to join pairs of short "columns" and stub walls to fashion the major architectural elements. The structural bay is divided into two 14-ft segments, delineated across the dining area by the nonstructural base/column/arch planes. A similar effect continues through the long dimension in the bar, here with the paired columns doubled. These planes visually subdivide the larger spaces into more intimately scaled areas, punctuated by high, square mid-bay openings to the galleria. The obscure glass that allows ambient mall light to filter into Orient Express repeats the arch form below.

Although the majority of the wall surfaces are a cream color, the overall tone comes from varying shades of rose on strategic wall planes and in the furnishings. With brass accents such as doors and lighting fixtures, the architects have added to the rich warmth of the space. Oak, beech, rattan and wicker in the bar, bar stools, and chairs complement the carpeted (dining) or tiled (bar) spaces, and the quality of the custom woodwork and of the hand-rubbed wall surfaces is very high. The Orient Express is a welcome relief from the harsh, relentless mall it borders.

In its concept, the design is sophisticated, subtle, and maybe somewhat fragile. It is a parti that depends heavily on a fine line of understanding by the establishment's management. It is a restrained statement that demands restraint and does not live well with improperly thought-out embellishment. The central tile buffet in the dining area, for instance, provides for an elegant display accent for, say, desserts. The lighting has a large degree of flexibility already built in, and properly adjusted it can create a delightful soft mood and a play of planes on planes. But if the buffet is overloaded, or unsympathetic plants are installed in the wrong places, or the lights are allowed to blast instead of bathe, the statement suffers. While it could be argued that any design must serve its users, Solomon and Hearst have provided the options. The Express is now on the track, and its control is up to the engineer. [Jim Murphy]

*From the galleria (above), the Orient Express nestles knowingly into the bland surrounding structure. Buffet and seating (opposite page, bottom right) open onto the mall. Gentle arches cross the dining room (right) to rest on dual "columns" and bases which turn to low blocklike extensions of a cut-out plane. The same arched volumes continue the length of the bar (opposite page, top), the back one painted rose and visually continued by reflections in the adjacent mirrors. All effects were achieved in nonstructural gypsum board and furring. Obscure glass panels perpendicular to the three-dimensional arches echo the form while preventing views through and allowing light to penetrate from the mall to the dining room.*



PLAN

**Data**
**Project:** Orient Express.
**Location:** Interior mall of One Market Plaza.
**Associated architects:** Daniel Solomon and Nan Hearst, San Francisco; S. Pearl Freeman, project associate.
**Client:** Caravansary, Inc.
**Program:** Facilities for kitchen, buffet and seating, bar, and dining (7525 sq ft).
**Consultants:** Advention, graphics; James Goodman, paint effects; David E. Ovenden & Associates, electrical; Schaaf, Jacobs, Vinson, structural; Buffalows, Inc., mechanical; Cunningham-Kamada, food service.
**Contractor:** C.M. Peletz.
**Photos:** Joshua Freiwald.

# Raspberry parfait

**Mé & Mé Restaurant, Berkeley, Ca**

Sally Woodbridge

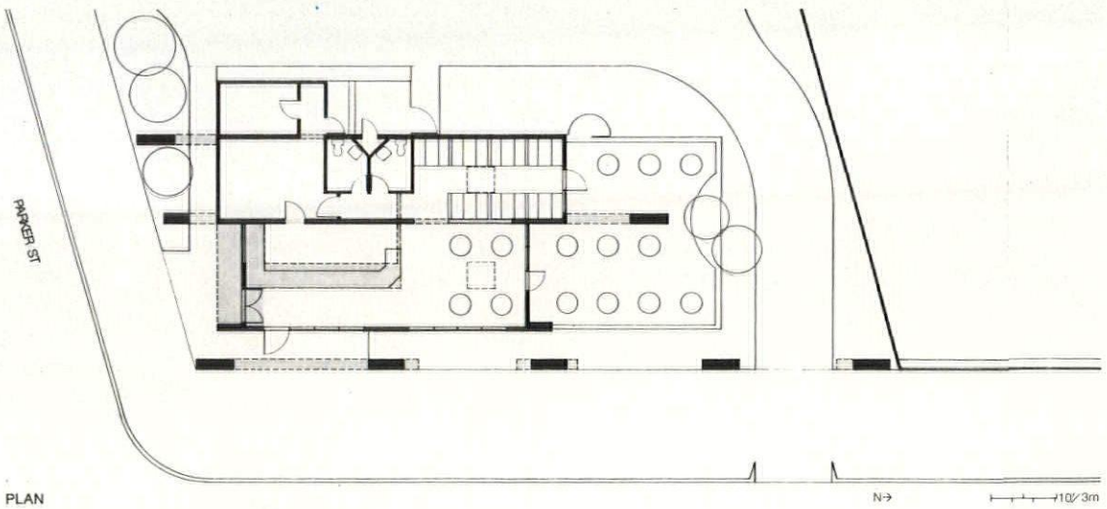
**Author:** Sally Woodbridge teaches architectural history, is coauthor of several books on California architecture, and is a contributing editor to *Progressive Architecture*.

**Daniel Solomon interprets fast food in the language of the new avant-garde—layers, fragments, context, and metaphor.**

Although, in private, architects often describe the effects of budget cuts on their designs, rarely is a building a comment on what might have been. Such is the case, however, with Mé & Mé, a Middle Eastern fast food restaurant-cum-decorated shed in the grand old tradition of Roadside America. Essentially a box with an open courtyard at one end, the restaurant has its street frontage strewn with fragments of what would have been the façade had not the funds been cut.

These thick wood-framed and stuccoed shards speak metaphorically of masonry ruins. Wooden tie-pieces connect them to the building wall, a pun on the real ruins that are propped up from behind. Unfortunately, the wide spacing of these minimalist pieces vitiates the coherence of the wall plane. Sometimes the pieces, such as the two fragments on either side of the parking lot entrance, aren't quite conversant with each other. One makes a neighborly gesture toward the brick Mission Revival storefront next door by rising to the height of its cornice, but the other comes down to the ground with a rather dull thud.

In the actual building, behind the ruined wall, much design energy has been spent breaking the box into planar elements like stage flats that pierce the building envelope. These are arranged in layers. The main street façade (facing Telegraph Avenue) is largely glazed. Parallel to it is a wall that begins as an arch in the courtyard, slices through the interior as a tiled backdrop for the serving area, and emerges on the opposite side again as an arch. The rear wall begins also as an arch, finishing inside as a backdrop for the eating area. From a distance, the structure appears to be in a state of exfoliation, its wall peeling off in all directions.




*Propped-up shards of wall comprise the exterior of this fast food restaurant (facing page), supposedly a comment on cut budgets.*

Lest this subtle manipulation of planes be lost on the viewer, Solomon has given the place an arresting color scheme. Originally the outside was slated to be sand-colored like the desert; the inside was to be pink. When maintenance considerations dictated a darker outside color, it was logical to paint the walls in gradations of the inside hue.

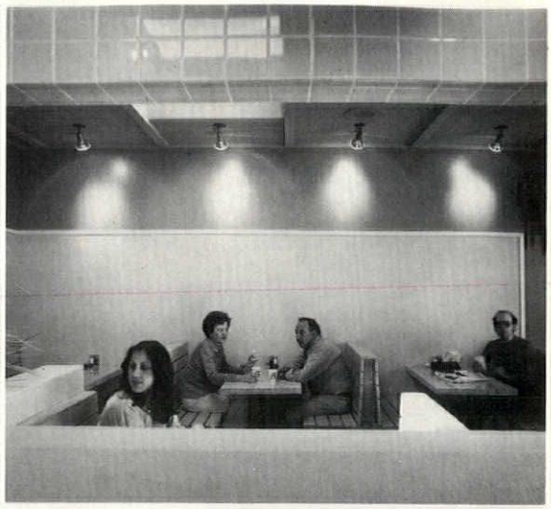
Location was also a factor in this decision. Mé & Mé's corner on Telegraph Avenue, Berkeley's most famous street since troubled times of the late 1960s, is just south of where the action was and is. Here the street has begun to lose the integrity of the older storefront corridor and becomes an anywhere strip. The vibrant color scheme yanks the building out of this nondescript matrix.

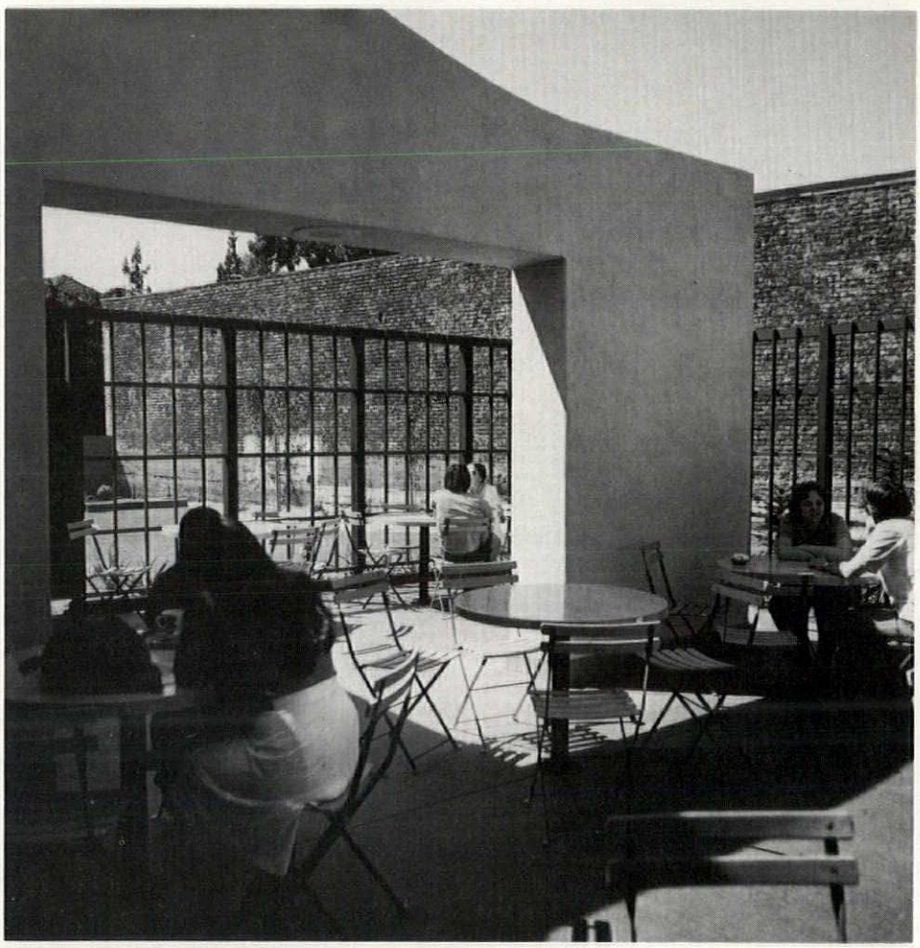
Inside, the restaurant has an airy and uncluttered atmosphere. The ordering and serving area is small; its components are colored an unobtrusive gray. There are two eating sections beyond the counter—one for tables, one with booths—both modest in size. The pallette of pinks, coupled with light finishes for the furniture, allows the people carrying trays and eating quietly at their tables to stand out attractively. One is reminded of the durability of pink for the boudoir or the cosmetic sales counter. Pale green donkey-tail sedum hangs in pots from the walls, and three blown up, color photos of appropriate Mediterranean foods complete the decor. The pleasant outdoor eating court faces north, unfortunately prevented from being useful year-round.

Mé & Mé would not under ordinary circumstances be a candidate for controversy. However, Dan Solomon teaches at the University of California at Berkeley College of Environmental Design where there is an intense proprietary interest in what happens in what it regards as its side yard. Consequently the building excited more comment than many a more environmentally consequential project across the Bay in San Francisco.

Opinions split over whether this is a paltry-piece-of-pink-and-plum-Post-Modernism or a serious and multivalent evocation of the land of fast food and falafel. In the inevitable comparison with McDonald's, Mé & Mé of course comes out way ahead. On the other hand, Mé & Mé, which is also a chain, albeit a small one, has hired an architect to design its restaurants only this one time, and it is unclear whether it will be a prototype.

Its appropriateness to its locale may be its strength over time. As the palm trees mature, its image as an oasis in the asphalt will come across more clearly. And while age will undoubtedly take its toll on the structure with graffiti and scarred stucco, not only are such things easily repaired but the building is the sort that can stand a certain amount of such patina. As one critic pointed out, the graffiti native to the Telegraph area will "look more appropriate on these broken stucco ruins than on gold plastic arches." □

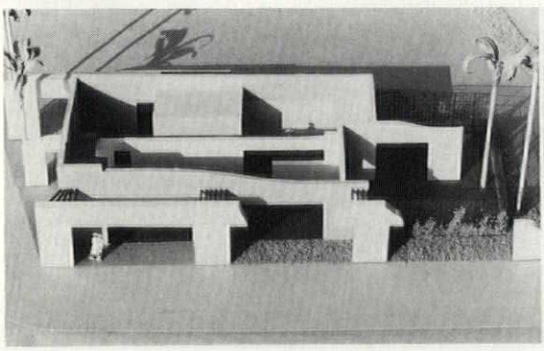




*As the layers peel back, softer colors, spaces and moods are revealed on the interior (above top and facing page, bottom) and the courtyard (above).*

**Data**

**Project:** Mé & Mé Restaurant, Berkeley, Ca.
**Architect:** Daniel Solomon & Associates; (Paulett Taggart, project associate), San Francisco, Ca.
**Client:** Leonard Lowengrub.
**Site:** Trapezoidal corner site with 100 ft and 102 ft frontages.
**Program:** design a fast food restaurant serving Middle Eastern food with an outside eating area and as much parking as possible, seating 100 people; 1500-sq-ft total of which 700 sq ft are seating areas.
**Structural system:** open web joists on stud walls.
**Major materials:** stucco-finished poured concrete exterior walls; painted gypsum board interior walls; tile floors; butcher block tables, French park chairs.
**Consultant:** Max A. Schardt, landscape architect.
**General contractor:** Gerard Fisher.
**Costs:** $145,300.
**Photography:** Joshua Freiwald.

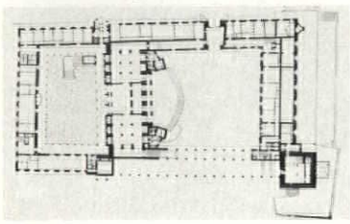


*Woodland Chapel.*

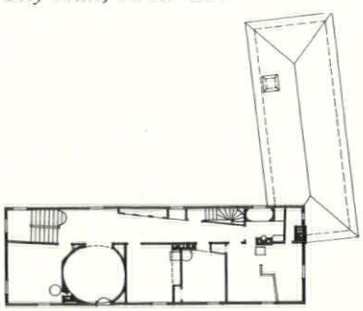
*Stockholm Exhibition.*

*Woodland Crematorium.*

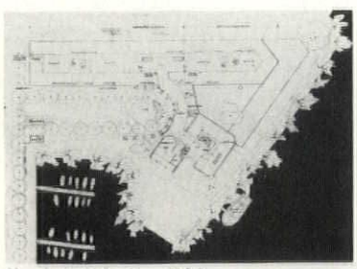
*Bromma Airport.*



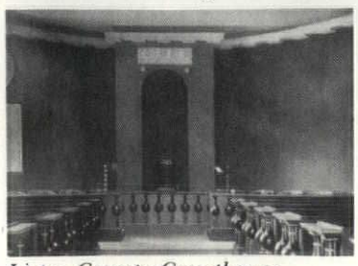
*Ragnar Ostberg, Stockholm City Hall, 1913–23.*




*Villa Snellman.*



*Social Admin. Bldg.*



*Lister County Courthouse.*

# Asplund: form and metaphor

Stuart Wrede

**The psychological/symbolic dimensions of Erik Gunnar Asplund's work are explored through two of his major works of the 1920s: the Skandia Cinema and the Public Library, both in Stockholm, Sweden.**

Erik Gunnar Asplund is today a relatively obscure figure in the pantheon of 20th-Century architecture, although most historic surveys usually include one or two of his major projects. Yet he occupies the most central position in the development of 20th-Century architecture in Scandinavia, having exercised an important influence on some of its best architects, including Alvar Aalto, Erik Bryggman, Arne Jacobsen, Sven Markelius, and Jorn Utzon.

Asplund finished his architectural studies in 1911 under the influence of the masters of Swedish National Romanticism. His architecture gradually evolved through a free integration of vernacular and Classical motifs, as seen in the Woodland Chapel (1918), towards a more rigorous classicism, which culminated in the Stockholm Public Library (left) (1920–1928). The work of this period established him as Scandinavia's most influential and innovative architect. His conversion to the International Style resulted in the internationally acclaimed buildings for the Stockholm Exhibition of 1930, and to the general breakthrough of functionalism in Scandinavia. Having embraced functionalism and the International Style, however, Asplund was one of the first architects to react against it. From the mid-1930s onward he began to reintegrate Modern architecture with Classical, vernacular, and archaic sources. The Woodland Crematorium (1935–40) is perhaps the best known example from this period. His untimely death in 1940 at age 55 ended a brilliant career at its height.

Asplund's influence on architecture in the United States, although indirect, has not been insignificant. It first reached this country through the work of Eero Saarinen in the 1950s. Saarinen's free use of different vocabularies for different buildings, his search for the significant form to express the purpose and meaning of a given building, is often regarded as a peculiarly American packaging approach. Actually it has one of its closest modern antecedents in the 1930s work of Asplund which included futuristic projects, such as his Bromma Airport competition entry (1934). Saarinen greatly admired his work and would have had a first hand knowledge of it from his trips to Scandinavia.

Asplund's method of plan composition, his use of the skew and of inflected elements (a method he refined out of the work of Ragnar Ostberg), are shown in the Villa Snellman (1917–1918) and the Social Administration Building for Stockholm (1938–1939). It was to reach the United States from the mid-1960s onward essentially through the influence of Alvar Aalto, who in turn had appropriated and developed it further.

These aspects of Asplund's work are significant, but there is another important element, which until now has also remained unexplored, and that is the symbolic and psychological dimension of his work. Alvar Aalto was the first to describe it as the most significant element of Asplund's architecture when he wrote in his short "In Memoriam" to Asplund of 1940: "The motifs of a large proportion of our conventional architecture still are fragments of a bygone era. Another architecture has arrived which builds for man and essentially regards people as a social phenomenon, while at the same time taking science and research as the point of departure. But beyond that, a newer architecture has made its appearance, one that continues to employ the tools of the social sciences, but also includes the study of psychological problems—'The unknown human' in his totality. The latter has proved that the art of architecture continues to have inexhaustible resources and means which flow directly from nature and the inexplicable reactions of human emotions. Within this latter architecture, Asplund has his place."[1]

Though Aalto speaks of it as being a subsequent development after functionalism, this aspect of Asplund's work in fact predates the International Style. Already manifest in his and Sigurd Lewerentz' romantic competition entry for the Woodland Cemetery of 1915, this "architecture psychologique" was to find its mature form in such early projects as the Villa Snellman, the Woodland Chapel and the Lister County Courthouse (1917–1921).

*Main stairway to lending department, Stockholm Public Library (left).*

It might be argued that these buildings were merely a continuation of 19th-Century eclecticism, products of bourgeois nostalgia. Yet while important stylistic links do exist to the past, there are important conceptual differences. While traditional symbolism was usually clearly defined and carried through with a conscious intellectual consistency. Asplund's symbolism appears to be intuitive, based on deeply felt and freely mixed associations. If he uses traditional mythic figures, he places (displaces) them in a new context that gives their meaning a new vitality. Thus we can see Asplund's work as sharing certain concerns with modern literature and the Surrealist movement in art through their conscious interest in archetypes, dreams, and the unconscious. Two major projects dating from his Classical period illustrate Asplund's concern with the psychological and symbolic dimension, the Skandia Cinema (1922–1923) and the Stockholm Public Library (1920–1928).

**The Skandia Cinema**

The Skandia Cinema in the center of Stockholm involved the design of a theater within an existing building. Since the cinema as a building type was relatively undefined in the early 1920s, Asplund took as a point of departure the client's program, which pointed out "the public's desire for a festive, unreal pomp as a setting for the film world of fantasy."

The theater is ostensibly in the Classical style, yet Asplund allowed himself great freedom in its implementation, pursuing inventive and unorthodox transformations of elements to pursue various metaphoric associations. Taking off on an ancient theme, the barrel-vaulted ceiling was painted dark blue, dematerialized to simulate the night sky. Electric globes, hung by wires in a random pattern, simulated the stars. The loudspeaker, projecting through the ceiling with a fleshy Luna sitting at its tip, represented the moon. Three distinctly articulated canopied balconies were set into the space. Within the side balconies, set against the side walls, was a series of intimate round loges, each with its own canopy, further creating a sense of spaces within spaces—a major theme that pervades the whole cinema. "The sense of enclosure was meant to end with the canopied roofs of the balconies . . . allowing the feeling of a festival under a night sky," wrote Asplund in describing the building.

Asplund also sensed that the theater curtain played an important psychological role, and wrote of his solution: "The curtain in a cinema has a clearly different character from that of a theater, which exists to hide the work going on on the stage. This is not required in a movie theater, and therefore a movie curtain shouldn't be totally closed, but rather leave an open view, giving the audience the impression that there is something that exists behind it." He created a double curtain. The one behind, of a crumpled shiny silver material lit from above, was partly visible when the front ones were drawn. It was described by Asplund as "giving a view towards the light, which, when the curtain opens, becomes transformed into the picture on the screen." He concluded, "Flanking this lighted opening and, during the movie, the picture on the screen, stand Adam and Eve on guard."

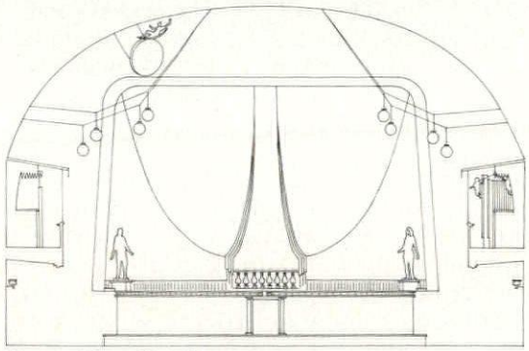
A subtle but strong sexuality pervades this composition, reinforced by other details in the hall, such as the Venus figure on the back balcony and the phalluslike loudspeaker emerging from the ceiling. The curtain opening is an intimation both of Paradise and of sexual fulfillment.

Adam and Eve were to be a recurring symbol in Asplund's work. Their presence and meaning, richly associational, both serious and jesting, vary from project to project. Here, they are standing guard at the gates of Paradise, represented by the curtain. After briefly partaking of the heavenly delights, the audience, like the Adam and Eve of myth, are expelled to the cold and unfriendly world outside. But on another level, Adam and Eve represent the myth of the beginning, of man in precivilized natural state; and, in their nudity, they represent our inherent sexuality, offering the repressed bourgeois audience, eager for escape, an alternate vision to the celluloid fantasies on the screen. Asplund uses these and the other mythic figures, representations of various emotional forces in the culture, to embody archetypal passions present in the hall itself.

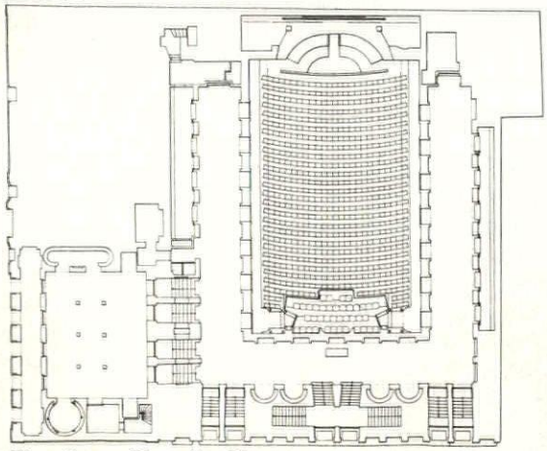
In leading his audience from the street to their seats, Asplund creates an elaborate processional that is designed to heighten the sense of anticipation, as well as to give a preview of some of the main motifs of the cinema

**Author:** Stuart Wrede was born in Finland, and now practices architecture in Guilford, Ct. He teaches a course called Architecture and Cultural Identity at the Graduate School of Architecture of Columbia University, and he was guest director of the recent exhibition of Asplund's work at the Museum of Modern Art in New York. This article is adapted from his forthcoming book *The Architecture of Erik Gunnar Asplund,* to be published by the MIT Press.

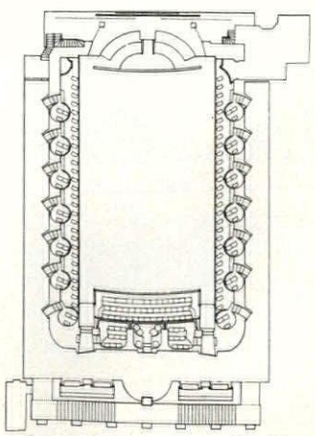
*Asplund designed the Skandia Cinema (1922–1923) in Stockholm, Sweden, "as a setting for the film world of fantasy," at a time when the building type was still undefined.*



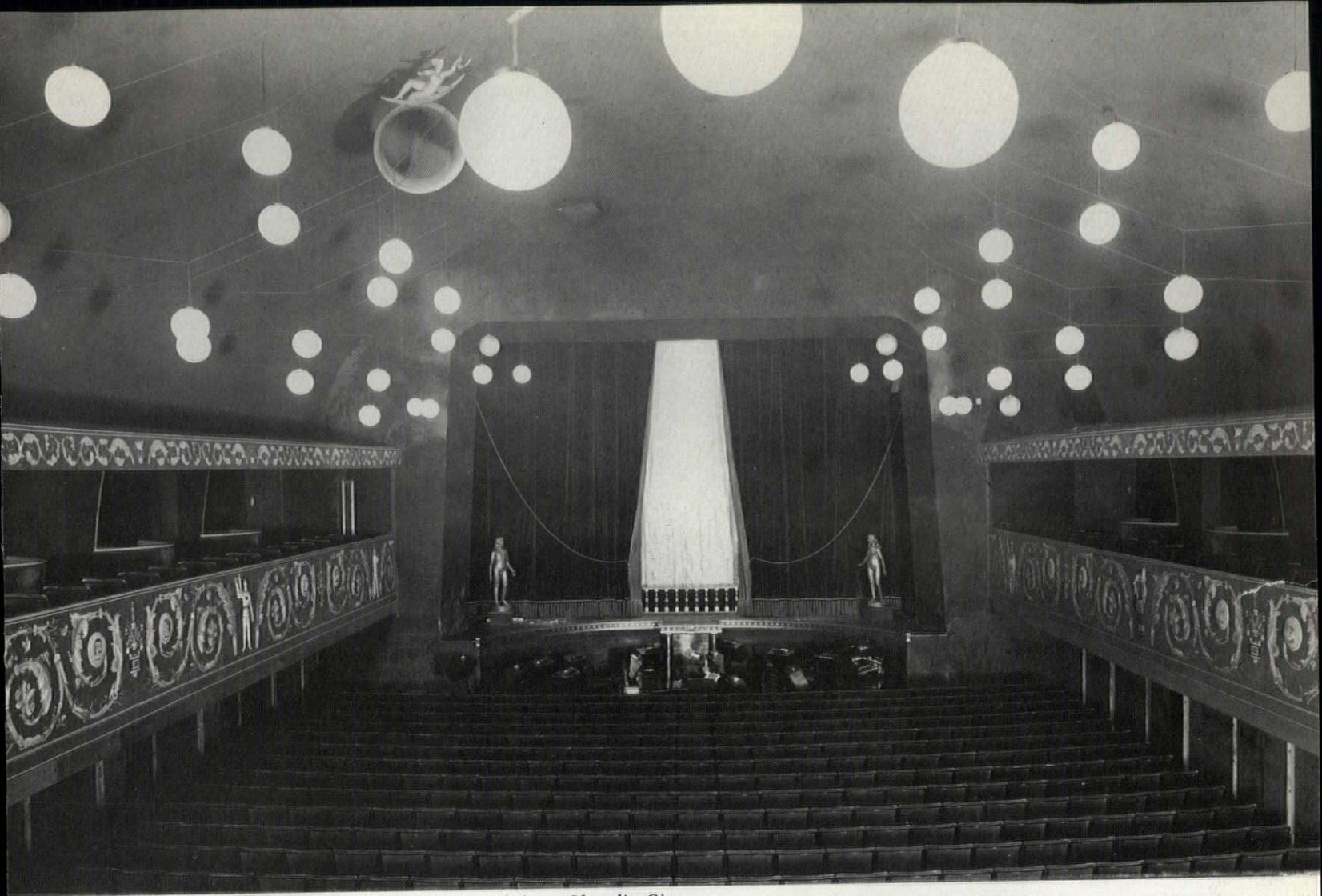
*Stage, Skandia Cinema.*



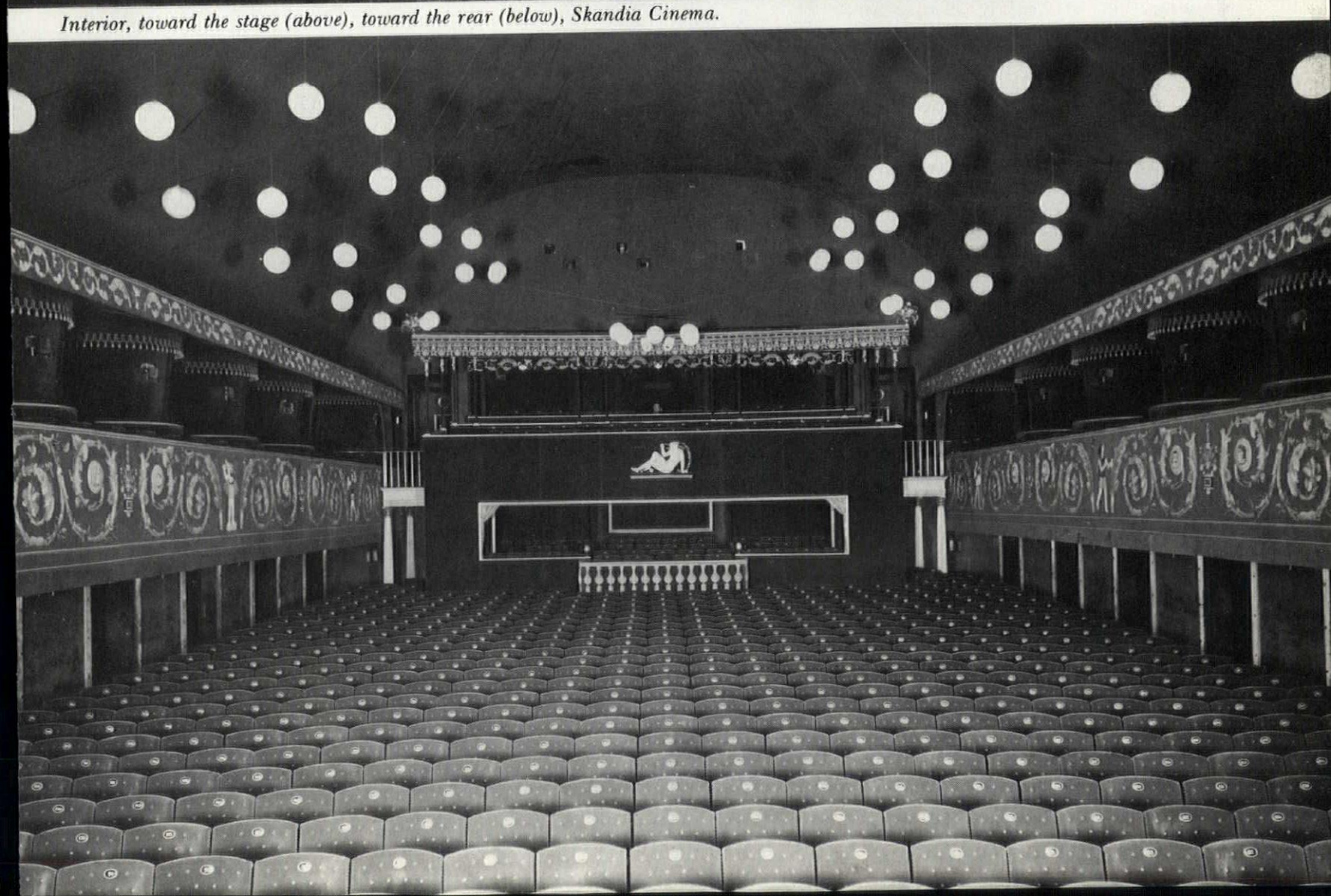
*First floor, Skandia Cinema.*



*Second floor, Skandia Cinema.*



*Interior, toward the stage (above), toward the rear (below), Skandia Cinema.*



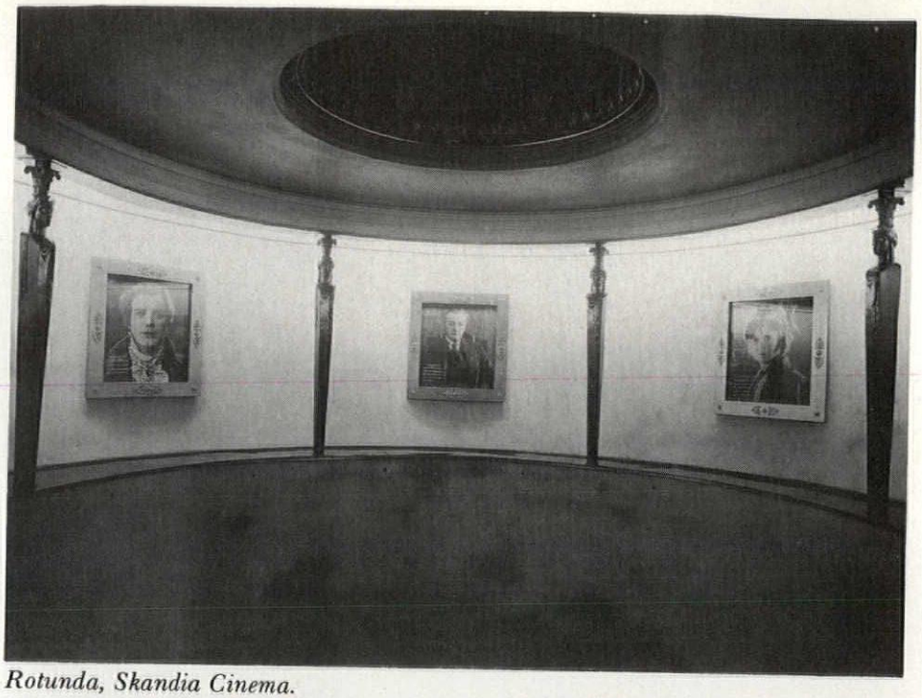
hall itself. In the lobby, the glass ticket booth is set at a skew, with an attendant in exotic dress (probably not designed by Asplund). Across the vestibule, a small rotunda was dedicated to famous film stars. The dark void beyond the oculus in the ceiling of the rotunda is an architectural pun on the stars on the walls as well as an intimation of the main cinema hall itself.

The transformation of the indoors into an imaginary outdoors is a theme that is also pursued in the promenade downstairs. The smooth light exterior wall of the cinema hall itself, again with an articulated canopy roof, was meant "to give the impression of an exterior façade to a seductive entertainment establishment," wrote Asplund.

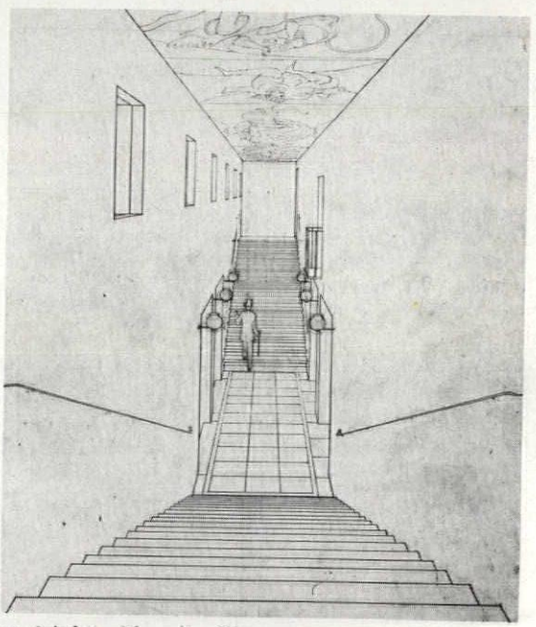
For those who continued on upstairs to the balconies, the spatial experience took on a further intensity. The long narrow stairwell, with its stairs rising symmetrically from the midpoint to either end, elicits a sense of enigma with its blank end walls at the top of the stairs. Entered from the sides, the space appears totally enclosed except for a series of highly set and rather mysterious window openings that let in no light, and a small balcony projecting into the space from the upper promenade. At the top of the stairs, one turns 90 degrees to be confronted by a view down the upper side promenade of a row of seven doors, each one projecting from the wall and inflected towards the observer. Beckoning, they are subtly sinister while suggesting unknown and exotic pleasures. These doors and the three larger doors facing the back promenade play an elaborate game of scale in which many possible-sized door openings are suggested. Painted black and red with gilt decorations, the doors appear insubstantial, as if signaling the public that this is a *mise-en-scène,* a world of fantasy.

Subtly cultivating this sense of the impermanence of a festival or of a stage set allowed him to pursue a richly decorative scheme in a light yet serious vein, without the effect becoming pompous or ponderous. The design appears as relevant and appropriate today as it must have when finished in 1923. Unfortunately, it has since undergone insensitive design modifications at the hands of others.

The Skandia was to become something of a cult project in Scandinavia, even beyond the functionalist breakthrough. Alvar Aalto, whose first meeting with Asplund took place in the newly finished cinema hall, beautifully summed up its quality in 1940: "I had the impression that this was an architecture where ordinary systems hadn't served as parameters. Here the point of departure was man, with all the innumerable nuances of his emotional life, and nature."



*Rotunda, Skandia Cinema.*



*Ticket booth (left), stairway to balcony (right), Skandia Cinema.*

Sundahl

*Lower promenade (above), upper promenade (right), Skandia Cinema.*


Sundahl

Erik Gunnar Asplund

**The Stockholm Public Library**

Asplund was originally retained by the city of Stockholm to help determine the requirements for a public library and to prepare a competition program. In conjunction with this work, he traveled to the United States in 1920, which at the time had the most developed system of public libraries in the world. As the program progressed, the building committee decided that Asplund was the most suitable architect for the job.

The site, a large, L-shaped parcel in Central Stockholm, was dominated by the steep Observatory Hill in the middle of the block. Having decided on the organization and form of the building at an early stage, Asplund went through a number of different site schemes in the years 1922–1924. His final scheme placed the building on a platform that housed shops, set at the corner of two streets. Access to the building is by a wide ramp from one street and by steps from the other.

The Public Library is Asplund's great masterpiece in the Classical style. The parti is a stark, Neoclassic composition. A perimeter zone of reading rooms forms a square, open courtyard almost entirely filled by the cylindrical lending hall. Access is at the tangent points only. The back of the square was originally open, but Asplund later added a wing (always planned) which completed it. Though the plan remained essentially the same, the design went through two distinct schemes, involving different articulations of the façades, of section, and of the central, cylindrical hall.

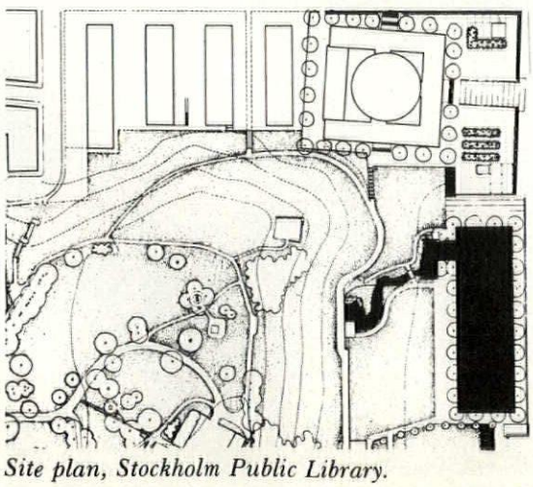
If in the Skandia Cinema Asplund played masterfully with the public conscious and unconscious pleasure urges, with basic instincts and emotions that some would regard as less than high minded, in the Public Library he strove to evoke loftier and more serious emotions. Like Etienne-Louis Boullée, with whom his forms have close affinities, Asplund also strove to embody in its form the dignity and purpose of a building. And like Boullée, Asplund strove to achieve a sense of the sublime and to reinvest in knowledge and its accumulation a sense of the sacred. But while similarities in the forms employed are striking, an interesting difference in conception can be discerned when comparing them to the two Boullée projects most similar in terms of form and program—the Newton Memorial and the Royal Library.

The key to this essentially symbolic difference can be found best in the original library scheme dating from 1921. Though close to the final scheme, its central lending hall consisted of a domed space rather than the cylinder. The lower half of the round hall was lined with three tiers of bookshelves stepped back to accommodate access passages. By making the lower passages wider than the top one, Asplund was trying to approximate a spherical space. The dome had skylights laid out in a pattern similar to the coffers of the Pantheon.

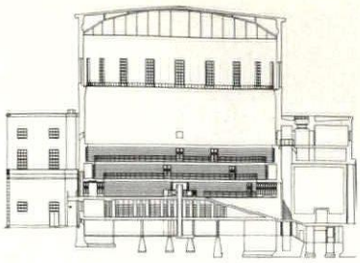
In the front façade drawing of this scheme, there appears silhouetted above the entrance a curious symbol, a bald head in profile with a projecting goatee, for which there is no known explanation. It may in fact be seen as the key to Asplund's symbolic vision of the design, that he conceived of the building as a metaphor of the mind, and that the practically spherical rotunda is an almost literal symbol of the interior of the cranium. The visual analogy between the head and the building in section is revealing in this regard (the strong anthropomorphic references in other Asplund's projects support this reading). In a perspective drawing of the entry, there is a floor mosaic with the Greek inscription "Gnoti Seafton," or "Know thyself," a detail that would not be inconsistent with this interpretation. The back façade may also be seen as reinforcing this interpretation. There is no compelling functional or formal reason for its arrangement of an evenly spaced grid of square windows to light what were to be mainly the stacks. Rather, the grid with its pigeonhole windows can be interpreted as a model for information storage and retrieval, and so, in a sense, for a mechanical concept of the mind.

If this interpretation of Asplund's intention is correct, the contrast to Boullée's symbolic conceptions is clear. Where Boullée's similarly spheric interior of the Newton Memorial was a mechanical model of the universe, or his Royal Library with its vast apse a metaphor for a cathedral, Asplund's spherical lending hall represented the interior of the mind—an interesting measure perhaps of the distance Western culture had traversed in the intervening time.

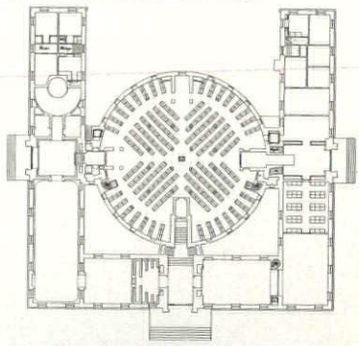
For structural and formal reasons, the dome was changed to a tall cylinder. Not only would the skylit dome have been difficult and expensive to build, it would hardly have been perceptible from the exterior. But although Asplund abandoned this almost literal symbolic form to achieve a stronger formal solution, he did not abandon the symbolic dimension; he merely gave it a more abstract articulation. For in the concentrated impact of the primary geometric forms, in the coupling of circle and square, the second and final version of the library clearly also invites symbolic interpretation. One may see the library as a culmination of those contemporary Continental currents of thought which saw in



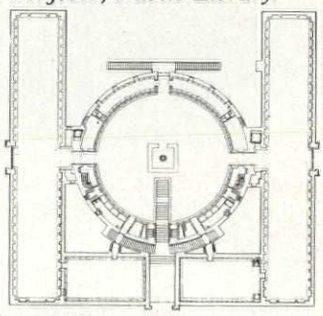
*Site plan, Stockholm Public Library.*



*Section, Public Library.*

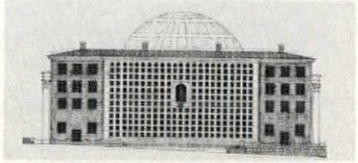


*First floor, Public Library.*

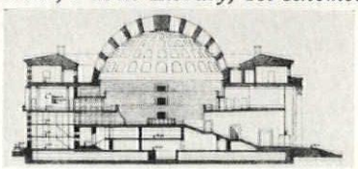


*Second floor, Public Library.*

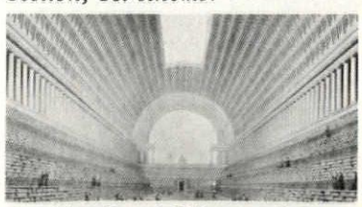
*Front, Public Library, 1st scheme.*



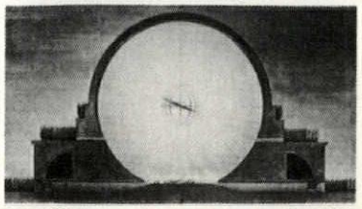
*Rear, Public Library, 1st scheme.*



*Section, 1st scheme.*

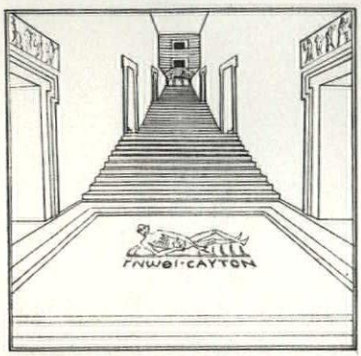


*Boullée, Royal Library, 1785.*

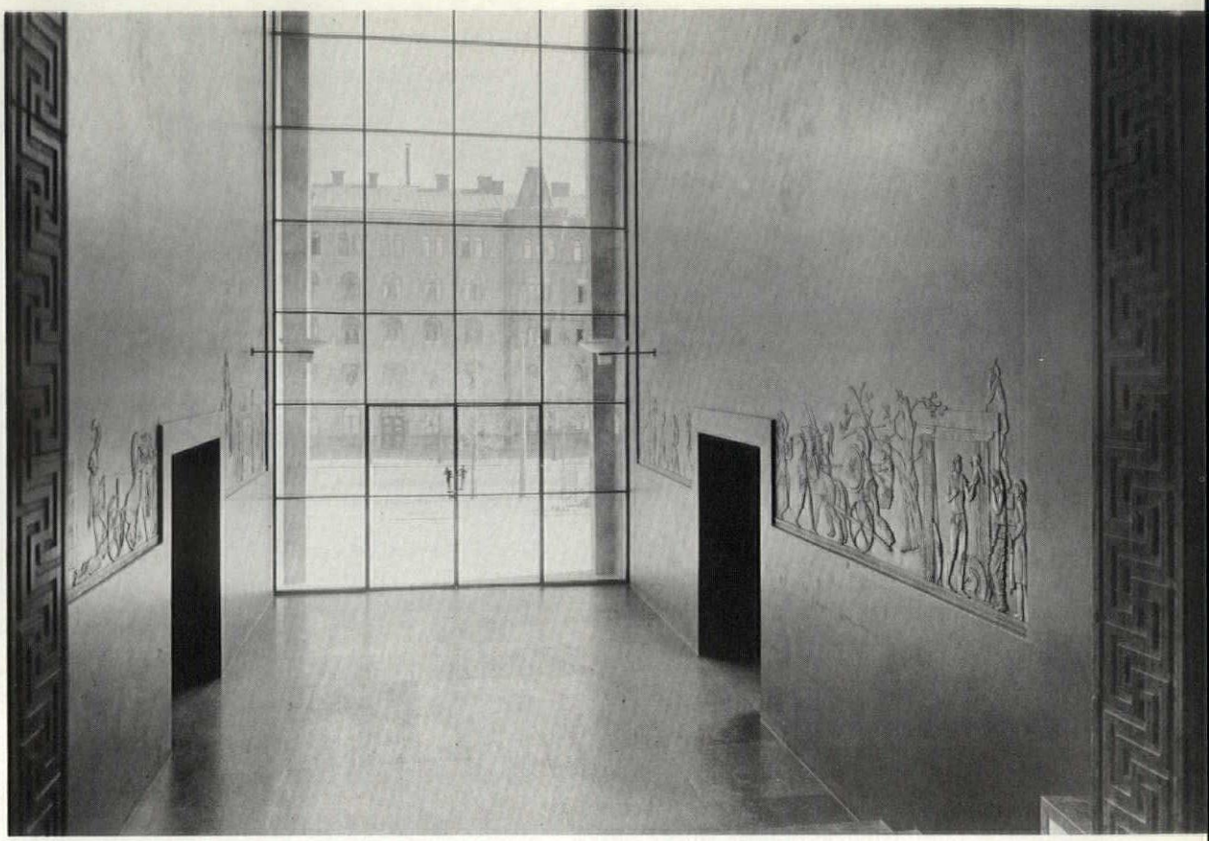


*Boullée, Newton Memorial, 1784.*

*For the Stockholm Public Library (1920–1928), Asplund went through a number of schemes, the final one of which is shown here, along with drawings of his earliest scheme, and comparison drawings of two 18th-Century projects of Boullée.*



*Main stairway, Public Library.*



*Main entry, Public Library (above); overall view from front (below).*

"the fundamental geometric forms . . . the elemental union of primitive instincts and developed reason."[2] If so, Asplund's original conception of the library can be said to have remained intact.

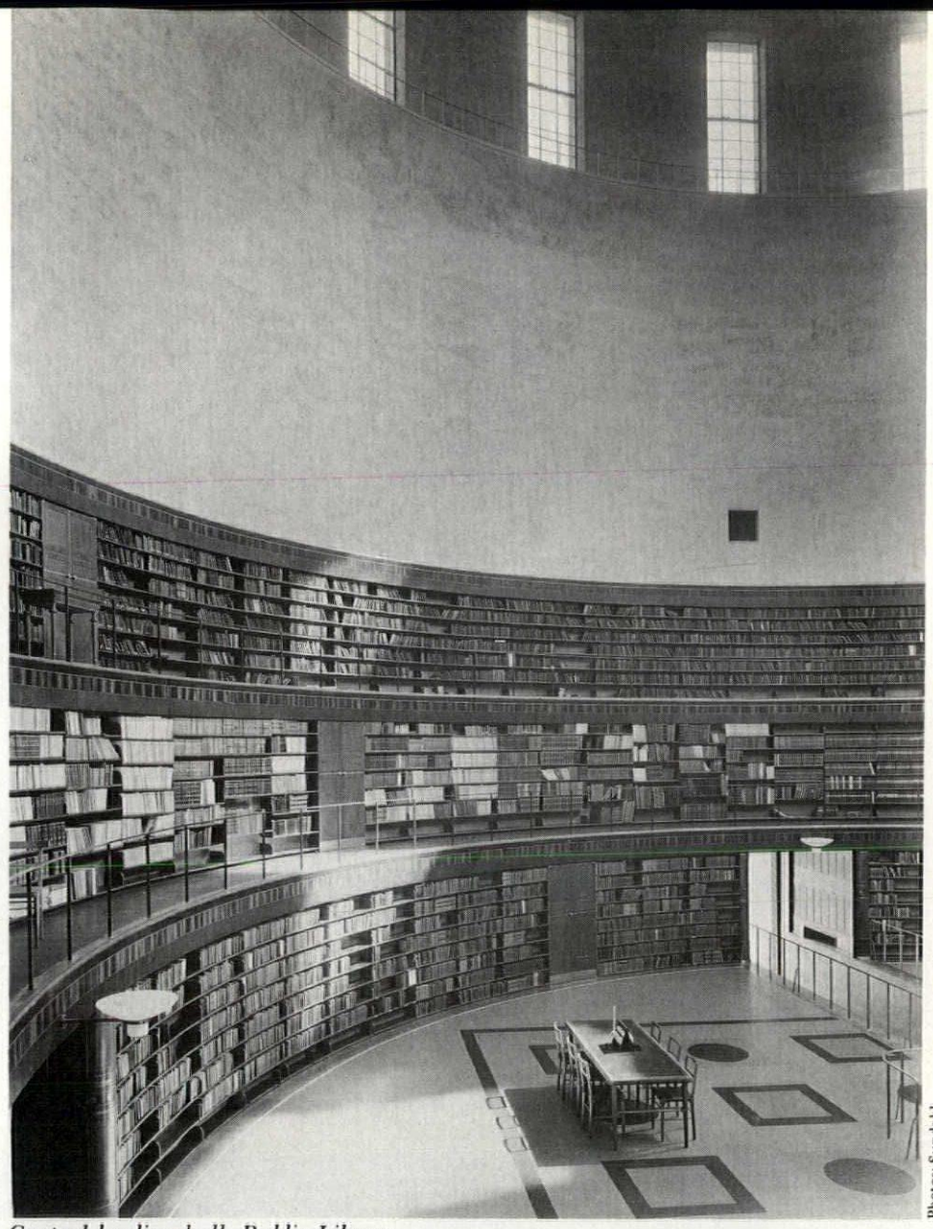
In the entry processional, perhaps best described as Egyptian, Asplund strives both for a sense of enigma and for the sublime. Passing through a high corridor with walls of black stucco, the public reaches the central lending hall one floor above via a straight, narrow stair that emerges in front of the main desk in the center of the hall. The hall itself, as in the first scheme, is lined in a manner recalling Boullée, with three tiers of books. Above the beautifully detailed wooden bookcases, and in contrast to them, rise the sheer, rough stucco walls of the cylinder, bathed in the light of the high clerestory windows. A huge bowl-like chandelier of white opalescent glass hangs in the center of the hall. Capturing the light from above, it takes on an almost magically intense glow and becomes the focal point as one ascends into the lending hall.

The side stairs (ostensibly for the staff but seldom used) and the use of light in the entry appear also to take on a symbolic dimension. In contrast to the main stair, which ascends into the well-lit cylindrical hall, the two curving side stairs climb the outer surface of the cylinder. Dimly lit by rose-colored lights that hardly reflect off the ocher walls, they ascend into a curving chasm of darkness. The contrast of light and dark (the known contrasted to the unknown) and the insistent manner in which the side stairs press in is powerful and enigmatic. The juxtaposition may perhaps be seen as the known contrasted to the unknown.

As he contrasts light and dark in the entry processional, Asplund, playing with curtain materials, explores light as a positive and a negative phenomenon in the narrow, curving study rooms surrounding the lending hall and in the directors room on the third floor.

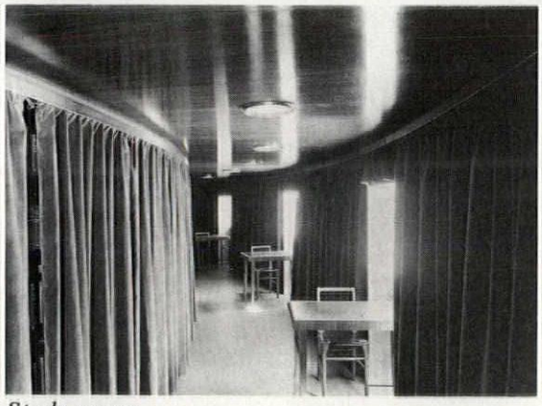
On the ground floor in one of the side wings is the children's library, adjacent to which Asplund designed a special room for storytelling. If the library is a metaphor for the mind, then perhaps the story room is where the mind's fantasy component, strongest in childhood, is contained.

A final small detail gives a further twist to the symbolism of the building. The door handles of the main entrance to the library are the sculpted nude figures in bronze of Adam and Eve, each holding an apple. Though their poses (in contrast to Masaccio's painting) hardly bring to mind the expulsion from Paradise, they nonetheless may be seen as a cautionary symbol. As at the Skandia Cinema, they are a reminder of our primitive and innocent beginnings. And their sensual nude bodies, which the public must clasp in order to enter and exit, are an insistent reminder of the flesh to those delving into the world of the mind. □

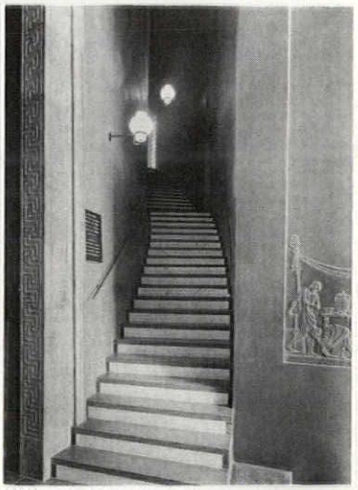


Photos: Sundahl

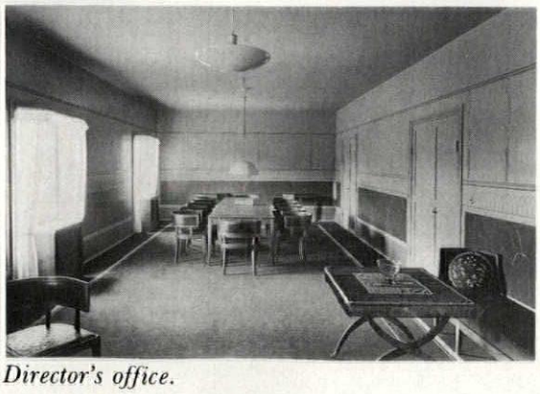
*Central lending hall, Public Library.*



*Study rooms.*



*Side stairs.*



*Director's office.*

*Children's story room.*

**Footnotes**

1 S. Anderson; "Peter Behrens and the New Architecture of Germany, 1900–1917," doctoral dissertation, photocopy, Columbia University, 1968, pp. 133–136.
2 A. Aalto, "E.G. Asplund in Memoriam," in *Sketches,* ed. Goran Schildt, trans. Stuart Wrede; Cambridge, Mass., MIT Press, 1978.

*Main entry doors (left); frieze in main entry hall (below); main stairway to lending hall and side stairway to study rooms (bottom), Stockholm Public Library.*

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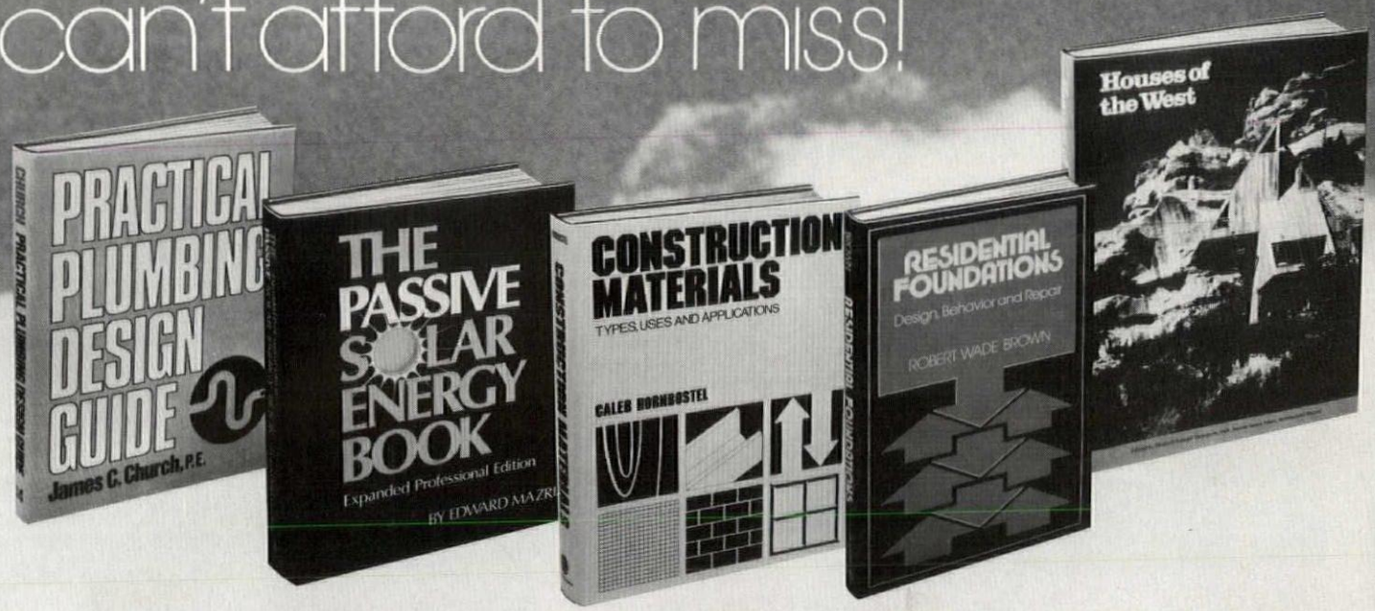


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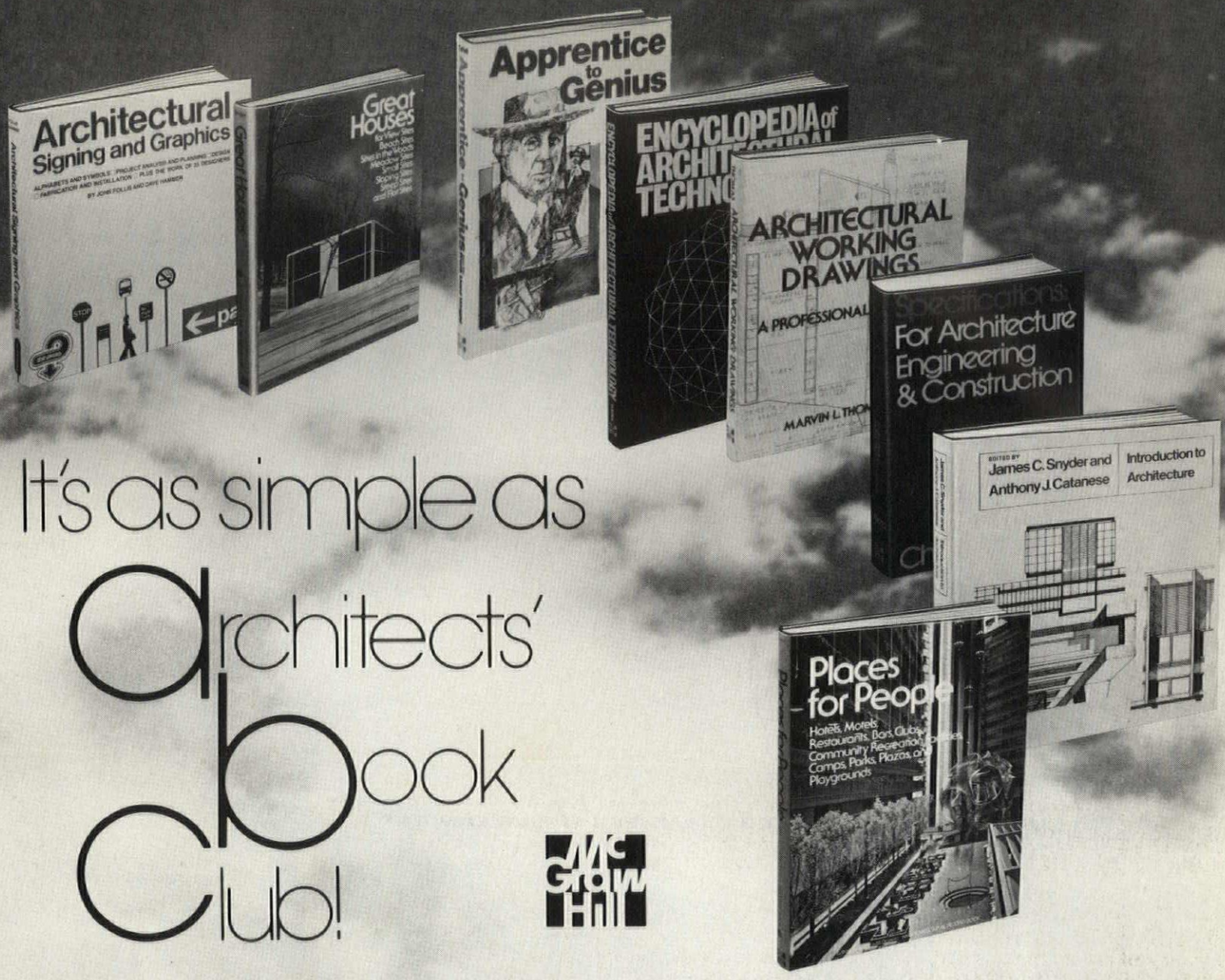


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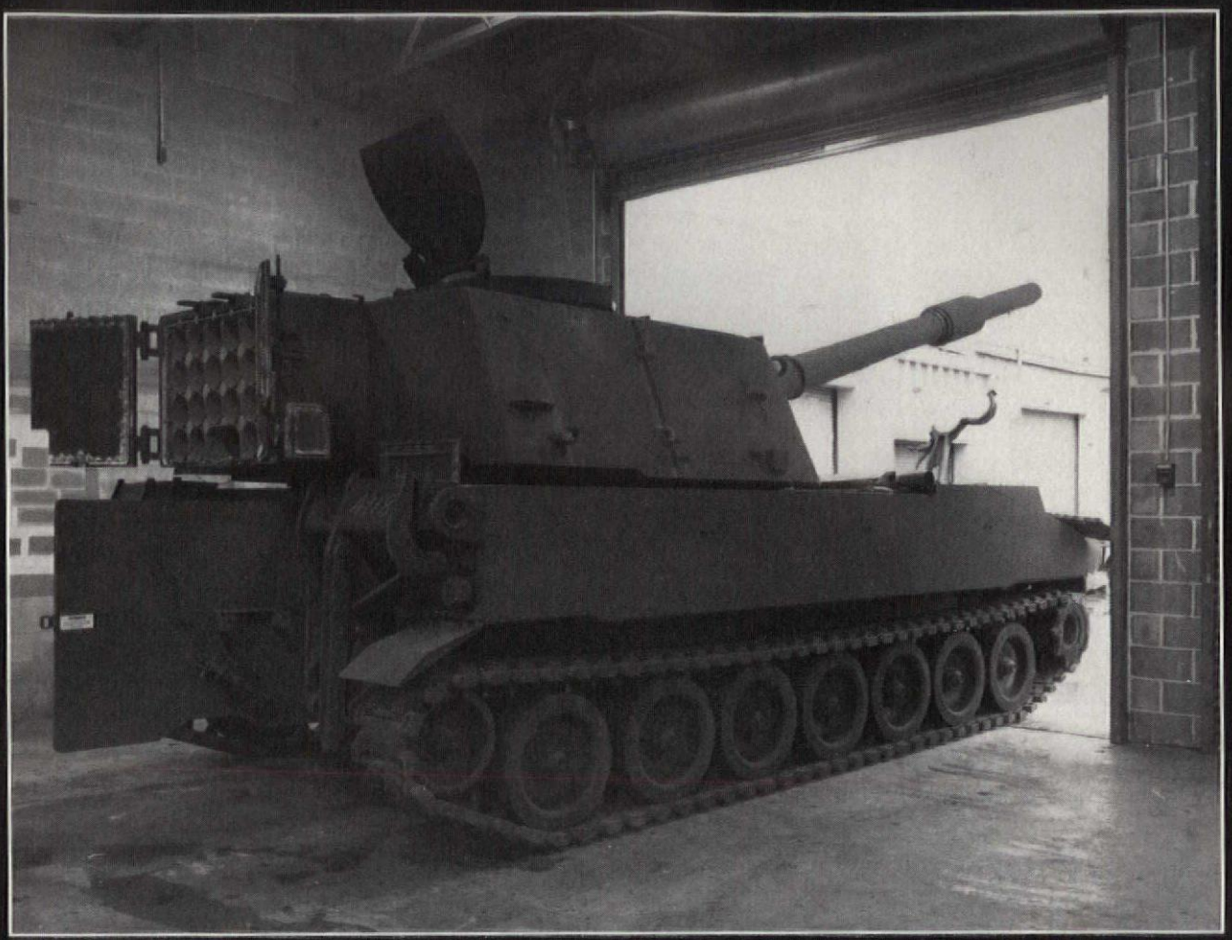

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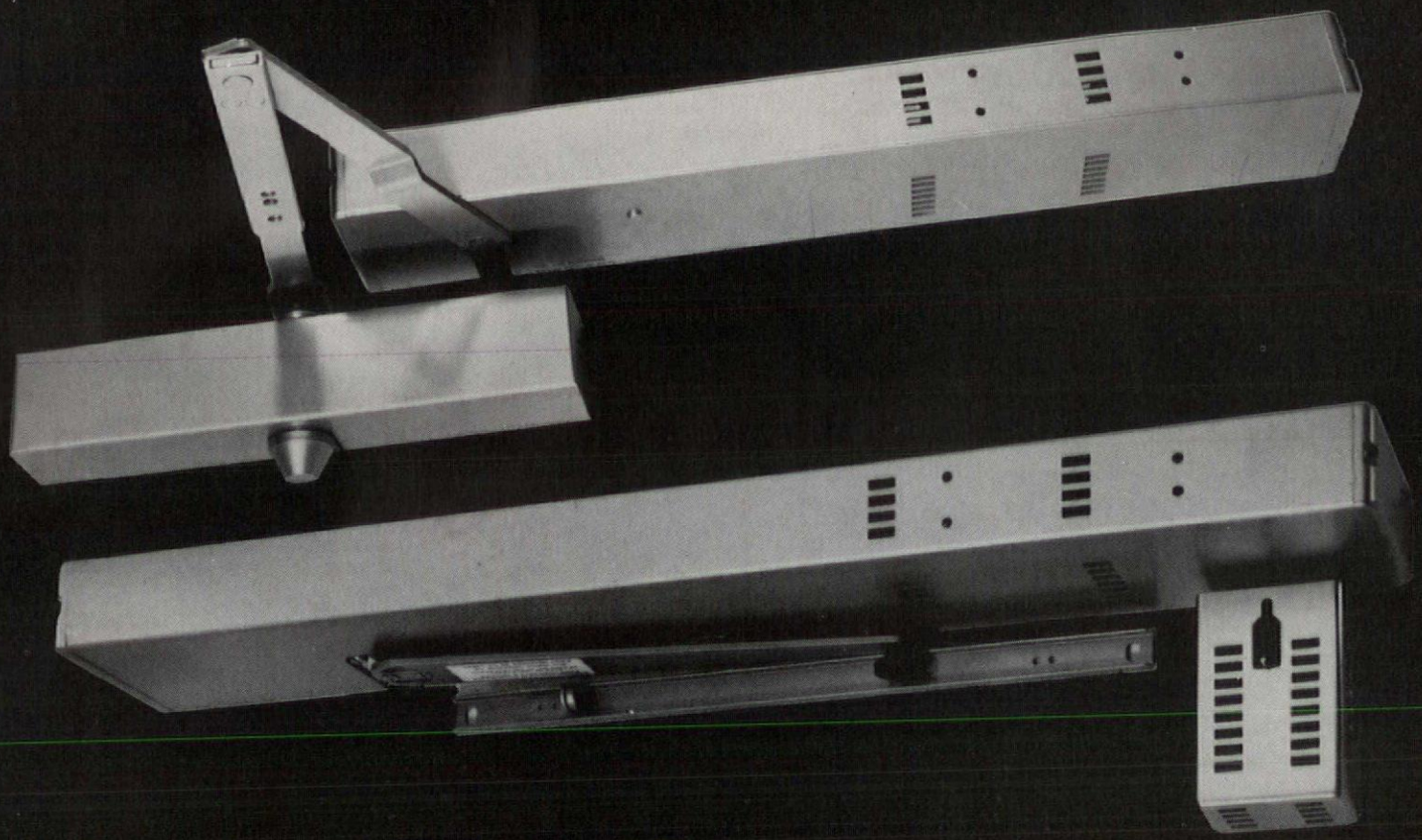

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# Quality control program for specifications

William Lohmann

**An increase in professional liability and more stringent government requirements are creating a need for real in-house quality control.**

A well-defined and active quality-control program for specifications begins with controlled work habits—careful record keeping, proper routing of information, scholarly research, firm decisions, timely and good technical writing, and detailed review procedures. Text must accurately and clearly reflect the intent of the design and make it comprehensible to the client and bidders. Ambiguous and inadequate wording should be avoided. Consistent terminology, abbreviations, capitalization, and punctuation are essential.

Standard formats for organization of written material reduce the possibility of overlap or omission. Most offices now use the 16-division "Masterformat—Master List of Section Titles and Numbers" (Document MP-2-1 of the Construction Specifications Institute) for the project manual. It can also be adapted for outline specifications. Location of text in each section should be based on the CSI 3-part section format.

When issued with preliminary drawings, outline specifications document initial decisions on basic construction, mechanical and electrical systems, materials, finishes, manufactured products, and equipment for the client. They should also include information on bidding requirements, contract forms, and general conditions. List materials, quality standards, and workmanship requirements under the appropriate division. Describe major systems and items of equipment, substantiating the system design with backup analysis. The care with which the outline spec is prepared will directly affect the later phases of the work. Changes that are made after it is issued should be documented.

The intent of bidding and contract documents is to communicate final decisions on bidding procedures, contract terms, and construction requirements to the bidders and successful contractors. Since coordination is imperative, start preparation of the project manual and drawings simultaneously. Show information in one location only. Use the latest product data and reference standards. Alternates and allowances should be carefully defined. If possible, preparation of documents should be scheduled to avoid last-minute conflict with other projects.

Attorneys and insurance underwriters agree that use of a reliable master specification text is conducive to producing error-free documents. An early copy in the hands of a project captain becomes a guide to material covered in the specification and therefore indicates information to be shown on the drawings. Standard language is established. The complete text becomes the specifier's checklist. Because repetitive portions of the text are standardized, the specifier has more time for research, coordination, and review.

Reviewing the project documents during their development should be a continuous process. Verify original program requirements. When required to incorporate the client's standard documents, carefully review and coordinate them with the other project elements. Coordinate documents prepared by consultants in a similar manner. Submit proof copies for formal review by the client, engineers, and consultants as appropriate.

In-house checklists are invaluable for initial organization of documents and for final review. For example, a complete checklist for Instructions to Bidders will itemize project identification and location, information on procurement of documents, time and place for the pre-bid conference and for receipt of bids, bid security requirements, and related topics. Similar lists should be used for other bidding documents, contract forms, and general and supplementary conditions. A detailed checklist is especially useful for Division 1 sections of the specifications. Use a master list of Division 2–16 section titles as a final check on the specifications.

Whether processing documents on manual or automatic typewriters or by computer, follow consistent procedures. Stamp and date review copies. Check all cross-references. Proofread intermediate and final copies before printing. Send a tentative table of contents to the print shop as a guide. If possible, deliver all originals at one time. Give explicit instructions on binding, colors, and quantity. Then spot-check several volumes before releasing them. Improper collation or missing pages are correctable but embarrassing.

Perhaps the most effective way to improve quality control procedures in the office is through an organized feedback program. When a problem is resolved, correct the original cause. Modify the reference detail. Update the master specification text. Alert the people working on similar projects. Educate new employees. Quality control is an attitude.

**Author:** William T. Lohmann, AIA, FCSI, is Chief Specifier for C.F. Murphy Associates, Chicago, Illinois.

# Building in the path of nature's wrath

**Technics: Natural hazard design**

**High winds, floods, and earthquakes are formidable foes of buildings. Accurate force analysis, codes, and design influence planning and the total hazard program of the country.**

On Wednesday, Oct. 3, 1979 at 3:00 p.m., a vicious tornado mowed through Suffield, Windsor, and Windsor Locks, Ct. Bricks, boards, walls, and roofs toppled, folded, and flew as gravity, for a time, lost its grip. In all, 97 buildings were destroyed. Varying degrees of damage resulted to nearly 350 residential, commercial, and agricultural buildings. Over 300 people were injured; two were found dead.

Twelve days later, Oct. 15, 1979 at 4:16 p.m., an earthquake of moderate magnitude (6.4 on the Richter scale) hit El Centro, Ca. After 15 seconds, nearly 100 people had been injured. No one was killed. Only one building was severely damaged, the Imperial County Services Building. The six-story building was still standing, but is thought to be of no further possible use. The fortunate result for the seismic study of buildings was that this building was instrumented and monitored for motion at 13 different points by the Strong Motion Instrumentation Laboratory for the State of California. For once, precise knowledge of building reaction to an earthquake was gained.

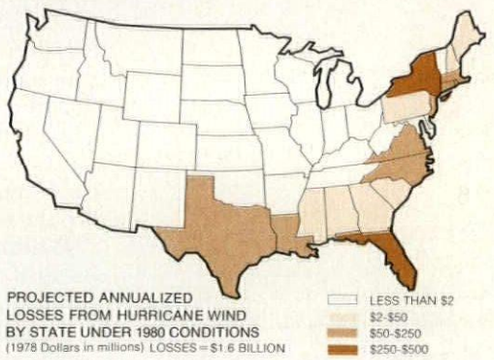
The 1979 hurricane season brought Bob, David, Frederic, Gloria, and Henri to the shores of the United States. Hurricane Frederic socked Western Florida and parts of Alabama, causing a record estimated $2 billion damage. Hurricane David struck the Caribbean island of Dominica, killing 22 and injuring over 1000 people.

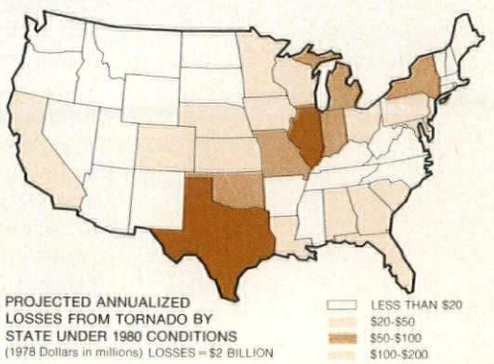
*"Fully 90 percent of the damage caused by natural disasters in this country is caused by floods despite the efforts we have made at flood control. Since 1925 it is estimated that more than $9 billion tax dollars have been spent on flood protection systems such as dikes, dams, and levees."* From HUD publication *Elevated Residential Structures.*

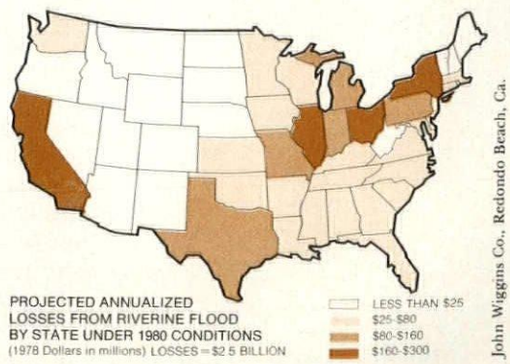
Nature has an impressive arsenal of violent weapons which can, if only for seconds, tip the balance in favor of chaos. Like sleepy pupils, we are shaken awake and alert, we hope in time. Part of the protection can be built into buildings and part cannot. Says Alan Yorkdale of the Brick Institute of America, "You can design for the wind forces of a hurricane without getting out of the ballpark with costs." Making a building hurricane-resistant adds about 10 percent to the building cost. A tornado is another story. Most buildings are no match for winds swirling at 200 miles per hour. Dr. Alan Davenport, director of the Boundary Layer Wind Tunnel Laboratory at the University of Western Ontario explains: "The risk of a tornado happening at any given place is a rare event for the average structure and is not explicitly taken into account."

Minor flooding, when predictable, can be controlled, but structural engineer T.Y. Lin finds large floods unpredictable. He asserts: "No low-rise building has a chance against a major flood." Lin, of Ruck-A-Chucky Bridge fame (First Award, P/A, Jan. 1979, p. 68), is well known for seismic design. As earthquake consultant for the Banco de America in Managua, he is credited with the building's withstanding the earthquake of 1972. Engineer Henry J. Degenkolb of San Francisco, another earthquake engineering specialist, has seen the results of every major quake in recent history. Says Degenkolb: "I am not so worried about damage in my buildings; I want them to remain standing after a large quake." He continues: "The most important single thing you have to do for an earthquake building is to tie it together so it works as a unit."

Judgment is the name of the game. The hazardous loads may never come, or the design loads may be grossly exceeded. When and where should we most profitably spentl our time and effort? Research efforts are underway today to verify code restraints, help improve design analysis, and bring the most current understanding of natural hazard phenomena into use by the building designer.


John Wiggins Co., Redondo Beach, Ca.

*No section of the country is immune from attack by intense natural forces. Damage is a grim token of design limits.*

**Wind engineering**

The use of wind tunnels to approximate the size and nature of wind loading on buildings began before the turn of this century. While some of the very first studies included buildings, the bulk of wind tunnel use was aeronautical. In the 1930s, when the more substantial use of wind tunnels for buildings began, the available knowledge from airplane technology was transferred bodily to buildings on the ground, and the force approximations which resulted were used as a basis for structural design codes and standards. As Dr. Alan Davenport explains: "People adopted the aeronautical practices without the understanding of what was actually occurring full scale. It was pointed out much later that there were some big discrepancies occurring."

The most dramatic adaptation of wind forces to structures was in the field of bridge design. The early history of long-span bridges was riddled with failures due to wind action. In the 19th Century, the pragmatic accumulation of design practice, based on success and failure, eventually led to good bridge design. When the codes were rewritten, however, in the mid-1930s, the new synthesis of design methodology resulted in a dramatic failure of the Tacoma Narrows bridge in 1940. Formula- and code-based design had "refined" historic conventions into more slender and elegant members, but some of the important features ensuring good weight and stiffness were omitted. The Tacoma bridge "flapped" itself to pieces in the wind. All of the best brains in aeronautics and in bridge building suddenly focused on the problem as if it were brand new.

**Aftermath of the Tacoma collapse:** The dynamics of bridges in the wind became the source of new experimentation in wind tunnels. The studies which had been done in the 1930s were based on static pressures, a constant-speed wind in a constant direction. Rigid models were used in the wind tunnels. The Tacoma experience changed concern from static to dynamic loading.

In the mid-1950s, a Danish researcher, Martin Jensen, constructed small-scale models for his wind tunnel which he compared to full-size buildings of the same shape. He found that the pressures on the full-scale model differed significantly from what he found in the wind tunnel. His studies determined two primary variations with the existing practice in wind tunnel analysis. Jensen found that the changes in velocity could turn what was previously modeled in tunnels as a pressure into a suction on a building. The wind speed at ground level varies with height, a concept now known as boundary layer flow. Ground turbulence produces gusts and speeds that are constantly changing. His main contribution was to introduce these two notions into wind tunnel analysis. He insisted that if wind tunnels were to be used to model actual wind forces on buildings, they must also accurately depict the boundary layer effect.

The further effect of turbulence has only recently been fully taken into consideration. The fact is, as Dr. Davenport describes: "Buildings are like ships sailing on a stormy sea rather than just smooth water; buildings are constantly being bounced around by variations in the wind." This information came together in a practical sense in the early 1960s, for the preliminary design of the World Trade Center in Manhattan. The size of the structure and its importance for the first time really justified a headlong study into the accurate simulation of laminar flow and turbulence on tall buildings. The models used were, also for the first time, constructed to be flexible to introduce dynamic response. Such models are now called "aerolastic." It was determined that by simulating the ground environment in the proximity of the building at the proper scale, the wind speed variation in height as well as the ground-influenced turbulence could be simulated. "The wind analysis of the World Trade Center put modern wind tunnel analysis on the map," says Davenport.

Structural engineers for the World Trade Center were Skilling, Helle, Christiansen & Robertson, the New York office. Dr. Davenport was director of the project, which was conducted largely at the new meteorological wind tunnel facilities just built at Colorado State University. Jack Cermak served as director of the CSU facility. Parallel experiments were run at the National Physical Laboratory in England. Later studies also were conducted at the wind tunnel facilities at the University of Western Ontario.

"What emerged," says Dr. Davenport, "was a much more sophisticated notion of how tall buildings behaved in the wind and a much more careful identification of what some of the problems were with tall buildings." Analysis included cladding design problems, determining the structural forces, and investigation of the circulation wind patterns around the base of the building for pedestrian comfort.

**Since the World Trade Center:** Following the extensive work on the World Trade Center, wind engineers began establishing a systematic methodology for wind tunnel studies for buildings. The Seattle First National Bank followed, and then the U.S. Steel building in Pittsburgh. Aerolastic studies investigated the structural behavior while a solid model helped investigations of such envelope problems as pressure on

Gus Johnson/Town of Windsor

1

NBS

2

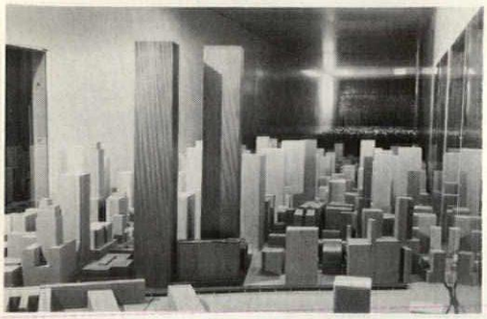
NBS

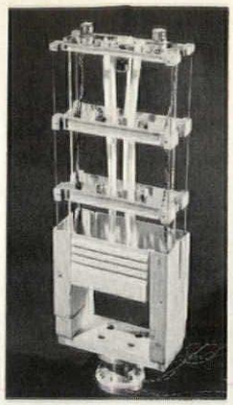
3

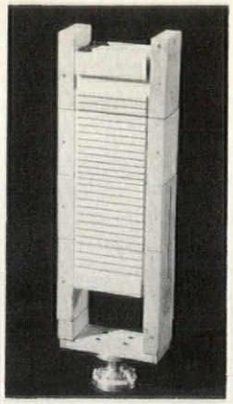
NBS

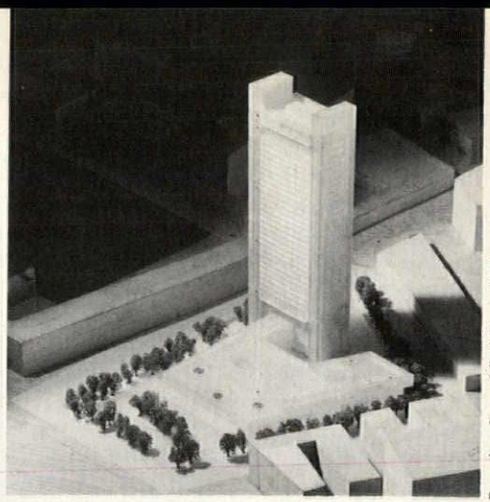
4

*1) Tornado damage in Windsor, Ct, buries a car. 2) The flood surge following hurricane Frederic bares building foundations. 3) The El Centro earthquake lowered this building over one foot. 4) More damage from the winds of hurricane Frederic.*



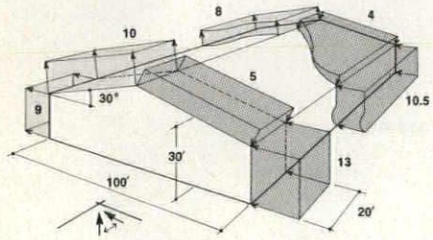




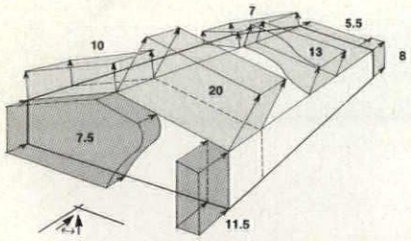


Boundary Layer Wind Tunnel Laboratory, Univ. of Western Ontario

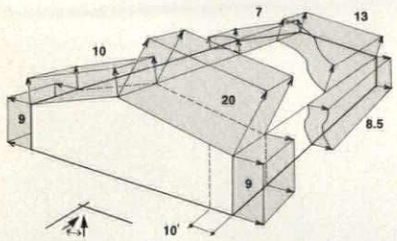
*(Above) Systematic methodology for tall building wind analysis began with wind tunnel testing for the World Trade Center. (Center) Aerolastic models are constructed to simulate dynamic response to wind loading. (Right) Boston's Federal Reserve Bank is also modeled in rigid form for exterior pressure analysis. (Below) Similar model techniques are used for low-rise structures. Simplified loading blocks also improve the effectiveness of the designed wind response of the structure.*




WIND FROM THE SIDE TOWARDS THE FRONT

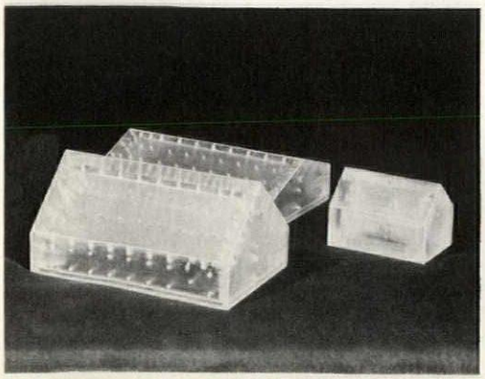



WIND FROM THE FRONT TOWARDS THE SIDE




WIND FROM THE FRONT TOWARDS THE SIDE

EXAMPLES OF APPLICATION OF PRIMARY STRUCTURAL LOAD REQUIREMENTS FOR A LOW-RISE BUILDING



glass. By that point the researchers felt confident that they could combine climatological data with the wind tunnel analysis and produce useful results for the designer. Since then, the process has largely been one of refinement and the addition of extensive computer capabilities to organize and speed up the analysis of data. Very soon it will be possible to use the wind tunnel as a design tool and actually experiment with the building shape with comprehensive data perhaps within 24 hours.

The laboratory at the University of Western Ontario worked on the wind analysis for the Sears Tower in Chicago (confirmed in analytical model by data from the John Hancock building, also in Chicago). Other studies included the Federal Reserve Bank in Boston, by Hugh Stubbins, as well as the Citicorp Building in New York.

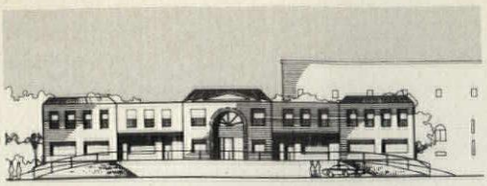
Building analysis of tall buildings of course was economically justified. The Davenport team at UWO, however, grew restless. "The fact was with us all of the time that the major population was not in tall buildings but in rather small buildings."

**The new low-rise research:** Small buildings were being designed and built on the basis of rules and codes which were established in the 1930s, with static design conditions. Jensen had disproven them in the 1950s. The incentive finally came from the metal building systems market which, largely because of the quantity and similarity of designed pieces, could justify the cost of wind tunnel investigation. The Metal Building Manufacturers Association combined with the American Iron and Steel Institute, and the Canadian Steel Industries Construction Council to sponsor the research.

The studies began in 1975 with a series of small, rigid models, much the same in geometry as the ones used in the studies of the 1930s. The new studies took into consideration, of course, the velocity variations from height as well as turbulence. The boundary layer contributions were highly dependent on the "terrain" surrounding the building. Both an open, "prairie" terrain and a suburban, more densely populated condition were simulated. Wind direction was accommodated by attaching the models to a movable turntable. The model series systematically experimented with roof slope, width, length, and height of the low-rise buildings. Each rigid model was covered with a grid of pressure-sensing devices sending data back to the computer. Points of maximum and minimum pressure or suction on the building's skin were plotted in relation to wind direction. A given point on a roof might get a variation in seconds from 20 pounds positive local pressure to 30 pounds negative pressure (or suction). These, therefore, are numbers that are important in designing the skin. The average pressure over an area was then determined to aid in structural beam design for a single surface. And finally, several surfaces were analyzed simultaneously, to determine the forces on the building frame.

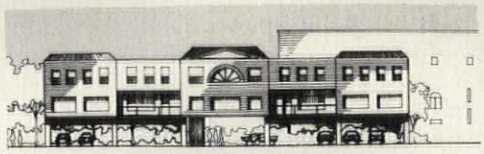
**Code update?** The ultimate goal was to translate the vast quantity of data into a usable format for the designer. At this point, the various sponsoring organizations participated in providing engineering expertise. The information, therefore, had to be simplified into static wind load approximations, which would be in fact equivalent to the dynamic ones expected. It was also necessary for the varying pressures to be represented as uniform over the surface of the structure or portions of it.

Davenport explains: "We then went back and found those simple, uniform, static equivalents which most sufficiently recover the effects that we had discovered in the wind tunnel." There were several new results relative to wind design in general. One was that the length of the building in question was of relatively minor importance. Roof slope was found, by contrast, to be a very important factor. No general rule was found that could apply to all roofs, and the roof slope became the principal variable in the load description. The tributary building areas accommodated the greater concentration of load, especially at the building ends, and were accordingly zoned off for the purposes of design. The result is believed by Dr.



BUILDING RAISED ON FILL

RAISED BUILDING WITH WATERTIGHT CLOSURES



BUILDING ELEVATED ON COLUMNS

FEMA

*Flood resistance can be accomplished in many ways. The Chicago research firm of Sheaffer & Roland used a HUD-sponsored grant to compare three flood-resistant design variations for a 22,500-sq-ft commercial building for Jersey Shore, Pa.*

Davenport to be much more realistic than the previous methods.

Dr. Davenport summarizes the results of the study as follows: "The low-rise building industry has been historically designing for some very simple load descriptions, load descriptions which are not particularly large. With the wind tunnel results from the 1930s, there had been a tendency to continuously increase the design wind forces for the worst case. Therefore, in the past every draft of the code has tended to drive design wind forces upward. We are now skeptical about the need for that increase and feel that there is a validity to the comparatively successful performance of low-rise buildings.

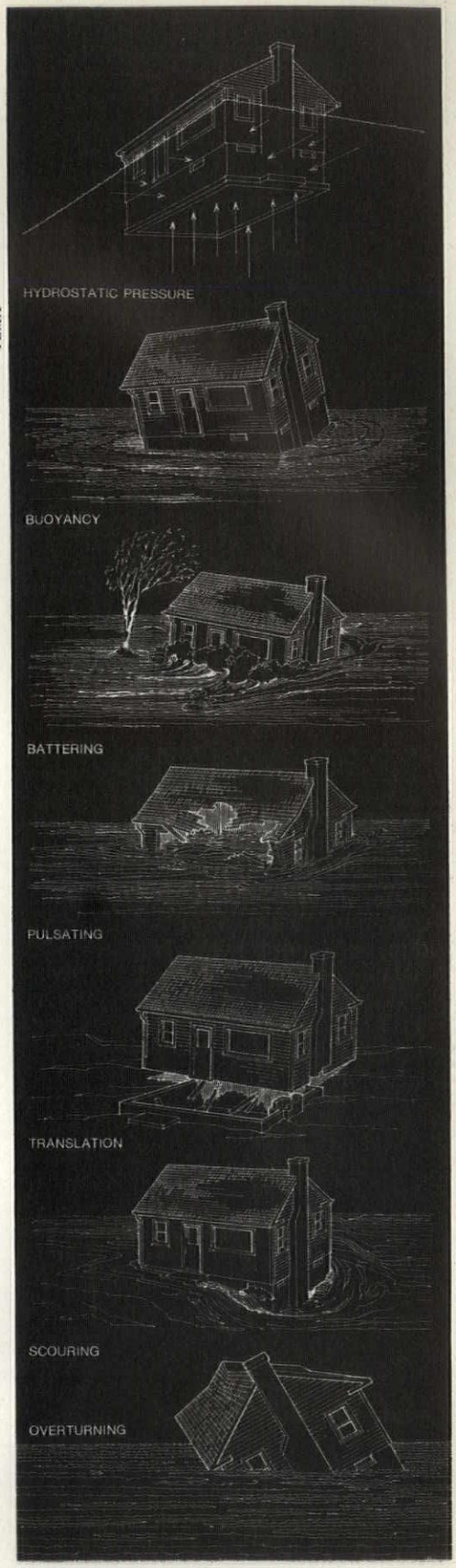
"What the new set of studies has done, in my opinion, is to provide data which will reinforce the older, pre-1930s impressions of what the wind forces were like. While, on the average, the older wind loads might have been sufficient, we have found that the wind is concentrating its efforts on certain components of the structure more than others. If we spend money resisting wind in a structure, there is a list of priorities. The pressures are highest on the cladding. There are concentrations of pressure at the building ends which, perhaps, means that we can sacrifice some strength near the interior of the structure. There is a relaxation of the need for concern as we move into larger and larger parts of the structure. In the footings, the anchorage components which are holding the frame to the foundations can perhaps be reduced in size. There will, therefore, be a new balance of how and where you spend money on a structure."

**The National Flood Insurance Plan**

The influence of the federal government on the control of damage from floods has extended beyond the implementation of technical engineering expertise into the realm of management and insurance programs. The Flood Control Act of 1936 began a program of major government influence and involvement that continues today. Prior to 1936, no comprehensive plan existed, and flood disaster losses were usually absorbed by the victims. The creation of the Tennessee Valley Authority in the early 1930s, however, served to call national attention to the public responsibility and advantageous coordination of navigation, flood barriers and controls, hydroelectric facilities, and irrigation projects. The Flood Control Act of 1936 spawned a national involvement in disaster relief as well as flood control and planning strategies. What began, however, as a modest national financial burden grew rapidly to rather monumental proportions. Costs of regular yearly flood damage in certain areas of the country were borne by other regions of the country where floods were not predominant.

Finally, an interagency Task Force on Federal Flood Control Policy in 1966 drew attention to the several billion dollars which were spent during 30 years of government involvement, with the unsettling result that annual flood losses continued to exceed the cost of protective measures. The task force recommended a national program of flood insurance to complement its extensive technical and planning proposal. The eventual result was the National Flood Insurance Act of 1968. The innovative plan linked effective local flood plain management to eligibility for government-subsidized flood insurance for properties located in areas known to have flood potential. The expense of flood control would be more equitably borne by flood-prone regions. The initial program was voluntary.

The plan proved successful enough to inspire even tougher requirements and mandatory participation of designated flood-active areas by the Flood Disaster Protection Act of 1973. Federal disaster assistance was linked to participation in the program. By 1975, all financial assistance from the federal government to flood-hazard areas required participation in the National Flood Insurance Program. Periodic amendments to the National Flood Insurance Act and the Flood Disaster Protection Act have updated insurance ceilings and refined the coordination procedures involved in




Flood Emergency and Repair Handbook, FEMA

HOW FLOODS DAMAGE PROPERTY

*Flood damage can take a number of different forms. The very existence of unexpected water pressure on a wall or floor can cause cracks, leaks, or failure. Each cubic foot of water displaced by a building exerts a buoyant force of over 60 pounds. Floods can also batter a building with pulsating floating debris, scour the land fill from a building's base, push it aside, or cause it to overturn.*

designating flood-hazard areas and obtaining the necessary insurance.

**The insurance affects architecture:** A vital requirement in today's National Flood Insurance Program has great bearing on the architecture of buildings located in communities which must comply with its standards. New construction must be protected to the 100-year flood level. Three primary design alternatives are permitted for a non-residential structure on a site below the required elevation: **1** Building upon landfill; **2** using a combination of fill and watertight bulkheads protecting exposed openings; **3** elevating the building on columns.

To evaluate the cost implications of the various design possibilities, HUD's Office of Policy Development and Research engaged the services of the Chicago research firm of Sheaffer & Roland, Inc. The firm was asked to design and compare four different building options, all for a specific building program and site in Jersey Shore, Pa. In June of 1979, the Federal Emergency Management Agency published the research in a booklet entitled, "Economic Feasibility of Floodproofing Analysis of a Small Commercial Building."

The project staff included an architect, an economist, a socio-economic analyst, a community planner, and an urban planner. The cost benefits from the various floodproofing solutions were compared with those of the same building designed to be built below the flood level. The basic building cost for the two-story, 22,500-sq-ft commercial building was nearly $563,000. Raising the building on fill added about $36,000 to its initial cost. Supporting the same basic building on columns was estimated as costing nearly $88,000, while the solution partially raised on fill with watertight closures approached a cost of $90,000.

Without floodproofing, however, the building owner would be forced to pay over $20,000 per year for flood insurance. With floodproofing, his annual payments could be reduced to several hundred rather than thousands. The present value of the reduction in insurance premiums over 20 years at 7 percent interest is approximated at $214,000 for the building on fill; $207,500 for the fill and watertight enclosure solution; and $218,000 for the building on columns. These numbers must also be related to the annual average cost of flood damage to the building if built below the flood level. For the Jersey Shore site, therefore, the total cost picture proved to be favorable for all of the three floodproofed solutions, with the greatest cost advantage favoring the building raised on land fill.

Of course these figures pertain to only one building in only one place. It should be clear, however, that the architectural ramifications of the flood insurance program can represent significant restrictions or opportunities for building design.

**Improving seismic codes**

Historically, it seems always to take an earthquake to move governmental agencies into action to upgrade seismic codes. The Long Beach Earthquake of 1933 prompted our first major seismic research effort and the 1971 San Fernando earthquake prompted another. In 1972, the National Science Foundation (NSF) and the National Bureau of Standards (NBS) initiated a Cooperative Program in Building Practices for Disaster Mitigation. As part of this program, top priority was given to upgrading seismic code provisions. In September of 1972, a National Workshop in Building Practices for Disaster Mitigation resulted in a proposal for a code study. A group of some of the most sophisticated earthquake technical people in the country were the members of the Structural Engineers Association of California (SEAOC). For obvious reasons, California engineers are deeply concerned that good safe provisions be adopted. The Applied Technology Council (ATC) was spawned from SEAOC. Its role was to apply the existing technology literally and to work on a document that could eventually be referenced by code-writing agencies.

In November of 1974, work began on the ATC document called ATC 3-06. A multidisciplinary team of 85 nationally recognized experts conceived and produced it. The first draft was completed by December of 1977. The 500-page second draft and final provisions, given the testy title "Tentative Provisions for the Development of Seismic Regulations for Buildings," was submitted in June 1978.

In the meantime Congress passed Public Law 95-124, the Earthquake Hazards Reduction Act of 1977, the stated purpose of which was "the establishment and maintenance of an effective earthquake hazards reduction program." As President Carter stated in his program to Congress on June 22, 1978: "As this program emphasizes, the Federal government must set a strong example in developing guidelines and standards for its own facilities. But Federal effort alone is not enough; to succeed in this effort, we must have the cooperative efforts of State and local governments, industry and business, professional and volunteer organizations, and the public."

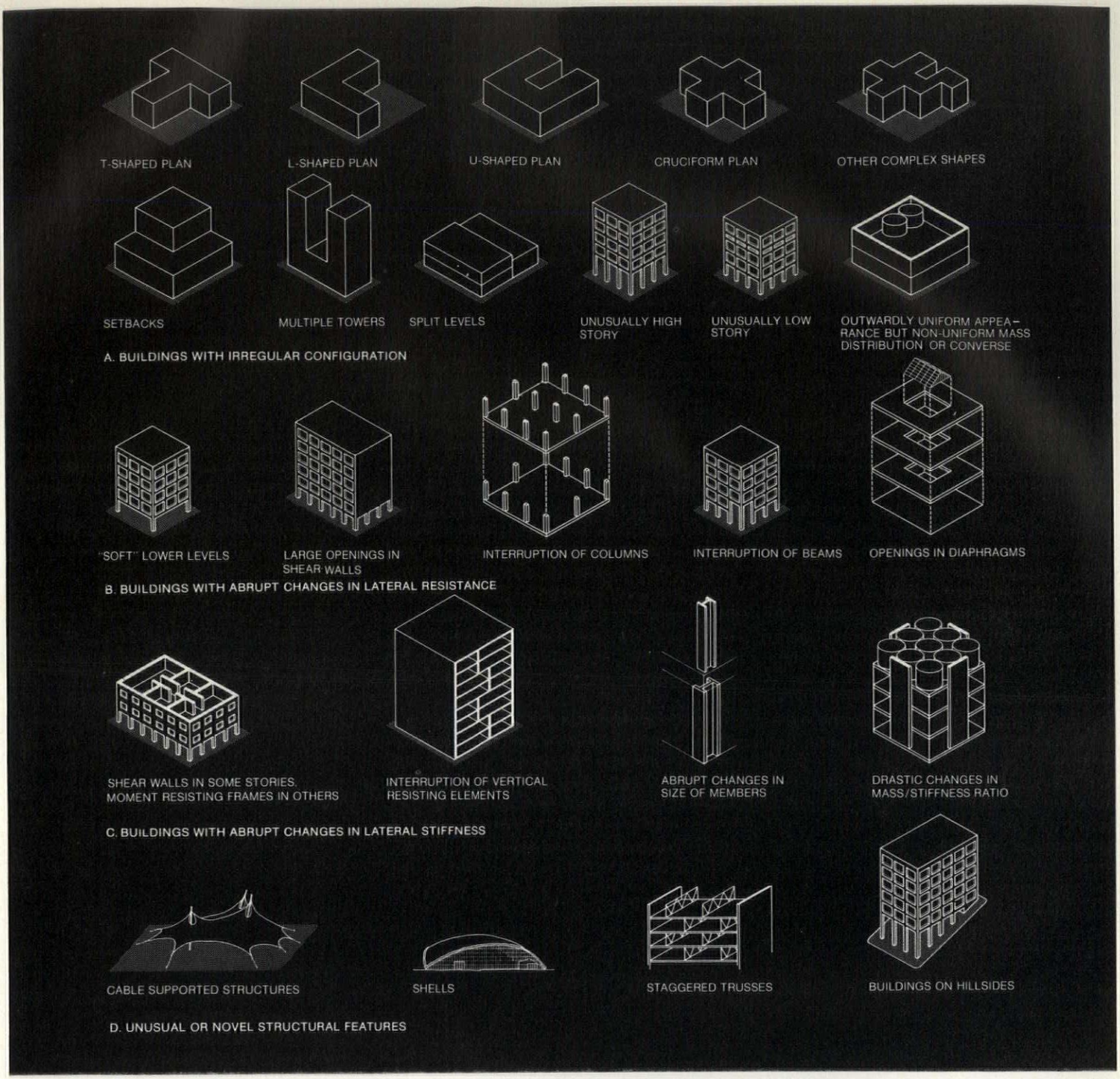
In April of 1979, what had been the Defense Civil Preparedness Agency ceased to exist, and the Federal Emergency Management Agency (FEMA) was born. As the name implies, FEMA is responsible for the aftermath control of all natural-hazard related disasters and works closely with state and local governments in the management of such situations. The continued analysis of the work done by ATC is being funded by FEMA, and it has become the lead agency in the National Earthquake Hazards Reduction Program.

Also in April of 1979, the organizational meeting of the Building Seismic Safety Council was held in St. Louis. As if to echo the words of the President, in November 1979 the first business meeting of BSSC took place. Its creation was sponsored by the National Institute of Building Sciences, and it has the most inclusive membership of any national seismic organization thus far. As William Moore of Dames & Moore, San Francisco, chairman of the 15-person board of directors of BSSC, explains: "If the new code model fails, these people may own the debris." Consumers, mortgage people, financiers are all part of BSSC, as well as contractor organizations, BOMA, and the AFL/CIO.

**ATC 3:** At its inception, the authors of the ATC 3-06 document had the long-term dream of inspiring a seismic code that was national in scope. In the interests of transferring new knowledge to building design as quickly as possible, the emphasis has shifted to producing a document which can be referenced by the existing code-writing bodies. What might have been a nationwide confrontation has been defused somewhat and redirected to regional, state, and local considerations. Some California engineers are supporting changes in their State Code as early as 1980, based on ATC work.

**What are the problems?** Some problems with the original ATC 3 document are generic. Any change in any code takes time. New, untested ideas must always combat the inertia of tradition. Another problem is economics. The economics of educating people in the variations of code principles takes time and money, and implementation within the design office may add to design time. Another money-related issue is the classical tradeoff of safety and cost. A new code provision can shift the balance in favor of one material over another.

All codes in recent years have tried to minimize future conflicts by having the document be a consensus of opinion, from the beginning, of all of the people who will eventually have to respond to



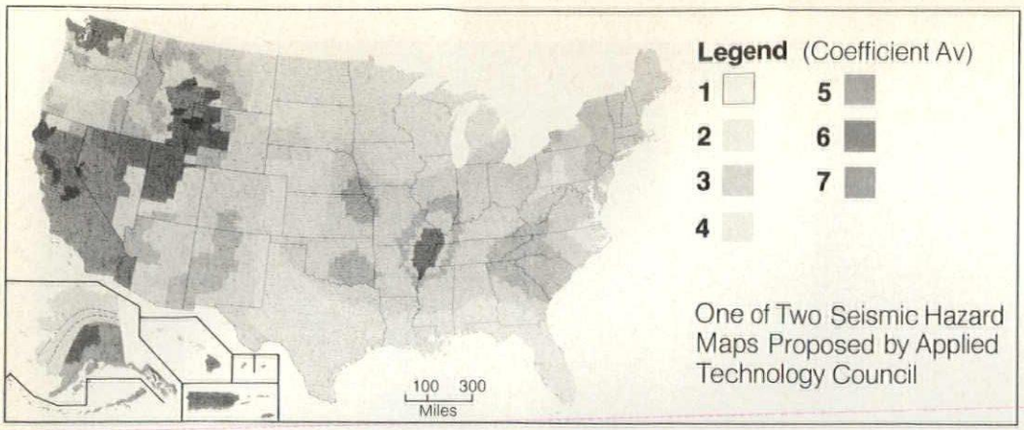

**"IRREGULAR STRUCTURE OR FRAMING SYSTEMS" (SEAOC)**

it. All of this means two things: **1** the production of a document such as this is tremendously complex politically for the construction industry; **2** a very strong leader will be necessary in order to keep the effort from bogging down in petty squabbles.

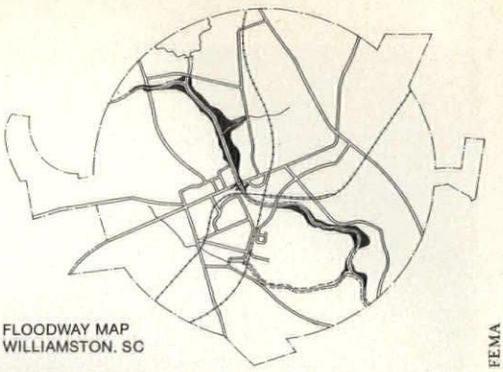
No small consideration for the document is the analytical complexity of the seismic problem. What we do know about earthquakes is not easily incorporated into design procedure. What we also know is that good engineering judgment is still mandatory to deal with all of those aspects of seismic design about which we are still ignorant.

Nine Technical Committees have been formed by NBS, in cooperation with BSSC, to review and refine the tentative seismic provisions written by ATC. Their titles are as follows: **1** Seismic Risk Maps; **2** Structural Design; **3** Foundations; **4** Concrete; **5** Masonry; **6** Steel; **7** Wood; **8** Architectural, mechanical and electrical; **9** Regulatory use. Architects are represented as voting members on Committees 8 and 9 by the AIA. Each technical committee includes three nonvoting members from ATC, BSSC, and NBS. ATC is present for technical reference, NBS as secretariat, and BSSC as overseer. The Joint Committee on Review and Refinement contains only the voting members of the Technical Committees and it will cast the decisive vote on the

*Building configuration has a distinct effect on the seismic behavior of a structure. The SEAOC code commentary verbally describes a series of conditions which demand special design practices. Christopher Arnold of Building Systems Development Inc. has translated those special conditions (above) into pictorial form. The work is part of BSD's study "Building Configuration and Seismic Design" sponsored by an NSF grant.*




One of Two Seismic Hazard Maps Proposed by Applied Technology Council



FLOODWAY MAP
WILLIAMSTON, SC

FEMA

*Natural-hazard resistant design often involves very large scale planning.*

final draft effort. Whatever the Joint Committee does will not be issued as a proposed guide for seismic codes without the consent of the Building Seismic Safety Council.

The first order of business at the moment is to get overall consensus on criteria for trial designs based upon ATC 3. The original document will remain for reference; the future revised version will extract the appropriate portions for suggested use by building officials. This material will then of course have to be put into a format that is usable by code bodies. BSSC is aiming for agreement on the criteria for trial designs by the end of 1980. ATC and NBS will contract outside engineers to perform the trial designs. If the revised ATC document does reach a state of consensus, the BSSC will then help to implement its adoption by code-writing bodies.

The original ATC 3 document is replete with new concepts in seismic analysis and design and has been the subject of heated debate. ATC lists these new concepts as follows: **1** The incorporation of more realistic seismic ground motion intensities. **2** Consideration of the effects of distant earthquakes on "long period" buildings. **3** Performance related reduction factors of various types of framing systems. **4** Classification of building use-group categories into "Seismic Hazard Exposure Group." **5** Seismic performance categories for building, with design and analysis requirements dependent on the seismicity index and building seismic hazard exposure group. **6** Simplified structural response coefficient formulas related to the fundamental period of the seismic-resisting system of the building. **7** Detailed seismic design requirements for architectural, electrical, and mechanical systems and components. **8** Materials design and analysis based upon stresses approaching yield. **9** Guidelines for systematic abatement of seismic hazards in existing buildings. **10** Guidelines for assessment of earthquake damage, strengthening or repair of damaged buildings, and potential seismic hazards in existing buildings.

**Integration and continuity**

A disaster occurs when the normal conditions of building design are intensified beyond all probability. These intensifications are rarely predictable over long periods of time. In the case of an earthquake, a building occupant has seconds to respond. A tornado can be seen at some distance but is unpredictable in its path. A hurricane alert can give us 24-hour notice and may cause evacuation of a whole area. An average error on hurricane location is 60 miles. Spring flooding of rivers is somewhat predictable, but flood surges and tsunamis are not.

Natural hazards do not know they have been separated in our minds, our codes, and our design philosophy. They do not know the difference between a 30-story office building and a grain elevator. Whatever is in the path shakes, bends, or breaks. Hurricanes are frequently accompanied by tornadoes. Coastal areas must cope with the flood surge or fire which follows a hurricane wind. Earthquakes can be followed by floods and devastating fires or explosions. So far nature has spared us the lethal combination of hurricane or tornado and earthquake. For convenience of understanding them we have isolated these hazards. What should be clear is that natural-hazard resistant design is one gigantic integrated totality.

**Where does design begin?** The bottom line of concern in a natural disaster has always been the loss of human life. When people are killed, laws are passed. With the ecological concerns of recent years, it has also become clear that people can be a sort of natural disaster to the rest of the natural world. In short, we cannot take steps to control the wrath of nature independent of considerations of how those steps will affect wildlife, land formation, and coastal conditions.

Because of the energy situation, our relationship to the natural resources available to us has taken new meaning. The same hydroelectric dam which produces millions of housefuls of electricity can possibly ruin the natural balance of fish and fowl, or shift in an earthquake and flood the very houses it is meant to light. Obviously there are some national economic tradeoffs. Taxation is affected, along with zoning and land values, not to mention the national budget. The National Flood Insurance Program is ample demonstration of such effects.

Government laws and standards, either directly or indirectly, stimulate local laws. Dade County, Fl, has the most stringent hurricane protective code in the country. (A 1926 hurricane nearly destroyed Miami.) Buildings must also comply with the National Flood Insurance Program.

No one can predict a direct building hit by a tornado, but a region can plan for one. Warning, rescue, and evacuation plans are large-scale issues. Tornadoes have a way of catching communities without regulations for emergency building permits, "nonconforming" rebuilding, and plans of destroyed buildings.

**The site:** All of these natural and national concerns greet us at the building site. The sun orientation is asking for a distinction between north, south, east, and west on the building. The flood potential asks for the "high and dry." The earthquake forces are telling us to make it regular and symmetrical. Raising the building on columns, for example, exposes it to increased heat exchange if left exposed to the weather, saves it from floods, and may produce a "soft story" in an earthquake. In Dade County, a building height limitation encourages placing the emergency equipment on lower floors, where it may be susceptible to flooding.

In many regions, tornadoes seem to take a predominantly northeast direction; a hurricane wind can come from any direction. Wind is desired for summer energy concerns and undesired in winter. A building that is tight for energy reasons may explode from a tornado wind.

**Building configuration:** Architect Christopher Arnold of Building Systems Development, Inc., San Francisco, has an NSF grant to study the relation-

ship between building configuration and seismic design. The purpose of the study is to find a mid-ground between the restrictive logic of purist seismic engineers and the "structure be damned" formalist seeking ways to take the sting out of structural rigor.

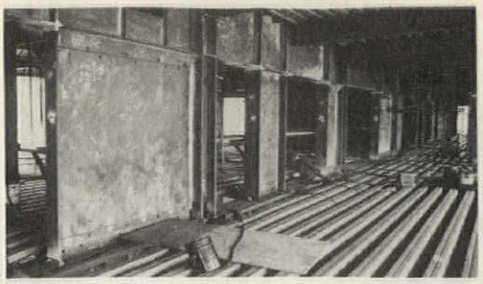
**The structure:** In addition to the siting, massing, and overall shape of the building, the structure can be tuned for natural hazards. The structure of a building is attacked in somewhat different ways by varying intensities of natural forces. Hydrostatic and hydrodynamic pressure, for example, can be considerable. Few people realize the force of flood waters unless they have witnessed them. Twelve inches of water flowing at ten miles per hour against the side of a house would be equal to about a 100-mile-per-hour wind blowing on the same wall, even though the distribution of forces would be different.

In wind, continuity of structure, weight, shape, and anchorage are all important. When designing a roof in a high wind area, it is as important to keep it down as to keep it up. Says Henry Degenkolb: "A well-designed building designed for earthquake should perform well in a hurricane and vice versa." The loads of course are different. The wind only "sees" the exterior of the building. However, the same unity and continuity of structure that protects a building from high wind can improve its seismic resistance.

An earthquake-resistant building has several possible weapons. A very flexible building may remain standing after a quake but leave the interiors in shambles. A very rigid building protects the interior but risks expensive structural damage. A good earthquake-resistant structure is ductile enough to absorb the shock with minimal damage and maximum safety. The vertical supports can never be sacrificed. The structure must always contain enough redundancy to keep it standing even after extensive damage.

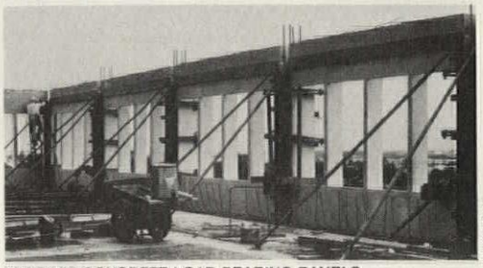
We are watching with great interest new structural investigations taking place for seismic zones. The February 1979 P/A article "Innovations in Masonry" discussed new developments and research in rational masonry design. The eccentric bracing system which is being used in four new steel-framed buildings was spawned from the innovative work of Henry Degenkolb and Egor Popov at the University of California Berkeley. Both Degenkolb and Welton Becket's office have also been experimenting with the use of steel shear walls.

Poured-in-place concrete shear walls are being studied at the laboratories of the Portland Cement Association. T.Y. Lin holds great faith in precast concrete shear walls which function as formwork for cast-in-place frames. Ellisor Engineers of Houston and SOM have pioneered in combining lightweight steel frame construction with precast units used as forms for composite cast-in-place structure. PCA engineer Mark Fintel feels, "Such developments show great promise for effective wind and seismic design."



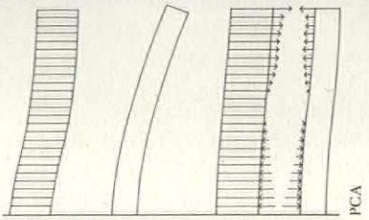
H.J. Degenkolb

STEEL SHEAR WALLS



T.Y. Lin

PRECAST CONCRETE LOAD BEARING PANELS



PCA

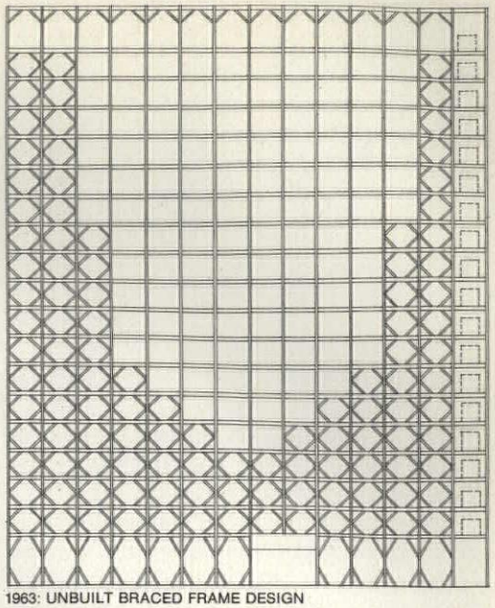
SHEAR WALL-FRAME INTERACTION

*A frame structure which is unbraced is too flexible in an earthquake. Bracing the frame with either diagonals or shear walls serves to temper the building movement as shown above. Shear walls must contain enough ductility to absorb the seismic shock and permit safe evacuations.*

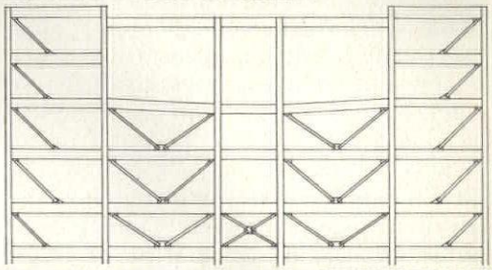
Another innovation which holds potential for both seismic and high wind application is the tuned mass damper perfected by engineers William LeMessurier & Associates for use in Boston's John Hancock building and New York's Citicorp (P/A, Dec. 1978, p. 34). The Japanese have now shown great interest in the damper concept.

**Mechanical:** The normal mechanical system of buildings must of course be carefully considered for natural hazard design. The exiting patterns, as well as the rescue potential, are affected by the mechanical system. Smoke, fire, and explosion are possibilities. Vibration, drift, and movement must be considered, with flexible connections a probability.

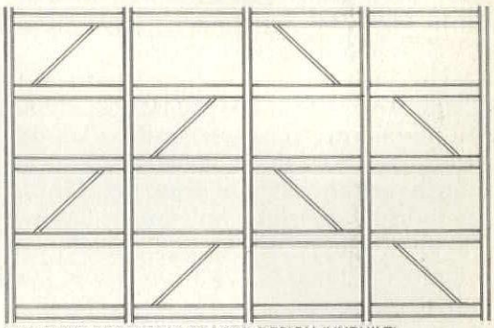
A New Zealand company has perfected a simple earthquake sensor which triggers emergency equipment and shuts down dangerous machinery in a



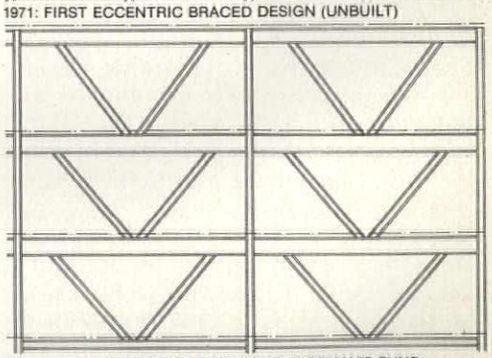
1963: UNBUILT BRACED FRAME DESIGN



1969: UNBUILT BRACED FRAME DESIGN, NOTE ECCENTRIC BAYS



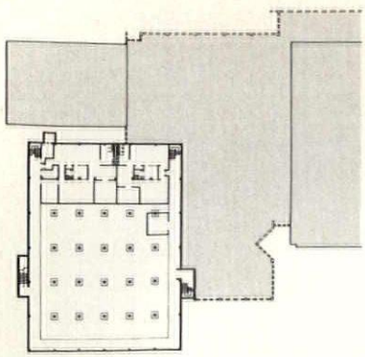
1971: FIRST ECCENTRIC BRACED DESIGN (UNBUILT)



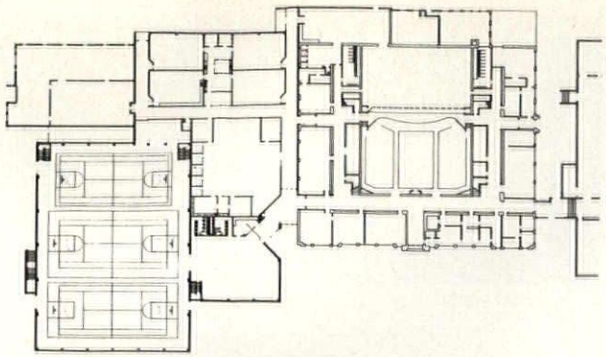
1978: LUCAS GREEN BUILDING II FOR FIREMAN'S FUND INSURANCE COMPANIES (UNDER CONSTRUCTION)

Drawings by P/A after H.J. Degenkolb

*Braced frame structures began to appear in the early 1960s. The office of H.J. Degenkolb worked closely with Egor Popov of U. of C., Berkeley to evolve the eccentric frame. A series of unbuilt designs have successively improved the concept (P/A, April 1978, p. 107).*



LOWER LEVEL GYMNASIUM:
TORNADO SHELTER LOCATION



MAIN LEVEL PLAN:
CHILLICOTHE HIGH SCHOOL, CHILLICOTHE, MISSOURI

*Designing for tornado or earthquake resistance usually has ramifications in the plan organization and detailing of a building. Architects Marshall & Brown of Kansas City designed the Chillicothe High School with adequate refuge from tornado in mind. Below Dr. Irving Oppenheim has invented a spring-embedded door frame design which can accommodate movement in the wall plane while maintaining an operable door for emergency use.*

quake. Conventional elevators in this country can be fitted with similar devices. Barrier-free design enters the problem at this point. Should emergency devices be automatic or manually operated? How do you create an automatic fire alarm for a deaf person?

**Details:** Nonstructural elements must be detailed with respect to thermal movement, material and construction tolerances, sway, drift, vibration, deflection, and deformation. The curtainwall details for the winds of Chicago and shakes of San Francisco are not the same. Windows in Dade County need protection from flying trash-can lids, coconuts, sand and gravel. Nonstructural elements must mesh with structural, not conflict with them.

The Institute for Disaster Research at Texas Tech has been intensely studying the abrasive effects of wind-borne debris. The American Plywood Association has dealt with the same problem in its storm shutter recommendations. Roofing alternatives to gravel are sought in zones of high hurricane frequency.

Dr. Irving Oppenheim of Carnegie-Mellon University has sought a patent for an innovative door frame design that will not cause a closed door to jam shut when the wall around the frame deforms. A person was trapped by such an occurrence in the recent El Centro quake.

**The plan:** Hazard considerations can also affect layout within the building plan. Marshall & Brown Architects of Kansas City provide specific areas in their school designs especially fit for tornado protection. These heavily sheltered areas can also double as fallout shelters. The AIA Research Corporation has just completed a fire station and police station study where functional analysis showed the advantages of plan and details which would keep such buildings operational after a disaster.

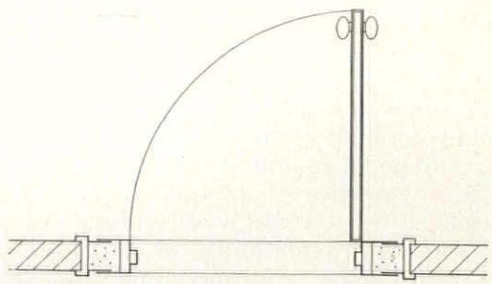
**Cross-fertilization:** Robert N. Sockwell is project manager of a new research program at the AIA Research Corporation entitled: Multi Hazard Design for Seismic Safety. The intent is to investigate the overlapping areas of hazard design as they appear in general practice and codes. The study will include the possible cross purposes of design for fire, high wind, seismic, and flood and the new energy restraints. The ultimate goal is to produce design recommendations for architects.

## Conclusion

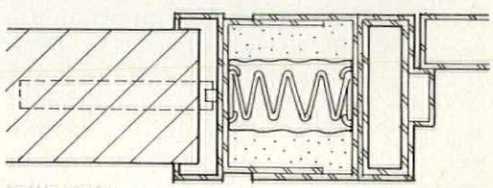
The breadth and depth of study which is maintained today on the subject of natural hazards raises a glimmer of hope that knowledge of this monumental problem is moving in the direction of integration. Meanwhile the rest of us must await the analytical and design tools, as well as codification of all of this information so that we can design with more peace of mind, at least until the next disaster proves or disproves our work. Of course the process is infinite. Perhaps we can take a cue from T.Y. Lin. A sign in Lin's office reads: "I can't solve your problems but I can help you enjoy them." [Richard Rush]


## Acknowledgements

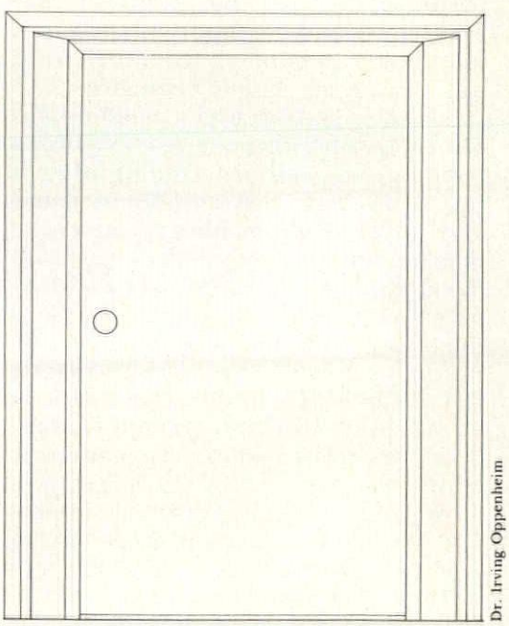
We wish to thank the following architects, engineers, organizations, institutions, and manufacturers for their help in preparing this article: AIA/RC; AITC; AISI; APA; ATC; Basalt Rock Co.,; BIA; The Boundary Layer Wind Tunnel Laboratory, Univ. of Western Ontario; Building Systems Development, Inc.; Canadian Sheet Steel Building Institute, California Div. of Mines and Geology; Dade County Building Dept.; H.J. Degenkolb & Associates; Ellisor Engineers; Federal Insurance & Hazard Mitigation; FEMA; General Electric; Albert G. Ilg, Town Manager, Windsor, Ct.; Institute for Disaster Research, Texas Tech.; Univ. of Kansas; Kansas State Univ.; T.Y. Lin; Marshall & Brown Architects; MBT Assoc.; William M. Moore; LeMessurier Assoc.; Metal Building Manufacturers Assoc.; National Severe Storms Laboratory; NSF; Dr. Irving Oppenheim; Pentagon Plastics Ltd.; PCA; SOM; Skilling, Helle, Christiansen & Robertson; Solid State Equipment Ltd.; Southern Forest Products Assoc.; Hugh Stubbins & Associates; U.S. Forest Products Laboratory; USGS; J.H. Wiggins Co.

DOOR FRAME PLAN



FRAME DETAIL



Dr. Irving Oppenheim

EARTHQUAKE RESISTANT DOOR FRAME

For product and literature information on this subject, see p. 124.

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# Zoning regulations limiting 'family units'

Norman Coplan

**Criteria for deciding if a single household keeps the residential nature of a neighborhood might be based on the number of residents rather than on relationship.**

Zoning ordinances which seek to preserve the character of residential neighborhoods are often phrased in terms of permissible "family use." Many municipalities contend that a regulation which acts to preserve a family style of living in residential areas bears a reasonable and substantial relation to a legitimate municipal goal and is, therefore, constitutional. The real issue, however, is whether unrelated individuals may be considered as a family unit, and if so, whether a municipality may limit the number of such individuals.

The Supreme Court of the State of New Jersey has recently dealt with this issue in a case involving the zoning ordinance of the City of Plainfield as it applied to the owner of a house situated in a zone restricted to single family units *(State of New Jersey* v. *Dennis Baker)*. Family was defined in the ordinance as "one or more persons occupying a dwelling unit as a single non-profit housekeeping unit." The statute further provided that "more than four (4) persons . . . not related by blood, marriage or adoption shall not be considered to constitute a family." The issue before the Court was whether the ordinance could be constitutionally applied to a homeowner who had been charged with a criminal violation because of the number of unrelated persons occupying his house.

The defendant, owner of the house, lived in the house with his wife and three daughters. Also living in the house were an unrelated woman and her three children. It was contended by the defendant that their living arrangements arose out of the individuals' religious beliefs and their desire to go through life as "brothers and sisters." The trial court concluded that, although the household constituted a single non-profit housekeeping unit, the living arrangement was nevertheless a violation of the zoning ordinance in that the number of unrelated persons exceeded the permissible four.

The New Jersey Supreme Court, upon appeal of the defendant's conviction, stated that it had no quarrel with the legitimacy of the municipality's goal, and that local governments were free to designate certain areas as exclusively residential and act to preserve a family style of living. The Court said:

*"A municipality is validly concerned with maintaining the stability and permanence generally associated with single family occupancy and prevent uses resembling boarding houses or other institutional living arrangements. . . . Moreover, a municipality has a strong interest in regulating the intensity of land use so as to minimize congestion and overcrowding."*

The Court, however, went on to say that the attainment of the foregoing goals was not without limits and that, for example, a municipality could not zone to exclude from its borders the poor or other unwanted minorities. Nor, stated the Court, may zoning be used as a tool to regulate the internal composition of housekeeping units. A municipality, said the Court, must draw a careful balance between preserving family life and prohibiting social diversity.

The New Jersey Court concluded that there was a vital flaw in attempting to maintain a stable residential neighborhood through the use of criteria based upon biological or legal relationships. Such a classification, pointed out the Court, operates to prohibit uses which do not constitute a threat to the accomplishment sought, and legitimizes many uses which tend to defeat the goal. For example, the ordinance in question prohibits a group of five unrelated widows from residing in a single unit but would permit a group of ten or more distant cousins to reside in one home. The Court said:

*"Regulations based upon biological traits or legal relationships necessarily reflect generalized assumptions about the stability and social desirability of households comprised of unrelated individuals—assumptions which in many cases do not reflect the real world. . . .*

*"The courts of this and other states have often noted that the core concept underlying single family living is not biological or legal relationship but, rather, its character as a single housekeeping unit. . . . As long as a group bears the 'generic character of a family unit as a relatively permanent household,' it should be equally as entitled to occupy a single family dwelling as its biologically related neighbors."*

The Court pointed out that the City of Plainfield could achieve its goal of preserving a "family style" of living in certain residential neighborhoods by limiting its ordinance to the single housekeeping unit requirement and limiting the number of occupants in a single home in reasonable relationship to available sleeping and bathroom facilities. Accordingly, concluded the Court, zoning regulations which attempt to limit residency based upon the number of unrelated individuals present in a single non-profit housekeeping unit cannot pass constitutional muster. □


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No one likes to think of fires breaking out in buildings, but every public and private building owner, designer and contractor has to. So build with masonry, just in case.

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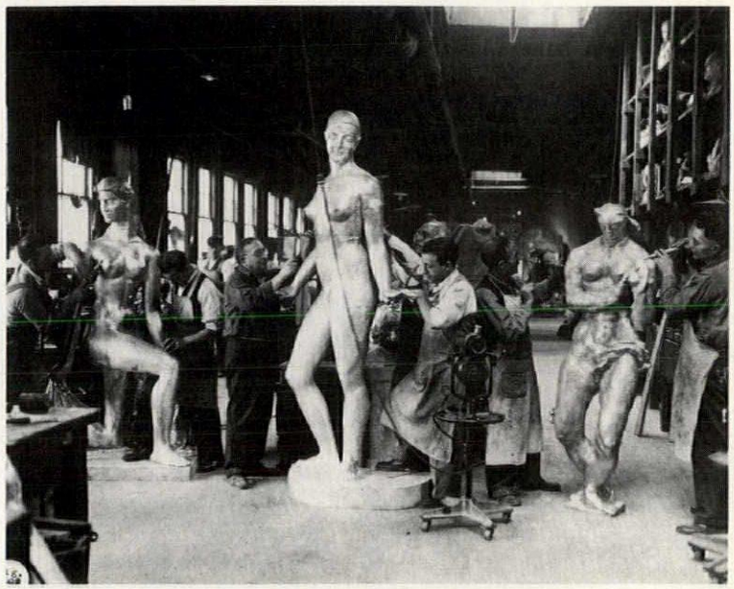
# Rockefeller Center

**Books**



*Sculptures by William Zorach and others, before installation.*

**Rockefeller Center, Architecture as Theater** *by Alan Balfour. New York, McGraw-Hill, 1978. Illustrated, 248 pp., Hardcover: $19.95.*

**Rockefeller Center** *by Carol Herselle Krinsky. New York, Oxford University Press, 1978. Illustrated, 233 pp., Hardcover: $17.50, Paperback: $9.95.*

*Reviewed by Richard Guy Wilson, professor, School of Architecture, University of Virginia, Charlottesville.*

Two books on Rockefeller Center within a year—such a plentitude of riches! But does any building or group of buildings deserve such attention? The buildings as architecture are not outstanding, but generally boring; the art work and decoration are basically mediocre in quality and recondite to most observers; and the public spaces are ambiguous and work only imperfectly. Still, Rockefeller Center, designed and constructed during the depths of the Depression, caught and has continued to hold the imaginations of both the public and the architectural profession. For the public, the fascination of the Center undoubtedly comes from its position as a media center—"Radio City," NBC-TV, and the RCA Building—and also from some obscure notion of chicness and sophistication: the Rockettes in Radio City Music Hall and the clink of Manhattan glasses in the Rainbow Room while listening to Duke Ellington. For the architect, the attraction of the Center is surely related to the idea of designing and erecting the biggest building project in the largest city for one of the world's richest men—a 20th-Century equivalent to Versailles or Cheops. Finally, the much perceived "failure of Modern architecture" of recent years has caused a need to examine earlier successes.

The fundamental premise of both Alan Balfour's and Carol Herselle Krinsky's similarly titled books lies in the perceived long-term success of the Center; perhaps "it still offers lessons to major builders." Both books recount similar stories of the genesis of the Center with a scheme for rehousing the

[*Books continued on page 120*]

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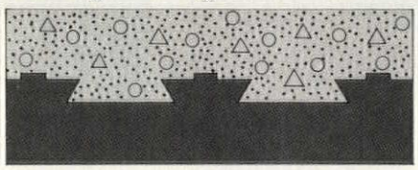

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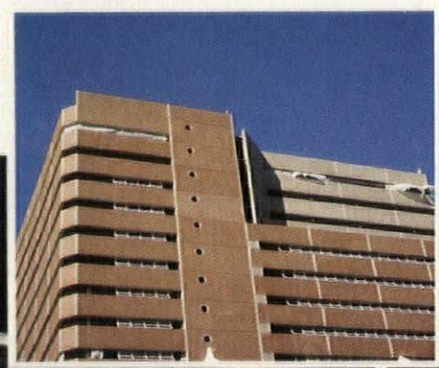
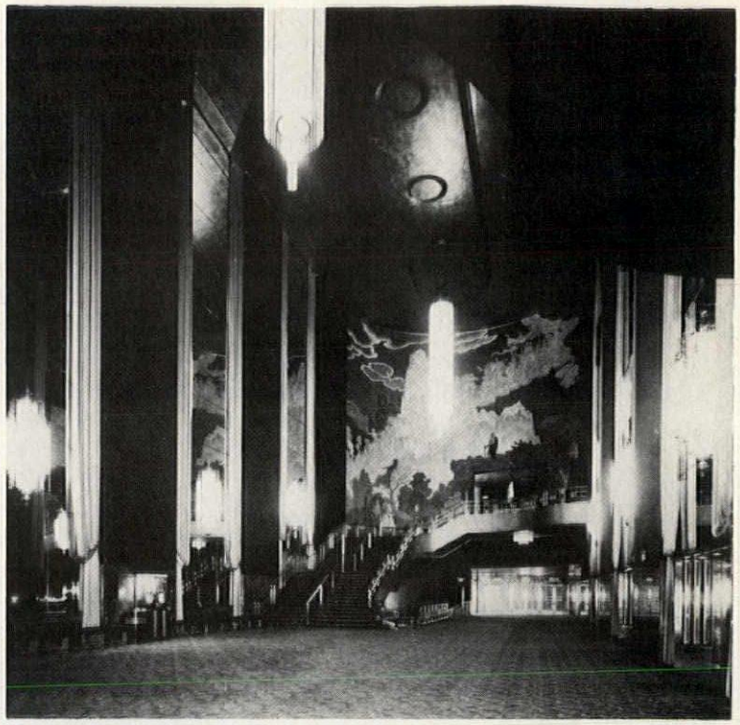


# prefabricated vitrified tile panels

*Harristown Key Block, Phase 1, Harrisburg, Pennsylvania. Over 240,000 sq. ft. of Gail tiles set in precast tile panels, 8′8″ x 30 ft. Architecture: joint-venture, Lawrie & Green — Mitchell / Giurgola.*

**Books** continued from page 118



*The 140-ft-long main lobby of Radio City Music Hall.*

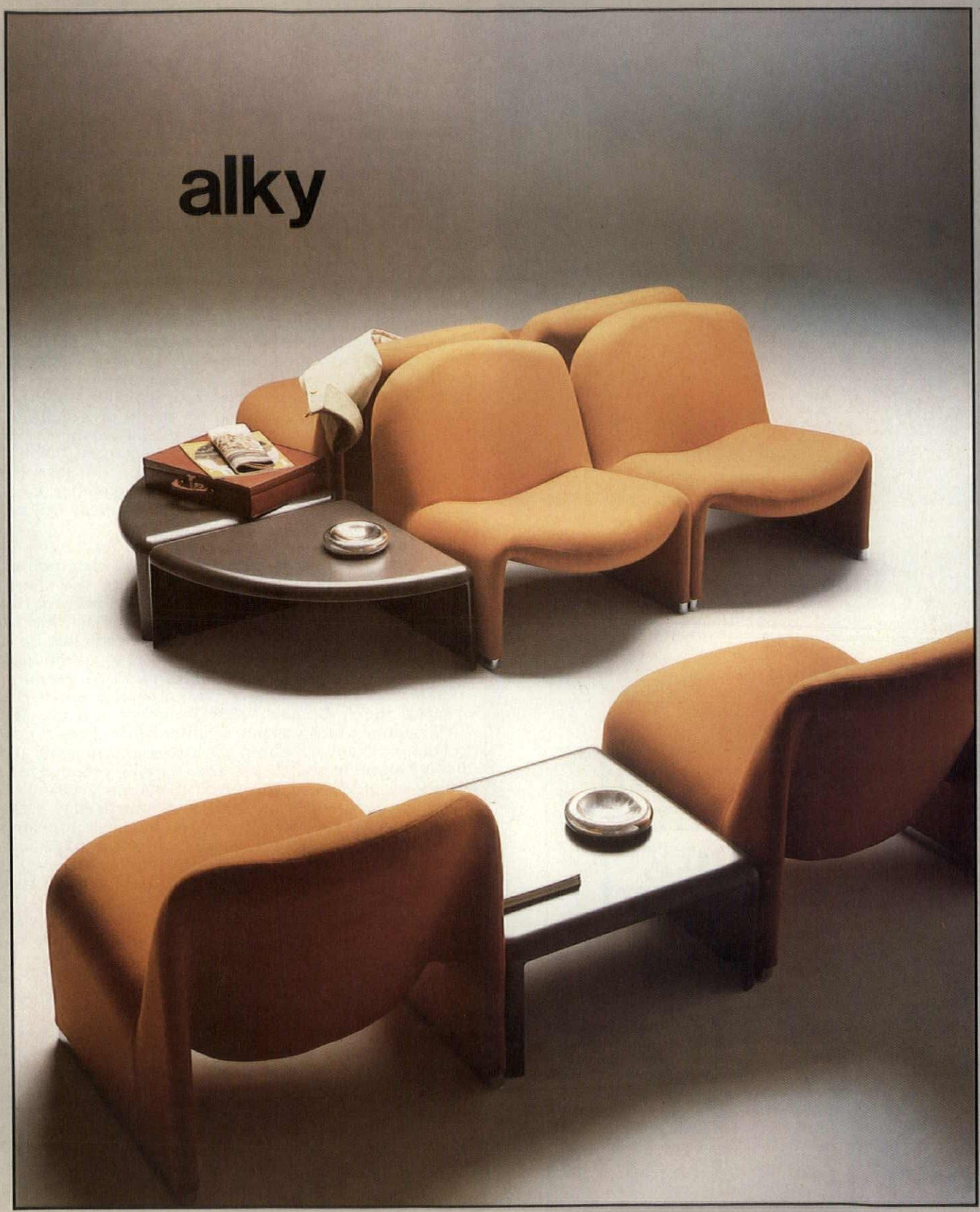
Metropolitan Opera Company, the subsequent involvement of John D. Rockefeller II, and his discovery in late 1929, after the stock market crash, that he held long-term and very expensive leases to Midtown New York property, and that he had better get something done before he lost a lot of money. Balfour sums up the story: "Far from being the result of cautious planning, the whole development of Radio City was instead the result of coincidence, evolutionary change, and brilliant speculation."

The actual design of Rockefeller Center came from many hands: Benjamin Wistar Morris' Opera House scheme; the competent but uninspired work of Reinhard and Hofmeister; the progressive Art Deco of Harvey Wiley Corbett and his young partner Wallace K. Harrison; and finally the romantic flair of Raymond Hood. Hood's hand can be detected in certain features, such as the setbacks of the RCA Building, but ultimately the final design was the product of a team controlled by a non-architect, John R. Todd. Todd, a real estate developer, had been hired by Rockefeller to manage the project, and it was he who decided upon the square footage and the public persona of the project, and who approved or disapproved the architects' schemes. Rockefeller Center was designed for commercial appeal—profoundness of meaning was entirely secondary.

But behind the "safe" architectural image of Rockefeller Center certain ennobling ideas can be found. John D. Rockefeller II, as a good Baptist Sunday school teacher, felt that wealth implied special responsibilities. The Center was his contribution to help bring America out of the Depression and towards international understanding through the medium of the international buildings (The British Empire, Maison Française, Palazzo d'Italia, and The International Building). Concurrently with the Center, Rockefeller was also supporting the restorations at Williamsburg, the excavations of the Agora in Athens, the reassembly of the Cloisters in New York City, and numerous other projects. While the Center certainly existed on a parallel with these endeavors there was one major exception: it had to turn a profit while helping humanity. Actually, Rockefeller's personal involvement in the design process was minimal; in fact, Balfour characterizes it as "trivial and nit-picking."

Another ennobling purpose can be found in the art program, or decoration, for the Center. Much of the art was by safe, academic artists; however, the proposal to invite modern artists of international standing—Picasso, Matisse, and Ri-

[*Books continued on page 122*]

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**Books** continued from page 120

vera—came from John's son Nelson Rockefeller, already heavily involved with the Museum of Modern Art. Only Diego Rivera accepted, and the message of his mural "Man at the Crossroads Looking with Uncertainty but with Hope and High Vision to the Choosing of a Course Leading to a New and Better Future," while sounding like that of the "safe" academic art, was much different. Rivera included a likeness of Lenin that caused much consternation. Work was stopped on the mural, and eventually it was destroyed by the Rockefeller Center Corporation, causing no end of scandal and charges that the art was merely window dressing.

Several major differences exist between the books of Balfour and Krinsky. Both are plentifully illustrated, though the Balfour must take the nod for quality and quantity. A more major difference lies in the authors' interpretations and perceptions of the Center. Krinsky offers a strict architectural history with a rather conventional interpretation of the Center as the "cathedral of the twentieth century." Balfour covers similar ground but explains the obvious less than does Krinsky. His perception of the Center is more sophisticated, particularly in treating the issue of its changing meanings—from Ralph Adams Cram's outcry that it presaged the "dying fall" of Western civilization, to Sigfried Giedion's panegyric that it was the great exhibition of "space-time." The changes over the years, the almost complete about-face by Lewis Mumford, indicate how important Rockefeller Center has been. Each generation makes what it will of the past, and Rockefeller Center is no different.

The problem of meaning in Rockefeller Center plagued the architects and developers from the very beginning. In late 1931, with the design well advanced and the construction about to begin, Hartley Burr Alexander, professor of philosophy at the University of Southern California, was hired by the Center to develop a "theme for Rockefeller City." This was not merely for decoration, but was to communicate the significance of the project. Alexander's suggestion, "Homofabor" ("Man the Builder") was accepted only in part. The eventual theme became "New Frontiers and the March of Civilization," which was put together by the Director of Public Relations. That such a step was necessary, that the architects did not develop the theme and actually recommended the calling in of outside spiritual consultants, speaks volumes about the problem of meaning and interpretation. Not that Rockefeller Center cannot or does not have a meaning, but Balfour questions "whether architecture can have any useful meaning, or is it produced out of so many complementary but independent intentions to make this impossible." And, as he writes later:

> Architecture offers no simple, coherent language. It is, even at its most precise, merely impressionistic. Architectural forms may derive from fashion, from function, or from fiction, but whatever the source they may have little to do with what is perceived. And the perception is continually changing.

There is no final and grand interpretation of Rockefeller Center. A great building project of its time, a lesson in the success of "quality design" (though not of Modernism), it has influenced countless other developments. It can be perceived as an example of humane urbanism, or the high altar of Art Deco in Radio City Music Hall. That it has occupied and continues to occupy such a central place in our culture is of itself significant and worthy of comment. □

**American Diner** *by Richard J.S. Gutman and Elliott Kauffman, in collaboration with David Slovic. New York, Harper & Row, 1979, illustrated, 154 pp., Hardcover: $20.*

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# Products and literature

**The following items are related to the Technics article on designing to lessen damage from natural hazards. They are grouped for the reader's convenience.**

## Literature

**'Ductile Shear Walls in Earthquake-Resistant Multistory Buildings'** answers why such walls are needed and what is known about their design. The brochure discusses the performance of shear walls in earthquakes over a 10-year period, and available information about designing for strength, stiffness, and ductility. Copies of Engineering Bulletin EB076.01D, at $1.50 each plus $1 postage and handling, are available from: Portland Cement Association, Old Orchard Rd., Skokie, Il 60076.

**'Architects and Earthquakes,'** prepared under a National Science Foundation grant by the AIA Research Corporation, discusses the causes and mechanics of earthquakes and how the ground motion displaces buildings. It then considers the ways in which design and planning affect the performance of buildings during earthquakes. The final chapter considers the social and economic implications of public policy and professional response. There are a glossary of terms and a bibliography. Copies of this 100-page paperback, at $2.20 each, can be ordered by Stock No. 038-000-00331-3 from: Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

**'Seismic Design for Police and Fire Stations'** discusses issues to be considered during the design of police and fire stations in areas susceptible to earthquakes. The design manual includes design checklists, guidelines, and supporting information. Subjects covered are: Police and fire stations, and emergency operating centers; General seismic design considerations; Seismic safety for specialized police/fire station equipment; Existing facilities: retrofit and renovation; Relationship of seismic hazards to other hazards. There is a bibliography of publications used in the research and a list of additional sources of information. Copies of the 300-page guide, at $11.75 a copy, can be ordered by Stock No. PB-289-929-AS from: National Technical Information Service (NTIS), 5285 Port Royal Rd., Springfield, Va 22151.

**'How to Build Storm Resistant Structures'** shows the proper ways to tie building elements together to resist storm damage. Buildings discussed include those on high ground, elevated pole-frame systems, and securely anchored buildings from foundation to roof, whether on high or low ground. It consists primarily of photographs showing damaged buildings and detail drawings of methods of avoiding damage by means of proper construction. Single copies of the 24-page brochure are available without charge from: Southern Forest Products Association, P.O. Box 52468, New Orleans, La 70152.

**'Earthquake Forces on Tall Structures'** discusses design based on provisions of a uniform earthquake building code, originally adopted by the International Conference of Building Officials in 1959, and since revised. It takes into account the many factors affecting earthquake-resistant structural design such as loads, forces, building shape, flexibility, and framing materials. For a copy, write on professional letterhead to: News Media Div., Bethlehem Steel Co., Bethlehem, Pa 18016.

**'PL Flood Barriers'** contains complete descriptions, illustrations and specifications for five flood barriers, which can be installed on new or existing buildings. Three are lift-out panels for various opening widths; two are permanently hinged panels, one at the side and one at the bottom. Fill-in section provides space for the customer to supply information to the manufacturer from which quotations can be furnished. Presray Corporation.

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[*Literature continued on page 126*]

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**Literature** continued from page 125

**'How to Live with an Island'** discusses the particular problems related to the development of coastal areas. It covers methods of stabilizing the shoreline to minimize the effects of erosion. The guidelines for building a house, or what to look for when buying a house on an island are outlined. Although the book refers to Bogue Banks, NC, it is also a basic guide for other such areas. Copies at $3 each, including postage and handling, are available from: Science and Technology, P.O. Box 12235, Research Triangle Park, NC 27709.

**'Flood Emergency and Residential Repair Handbook'** describes emergency actions to be taken when a flood is imminent, steps for immediate clean-up and repair following flood damage, and preventive measures to be taken to reduce losses in future floods. It also discusses community action to cope with floods, flood plain management, and the National Flood Insurance program. Copies can be ordered, at $3.50 each, by Stock No. 023-000-00552-2 from: Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

**'Economic Feasibility of Floodproofing: Analysis of a Small Commercial Building.'** Four methods of floodproofing a new building are examined: wet floodproofing; raising on fill; partially raising on fill and equipping with watertight closures; and raising on columns. Results of the findings can serve as guidelines for this type of construction. Single copies are available, without charge, from: Miss Melita Rodeck, State & Local Programs Div., Federal Insurance Administration, Federal Emergency Management Agency, 1725 Eye St., NW, Washington, DC 20472.

**Cementitious waterproofing,** applied in a ⅛-in.-thick coating on either the positive or negative side of concrete, block, brick, or rock, is said to withstand a 200-foot head of water. According to the company, Five Star Waterproofing, based on a new cement, has higher resistance to chemicals and environmental conditions than portland-cement-based materials. The product, its advantages, and installation procedures are described in a six-page brochure and technical bulletins. U.S. Waterproofing, Inc.
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**'Building Losses from Natural Hazards: Yesterday, Today and Tomorrow'** discusses the many destructive forces that damage buildings: earthquakes, landslides, expansive soil, riverine floods, hurricanes, and tornadoes. Maps and graphs show areas of incidents and estimated dollar amounts of losses. Suggestions for reducing damage are offered. J.H. Wiggins Co.
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## Other products

**'Philinea' incandescent lamps** in a slim, tube shape resembling fluorescent tubes come in 35, 60, or 120 watts. Lamp bases are located in the back, permitting installation with the ends touching for continuous strip lighting. Applications include lighting for shelves, stair risers, signs, coves, showcases, and task lighting. Norelco, North American Philips Lighting Corp.
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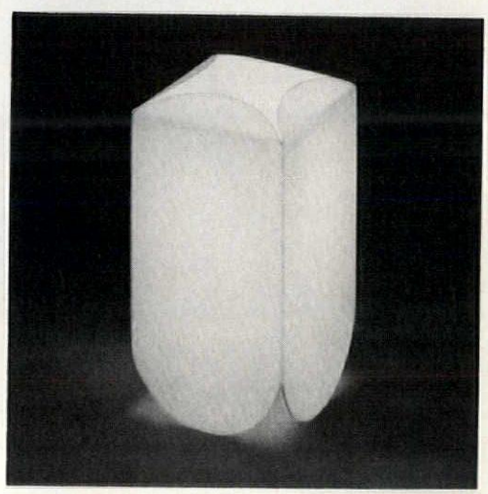

**Table lamp,** designed by Paul Mayen, is made from translucent plastic. It has four identical sections, each panel curved at top and bottom. Top radius is bent inward to produce a soft lighting effect. The lamp is 8 in. wide and 15 in. high. Architectural Supplements, Inc.
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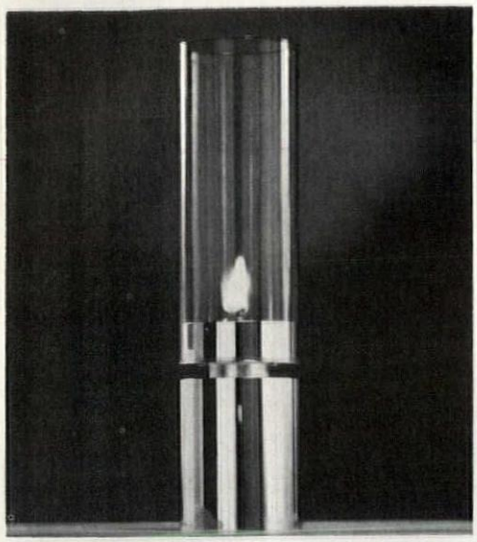

**Hurricane lamp,** in kerosene or candle version, is suitable for commercial or residential use. The lamp, with cylindrical glass chimney and base, was designed by Jules M. Heumann. Base is silver, oxidized brass, or dull brass. Robert Long, Inc.
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**Traditional and contemporary lighting** of solid brass is available in over 500 styles. Typical is a post lantern of antique brass with clear glass panels that accommodates three candelabra-base bulbs. A door provides access to bulbs for easy relamping. Georgian Art Lighting Designs.
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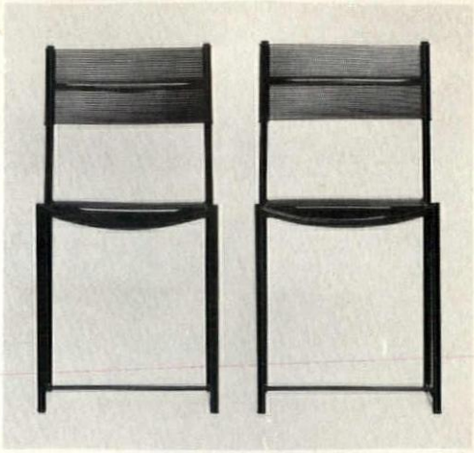

**The Spaghetti Chair,** designed in 1960 by GianDomenico Belotti for a hotel in Italy, is currently being mass-produced. The steel tubing frame is available either chromium plated or finished in baked epoxy colors. Seat and back are strands of polyvinyl chloride (PVC), transparent for the chromium plated frame or in colors to match the painted frames. International Contract Furnishings, Inc.
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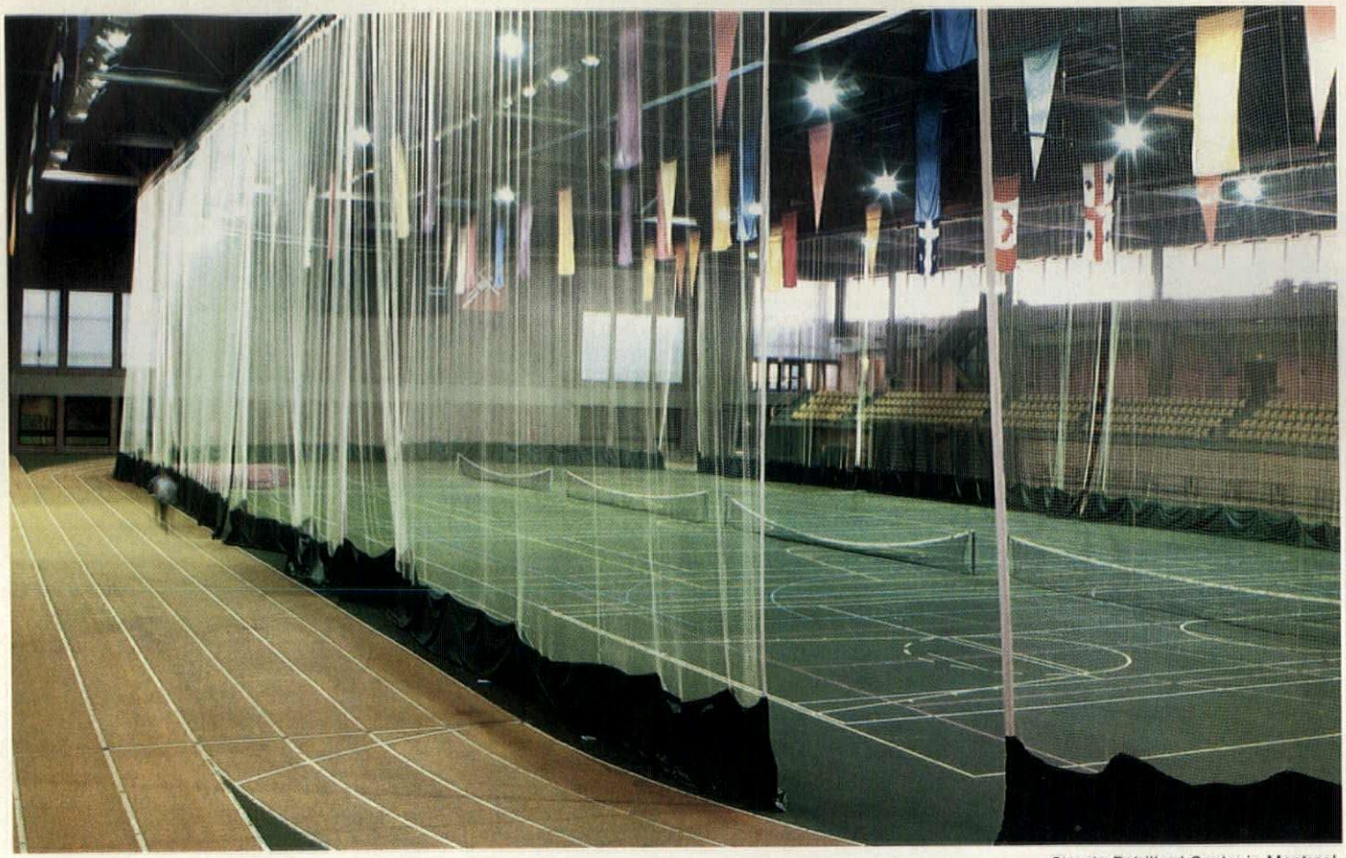
**Zeiloform kitchen cabinets,** in a design called Nevada, have slotted doors with a dark oak finish. There are two vertical
[*Products continued on page 130*]



Claude Robillard Center in Montreal.

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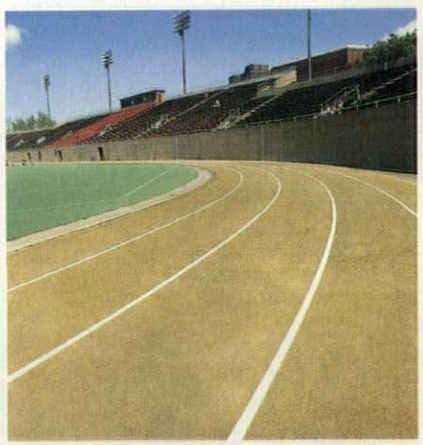

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**Products** continued from page 128

aluminum strips on the side of the cabinets and square metal pulls. Cabinet interiors are finished in a beige tone. The European-built cabinets are one of several styles stocked in this country for more rapid delivery. Allmilmö Corp.
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**Victorian millwork line** of kiln-dried oak or poplar has been expanded to include 12 new designs. Included are balustrades, interior and exterior brackets, corbels, and fretwork, all based on authentic Victorian designs. Custom reproductions also can be ordered. Cumberland Woodcraft Co., Inc.
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**Stainless steel drinking fountain** supplies refrigerated water to two separate units, one at standard height and one at a height convenient for those confined to wheelchairs. Self-closing valves are operated by lever handles. The fountain is suitable for public buildings, hospitals, and nursing homes. Western Drinking Fountains.
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**High-security tubular deadlocks** in standard and heavy-duty models, are said to be crush- and pry-proof, with massive body case and extra-heavy-gauge steel cylinder inside a free-spinning cylinder guard. They are available in double cylinder or single cylinder styles. Finishes are polished brass, antique brass, or chrome. S. Parker Hardware.
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[*Products continued on page 132*]

*Olympic Center,* Lake Placid, NY *Architects:* Hellmuth, Obata & Kassabaum, New York, NY *Project Managers:* Gilbane Building Company, Providence, RI





# Inryco covers the Olympics

Project architects for the 1980 Winter Olympic Center at Lake Placid, NY, wanted an attractive, energy-efficient building panel to enclose the National and International rinks, and the elevated mall connecting them to the 1932 Olympic arena. *They chose Inryco/wall™ 2PS pre-insulated sandwich panel.*

The architects' design called for a smooth, continuous wall that expressed beauty and strength, and would require minimal maintenance. The Inryco/wall panels' flat profile and wide coverage met the design criteria, and the factory-applied, Kynar-based Duofinish 500™ on the exterior gives lasting beauty and protection. Inside, a blue polyester finish also was factory-applied to follow the graphics designer's color scheme.

And although the 2PS panel is only 2" thick, its continuously foamed isocyanurate core gives it an outstanding U-value of .064—which exceeds New York State energy guidelines.

Inryco has the Olympics covered from above, too. For sound control in both ice arenas, Inryco Acoustideck® was specified. Inryco standard roof deck covers the connecting mall and maintenance wing. For more data on these and other enclosure systems, contact your Inryco representative or INRYCO, Inc., Building Panels Div., Dept. B-4069, P.O. Box 393, Milwaukee, WI 53201.

**Inryco**
an Inland Steel company

A0-22-1

Circle **No. 343,** on Reader Service Card

**Products** continued from page 130

individual heating and cooling setpoints; and Chilled Water Optimizer, which provides start-up and control of centrifugal chillers. Barber-Colman Co.
*Circle 115 on reader service card*

**Acoustical study rooms** are modular, soundproof rooms designed to provide quiet, undisturbed environments for educational facilities. Interchangeable components enable rooms to be adapted to special requirements. They are easily assembled or dismantled, moved, and reassembled. Units can be attached to a central air-handling system. Double-glazed safety-glass windows help to avoid a feeling of claustrophobia. Industrial Acoustics Co., Inc.
*Circle 116 on reader service card*

**Textured copper sheets** for architectural applications are coated for surface protection to obviate the need for painting and maintenance. Rigidity provided by the deep texturing permits the use of lighter gauge copper sheets. Texturing also reduces light reflectance, provides mar and scratch resistance, and protects against graffiti. Typical applications include elevators, lavatory partitions, telephone booths, wainscoting, lobbies, and other areas of heavy traffic. Ardmore Textured Metals.
*Circle 117 on reader service card*

**Designer Series ceiling panels of antique glass,** in a 2′ x 2′ size, rest on an exposed grid. The tegular edges of panels extend below the grid, making the grid slightly recessed from the ceiling surface. Panels have a sound absorbence value of NRC-.60 and offer easy access to the plenum. Armstrong Cork Company.
*Circle 118 on reader service card*

**Ox-Line ABC asbestos encapsulant** is a water-based compound that is sprayed over existing asbestos material to prevent the fibers from getting into the air where they can be inhaled. According to the company, the coating is flexible enough to resist expansion and contraction of the substrate. It also is impact resistant to keep the film from breaking, and water resistant to slow down dissolving of the binder after encapsulation. Lehman Bros. Corp.
*Circle 119 on reader service card*

**Vented Vaporbar™ base sheet** is designed for use over preformed insulation and non-nailable decks. It allows vapor to escape during the application of hot asphalt, yet protects the built up roof membrane from moisture attack from below, according to the manufacturer. Potential for blistering is reduced because holes punched in the base sheet permit air, moisture, and gases to vent upward. Celotex Corp., Roofing Products Div.
*Circle 120 on reader service card*

**Foamular™ extruded polystyrene insulation** is a rigid foam panel with closed-cell core and continuous skin surface. The company says it has a high R-value, high flexural and compressive strengths, and exceptional water resistance. It can be used as perimeter insulation around foundations, crawl spaces, and under slab construction. It requires the use of a thermal barrier, such as gypsum board. United States Gypsum.
*Circle 121 on reader service card*
[*Products continued on page 135*]

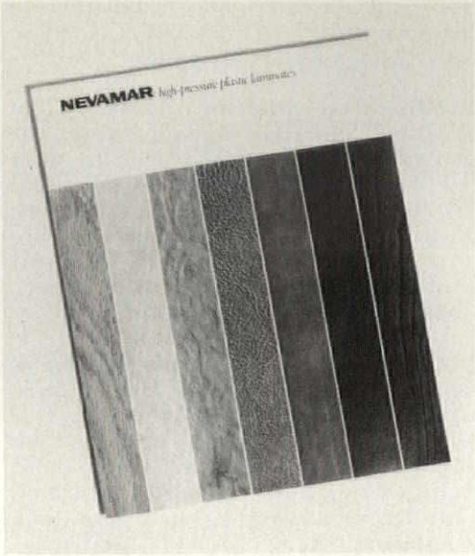
**Products** continued from page 132

**Insulation board 75-X** is made from a modified polyisocyanurate core completely wrapped and permanently bonded to aluminum foil facers. Gas-filled cellular plastic maximizes the insulating efficiency. It is recommended for exposed ceiling and wall applications in commercial and industrial buildings such as factories, parking garages, warehouses, and cold storage structures, as well as agricultural buildings. Rmax, Inc.
*Circle 122 on reader service card*

**The Residential TJI floor joist** is an all-wood I-beam with laminated veneer top and bottom flanges and a plywood web. It is said to carry a higher load than conventional rectangular lumber while using less wood fiber. It also practically eliminates loss caused by warping, twisting, shrinkage, and splitting. Continuous lengths up to 56 ft are available. Trus Joist Corp.
*Circle 123 on reader service card*

## Other literature

**Soleil wood roll-down shutters** are described and illustrated in a 16-page brochure. Drawings show installation and operation details and provide information about electrical operation. Applications include security, energy conservation, storm protection, and privacy. Specifications are provided for hardware and woods. Soleil Division of ELR Inc.
*Circle 203 on reader service card*




**Plastic laminate brochure for 1980** shows 132 items in company's line of high-pressure plastic laminates. There are solid colors, woodgrains, leathers, abstracts, and marbles. Specifications and technical information are included. Nevamar Corp.
*Circle 204 on reader service card*

**Drafting tables** in deluxe and budget series are illustrated and described in a six-page brochure. All have rigid, non-warping, flat drafting boards on either steel or wood tables, with a choice of board size and an optional auxiliary two-drawer unit. Stacor Corp.
*Circle 205 on reader service card*

**Fir and hemlock doors**—both paneled and with a choice of lights—and sidelights in a wide assortment of styles, are shown in a 16-page color brochure. Included are front entrance, French, Dutch, and combination doors. Finishing and installation suggestions are offered. Nicolai Co.
*Circle 206 on reader service card*

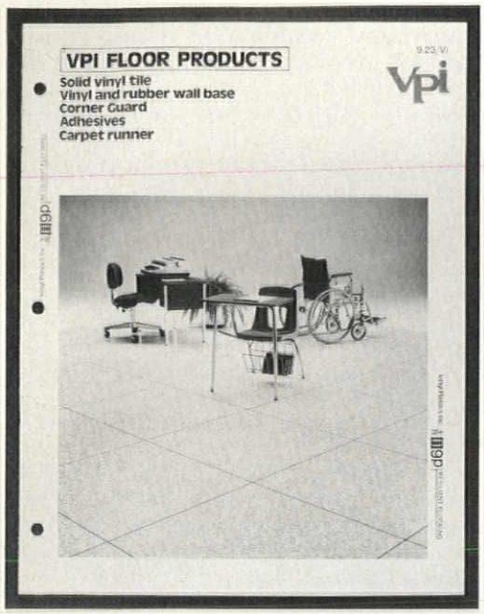
**Hospital and laboratory equipment** is described in a 16-page brochure. Included are laboratory and pharmacy refrigerators and freezers for countertop, undercounter, and wall mounting. Specifications are provided in metric and English measurements. The Jewett Refrigerator Co.
*Circle 207 on reader service card*

**'Ceiling Design Ideas/Retailing'** is a 12-page booklet directed to designers of retail stores, restaurants, and malls. It contains full-color photographs of 19 installations using a variety of lighted and decorative ceiling systems. Integrated Ceilings, Inc.
*Circle 208 on reader service card*

**Roofing systems** for new and reroofing installations use neoprene elastomeric waterproofing membrane. Both systems, called SMART I and II, are described in a four-page brochure which [*Literature continued on page 136*]

**Literature** continued from page 135

also provides information about installation procedures. A list of advantages is included, as are photos of typical installations. Gates Engineering Co., Inc.
*Circle 209 on reader service card*

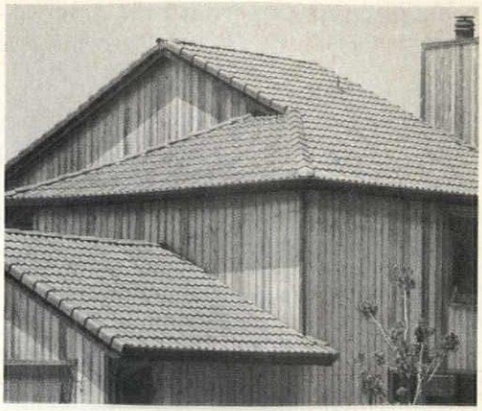



**Floor products catalog** features vinyl tiles in five new solid colors, as well as other vinyl tile, rubber and vinyl wall base, adhesives, and Corner Guard. Full-color illustrations of installations are shown, along with tile colors available. Catalog provides product descriptions, specifications, and installation information. VPI.
*Circle 210 on reader service card*

**Plastic-faced interior doors.** Color brochure describes and illustrates the process of laminating plastic to door cores and shows finished installations. Product specification sheets describe particleboard doors, mineral-core fire doors, sound-reducing doors, and x-ray lead-shielded doors. Timco Industries.
*Circle 211 on reader service card*

**Automatic balanced door entrances** catalog offers doors that swing on a point along the door rather than at a hinge, thus requiring less force to open or close. Sliding door entrances are also included. Various styles are illustrated with detail drawings of their operation. Roto/Swing Inc.
*Circle 212 on reader service card*

**'Guide to Finger-Jointed Dimension Lumber'** provides excerpts from various building codes indicating approval of this material, which is used as chords in highly stressed floor and roof trusses. The four-page brochure also discusses the Association's quality control program. Western Wood Products Assn.
*Circle 213 on reader service card*



**Monray roof tile** is shown in full color in a four-page brochure. There are three styles, each in a choice of several colors. Technical data on size, coverage, weight, test results, and strength are provided. Photos show the various tiles in typical roof installations. Monier.
*Circle 214 on reader service card*

**Silicone foam penetration seal guide** specifies surface preparation, mixing and dispensing equipment, installation, clean-up, and safety requirements. The foam forms seals and fire barriers around cables and conduits penetrating walls and ceilings. Drawings show details of 12 construction and fire rating systems. Dow Corning Corp.
*Circle 215 on reader service card*
[*Literature continued on page 138*]

# PPG OFFERS A STUNNING ALTERNATIVE TO THE DRAB SLAB.

Discover a spectacular exterior wall treatment that puts new designs on all that it surrounds. Discover PPG's Solarcool® Spandrelite® wall cladding.

In addition to dramatic beauty, Solarcool Spandrelite wall cladding offers outstanding performance capabilities. In new or existing applications. And at a cost that's lower than the expected exterior wall treatments: masonry, aluminum, stone and polished stainless steel.

An advanced structural silicone glazing system with the mullions inside can make Solarcool Spandrelite wall cladding appear seamless.

You're free to choose glass types and thicknesses previously unimagined.

And Solarcool Spandrelite works as an energy-efficient opaque curtain wall or a window area. Can even hang in front of insulation.

Since 1965, PPG has led the world in creative application of structural silicone glazing systems. And began to build more "oohs" and "aahs" into buildings.

Find out more. See Sweet's 8.26/Pp. Or write Environmental Glass Sales, PPG Industries, Inc., One Gateway Center, Pittsburgh, Pa. 15222.

PPG: a Concern for the Future

Circle **No. 362**

PPG INDUSTRIES


Architect: Robert Bridges Associates, New York

**Literature** continued from page 136

**'How to Become a Successful Consultant'** is a kit of six manuals, two cassette tapes, and five update reports. The material discusses how to get clients and contracts, and tax savings for consultants. The contents of the kit, written by Dr. Steven Tomczak, president of consulting firm S.T. & A., are described in a six-page brochure. S.T. & A.
*Circle 216 on reader service card*

**Expansion joint covers** for interior and exterior use are offered in a 24-page catalog. Products described and illustrated include flexible and rigid floor covers, elastomeric covers, flexible wall and ceiling covers, flexible roof covers, and aluminum trench covers and frames. Suggested architectural specifications are provided, along with information about materials, finishes, and protective coatings. Metalines, Inc.
*Circle 217 on reader service card*

## Building materials

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

**The Atheneum, New Harmony, In (p. 67).** *Architects: Richard Meier & Associates, New York.* Reinforced concrete foundations: Portland Cement. Steel frame: Bethlehem Steel. White porcelain enamel panel: Wolverine Porcelain Enamel Co. Steel insulated panels: Appco Porcelain Co. Steel sash and frames: Hopes Windows. Aluminum framing: Fisher Skylights. Steel doors and frames: Builders Mfg. Co. Maple flooring: Cincinnati Floor Co. Carpeting: Phoenix Carpet Co. Aluminum ceiling surfacing (auditorium): Alcan Building Products. Built-up roofing: Celotex. Waterproofing: Tremco. Insulation: Celotex. Polished chrome finish hardware: General Lock. Steel stairs, handrails: Ryan Steel. Steel bollards: Street Lighting Equipment Corp. Recessed incandescent lighting: Lightolier and Edison Price. Vitreous china plumbing fixtures: Kohler. Steel enamel finished stalls: Accurate Partitions. Stainless steel water fountains: Halsey-Taylor. Conference table and chairs (wood): Loosen & Brautigam (architect's design). Wood seating in auditorium: Grimm Lumber (architect's design). Motorized blinds: General Drapery.

**Via Brasil, New York (p. 76).** *Architect: Geoffrey Freeman, New York.* Globe lights: Habitat. Kitchen Equipment: Hobart, Ember Glo.

**Greenhouse, Savannah, Ga (p. 79).** *Architect: Donald Beach, Atlanta, Ga.* Concrete block: Clark Block. Paint: Glidden. Hardware: Sargent, Corbin. Kitchen equipment: Bally, Jenn-Air, Vulcan, Toastmaster, Sefab, Hobart, Blodgett. Metal deck on steel space frame: Unistrut. Curtainwall and windows: PPG Metal doors: Amweld. Carpet: Karastan. Quarry tile: Murray. Acoustical ceiling panels: Simplex. Sealant: PTI. Insulation (roof): Celotex. Insulation (walls): Perlite. Lighting: Progress, Westinghouse, Lightolier. Plumbing: Kohler. Flush valves: Royal. HVAC: Carrier. Furniture: Empire Chair Co. (tables, "Prague" copy chairs, banquettes), Deutsch Inc. (upholstered and wicker seating).

**Orient Express, San Francisco (p. 82).** *Daniel Solomon and Nan Hearst, associated architects.* Gypsum board; U.S. Gypsum. "Velour" carpet: Patrick Carpet Mills. Integral color concrete: Conrad Sovig. Ceramic tile: Stonelite. Brass wall-mounted lighting: Peerless. Recessed fixtures: Lightolier, Gotham. Custom bar, tables, and waiter stations: "Carpentershop," Berkeley. Dining room chairs and bar stools: Pacific Atlas. Wicker chairs: Kreiss. Bent-metal chairs: Gibson Furniture.

**Mé & Mé Restaurant, Berkeley, Ca (p. 84).** *Architects: Daniel Solomon & Associates, San Francisco, Ca.* Exterior stucco finish: Tuff-Kote Interior and exterior paint: Fuller O'Brien. Tile: American Olean.

# Press-on letters are now obsolete.

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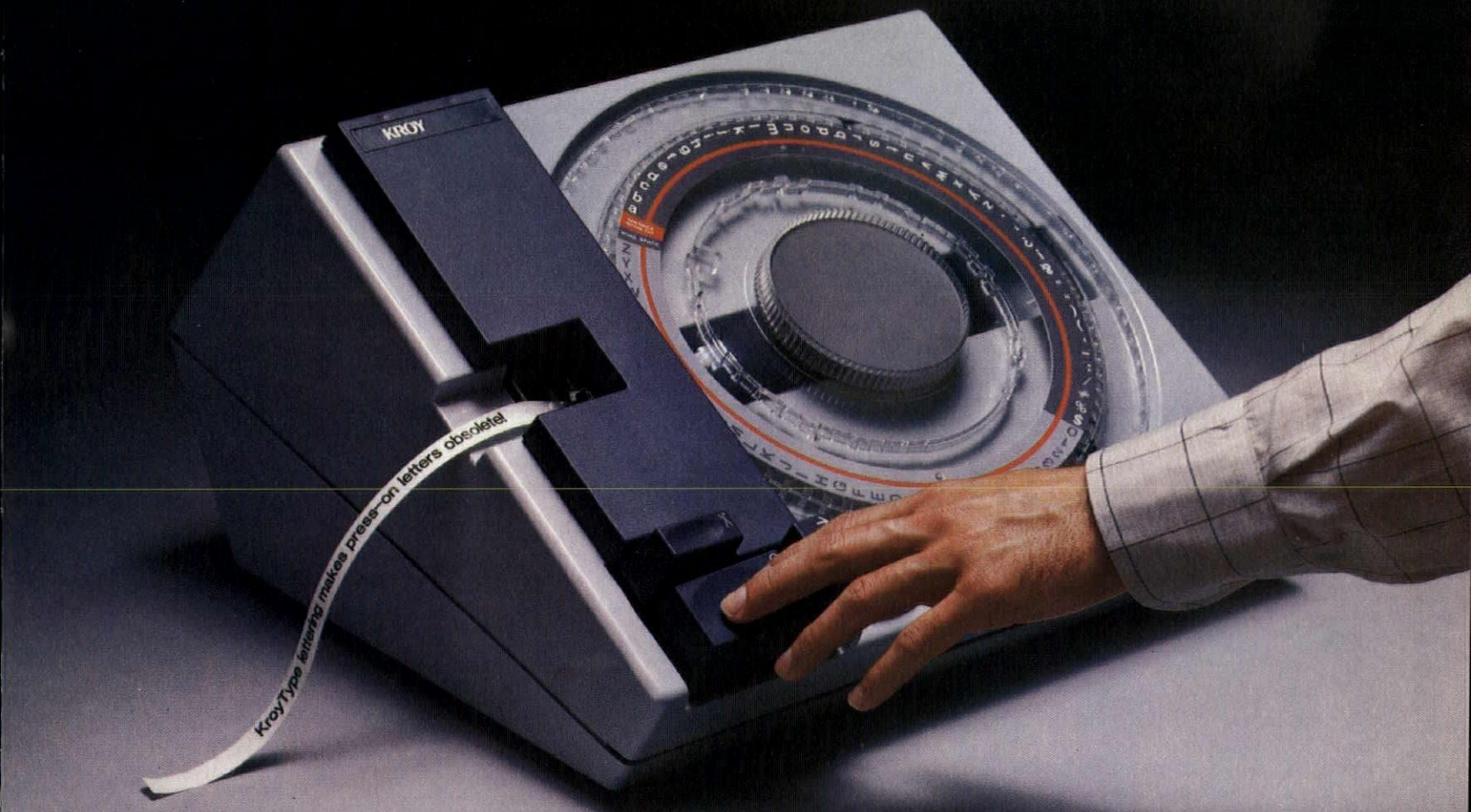


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Circle No. 348, on Reader Service Card

# Job mart

**Situations Open**

**Architect:** Excellent opportunity for growth with young design-oriented firm for project architect. Position requires degree and prof. registration plus 4–6 yrs. experience in design and production of residential, commercial and industrial projects. Submit resume and salary requirements in confidence to: J. Thomas Pfliegel, AIA Architect, 1434 Third National Building, Dayton, Oh 45402, (513) 228-7926.

**Architect—Senior Designer:** Position available with well established, 25-person architectural firm serving governmental, institutional, commercial, and private clients. Applicants must have at least 5 years experience with a broad range of architectural projects. Duties require developing projects from predesign client contact through design documentation. All applications will be kept in strict confidence. Send resume to: Evan M. Terry, Architect, 2129 Montgomery Highway, Birmingham, Al 35209.

**Architecture Faculty:** Three full-time positions open September 1980. First, second and fifth year studies plus support courses in theory, presentation, specifications, planning, M.Arch. plus teaching and professional experience required. Rank and salary negotiable. Resume, college transcript and letters of recommendation to: John H. Spencer, Chairman, Dept. of Architecture, Hampton Institute, Hampton, Va 23668.

**Architectural Historian:** Full-time position available in the Department of Architecture, Miami University starting Fall 1980. Applications accepted till March 1, 1980. Miami University is an equal opportunity employer. Position responsibilities and qualifications can be obtained from Hayden B. May, Search Committee, Department of Architecture, Miami University, Oxford, Oh 45056.

**Associate Architect:** Well established, small firm wants a person with 3–5 years experience and registration or registration potential. Varied responsibilities in all phases of practice; opportunity to grow with firm. Rockey & Cheever, Architects, 300 Martin Building, Mankato, Mn 56001.

**Baruch College Assistant Professor of Art:** 3D area; combined art history/studio department in mid-Manhattan location. Heterogeneous urban student population. Art curriculum oriented toward the general student. Successful candidate will have MFA or M.Arch. degree; college teaching experience; strong exhibition, publication or professional experience; and provide proof of serious interest in foundation programs. 12 hour teaching load concentrated in studio with occasional lectures in related area. Salary $16,000 range; tenure-track position; excellent fringes. Send vitae and appropriate visual documentation by February 15 to: Richard Wengenroth, Chairman Art Department, Box 281, Bernard M. Baruch College, 17 Lexington Avenue, New York, NY 10010. An Equal Opportunity/Affirmative Action Employer M/F.

**Chairman, Department of Architecture:** The Graduate School of Fine Arts, University of Pennsylvania, is seeking applications and nominations for a Chairman of the Department of Architecture. Candidates must qualify for academic appointment at the professorial level appropriate to experience and must also qualify for administrative appointment for a fixed term. Candidates will be considered from outside and within the present faculty.

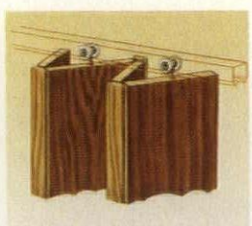
[*continued on page 142*]

# Pella designs wood folding doors with a distinctive difference.

Pella changes the image of folding doors with attention to detail that is the hallmark of excellence in design. The result is a series of exceedingly attractive folding doors of superior wood construction and mechanical precision that will be an asset in almost any interior environment. For distinctly elegant flair, choose the handsome Designer series shown here. Or choose plain panels, 3⅝" or 5⅝" wide, with genuine wood veneers finished in clear lacquer, or unfinished to allow custom painting, varnishing or staining. An attractive but economical alternative is Vinylwood in a variety of wood grains and white. All in all, Pella has more to offer than other wood windows and doors.

**Durable wood construction.** High quality veneers or vinyls are bonded to strong, stabilized wood cores with water-resistant plastic glues. This solid construction resists warping even in humid areas.

**Smooth operating hinging system.** Pella wood folding doors open and close quietly, evenly and easily thanks to individual, special steel-alloy springs which run horizontally through each panel to serve as hinges.



**Quiet, dependable track and roller system.** Free-riding hangers, attached to every other panel, allow doors to glide easily, while double rollers maintain proper balance and minimize sway. Nylon-tire construction eliminates noisy metal-to-metal contact.

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**Job mart** continued from page 140

Send nominations and applications to: Lee G. Copeland, Dean, Graduate School of Fine Arts, University of Pennsylvania, 210 South 34th Street, Philadelphia, Pa 19104. EOE/AA.

**City College of CUNY** is seeking nominations—Deanship of the School of Architecture & Environmental Studies. The School, one of the few publicly-funded schools of architecture in Northeast, awards undergraduate degrees in Architecture, a professional degree in Landscape Architecture and a graduate degree in Urban Design. The School offers an exciting opportunity for new educational initiatives. The Dean also plays an important role in the Administration of the College.

Position available 9/1/80—maximum salary $43,553 plus fringe benefits. Send nominations and/or resumes by 3/3/80 to: Search Committee-AAO, The City College, Rm. A 206, New York, NY 10031. An EEO/AA Employer.

**Construction Administrator:** Small award-winning Dallas design firm seeks architect for associate position. Six years experience and proven capabilities in the field desired. Leadership and growth orientation required to establish and manage new department. Reply: Larry Good, Parkey & Partners Architects, 300 Union Station, Dallas, Tx 75202, (214) 742-6701.

**Department of Architecture**/State University of New York at Buffalo: Four full-time positions starting September 1980: 1) Environmental controls/design studio. 2) Design studio/theory. 3) Building technology/design studio. 4) Structures. Salary according to rank and qualifications. Deadline March 1, 1980. Information from Prof. G. Anselevicius, Chairman, Dept. of Architecture, School of Arch. & Environmental Design, Hayes Hall, State University of New York, Buffalo, NY 14214. The State University of New York is an Equal Opportunity Affirmative Action Employer.

**Faculty:** Young and developing architectural program seeks faculty committee to innovative, multidisciplinary, rigorous architectural education. Persons desired to: direct and teach architectural history (especially interested in someone with architectural preservation expertise), teach 1st and 2nd year introductory studios, and teach ¾ year studios. Also interested in persons with expertise in computer aplication to design/programming, human behavioral-design, architectural technology and design. Multi-year and short term appointments available. Rank/salary commensurate with qualifications. Send vitae to Dean, College of Architecture, University of North Carolina at Charlotte, UNCC Station, Charlotte, NC 28223. UNCC is an Equal Opportunity/Affirmative Action Employer.

**Faculty Position—Industrial Design:** Assistant or Associate Professor. Requirements: MFA or equivalent teaching or professional experience. Knowledge of product or environmental design desirable. Responsibilities: Direct Industrial Design Program, teach Industrial Design and related courses. Contact: Professor Richard Dahn, The University of Washington, School of Art, Seattle, Wa 98195. Deadline: March 1, 1980. The University of Washington is an Affirmative Action/Equal Opportunity Employer.

**Full-time Lecturers:** Lecturers in the Assistant/Associate Professor pay ranges for the 1980–81 academic year. Teaching areas include (a) two- and three-dimensional design and environmental awareness, (b) architectural design and practice, (c) acoustics, lighting, thermal equipment, mechanical and electrical services and computer applications. Required are Master of Architecture or other appropriate master's degree; or professional degree and extensive practice. Teaching experience at collegiate level, licensed experience in practice, research and publications are desirable. Salary is $16,368–$24,828 for academic year, depending upon qualifications. Interested persons should send curriculum vitae with a request for an application form and position description to: Chairperson of Selection Committee, Architecture Department, School of Architecture and Environmental Design, California Polytechnic State University, San Luis Obispo, Ca 93407, Phone: (805) 546-1316. Closing date for applications is February 28, 1980. Affirmative Action/Equal Opportunity/Title IX Employer.

**Full time Visiting Lecturer** to teach beginning Architectural Design, lecture in Design Theory. Non-tenure track, one year appointment, academic year 1980–81. Salary commensurate with skills and experience. Submit resumes to: Dean. College of Architecture, University of Arizona, Tucson, Az 85721. Deadline: 15 March. An Equal Opportunity/Affirmative Action Employer.

**Job Captain:** Position available for graduate architect with one to three years experience. Position offers an excellent opportunity with progressive midwestern firm, for growth and development with a broad range of project types. Contact in confidence, Robert F. Cole, Architonics, 600 South Brown Street, Jackson, Mi 49203. Phone (517) 787-4733.

**Job Captain:** Progressive, well established medium sized Architectural Firm seeking person with at least two years experience in an Architect's office. Should have Bachelors or Masters Degree in Architecture. Professional registration not required. Send resume to Brown Healey Bock Architects, 1035 Third Avenue S. E., Cedar Rapids, Ia 52403.

**North Dakota State University:** Position available as Assistant Professor of Architecture, September 1980, Masters degree or significant professional work required; teaching experience desirable. Duties: architectural design plus other area of interest or specialization. Applications reviewed until March 15 or until position is filled. Send resume to: Cecil D. Elliott, Department of Architecture, NDSU, Fargo, ND 58105.

**Position available Fall 1980:** Primary responsibility will be teaching courses in Historic Preservation and History of Architecture at graduate and undergraduate levels. Master's degree with specialty in Historic Preservation and Architectural History required. Registered architect desirable. Send resume to Kenneth E. Carpenter, Chairman, Department of Architecture, Ball State University, Muncie, In 47306. Application deadline is March 1,

[*continued on page 144*]

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Dow Corning® 795 silicone building sealant. Our one-component, low-modulus, architectural-grade sealant. It has excellent adhesion, without any primer, on glass, metal, masonry, plastic, and just about any other building material you can name.

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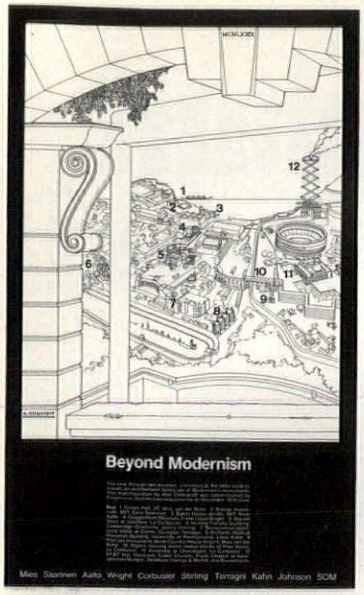


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**Job mart** continued from page 142

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**Project Architect:** National firm has opportunity for registered Architect in St. Louis headquarters. Candidate must have 3 years' recent experience in health care field with emphasis on hospitals and medical practice facilities and must have prior experience in total project management, the ability to establish program requirements, develop initial design concepts, and work closely with clients and regulatory agencies. We offer a competitive salary and comprehensive benefits. Send resume detailing education, experience and income history in confidence to: Personnel Department, BBC Health Care Facilities, A Division of Bank Building Corporation, 1130 Hampton Avenue, St. Louis, Mo 63139. An Equal Opportunity Employer M/F.

**Project Designer:** Medium-size Houston architectural firm with wide-ranging, exciting practice needs designer with capabilities in concept design, graphics, preliminary design and definitive details. Growth and advancement potential for right person. Submit resume with compensation range, in confidence, for further discussion to Crain/Anderson, Inc., 2223 West Loop South, Suite 515, Houston, Tx 77027.

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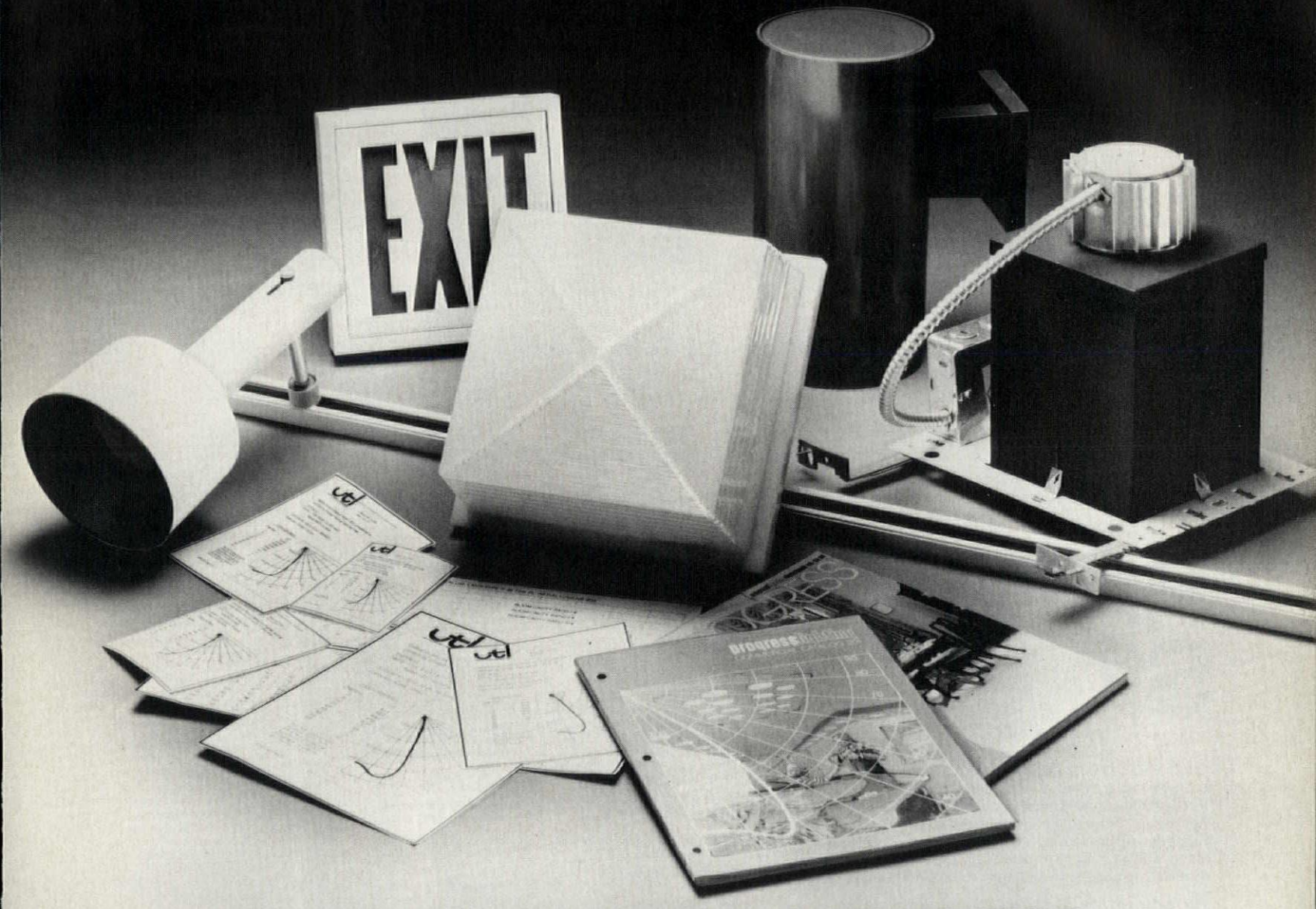


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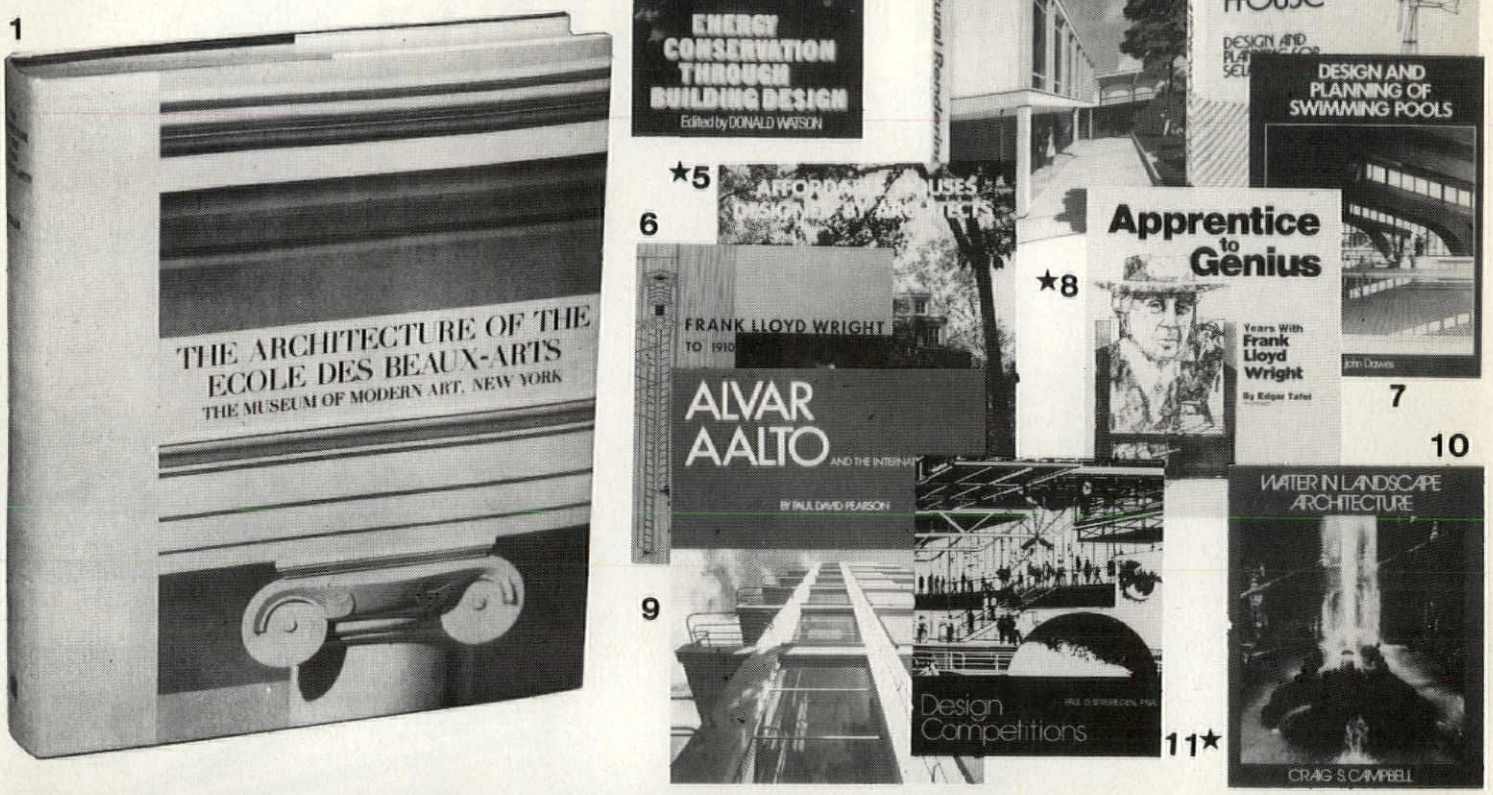


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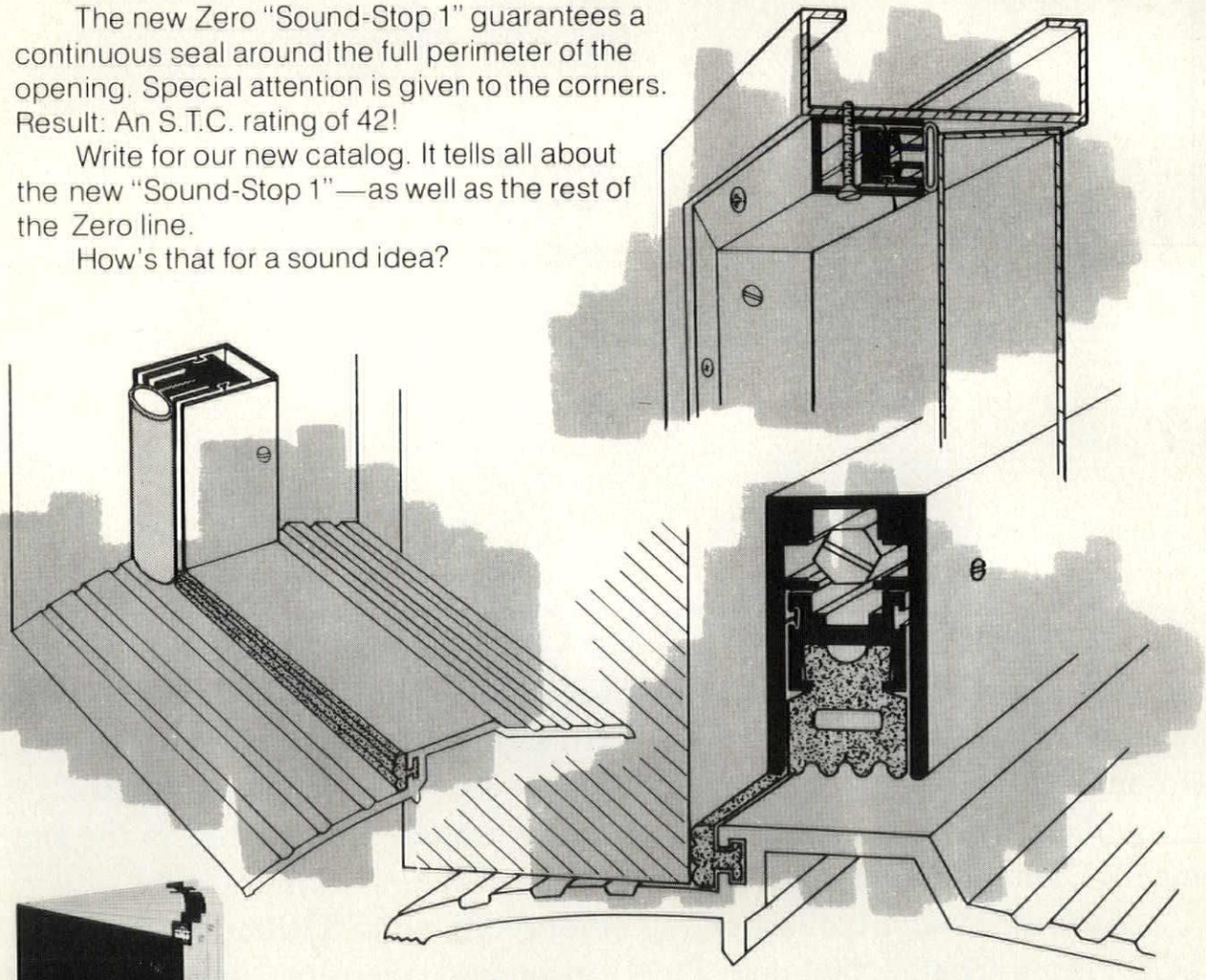


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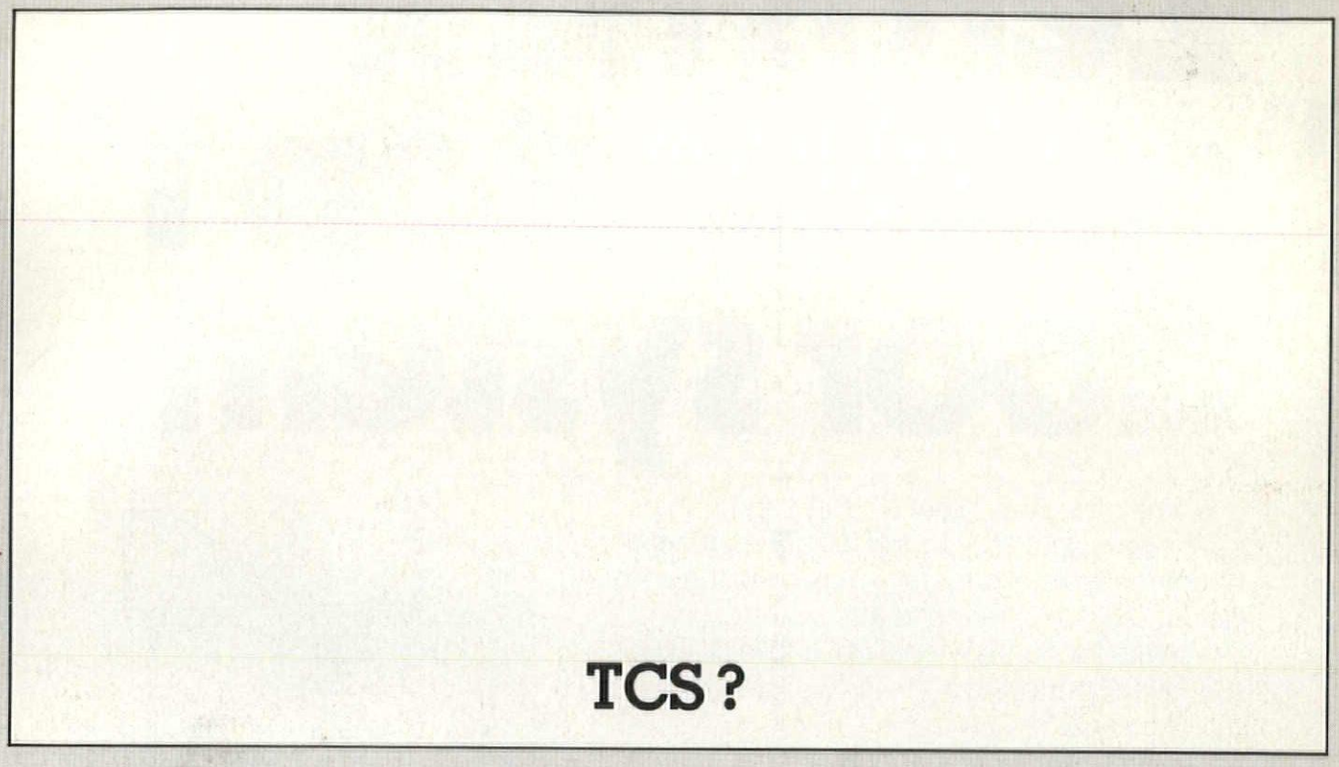


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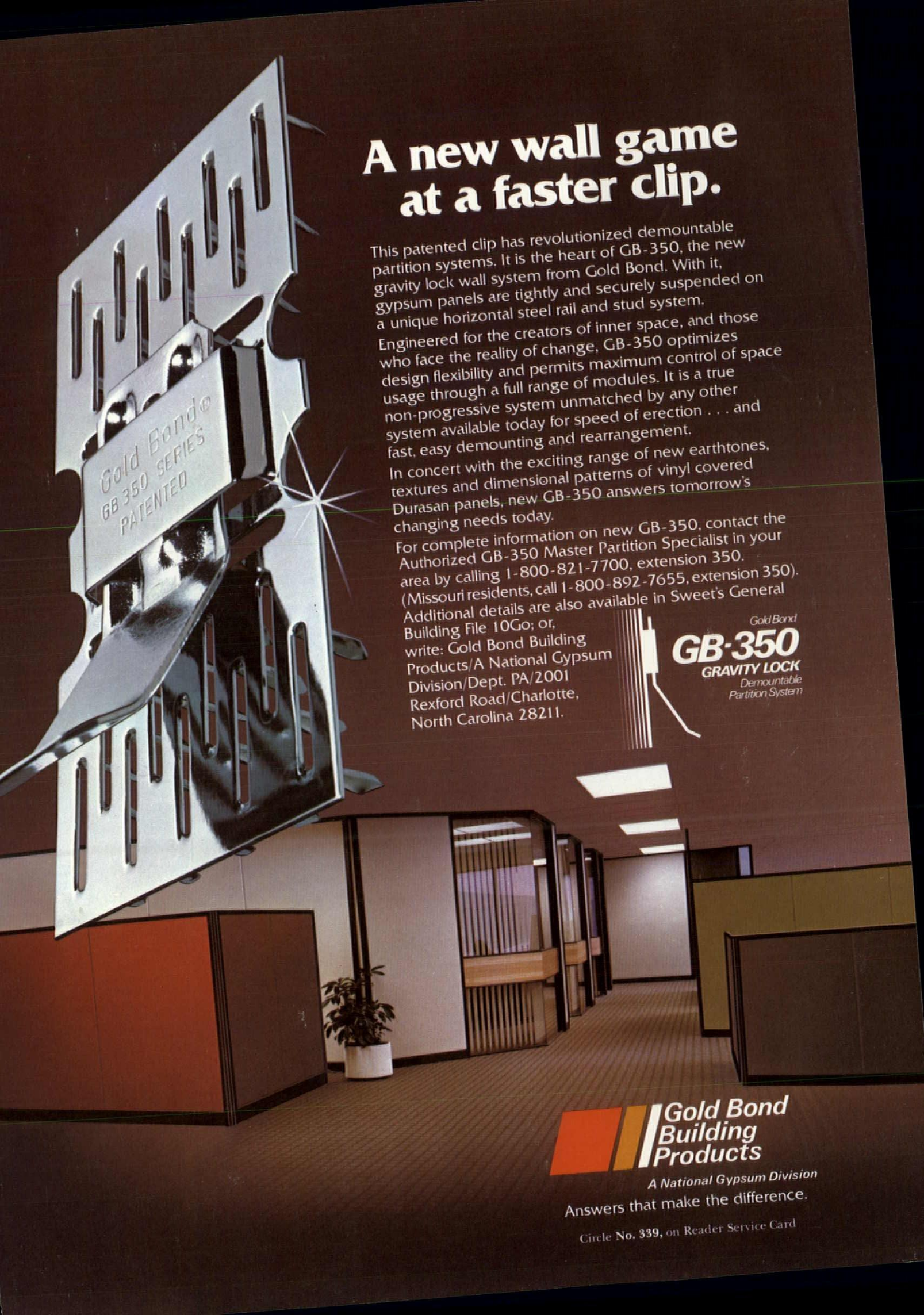


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