# Progressive Architecture

February 1982

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### **Progressive** Architecture









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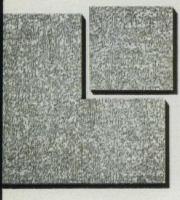
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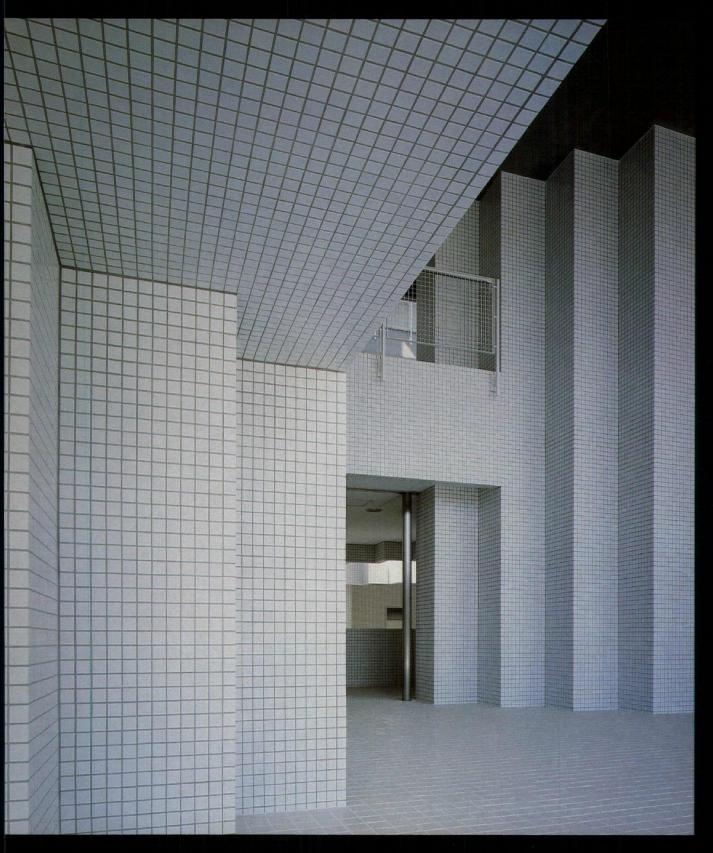


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### FORMS-SURFACES

# Landmark architectural statements

By no means all the landmarks of architectural history are buildings, as we are reminded by articles in this issue on the exhibition of 50 years ago that launched the International Style. In the history of human affairs, the pivotal events don't happen suddenly. There is a preliminary build-up, then typically a single occurrence confirms that a significant change has taken place. Did our American Revolution originate on July 4, 1776? Or the Russian Revolution on October 24, 1917? Obviously not, but these dates have "gone down in history" because they were quickly seen as *confirming* a new state of affairs.

Our series of articles in this issue on the Museum of Modern Art exhibition of 1932 reflects the widely held historical view that this event identified the emergent International Style. It did not start an architectural revolution, but was a *naming ritual*, comparable to a christening or a *berith*, to validate a significant new existence. Our articles here include a prologue by Helen Searing on the gestation period of the International Style that preceded this show.

The article by Richard Guy Wilson, the central one of three on the subject in this issue, stresses the way the MoMA show and catalog recognized as the International Style only a narrow selection of the Modernism then current. This kind of purifying partisan-ship is probably essential for a landmark event in cultural history. The Paris Exhibition des Arts Décoratifs of 1925, though it included exemplary Modern buildings by Corbu and Melnikoff, was too permissive and impure to mark the triumph of a new style; instead it lent its name to the eclectic, ornamental Art Deco compromise (whereas the Chicago Fair of 1893, Sullivan's building notwithstanding, was consistent enough to represent ever after the ascendancy of the Classical Revival in America).

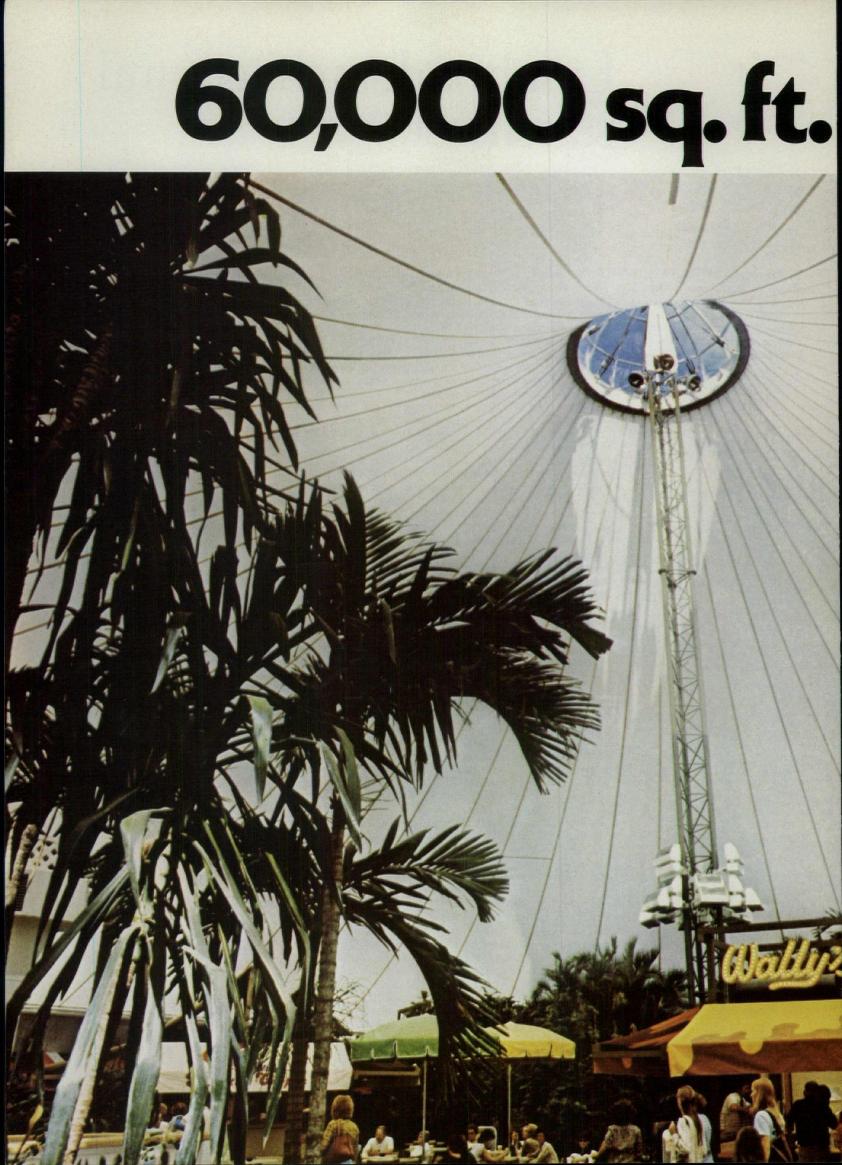
A postscript by Robert A.M. Stern makes the intriguing assertion that the show and catalog had little direct effect on the course of Modernism. Although Stern's knowledge of architectural history is vastly superior to mine, I would ask whether the lack of immediate, demonstrable influence diminishes the stature of this exhibition as the crucial confirmation of Modernism's arrival. Stern rightly points out that little was even built for over a decade after the MoMA show. What he does not say is that when construction revived in the late 1940s, after that hiatus, the Modernism that ascended was the very kind endorsed by that 1932 show. In the meantime, of course, Gropius, Breuer, Mies, and others had come to America, attendant events that were not totally unrelated to the MoMA efforts. The more organic or humanistic strains of Modernism-those of Frank Lloyd Wright or Eliel Saarinen or Alvar Aalto, for instance, had been diminished in influence. Like the academic eclecticism that had reigned in the early 1930s, these branches of Modernism lost momentum during the interruption of World War II, and never regained adherents—despite the continued bravura performances of Wright and Aalto themselves. Disruptions in cultural history can have as much impact as positive events.

The events discussed in this issue take us only up to the early 1930s; at the end of that episode, the brand of Modernism endorsed by the MoMA show had become the new orthodoxy. Have there been comparable, pivotal events since? It's harder to interpret more recent events, but I could suggest a few influential ones. The first event that comes to mind is, in fact, the completion of a building, Le Corbusier's chapel at Ronchamp in 1954; as the articles in this issue point out, Corbu had been sculpting his building components a bit too freely all along to fit International Style canons, but here he broke out completely, with Expressionism, massive walls, punched windows-all the sins the International Style had tried to eradicate. Modernism was never the same after that; many means were henceforth fair in the search for symbolism and "delight."

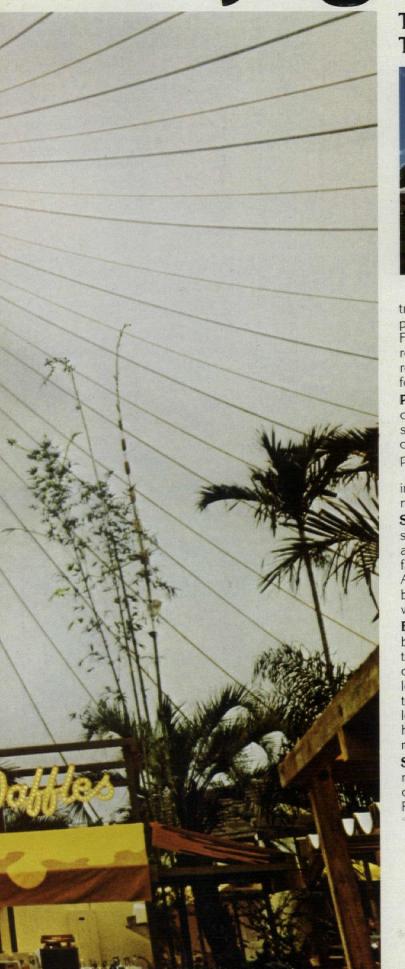
Then, in 1961 and 1966, two books served as complementary landmark statements: Jane Jacobs' Death and Life of Great American Cities and Robert Venturi's Complexity and Contradiction in Architecture; it soon became apparent that these works represented a radical loss of faith in Modernist planning and design. The numerous "death of Modernism" books that followed in the next decade were mere aftershocks.

Has anything yet happened to confirm the establishment of a Post-Modernism? I don't think so. There have been indicative events, among them the Beaux-Arts show of 1975 at MoMA, which confirmed the intellectual turnaround of that institution and most of its following, but endorsed nothing in today's world. Maybe Post-Modernism will never be christened—or codified. In that case we shall just have to drift, through a fog of pluralism, until some landmark event inaugurates an as yet unforeseeable new era in architecture.

John Maris Dife



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#### Wright? ...

Thank you for "Wrighting Wrongs?" and the news that the Taliesin West archives have found drawings proving that, indeed, Wright did design the Arizona Biltmore. Had McArthur designed it, he would have been one of the great architects of this century; he is not, thus, did not! Lloyd Wright, however, told me the full story a year before his death, several years after I published my aesthetically derived judgment.

William Allin Storrer Department of Media Arts University of South Carolina Columbia, SC

#### .. Or wrong?

The November 1981 issue of *Progressive Architecture* has been read with much interest, but I question the title applied to the article which begins on page 110, and purports to give the background of the Arizona Biltmore Hotel. It appears to me that this question can be readily answered in the words of Frank Lloyd Wright himself, who wrote from Taliesin, at Spring Green, Wisconsin, on June 2, 1930 the following letter:

To Whom it May Concern

All I have done in connection with the building of the Arizona Biltmore, near Phoenix, I have done for Albert McArthur himself at his sole request, and for none other.

Albert McArthur is the architect of that building—all attempts to take the credit for that performance from him are gratuitous and beside the mark.

But for him, Phoenix would have had nothing like the Biltmore, and it is my hope that he may be enabled to give Phoenix many more beautiful buildings as I believe him entirely capable of doing so.

This would appear to indicate that, very close to the time that the Biltmore construction was completed, Mr. Wright himself attributes the design of the building to Albert McArthur. There is no question about the restoration which began immediately after the fire of June 20, 1973, was extinguished, because this was certainly the product of Taliesin Associated Architects and the Frank Lloyd Wright Foundation. In addition, they are certainly responsible for the recent extension to the Biltmore, but in Mr. Wright's own words, all attempts to take the credit for this remarkable building from Albert McArthur are "gratuitous and beside the mark."

- John I. Yellott
- Professor Emeritus College of Architecture Arizona State University

Tempe, Az

#### Wolfe at our door

David Greenspan's solemn, self-conscious review of Wolfe's *From Bauhaus to Our House* (December 1981) reveals a profound insecurity. Wolfe pokes a little fun at our profession (on target for the most part) and Greenspan bristles like a kitten confronted by a greyhound.

Maybe you're taking yourself so seriously, Mr. Greenspan, that you cannot tell the difference between a cartoon and a genuine likeness. Don't you get it? Wolfe's game is the caricature—reckless by definition. If you get your back up instead of laughing at yourself, you just help him prove his point.

Your reaction gives plenty of ammunition to those who charge that you critics are a lot better at dishing it out than you are at taking it. *Reid A. Dunn* 

Reid A. Dunn & Partners, Architects Washington, DC

David Greenspan's review of Tom Wolfe's From Bauhaus To Our House misses a basic point of the book. Instead of Corbu's "reeducating the masses"; instead of giving prizes to architects for drawing pictures; instead of debating Whites versus Grays, shouldn't we be addressing the important issues of involvement with and response to the client and user in the design process. Every American city showcases the unfortunate results of "starting from zero"; of designing for the "nonbourgeois" without understanding their needs, dreams, or vocabularies; of designing for other architects. We need not go to Europe to learn these lessons.

As a concerned human being, Wolfe illuminates issues which we ourselves are often too close to notice. He challenges us to answer questions about our history, attitudes, and methods. His book dares to push us further, outside the secure envelope architects currently practice within.

His book presents an opportunity, not

a threat. Wes Janz

#### Minneapolis, Mn

[We just can't see Wolfe as a "concerned human being" exhorting architects to serve the public better. He addresses a bigger—more lucrative—market, where he purveys titillating misinformation. Others have written constructively about the issues identified in the above letter, but they may not have gotten enough of the profession's attention. Only in the sense that he commands attention and forces debate can Wolfe be seen as a positive force.—Editors]

#### Landmark landmark

Congratulations! Your issue on landmarks preservation was itself a landmark.

I have long felt that the preservation movement needs places where preservation projects can be evaluated and criticized.

I could have done without the dig at Mrs. Helmsey's taste; if cheap shots are in order, Polshek's work deserves more comment than just the quality of the track lighting! Your pages deserve more than social sneers.

The article on the Biltmore left me dangling and anxious to know more about those files found in Wright's studio, but it was a solid piece.

And the Paris piece! That was stunning.

I hope people stayed on to read the technical article on concrete. That was worth the whole issue. Lewis McArthur in Portland, Oregon, did a paper for a recent SAH Chapter meeting on molded concrete block buildings in Oregon. He researched the various molds and machines that were sold by Sears and others and made an exciting report of it.

I hope you are encouraged to keep up this issue and to continue to refine and sharpen your articles on preservation. Over the years you have done preservation great service. *Robertson E. Collins Jacksonville, Or 97530* 

#### Correction

The name of Don Petitt, designer of the Petitt Ply group for Thonet, was misspelled in the Products and Literature section of P/A in December. We regret the error.

#### **Proprietary terms**

The terms "Solargray" and "Solarbronze" are registered trademarks of PPG Industries. P/A respects the protection of trademarks and regrets the inadvertent use of the term "Solar gray" and "Solar bronze" to describe other products (Oct. 1981, p. 127).

#### Source acknowledged

The drawing that appeared in P/A, Oct. 1981, p. 33, was based on one that appeared originally in Engineering News-Record, not—as indicated there —the Kansas City Star. Both publications printed pertinent detail drawings, but ENR's was the source for ours.

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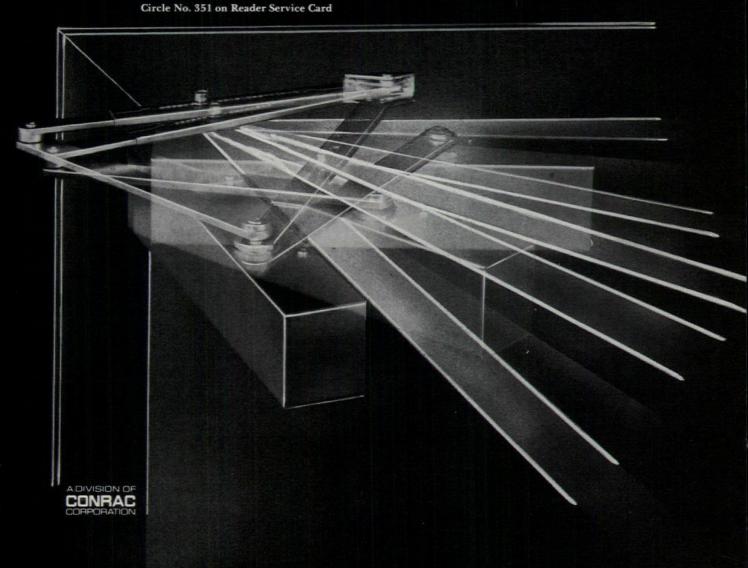
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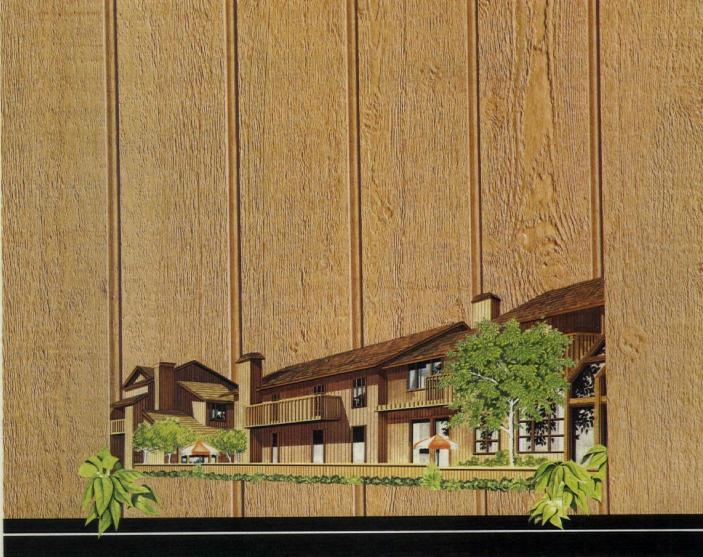
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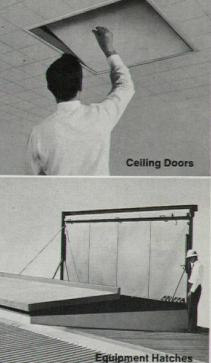
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### Pencil points

#### Auction news

A Tinkertoy model of Philip Johnson's AT&T building was the hottest item to be offered at a recent auction at Christie's, New York, and Jacqueline Onassis, possibly the hottest participant, certainly made the hottest comment:

¶ "I sometimes lie down on Madison Avenue to look up at the building," she is quoted in The New York Times as saying. The ATST model, built by James Sanders for the "Zoning Game" event sponsored in December by Metropolis magazine, and initialed at every joint by P.J., went to Lily Auchincloss for \$600. A higher price,

¶ \$850, was paid for a collage by Ivan Chermayeff. Other sales:

¶ a Graves lithograph, \$200.

¶ a Roger Ferri sketch.

The auction was held to benefit the Municipal Arts Society of New York. February 4th is the date of another architectural drawing auction:

¶ held at the Los Angeles Biltmore, it offers drawings by Leon Krier, Frank Gehry, Arata Isosaki, Michael Graves, and others, and benefits the Otis Arts Institute of Parsons School of Design. In a more conventional, but no less exciting, sale:

I the Canadian Centre for Architecture (Phyllis Lambert, Montreal) has acquired Lars Lerup's entire Nofamily house drawing series (shown last fall at P.S. 1, New York). The CCA's first publication, to be released within six months, will be the Nofamily house catalog, with an introduction by Tony Vidler and a postscript by Peter Eisenman.

#### Pressing architectural news

Architecture continues to hit the lay press, as Harvard's Moshe Safdie shakes the big stick at the looming specter of the evil PM, in an article cutely titled "Private Jokes in Public Places" in January's Atlantic Monthly. Somewhat more subtly, but with telling results,

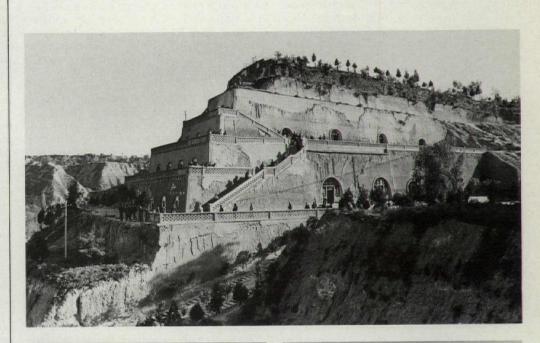
¶ Time magazine's Wolf von Eckardt chooses, as 1981's outstanding architectural and industrial designs, a collection of undistinguished examples (exceptions: Fay Jones's Thorncrown Chapel, the Olivetti typewriter). And speaking of the Time picks,

Yale student Maya Ying Lin's competition-winning Vietnam Memorial (P/A, June 1981, p. 34) is scheduled to break ground in March and be dedicated on Veterans Day 1982. Lin is overseeing the working drawings in DC, and the vets are well along in raising the necessary \$7 million.

#### From whose house to our house?

Popular writer Tom Wolfe is having the interior of his New York Upper East Side townhouse renovated . . . by architect Edgar Tafel. Enough said. Edgar Tafel, however, has more to say about

¶ the recently established Interfaith Committee for the Study of Religious Landmark Buildings, for which Tafel is the participating architect member. The issue is not (obviously) St. Bart's, he says; rather, it [Pencil points continued on page 24] PA News report







#### 'Learning from the people' in China: seminar

A four-day seminar in Peking last October and a ten-day fact-finding tour will be remembered as landmark events in China's increasing contact with the West. Sponsored by the Aga Khan Award for Architecture Foundation and the Architectural Society of China, the encounter of international specialists focused on the theme "The Changing Rural Habitat." The subsequent tour Elementary school dug out of hillside near Brigade commune (top). Bedroom in Brigade commune in Xian (above left). Courtyard of cave dwellings cut out of hillsides (above right).

brought participants to areas rarely accessible to outsiders—the ancient Chinese capital of Xian and its rural environs, the remote autonomous province of Xinjiang, and the ancient Silk Route oasis towns of Kashgar and Turfan. News report continued from page 21

#### The seminar

Conceived within the framework of China's "four modernizations" policy adopted in 1978 for industry, agriculture, national defense, and science and technology, and in keeping with the current reappraisal phase following a period of intense investment, the seminar had two objectives: to evaluate various processes of rural change, especially those related to dwelling construction, through presentations of case studies in Asia, Africa, and the Middle East; and to compare these examples, re ideology, technology, and expertise, with the situation in China today.

Introductory words by Vice Premier and Foreign Investments Minister Gu Mu indicated keen governmental interest in the proceedings. Lively opening sessions included reflections by author and physician Han Suyin on the potentials in biogenetic developments for the Third World.

The ten foreign speakers included Pakistani architect-planner Kamil Khan Muntaz, whose paper "Rural Islam and Change: Case-Study of Cholestan" dealt with indigenous improvement programs in areas culturally and climatically similar to Xinjiang, and contrasted internally generated and externally introduced changes; Dr. Ismail Serageldin, Egyptian economist attached to the World Bank, who analyzed the impact of rapid economic growth and modernization on traditional rural architecture of the Yemen Arab Republic's feu-dal society; and Professor Mohammed Arkoun, who discussed governmentsponsored agrarian villages in Socialist Algeria, and focused on the use of urban-based political ideology in attempting reforms within traditional, fragmented, semi-autonomous rural societies.

Capturing the imagination of the Chinese (but considered too expensive by some) was the "assisted self-help" program at an agricultural school in Senegal: masons are trained to manufacture and assemble cement block and thin barrel vaults on site. Other technological specialties—earthquakeresistant structures, biogas pits, mudbrick construction—were examined in a separate seminar session.

#### Journey to the Steppes

The tour into rural areas produced valuable information about current needs, resources, and practices in a country where 80 percent of the one billion people live rurally, and where only 13 percent of the land is arable. Remarkably, while climatic conditions and building resources vary dramatically, and while the socialist system has necessitated new modes of production, the basic dwelling type remains fairly consistent: a walled enclosure contains living spaces organized around an open courtyard. Near Xian, the traditional courtyard house exists as pit cave dwellings eight to ten meters underground, yet resistant to flooding; in Turfan and Kashgar, oasis towns, courtyard houses are built of adobe, with or without vaulting. The traditional dwelling type persists in new communes, such as Feng Huo Brigade, where "freestanding cave dwellings" (actually row houses) recall cave dwellings, and in older villages now used by production teams, the lowest level of the collective system.

Both foreign visitors and Chinese architects (many of whom had trained abroad or had studied locally before the Cultural Revolution: there was a noticeable gap in the 25-40 year age range) felt that they had taken a step towards "modernization," but modernization rooted in lessons "from the people." [Brian Brace Taylor]

Brian Brace Taylor is an American architectural historian who is living in Paris, a former editor of Architecture d'Aujourd 'hui, and managing editor of Mimar.

#### Go West, John Nash!

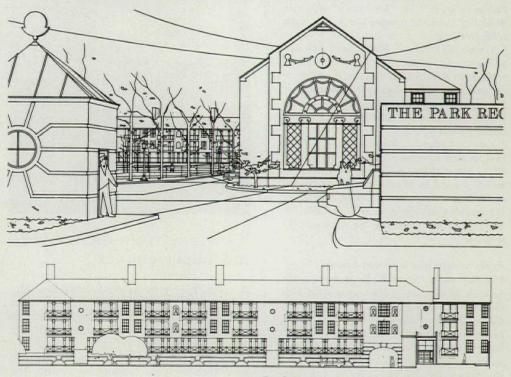
Having informed the professional values/popular culture debate of the last decade, *Learning from Las Vegas* remains a provocative call for a reappraisal of architectural expression and symbolism. Intended as a general evaluation, it has also come to be identified with the work of its protagonists, now the firm of Venturi, Rauch & Scott Brown.

Theory and practice, however, depend for fit on the nature of actual commissions, and a project now under construction in Houston, Tx, may prove to be the one where the Venturi office fishes rather than cuts bait. The "catch" will surely be weighed, measured, and judged for taste, for this project makes full use of hook, line, and sinker. An 80-unit residential condominium project in two buildings smack in the midst of Houston's "magic circle," a stone's throw from the Galleria, The Park Regency is aimed at the chic, reasonably affluent, professional market. Because it is housing, the basic formula must fit within a relatively predictable plan range. Because it is Houston, the total complex must be derived from the Garden Apartment type. Because of the market, it should possess enough "personality" to evoke images of both collective form and individuality.

The Park Regency will be one of the more provocative designs by the office of Venturi, Rauch & Scott Brown to date. Not only does it derive its basic premises from a clear understanding of the status quo, but the design also seems to revel in a wholehearted embrace of the expectations of popular culture.

Development is by Wynings & Company, but the promotional brochure package, sales office, and marketingadvertising were laid out by Venturi, Rauch & Scott Brown. According to the pitch, it "recaptures the rich Houston tradition of Georgian and Regencyinspired architecture for fine residences"; pop versions of John Nash details abound, and the units are designated "Adam," "Brighton," "Carlton," "Dulwich," and "Essex."

In a word, the architects themselves obviously *love it*, to the extent that what is being marketed also includes Robert Venturi as Status Symbol; the Sunday Supplement ads declare, "America's most famous Architect, Robert Venturi, drew this beautiful conclusion. . . ." Completion of The Park Regency in September 1982 will provide a measure to the thin line separating art from the true *schlock* in the Houston landscape and is anxiously awaited as a marker along the road of Post-Modernism. [Peter C. Papademetriou]



Park Regency Gate Lodge entry; west elevation of building 2.

### Monumental questions at Harvard

"Monumentality and the City," a forum sponsored by the Harvard Architecture Review in December, drew a standingroom-only crowd to Harvard's Graduate School of Design to hear four paper presentations and discussions by panelists James Ackerman, George Collins, Harry Cobb, Romaldo Giurgola, Michael Graves, John Jacobus, and Philip Johnson.

Philip Johnson. In "The Song of the Sirens: A Rhetoric of Monumentality," Harvard professor Val Warke maintained that from the Renaissance onward, the urban monument has positioned itself as either a fragment in a utopia, demanding alteration of the existing urban fabric, or as a microcosm of the city, mediating between the ideal city (itself) and the real one around it, illustrating the former with the 19th-Century monument to Victor Emmanuel and the latter with the 16th-Century Campidoglio.

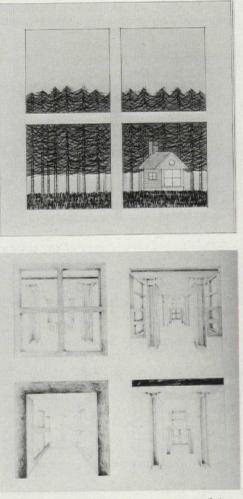
In "Modern Architecture, Monumentality and the Meanings of Institutions: Reflections on Authenticity," Harvard professor William Curtis attempted to destroy "the standard cliché that modern architecture has turned its back on the past," by citing works of Wright, Le Corbusier, and Kahn (among others) as buildings "whose forms rely on the modern reinterpretation of ancient formulations and principles for expressing collective order.

The surprise of the day was historian James Ackerman's argument that monumentality is no longer useful to a culture as bereft of tradition as our own. "Now is not the time for dreams of the grandeur of the past," he concluded, prompting a visibly perturbed Michael Graves to retort that architecture exists not out of political or social needs, but out of the collective myths and beliefs of a culture, and that better knowledge of "the literature of architecture" is essential to effect any change in the social fabric.

fabric. In "Collective Significance," Moshe Safdie distinguished between evolved monumentality, which incorporates the ordinary as well as the sublime and whose form is a response to site, materials, and structure, and composed monumentality, which imposes a preconceived formal order regardless of these questions. Safdie cited Graves's Portland Public Service Building as an example of the latter, thereby provoking a heated discussion between the two architects.

In "Monumentality and the American City," Harvard professor Alfred Koetter maintained that American urban monuments have been inspired by a combination of "visible civics and visible wealth" that has produced everything from the courthouse square to Rockefeller Center. Lamenting the subversion of our urbanistic tradition to modern planning, Koetter called for a return to "civic design," offering two of his own proposals for Downtown Boston as illus-

trations. In conclusion, *Review* editor Paul Bentel wondered whether our current inability to translate symbols into architecture was due to "a lack of skill or talent in architecture, or a lack of expressible ideas and visions." For the answer to that and other monumental questions, we must wait until 1983, when the resulting issue of the *Review* will appear. [Pilar Viladas]



Submissions by Fred Schwartz (top) and Audrey Matlock (above).

#### Three little words

Window, Room, Furniture, a recent exhibition at The Cooper Union organized by faculty members Tod Williams and Ricardo Scofidio, held some pleasant surprises among its over one hundred entries. Participants were invited to submit their personal interpretations of the elements window, room, and furniture within the format of an 8-in.-sq component. While the entries ranged from literal pictorial interpretations of the three elements, to poems, to coolly geometrical abstractions, to pop-conceptual renderings of the subjects, most of them shared an almost idealistic depth of

thought and feeling, demonstrating an affectionate consideration of the cultural, intellectual, and emotional contents of those three little words. That artists, photographers, and writers participated in the show added further richness to its texture.

Elizabeth Diller's delicate pencil studies of changing light were superb, spare squares with just the right amount of discomfiting detail. Bille Tsien's three drawings were, as usual, haunting; *The Chair Where Your Mother Sat* was one of the show's most powerful images. Audrey Matlock's four drawings set up an ambiguous tension between the three elements with an almost sculptural solidity. For sheer subtlety, Marc Treib's constructions and Toshiko Mori's exquisitely colored collages and drawings ranked high.

Some entries edified: Frederic Schwartz's drawing bore a quotation on architecture by Thoreau; and Dolores Hayden gave us a brief social history of each element. The installation, a strict yet intimate maze of right-angled walls, intensified the conversation between the viewer and the viewed. The catalog, designed by Stephen Doyle and published by Cooper and Rizzoli, is beautiful. [PV]

### Design quality in the big firm

The place of design in big-time architectural practice was the subject of a recent conference in Chicago, organized by the Coxe Group, Philadelphia-based management consultant for professionals. Widespread concern about the matter was evident from the turnout: over 200 architects from established firms all over the country, at \$345 per person (with a slight break for two from one office).

The nicely worded conference prospectus noted that "a large number of established architectural firms are reaching the stage where their senior designers are maturing or retiring, and there is a need to substitute a process to perpetuate past quality standards."

No question: big firms have a harder time maintaining—in some cases, even attaining—high quality design. There are lots of mouths to feed, powerful clients to please, and a bottom line that must be taken seriously. Strong convictions or organizational safeguards, or both, are needed, and the conferees heard about these from partners of six major firms that turn out lots of "recognized work," a product many in the room hoped to be able to offer.

Bruce Graham of SOM Chicago spoke with disarming candor about his firm's open secrets (P/A, May 1981, pp. 138-149): design partners aren't overruled by business partners; division of the office into studios handling each project from inception to completion gets everyone involved in design and provides a management ladder that rewards design expertise. In contrast to that long-established setup, Peter Samton of Gruzen & Partners, New York,

#### News report continued from page 23

described the newly revised structure of his firm (arrived at with Coxe Group consultation) that gives requisite clout to his role as Design Director: for the first time, project designers will be answerable to him, not just to project managers, and will work toward explicit design objectives; their career prospects in the firm have also been improved.

Paul Kennon of CRS in Houston, well known for its collaborative studio organization, reviewed the way his firm actually articulates design objectives (e.g., "effecting an enjoyable, uplifting relationship of persons to building"). He also described how, from the firm's initial "squatters" programming/concept process, through to its heavy reliance on computers for construction documents, more working time is reserved strictly for design.

Eugene Aubry of Morris/Aubry in Houston spoke about maintaining quality through the efforts of the partners—who presumably have not gotten too "mature" for that—and of a profitdistribution system that encourages staff commitment. Like Aubry, the more "mature" William L. Pereira (looking young for 72) recommended intense study of the client as a way to produce the appropriate design and ensure its acceptance. Edward Friedrichs of Gensler & Associates in San Francisco attributed the quality of his firm's work to close contact—among firm members and with clients—and to the group decision-making and mutual trust that are parts of Bay Region culture.

A lot more, of course, was actually said. You really had to be there. [JMD]

#### CONDES '82 in Dallas

Over 900 lines of contract furnishings, floorcoverings, and accessories will be shown at CONDES '82 at the Dallas Market Center, March 11-13. In addition to showroom displays, CONDES will offer five seminars. On Thursday, March 11 at 8:00 A.M., Lester Dundes, publisher, *Interior Design*, moderates a panel on marketing for design firms. At noon, Howard Olansky, publisher, *Western Floor*, leads a discussion on contract carpeting. At 4:30, Len Corlin, editor and co-publisher, *Contract*, leads a seminar on lighting the open office landscape.

Ón Friday, March 12 at 8:00 A.M., Art Williamson, National Office Products Association; discusses the dealer's role in facilities management. At noon, Mario Bellini speaks on design. At 4:30, Michael Graves delivers his lecture, "Chest of Drawers."

On Saturday, March 13 at 8:30 A.M., Beverly Russell, editor-in-chief, *Interiors*, speaks on top architectural remodeling projects. At noon, Trammell Crow offers a developer's view of the 1980s. For more information, call Dolores Lehr at (214) 655-6259.

[News report continued on page 30]

#### Pencil points continued from page 21

is St. Barwick (NYC Landmarks Preservation Commission Chairman Kent Barwick), and the curtailing of church activities by the state. The Committee will discuss its report publicly in February. Specific cases: several religious buildings on New York's West Side, including

¶ the Rice Mansion Yeshiva School, and ¶ the off-again, on-again landmark status of St. Paul & St. Andrew Methodist Church. Tafel hints at questionable influence by Mayor Koch.

#### Portmangate

Rumor has it that:

¶ in November, when the Morosco Theater in New York's Times Square joined the Helen Hayes Theater as "eligible" for the National Register of Historic Places, and ¶ the 2000 room, 47-story John Portmandesigned hotel (which will doom the two historic theaters) was up for review by the independent federal Advisory Council on Historic Preservation

¶ Marriott Corporation, which will run the hotel, put pressure on the White House, resulting in

¶ Presidential advisor Lyn Nofziger calling the Advisory Council's executive director and chairman, asking them for a "rapid" decision, and

¶ within 27 hours, bypassing the normal public hearing, the Council reached a decision:

¶ the hotel will go up, the theaters will come down (assuming lawsuits are settled).

#### Honors

The New York City firm of Gwathmey Siegel & Associates Architects has been designated to receive the American Institute of Architects' 1982 Architectural Firm Award. Other AIA honors, to be presented at the 1982 convention in June in Honolulu, include:

I the Whitney M. Young Citation recognizing significant contributions to social responsibility, to be given to Houston architect and community leader John S. Chase, member of the U.S. Commission of Fine Arts; and

¶ the Edward C. Kemper Award for service to the AIA and the profession, to Wilmington architect and preservation leader Leslie N. Boney, Jr. Nine honorary members have been elected to the AIA:

¶ Peter H. Borgemeister; Eleanor Ketchie Brassel; James Reed Ellis; U.S. Sen. Charles Mathias, Jr.; Hermine Mitchell; Jean Gardiner Muntz; U.S. Rep. Dan Rostenkowski; Mary Wingfield Scott; and Lisa Taylor. The AIA installed Robert M. Lawrence as president, and its other 1982 officers and directors, in ceremonies in December. In another installation:

¶ Houston landscape architect Calvin T. Bishop was named president of the American Society of Landscape Architects.

William L. Pereira Day—November 19—was so pronounced by the Mayor of Los Angeles, as Pereira was recognized by the LA AIA for his 50 years of practice.

#### School news

Columbia University's Center for the Study of American Architecture, now in formation, has received its first large gift: the endowment of a new professorial chair, the Paul Milstein Professorship in American Architecture and Urban Design. Members of the Center's board are Henry-Russell Hitchcock, Ada Louise Huxtable, Edgar Kaufmann, Jr., Phyllis Lambert, I.M. Pei, Adolf Placzek, James Stewart Polshek, and Vincent Scully.

#### More school news

¶ Wilmot Gilland, acting dean for the University of Oregon School of Architecture and Allied Arts, Eugene, Or, has been named dean of the school.

¶ the 58-year-old Department of Art and Architecture at the University of Idaho, Moscow, Id, has been dedicated as a College.

#### **Competition** winners

The Eagle Ridge Architectural Design Competition for a \$160 million, 37-acre year-round resort community in Steamboat Springs, Co, has been awarded to Goody, Clancy & Associates, Boston, Ma. The project, to be constructed in nine phases over several years, includes a six-acre park, 341 condominiums, a 194-unit lodge and hotel, and commercial and convention facilities. An unusual development:

Jurors Moshe Safdie, Ralph Knowles, Charles Moore, M. Paul Friedberg, and clients Gordon and Stephen Gunn will remain as an advisory panel throughout the EagleRidge project realization.

¶ Taft Architects of Houston have been awarded the commission for Hope Elementary School, to join the landmarks in the Columbus, In, district. The other architects in contention: Michael Graves (a finalist), Hammond Beeby & Babka, Robert Stern.

Nine buildings and three bridges were chosen as winners in the 1981 Prestressed Concrete Institute Awards Program

¶ Walter Reed General Hospital, Washington, DC, architects Stone, Marraccini & Patterson and Milton Pflueger, San Francisco.

¶ Five Points Station, Atlanta, Ga by Heery-FABRAP, Atlanta;

¶ Stephen C. O'Connell Center, Gainesville, Fl, by CRS, Houston, Tx (P/A, Aug. 1981, p. 82).

¶ Metropolitan Toronto Police Station #52, Toronto, and

¶ Canadian Imperial Bank of Commerce, Toronto, by Shore Tilbe Henschel Irwin Peters, Toronto;

¶ Site 1A/Gregory Bateson Building, Sacramento, by California State Office of the State Architect (P/A, Aug. 1981, p. 76);

¶ Security Insurance Group Corporate Headquarters, Farmington, Ct, by Russell Gibson von Dohlen, Farmington;

¶ Railroad Avenue Overhead, Richmond, Ca, by California Department of Transportation;

Bellevue Square, Bellevue, Wa, by Charles Kober Associates, Seattle.

¶Kishwaukee River Bridge, Winnebago County, Il, by Alfred Benesch & Company, Chicago;

¶ Fairoaks Bridge, Sutherlin, Or, by OBEC Consulting Engineers, Eugene, Or; and ¶ Miami Free Zone, Miami, by Ferendino/Grafton/Spillis/Candela, Coral Gables, Fl.

[Pencil points continued on page 26]

### Fourteen office buildings by one builder. ELEVATORS BY DOVER

Shown here are three of the fourteen handsome structures Community Builders have added to Cincinnati's office parks in the last ten years. Ranging in height from three to five stories, these fourteen buildings are served by a total of 26 Dover Elevators. All 26 are Dover's Pre-engineered Oildraulic<sup>®</sup> models that are ideal for low-rise office facilities. For more information on Dover Oildraulic or Traction elevators, write Dover Corporation, Elevator Division, Dept. 674, P.O. Box 2177, Memphis, Tennessee 38101.



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#### Pencil points continued from page 24

#### In another competition,

¶ Emilio Ambasz and Giancarlo Piretti have received the "1981 Compasso d'Oro," Italy's prestigious design award, for their Vertebra seating range.

#### Re-training at the Station

On December 29 President Reagan signed legislation to restore Washington's Union Station's original function. The National Visitor Center, a bust since it opened in 1976, is out, and the U.S. Department of Transportation will oversee finishing the garage, removing the bus-station-like train facility, and returning the ticketing counters to the station proper, where the trains will once again arrive. And the government clearly intends to incorporate commercial development—another Rouse marketplace? Rouse is reportedly keen.

#### **Executive changes**

Andy Barnes has resigned as executive director of the Pennsylvania Avenue Development Corporation, the beginning of wholesale changes there, it is rumored, and the result of the Reagan administration's emphasis on the private sector.

#### Metro extension

Significant design changes have been incorporated in the recently opened two-mile extension of DC's Metro subway:

¶ Saving a reported \$10 million, Metro switched to precast vaulting with fewer, tall coffers rather than the original multicoffered vaults that emphasized horizontality. Metal air vent screen/baffles in the upper half of the panels somewhat mitigate the bare effect on the lower half.

¶ Round frames (rather than the earlier square ones) now arch the tracks at either end of the station, echoing the form of the station vault.

#### **TV** saves

Preservation has become a moving issue worthy of television sit-coms and films:

¶ CBS-TV's Saturday night movie Dream House, shown in late November (estimated audience 64 million!) and to be rerun next summer, has boy (contractor) meet girl (urban renewal director) and woo her by building her a house in an area slated for massive urban renewal action. In the process, he teaches her the value of preservation.

¶ CBS-TV's Lou Grant takes on preservation for the second time. A year ago, the sit-com newspaper fought to save an old building. This past December, a 19th-Century Los Angeles building is cherished for its age (a rare commodity in LA) even as its "ugliness" is conceded. P.S.: In both cases, the building was demolished. Moral?

#### Some upcoming events of interest

¶ an exhibition and two-day seminar on the International Style, held at Gund Hall, Harvard University, April 16–17. Sessions: Architecture in 1932; Patronage and Style; America and Europe. (See page 87). ¶ an exhibition at the Austrian Institute in New York, March 17–April 30, of textiles, embroidery designs, and graphics from the Wiener Werkstätte, founded by architects

#### Josef Hoffmann and Koloman Moser.

¶ Far in the future (fall 1983), but contributions requested now: the Craft and Folk Art Museum in Los Angeles is organizing up to 15 exhibits, to be held simultaneously in various LA galleries, on American vernacular architecture. Curators: Charles Moore and Gere Kavanaugh. Contact Blaine Mallory at (213) 934-3275.

<sup>¶</sup>Operating under the cover of the Academia Mezzanote (Midnight), New York architects Ben Benedict and Carl Pucci (who normally operate under the cover of BumpZoid) have organized "Manhattan Eruptus": they have divided the map of Manhattan into 12 parts, assigning each part to a team of young and coming architects with the directive to wax poetic. A June unveiling is projected.

¶ Government support is not renewing itself—certainly not in the area of solar energy. So AS/ISES is addressing itself to "The Renewable Challenge," the theme of this year's annual meeting of the American Section of the International Solar Energy Society in Houston, June 1–5.

#### Alphabet morgue

The National Architectural and Engineering Record (NAER), which supplanted the Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER) programs a few years back, is about to join its founder, the Heritage Conservation and Recreation Service (HCRS) in the federal government's alphabet morgue. NAER is to be eradicated. and HABS and HAER, operating under an agreement between the National Park Service, the AIA, and the Library of Congress, will regain their identities. Park Service Director Russell Dickenson is reportedly committed to a significant American architecture documentation program. HABS, by the way, and the Atheneum of Philadelphia I have instituted the new Charles E. Peterson Prize for the best set of measured drawings by an architectural student. First presentation: fall 1983, HABS's 50th anniversary.

#### The Round House Previewed

The luxury real estate firm Previews inc. is handling the marketing of Bruce Goff's 1948 Round House, built in Aurora, Il, for the former Chicago Academy of Fine Arts Director Ruth Van Sickle Ford. Asking price: \$145,000.

#### The leaning tower of Rotterdam

Parts of the old Willemsbrug bridge and adjacent watchtower will be preserved and set upright—or almost upright—if architect Rem Koolhaas's proposal proceeds. The watchtower, in fact, will pay for itself, as illuminated advertising will ornament the monument.

#### Putty in his hands

Metalsmith Albert Paley (creator of the new gates in the recently restored New York State Senate) has wrought a magnificent collection for Pennsylvania Avenue: tree grates and circular benches with lightpoles are soon to be installed. The sculptor's versatility is seen in an exhibit of his work, which includes a bed, table, and window grate, at Fendrick Gallery, Georgetown. [News report continued on page 30]



A view of the school from the south showing the 160' Trombe wall.

Classrooms are located directly adjacent to this wall.



Loadbearing concrete masonry is employed throughout the structure.

A concrete masonry Trombe wall on the south face running approximately 160' forms the primary passive solar heating system. This long wall is built of 18" fully grouted concrete masonry. Other concrete masonry walls in the axial corridors of the school store heat gained through clerestory windows.

It is expected that solar energy will provide about one third of heating needed for this 23,000 sq. ft. structure.



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The classroom side of the Trombe wall, showing vents, through which solar heated air enters the room.



Detail of the Trombe wall from the outside. Manually operated windows can be opened if necessary. This picture shows the class room ventilators which are opened or closed automatically by thermostats, and the black painted concrete masonry Trombe wall.

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News report continued from page 24

### Perspectives

#### Aalto's Ristin Kirkko: a bald complexity

Town hall, parish church, market square. These are the archetypal urban components regulating the traditional Finnish town. And in Lahti, with the construction of Alvar Aalto's Ristin Kirkko (Church of the Cross) on Kolkanmäki hill, the triad is completed. The church terminates the north-south axis begun by Eliel Saarinen's 1912 town hall, and the axis bisects the market square in the small valley between them. Contextually the Ristin Kirkko's bell tower beckons across the valley to the town hall's dominant tower, clothed in a brick whose color is similar to the one Saarinen used over a half century before

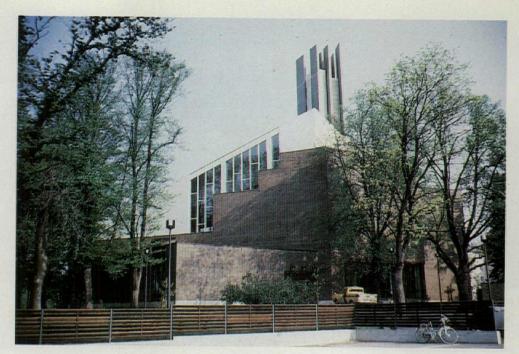
The church's design has had a roundabout history. In 1950, Aalto placed first in the competition for a new church and parish center for Lahti, but this project was never realized. Still some of its organizational concepts and tectonic elements reappeared in the Seinäjoki Church, an important transitional work between Aalto's Michael Agricola church competition entry (1930) and the churches designed during the last half of his career: Seinäjoki, Vuoksenniska, Wolfburg, Detmerode, and Riola (P/A, March 1979).

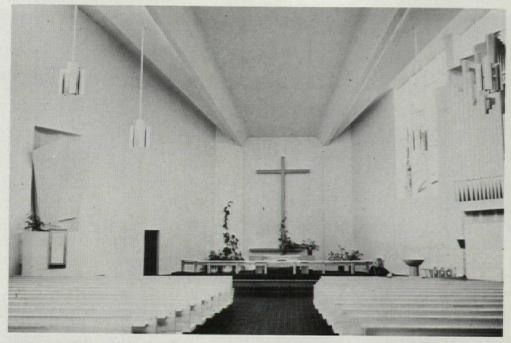
In the late 1960s, a new site overlooking central Lahti was chosen for the Ristin Kirkko. Although the schematic design was completed in 1970, the prospect of demolishing an existing wooden church sparked off a protracted controversy among the townspeople, delaying detailed development. Construction finally began on the church about ten months after Aalto's death in May 1976, and it was consecrated on December 3, 1978.

#### The building

The south (entrance) façade of the Ristin Kirkko, a massive brick wall punctured with 52 windows forming a cross and surmounted by a concrete bell tower, confronts the visitor ascending the staircase up Kolkanmäki hill. As one moves about the site, the wedge-shaped [News report continued on page 32]











View of church from the southwest (top), sanctuary (middle), sanctuary organ (above), and cross of windows (left).

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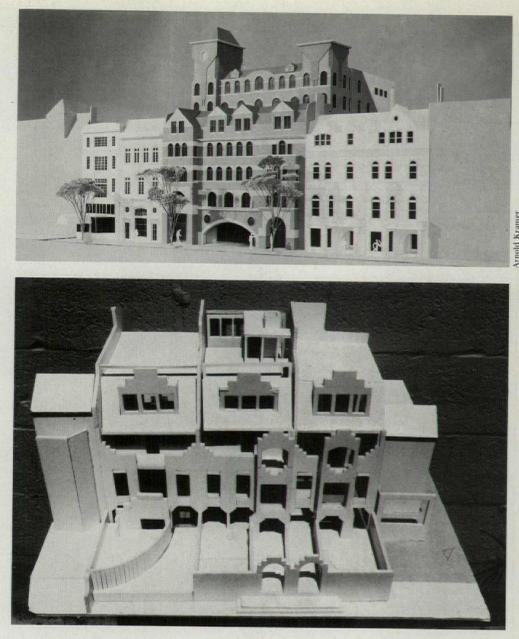
volume of the church, a variation of the fan-forms seen in numerous Aalto buildings, reveals itself. But the massive, solid quality of the south facade erodes and gives way to a sloping crenellated brick profile on the east and west façades. From these fragmented profiles emerge clerestories, above which the white-enameled metal sheathing of the roof form contrasts with the brick below. From the war memorial cemetery on the east side of the site, the image provided by the building is one of a new luminous white sanctuary growing out of, or wrapped within, a ruin-like brick wall. Acting as counterpoint to, and simultaneously penetrating, the wedge shape is an overscaled concrete bell tower, lower, however, than originally intended. The overall composition is representative of the type of dissonant balance that hallmarked Aalto's work.

The plan form and spatial construct of the church's sanctuary, which seats over 1100 people, exhibits a tectonic characteristic of Aalto's church architecture. In the sanctuary, the chancel becomes the formal focus and acoustic source of the space: the plan's splayed walls create a forced perspective. The section, again representative of Aalto's church designs, stands the plan form on edge, further reinforcing the formal and acoustic properties of the chancel's location. The pulpit with its sculpted backdrop, the altar with cross, and the pipe organ accent the white planar quality of the overall spatial conception. The ceiling, in contrast, becomes the most manipulated surface within the space, its concave curved sides and the fragmented rear surface dissipating into the back wall above the balcony.

#### Problems

The Ristin Kirkko, like other buildings executed toward the end of Aalto's career or after his death, continues to exhibit a concern for the complexity of architectural form and order that marks his earlier works, but suffers from a loss in detail execution and refinement. The sanctuary, for instance, has an ex-truded, diagrammatic feeling when compared with Aalto's previous works; a ubiquitous whiteness pervades the space. While the Ristin Kirkko contains a number of the themes and tectonics common in Aalto's work, there is an unfortunate baldness in the final expression and realization. Gone are the rich collisions and juxtapositions of materials, the corporeal and tactile expressiveness associated with Aalto. [William C. Miller]

William C. Miller is associate Professor at the College of Architecture and Design, Kansas State University, and has contributed to various architectural periodicals.



### Reds organize in D.C.

For the first time since the days of the McMillan Commission, Washington, DC, is spawning a group.

Groups, in recent American architecture, are usually identified with a city ("New York Five"), a color ("Whites"), or both; their work often appears in galleries as well as, or instead of, in built form. Groups are understood to be young (always a relative term in this business), media-smart, and insurgent. While like most architects they reject being labeled "post"-anything, they are usually found softening up the stolid, Modernist establishment in preparation for the return of the conceptual, the contextual, and the recherché!

Washington's eight or so young principals, now breaking a durable local taboo by meeting monthly to criticize each other's designs, know well enough how to fit this group mold. They include at least one nationally published firm, Martin & Jones (P/A News report, Jan. and June, 1981), and one nationally published editor, Patrick Pinnell, recently with the Institute for Architecture and Urban Studies, now a partner

Connecticut Avenue office building by David Schwartz (top). Infill rowhouses by Robert Schwartz (above).

of University of Maryland professor Heather Cass. Most have done time on the Yale-Philadelphia Axis, and several write magazine articles and keep close ties to local academia. They make nice drawings and know their architectural history cold. But Washington is not molding a typical group—nor are its members molding a typical Washington.

The Nation's Capital, as readers of spy fiction know, is a city of both raw power and intrigue; its architecture follows suit. On the raw power side there are corporate-modern firms (epitomized by Weihe, Black, Jeffries, Strassman & Dove, and Vlastimil Koubek) who, unlike their counterparts in Chicago or Los Angeles, are generally too big and distracted to perceive anything intellectually based as a threat. Intrigue is supplied by a "Big Three" (Arthur Cotton Moore, Hugh Newell Jacobsen, and Hartman Cox) who have usually succeeded in evading major downtown commissions and each other, [News report continued on page 36]

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News report continued from page 32



leading the local design community, if at all, from behind a podium, not beside a six-pack. (A lone recent attempt to organize a commercial gallery show of work by these and other "names" ended in a shambles.) Clearly, insurgents looking to take on *this* establishment are going to be frustrated.

Help comes from an unlikely quarter: the Commission on Fine Arts and the city's other powerful architectural review boards. Often reviled in the past for diluting forthright Modern projects, these groups publish no party line on design. But Post-Modernism is increasingly their cup of tea. Developers, always eager to speed the review process, have been quick to get the message. Partially as a result, David Schwartz's burgeoning firm has a neo-Richardson Romanesque office and commercial building going up on Connecticut Avenue near DuPont Circle; David Cox of Kress/Cox is designing a lushly Edwardian condominium for 16th Street; and Margaret Axtell (like Schwartz and Cox, an Arthur Cotton Moore graduate), Carol Constant (a Maryland professor and former Michael Graves employee), and Robert Schwartz, among others, have commissions to design infill-or highly contextual—housing with equally explicit historical imagery. Their clients are developers and gentrifiers; social consciousness is largely absent, and there is a feeling of Washington's old architectural conservatism resonating with its new political conservatism. Only Robert Schwartz, once a member of the activist firm October, maintains a 1960s storefront office, but his interest, too, is in the stylistic demands of Victorianizing infill housing.

Molded red brick, a perennial review board favorite, is common to many of these schemes, so that some McCarthy era aficionado may yet succeed in dubbing this group the "Reds."

In this city where Classicism got old and sick but never really died, will these architects follow the example of their





heroes McKim, Mead & White, and when they get bigger commissions, switch from "red" to "white"? A recent project for an office tower in Arlington, Va, by Martin & Jones suggests that not 1893, but 1933 Beaux-Arts Classicism—as practiced by Paul Cret and, more recently, Michael Graves—is a more likely direction. Finally, however, these neo-eclectics believe less in "a style for the job" than in a style for the place. In a town where almost every place already has more than one style, the results will bear watching. [Robert Miller]

Robert Miller is a Washington, DC, architect and an account executive at Hill & Knowlton. Portico-on-the-Potomac for a Western Senator, by Cass and Pinnell (left and top). Annex Embassy Condominiums on 16th Street, by Kress Cox Associates (above).

[News report continued on page 38]

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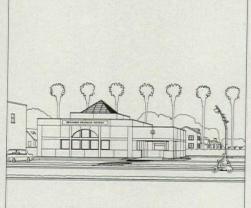
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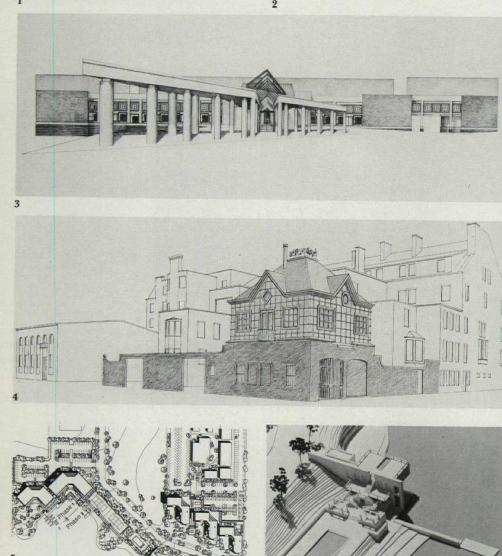
Auditorium, Wright State University Levin - Porter - Smith - Inc., Architects, Dayton, Ohio News report continued from page 36

### In progress



1 Ocean One, Atlantic City, NJ. Architects: Cope, Lindner Associates, Philadelphia, Pa. Replacing the derelict Million Dollar Pier of Atlantic City's boardwalk, this building, shaped like a ship, holds an exposition hall, restaurants, retail stores, and recreation facilities. The "ship," 200 ft wide by 890 ft long, also functions as a pier for temporary docking of pleasure craft. An insulated metal skin sheathes a wind-braced steel frame over a precast concrete deck and piles. The project is under construction.





2 Benjamin Franklin Savings Bank branch, Houston, Tx. Architect: William T. Cannaday & Associates, Houston. This 2500-sq-ft bank, now under construction, was designed as a prototype branch building, typically located on a corner site. The design translates programmatic elements into a "rich expression with meanings the general public can appreciate," according to the architects. A pyramid (a Kalwall 3-in.-thick insulated skylight) representing "the ultimate in security" is set on top of the base. The entrance is made "visually more prominent" by the contrasting void with flanking red columns. Exterior walls are stucco, and interior walls are painted gypsum board.

**3** Placid Harbor Conference Center, Hollywood, Md. Architects: Joseph Boggs of Dewberry & Davis, Annapolis, Md. This project adds dormitories and expands existing conference facilities for the International Association of Machinists and Aerospace Workers. Southern plantation structures set the precedent for the formal, axial plan, the massive proportions of the implied verandas, the breadth of the terraces, and the romance of shapes, color, and texture. Brick and stucco sheathe a lightweight steel structure.

**4 Deutsch Residence, Boston, Ma.** Architect: Graham Gund, Cambridge, Ma. A stable was renovated and a second floor added to create a small residence with practice and performance space for two musicians. While some of the elements—the wood trellis applied to the façade, the small gables, the musical notes crown—are too cute even for the eclectic nature of the Beacon Hill mews, the mass and scale of the two-story pavilion is excellent for the corner site. The plan is clear, with a twostory space acting as organizer, but some of the spaces seem tight for the intended functions. In all, the modest addition provides a substantial increase in value.

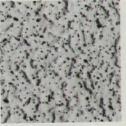
5, 6 Guadalupe Center, Kerrville, Tx. Architects: Peter Gisolfi Associates, Hastings-on-Hudson, NY. A new resort complex on a waterfront site northwest of San Antonio is being added to an existing inn and will be built in two phases. The whole project includes 68 apartments, 50 condominium units, parking garage, and extensive recreation facilities. Residential buildings are L-shape and provide views to the lake. The waterfront pavilion is structured by a wall extending into the water, supporting enclosed functions on one side and an open Palladian stair on the other. Ground-faced concrete block sheathes a cast-concrete structural frame. The high thermal mass buildings are shaded by lush planting; crossventilation takes advantage of cool nighttime temperatures. Incremental water-to-water heat pumps are provided for each unit. [News report continued on page 40]

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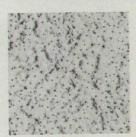
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UNITED STATES GYPSUM

News report continued from page 38

#### Calendar

#### **Exhibits**

Through Feb. 14. Innovative Furniture in America. High Museum of Art. Atlanta, Ga.

Through Feb. 14. Renaissance Ornament in Prints and Drawings. Metropolitan Museum of Art, New York. Through Feb. 15. Program in Artisanry, Student Exhibition. Boston University Art Gallery, 885 Commonwealth Ave.,

Boston. Through Feb. 15. "Perkins Harnly: From the Index of American Design." National Museum of American Art, 8th & G Sts., NW, Washington, DC. Through Feb. 15. The Work of Richard

Haas: An Architecture of Illusion, College of Architecture and Planning. Ball State University, Muncie, In. Other exhibits: March 8-March 15, The Work of Richard Meier, FAIA.

Through Feb. 18. The Historic American Buildings Survey in Ohio. Gallery at the Old Post Office, 120 W. Third St., Dayton, Oh.

Through Feb. 21. Manhattan Photos. Museum of the City of New York, Fifth Ave. at 103 St.

Through Feb. 21. "To Unite in Fellowship," 125th AIA Anniversary display. The Octagon, 1799 New York Ave., Washington, DC.

Through Feb. 28. Drawings of Andrea Palladio. Fogg Art Museum at Harvard University, Cambridge, Ma. Other dates: Mar. 15-Apr. 30, Brooks Memorial Art Gallery, Memphis, Tn.

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Through March 14. American Landscapes: Organized by the Museum of Modern Art, New York. Akron Art Museum, 70 E. Market St., Akron, Oh. Through Mar. 20. New Chicago Architecture. Accademia di S. Luca, Rome. Through March 21. Transformed Houses. New Jersey State Museum, Trenton, NJ. Subsequent dates: Apr. 10-May 9, Lehigh University Architecture Department, Bethlehem, Pa; Oct. 23-Nov. 21, UCLA School of Architecture and Urban Planning, Los Angeles. Through March 28. Visionary Drawings: Architecture and Planning. Dallas Historical Society, Dallas, Tx.

Through Apr. 11. "Robert Adam and His Style." Cooper-Hewitt Museum, 2 E. 91 St., New York. Feb. 14-Apr. 10. Prairie School Archi-

tecture in Minnesota, Iowa, and Wisconsin, featuring Frank Lloyd Wright's "Fireproof House for \$5,000" in fullscale mock-up. Minnesota Museum of Art, Landmark Center, St. Paul.

Feb. 15-May 1. MTA Photographs from the Fifth Avenue Coach Company, New York Historical Society, 170 Central Park West, New York. Other exhibits: through June 1, The Mayor's House: Gracie Mansion and Other Dwellings; through Apr. 1, Manhattan Observed:

14 Photographers Look at New York. Feb. 16–May 2. "Architectural Fantasy and Reality." Cooper-Hewitt Museum, 2 E. 91 St., New York. Feb. 22-March 19. America's Archi-

tectural Heritage. Fitchburg State College, Fitchburg, Ma.

Feb. 23–Mar. 18. Black American Landmarks. Gallery at the Old Post Office, 120 W. Third St., Dayton, Oh.

Feb. 25-May 9. An exact replica of a Viking townhouse in "The Viking World" exhibit. Museum of Science and Industry, Chicago. Mar. 1–7. "Casa Tile '82." Italian Trade

Commission, 499 Park Avenue, New York.

Mar. 6-Apr. 17. Original furniture of the Modernist period. Max Protetch Open Storage, 214 Lafayette St., New York.

Mar. 9-Apr. 3. "Daily Mail." Ideal Home Exhibition, Earls Court, London. Mar. 11-Apr. 3. "OMA/Rem Koolhaas/Elia Zenghelis Projects, 1972-1982," Architectural Drawing. Max Protetch Gallery, 37 W. 57 St., New York. Mar. 13-May 23. "Shelter: Models of Native Ingenuity." The Katonah Gallery, Katonah, NY.

#### Conferences

Feb. 10-13. Taste in Design and Elsewhere, San Francisco. Contact Wayne Attoe, 2597 Buena Vista Way, Berkeley, Ca 94708 (415) 841-6197.

Feb. 26-27. Ninth Annual Preservation Conference, "Historic Preservation: The New Force in Urban Design," University of Virginia's school of architecture, Charlottesville 22903. Contact Roy Graham or Greg Lipton, (804) 924-3976.

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

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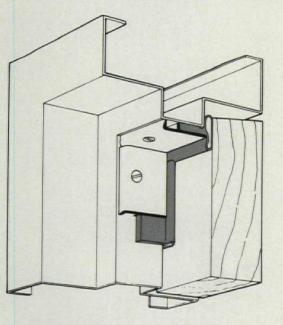
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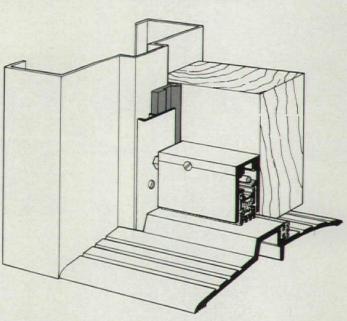
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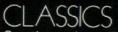
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Progressive Architecture 2:82

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### Steelcase

## Pacific Design Center Showroom Directory

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Sinclair Wallcoverings & Fabrics (213)655-7633

Winfield Design Associates (213)659-7075

Stark Carpet (213)657-8275

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# Schedule of Events

#### Friday, March 19\_

9:00 am Entrance Registration Showrooms open

10:30-12:00

Conference Center

"Marine Environments: The Sea and the Future of Man" Speaker: Jean-Michel Cousteau, architect; director and executive vice president, The Cousteau Society

11:00-1:00 Entrance Registration for PDC/Two

#### 12:00-1:30

Second floor corridor; Stow/Davis Showroom (351) PDC/Two Lunch (advance registration required)

12:15-12:45

#### **Conference** Center

"Concept Furniture for Today's Architecture", a film presented by Pilar Viladas, associate editor, PROGRESSIVE ARCHITECTURE, investigating trends in furniture design, illustrated by entries from P/A's first annual Conceptual Furniture Design Competition.

#### 1:30-2:30

#### PDC/Two Tent

"Why don't they make?" A PDC/Two-sponsored panel of designers and architects on furniture — a brainstorming session on what is *not* yet designed. Moderator: Richard Saul Wurman. Panelists: Mario Bellini; M. Arthur Gensler, Jr.; Michael Graves; Anthony Lumsden; David C. Martin

#### 2:00-3:00

#### PDC/Two Showrooms

"Conversations", sponsored by PDC/Two. Meet with "Your Turn—My Turn '82" symposium designers and their hosts:

Leit Blodee Kimball	(230)
Don Chadwick Herman Miller	(229)
Dan Flavin Hauserman	(208)
Dave Hammer Harbor-Benedetti	(255)
Roger H. Olson Stow/Davis	(351)
Charles Pelly Pacific-Condi	(219)
Ben Rose Ben Rose	(211)
Leonard Scott Kasparians	(270)
William Stephens Knoll	(203)
Ralph ZackyD. S. Brown	(270)
Otto Zapf Knoll Int'l.	(203)

#### 3:00-5:00

**Conference** Center

"Pacific Basin Opportunity: Market Resource Influence" Moderator: Richard King, principal, Richard King International, former Director of International Trade, State of California. Panelists: David Martin, A. C. Martin & Associates; Wayne Takeuchi, president, Chaix and Johnson; Sasima Srivikorn, board chairman, Thailand Mfg. Ltd.; Andrew Ma, executive director, Hong Kong Trade Development Council; Stephen A. Mueller, v.p. and general manager, Chase Bank International 3:30-4:30 PDC/Two Tent "Inside Movie Interiors", a PDC/Two-sponsored panel of filmmakers on furniture design. Moderator: Richard Saul Wurman

5:00-5:30

Conference Center INTERIORS Third Annual Awards Presentation by Beverly Russell, editor-in-chief

#### 6:00-9:00

Individual Showroom Events

#### 6:00-9:00

#### "Commuter Promenade"

Commuter tickets will be issued to all West Week registrants. When stamped by two showrooms on the mezzanine and three on each of the other six floors, holder becomes eligible to enter drawing, on Saturday evening at the Designer Reception, for a Tahitian trip for two.

#### 6:00-9:00

#### Galleria

"Hospitality at the Top", presented by the PDC Galleria. Win a week in Australia for two. Tickets are \$1.00 each or 12 for \$10.00; drawing is at noon, Saturday. All proceeds go to Otis Parsons and Fashion Institute scholarship funds.

#### 6:00-9:00

#### Mezzanine

Mezzanine Annual Block Party, presented by PDC Mezzanine tenants.

#### 6:00-9:00

#### **Third Floor**

A Special Feast of barbecued New Zealand lamb and wine will be served.

#### Ongoing

#### Third Floor

"Find New Zealand: It's on Three!" Presented by PDC Third Floor. Win a New Zealand vacation for two. Third Floor passport will be issued to all registrants; when validated by 10 of the listed showrooms on Three, holder becomes eligible for prize.

#### Galleria, 5th and 6th Floors

"The Dyer's Art", an exhibition, curated by Jack Lenor Larsen, president, Jack Lenor Larsen, Inc.; Maya Romanoff, president, Maya Romanoff Textiles, of large-scale contemporary art textiles.

#### Saturday, March 20 \_

#### 8:00-11:00 am Entrance

PDC/Two Registration

(Coffee will be served outside the PDC/Two tent until 9:00 am).

9:00 Showrooms open

#### 9:00-10:00

#### PDC/Two Tent

"Your Turn-My Turn '82", Part I of PDC/Two's four-part program featuring designers discussing their furniture and showroom designs. Moderator: Richard Saul Wurman. Designers: Douglas Ball; Mario Bellini; Dan Flavin; Jonathan Ginat; Ernesto Gismondi; Sandro Magnelli; Charles Pelly; Ben Rose; Leonard Scott; and Massimo Vignelli.

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## Schedule of Events

#### Saturday, March 20 \_

#### 10:30-12:00

#### Grand Court, 5th Floor

"Presentations", sponsored by PDC Galleria. Moderator: Ralph Story. Panelists: George Gaines, set designer; Michael Taylor, interior designer; Michael Novarese, fashion designer; and Sara Little, product designer.

#### 10:30-11:30

#### PDC/Two Showrooms

"Conversations" with "Your Turn-My Turn '8	32"
designers in their showrooms:	
Bill Anderson Westinghouse	(250)
Bill Brackney Forms & Surfaces	(245)
Bruce Burdick Herman Miller	(229)
Frank Ellsworth EOC	(263)
John Follis Kasparians	(270)
Michael Graves Sunar	(206)
Charles Gwathmey Knoll	(203)
O.J. Holohan Harbor-Benedetti	(255)
Stan Hutchinson Scandiline/Cado	(222)
Rodney Kinsman ICF	(239)
Jeff Layne Arc-Com	(241)
Robert Siegel Knoll	(203)
Lella Vignelli Hauserman	(208)
John Wolcott Pacific-Condi	(219)

#### 10:30-11:30

#### PDC/Two Tent

"Your Turn-My Turn '82," Part II. Moderator: Richard Saul Wurman. Designers: Ward Bennett; Paul Haigh; Fritz Haller; David C. Hammer; Richard Schultz; Hazel Siegel; Warren Snodgrass; Ralph Zacky; Otto Zaph.

#### 11:30-1:30

Second Floor Corridor; Stow/Davis Showroom (351) PDC/Two Lunch (advance registration required)

#### 12:00-1:00

#### **Conference** Center

"Important Furniture in Important Places," sponsored by PDC/Two. Moderator: Richard Saul Wurman. Panelists: Gene Summers, architect and owner of the Biltmore Hotel; Richard Koshalek, deputy director of the L.A. Museum of Contemporary Art.

#### 1:30-2:30

#### PDC/Two Tent

"Your Turn-My Turn '82," Part III. Moderator: Richard Saul Wurman. Designers: Bruce Burdick; John Follis; Michael Graves; O.J. Holohan; Rodney Kinsman; Roger M. Olson; William Stephens; Lella Vignelli; John Wolcott.

#### 3:00-4:00

#### PDC/Two Tent

"Your Turn-My Turn '82," Part IV. Moderator: Richard Saul Wurman. Designers: Bill Anderson; Leif Blodee; Bill Brackney; Don Chadwick; Frank Ellsworth; Charles Gwathmey; Stan Hutchinson; Jeff Layne; Robert Siegel.

#### 2:30-4:00

PDC/Two Showrooms	
"Conversations" with "Your Turn-My Turn '	82"
designers in their showrooms:	
Douglas Ball Sunar	(206)
Mario Belliniai	(235)
Ward Bennett Brickel	(260)
Jonathan Ginat Gunlocke	(210)
Ernesto Gismondi Gail Epstein	(267)
Paul Haigh Knoll	(203)
Fritz Haller Haller	(257)
Sandro Magnelli D.S. Brown	(270)
Richard Schultz Knoll	(203)
Hazel Siegel Design-Tex	(213)
Warren Snodgrass Stow/Davis	(351)
Massimo Vignelli Hauserman	(208)

#### 4:30-5:00

Conference Center IBD/INTERIOR DESIGN Contract Winners: A Retrospective, 1972-82. Presented by: Sherman Emery, editor, INTERIOR DESIGN; David F. Cooke, national president, IBD; Eugene M. Daniels, national vice president, IBD.

#### 5:15-5:45

Conference Center IBD/CONTRACT Magazine: 1981 Product Design Awards Presented by: Len Corlin, editor, CONTRACT; David F. Cooke; Eugene M. Daniels.

6:00-9:00

Galleria West Week '82 Party Cocktails, hors d'oeuvres, dancing; \$15.00 per person.

#### Sunday, March 21\_

#### 10:30 am Showrooms open

#### 11:30-1:00

Conference Center

"East Meets West," an audio-visual presentation on Pacific Basin architecture and interiors discussing eastern influences. Speaker: Jody Greenwald, coordinator, Design Programs, UCLA Extension.

#### 1:30-1:45

#### Conference Center

Otis Parsons Scholarship Award. Presented by: Walton Brown, publisher, DESIGNERS WEST.

#### 2:00-3:30

#### Conference Center "The Dyer's Art"

An audio-visual exploration of the dyeing/weaving techniques of Pacific Basin textile artists. Speaker: Jack Lenor Larsen.

#### 4:00-5:00

#### Galleria

"The King and I," a musical fashion review of the costumes of the Pacific Basin, highlighting their impact on current fashions. Producer: Holly Mitchell.

# Artemide

# Willi Series

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Willi Indoor/outdoor restaurant and cafeteria series

The Willi series has been designed to meet the specific requirements of the restaurant/cafeteria installation, where strength, resistance, easy main-tenance and price are major factors.

Willi chair's welded tubular frame con-struction is extremely sturdy and its plasticized coating will withstand any climate and weather conditions. Willi chair's seat and backrest are injection molded, impact resistant polyprope-lene. They are interchangable to allow any color combination and easy replacement.

Willi tabletops are a molded melamine which is totally resistant to scratching, impact, burns, and weather conditions.

To request a color brochure featuring the new Willi series, please circle number **366** 

## People

from the Latin populus, a word which echoes man's earliest perception of himself as many of one and one of many. To see the separateness of each is to discover those attributes and aspirations which make us one, yet that very separateness is perhaps man's most cherished and universal value.

To be one, yet more than one, is to discover that critical distance at which men are neither alienated nor suffocated. A diversity of human needs dictates that precise distance. To reach it requires a diversity of forms, spaces wherein every man, every woman, can be apart for a time alone with their objects, their work, their thoughts. A private place.

People: at a critical distance.

Hauserman: wall and panel systems enabling people to live and work together, delicately.

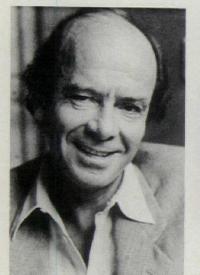




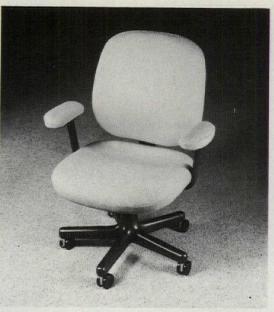




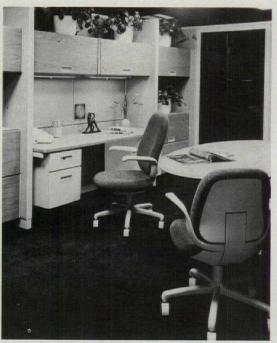
Jeff Layne



Mario Bellini



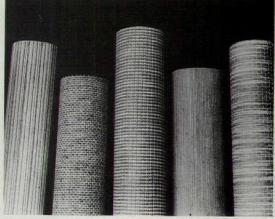
**All-Steel:** The 600 Series ergonomic seating line features three basic models, available in 14 styles, with a choice of two bases. *Circle 100 on reader service card* 



American Seating: The latest BioChair model is one of several introductions, along with a floor-to-ceiling panel extender system. *Circle 101 on reader service card* 



**B&B** America: The Diesis series' three tables have frames of die-cast metal alloy available in satin nickel, black nickel, and gray enamel finishes; leather-covered shelves in three colors; and tops of clear or frosted glass. *Circle 105 on reader service card* 



**Arc-Com:** Novastrand is a collection of water-resistant wallcoverings in 29 colors; all are rated Class A for the ASTM-E 84 test. Designer Jeff Layne will be present for West Week.

Circle 102 on reader service card



Artemide: The Willi series offers indoor/ outdoor seating and tables. Company president Ernesto Gismondi will be present at West Week. *Circle 103 on reader service card* 



Atelier International: The Marcatre system combines flexibility with the solidity of wood. Its designer, Mario Bellini, will attend West Week PDC/Two programs. *Circle 104 on reader service card* 

[Continued on page 64]

### WITHSTANDING THE TEST OF TIME

New Stone Wool by Arc-Com. It's 27 colorways strong; even 100,000 double rubs on a Wyzenbeek produces no noticeable wear. 80% Wool, 20% Nylon.

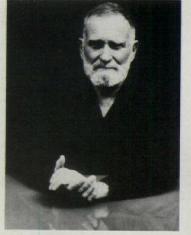


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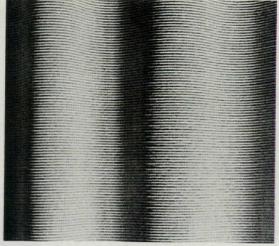
Circle No. 365 on Reader Service Card



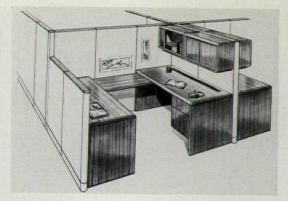


Ward Bennett





**Gretchen Bellinger Inc.:** Pirate velvet rib is a blend of linen and cotton with a 100 percent linen pile, from the Cross-Clime<sup>®</sup> collection. *Circle 106 on reader service card* 



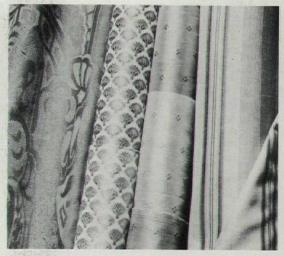
**Harbor-Benedetti:** Ambiente is a flexible, easily installed office system that can be used with existing furniture. Designers David C. Hammer and O.J. Holohan will be present. *Circle 107 on reader service card* 



**Beylerian:** The Double Face Bookcase, designed by Cini Boeri, rotates 360 degrees, and is available with either an open front or vertical sliding glass doors, in lacquer or walnut finishes. *Circle 108 on reader service card* 



**Brickel Associates:** Pentimento Cloth, a wool/nylon twill, combines extreme durability with a rich subtlety of color. Its designer, Ward Bennett, will appear at West Week. *Circle 110 on reader service card* 



**Brunschwig & Fils:** Four woven fabrics from a broad range of new introductions are, l. to r.: Sorel damask; Spoleto lampas; Chantelle silk taffeta; and Adrienne stripe. *Circle 111 on reader service card* 

[Continued on page 66]

**Boyd Lighting:** The classic stick lamp is now available with an energy-saving fluorescent light source. A polished brass reflector creates a warmer light; top slit vents heat. *Circle 109 on reader service card* 



in day

International Contract Furnishings Inc. 305 East 63rd Street New York, N.Y. 10021 Telephone: (212)/750-0900 Telex: 236073 ICF UR

Circle No. 371 on Reader Service Card

The Pension Chair Design: Alvar Aalto, 1946

The Pension chair is a later refinement of the bent cantilevered leg Aalto originally designed in the late 1920's.

(((((





Verner Panton



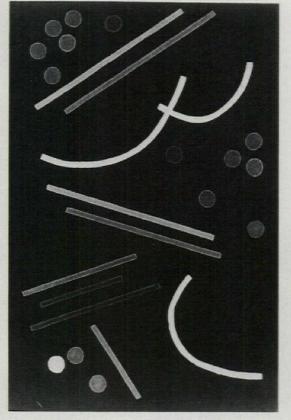
Charles Pelly



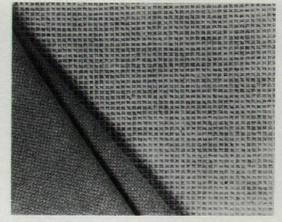
Progressive Architecture 2:82



Cado: The Format stacking chair, with or without arms, is ergonomically designed. Verner Panton will be present at West Week. Circle 112 on reader service card



Decorative Carpets: Gallimaufry, designed by Daiva Bergman, is a custom area rug that is handtufted of 100 percent wool, of cut pile with loop pile accenting the design. Circle 116 on reader service card



Carnegie: Shown here are two fabrics from a new collection of natural wool textures designed for contract upholstery and wall covering. Circle 113 on reader service card



Castelli: An example from the new DF series of executive and conference chairs, designed by Robert DeFuccio, is shown here with a table from the Summit series. Circle 114 on reader service card



Pacific-Condi: The Pelly Chair system uses an asynchronous, single-lever, three-way con-trol. Designer Charles Pelly and interior designer John L. Wolcott, Jr., will appear at West Week. Circle 115 on reader service card [Continued on page 68]

66

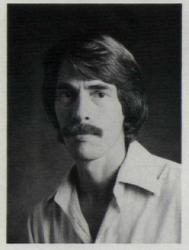
## GF/Giroflex Polytrop Series

- The Polytrop Dual-Shell amplifies comfort and design in high performance, task-oriented seating.
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Bill Brackney



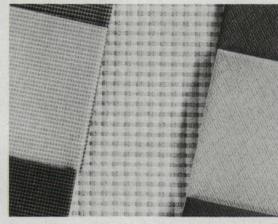
Hazel Siegel



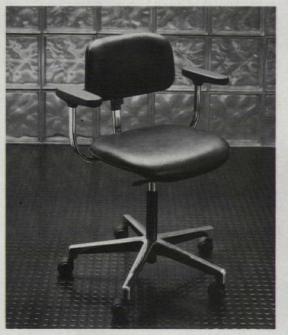
Frank C. Ellsworth



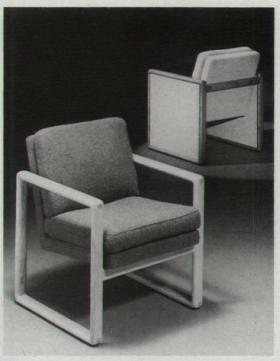
Forms & Surfaces: The CS200 series now includes fire-retardant wood ceiling grilles to integrate lighting, air distribution, and sprinklers, in a variety of woods and laminates. Designer Bill Brackney will participate in West Week programs. *Circle 117 on reader service card* 



**Design-Tex:** Micro-Pyro, Pyro Quartz, and Pyro Peak meet stringent flame tests. Designer Hazel Siegel will attend West Week. *Circle 118 on reader service card* 



**GF Business Equipment, Inc.:** The Monty series task chair is part of the Giroflex line of ergonomically designed seating. *Circle 120 on reader service card* 

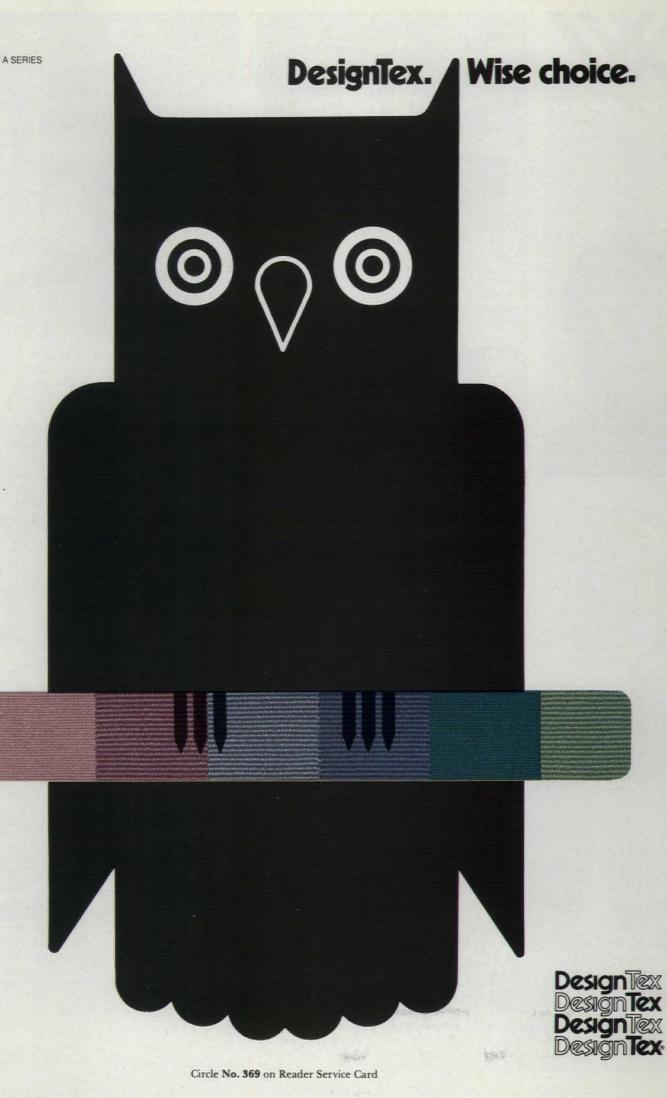


**Executive Office Concepts:** 260 series seating can be used singly or ganged, with paneled arms. Frank C. Ellsworth, director, design/development, will be at West Week. *Circle 119 on reader service card* 



**Gunlocke:** The Gunlocke Panel System (GPS) combines easy assembly, clean design, and flexibility. Designer Jonathan Ginat will be present throughout West Week. *Circle 121 on reader service card* [Continued on page 70]





Progressive Architecture 2:82 69

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Haller Systems: This modular office system is designed to be "age-proof" for rapidly evolving office technologies. Designer Fritz Haller will be present at West Week. *Circle 122 on reader service card* 



**Haworth:** The Unitek<sup>®</sup> electronic support furniture system will be featured along with The Tri-Mode<sup>®</sup> paper management system. *Circle 124 on reader service card* 



**Harter:** The Harter/Stoll collection of ergonomic seating, designed in Europe by Martin Stoll, comprises 20 models in three series, including one of all-beechwood chairs. *Circle 123 on reader service card* 

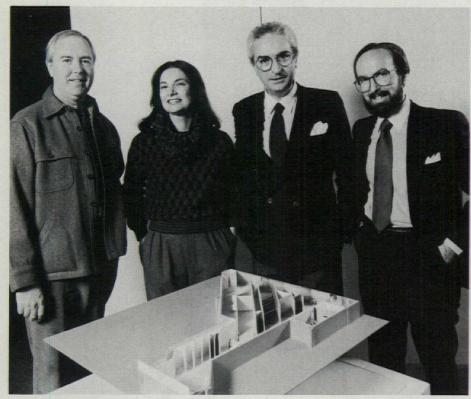


**S.M. Hexter Company:** Assam, a paisley screen print on 100 percent cotton, is part of the Cachemire Collection of fabrics that were inspired by Persian and Indian designs. *Circle 125 on reader service card* 

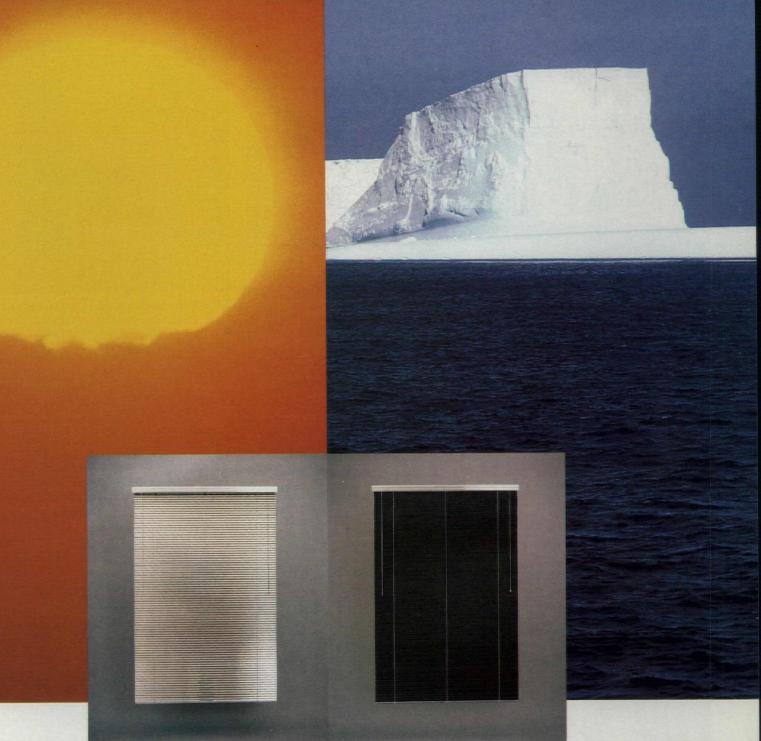


JG Furniture Systems: The IOP/2 Illuminated Open Plan System integrates task/ ambient lighting into a panel/component range expanded to meet executive workstation needs. *Circle 126 on reader service card* 

[Continued on page 72]



**E.F. Hauserman:** Shown with the model of the new Hauserman showroom at the Pacific Design Center are, l. to r.: Artist Dan Flavin; designers Lella and Massimo Vignelli; Hauserman vice president Chuck Saylor. Flavin and the Vignellis will attend West Week PDC/Two programs.



### Cryotherm Treated blinds by Levolor reduce solar heat gain by 55% (12% more effective than conventional blinds).

These blinds are more than just beautiful. Their sleek surface promotes direct reflection of the entire solar energy spectrum—includ-

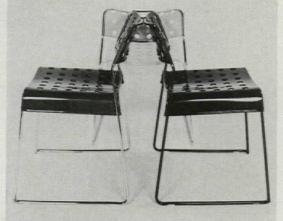
ing infrared heat. Exactly how effective is this new treatment in reducing heat gain? We asked the Stevens Institute of Technology to find out. Their findings are in the accompanying chart. But reducing heat gain is only one side of the story. These blinds reverse to a dark, heat absorbing color on the other side, reducing energy costs in winter, too. Detailed information about the use of these blinds in both summer and winter environments is available. Please write: Levolor Lorentzen, Inc., 1280 Wall Street West, Lyndhurst, New Jersey, 07071.

Heat loads and energy savings			Chart represents data for a typical summer day
Finish of blind	Total heat loads (Btu/hr.)	% Savings	(August 21) for sou facing windows on building located at
No blind (clear glass)	16,086	Base	40° N latitude. Temperatures are 95° F outside and
White finish blind in closed position (clear glass)	8,176*	49%	- 75º F inside at 12 noon. *The 894 Btu
Cryotherm Treated <sup>†</sup> blind in closed position (clear glass)	7,282*	55%	difference represer a 12% savings. tNo. 89 Brite.

Cryotherm Treated' blind in closed position (clear glass) 7,282 \* 55% and a 12% sa tNo. 89 CRYOTHERM™TREATED LEVOLOR® BLINDS.

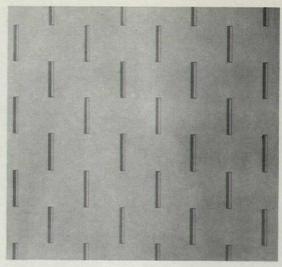
ay 1) for southdows on a cated at ide. irres are ide and le at tu represents ings. rite.





**ICF:** The OMK indoor/outdoor stacking chair has optional snap-on seat pad, ganging clips, and a dolly for stacking. Its designer, Rodney Kinsman, will be present at West Week.

Circle 127 on reader service card



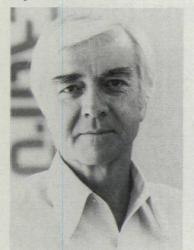
**Kirk-Brummel:** Cinque Centrics, designed by Lee Wright, is available as fabric or wallcovering, in both in-stock and custom colors. *Circle 131 on reader service card* 



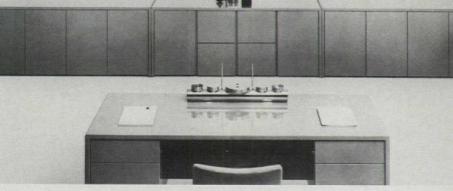
Rodney Kinsman



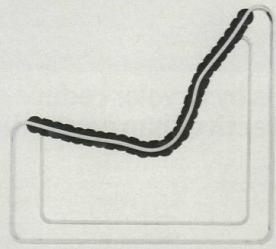
Leif Blodee



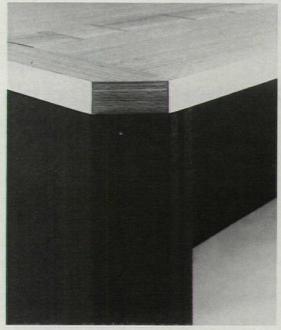
John Follis



**Intrex Inc.:** The Katonah series of cabinets with file drawers and doors has no visible hardware: contour ends permit finger pull; and touch latches open doors. There are 13 glossy lacquer colors, four woods, and four burls available as finishes. *Circle 128 on reader service card* 



**Kimball Office Furniture:** The XO collection chair has a frame of mirror-polished stainless steel bridged with fitted links of solid walnut that look like x's and o's in profile. Designer Leif Blodee will attend West Week. *Circle 129 on reader service card* 



**Kasparians:** The Upholstered Desk, in leather or COM fabric, will be featured along with the S Chair (not shown). Designers John Follis and Leonard Scott will be at West Week.

Circle 130 on reader service card [Continued on page 74]

### The Bentwood Collection





Stendig selects the best of bentwood for the perception of our time. These models are made at the original factory located at the edge of a vast Beechwood forest in Koritschan, Moravia (now Czechoslovakia). This factory was built in 1856 by Michael Thonet, on a site that was chosen for its proximity to the finest material available for the bentwood process. These Beechwood trees are still cultivated to produce a tougher, more durable wood with longer, straight grained fibers that withstand the stresses of bending. Original water and steam method of manufacture is still employed. Stendig Bentwood chairs are *hand-made* and *hand-caned* by craftsmen who continue in a heritage of pride in workmanship.

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William Stephens





**Koch & Lowy:** The Avanti pharmacy lamp's rounded front offers broader illumination and has a full-range dimmer switch. *Circle 134 on reader service card* 



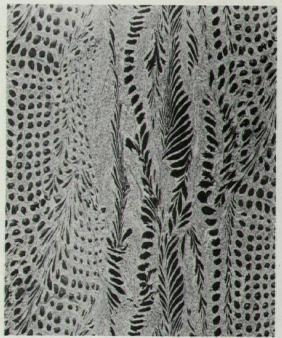
**Krueger:** The latest models in the Vertebra seating series offer self-skinning urethane foam auxiliary armrests and bases. *Circle 135 on reader service card* 



**Knoll:** A new family of office seating, designed by William Stephens, includes task, operational, management, and executive chairs. Stephens will attend West Week. *Circle 133 on reader service card* 



Jack Lenor Larsen: The Larsen Loom Chair revives the 19th-Century art of fibercord weaving stretched over a bentwood frame. *Circle 136 on reader service card* 



Lee Jofa: Medea is one of the Marbles collection of marbled cotton fabrics designed by Ellen Smith Ashley. *Circle 137 on reader service card* [Continued on page 76]

**Kittinger:** A tall case clock (grandfather clock) is a faithful reproduction of a 1765 piece that can be seen in Williamsburg, Va. *Circle 132 on reader service card* 

### Westminster

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Westminster Auditorium Seating Designed by Dickinson/Smith Kimbell Art Museum Fort Worth, Texas Architect: Louis I. Kahn Brochure available on request

JG Furniture Systems A Division of Burlington Industries Quakertown, Pennsylvania 18951 215 536 7343

Circle No. 332





**Herman Miller:** The Vitra series of "work chairs," designed in Germany, operate on a coactive synchro-tilt mechanism to provide the proper support for every type of office activity. Designers Bruce Burdick and Don Chadwick will attend West Week PDC/Two programs. *Circle 141 on reader service card* 



Metropolitan Furniture Corporation: The 588 Mendocino Group, designed by Brian Kane, offers small-scale modular seating. *Circle 140 on reader service card* 

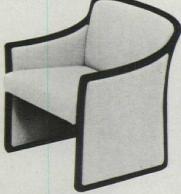


**Harvey Probber:** The Task Chair features a flexible back achieved with a concealed spring mechanism buried within the chair. *Circle 143 on reader service card* 



**Poggenpohl USA:** The MS kitchen, with both glass and black-oak slatted, paneled doors, is shown with coordinated aluminum door and drawer pulls, valances, cornices, and toe kicks. The island for stove-top cooking has storage cabinets on three sides for convenience. *Circle 142 on reader service card* [Continued on page 78]





**Modern Mode:** The Cherner Group of delicately scaled executive chairs with upholstered wood frames, designed by Norman Cherner. *Circle 139 on reader service card* 

### Introducing 600 Series Systems Seating from All-Steel

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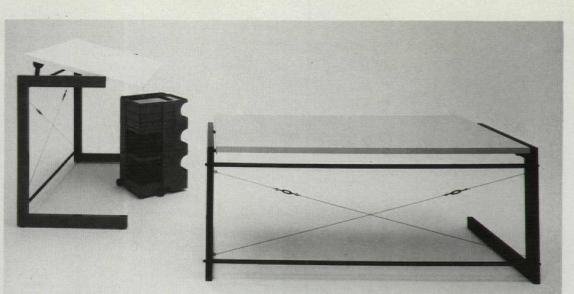


Design: Peter Protzman

All-Steel Inc., Aurora, Illinois 60507 Phone: 312/859-2600

Circle No. 364 on Reader Service Card





**Ron Rezek/Lighting:** The Ron Rezek Table Group includes a desk, table, and drafting table whose plastic-coated steel legs are held rigid by tension cables and compression rods. *Circle 144 on reader service card* 



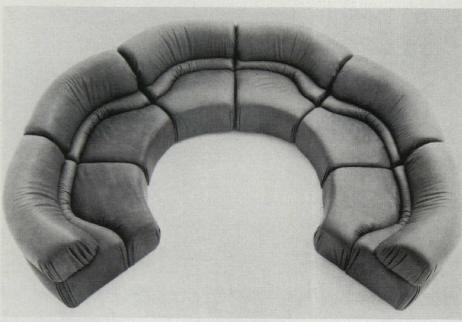
**Stark Carpet Corp.:** An antique Tibetan Dhurrie rug whose varied colors create optical illusions. *Circle 145 on reader service card* 



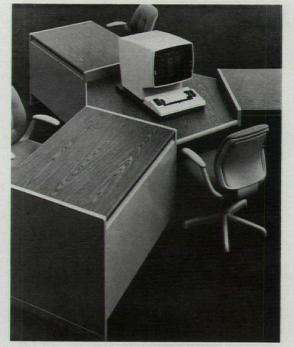
**Ben Rose:** Han and Yuan prints from the Chinese Collection, with Acoustiflex<sup>(TS)</sup> wallcovering (center), and Deep End and Aurora Wools. *Circle 146 on reader service card* 



**Shelby Williams Industries Inc.:** No. 2725 solid oak stacking chairs have foam-padded spring seats and protective stacking bumpers. *Circle 147 on reader service card* 



**Stendig:** The Cosmos modular seating series consists of four elements, all fully upholstered, that can be used either grouped or as individual units. A variety of Stendig upholstery leathers and fabrics is available, as well as customer's own material. *Circle 200 on reader service card* 



**Steelcase:** The Ultronic 9000 "cluster" workstation gives three people access to a central VDT that revolves 355 degrees. *Circle 148 on reader service card* 

[Continued on page 80]

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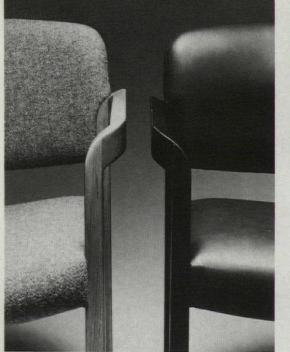


Warren H. Snodgrass



Douglas Ball

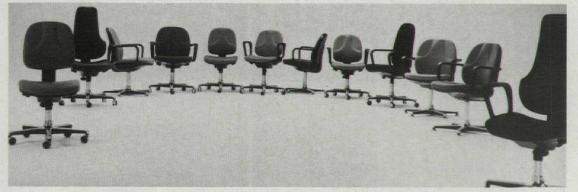




**Stow/Davis:** The Continuum chair has radiused wood arms. Its designer, Warren H. Snodgrass, and Roger H. Olson will represent Stow/Davis at West Week programs. *Circle 201 on reader service card* 



**Tropitone:** The Escadrille lounge chair requires minimal maintenance because of its Tenecote<sup>®</sup> baked-on plastic finish. Chair seats and backs have sewn-in polyester cushions. *Circle 203 on reader service card* 



**Sunar:** An expanded Drabert seating collection will be featured along with Niels Diffrient's Helena Chair and some exciting new developments in the Sunar Textile Collection. Douglas Ball and Michael Graves will participate in various PDC/Two programs at West Week. *Circle 202 on reader service card* 



**Woodard:** The Oceanside aluminum furniture group is designed for indoor and outdoor use, in 15 different vinyl strap colors and four frame colors. *Circle 204 on reader service card* 



Westinghouse ASD: The Westinghouse Open Office System is designed for rapid change. Meet designer William C. Anderson at West Week. *Circle 205 on reader service card* 

Michael Graves



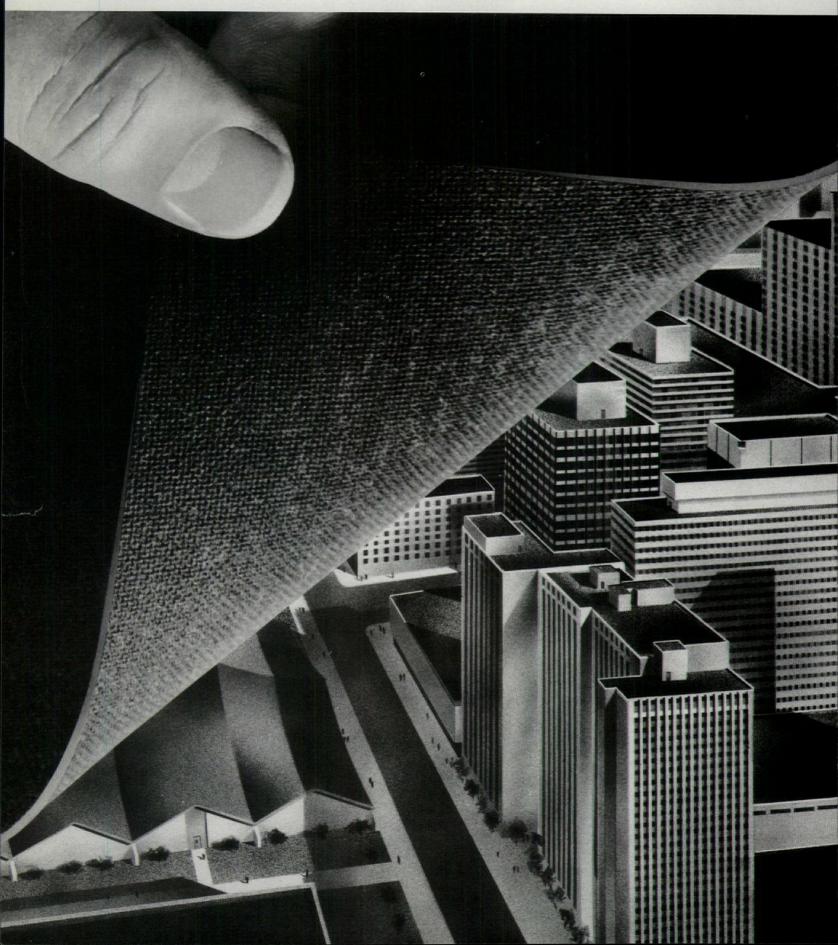
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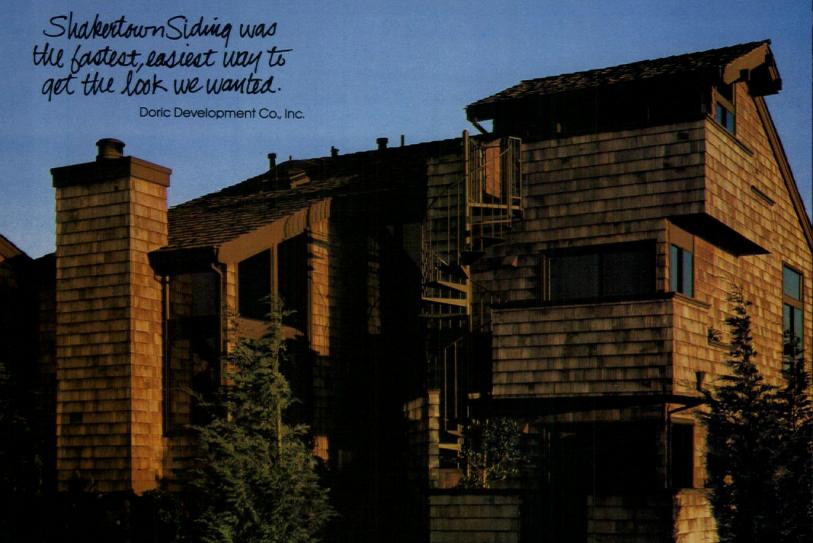
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Progressive Architecture 2:82



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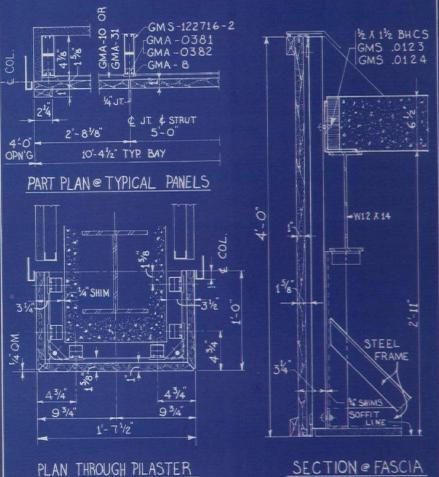
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# The International Style at fifty

This month marks the 50th anniversary of the Museum of Modern Art's show that introduced Modern architecture to the American public. The following pages are a tribute to that show, and to the International Style Modernism that it fostered.



The installation of the International Exhibition of Modern Architecture at the Museum of Modern Art in New York, February 1932.

> The exhibition called the International Exhibition of Modern Architecture, which is usually known simply as the International Style show, opened 50 years ago this month at the Museum of Modern Art, and in one version or another traveled throughout the country for over seven years after it closed in New York. The show has traditionally been considered an important, if not crucial event in the development of Modern American architecture but, as seen from the vantage point of 50 years, that generally held belief might now be questioned.

> On the following pages, three guest contributors take a look at the show. First, Helen Searing examines the events and activities of the protagonists that led up to the show, and explains the differences between what eventually came to be known as International Style Modernism in Europe and in the U.S. Next, Richard Guy Wilson traces the entire history of the show from inception to its mounting at the Museum, and discusses what was included—and omitted—and why. Finally, Robert A.M. Stern looks at the immediate impact of the exhibition and offers what may be to some, some startling observations.

Ours, however, is not the only tribute in this 50th year of the International Style. Professor David Handlin has organized a twoday seminar on the subject at Harvard's Graduate School of Design for mid-April, which will be accompanied by an exhibition at Gund Hall. The two days will be preceded by the annual Walter Gropius lecture, to be delivered this year by Robert Venturi. After that, six papers will be delivered and discussed by an invited group of moderators and panelists, and last words on the subject will be given by Henry-Russell Hitchcock, Philip Johnson, and Lewis Mumford. The proceedings should remind those old enough to remember, and those perhaps too young to have known, of Harvard's close connection to the International Style during its formative period in America, which Helen Searing makes so clear on the following pages. Complete details of "International Style in Perspective" will be announced in our March issue. [David Morton]

2 Progressive Architecture 2:82

### International Style: the crimson connection

#### **Helen Searing**

In the early years of the formation of the International Style, the emphasis in America was concentrated on problems of aesthetics rather than on social or functional concerns as was the case in Europe.

Helen Searing is Professor of Art at Smith College in Northampton, Ma.

1982 marks the 50th anniversary of an exhibition and two publications that introduced Modern architecture to the American public. Organized by Henry-Russell Hitchcock and Philip Johnson at the behest of Alfred Barr, the International Exhibition of Modern Architecture, comprising "ten models and 75 photographs, as well as plans and explanatory wall-placards of recent and projected buildings designed in the so-called International Style,"1 opened on February 9 at the Museum of Modern Art (MoMA) in New York, then traveled for 20 months to eleven cities. A more portable exhibition, in which enlarged photographs were substituted for the models. embarked later in 1932 on a six-year tour.<sup>2</sup> The International Exhibition was accompanied by a catalog, called variously Modern Architects and Modern Architecture,3 and by a slim book, The International Style: Architecture Since 1922 (New York: W.W. Norton & Co., 1932), that was reprinted in paperback in 1966 and has been selling well ever since.

It would be simplistic to claim for a single person or institution responsibility for America's subsequent love affair with the brand of Modern architecture proffered at the MoMA show. Nevertheless, as Richard Guy Wilson shows in the following article, one can fruitfully explore the contributions made by a few key individuals to that ultimately widespread phenomenon. Moreover, one might plausibly argue that Harvard University played an important role at the time in shaping the way Modern architecture was perceived in this country. As an introduction to Wilson's discussion, therefore, it may be worthwhile to examine the crimson-although scarcely red-background of it all.

Hitchcock (b. 1903), and Johnson (b. 1906) were graduates of Harvard College, and Barr (1902-1981) and Hitchcock went on immediately to do graduate work in the University's Fine Arts Department. A fourth protagonist, whose premature death cut short his involvement, was Peter van der Meulen Smith (1902-1928), a graduate of Harvard's architecture school who was described by the prominent Dutch architect, J.J.P. Oud, as: "One of the first American champions of what has been called 'International Architecture,' that 'pure' architecture which has so little to do with the earlier phase of Modern architecture in America represented by Wright and his school."4 (1, 2) Finally, there was the "little magazine," Hound and Horn, a "Harvard Miscellany" founded in 1927, that

disseminated Modernist attitudes towards all the arts, not excepting architecture.

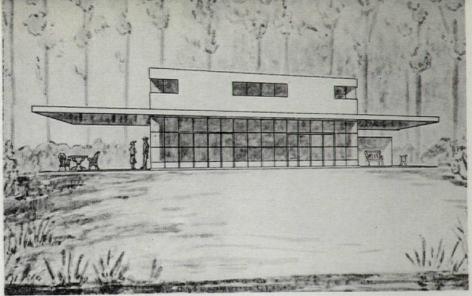
A hallmark of the Harvard approach to Modern architecture was the emphasis on aesthetics. This accounts for the sobriquet coined by Hitchcock for the Modern movement-the Interational Style-and for the strictures against Functionalism laid down in Chapter III of the book of the same name. In a letter of 1930 to Oud (who received a commission to design a house for the Johnson family) (3), Johnson, describing the plan to write the still-untitled book for the purpose of "making propaganda in America for Modern architecture," proclaimed: "We shall not approach the theme from the historical side but in terms of problems of style. Naturally the critical analysis will be purely aesthetic, to the great disappointment of our German 'sachlich' friends, who think of nothing but sociology."5 This comment was prefaced by the remark that "naturally Hitchcock [whom Oud knew as the first American to publicize his work]6 will write the greatest part of the text."

From the beginning of his career as critichistorian, Hitchcock's interests revolved primarily around questions of form. In 1927, in his first published piece, he assailed what he called the "surrealist" theory that: "there can be no such thing . . . as an aesthetically conscious-contemporary architect . . . that the virtues of contemporary architecture [lie] solely in the perfection of its technics . . . "7 A year later he prophesied that this theory would be countered most successfully in the United States because "in America, the aesthetic conscience, more 'pure' than that of Europe, is far less likely to forget architecture-the-art for architecture as a part of sociology."8 This statement appeared in an article defending American architectural potential against the gibes of the Dane, Knud Lønberg-Holm, who held the common European opinion that American technology was splendid and American architecture ludicrous, and that in any case one should be concerned purely with problems of building.9

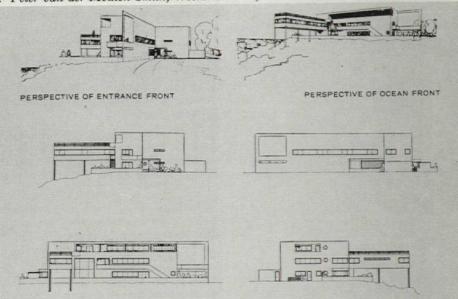
The Harvard preoccupation with formal issues bespeaks a sympathy for a French as opposed to Germanic conception of the significance of the new architecture. Most of the Germans, together with their Swiss, Dutch, Russian, and Eastern European colleagues, stressed the sociological and technological determinants of the new method of design, as is revealed by their names for it-das Neue Neues Bauen, Internationale Sachlichkeit, Architektur-all terms, as we shall see, synonymous with Functionalism and laden with ideological nuances. In France, on the other hand, the abstract, geometrically derived visual codes of the new architecture were associated with an "esprit nouveau," a "pure system of structure . . . that incites the wholly intellectual expression of a pure system of architectural aesthetic" (Le Corbusier in 1927 as quoted by Hitchcock).10 The different national names for CIAM, the organization that tended the lamp of Modern architecture on the Continent, also bear evidence of alternative comprehensions-in French (and English), the acronym is rendered as the International Congress d'Architecture Moderne, in German (and Dutch) as the International Congress für Neues Bauen (voor Nieuw Bouwen). From its founding in 1928 until the mid-1930s CIAM, which before World War II had no American members, was dominated by proponents of das Neue Sachlichkeit, who were concerned chiefly with such technical and socio-economic problems as the Existenzminimum dwelling.

Harvard's initiation into the religion of the new architecture came via Le Corbusier's Vers une Architecture, which according to Hitchcock was read in Cambridge circles almost immediately after its publication in 1923, four years before its translation into English. Hitchcock's close friend Peter Smith, working in Paris for André Lurçat, frequented Le Corbusier's atelier and no doubt made certain that Hitchcock would atone for his omission of 1925, when he completely overlooked the Pavillon de l'Esprit Nouveau at the Exposition des Arts Décoratifs.11 It was in reference to Smith, in the article "Four Harvard Architects" that was published in Hound and Horn in September 1928, that Hitchcock made the fateful fusion of "international" and "style"; Smith was, he wrote: "the first to bring this [new] manner of building to our shores-or rather the first to develop an American version of what is definitely not a French, nor a Dutch, nor a German, nor a Russian but an international style."

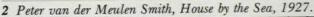
Until this essay, Hitchcock had resorted to the phrases "the new manner" and "the new architecture" when referring to the productions of the Modernists, but by 1929 "international style" was firmly implanted in his verbal repertory, linked with an expression that he also invented but would soon discard—the New Pioneers: "It is enough to call the architecture of the New Pioneers the international style of Le Corbusier, Oud, and Gropius, of Lurçat, Rietveld and Mies van der Rohe,

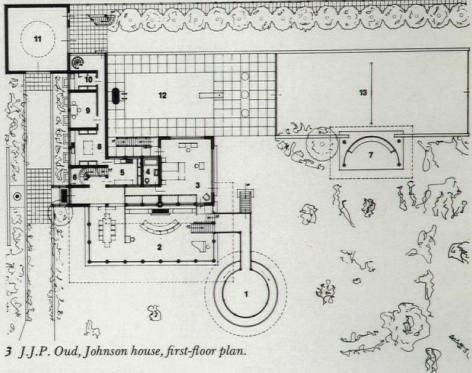


1 Peter van der Meulen Smith, Weekend house, 1927.









 Legend
 7 Garden house

 1 Sun room
 8 Kitchen

 2 Living room
 9 Servants' room

 3 Bedroom
 10 Stores

 4 Bath
 11 Garage

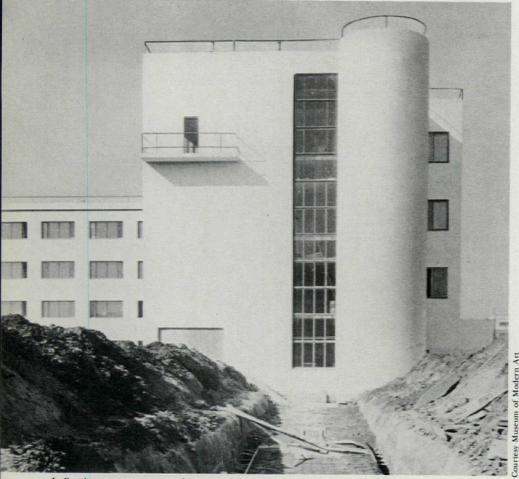
 5 Pantry
 12 Swimming pool

 6 Coats
 13 Tennis court

which is enrolling more and more younger architects in Europe and many as well in America about to begin their building careers."<sup>12</sup> Subsequently the term was capitalized, whether first by Barr or Johnson is uncertain, and it has since passed into the lexicon of the English-speaking world to identify that strain of anti-historicist abstraction in 20th-Century architecture which to many of its founders had been anything but a stylistic manifestation.

Yet the joining of "international" with "style," whether fortuitous or a knowing ploy, would be crucial in effecting American acceptance of European Modernism. At the time, "international" immediately conjured up the organizations of the same name (the first two Internationals were socialist, the third, the Comintern of 1919, bolshevik) and the anti-nationalist, anti-imperialist stance of leftists throughout the world. Such content was implicit, for example, in the title of the first Bauhausbuch, Internationale Architektur (Munich, 1925; second enlarged edition, 1927) by Walter Gropius. Coupling style with international, however, removed from the latter its Marxist implications and made the Modern movement no more threatening politically than the Renaissance or the Gothic. One could also read in the term the art historical notion that like all styles it would eventually run its course; one need not be eternally in thrall to an ineluctable Zeitgeist.

The other terms current on the Continent similarly would have elicited American aversion on ideological grounds. *Das Neue Sachlichkeit*, translated as "the New Objectivity" to suggest an impersonal and unsentimental



4 Soviet government architects, Electro-Physical Laboratory, 1927.

approach to design,13 more prosaically has the meaning "businesslike" and "efficient" and therefore "functional." Also conveying the notion of tough-minded functionalism is the phrase Neues Bauen. Here the concern is exclusively with materials, economics, and program, and Building is exalted over Art. J.B. van Loghem, a Dutch Marxist who went to Russia in the late 1920s, explained that "Neue Sachlichkeit" and "Neues Bauen" were better terms for describing contemporary buildings than "moderne Kunst," the latter being everywhere associated with refined and decadent (read bourgeois) fashion. "The Neue Sachlichkeit is chiefly directed toward collective thinking," he wrote, "and is based on the renewal of social, economic, and technical life."14 The identification of Functionalist rhetoric with Communist dogma was no paranoid fantasy and helps to explain Barr's idea of dubbing the International Style "Post-Functionalism" ("Preface," The International Style).

This emphasis on aesthetics has led to the charge that the Americans robbed Modern architecture of its raison d'etre. Thus Colin Rowe has written: "When in the Nineteen-Thirties European modern architecture came to infiltrate the United States it was introduced simply as a new approach to building, largely purged of its ideological or societal content, and it became available as a décor de la vie for Greenwich . . . or a suitable veneer for the corporate activities of an 'enlightened' capitalism."15 And Johnson has acknowledged that: "the more socially conscious critics of the Modern Movement . . . found it a term too artistic, too restrictive, too prescriptive . . . But if 'style' is to refer quite simply to architectural forms that look amazingly alike during a certain period, then the International Style is a style."16

Yet for all the clamor about artistic values, many of the buildings chosen as representative of the International Style were quite insipid, perhaps to be the more easily reproducible. Comparison with a book that appeared in the same year with a similar aesthetic bias, despite its title-Alberto Sartoris's Gli elementi dell'architettura funzionale-makes this point clear. Sartoris supplies 625 illustrations from 25 countries, compared with the 235 illustrations from 16 nations served up in The International Style, and his book is crammed with fascinating Russian and Italian examples. It is true that Hitchcock's laudable goal of visiting with Johnson all the works presented may have restricted their choices and may partially account for the fact that there is only one work each from Japan and Italy (p. 102, No. 31) and nothing from Russia, but the unexceptional Electro-Physical Laboratory (4) outside Moscow. But even the more aesthetically daring buildings included are shown in the blandest manner possible. For example, the photo selected to illustrate the van Nelle Factory (5) shows it in an uncharacteristic view from the rear that emphasizes boxy forms and repetitive detailing. A frontal view, in contrast (6), showing the interpenetrating volumes of the administration wing

curving dramatically to meet the regular but spectacularly glazed spaces of the factory, makes manifest the complexities of the building, as well as its designers' debt to movements virtually ignored in the book—Constructivism, Futurism, Expressionism. The dynamic lyricism of the van Nelle factory as it really is shows little kinship with the dutifully pure prisms illustrated throughout most of the book.

Since then, of course, Hitchock in his writings has rectified such an exclusivist view of Modern architecture, just as Johnson in his lectures and many of his buildings has disowned the principles espoused in 1932. Occurring at a time of widespread disenchantment with Modern architecture, the 50th anniversary of the MoMA exhibition, *et al.*, could be the occasion for rueful recriminations. More constructively, it can provide the opportunity for a reasoned re-examination of the time when that architecture arrived here, radiant with promise. Appropriately, Professor David Handlin of the Graduate School of Design at Harvard has undertaken such a review, which will culminate in an exhibition and symposium to be held in Cambridge in April, maintaining the crimson connection.



5 Brinkman, van der Vlugt, van Nelle Factory, 1926-30.
6 Brinkman, van der Vlugt, van Nelle Factory, 1926-30.



#### Footnotes

<sup>1</sup> Bulletin of the Museum of Modern Art, Vol. I, No. 7 (March 1, 1934), p.

<sup>2</sup> Bulletin, Vol. VIII, No. 1

(November 1940), p. 10.

<sup>3</sup> The copies called *Modern Architecture* have only the imprimatur of MoMA on the title page; 5000 copies were printed by the Plandome Press of New York. The virtually identical *Modern Architects* was published by W.W. Norton & Co. on February 18; according to the publicity department, 400 copies were sold before it went out of print in 1934. There was a Da Capo reprint in 1973. <sup>4</sup> J.J.P. Oud, "In Memory of Peter

<sup>4</sup> J.J.P. Oud, "In Memory of Peter van der Meulen Smith," *i 10*, February 1929, p. 122.

<sup>5</sup> The letter is published in Dutch in *Americana* (catalog of the exhibition held in 1975 at the Kröller-Müller Museum, Otterlo), p. 102. Presumably it was originally written in English; the translation from the Dutch is mine.

<sup>6</sup> Henry-Russell Hitchcock, "The Architecture of J.J.P. Oud," *The Arts,* February 1928; and *J.J.P. Oud,* Paris: Cahiers d'Art, 1931.

<sup>7</sup> Hitchcock, "The Decline of Architecture," *Hound and Horn*, Vol. I, No. 1 (September 1927), p. 47.

<sup>8</sup> Hitchcock, "America-Europe," *i 10*, April 1929, p. 150.

<sup>9</sup> Knud Lønberg-Holm, "Reflections on America," *i* 10, October, 1928; and Lønberg-Holm to Oud, 1924, in Americana, p. 99.

<sup>10</sup> Hitchcock, Modern Architecture: Romanticism and Re-integration, New York: Payson and Clarke, 1929, p. 163.

<sup>11</sup> Hitchcock, "Modern Architecture—A Memoir," *Journal of the Society of Architectural Historians*, Vol. XXVII, No. 4 (December 1968), p. 229.

<sup>12</sup> Hitchcock, *Modern Architecture*, p. 162.

<sup>13</sup> Fritz Schmalenbach, "The Term *Neue Sachlichkeit," Art Bulletin*, September 1940.

<sup>14</sup> J.B. van Loghem, Bouwen-Bauen-Batir-Building, Amsterdam: Kosmos, 1932, pp. 8-9.

<sup>15</sup> Colin Rowe, "Introduction," *Five Architects*, New York: Oxford University Press, 1975, p. 4.

<sup>16</sup> Philip Johnson, "Afterword," *Philip Johnson/Writings*, New York: Oxford University Press, 1979, p. 268.

### International Style: the MoMA exhibition



1 Gropius, Bauhaus.





3 Mies van der Rohe, Barcelona Pavilion.



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#### **Richard Guy Wilson**

A complete history of the International Style exhibition, called 'International Exhibition of Modern Architecture,' which opened at the Museum of Modern Art in New York 50 years ago, is traced on the following pages. The author discusses the show from many points of view to give a complete picture of its organization, its inclusions and omissions, and its ultimate impact.

When the International Style exhibition opened at the Museum of Modern Art in New York, Alfred Barr, the museum's director, announced: "The present exhibition is an assertion that the confusion of the past 40 years, or rather of the past century, may shortly come to an end."1 As important as the London 1851 or the Chicago 1893 exhibitions, the Museum of Modern Art exhibit named and legitimatized a brand of Modernism that came to dominate American and international developments. The exhibit was accompanied by two publications: a catalog, "Modern Architecture," and a book, The International Style: Architecture Since 1922. Written by the show's organizers Henry-Russell Hitchcock, Jr., and Philip Johnson, with a preface by Barr, The International Style, while appearing scholarly, was polemical and set the standard against which all other types of Modernism-Functional, Decorative, Neo-Traditional, Stripped Classical, Streamlined, Wrightian, and Expressionist-would be measured and found wanting. The exhibit and the books argued the 20th-Century style was that of the European radical extreme, the seemingly ahistorical and machine-oriented Bauhaus by Walter Gropius of 1926 (1), the Hook of Holland housing of 1926 by J.J.P. Oud (p. 93), the Villa Savoye of 1930 by Le Corbusier (2), and the Barcelona Pavilion of 1929 by Mies van der Rohe (3).

To understand the importance and ultimate influence of the International Style exhibit, the context of the period

Photos 1, 2, 3, 14, 17, 18, 21, 26, 27, 29, 30: courtesy of Museum of Modern Art

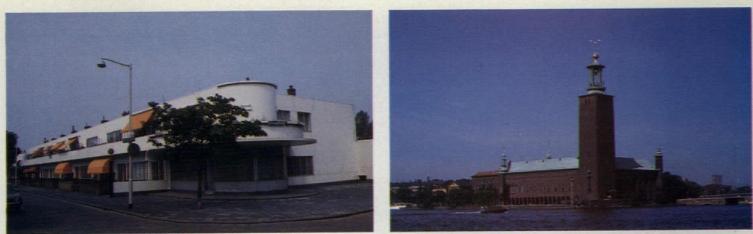


5 Cret, Folger Shakespeare Library.

and the content of the show and the books need to be examined. The social context of the exhibit was the Great Depression. Unemployment, mortgage foreclosures, bank closings, bread lines, and the Dust Bowl were the concerns of the day. By 1932, architects felt the decline in business investment; the professional journals explained how to economize in the office, how to attract clients, and what to do when out of work: soap carving and strolling about town were suggestions.

In 1932 there also occurred another important opening: the public viewing of the first buildings of Colonial Williamsburg (4). Somewhere between the two openings in Virginia and New York, most American architecture existed. The profession was largely dominated by men trained at the Ecole des Beaux Arts or at an American derivative. What they admired can be seen in the AIA Gold Medal award. In 1929, Milton B. Medary, a Philadelphia eclectic who designed in the Arts and Crafts, Gothic, American Renaissance, and Art Deco modes received the medal. In 1932 (presentation in 1933), the Gold Medal went to Ragnar Østberg for his widely acclaimed-and eclectic-Stockholm City Hall of 1912-1923 (p. 93). The next Gold Medal went in 1938 to Paul Cret in recognition of his role as an American Beaux Arts educator and as the master of the stripped Classical mode, so prominent in governmental buildings, and as seen in his Folger Shakespeare Library of 1932 (5) in Washington, DC.

Another indication of taste is seen in a poll of admired buildings conducted of architectural offices in 1932 by the Federal Architect magazine.2 The results were: 1 Lincoln Memorial (Henry Ba-



Oud, Hook of Holland housing (above); Østberg, Stockholm City Hall (above right); Klint, Grundtvig Church (below).



#### **International Style**

con); 2 Empire State Building (Shreve, Lamb & Harmon); 3 Nebraska State Capitol (Bertram G. Goodhue); 4 Morgan Library (McKim, Mead & White); 5 St. Thomas Church, New York (Cram & Goodhue); 6 Chicago Daily News Building (Holabird & Root); 7 Scottish Rite Temple, Washington, DC (John Russell Pope); 8 Columbia University (McKim, Mead & White); 9 Harkness Memorial Building, Yale (Goodhue and James Gambrel Rodgers); 10 Folger Library (Paul Cret).

The poll reveals a respect for the older turn-of-the-century architects, such as McKim, Bacon, and Pope, who worked within the confines of an academic tradition. Also apparent is admiration for the younger generation who, recognizing the changed circumstances and new requirements, tried to update tradition by stripping away historical ornament and creating large, massive forms. Bertram Goodhue was the hero of this Neo-Traditional-Modern, or Art Deco group, and although he died in 1924, he remained well into the 1930s a figure of reverence. (Goodhue posthumously received the Gold Medal in 1925, the same year as Edwin Lutvens.)

Eliel Saarinen must be counted with the Neo-Traditional-Modernists; his entry in the 1921–1922 Chicago Tribune Competition helped to form the style. Involved ornament, textured materials, picturesque composition, and the stylization and simplification of historical precedent made his Cranbrook



6 Saarinen, Cranbrook Schools.



7 Neutra, Jardinette Apartments.

Schools (6) in Bloomfield, Mi, a much admired design throughout the 1930s. Saarinen carefully separated himself from the radical Modern; evolution, not revolution, was the theme of a talk he gave to the AIA in 1931.<sup>3</sup>

Conspicuously absent from the poll were the older generation of American Modernists, Sullivan and Wright. Louis Sullivan died in 1924, building very little in his last years. Although his work was published extensively, Sullivan's lack of clients came from personal failing and not from conspiracy. In the late 1920s and early 1930s, his reputation underwent a rehabilitation by historians and critics, and instead of a failure, he became a prophet of Modernism.<sup>4</sup>

Frank Lloyd Wright, like Sullivan, was well known to the architects, but his day seemed past; he had no work and no apparent prospects. He was a 65-yearold romantic eccentric pontificating from the hills of Wisconsin or the deserts of Arizona. From 1925 to 1932, only five of his designs were built, of which two were for himself and one for a family member. In retrospect, however, Wright was on the comeback trail; his messy personal life was finally in order, he was in demand as a speaker, and he was writing, most notably the essays "In the Cause of Architecture" for Architectural Record (1929), An Autobiography (1932), and the initial prospectus for the Broadacre City scheme, When the Industrial Revolution Runs Away (1932). In the summer of 1931, he announced the Taliesin Fellowship, and the first class began in the fall of 1932. In 1932, he received the Wiley house commission at Minneapolis.

Wright was well known to the Europeans; Oud, Mies, and Gropius all acknowledged their debt to him, and actually Mies and Gropius appeared as sponsors on the initial announcement of the Taliesin Fellowship. While Wright used their names, he believed they departed too far from his principles, and in early 1932, before the Museum of Modern Art exhibit opened, he attacked the "ready-made culture" of the "internationalists" as "only the modern improvement on the old eclectic." George Howe, stung by Wright's gibes, responded: "Mr. Frank Lloyd Wright, abandoning the part of Moses, is suddenly turned Pharaoh. . . . Why should he who has led us out of bondage turn and destroy his children?"5

By 1932, there was also present a generally younger group who found their lead in the more radical European architecture that would be proclaimed "The International Style." The spokesman for this group was George Howe, older and Beaux-Arts trained, who experienced his "crise à quarante ans" a few years earlier and had thrown over a conventional Philadelphia practice to search for a Modern American architec-

ture.6 Howe lent his financial support and prestige to the T-Square Journal (later Shelter), which strenuously upheld the idea of a new architecture. Included in this group were those Americans who had been trained either at the Bauhaus or in European offices: Alfred Kastner, Norman Rice, and Hamilton Beatty. The men who actually provided the ideas and images of the new architecture were the foreign émigrés Albert Frey, William Lescaze, Richard Neutra, Frederick Kiesler, Oscar Stonorov, and at some remove, Rudolf Schindler, Howe and Lescaze's PSFS building. nearing completion in Philadelphia in 1932 (p. 98), became the first International Style highrise to be built, though its revealed structure would be somewhat at variance with the tenets to be laid down.

Richard Neutra's work came the closest to following the current advanced images. Trained in Vienna, Neutra was in Berlin with Mendelsohn in the early 1920s and saw the new architecture taking shape. His Jardinette Apartments in Los Angeles of 1927 (7) had all the features of the new stylethin volumetric walls, no ornament, and prominent horizontal fenestrationalthough he colored photographs with a black crayon to increase the horizontality and daring of the reinforced concrete construction. His Lovell Health House of 1929 (p. 98) was a doctrinaire International Style building set down on a Los Angeles hillside.

Rudolf Schindler, Neutra's former partner (they had a falling out in 1927). also trained in Vienna, but had been longer in the U.S. and had worked for Wright; consequently he was tagged a Wrightian. His Lovell beach house of 1924-1926 (p. 98) in Newport Beach, Ca, is arguably as original a creation as Le Corbusier's Villa Savoye (2) or Mies's Barcelona Pavilion (3). Its predominant, not to say overly expressive, concrete piers, roughly treated materials such as the shuttering marks and exposed timbers, and the ornamental touches, however, made it unacceptable to be proclaimed as International Style.

Finally, in 1932, there was a small group of designers who combined images of European radicalism with poetic and dramatic shapes that recalled speed, movement machines, and perpetual newness. Closely connected with the theater, the main figures of this Streamlined Style were the interior designer Paul Frankl, the architect Joseph Urban, and the industrial designers Norman Bel Geddes, Raymond Loewy, and Walter Dorwin Teague. Most of their ideas were still on paper in 1932.

#### In the professional press

An examination of the periodicals to see what the American architect would know of European architecture reveals the 1920s dominated by photos of brick buildings such as: Østberg's city hall (p. 93), P.V.J. Klint's Grundvig church of 1926 (p. 93) in Copenhagen, and Fritz Hoger's Chilehaus of 1923 (8) in Hamburg. To some degree, such illustrations both influenced and confirmed the dominant direction of American architecture in those years in the decorated, set-back skyscraper. Well into the 1930s, this preference continued, with the new hero becoming Willem Marinus Dudok of Holland. The more radical Europeans had appeared sporadically in the 1920s. The AIA Journal in 1923 began reviewing foreign periodicals, and published illustrations of Mies, Le Corbusier, Scharoun, and others. By the later 1920s, as the new European architecture gained more prominence, coherence, and similarity of appearance, especially as seen in the 1927 Weissenhof housing exposition buildings by Mies, Gropius, and Oud (9) in Stuttgart, there was accordingly more appearance in American periodicals, though never as a unified movement.

Le Corbusier published his first American article in the drastically updated Architectural Record of August 1929. Earlier, in 1927, Samuel Chamberlain, "in search of Modernism," enthusiastically endorsed Le Corbusier's "uncompromising voice," and a reviewer of the English translation of Vers une Architecture claimed: "He sees the greatness of our future in a scientific expression of the possibilities of steel beams, mass production units, bare concrete walls, and a complete avoidance of all unnecessary detail. In a word, we must consider the function of a building, and that only, if we are to arrive at a truly new and beautiful architecture."7

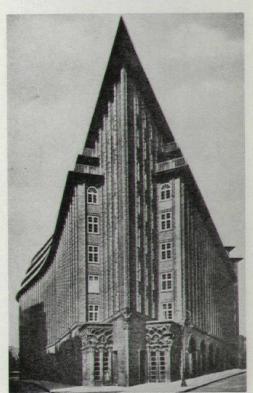
This interpretation of Le Corbusier (and by extension, of all the European radical Modernists) as unadorned Functionalist was common in the U.S. and would be one of the issues the International Style would seek to disclaim. Ralph Walker reacted to Le Corbusier in 1928: "The fundamental, spiritual, and intellectual needs of man can never be satisfied with the thin, austere design of the engineer-architect, which, while perfectly honest, fails to take into consideration the thoughts or emotions of anyone other than a Robot." Walker argued for a "new architecture" of "infinite variety of complex forms and an intricate meaning," such as his Barclay Vesey building of 1926 (10).8 Ironically, Le Corbusier used this New York Telephone Company building as the frontispiece to the English language edition of Vers une Architecture.

The concern of many American architects with European Modernism and what their architecture should look like came to the forefront in a debate sponsored by the AIA at the 1930 convention.<sup>9</sup> The spokesmen were: George Howe for the Moderns; C. Howard Walker for the Traditionalists; Ralph Walker for the Neo-Traditional-Moderns; and Earl H. Reed, Jr., for the Wrightians. The moderator claimed, "We are facing a crisis"; and Howe noted a development "away from order toward architectural chaos." Howe couched his position in Functionalist terms, denying that Modernism had a style and attacking the "grab-bag" styles of the Traditionalists. For him, the "Modern movement" was essentially technique, the prospect of using "modern construction and modern materials to the full, for architectural expression as well as for practical ends." C. Howard Walker of Boston couched his arguments in an urbane and witty manner, and criticized the Modernist position. Earl Reed of Chicago argued against the "alien" Classicism of the 1893 Worlds Fair and pleaded passionately for the Mid-Western tradition of Wright, Sullivan, and their contemporary followers Holabird & Root. Ralph Walker noted the typical American "colonial" mentality: "Our architects are looking to Germany, France, and Holland for that which sprang from our own loins, but has now the foreign touch of flavor." Grain elevators were of more importance than Roman baths, but he criticized Le Corbusier and Gropius for the analogy between transportation and houses. Walker condemned the search for a "formula" for Modern architecture and pleaded for individualism.

That the American architect had a right to be confused is obvious; European Modernism could appear almost simultaneously in exhibits such as those of Erich Mendelsohn in New York at the Contempora Gallery and Peter Behrens and his students of the Vienna School of Architecture at the Brooklyn Museum. Sheldon Cheney wrote the popular New World Architecture in 1930 in which he introduced the term "space-time," but did not describe it, and included as his heroes Frank Lloyd Wright, Le Corbusier, and Bernard Maybeck. The imperception of the different positions is evident in the claim of one writer of "a kind of Kyrie eleison, 'Saarinen, Le Corbusier, Neutra, and Frank Lloyd Wright.' "10 Straightening out this confusion and demonstrating that an order, a unified expression did exist, which passed beyond national boundaries, would be the role of the Museum of Modern Art.

#### MoMA

The idea of a museum exhibition of Modern architecture resulted from equal measures of youthful moralistic earnestness to bring America up to date with advanced European architecture, a tweaking of the nose of the bourgeois, and self-promotion on the part of the exhibition's organizers. Barely two years old in 1932, the Museum of Modern Art had been founded in 1929 by a group of wealthy New York art collectors.<sup>11</sup> The early trustees and officers of the museum read like a roll call of important American patrons of advanced art: Miss Lillie Bliss, Mrs. John D. Rockefeller, Jr., A. Conger Goodyear, Chester Dale, Duncan Phillips, and Paul Sachs.



8 Hoger, Chilehaus.



9 Weissenhof housing exposition.



10 Walker, Barclay Vesey building.

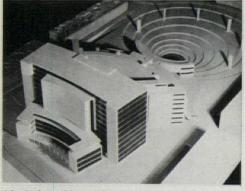
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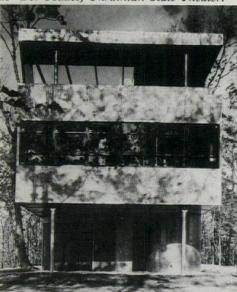
11 Urban, New School for Social Research.



12 Asplund, Stockholm Exposition.



13 Bel Geddes, Ukrainian State Theater.



14 Kocher & Frey, Aluminaire house.

The man entrusted with implementing the idea and who gave it a distinctive cast was the first director, Alfred H. Barr, Jr., the son of a Detroit Presbyterian minister, whose missionary passion for Modern art approached that of a religion. Barr had gained a certain fame-or notoriety-by teaching a course at Wellesley College on the arts of the 20th Century that included painting, sculpture, prints, posters, advertising, films, theater, photography, industrial design, and architecture. His course became the prospectus for a museum that he envisioned that would encompass the sprawling modes of Modern art, prove it popular with the public, and give serious academic attention to the subject.

Barr had wanted an exhibition devoted to advanced European architecture, and by the summer of 1930 he had approached Philip Johnson and Henry-Russell Hitchcock, Jr., with the idea. Hitchcock, only 27 years old, was already a respected architectural historian and critic. He had graduated from Harvard in 1924, done some postgraduate work, lectured and taught, and published extensively. His writings were on a variety of subjects, but most prominently on contemporary American and European architecture: an article (1928) and a book (1931) on J.J.P. Oud, a book on Frank Lloyd Wright (1929), and a large book, Modern Architecture: Romanticism and Reintegration (1929), that attempted to put the ahistorical architecture of Mies van der Rohe, Gropius, Oud, and Le Corbusier, or as he termed them, the "New Pioneers," into perspective with the half-Modern or more derivative work of Wright, Berlage, Behrens, and Dudok, which he termed "The New Tradition." Barr reviewed the book for a Harvard "little" literary magazine and highly praised the New Pioneers' work as a more original development than even the Gothic or Byzantine styles.12

Philip Johnson was 24 in 1930 when he graduated from Harvard, having studied classics and philosophy. An interest in architecture came through Hitchcock's article on Oud. Later he recalled: "Only Modern and only that kind of Modern architecture . . . enthralled me-not de Klerk, not Berlage, not Poelzig or Lutyens . . . I especially and contemptuously degraded the Modern Movement (i.e., Morris and Voysey) and Frank Lloyd Wright."13 Johnson became close friends with Barr and after graduation moved to New York and volunteered his services to the fledgeling museum, along with George Howe (who was working on designs for it, which were, of course, never executed). Johnson served on the junior advisory council; he oversaw renovations of the museum's rented quarters, worked on the museum's typography, and organized the "Modern Architecture" show. The creation of the Department of Architecture with Johnson as the first head did not occur until after the exhibit was mounted.

#### Background of the exhibit

Ideas were developed and materials collected for the exhibition from mid-1930 onwards, while at the same time the ground was laid and events occurred that ensured the show would be controversial. The tenor of the proposed show was exemplified by Johnson's prospectus written in early 1931: "Modern architecture was born and exists in an era of applied science. Modern architecture does not fight the machine age, but accepts it." He claimed the new style "will not be a Greek temple made into a bank, a Gothic church become an office tower, or, worst of all, a 'modernistic' hodgepodge of half-hidden construction and fantastic detail."14 In an article for Arts magazine in March 1931, Johnson attacked Joseph Urban's recently completed New School for Social Research (11) in New York-one of the most modern, and European, buildings in the U.S., with a facade strongly related to Brinkman and van der Vlugt's van Nelle Factory in Rotterdam of 1928 (p. 91). But for Johnson, the New School had "the illusion of a building in the International Style rather than a building resulting from a genuine application of the new principles,"15 which he claimed were: 1 purpose and function, a structure that creates the interior and subsequently the exterior; 2 function and structure create the decoration, no applied ornament; and 3 fine proportions and simple design create the feeling of beauty.

In April 1931, the Architectural League of New York held its annual exposition that also commemorated its 50th anniversary. Raymond Hood was president and Ely Jacques Kahn was in charge of the exhibits. The League's annual Gold Medal went to Eliel Saarinen for Cranbrook (6) and to Shreve, Lamb & Harmon for the Empire State Building of 1931. The exhibition was inclusive, showing highly traditional work, along with Østberg's city hall (p. 93), Asplund's Stockholm Exposition designs of 1930 (12), Howe & Lescaze's PSFS of 1932 (p. 98), Hood's Daily News of 1930, three Norman Bel Geddes designs, including the Ukrainian State Theater (13), and Kocher & Frey's fullscale model Aluminaire house of 1931 (14) (purchased by Wallace K. Harrison and moved to Syosset, Long Island). Rejected for the exhibit were a group of younger architects committed to Modernism and closely identified with Howe. Johnson, with the blessings of Howe and Barr, rented a storefront, set up an exhibit of the rejected work, and hired a sandwich-board man to parade

Arts Collection

in front of the League with the message: "See Really Modern Architecture Rejected by the League . . ." Shown were Clauss & Daub, Stonorov & Morgan, Hazen Size, William Muschenheim, Walter Baermann, Elroy Weber, and Richard Wood. Labeled "Rejected Architects," the show caught the eye of the press. The Art News critic noted that the "elements of International Style stress design that is primarily dependent on the function which the building is to serve, without consideration of traditional principles of symmetry."17 Johnson followed up the short-lived exhibit with two articles. One, "Rejected Architects" in Creative Art, claimed "the public found a new thrill in the Rejected Architects. Here was the chance to witness an unusual fight."

Johnson used the show as a ploy for the "International Style," which he proclaimed in capital letters, and denounced critics and architects alike who he claimed were picking up only the surface features of the style and not the principles.<sup>18</sup> Inflammatory in reading people in or out of serious consideration, Johnson published almost simultaneously in Arts magazine "The Skyscraper School of Modern Architecture," which criticized the skyscrapers of Walker, Hood, and Ely Jacques Kahn as false, unmodern, and of no aesthetic merit. He questioned whether they represented a style, since they lacked a consistent attitude towards ornament and structure, and said, "In addition, a style must be worthy of continuing at least a decade; yet already an essentially new kind of skyscraper is emerging."19

By 1931, the term "International Style" was current in the vocabulary of many American architects and critics. Hitchcock first used it in 1928 with reference to a design by Peter van der Meulen Smith, a student of André Lurcat's.<sup>20</sup> Apparently the source was Walter Gropius's Internationale Architektur (1st ed. 1925, 2nd ed. 1927), an inclusive picture book of his own work and that of Behrens, Perret, Le Corbusier, and others, and which also included American grain silos. In a brief foreword, Gropius claimed that in spite of the national and individual differences, all the work had similar features of "a general will to form which seeks a fundamentally new expression." And Gropius rather grandly used the term "INTERNA-TIONAL architecture"! In a review in Architectural Record for 1929, Hitchcock translated part of the preface from Gropius's second edition of Internationale Architektur: "Since the appearance of the first edition, the modern architecture of various lands of western culture has followed the line of development indicated by this book with a surprisingly rapid tempo. Then but an idea, it is today a solid fact. . . . "21 Hitchcock attempted to substitute the awkward phrase "The New Pioneers" and avoid the sticky word style, but the term International Style stuck.

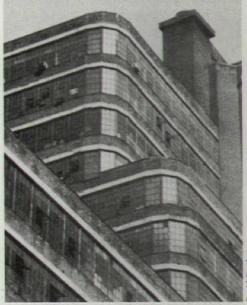
#### 'Modern Architecture' exhibit

The long-awaited "Modern Architecture" exhibit finally opened on February 9, 1932, in the museum's temporary quarters of the Heckscher Building on Fifth Avenue and remained on view until March 23. Subsequently, the exhibit, with slight alterations, appeared in museums and galleries in Philadelphia, Hartford, Buffalo, Cleveland, Milwaukee, Cincinnati, Rochester, Toledo, Cambridge, Worcester, and in Los Angeles at the Bullocks Wilshire Department Store.

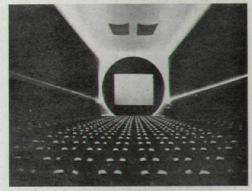
The displays of photos, drawings, and models were installed by Johnson, although Mies had earlier been announced as the designer of the exhibition. (Johnson was already a disciple of Mies, who had designed Johnson's New York apartment interior-a photo of it appeared in The International Style. Johnson had written two articles admiring Mies's installation of the 1931 Berlin Building Exposition.<sup>22</sup> A footnote in The International Style announced that Johnson had a book on Mies in preparation, but it did not appear until 1947.)

The museum trustees requested that American architects be accorded equal representation, and to circumvent this restriction, Johnson split the exhibit into three parts to mask the European predominance. The parts were: first, a survey of the extent of Modern architecture; second, an in-depth examination of the leaders; and third, a section on housing. This arrangement, with the addition of essays and a slightly different and lesser number of illustrations. was followed in the catalog Modern Architecture. Barr provided a polemical foreword, took swipes at the "Modernistic or half-modern decorative style," and asserted that the "aesthetic principles of the International Style are based primarily upon the nature of modern materials and structure and upon modern requirements in planning."23 Johnson followed with a "Historical Note" that outlined the classical litany of formative influences: 19th-Century trainsheds, bridges and engineering, Cubist painting and sculpture, and the architecture of Richardson, Sullivan, and Wagner. Le Corbusier's Vers une Architecture announced the new style, and "Since 1922 the new style has not changed in its fundamentals."24

The quantitative section on "The Extent of Modern Architecture" consisted of the exhibit of photographs of 40 buildings from around the world; six were by American firms: R.G. & W.M. Cory's Starrett Lehigh Building of 1931 (15); Frederick Kiesler's Film Guild Cinema of 1929 (16); and Thompson & Churchill's Office Building of 1930 on the northwest corner of Lexington Avenue and 57th Street-all in New York-and Kocher & Frey's Harrison house (14) at Syosset; Tucker & Howell's (with Oscar Stonorov as associate) Biological Laboratory of the Highland Museum of 1931 (17) in North Carolina; and Clauss & Daub's Filling Station of 1931 (18) in Cleveland for the Standard Oil Company of Ohio.



15 Cory, Starrett Lehigh building.



16 Kiesler, Film Guild Cinema.



17 Tucker & Howell, Biological Laboratory.



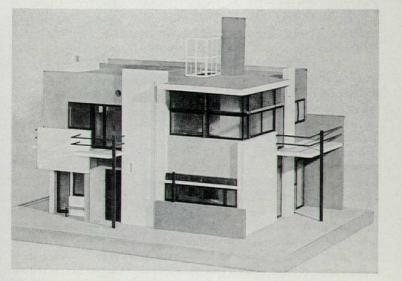
18 Clauss & Daub, Filling Station.



Neutra, Lovell house (above); Howe & Lescaze, PSFS building (below left); Schindler, Lovell house (below right).







20 Rietveld, Schröder house.

The remaining 34 buildings ranged from Aalto's Turun Sanomat building in Turku of 1928 (19), Rietveld's Schröder house in Utrecht of 1924 (20), and Ueno's Star Bar in Kyoto. All the buildings in this section, even Mendelsohn's Schocken Department Store in Chemnitz of 1928 (21) or the Corys' Starrett Lehigh Building (15), had features that were identified as International Style. The catalog contained none of these illustrations (most would appear in The International Style), but did have an essay by Hitchcock and Johnson that read individuals either in or out of the movement, and criticized the "half-Modern."25

The second section explored the work of nine architects/firms; four were European, and of the five Americans, Neutra and Lescaze were born and trained abroad. Shown were photographs, drawings, and models. The nine and their models were: Frank Lloyd Wright, House on the Mesa project for Denver of 1931 (22); Walter Gropius, Bauhaus (1); Le Corbusier, Villa Savoye (2); J.J.P. Oud, project for a house in Pinehurst, NC (p. 89) (for Johnson's sister and never built); Mies van der Rohe, Tugendhat house of 1930 (23); Howe & Lescaze, Chrystie-Forsyth housing project of 1931 (24) for New York; Raymond Hood, Country Tower project for the New York suburbs of 1932 (25); Richard Neutra, Ring Plan School project (26); and Bowman Brothers, Lux apartment project (27).

With the exception of Oud, all the Europeans presented actual buildings in model form, while all the American models were experimental and hypothetical. In the catalog, Hitchcock provided eight of the essays on the individuals, and Johnson the one on Mies. The leaders, openly stated, were Le Corbusier, Mies, Gropius, and Oud. Of the Americans, Howe & Lescaze were clearly the most important. Neutra's Lovell house (p. 98) was claimed as stylistically the most advanced house in the U.S. The Bowman Brothers were a strange inclusion; they had built nothing of importance, and their proclaimed aesthetics of function and construction were beyond the thesis of the exhibit. Also strange was the presece of Raymond Hood, but he appeared to be moving in the right direction with the predominant horizontals of the Mc-Graw-Hill Building (28) in New York, completed in 1934, or the Country Tower apartments (25).

Wright's inclusion was the most difficult to explain, yet how could any exhibit of Modern architecture ignore America's most famous Modern? Barr explained that Wright "is not intimately related to the Style although his early work was one of the Style's most important sources."<sup>26</sup> And on that basis Wright was treated by Hitchcock as an



19 Aalto, Turun Sanomat building.



21 Mendelsohn, Schocken Dept. Store.





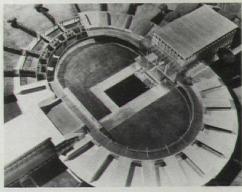
23 Mies, Tugendhat house.



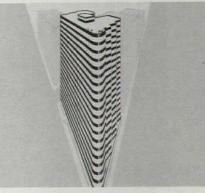
24 Howe & Lescaze, Chrystie-Forsyth housing.



25 Hood, Country Tower project.



26 Neutra, Ring Plan School.



27 Bowman, Lux Apartments.



28 Hood, McGraw-Hill building.

99

#### **International Style**

individualist who recognized no boundaries of style and an innovator of new concepts of plan, space, form, and image. The difference between the architects "throughout the world who work consciously or unconsciously in a single international style" and Wright was that: "At the bottom they are Classicists and he a Romantic."<sup>27</sup>

Part three, housing, had a large model and photos of Otto Haesler's Rothenberg housing development in Kassel, Germany, and photos of the work of Ernst May, Oud, Henry Wright, and Clarence Stein, and American slums and housing developments. The catalog contained an essay by Lewis Mumford and a short entry by Johnson on Haesler.

#### The International Style

The book, The International Style, went far beyond the schematic catalog and dogmatically laid down the principles of the new style. The principles were three: "architecture as volume rather than mass," "regularity rather than axial symmetry serves as the chief means of ordering design," and the proscription of "arbitrary applied ornament."28 These three principles differed markedly from those announced by Johnson earlier in 1931, and in fact differed slightly from those of Barr's foreword to the catalog. Evident is the dominance of Hitchcock's primarily aesthetic art historical approach over the more technocratic-deterministic attitudes of Johnson and Barr. In an article written shortly after the exhibit opened, Hitchcock strongly defended his approach: "It seems possible through aesthetic criticism to bring certain people to an interest in and even a certain understanding of Modern architecture who are bored by technicians and sociologists."29 Prominent was the scholarly apparatus Barr had sought. The Germanic art historical approach of Wolfflin and Frankl underlay much of Hitchcock and Johnson's theorizing: "The unconscious and halting architectural developments of the 19th Century, the confused and contradictory experimentation of the beginning of the 20th, have been succeeded by a directed evolution. There is now a single body of discipline, fixed enough to integrate contemporary style as a reality and yet elastic enough to permit individual interpretation and to encourage general growth."30

The argument developed by Hitchcock and Johnson was complex and ultimately misunderstood, for while they recognized the importance of the ideas of designing for function and of incorporating the new expressive possibilities of (supposedly) 20th Century materials

and structure, these were not the determinants. For a style-or an aesthetic-had developed that provided a method of arranging façades, fenestration, plans, and details. The International Style was, in other words, an aesthetic that really did not depend upon the ideas of function and materials, which of course was proven by buildings that looked like thin-walled volumetric containers, but were stuccocovered brick. This was perfectly acceptable to Hitchcock and Johnson: "from an aestetic point of view, brick is undoubtedly less satisfactory than any other material, including stucco. Indeed, brick is often covered with stucco."31 Surprisingly, given the importance that expressed or articulated structure came to have in the 1940s and 1950s in "International Style" buildings, structure was down-played in 1932; walls were thin, flat, and unbroken by the structural cage. When structure does appear, as in the pilotis, it is an object separate from the wall. Also, details when they appear, whether window frames or railings, are objects, mechanical in appearance. As William Jordy later argued, the process is more of a symbolic objectification of the machine age than the real thing.32

Space was not defined as a principle per se, but treated under the concept of architecture as volume, although buildings were presented with no sections, but only plans. The free plan, or "interiors which open up into one another without definite circumscribing partitions," as in those of Mies and Le Corbusier, were claimed as the particular innovation of the International Style. The use of screens, curved and oblique, gave to the interior a new type of abstract space "unknown in the architecture of the past."<sup>33</sup>

Essentially, The International Style became a cookbook, a set of do's and don't's: "Anyone who follows the rules, who accepts the implications . . . can produce buildings which are at least aes-thetically sound."<sup>34</sup> The rules are set forth extensively: "Good Modern architecture expresses in its design this characteristic orderliness of structure and this similarity of parts by an aesthetic ordering which emphasizes the underlying regularity. Bad modern design contradicts this regularity."35 "The flat roofs normal with modern methods of construction have an essential aesthetic significance. . . . Flat roofs are so much more useful that slanting or rounded roofs are only exceptionally justified."36 "The mark of the bad modern architect is the positive cultivation of asymmetry for decorative reasons."37 Horizontality is noted as one of the conspicuous characteristics of the International Style and justified by construction and function. The horizontality made the International Style stand apart from

the usual verticality of American skyscrapers, and for this reason, Raymond Hood's McGraw-Hill building (28) could be grudgingly included as "within the limits" of the International Style.<sup>38</sup> Yet, after extensively discussing horizontality and depreciating the "average American client" who found it "unacceptable aesthetically," it was noted, "Horizontality is not in itself, however, a principle of the International Style."<sup>39</sup>

In both the text and the captions, suggestions were made with regard to specific buildings. For Mendelsohn's Schocken Department store (21) in Chemnitz: "The setbacks required by building laws give an unfortunate stepped effect, as in New York skyscrapers"; and for Tucker and Howell's Biological Laboratory (17) of the Highlands Museum: "Pipe support is incongruous and appears too frail."40 The problem of a too rigid adherence to the rules was faced by Hitchcock and Johnson, with the admission that "dull" buildings could result, and the observation that "It is the privilege of great architects to interpret the aesthetic discipline of the style according to the spirit rather than the letter."41

In this emphasis upon aesthetics and style, Hitchcock and Johnson conspicuously placed themselves on one side of a debate raging in European Modernist circles between the straightforward Functionalists, such as Hannes Meyer and Mart Stam, and those such as Le Corbusier and Mies, who claimed that the architect was an artist concerned with composition, beauty, and aesthetics. The Functionalist view that any concern with proportions or problems of design for their own sake was decadent and reminiscent of the 19th Century was noted and criticized: "Consciously or unconsciously the architect must make free choices before his design is completed. In these choices the European Functionalists follow, rather than go against, the principles of the general contemporary style. Whether they admit it or not is beside the point."42 Barr, in the preface, actually suggested an alternative name for the International Style-Post-Functionalism."43 Fundamental to this split was the sociological and political orientation of many European architects; they were largely left-wing, if not communist, as in the cases of Meyer and Stam, and saw their work not as aesthetics, but as attempts to solve problems of housing and standards of living, and as spurs to collective action. This leftist political orientation would be clearly unacceptable not only to the Museum's trustees, but also to the majority of the American public, especially those with the power to commission buildings.

#### Housing

Some critics have charged that the exhibit and the books essentially drained all social content out of the International Style in order to make it digestible for Americans. The truth is more that the architecture was depoliticized, with some of the goals of social improvement in housing kept. The intent of Hitchcock and Johnson's International Style was admittedly not social, although a final chapter on the Siedlungen (German housing communities) (9) was included in recognition of the importance they had played in the architectural development. Nevertheless, the authors were critical of certain concepts: "This statistical monster, the typical family, has no personal existence," and "Too often in European Siedlungen the Functionalists build for some proletarian superman of the future."44 Yet it was implied that housing would be one of the important areas of future American commissions. The exhibit and the catalog were definite on the problems of housing, though typically, the concern was for the application of the International Style.

The actual section on housing was largely the work of Lewis Mumford and Catherine Bauer-he providing the essay and she assembling the materials. Mumford's reputation as an architectural critic and historian was already well established; his fundamentally social (as distinct from Hitchcock's fundamentally aesthetic) viewpoint had been developed, though his later critical views on the machine were not yet evident. Catherine Bauer, a protégée of Mumford, had traveled in Germany in 1930, and the Siedlung, in her words, was "so exciting that it transformed me from an aesthetic into a housing reformer."46

The exhibit attempted to show the totally planned communities of Haesler and May in Germany, Oud in Rotterdam, and Wright and Stein at Radburn, NJ, and on Long Island, in comparison to slums. Certainly the Traditional architecture of Radburn and Sunnyside Gardens was at odds with the International Style, but on the level of comprehensive planning, large-scale development, and a recognition of the issues of hygiene, open green space, and traffic separation, they were equal to the European models. Mumford's essay went the farthest towards political comment, using terms such as "collective enterprise," "economic revolution," and stating that adequate housing would only be possible with "Limited Profits" and "State Subvention." The neo-picturesque quality of most American housing was roundly condemned. and Mumford translated the social, biological, and economic requirements of housing into Modern architectureand by implication, into the Interna-



29 Le Corbusier, de Mandrot house.

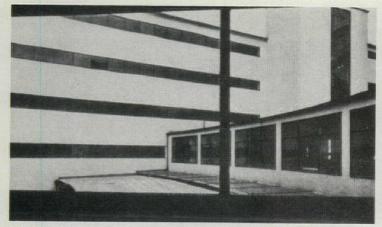
tional Style: "Modern architecture, with its strong lines, its disdain for the 'quaint' and the 'pretty,' its communal unity, its submergence of the individual unit in the design of the whole, is not a poor substitute for our abandoned heaven of the individual romantic house, built according to the heart's desire; on the contrary, it is far superior, superior not only to the speculative builder's pathetic caricature, but likewise to such nearer approximations as one finds in the upper-class suburbs today."<sup>46</sup>

In a symposium held during the exhibit, the political implications came more into focus. Henry Wright made a presentation on the "social responsibility of the architect" and the issues of housing. The answer for American housing would be found in the small community, and while impressed by the German Siedlung, he felt it was not the solution for the U.S. Mumford also made a presentation on housing and concluded with a "message" for architects who wanted to design housing: "You must plan them as though you were working for a Communist government."47 Barr must have writhed in his seat, but apparently Mumford's and the other talks were reported only in Shelter.

#### Impact of the exhibit

About 33,000 people saw the exhibit in New York, a total less than that of other exhibitions at the Museum that season. The number that saw it on tour, or were exposed to it through the catalog and book or other articles, is speculation. In New York it received extensive publicity, especially considering the three other current architectural exhibits: the work of Joseph Urban sponsored by the Architectural League, the "City of the Future" drawings by Hugh Ferriss at the Roerich Museum, and finally, the annual Architectural League show. Comparisons were inevitable, especially with the rival League. One critic claimed, "So far as the League is concerned, we have another demonstration of American ingenuity and taste in revamping the various architectural modes of other days to suit our modern conveniences," and he summed up the exhibit as "academic, and—if the truth be told—rather dull."<sup>48</sup> To further the excitement, Howe & Lescaze's League submissions were rejected, and they in turn resigned. The Museum hired a publicity agent and got the commotion reported on the front page of *The New York Times* and elsewhere.<sup>49</sup>

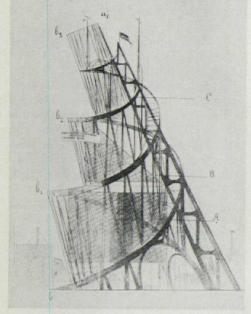
The major result of the Museum exhibit was the establishment of the International Style as the approved image of the 20th Century. How accurately Hitchcock and Johnson summed up the current radical architecture of Europe and the work of the four leaders will always be a matter of controversy. They had some difficulty fitting Mies's Barcelona Pavilion (3), with its lack of fixed volume, into their principles. Le Corbusier's de Mandrot house of 1931 (29) near Hyeres, with solid rubble walls, was also included as an extension of the style. Essentially a return by Le Corbusier to a rustic vernacular and a rejection of the style of the 1920s, it was contemporary with his Pavillon Suisse in Paris (not in the exhibit), which had rubble walls and dramatically sculptural pilotis. Hitchcock has noted that if the book and exhibit had been either earlier or later, the resultant definition and image might have been different.50 However that may be, they caught and enshrined for all time a particular architectural image and style, essentially one of the later 1920s.



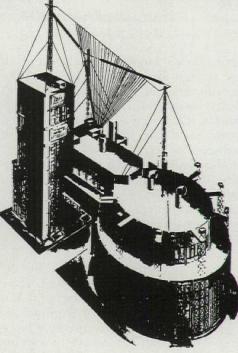
30 Mendelsohn, German Metal Workers building.



32 Terragni, Novocomun Apartments.



33 Tatlin, Monument to 3rd International.



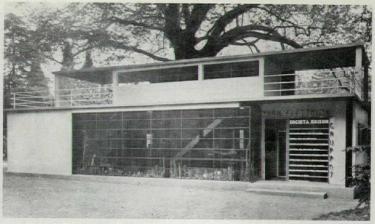
34 Vesnin, Palace of Labor.



35 Melkinov, Rusakov Club.



36 Terragni, Casa del Fascio.



31 Figini & Pollini, Monza exposition house.

Reputations, and to a certain degree what was deemed important and worthy of study, were defined by the exhibit and books. Rudolf Schindler asked to be included, claiming not an affinity with "the so-called 'International Style,' " but with problems beyond style and materials. Johnson responded curtly: "From my knowledge of your work, my real opinion is that your work would not belong in this exhibition"; and by his definitions it did not.30 Certainly not all of Schindler's subsequent problems can be blamed on his exclusion, but it hurt, and he remained largely a regional figure. (He did participate in the Museum's 1935 "Modern Architecture in California" exhibit.) In contrast, Richard Neutra's exploitation of the publicity resulting from the exhibit gave him a position of prominence equal to-for a period of time-that of Wright, Mies, and Le Corbusier.

#### **Foreign omissions**

Certain foreign omissions or slights were equally damaging. Erich Mendelsohn, certainly the most successful of the German Modernists and well known in the U.S., received marginal inclusion with a plan and photo of the Schocken Department Store (21) in Chemnitz and a photo of the German Metal Workers' Union Building of 1930 (30) in Berlin (designed with R.W. Reichel). Hans Scharoun had a plan and a photo of a Berlin apartment house in the book. By the late 1920s their work was well within the bounds of the International Style. Perhaps their earlier Expressionist work-certainly an excess in terms of the International Style-made them questionable. However, Mies and the Bauhaus of the immediate post-war years were also largely Expressionist, yet their reputations had been sanitized by the later 1920s. Other figures-Hugo Häring, the Amsterdam School, Bruno and Max Taut-could also be mentioned, yet their architecture passed beyond the Hitchcock and Johnson boundaries.

Only one building was included from Italy, Luigi Figini and Gino Pollini's house at the Monza Exposition of 1930 (31). In actuality, little had been built in Italy by 1932 that accorded with the International Style definition, though Giuseppe Terragni had completed his Novocomun apartments in Como by 1929 (32). Pier Luigi Nervi's Florence Stadium was also completed, but would have been considered engineering.

Far more political was the almost complete absence of new Soviet architecture. None of the Museum's organizers was unaware of Russian Constructivism, and in fact Barr had traveled in the USSR and written in 1929 about the "advanced" architecture, though he criticized it for poor details and finish and complained that the "fantastic paper architecture" seemed to over-whelm the actual built examples.<sup>52</sup> Vladimir Tatlin's Monument to the Third International project of 1920 (33); Viktor, Leonid, and Aleksandr Vesnin's Palace of Labor project of 1923 (34); and many of the projects of the Soviet architectural school and of the Vkhutemas (Free State Art Studios) were paper architecture and beyond the boundaries of the International Style. Yet there were also many works in accord, such as Le Corbusier's Centrosoyus Building in Moscow under construction from 1929 onwards, the workers' clubs of the 1920s by Konstantin Melnikov, such as the Rusakov Club in Moscow of 1929 (35), and Ilya Golosov, and the Narkomfin flats in Moscow by Moisei Ginsburg and I. Milinis. The Soviet identification of Modern architecture with revolution would not be conducive to selling the International Style in the U.S. Consequently, the Russian contribution became a few photographs of the insignificant Electro-Physical Laboratory and Institute in Moscow (p. 90).

#### Reactions

Reactions to the exhibit and books indicate how the International Style would be interpreted. Typically conservative was William Adams Delano: "After centuries of struggle to evolve a culture worthy of his position in the animal kingdom, is this to be man's end? No better, no worse than the insects, ants and caterpillars. . . ." And William Williams in Pencil Points: "How did they come into being-such houses? Certainly no owner with an eye to his comfort ever specified one in detail."53 On the other side there were Buckminster Fuller and Knud Lønberg-Holm, who thought the International Style was too preoccupied with aesthetics and did not accept technology as the only determinant.54 Talbot Hamlin found the International Style too concerned with "strict Functionalism" and interested primarily in "economy, efficiency and bareness."55 The editor of Architectural Forum approved of the exhibit and interpreted the stark, unadorned character as "an

expression of the fast-growing band of scientific-minded who believe in the universal efficacy of machine efficiency." He felt the exhibit might clear away the "chaff of copyism" though the style could become "the happy hunting ground of copyist charlatans."<sup>56</sup>

The debate on Modernism was removed from the confines of architectural journals and schools through review in the popular and art press. Ralph Flint in *Art News* wrote several articles praising the International Style show, the honest treatment of materials, the applicability for large-scale work, the nonderivative nature, and the simplicity that made even the work of "Moderns as Frank Lloyd Wright . . . look overloaded and fussy."<sup>57</sup>

Out of these reactions a pattern emerged; the illustrations made more of an impact than the printed work; images and details were assimilated more readily than aesthetic theory. In spite of Hitchcock and Johnson's caution on functionalism, the International Style became the Functionalist style; its seemingly ahistorical image was the expression of necessity and not art. Severity, flat spartan surfaces, revealed structure, and mechanics became the identifying features. The white building in the



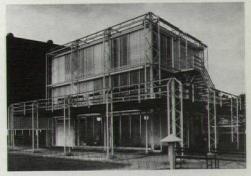
37 Lubetkin & Tecton, Highpoint Towers.



38 Stone & Goodwin, Museum of Modern Art.



39 Aalto, Viipuri Library.



40 Keck, Crystal House.



41 Gropius & Breuer, Gropius house.



42 Wright, Fallingwater.

#### **International Style**

landscape and the white interior were its trademarks. It was the machine style, even if the forms were rarely dictated or made by the machine. The International Style, according to most interpretations, expressed the scientific mind of the 20th Century.

#### Portents

The future transformations of the International Style are beyond the boundaries of this article, except to sketch some outlines. Certainly one rea-Mies, Moholy-Nagy, Gropius, son Breuer, Hilberseimer, and other Europeans were so readily accepted in American architectural schools in the later 1930s can be attributed to the favorable climate created by the exhibit. As for actual designs, by 1932 the leaders, Mies and Le Corbusier (as noted), were already separating themselves from the doctrinaire phase chronicled by Hitchcock and Johnson. Gropius would similarly change. Oud, because of health, produced little work. Buildings within the strict canons of the style were produced in spite of straitened economics. Abroad, there were Marcel Breuer's Dolderthal Apartments in Zurich of 1936, Giuseppe Terragni's Casa del Fascio of 1936 (36) in Como, Lubetkin and Tecton's Highpoint Towers of 1935 (37) in London, and Mendelsohn and Chermayeff's De La Warr Pavilion of 1936 (p. 105) at Bexhill-on-sea. In the U.S., Edward Durell Stone's A. Conger Goodyear house in Old Westbury, L.I., Stone and Goodwin's Museum of Modern Art building of 1939 (38), and Richard Neutra's John Nicholas Brown house of 1937 on Fishers Island, NY, come directly from the exhibit and the book. More important were designs that expanded or altered the principles. Abroad, Alvar Aalto emerges as the most important innovator, his Turun Sanomat building (19) (in the exhibit and book) already departed markedly from the style with its sculptural piers. In the Viipuri Library of 1930-1935 (39), the roof of the lecture room indicated the direction Aalto would take in reconciling nature with the rigidity of the International Style. In the U.S., George Fred Keck's Crystal House of 1934 (40) at the Chicago Century of Progress Exposition took the mechanical-technological image to its logical end. Richard Neutra's Corona School of 1935 in Los Angeles explored the reductivist tendency. The later wood-sheathed houses of Gropius and Breuer around Boston, such as the Gropius house of 1937 (41) in Lincoln, Ma, and of Harwell Hamilton Harris in California made palatable for Americans the ascetic white box. And finally, Frank Lloyd Wright, influenced by the

International Style though remaining independent, created perhaps the most memorable image of the 1930s, if not of the 20th Century: Fallingwater (42).

To claim that the International Style exhibit changed the course of architecture is excessive hyperbole, yet it did exercise a significant influence in summarizing certain developments, giving them publicity, and providing a name. The exhibit and books helped to create a consensus of what Modern architecture should be. For American architecture, the colonial status was confirmed; another foreign style was imported.

Barr, Hitchcock, and Johnson were selective, as suited their purpose, to demonstrate that a Modern style of architecture did exist with definite characteristics, principles, and appearances. If they had included a broader spectrum, the outcome might have been different. Later generations have discovered the Constructivists, Schindler, Cret, the American Skyscraper, Scharoun, and others. To bemoan their loss is understandable, but not a futile flailing at history, because the International Style is now history. The wheel has turned again, and a very different consensus or "controlling style" is emerging.

#### Footnotes

<sup>1</sup> Alfred H. Barr, Jr., Henry-Russell Hitchcock, Jr., Philip Johnson, and Lewis Mumford, Modern Architecture (New York: Museum of Modern Art and W.W. Norton Co., 1932), p. 13; reprint editon (New York, 1973).

<sup>2</sup> The Federal Architect, 3 (February 1932).

<sup>3</sup> Eliel Saarinen, "Address," The Octagon, 3 (April 1931), pp. 6-13.

<sup>4</sup> Lewis Mumford, "Sticks and Stones" (1924) and "The Brown Decades" (1931) were especially important. The two editions of Thomas Tallmadge's The Story of American Architecture have different chapter titles, 1927, "Louis Sullivan and the Lost Cause," and 1936, "Louis Sullivan Parent and Prophet."

<sup>5</sup> Frank Lloyd Wright, "For all may raise the flowers now for all have got the seed," and George Howe, "Moses turns Pharaoh," T-Square Club Journal, 2 (February 1932), pp. 6-9. <sup>6</sup> Robert A.M. Stern, George Howe: Toward a Mod-

ern American Architecture (New Haven: 1975).

<sup>7</sup> Samuel Chamberlain, American Architect, 131 (January 20, 1927), pp. 71-74; and The Architect, 9 (December 1927), pp. 287–288. <sup>8</sup> Ralph Walker, "A New Architecture," Archi-

tectural Forum, 48 (January 1928), pp. 1-4.

"Contemporary Architecture, A Symposium," Journal of Proceedings of the 63rd Annual Convention of the AIA, May 21-23, 1930, pp. 23-55. Excerpts were reprinted in Architectural Forum, 53 (July 1930), pp. 49-50; and Howe's talk excerpted in T-Square Club Journal, 1 (March 1931).

<sup>10</sup> Harvey M. Watts, T-Square Club Journal, 1 (February 1931), p. 14.

<sup>11</sup> For the MoMA see: A. Conger Goodyear, The Museum of Modern Art: The First Ten Years (New York: 1943); and Russell Lynes, Good Old Modern (New York: 1973). <sup>12</sup> Alfred H. Barr, Jr., Hound and Horn, 3 (April-

June 1930), pp. 431-433. <sup>13</sup> Philip Johnson, *Writings*, ed. by Robert A.M.

Stern and Peter Eisenman (New York: 1979), p. 268.

14 Philip Johnson, "Built to Live In," Museum of Modern Art, March 1931, reprinted in Writings,

pp. 29-31. <sup>15</sup> Philip Johnson, "The Architecture of the New School," The Arts, 8 (March 1931), pp. 393-398.

18 Stern, Howe, pp. 151-152; Philip Johnson, Architectural League, News Bulletin (September 1965), pp. 1-4.

<sup>17</sup> "Rejected Architects," and Richard Flint, "Ar-chitects Show Fine Work in Annual Exhibit," Art News, 29 (April 25, 1931), pp. 3-5 and 12. <sup>18</sup> Philip Johnson, "Rejected Architects," Creative

Art, 8 (June 1931), pp. 433-435.

19 Philip Johnson, "The Skyscraper School of Modern Architecture," Arts, 17 (May 1931) pp. 569-575

20 Henry-Russell Hitchcock, Jr., "Four Harvard Architects," Hound and Horn, 2 (September 1928), pp. 41-47.

<sup>21</sup> Henry-Russell Hitchcock, Architectural Record, 66 (August 1929), p. 191. Also Ludwig Hilberseimer, Internationale Neue Baukunst (1926, 1928), should be noted as a source for the term.

22 Philip Johnson, "In Berlin: Comment on Building Exposition," The New York Times, August 9, 1931, art page, reprinted in Writings, pp. 49-51; and "The Berlin Building Exposition of 1931," T-Square, 2 (January 1932), pp. 17-19, 36-37.

<sup>23</sup> Modern Architecture (MA hereafter), p. 15, 13-14.

24 MA, p. 20.

25 MA, p. 21.

<sup>26</sup> MA, p. 15.

<sup>27</sup> MA, p. 37.

<sup>28</sup> The International Style: Architecture Since 1922 (IS hereafter) (New York: W.W. Norton Co., 1932), p. 20 (reprint edition, New York: 1966).

<sup>29</sup> Henry-Russell Hitchcock, Jr., "Architectural Criticism," Shelter, 2 (April 1932), p. 2. <sup>30</sup> IS, p. 20.

<sup>31</sup> IS, p. 52.

32 William Jordy, "Symbolic Objectification," Journal of the Society of Architectural Historians, 22 (October 1963), pp. 177-187.

<sup>33</sup> IS, pp. 86, 87.

<sup>34</sup> IS, p. 68.

<sup>35</sup> IS, p. 57.

- <sup>36</sup> IS, p. 44.
- 37 IS, p. 60.
- <sup>38</sup> IS, p. 156. <sup>39</sup> IS, pp. 66, 67.

40 IS, pp. 177, 223.

- 41 IS, pp. 65, 67.
- 42 IS, p. 37.
- 43 IS, p. 14.
- 44 IS, pp. 92, 93.

<sup>45</sup> Catherine Bauer Wurster, "The Social Front of Modern Architecture in 1930s," Journal of the Society of Architectural Historians, 24 (March 1965), p. 48.

46 MA, pp. 180, 182, 184, 187.

47 Lewis Mumford, Shelter, 2 (April 1932), p. 4. <sup>48</sup> Ralph Flint, "A Conservative Spirit Rules in Ar-chitect's Show," Art News, 30 (March 5, 1932), pp.

5-6. <sup>49</sup> The New York Times, February 28, 1932; and

Stern, Howe, pp. 155-157. <sup>50</sup> Henry-Russell Hitchcock, "Foreword to the

1966 Edition," The International Style (New York: 1966)

<sup>51</sup> David Gebhard, Schindler (New York: 1971), p. 116.

52 Alfred H. Barr, "Notes on Russian Architecture," The Arts, 1 (January 1929), p. 12.

53 William Adams Delano, "Man versus Mass," Shelter, 2 May 1932), p. 12; and William Williams, "A la Mode Horizontale," Pencil Points, 13 (April 1932), pp. 271-272.

54 R.B. Fuller, The Buckminster Fuller Reader, ed. J. Meller (London: 1970), pp. 43-63; K. Lønberg-Holm, "Two Shows, A Comment on the Aesthetic Racket," Shelter, 2 (April 1932), pp. 16-17

Talbot F. Hamlin, "The International Style Lacks the Essence of Great Architecture," American Architect, 143 (January 1933), pp. 12-16.

<sup>56</sup> Kenneth K. Stowell, Architectural Forum, 56 (March 1932), p. 253.

<sup>57</sup> Ralph Flint, "Present Trends in Architecture in Fine Exhibit," Art News, 30 (February 13, 1932), pp. 5-6.

Mendelsohn & Chermayeff, De La Warr Pavilion (opposite). Photo: Richard Guy Wilson.



### International Style: immediate effects

Robert A.M. Stern

Although the 1932 MoMA show of International Style architecture has generally been considered influential, a different interpretation of it is given here.

Robert A.M. Stern is an associate professor of architecture at Columbia University and the author of *New Directions in American Architecture* and *George Howe: Toward a Modern American Architecture.* 

Forgetting the myth for a moment, the Museum of Modern Art's Modern Architecture exhibition of 1932 appears in retrospect to have had virtually no direct impact on the course of architectural practice in the U.S. This is most easily explained if one takes into account the context of severe economic depression followed by world war, both of which brought the building industry to a virtual standstill.

While there is no reason a museum exhibit should have influenced events, the MoMA's exhibition was nonetheless a somewhat truculent attempt to speed up what its organizers regarded as their inevitable course. By comparison with the typical annual exhibition of the Architectural League, with its threedimensional mock-ups, the MoMA exhibit, although intellectually rigorous, was dry and fundamentally unengaging. Nonetheless, it did succeed in establishing the new International Style in the public's mind, not only as a bold European development, but also as one that had achieved a reasonable status in the U.S. That 33,000 people visited the exhibit in New York alone is a marvel, given its austere nature and the fact that, at the bottom of the Depression, even the gallery-going rich were scared and focused on things other than aesthetics.

As one looks back 50 years to the occasion of the show, one can see clearly the real reason it, its catalog, and the book *The International Style* made so little a mark on events was that they did not initiate anything nor tell anything to anyone likely to effect change. Clearly, the MoMA was doing what it has done so well since—preaching to the initiated while fiercely believing it was all the time making conversions among the heathen.

By 1932, advanced European style Modernism was a fully established mode of architectural expression in the U.S., with relatively rich concentrations of practitioners and realized monuments in New York and Los Angeles. It was so established that the Architectural League would include in its annual show a full-size house in the International Style-Kocher and Frey's Aluminaire house, which Wallace Harrison bought and rebuilt for his own use on Long Island (p. 96). A delightful, almost lithe conception, the house adapted all the functional, structural, and aesthetic principles of the International Style to the familiar American weekend house. Amazingly, as rebuilt, the exterior walls were sheathed in canvas duck painted white to ex-

tend even further the European Modernist imagery.

Even more important as an expression of Modernism's established position was the success of Howe and Lescaze. They had been established since 1929 as practitioners of the new Modernism. Their Oak Lane School of that year was widely published here and abroad; their Frederick Field House (1) in New Hartford, Ct, of 1930-31 exhibited the full complement of Modernist elements, including exposed metal spiral stair, roof deck with pipe rail parapet, and a boldly curved corner with horizonal strip windows. Most important, by 1932 their PSFS building (p. 98) was so near completion that it could be represented in the MoMA exhibit and catalog not only by a model and drawings, but by photographs.

By 1932, Richard Neutra was firmly established on the West Coast as an internationally recognized exponent of the International Style. The Lovell Health house (p. 98) was fast becoming acknowledged as a masterpiece of the new mode. Its synthesis of steel frame construction and complex spatial organization offered a highly developed response to issues of site and climate and seemed to go beyond the dry abstraction of lesser Modernist work. Rudolf Schindler carried this move toward climatological and geographical specificity even further in his Wolfe house (2) of 1928 at Avalon, which was well known but not included in the exhibition.

On the basis of these and other examples, it is safe to say that International Style Modernism was established in the U.S. as early as 1929, and that by 1932 if it was not exactly flourishing (after all, what was?), it was at least an established mode of artistic expression taken up not only by the cognoscenti, but also by important businessmen, such as James M. Willcox of the PSFS, who were persuaded by the logic of its polemic even if they were as yet uncomfortable with its bare forms.

Ironically, just as the style was being codified by Hitchcock and Johnson in the U.S., its principal formulator Le Corbusier had already begun to break out of the self-imposed aesthetic dogma of bareness, which guided his work in the late 1920s when it reached its apogee in Europe. As one reads the exhibition catalog as well as the more zesty and polemical *International Style*, one can almost see Hitchcock and Johnson squirming in an attempt to reconcile Le Corbusier's de Mandrot house (p. 101) and Pavillon Suisse with their strict codification of the International Style. It is arguable that their casual gloss on the new direction of Le Corbusier's work in the catalog and book gave the canonical International Style a new lease on life in America, for it is not until 1935-36, with George Howe's William Stix Wasserman house "Square Shadows" (3), Oscar Stonorov, Alfred Kastner, and W. Pope Barney's Carl Mackley houses, and Frank Lloyd Wright's Malcolm Willey house, that the new stage of Modernism-one that accommodated vernacular as well as classicizing forms to the self-imposed demands of a new materialism-began to influence American practice. This new Modernism pioneered by Le Corbusier in the 1930s was brought to lyrical heights by Wright in his synoptic Fallingwater (p. 103).

By 1936, when Le Corbusier's first-hand observations of America were published, the proscriptions and prescriptions of 1932 were at last put aside. MoMA itself acknowledged this shift in 1944 in its retrospective exhibition and catalog Built in USA, in which Elizabeth Mock wrote that the interest of "young intellectuals of the 'twenties in the peasant geometry of Aegean and Hopi villages as well as the perfect white cylinders of grain elevators" had shifted by the 1930s to "a new interest in more specifically native folk architecture stimulated, perhaps, by Wright and Le Corbusier's experiments with natural materials in the de Mandrot House (1930-31) and the Swiss Dormitory . . . (1932-33).'

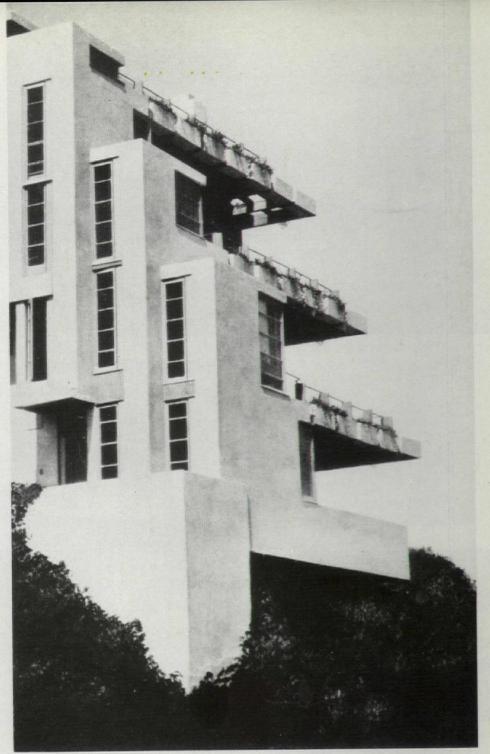
By the time Neutra completed his John Nicholas Brown house on Fishers Island in 1936, its dematerialized structure and boxy forms were already old-fashioned in comparison with the far more contextually specific and integrative work of Wright, Howe, and even Gropius and Breuer, whose arrival in Cambridge, Ma, in 1938 stimulated the cause of a more typical Modernism in the States, and did not give rise to a revival of the precise, mechanomorphological work of the 1920s that many might have expected.



1 Howe & Lescaze, Field house.



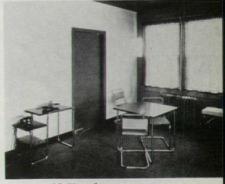
3 Howe, "Square Shadows."



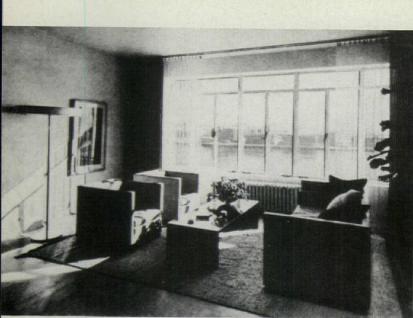
2 Schindler, Wolfe house.

The 50th anniversary of MoMA's show and publications seems a good time to take a look at what immediately followed. Though much of the International Style work was small scale, contrary to what one might expect if judged by the journals, comparatively little was done in the way of interior decoration and renovation, which have been the harbingers of aesthetic change in our own time. Perhaps interior design flagged because of the difficulty architects had in obtaining authentic furnishings, or perhaps because of the style's inherent austerity. Interiors such as Page and Vogelsang's apartment in Washington, DC (4), with bare walls relieved by intense color accents and metal tube furniture, surely did little to contradict the wisely held view of the new mode as a "poor man's style."

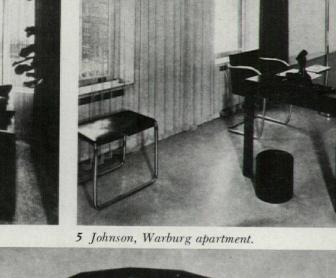
Philip Johnson is responsible for what are perhaps the two finest, and certainly the most consistent, International Style interiors of the period. One of these was designed for



4 Page & Vogelsang, apartment.

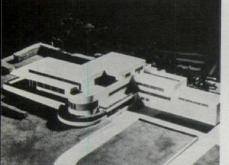


5 Johnson, Warburg apartment.





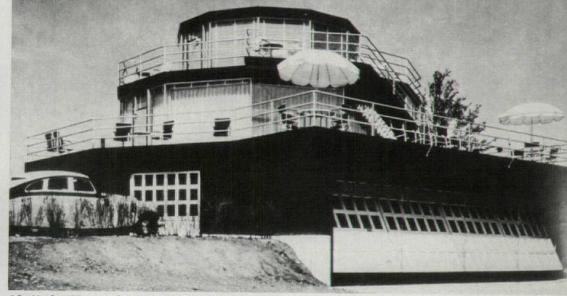
6 Deskey, dining room.



7 Stone, Mandel house.



9 Moore, Century of Progress house.

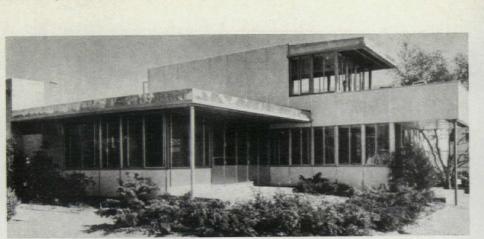


10 Keck, "House of Tomorrow."

Johnson's friend Edward M.M. Warburg. The other was a duplex on 49th Street for his own use and that of his sister Theodate. Quite naturally, each interior reflected the influence of Johnson's idol, Mies van der Rohe. The principal feature of the 49th Street apartment was the double-height living room furnished with a piano and the Miesian furniture Johnson had earlier imported from Germany. Curtains forming "planes" screened the windows as well as the various "zones" of the plan and were organized in a progression of color and texture from tan raw silk at the windows to black serge at the furthest recess of the study. The floor was covered in ecru-colored linoleum, and the walls were painted chaste white. Johnson continued the same sparse feeling in the Warburg apartment (5), substituting boxy upholstered club chairs and couches, presumably of his own design, for the Miesian furniture used previously.

Donald Deskey was the preeminent Modernist interior designer of the day. Working with motifs that included Art Deco, streamline Moderne, and the orthodox International Style, he concentrated on interior architecture, but sometimes left the furnishing of the spaces to conventional decorators (6). His collaboration with Edward Durell Stone in the design of the Richard Mandel house (7) at Mt. Kisco, NY, of 1934 resulted in the most important example of the superficial application of the International Style to follow the MoMA show. Not "the first modern house in the East," as Stone claimed in his autobiography, the house was nonetheless one of its most elaborate exemplars, though not necessarily one of its purest. Deskey's furnishings are sparse, but not very interesting; and despite the extensive use of glass brick, the stylish, curved walls, and the blazing whiteness, the design seems to make no real point.

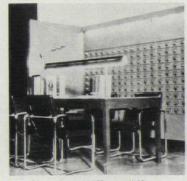
William B. Wiener's astonishingly cheap (\$5400) weekend house (8) at Cross Lake, La, took the International Style very, very seriously. A heavy dose of Le Corbusier results in a house that is more interesting as doctrine than design. Nonetheless, the handling of the concrete frame and what appears to be a metal lattice at the screen porch is a skillful interpretation of European work. Equally serious and sounding a kind of death knell is Henry-Russell Hitchcock's stripped-down Cubistic renovation to the service wing of a Greek revival house in Farmington, Ct, the



11 Neutra, "Moderne" house.



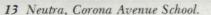
12 Neutra, VDL house.



15 Lescaze, Wilbour Library.



15 Lescaze, Wilbour Library.



only work of architecture attributed to the eminent historian and critic.

While the spirit of International Style Modernism could be faintly sensed in Raymond Hood and Harvey Wiley Corbett's designs for the Macy's Forward House promotion in 1933, it was somewhat more explicit in John C.B. Moore's design (9) for the Home and Industrial Arts Group at Chicago's Century of Progress exhibit in 1933, where the experimental housing section was conceived of as a kind of American Weissenhof Seidlung celebrating the potential of technology in general and prefabrication in particular. The impact of Moore's design, however, was completely overshadowed by George Fred Keck's brilliant, if idiosyncratic, "House of Tomorrow" (10), which was not so much a work of the International Style as a recall of the pre-war experiments of Gropius and Max Taut. Keck's Crystal House (p. 103) at the exhibition a year later was even stranger: its exterior expression that of a giant erector set; its interiors a surprisingly refined example of the International Style that at once seemed to suggest qualities of Mies's Tugendhat house (p. 99) and Pierre Chareau's Maison de Verre.

It was not at Chicago, however, but in Los Angeles that the best work in the style was to be found after 1932. Neutra's VDL, Beard, and "Moderne" houses are technologically and environmentally responsive versions of the style. The "Moderne" house (11) was built for a housing exposition featuring conventional designs, and Neutra's inclusion in that exhibition may have resulted from the prestige of his inclusion in the MoMA show. But it is difficult to imagine that the VDL house (12) commissioned by Van der Leuw, the Dutch industrialist who headed the Van Nelle Company, was inspired by that show. More impor-



14 Lescaze, townhouse.

tant, however, the 1926 project for a Ring Plan School that had been included in the show was realized in reduced form in the Corona Avenue School of 1935 (13).

Despite his highly eclectic early work, William Lescaze was as flamboyant an advocate of International Style Modernism as Neutra. Though less concerned with an integrative approach to building designs, Lescaze's work in the early 1930s inside and outside his partnership with George Howe constitutes the most convincing and enduring monument to the International Style in America. His townhouse (14) at 211 East 48th Street in New York is one of the decade's notable icons. Its façade introduced glass brick and white painted stucco to the typical New York street. Lit at night, the glowing glass made it the perfect advertisement for a new order of building. Lescaze's renovations at the Brooklyn Museum, including the Wilbour Library (15), brought his brave-new-world Modernism into direct conflict with McKim, Mead & White's powerful Classicism. And as with Hitchcock's Farmington project, the truculent new style proved itself an unequal match for the old style.

While this brief account has concentrated on small-scale work, it should be noted that some of the pioneering public housing of the era, such as the Carl Mackley houses, began to suggest a social message behind the new way of designing. That this message of class solidarity was repugnant to many, however, raises complex questions beyond our present scope. In retrospect, however, the MoMA show, itself brilliant, circumscribed by economic and social conditions beyond its control, seems an interesting though fundamentally uninfluential curiosity. □

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Seating plant, Holland, Mi

### Image and morale

Two design-oriented and people-conscious parties, CRS and Herman Miller, make a harmonious team to shape fine manufacturing facilities in Michigan.

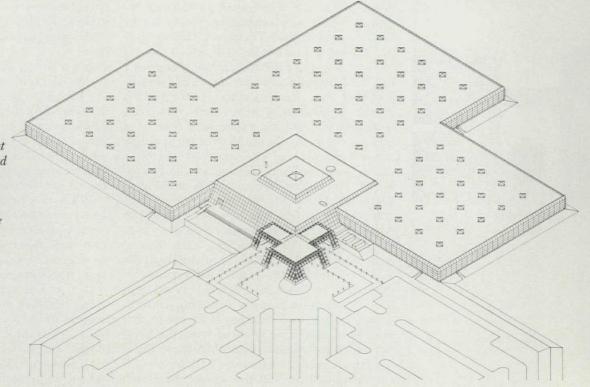
While many manufacturers make the appropriate noises about their concern for employee comfort and happiness, there are many disparate ways of addressing those concerns. Possibly no industry in the country makes more of their employee relations than do the interiors products manufacturers. And nowhere is there a greater concentration of the industry leaders than in the general vicinity of Grand Rapids, Mi—names like Steelcase, Westinghouse, Stow/Davis, American Seating, Haworth, and Herman Miller.

Even though these companies may be very different in management approach and/or product, they share several aspects. Visiting them, an observer is struck with the sense of "family" and of management's recognition of, and respect for, its largest resource—the employees. Most of the companies are growing, some dramatically.

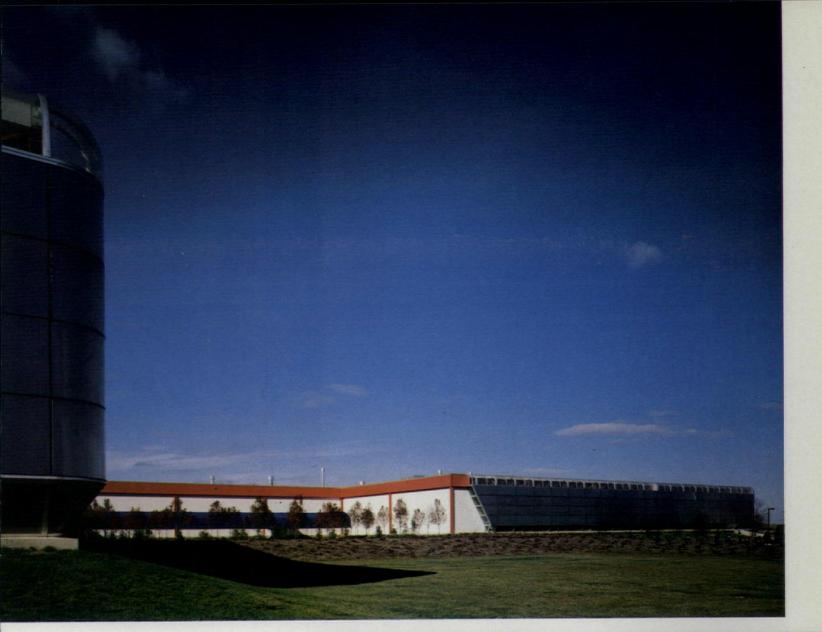
Herman Miller certainly exemplifies all of these facets. The combination of design acumen and employee morale may seem an unlikely notion. But where else does the poster for a company picnic become a sought-after graphic *objet*? Having been on record as supporters, promoters, and suppliers of good design during its lifetime, Herman Miller has carried its philosophy, logically, into the selection of nationally recognized architects for its building projects.

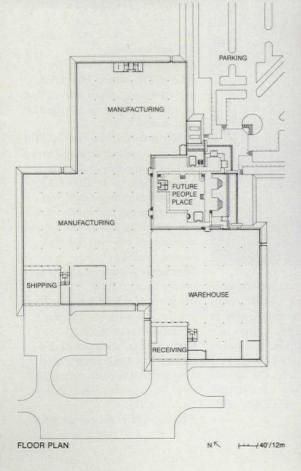
For the new seating plant in Holland, Mi, the Miller organization chose CRS of Houston, long known for its front end collaborative design process, or "squatters" sessions. From these early meetings came design input from plant workers and managers, not just from upper management. The intent then was, to quote Paul Kennon, CRS president and design principal for the job, to "combine high morale with high technology. . . ." In its final form, the Holland facility will comprise two more comparable plant segments, since this is only the first of three planned.

An expression of technology, the buildings are bermed long, slick, extrusion-like elements on the exterior, while the simple wide flange columns and open web trusses and joists are the interior aesthetic. Except for one thing. The building skin is stainless steel outside, painted steel inside, and insulation between. Pulled outside the column line, the panels stop short at the top and bottom, the form completed by glazing. The entire cornice is vaulted acrylic skylight, and the "base" is inward-slanting fixed and sliding windows.



In the overall scheme for the first phase, the entry will be completed by the "people place" shown in the axonometric (lower center, right). For now, the skin of the building is cut away at an angle on the entry façades (opposite page).



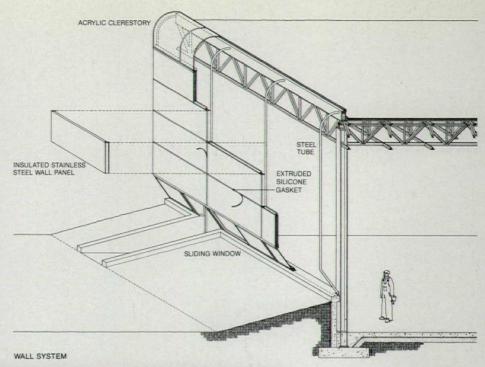




#### Herman Miller

Exceptions to these conditions occur at the entry, which awaits the completion of the "people place," a skylighted pavilion to serve as entry, break or lunch area, seminar space, and other uses. This missing piece accounts for the angled slices terminating the steel skin on the southeast and northeast façades near the present entry.

Because of the continuous top and bottom glazing and additional skylights, the interior requires less artificial lighting. The inner surfaces of the perimeter walls fairly glow on bright days, and workers are provided both optional ventilation and eye-level views through the lower glazing. There is one problem with the cornice vaults-an overabundance of insolation in some areas in warm weather-which is being studied; it would seem that some form of optional shading or shuttering should be installed. Trial panels of





more opaque acrylic have shown a distinct dampening effect on the building's expression and, it is to be hoped, will not be seen as the solution.

Overall, the building is a sleek and spare machine to house a quality manufacturing operation. It is adaptable, as the office space currently being housed in part of it shows, using "Action Office" furnishings. The Herman Miller "Action Factory" system is also at work in the manufacturing areas. The addition of the "people place" will bring a welcome multiuse area and a social amenity seldom found in manufacturing facilities.

With the new chair plant and other new facilities, Herman Miller again underscores its design passion. But it goes the other way as well, with praise from the client. Conversations with Board Chairman and CEO Max De Pree and with John Berry, Miller Director of Corporate Communications, left no doubt that Herman Miller is "a pleased and happy client." And a very good one, we might add. [Jim Murphy]

Floor level of the factory is below grade slightly, and workers can view the outside from their stations. The continuous vaulted cornice skylights bathe the inside wall surface in light, and bright red-orange accents the structure and the loading dock doors.

#### Data

**Project:** Herman Miller Seating Manufacturing Plant, Holland, Mi

Architects: Caudill Rowlett Scott, Inc., Houston, Tx. Design principal, Paul Kennon; designer, Jay Bauer; project director, Jay Neyland.

Client: Herman Miller, Inc. Site: gently rolling farmland, almost treeless, at an intersection of two highways and adjacent to local airport.

Program: warehouse of 76,800 gross sq ft, manufacturing area of 124,800 GSF, and administrative offices of 10,000 GSF. Structural system: steel deck on open web joists carried on open web girders, which frame between wide flange columns. Shallow spread footings.

Mechanical system: forced hot air heating.

Major materials: stainless steel insulated panels, steel framing, acrylic barrel skylights.

Consultants: mechanical, Engineered Systems; electrical, B.J. Kemper & Associates; civil, Holland Engineering, Inc.; structural by CRS.

Photography: Balthazar Korab.







Rady Studio, Venice, Ca

### Bared necessities

For a California ceramics studio with a tight program and an even tighter budget, Frederick Fisher created an appropriately spare design.

#### Data

**Project:** Rady Studio, Venice, Ca.

Architect: Frederick Fisher, Santa Monica, Ca. Program: 975-sq-ft ceramics studio incorporating a 300-sq-ft living area for one person. Structural system: wood stud

framing. **Major materials:** wood studs, gypsum board, corrugated fiberglass and asbestos. **Mechanical system:** in-line

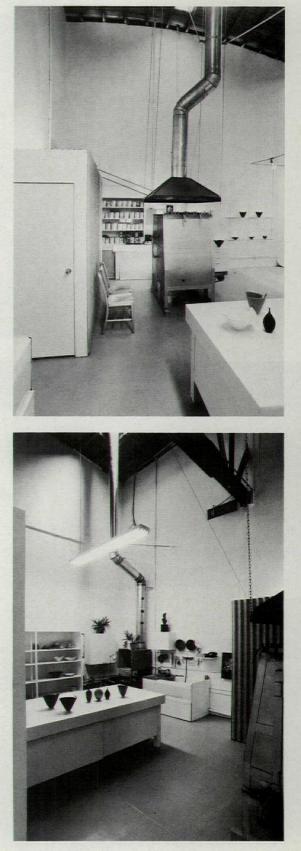
duct fans. **Consultants:** Les Fejes, structural; Rikki Kline, carpentry. **Costs:** \$10,000 (\$10.26 per sq ft), excluding utility hookups. **Photography:** Tim Street-Porter.

Axonometric: Fumiko Goto.

"A technical problem more than a formal one," is Frederick Fisher's description of his design for ceramist Elsa Rady's studio in Venice, Ca. In fact, a formal problem would have constituted a luxury in this project. The program for the 975-sq-ft space, housed in a one-story brick commercial building of 1920s vintage, called for a studio to accommodate Rady's wheel, kiln, and spray booth (for glazing), and a 300-sq-ft living area that was protected from the heat and dust of the studio. Rady's work habits are as disciplined and meticulous as the porcelain bowls she produces; she placed a premium on cleanliness, to avoid contamination of the porcelain, and abundant, concealed storage. Her penchant for detail and finish seemed impossibly extravagant for her \$10,000 budget.

Fisher knew that under the circumstances, less was best. The few formal moves that he did make in the design grew directly out of functional and economic constraints. Gypsum-board walls enclose the living area to a height of eight feet-just enough to establish a human scale in the high-ceilinged space and satisfy the client's desire for "finished" walls. From that point up to the existing bowstring truss, corrugated fiberglass panels take over, saving on material and construction costs, and allowing daylight to enter the living area from the studio's three existing skylights. Fisher placed the wheel, kiln, and spray booth each under a skylight for clear visual separation of function, and he set the kiln on axis with the entrance to underscore its role as the studio's functional and ceremonial centerpiece. Work areas are illuminated at night by strong incandescent floodlights. The living area is equally minimal, with a small windowed alcove (which projects from the wall on its exterior) as its only formal indulgence.

This project, which is arguably the least typical of Fisher's work, forgoes the complex juxtapositions of materials and forms for which he is known. But one should not assume that necessity alone was the mother of understatement: Fisher acted not simply out of frugality, but out of sensitivity to the problem faced when one artist creates a space for another. Against this relentlessly austere backdrop, Rady's work stands out in elegantly sharp relief. "In an artist's studio," maintains Fisher, "the architectural statement should be passive." This studio's serenity, however, is attained only by active restraint. [Pilar Viladas]







The kiln (above and facing page), backed by corrugated asbestos wall, is the studio's centerpiece. Door behind kiln (facing page, top) conceals storage. Work area (bottom) houses spray booth and raw materials. In a view from the entrance (large photo), bowstring truss is visible at upper left; wheel in foreground. Living area (top left) receives daylight from studio through fiberglass panels. Book-lined alcove (above) has window to studio.



King Abdul Aziz International Airport, Haj Terminal, Jeddah, Saudi Arabia

### Invitation to the Haj

A 1981 P/A Award winner, the Haj Terminal has now seen its first Haj. Interviews with both users and designers have tried to capture the spirit of the place as well as the spirit with which it was designed.

The participants in the following discussion are noted by abbreviations. They are in order of appearance: **AK:** M. Akbar Khan is manager of Amsag Travel Corporation of New York City. A ten-year resident of the U.S., he is Pakistani and has led two tours as a Haj pilgrim. **RR:** Richard Rush is a senior editor of P/A.

RD: Raul de Armas of Skidmore, Owings & Merrill was the designer in charge of the master planning of the new Haj Terminal Complex. FK: Fazlur Khan of SOM developed the basic structural design for the fabric roof. JW: John Winkler was the resident manager for SOM's office in Jeddah.

#### The Haj

AK: I took a group of pilgrims to Jeddah in 1980. As far as the airport at that time and the arrangements there were concerned, it was a shock to me, and it was difficult to bear the place and the arrangements. When I left for Jeddah this year (last year the group was of 56 people, this year the group was of 30 people), I knew that we were going to a new international Haj Terminal. To our good luck it was a beautiful building, all air conditioned. The arrangements were good, and we had no difficulty at all when we arrived there. We went through the immigration and then to the baggage, and everything was well planned and well arranged. When we came outside the enclosed building, we had to spend overnight waiting for the passports to be received back after the formalities involved. We waited there in a sort of openroofed place. A beautiful place with all the facilities around: the offices, their bus offices, pilgrimage offices, cafeterias, the sanitary arrangements. There were a few thousand people at a time. The Haj pilgrimage is a great sacrifice so nobody minds spending the night on the pavement, which they have made under that roof. We spent the night, and then we left for Mecca. Everything was nice; we had no difficulty.

When we returned from the Haj, I saw the airport during the daytime and the international departure lounge. It's a beautiful lounge, a huge one with all the facilities to accommodate a few thousand people at a time with the cafeterias; everything was air conditioned, in good shape, and well managed.

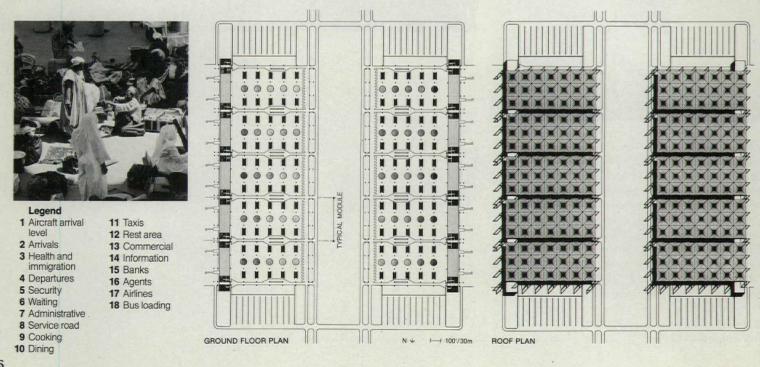
**RR:** When you say that you went in 1980 and it was a shock, what was shocking about it? How was it different?

**AK:** After we landed from the aircraft—we were 400 pilgrims from that aircraft—all of us were taken to a room which was not air conditioned, which was dirty. It was hardly big enough to take 400 people. We had to stand for hours till our turn came for the immigration and the customs. The baggage was also in a shed. So it was a shock to me. It was very uncomfortable for a long period of time. **RR:** This year were any of the tour members women?

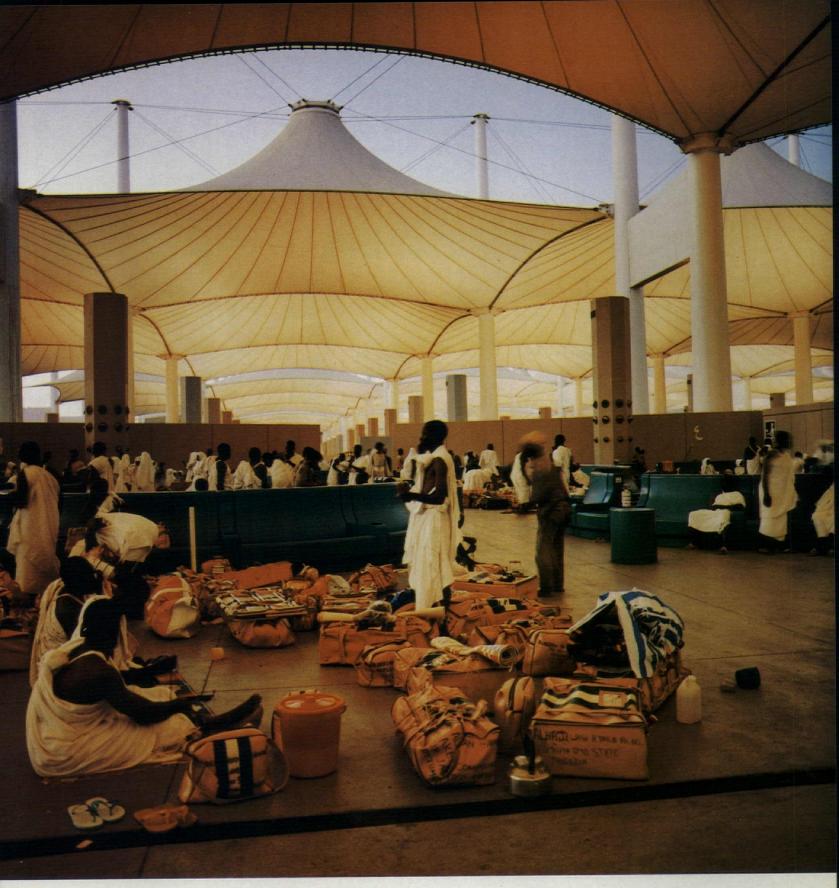
**AK:** Yes, about ten. Most of them were in married couples.

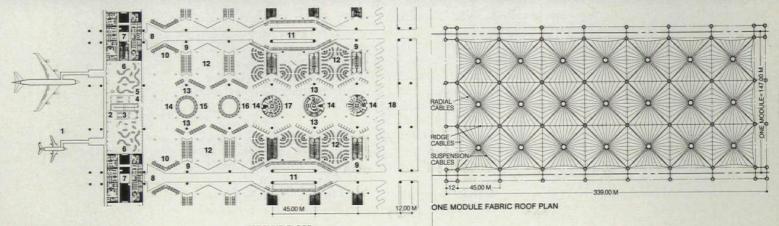
**RR:** Women and men have a different role in that country than they do in this one. Was there a problem. . . .

**AK:** During the ceremony of the Haj, the men and women are together. They don the special white garments. The women have to cover the body and the head, not the face. The men have to put on a two-piece cloth: one they tie around the waist, and one they put on the shoulder, with one shoulder bare. And they are always together and it's a special thing to perform all these special rites and



Progressive Architecture 2:82





MODULE PLAN: SECOND FLOOR

GROUND FLOOR

#### Haj Terminal, Jeddah, Saudi Arabia

ceremonies together. But no woman can go alone unless accompanied by her brother or her husband or her father.

RR: Are there children?

AK: Yes, but not a great number.

**RR:** Where is it or when is it that you put on these robes and things?

**AK:** We put on these robes at Jeddah airport. When you come out of the immigration and baggage, there are all the facilities to change at the airport. We remain in those clothes all the time, all the days until the Haj is performed. After the ceremony is over, we have to take off those robes and sacrifice a goat or several people together sacrifice a camel or a cow. When we leave Mecca and come to Medina, we wear our western clothes.

**RR**: Now about the time period involved here. How long a flight is it from New York? **AK**: 14 hours or so. We stopped at Paris.

**RR:** And by the time you get through the building, the air-conditioned building, until you get under this roof?

**AK:** The moment the immigration and baggage formalities are over, then we are out. It took about an hour.

**RR:** And compared with the previous year when there wasn't a terminal like that, it might have taken longer?

**AK:** There's no comparison with the previous year and this year. No comparison.

**RR:** It was night when you arrived? And you waited several hours until the passports were cleared?

**AK:** The passports had to be stamped for the religious guide who would conduct our group. So that takes time.

**RR:** That's what, six hours, eight hours? When you said you'd spent the night there, does it mean that you slept there, or you just waited in the room?

**AK:** We start meditating when we leave here. After putting on the robes we start meditating. Hardly anybody sleeps.

**RR:** Do people from all over the world arrive at the same time?

**AK:** The people start coming two to three weeks before the Haj. And every day there are flights. A religious guide, called a Mualim, has arranged for the hotel and he has arranged for the stay in the other places, the place called Meena, which is a valley. There are tents there which are temporarily built: everything is temporary there—the toilets, the other things. Then another place is called Arafat, where we prayed. So for this process the people start coming for one month before and then two to three days before Haj, all the flights are stopped. The airport is closed for the pilgrimage three days before. So one has to come three days before in any case.





**RR:** Now when you're coming back, you have an identical experience in reverse. Buses stop in the same shelter. . . . Go through your passport and board the plane?

**AK:** Yes. This is such an experience that in spite of the physical hardships you go through and in spite of the hot weather there, a person feels like going again and again.

**RR:** From my own experience in Africa I remember watching Moslems in the fields using teapots full of water and washing their feet. They put down a rug and they pray.

**AK:** Yes. That is ablution. You have to clean your hands and face and wash your mouth (or do the brushing) and the feet, and then you pray. You have to be clean when you pray, the clothes and the body.

**RR:** People who were in the airport and wanted to pray had to clean themselves. How would they do that?

AK: There were hundreds of water taps.

RR: Was this in public?

**AK:** No. The ablution taps and the bathrooms and the toilets all are together. At the center were the ablution taps and on the side were the others—very, very well planned.

**RR:** When you say meditation and prayer, do you use the words interchangeably?

**AK:** There is a regular prayer which is done five times, and meditation is in addition to that. Five-time prayers is an essential part of the religion: before the dawn, at noon, in the afternoon, at the time of sunset and before midnight. In addition to that, you can sit down and meditate.

RR: In a chair?

**AK:** You can do it in a chair, but it's better that you sit on the floor or on the mat. That gives you more contact with the Holy God if possible.

**RR**: So at dawn, if you happened to be there at dawn, in this structure all those who were





When the designers from SOM visited Saudi Arabia in the mid-1970s, they found both inspiration and reality. They were inspired by the piety and dedication of the pilgrims and (above left) the temporary tents constructed in the valley of Meena. The cluster of radial tents is echoed in the permanent "tent" which finally become the roof of the terminal. They discovered also that even under the intense heat of the sun, being in the open under an umbrella (at left) was preferable to enclosure in a hot building. The photos above to some degree illustrate the scale of baggage problem that occurs when over 500,000 people arrive in a three-week period.

there went and washed themselves and prayed?

AK: Yes.

RR: Did they stay underneath the shelter? AK: Yes.

RR: And they all faced the Ka'aba?

AK: Yes. The Holy Ka'aba.

#### The airplanes

RD: As an airport, the Haj terminal is unique. You have an airplane that arrives full and leaves empty or comes back empty and picks up people and leaves full. The number of trips is based entirely on how fast planes return empty for more people. For the final solution, you're not talking about a normal international terminal. This situation has the quality of an air lift.

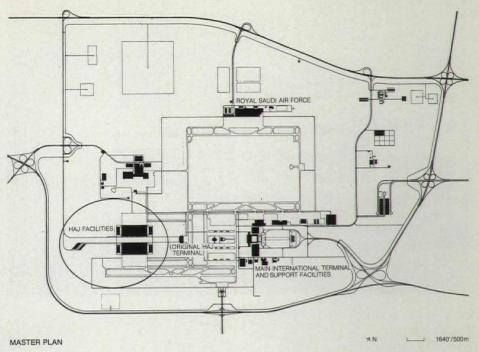
FK: We actually designed it to accommodate 80,000 people in 36 hours.

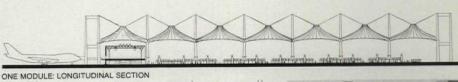
RD: Two Yankee Stadiums after the World Series combined in one place-however, dying to go somewhere. I must point out, it was understood that it was inevitable that they had to stay there about 24 hours coming in and about 36 going back. We tried to talk about dividing the process equally between arrivals and departures and we found that departures were the heavier of the two because it took longer in the airport to depart. JW: The original airport was designed in 1965 by Ed Stone. It lay on the shelf and there was an interim period. In that 10-year window from the 1965 design year to the year of our participation in 1975, the Haj had grown from 50,000 to 500,000 participants by air. Our design was eventually to accommodate 1,000,000 pilgrims.

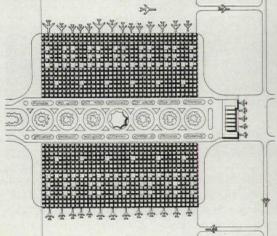
RD: The new terminal can expand. What is interesting about the final possible growth of this terminal is that it will be the plains of Meena that will become the bottleneck-and not the potential size of the terminal we can build. There is space for only so many tents. In all the original schemes, the apron for the aircraft was the same as the international apron. In the final scheme, the apron for the Haj was a separate and distinct area so that the aircraft for the Haj did not mix with the international traffic. If the aprons could be moved close to terminal, the aircraft could park directly next to where you're deplaning and avoid passengers on the runway. You could process through bays which would hold 80,000 people split up into ten groups of 8000 each-which could also then be grouped by nations or groups of nations and language. Plus you could grow like hell.

#### The terminal

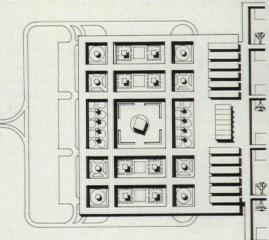
RD: We consider the terminal to be from the aircraft to the buses. Originally the terminal and holding areas were separated by large distances needing busing. After our visit to the Haj itself we condensed things and included the arrival building and holding area in one place.



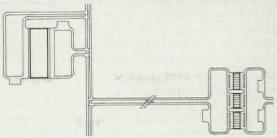




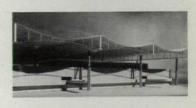
EARLY SOLUTION WITH AVENUE AND CONCRETE ROOF MODULES



EARLY SOLUTION COMBINING TERMINAL AND HOLDING AREA



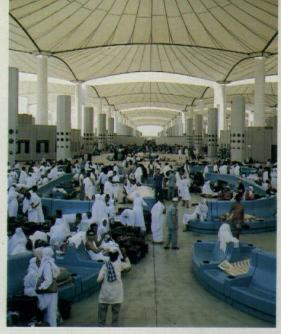






The drawings at the left illustrate the evolution of the Haj Terminal plan. In the final design the 1965 terminal design was used only for support facilities, and punctuated the avenue which bisected the larger terminal. The holding area, which originally was remote, became integral to the new scheme. The structure (above) evolved from concrete "mushrooms" through an early fabric attempt to the final modular fabric design.









The pictures above were taken at this year's Haj pilgrimage. The structure itself arrived from foreign countries and was erected over a period of 29 months. The pylons came from Japan, the cables from France, the fabric from the U.S. That the 4.6 million-sqft fabric roof was assembled and constructed in the desert climate is alone something of a miracle. (It was finished four months ahead of schedule.) Even the structure pales in comparison with the immensity of the task it was designed to accomplish. This year over 650,000 Hajis arrived (top left) by over 2000 charter aircraft. Many of the pilgrims (top right) spent as much as 24 hours waiting after arrival. Shops (bottom left) were provided for their use before buses (bottom right) took the pilgrims to Mecca.

The first thing we did, even before the roof cover, was to decide that a mezzanine level for resting was wrong-these people liked to stay on the ground level-so all areas remained on the ground. We were sure that the answer was to have a one-level terminal. The only two levels used were in arriving; then the passenger passes from the plane on a bridge through the first set of steps and goes down to pick up baggage. From that point he or she always remains on the ground level. The skinny building on the plan is in fact the terminal within the terminal, like Shakespeare's the play within the play. This was the area within the facility where more normal steps of immigration-health, customs, and baggage retrieval-would take place.

In the buildings in the center under the open roof, it's almost like, if I could describe it, like a pinball machine thing—people are being literally bounced around. They're going to the most visible and central elements, both from a control point of view and from an accessibility point of view. One of the key elements was orientation. You land here and you know you're going to the bus because you see the bus the moment you land; and vice versa, when you land in a bus you see where the aircraft is.

Either side of the avenue, to the buses, was lined with these shops; you had large rest areas with benches you could lie on and rest, and by rest you could even nap. We were not trying to deal with sleeping as a hotel situation. There are large toilet areas for great numbers of people.

There's always been a certain commercial undertone to the pilgrimage in that many times pilgrims will bring something and use it to pay for the trip—you know, that is whatever object you might sell someone might become your source of income to be able to pay for this long-awaited trip. There was always in the past a particular exchange of goods that took place in the pilgrimage itself that had to be taken into account.

JW: This was essentially built as designed, these round buildings, as were the toilet enclosures. There were modifications made to those buildings, but essentially they're as designed by Skidmore, Owings & Merrill. The main arrival area was not. What happened was a great deal of effort had been put forth to build the airport, and a special committee was formed to see what could be done to call this airport operational as soon as possible. And the Saudis were very concerned about the time span to build the airport. Therefore the element of construction time was the main reason to greatly simplify that building. Our solution was to make it temporary and go back to that which we had designed. The client decided that rather than spend the money, he should take the next step which was to go in between, and pursue that design. It's exactly what occurred.

**FK:** It is the impression I get that they looked at the entire solution as the creation of a covered, shaded environment, and therefore at times there was a tendency to give less importance to the things underneath it. It was such a huge, flexible, shaded space—well we'll try this, we'll try that. In fact, all five bays of arrival buildings have not been built. The idea is that they will still go back and build the thing as we designed it.

#### The roof

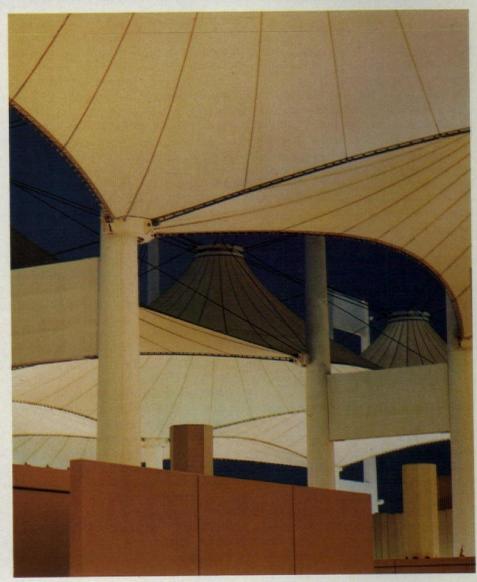
**FK:** The next jump in terms of thinking that took place was the idea that an opaque cover did not at all fit with the overall objective. Pilgrims are coming out of the plane into an environment that should be a transition, not simply a copy of what they experienced in flight. So we felt for the first time that the opacity of the surface should be changed to translucency. And that's when we came up with the idea of the very thin fabric character of a roof. Not the form of the roof, but the character of it.

**RD:** We took a rather high technology roof to produce a low technology terminal. That sort of paradox is the key to the thing. The size of the bay was developed, and you will notice that from there on you're not ever seeing drawings of the entire terminal. You see one of the ten bays; and so that was set, the dimensions were set by the two 747 aircraft and the buses. We must have a translucent cover that spans larger amounts and has fewer pieces.

FK: It was quite apparent that the fabric's real strength and real property is when you create a two-directional curvature. The fabric curves this way and that way, and this twodirectional curvature gives the fabric stability. Now, we know that the fiberglass is very strong; therefore, there is no reason, we felt, to create this form of fabric structure with the classical grid pattern of cables. We felt this fabric is so strong from all the properties we got from Owens-Corning that we should be able to use the fabric itself as the structural form and the structural strength. And that is why, when we started testing, making models, the structural models, we were really seeing the infinite possibility of creating forms simply by pushing and pulling at different locations to achieve a two-directional curvature. The fabric's form from an intellectual point of view could be millions of forms. As long as we created a negative-positive surface curvature, we could build it. At that point, the cultural heritage comes in-the culture and the response in terms of what is Haj itself, what its ambiance and environment are; and then you visualize the millions of tents on the plains of Meena.

**RD:** You have been watching a series of quantum leaps from a little terminal to a village, to an avenue; from an avenue to how do you cover, to what is the logical form to use for





The immensity of the structure is difficult to comprehend in photographs. Its beauty is not.

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#### Haj Terminal, Jeddah, Saudi Arabia

fabric. The solution was large-scale vernacular because it made sense. Now—and the key is the avenue—the thing was so large in scale that it was no longer a building, it was a place—it became a place.

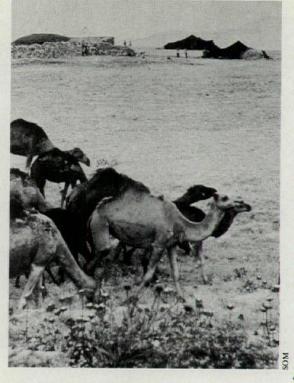
FK: My environmental engineer partner, Perry Gujral, in analyzing the temperature levels of the air in the structure (with smoke tunnel tests) from the top to bottom, saw that the top is constantly being ventilated. Body heat from people and some internal reflection of the heat gets stuck at the ground level. So at this level, actually, temperatures are a little higher. The coolest temperature is in this upper level. So what we did was, in fact, create a technique using fans to move the cool air from above down to the human level and push it out again, taking advantage of the coolest layer rather than refrigerating any air. RD: We are also depending on evaporation as a method of cooling the human skin because of the moving air.

#### The place

**RR:** One of the things that was eliminated early on, or appeared and disappeared very briefly in the design, was a small mosque. When I look at the Haj building in all of its obvious beauty and magnificence, one thing it doesn't say to me is pious, religious place. The structure, the forms underneath, the airplanes coming and going—all of what you're talking about obviously is there and obviously is working, but it definitely doesn't say to me spiritual, religious experience.

RD: There's a ministry of the country that deals with nothing but the Haj pilgrims. They varied from asking that we make sure that a door is wide enough (this simply had to do with the fact that the temporary facilities had one small doorway to each little kind of building; therefore, they had trouble), to "we would like this to be the gateway to the Holy Land, the gateway to Mecca." It is the gateway you penetrate before you get to Mecca. It's funny but in looking back at that request (which is first something you simply kept in mind because you don't deal with it directly), personally speaking, I feel that gateway was created. I would assume that someone arriving at that facility after a long trip-with that bright light coming through, those white tents of that scale and that form-if they don't feel something tingling inside, I'll be amazed. That's the best way I can describe it. FK: But I would say the Haj Terminal does not have to be religious; in my opinion it should evoke the spirit of Haj and that's all it should do. It creates the spirit, it gives you a feeling of tranquility and a sense of continuity, of transition into the real place, which is Mecca.

**RR:** I must admit, though, with those powerful roof forms, if the low building form either was more evocative of Saudi architecture or had the kind of reference that the tent has, in some form or another, the complete building would be stronger.



RD: There is a bigger issue. In a sense, I'm not answering as an answer to this. It goes back to what about Saudi architecture? Grilles at the windows, stucco forms, the mud brick houses. What about it? The tent is the key thing, and yet if you have a telephone in a Saudi house, it's a telephone; if it's a fan, it's a fan. Do you put pointed arches in them? I feel that these things ought to be what they must be, as objects, rather than trying to make a pointed light bulb or something and say, this light bulb is now Middle Eastern because it is pointed. That is personally how I feel. Certain western architects building in that part of the world seem to have decided that having pointed arches on one façade all of a sudden makes the building work. I feel quite offended by that, quite frankly. I feel that is surface treatment and not essence. In a way, this goes back to the core, to the heart.

I often think of things in terms of that project. If I see something that doesn't quite add up, I often think, well this is like the Haj: just give it time and understand that it's different from what we assumed it to be.

I think your questions are all very good questions. I think, however, they deal with architecture as a whole. And it's the kind of thing we could spend quite a long time talking about. The question is particularly sharp today. Today there is a refocusing on what is local, what is not; and yet the airplane is the airplane, and it's a fascinating marriage of culture and technology. I guess what I find fascinating is that one was able to use the same basic principles of living of that place, of the imagination the nomad of the desert developed to deal with a hostile climate. The same kind of feeling that you get in the tents of Meena is there. It all goes back to what Faz talks about, feeling sort of peaceful under all that controlled light.

#### Data

Project: King Abdul Aziz International Airport, Haj Terminal, Jeddah, Saudi Arabia. Architects & Engineers: Skidmore, Owings & Merrill, New York and Chicago. Gordon Wildermuth, Roy O. Allen, Raul de Armas, Gordon Bunshaft, Parambir Gujral, Fazlur Khan, John Winkler, partners in charge.

Client: International Airport Projects, Ministry of Defense and Aviation, The Kingdom of Saudi Arabia, Brigadier General Said Y. Amin, director. Site: 105 acres at King Abdul Aziz International Airport. Program: by 1985 nearly 1,000,000 pilgrims are expected to arrive in Jeddah for the Haj. The task of the terminal is to serve as a gateway for these people and their belongings. Structural system: the fabric roof is Teflon-coated fiberglass. The pylons and cables are steel. The arrival building and support facilities are precast concrete. Mechanical system: natural ventilation is augmented with mechanical fan towers. Construction manager: Saudi Arabian Parsons Ltd./Daniel International Ltd. General contractor: Hochtief AG

Fabric roof system contractor: Owens-Corning Saudi Co. Engineering consultants: URS; Geiger-Berger Associates. Structural steel subcontractors: Nippon Kokan K.K. and Mitsubishi.

Structural cable manufacturer: Chiers-Chatillon-Gorcy. Structural cable coater: Owens-Corning Saudi Co. Fabric roof fabricators: Owens-Corning Fiberglas Corporation and Birdair Structures, a division of Chemfab.

**Fabric manufacturers:** Owens-Corning Fiberglas Corporation and Chemical Fabrics Corporation.

Fabric weaver: Chemical Fabrics Corporation.

"Beta" yarn manufacturer: Owens-Corning Fiberglas Corp. Teflon manufacturer: E.I. du Pont de Nemours & Co. Special erection equipment designer and manufacturer: SIARGA International. Special tooling designer and manufacturer: Schueler-Leukart. Photography: Jay Langlois/

Owens-Corning except as noted.





Victoria Station Restaurant, Fairfax, VA., Architect: Donald K. Olsen, Sausalito, CA., Installation: Krupnick Bros., Glen Burnie, MD

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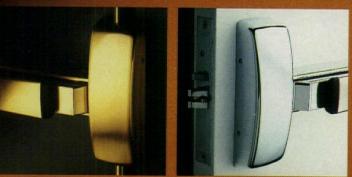
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### Hard and soft information

#### William T. Lohmann

Information as it affects design may take many forms, even changing form or applicability during the course of any given project.

William T. Lohmann, AIA,

FCSI, is Specifications Man-

ager for Murphy/Jahn,

Chicago.

The concept of "hard" vs "soft" information has nothing to do with one's preference for the doneness of one's breakfast eggs. Nor does it relate to hardware and software, from the language of talking computers. Instead, the concept suggests a method of evaluating the relative reliability of design information. Properly used, it can become an important tool for quality control.

Considering their primary function as information organizers, designers must be concerned with the reliability of their sources. The design process builds successive decision levels, which are both interactive and dependent upon previous conclusions. Initial input must provide a solid basis for later judgment.

Hard information is easiest to identify. By our definition it represents reliable input from knowledgeable and authoritative sources. Building code and zoning requirements are generally hard information. Design and workmanship standards, which are published by many trade associations, reflect the actual state of the art. Existing site conditions can hardly be ignored.

Because of its legal status, a manufacturer's printed product literature is high on the list of hard information. Product literature ranks even higher when backed up with actual test data by an accredited laboratory or the producer's written statement of applicability to a specific project.

We are justified in relying on our own experience, too. Direct feedback from previous clients, review of completed projects, field reports, and shared information from other professionals are good sources. Such experience must be considered relatively soft, however, unless it is authentic and well documented.

Soft information takes on amorphous forms. An early design assumption, for instance, is soft information until proven to be valid. Supporting data must be accumulated and analyzed step by step. Each answer raises more questions. Indeed, we sometimes discover that we are asking the wrong questions, addressing the wrong problems. It is necessary to retain an open mind.

Biases turn out to be softening agents. Our judgment (and that of sales representatives, contractors, and industry spokesmen) is directly affected by what we want to hear. Recognizing that, and working to offset it, is a big step toward basing decisions on more reliable data. Abrupt questions like "how does it fail?" bring us back to reality. Deep within most design professionals lies another source of soft information. Intuition derives from prior knowledge, personal experience, bias, and other factors, but it is expressed as a "feeling." Because intuition is close to the wellspring of creative design, it is sometimes emotionally defended without the benefit of hard data. An intuitive solution remains too often as an unproven assumption.

Unfortunately, information that appeared hard at the beginning of a project may soften. Changing conditions and revoked decisions are like steps in the wrong direction. The client revises the program, codes change, manufacturers go out of business. On the other hand, some facts become hard before we would like. Fast track construction operations can cast our feet in hardened concrete. Ignoring the need to confirm information at the appropriate time makes the design process more difficult.

Design information moves (rather, must move) from soft to hard as new data are investigated and assumptions are verified. Each level of information must be firm before we add the next. Our credibility, liability, and economic viability depend on it.  $\Box$ 

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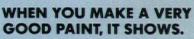


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# Finding the best answer

The following article examines the ways we combat our increasing ignorance. It is a reminder that a building is only as good as the information, inspiration, perspiration, and luck that go into its design.

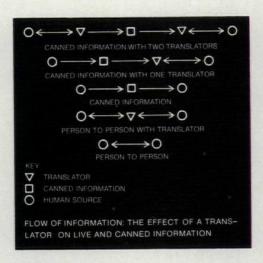
Architecture is information: the information that goes into the building of buildings; the information that the building occupant perceives during its use; the information that a structure can yield about its occupants and builders years, even centuries, after it has ceased to be used. As architects, we are especially sensitive to the information that goes into our work. Frozen in steel and mortar, it is the embodiment of our knowledge and our ignorance. Its failures are our failures, and our lessons.

Architects only rarely repeat a building design. As a result, every new project involves the task of obtaining the most current information in order to solve whatever new problems arise as quickly as possible. We don't often think about the kind of information we are seeking, its form, and the way we go about obtaining it.

#### What kind of information

The most obvious desirable content for information is hard facts: predicting exactly how a design will perform. The more nearly unique and original the building, the less likely it is that there is precise hard information about how that particular combination of materials, weather, and people will perform. In other words, a building can become a living laboratory, the first and only time that the particular set of materials will be in place. Even if full-scale mock ups are constructed, none can be large enough to fully simulate the response of a structure to the weather and occupation by human beings over time. The users themselves can vary over time.

So the task is rarely that of finding the *correct* solution; it is one of finding the *best* solution. Another related issue is that no owner requires that an architect be able to solve all of the problems in every building today; he asks only that the architect be able to solve all of his or her particular building's problems, and if not today, before disaster occurs.



The luxury of person-to-person communication is the shortest path between two points swift, precise, and versatile.

The task of designing a building therefore is a chain of judgment calls, based upon the best information available at the time, about a chain of very *specific* problems.

Outside our own direct experience, there are two primary ways available for obtaining the new knowledge we need: "live" information or "canned" information. That is, the source can be the mind of a living person directly or the fruits of living people, books, magazines, films and so on. Generally speaking, the newer the knowledge, the less likely is it to be found in canned form. And again, the more specific the problem, the less likely is it being addressed in a general discussion which is canned. It is also true that the newer the knowledge, the more untested it is, the higher the risk in using it.

After the correct source is found, it is still possible that it can't be used. The form which it takes may not be useful to the architect or the timing may not be appropriate (wind analysis, for example, is performed after the initial form decisions are made and can rarely affect them). The presentation may be difficult to understand. There can be a

language problem, or the information may be too complex for the task or the decision-maker (the architect must frequently consult engineering data too complex for use). Any of these states limits access to the information unless the decision-maker can find a translator or other "door" to its use. Of course another key is the attitude of the person doing the seeking. Is the mind set on a particular answer, or is it in an open, "scanning" mode where alternate, possibly better, answers can be found?

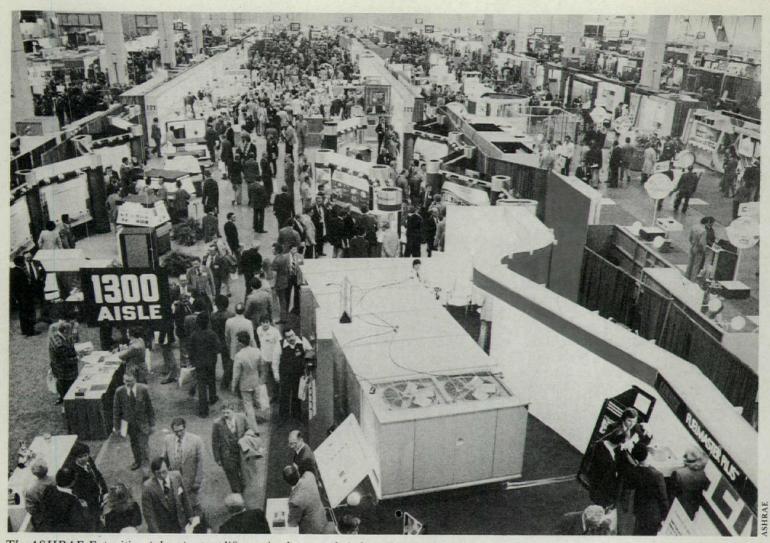
#### **Canned** information

Each form of information is almost a "building type" which has its own advantages and risks.

**Books:** Books are time-consuming to write, to produce, and to read. They are likely to be thorough and trusted as sources, but offer little opportunity for dialogue, and depending on the type of information, they can be outdated by the time they are in print.

**Magazines:** The best articles of a technical nature have been reviewed for accuracy, but may mislead simply because the information is so new that no one knows how good it is. It is possible on occasion to have a dialogue with a magazine author because the context usually encourages phoning or writing after the article is read. Another advantage is that, if a magazine is diligent, any corrections discovered by its readership are represented in the magazine in the following issues. The preparation time is shorter, and depth is not likely to be as great as that of books.

Newspapers: Because a daily paper is not usually preserved and must be produced rapidly, it is unlikely that enormous effort can be applied in presenting new knowledge in it. The advantage of speed, however, emphasizes the awareness of a problem or solution, and the interested reader can follow the information to a logical outside source. The large audience also serves as a jury to screen and protest inaccuracies. A broad audience also may mean the subject is not treated in enough depth for professional use.



The ASHRAE Exposition (above) exemplifies active large-scale informal communication. The emphasis for architects is on translation.

**Tapes and films:** Video tapes, and computer disks suffer the same difficulty as books. In subscription form they can be periodically updated. They have the smallest audiences and suffer from the nonvisual mode of storage, which makes "leafing" for content difficult. Film and videotapes are ideal for explaining certain tasks involving complex two- or three-dimensional sequences.

Where does it originate: All of these "canned" modes of information could be classified as "library" material in a general sense and obtained commercially. For architects there are other generic sources: information provided by manufacturers, and small-scale publications by organizations of manufacturers or professionals. A wealth of material, also not always available in bookstores, is offered at a modest price from educational institutions and government-sponsored laboratories or agencies (P/A, Oct. 1979, pp. 86-91, Aerospace technology transfer).

Literature generated by manufacturers is a very valuable source, not only because it is periodically updated, but because the follow-up by a representative in the company is almost assured and therefore translation is simplified. The disadvantage, of course, is that manufacturers are not philanthropic organizations. Limitations and flaws in the material or product relevant to a specific problem are less likely to be perceived as such by the "parents" of that product. Designers often mistrust input into a decision by a party who stands to gain materially from adoption of a particular solution. Even eagerness to sell can be interpreted as cause for concern.

The profit motive, which sometimes acts against product literature, is just what is lacking in much governmentsponsored or university literature. While the government employee is paid for generating or documenting the research with pure research motivation, he or she does not need to sell it. There is often little concern for ease of access to the research or its dissemination.

#### Live information

Listening to or having dialogue with an expert is possible on many levels. A "one-on-one" interchange may be effective or a number of people can converse in a meeting or committee. As distances between people increase, or numbers of people increase, and the physical problems of audio and bodily comfort along with them, the "information building types" multiply. In the field of architecture, conferences and meetings are sponsored by the same kinds of people who generate "hard" copy. Although some effort is made to avoid duplication of events merely to ensure the probability of attendance, the number of conferences increases each year. The speed of modern information generation is partly the cause; in some cases the reason is the urgency of the solution. Having a "live" audience offers an immediate "critique" rarely available in canned information formats.

The meeting may be local or national in scope. The benefit of a local meeting is the more immediate access to material and people. The national meeting is likely to be more comprehensive in scope and yield total "state-of-the-art" information. The more time available, the more time for access to larger amounts of information and the more potential for chance access (meetings in the halls).

A problem with meetings as a means of information is that they are difficult to design to suit the type of information being sought or presented. Size is often controlled by travel time, cost, or hotel space. Specific preparations for presentation are left to the last minute. It is also frequently the case that meetings are misused to serve only as a sales tool by those who present papers.

The size and format of a convention could be limited by the type of knowledge that needs to be transmitted, its difficulty, or the most effective manner in which it is presented. Although a larger audience often guarantees a more prepared presentation, it is not necessarily an original one. A distinction is rarely made between news, entertainment, history, criticism, opinion, new factual information, or old factual information. The entertaining discussion is most popular, for example, during or after a meal. Factual information almost never agrees with a full stomach.

The question rapidly becomes, how pliable is the meeting format, how much opportunity for interchange is there, and where should it take place? This is the interface between physical architecture and the information architecture.

**Meeting formats:** In the U.S. Senate, all members present are expected to speak at some time or other, and the hall is appropriately provided for, spatially and electronically. By contrast, a panel format offers chosen speakers ready access to microphones in front of an audience with limited provisions for audio. Another method, of course, is multiple individual lecturers in sequence or the simple single speaker and lengthy speech.

Convention planners rarely observe the audience. It is usually judged important that the speaker comfortably present. Length or difficulty of discussion is rarely varied in presentation type to increase attention span. Only subject mat-ter is varied. The listener may be squirming in an uncomfortable seat, in a hot hall, where he or she is unable to see or hear well. Additional thought is rarely given to the space outside the assembly hall devoted to the chance conversation, cross talk, and necessary casual translation which can occur, and less still to the nature of access that the audience has to the speaker(s) after the talk.

No subject is immune from these kinds of ailments. Energy conferences are held in hot, stuffy halls pumping with conditioned air and blazing with artificial light. Acoustics conferences have hearing or other comfort problems, and so on.

Ideally, the form a conference takes is directly related to the subject type and the level of the audience's knowledge. An address of a highly specific nature to a large general audience risks boredom. New knowledge, which is complex even to an enlightened audience, demands short presentations and lengthy question-and-answer sessions. Certain conferences are best held in a hotel where the residential environment makes smaller seminars, chance meetings, and casual talks in a comfortable corner more likely. For others, the necessity for an exhibition hall eliminates a hotel.

The importance of a good exhibition space should not be underestimated. An exhibit of manufacturers or services can be of enormous importance at a conference. The direct dialogue is vital, as is the proximity of sometimes competing products. Often the only time that people from different segments of the building industry see each other or hear about developments in segments of interest outside their own is at large general conferences. It sometimes seems as though convention size is equated with success of information exchange. The more people who listen, the more people will understand. This is equivalent to shouting to make a point rather than using a normal tone of voice.

#### Information personality

In addition to the kind of knowledge being sought and the bulk forms in which it exists, the "funnel" through which information must pass to the user is particular to each segment of the building industry. Each group of manufacturers or technology sources, because of the way that industry is structured, has a personality in a very human sense. Each has a unique way of doing research and providing design input. Here are some examples:

Wood: The lumber industry is unique in at least two very important ways. First, the U.S. Government owns or controls a significant proportion of the raw material (trees) and the land on which it grows. Second, the laboratory, the National Forest Products Laboratory, is government owned. The industry is still dominated by traditional construction practices and small-scale buildings; more recently, however, mechanized grading procedures, premanufactured products, and computerized structural design procedures have updated wood technology. The center for general information, design guides, and particularly laminated wood design is the American Institute of Timber Construction. The American Plywood Association is the main source for plywood expertise. The major wood uses and species all have a specialty organization and separate source of literature (P/A, July 1979, pp. 90-99, Innovation in wood).

#### Wood

American Institute of Timber Construction 333 West Hampden Avenue Englewood, Co 80110 Contact: Thomas E. Brassell 303-761-3212 American Plywood Association 1119 A Street Tacoma, Wa 98401 Contact: John Rose 206-565-6600 American Wood Council 1619 Massachusetts Avenue, NW Washington, DC 20036 Contact: John M. King 202-265-7766 American Wood Preservers Association 7735 Old Georgetown Road, Suite 444 Bethesda, Md 20014 Contact: Polly Paul 301-652-3109 American Wood Preservers Institute 1651 Old Meadow Road McLean, Va 22101 Contact: Michael Tracy 703-893-4005 Appalachian Hardwood Manufacturers Association NCNB Building, Room 408 High Point, NC 27261 Contact: James Gundy 919-885-8315 Architectural Woodwork Institute 2310 S. Walter Reed Drive Arlington, Va 22206 Contact: William H. Winter 703-671-9100 California Redwood Association One Lombard Street San Francisco, Ca 94111 Contact: Keith Kershell 415-302-7880 Fine Hardwood—American Walnut Association 5603 West Raymond, Suite O Indianapolis, In 46241 Contact: Larry Frye 317-244-3312 Hardwood Plywood Manufacturers Association P.O. Box 2789 Reston, Va 22090 Contact: Clark McDonald 703-435-2900 National Forest Products Association 1619 Massachusetts Avenue, NW Washington, DC 20036 Contact: Mary Fortunato 202-797-5800 National Oak Flooring Manufacturers Association 804 Sterick Building Memphis, Tn 38103 Contact: Waldo Brown 901-526-5016 National Particleboard Association 2306 Perkins Place Silver Spring, Md 20910 Contact: Terry Zinn 301-587-2204 Northern Hardwood & Pine Manufacturing Association, Inc. 305 East Walnut Street Green Bay, Wi 54301 Contact: Tom Brogan 414-432-9161 Northeastern Lumber Manufacturers Association 4 Fundy Road Falmouth, Me 04105 Contact: Keith Judkin 207-781-2252 Red Cedar Shingle and Handsplit Shake Bureau 515 116th Avenue, NE, Suite 275 Bellevue, Wa 98004 Contact: Marshall Ritchie 206-453-1323 Society of American Wood Preservers, Inc. 1501 Wilson Boulevard Arlington, Va 22209 Contact: David Lewis or George Eliades 703-841-1500 Southern Cypress Manufacturers Association 805 Sterick Building Memphis, Tn 38103 Contact: George Kelly 901-525-8221 Southern Forest Products Association P.O. Box 52468 New Orleans, La 70152 Contact: Charles Gehring 504-443-4464 Southern Hardwood Lumber Manufacturers Association 805 Sterick Building Memphis, Tn 38103 Contact: George Kelly 901-525-8221 **U.S. Forest Products Laboratory USDA** Forest Service P.O. Box 5130 Madison, Wi 53705 Contact: Rodney G. Larson 608-264-5600 Western Red Cedar Lumber Association Western Wood Products Association 1500 Yeon Building Portland, Or 97204 Contact: Victor Riolo 503-224-3930

#### Technical information exchange

#### Steel

American Institute of Steel Construction 400 N. Michigan Avenue Chicago, Il 60611 Contact: William Milek 312-670-2400 American Iron and Steel Institute 1000 16th Street, NW Washington, DC 20036 Contact: Albert L. Johnson 202-452-7184 Expanded Metal Manufacturers Association P.O. Box 887 Virginia Beach, Va 23451 312-346-1600 Metal Building Manufacturers Association 1230 Keith Building Cleveland, Oh 44115 Contact: Chris Devor 216-241-7333 **Steel Deck Institute** P.O. Box 3812 St. Louis, Mo 63122 Contact: John A. Gundel 314-965-1741 Steel Joist Institute 1703 Parham Road, Suite 204 Richmond, Va 23229 Contact: James D. Johnson 804-288-3071

#### Concrete

American Concrete Institute P.O. Box 19150, Redford Station Detroit, Mi 48219 Contact: Frederic Nassaux 313-523-2600 Concrete Reinforcing Steel Institute 180 North LaSalle Street, Room 2110 Chicago, II 60601 Contact: Paul Rice or David Gustafson 312-490-1700 Portland Cement Association 5420 Old Orchard Road Skokie, II 60077 Contact: Mario Catani 312-966-6200 Prestressed Concrete Institute 20 North Wacker Drive Chicago, II 60606 Contact: Sidney Freedman or Daniel Jenny 312-346-4071

#### Stone, tile, and masonry

**Brick Institute of America** 1750 Old Meadow Road McLean, Va 22101 Contact: Dean Patterson 703-839-4010 **Building Stone Institute** 420 Lexington Avenue New York, NY 10017 Contact: Dorothy Kender 212-490-2530 **Ceramic Tile Institute** 700 North Virgil Avenue Los Angeles, Ca 90029 Contact: George Lavenberg or Jerry Halweg 213-660-1911 Indiana Limestone Institute of America, Inc. Stone City Bank Building, Suite 400 Bedford, In 47421 Contact: William McDonald or Robert Orr 812-275-4426 **International Masonry Institute** 823 15th Street, NW Washington, DC 20006 Contact: Robert Beiner 202-783-3908 National Concrete Masonry Association 2320 Horsepin Road Herndon, Va 22070 Contact: Robert Vanlaningham 703-435-4900 **Tile Council of America** P.O. Box 326 Princeton, NJ 08540 Contact: Robert Kleinhans 609-921-7050

#### **Glass and windows**

#### Architectural Aluminum Manufacturers Association 35 East Wacker Drive Chicago, Il 60601 Contact: John Gurniak 312-782-8256 Flat Glass Marketing Association White Lakes Professional Building 3310 Harrison Street Topeka Ks 66611

Topeka, Ks 66611 Contact: W. J. Birch or John Volker 913-266-7013 National Association of Architectural Metal Manufacturers (NAAMM) 221 North LaSalle Street Chicago, II 60601 Contact: August Sisco 312-346-1600 National Fenestration Council 3310 Harrison Topeka, Ks 66611 Contact: William Birch (913) 266-7014 Sealed Insulating Glass Manufacturers Association 111 East Wacker Drive Chicago, II 60601 Contact: Tom Martin 609-662-0400

#### Roofing

Asphalt Roofing Manufacturers Association 1800 Massachusetts Avenue, NW Washington, DC 20006 202-659-3934 National Roofing Contractors Association 1515 N. Harlem Avenue Oak Park, II 60302 Contact: John Mish 312-693-0700 The Roofing Industry Educational Institute 6851 Holly Circle, Suite 250 Englewood, Co 80122 Contact: Richard Fricklas 303-770-0613

#### Energy

Air Conditioning and Refrigeration Institute 1815 North Fort Myer Drive Arlington, Va 22209 Contact: Paul Sauberer 703-524-8800 American Gas Association 1515 Wilson Boulevard Arlington, Va 22209 Contact: Dave Sgrignoli 703-841-8400 American Society of Heating, Refrigeration & **Air Conditioning Engineers** 1791 Tullie Circle Atlanta, Ga 30329 Contact: Oliver K. Lewis 404-636-8400 **Conservation and Renewable Energy** Inquiry & Referral Service P.O. Box 8900 Silver Spring, Md 20907 800-523-2929 Edison Electric Institute 1111 19th Street, NW Washington, DC 20036 Contact: James Evans 202-828-7478 Energy Research & Development Adm. **Technical Information Center** P.O. Box 62 Oak Ridge, Tn 37830 615-483-8611, Ext. 4161 International Solar Energy Society 600 West 28th Street, Suite 101 Austin, Tx 78705 512-472-1252 National Electric Contractors Association 6315 Wisconsin Ave., 13th Floor Bethesda, Md 20814 Contact: Lewis Tagliaferre 301-657-3110 National Energy Information Center (NEIC) Federal Building FEA 1200 Pennsylvania Avenue, NW Washington, DC 20461 202-566-9820 Passive Solar Industries Council Care, Potomac Energy Group 401 Wythe Street Alexandria, Va 22314 Contact: Robert Naismith Solar Energies Industries Association 1001 Connecticut Avenue, NW Washington, DC 20036 Contact: R. Nicholas Loope 202-293-2081 Solar Energy Research Institute 1617 Cole Boulevard Golden, Co 80401 Contact: Paul Notari 303-231-1000 U.S. Department of Commerce National Technical Information Service Springfield, Va 22161 703-321-8543 **U.S.** Department of Energy 1000 Independence Avenue Buildings Division Mailstop GH 068 Washington, DC 20585 202-252-9177

Steel: Structural steel technology is highly sophisticated. Design methods have been computerized longer than for most other materials, and steel manufacturers have a great degree of control over design accuracy and material strength. The most prominent single steel resource is the American Iron and Steel Institute which acts as information gatekeeper. The American Institute of Steel Construction is the source of the basic design reference manuals. Although the literature produced by the steel industry can be quite technical, architects usually feel comfortable selecting "rough cut" structural sizes of steel components using engineering manuals. Two sore spots for steel construction in recent years have been detailing of weathering steel and fire protection of structural steel. The industry is now discouraging use of the weathering steel in buildings. It is financing full-scale fire tests to help document and predict fire behavior in steel buildings. Consolidation of information is relatively easy; there are only a few major structural steel manufacturers, many national in scope (P/A, April 1979, pp. 104-113, Innovation in steel).

Concrete: The concrete industry is harder to use as a single source. Most of the industry research is centered at the Portland Cement Assocation, while general design documents are written by the American Concrete Institute. Precasting literature originates at the Prestressed Concrete Institute, while conventional reinforcing information is centered at the Concrete Reinforcing Steel Institute. Obviously all of the segments of the concrete industry have cross communication, but knowledge is dispersed, and access to it might take several good sources (calls or letters). Architects are not as likely to do elaborate design of their own (small-scale) reinforced concrete structures because much of the design literature is quite complex and written primarily for the engineer (P/A, May 1978, pp. 100-109, Innovation in concrete).

Masonry: The masonry industry has three central national sources of information, all of them located in Washington, DC: the International Masonry Institute, the Brick Institute of America, and the National Concrete Masonry Association. Mortar and concrete block information can also be obtained from the Portland Cement Assocation. The masonry industry is unique, however, in ease of access to information. Through the International Masonry Institute there are many active masonry institutes convenient locally for every region. Because of local production of masonry products and the varying local structural demands, there is stronger emphasis in certain parts of the country than others on masonry reinforcement. Such emphasis and resulting additional

costs sometimes make it difficult for regional industry quadrants of the country to agree about matters of design methodology as well as national codes and standards (P/A, Feb. 1979, pp. 86–95, Innovation in masonry).

Glass: Hampered in the recent past by restraint of trade litigation, the glass industry has been slow to support a single trade organization. The result is that the large glass manufacturers have had to rely upon their own research organizations and can disagree on design methodology. With the coming of the energy crisis, however, and the increased use of computer analysis. and window management philosophies, there is increasing opportunity for cooperation. The National Fenestration Council is one such example where manufacturers are supporting energy research. The aluminum curtainwall manufacturers also provide literature through the National Association of Architectural Metal Manufacturers and the Architectural Aluminum Manufacturers Association. Another development related to windows in recent years is the increased importance of wind tunnel analysis to calculate skin stresses to avoid breakage (P/A, Sept. 1981, pp. 233-241, Glassoline).

Roofing: One bright spot from an information point of view, the roofing industry has been actively seeking to update architects, owners, contractors, and manufacturers on effective roof detailing, design, and application problems. Although any industry which has so many lawsuits and leakage problems is bound to be a tender one, the built-up roof industry has sought objective research from laboratories such as those at the National Bureau of Standards. The National Roofing Contractors Association (NRCA) and Asphalt Roofing Manufacturers Association (ARMA) are the two central national roofing information sources. An excellent seminar program is conducted by the Roofing Industry Educational Institute. With the influx of single-ply roofing in the last decade, product competition is fierce, and the market is changing rapidly (P/A, Sept. 1978, pp. 122-129, Facts on a hot built-up roof).

#### Energy

The amount of literature that has been generated on the subject of energy since 1973, and the speed with which it has occurred, has been nothing short of phenomenal. Authors of books on the subject often confront outdating in a matter of months. The urgency of the problem and the risks involved have resulted in heavy involvement by the government. A prime information source (while it lasts) is the Department of Energy. The whole structure of energy information faces a major reconstruc-



tion when the Department of Energy is dissolved.

Excellent canned sources are the proceedings of the various conferences (Solar Energy Industries Association, International Solar Energy Society, etc.). Because of the recent emphasis on energy within the AIA, the Institute is itself becoming a major resource available to architects. Something of a schism still exists between the traditional ASHRAE approach to energy and the methods of "grass roots" passive solar energy professionals (P/A, April 1979, 1980, and 1981).

Plastics: An industry group which has come under close scrutiny in the last decade is plastics. The issue of flammability and fire protection in foams, laminates, and sheets is being addressed heavily in research sponsored by manufacturers. While the fire issue has considerably dampened post-war enthusiasm, the potential of such a versatile man-made material is undisputed. The best central source of general use is the Society of the Plastics Industry (SPI). Literally hundreds of committees are at work with specialties in all aspects of plastic use in buildings (P/A, Oct. 1981, pp. 125-133, The light heavyweights).

Fabric structures: The use of reinforced plastic fabric in "permanent" buildings has become more common as fabric design and manufacturing technology increase in sophistication (p. 116 this issue). As the market improves and buildings are completed, a small set of designers and manufacturers expand their volume of production and design capability. Before the technology can freely grow, design methodology must be universally shared, standards created, and competition on all levels encouraged. The Industrial Fabrics Association International is a main source of information and includes the Air Structures Institute (P/A, June 1980, pp. 110-123, The era of swoops and billows).

CSI technical session panel, l. to r., Glen Ablanal, P. Donald Baerman, Charles Raths, Roscoe Smith. Cross talk plus audience response.

#### **Cross pollination**

One problem with each segment of the building industry is that there are relatively few forums where "cross pollination" occurs. In short, roofing people, glass people, and mechanical engineers, for example, are often strangers to each other's problems. This is partly due to lack of proximity in the building, partly due to differing technologies and therefore language, partly from lack of opportunity. The "specific problem" orientation of the designer (already discussed) means that he or she is going to call upon only the manufacturers or industry experts directly influencing a particular design decision. For the most current holistic mix of information, therefore, the architect does best attending one of the major national conventions where conference subject matter and exhibits tend to span the gap between industry segments. Like the parent sources they each have a "personality." Other than the obvious architectural organizations, here are some examples of such conventions:

**Construction Specifiers Institute:** The CSI Convention has a reputation for high standards of technology discussion and heavy attendance for conference events. The exhibit is large and covers a broad range of products and materials. Booths are manned by technical experts from the companies as well as sales people. One problem from a resource point of view is that many of the sessions are traditionally quite large (several hundred people) discouraging active cross discussion. A similar format is followed year after year regardless of the subject or type of presentation.





International Solar Energy Society (ISES): A national convention is held each year as well as regional conventions and meetings which cover more specific subject matter. All of these events combine large general sessions with smaller. shorter presentations which occur simultaneously. The attendee uses conference proceedings as an elaborate menu from which to select meetings while having a literary source for those seminars which he or she has not attended. The problem, if any, with these events is that they have now become technologically highly sophisticated and could bewilder the uninitiated.

National Association of Home Builders: The annual NAHB show is the largest in the country, 40,000 or so attendees. The quality of the exhibits gets higher every year, but the show is now too large to be of optimum comfort for individual use. The biggest attraction is the show itself. The quality of the conference is spotty and often only sparsely attended. For anyone staying abreast of new home construction, the show is still a must at least every other year.



Round table discussion (top) at the Passive Solar Industries Council. A question from the floor (left) at the CSI Convention. A technical presentation (right) at an IES meeting. Each subject has its proper meeting form.

**ASHRAE Show:** There was a time when the ASHRAE show was out of the question for an architect. Ducts, fans, and boilers, do not tickle and delight the souls of many architects. With passive energysaving techniques, control systems, and electronics widgets, it gets more and more interesting each year. The quality of the meeting and conference itself is very high and quite technical. Similar in format to the CSI Convention, the issues are usually the leading edge in thermal comfort and HVAC technology.

Illuminating Engineering Society: The IES Convention is quite unique as an American building-related convention. The attendance is quite small and generally includes some of the best (300 or so) lighting experts in the field. The mix of interest is also unique. Theater people, lamp designers, and lighting consultants all attend. When a paper is presented, a planned opposing position paper usually follows it, and open discussion ensues. It is possible to know nothing of the subject matter to begin with and, when the discussion by the experts is complete, be fluent on the subject.

A partial listing of the full spectrum of national conferences for 1982 is listed here for your convenience.

#### **1982** National Conferences

Energy Technology Conference, Inc. When: February 16-18 Where: Washington, DC Contact: Martin L. Heavner Energy Technology Conference, Inc. 966 Hungerford Drive #24 Rockville, Md 20805 301-251-9240 National Roofing Contractors Association Convention When: March 2-5 Where: Los Angeles, Ca Contact: Melody Lejcar 1515 N. Harlem Avenue Oak Park, 1160302 312-693-0700 Condes When: March 11-13 Where: Dallas Market Center, Dallas, Tx Contact: Dolores Lehr, VP Advertising and PR Dallas Market Center 2100 Stemmons Freeway Dallas, Tx 75207 214-655-6100 Westweek When: March 19-21 Where: Pacific Design Center, Los Angeles, Ca Contact: James Goodwin Pacific Design Center 8687 Melrose Avenue Los Angeles, Ca 90406 213-657-0800 International Solar Energy Society-National Convention When: June 1-5 Where: Albert Thompson Convention Center, Houston, Tx Contact: Russell Smith 600 West 28th Street, Suite 101 Austin, Tx 78705 512-472-1252 American Institute of Architects When: June 7-9 Where: Honolulu, Hi Contact: Francis X. Brown 1735 New York Avenue NW Washington, DC 20006 202-626-7395 Neocon When: June 15-18 Where: Merchandise Mart, Chicago, II Contact: Rachel Riley Merchandise Mart, Suite 830 Chicago, Il 60654 312-527-4141 Construction Specifications Institute When: June 18-20 Where: Georgia World Congress Center, Atlanta, Ga Contact: John W. Atherton 1150 17th Street NW Washington, DC 20030 202-833-2160 **Illuminating Engineering Society** When: August 8-12 Where: Marriott Hotel, Atlanta, Ga Contact: Morley Melden, Executive VP 345 East 47th Street New York, NY 10017 212-644-7913 Passive Solar Energy Society When: August 29-September 3 Where: Knoxville, Tn Contact: Nanci Anderson Care RIAT; US Highway 190 West Killeen, Tx 76541 817-526-1300 American Society of Civil Engineers-Convention and Exposition When: October 25-29 Where: New Orleans, La Contact: Fred Favata or Maureen Rafferty 345 East 47th Street New York, NY 10017 212-644-7496 Society of American Registered Architects When: October 27-31 Where: Innsbrook, Tarpon Springs, Fl Contact: Stan Banash 5940 North Neva Chicago, Il 60631 312-763-5767 **Industrial Fabrics Institute Convention** When: October 31-November 3 Where: MGM Grand Hotel, Las Vegas, Nv Contact: Gretchen Artig 350 Endicott Building St. Paul, Mn 55101 612-222-2508 Prestressed Concrete Institute Convention When: October 31-November 3 Where: Chicago Marriott, Chicago, Il Contact: Gale Spowers 21 North Wacker Drive Chicago, Il 60606 312-346-4071

#### **Telephone sources**

Architects are not reputed to be heavily represented on industry committees other than the professional architectural organizations. A small office cannot often afford to send its members a great distance for a conference or meeting of possibly only marginal importance to the firm. There are only a few architect members of American Concrete Institute (ACI) committees, National Fire Protection Association (NFPA) committees, or the American Society for Testing and Materials (ASTM). When architects do participate, they are frequently asked to preside over the committee as they are usually the only generalists attending. Standards and regulations writing committees are in themselves vast sources of information.

What frequently occurs, however, is that the architect is left to his or her own experience (and that of the consultant), manufacturers' literature, elements of the firm library, letters, and telephone calls to nationally or locally available information sources. These sources frequently serve the referral purposes of private professional specialists. Architects are not always aware of the amount of information and expertise available to them at no charge from such organizations. We have therefore listed some major sources (out of over 800 or so in the construction field) and attempted to include at least one name and telephone number with each listing.

A network of people who act as resources professionally is vital to any problem solver. Knowing where and how to look for information is critical. Even more so is how to use it once it is in hand. A constant lament of researchers is not that the information is not existent, but rather not accessible. Often the entire task is in the hands of a consultant. A consultant has often been described as someone who is called in after the decision has been made just to add credibility to the choice. Other times the consultant is simply a good translator. Unfortunately, consultants can't produce facts that don't exist. They can frequently (with experience) reduce the risk to a minimum, but should never be trusted for an absolute answer to an indeterminate problem. Beware of the consultant who does not know what he or she does not know.

Information is not free. At times, the benefits apparent from knowledge do not exceed the cost to obtain it. For a short-term building, perhaps certain mistakes can be endured. Over the professional career of an architect or the long life of a building, however, investments in knowledge and expertise often pay off. We tend to forget that ignorance is rarely a neutral force, but a relentless force working contrary to success. [Richard Rush]

#### Governmental information sources

Federal Emergency Management Agency (FEMA) 500 C Street, SW Federal Center Plaza Washington, DC 20472 Contact: Russ Clanahan 202-287-0300 **General Services Administration** 19th and F Streets Washington, DC 20405 Contact: Don Thalacker 202-566-0950 NASA Technical Information Facility P.O. Box 8756 Baltimore/Washington International Airport, Md 21240 Contact: Walter Williams 202-755-2210 National Bureau of Standards U.S. Department of Commerce Washington, DC 20234 Contact: Dr. Richard N. Wright 301-921-3377 National Fire Prevention Control Administration Washington, DC 20472 Contact: Harry Shaw 202-634-7654 National Research Council of Canada Montreal Road Ottawa, Ontario K IA OR6, Canada Contact: G.P. Williams 613-993-1596 National Safety Council 444 North Michigan Avenue Chicago, Il 60611 Contact: Charles C. Vance 312-527-4800 National Science Foundation Division of Problem Focused Research 1800 G Street, NW, Room 1130 Washington, DC Contact: Dr. Charles D. Babcock 202-357-9502 U.S. Department of Transportation Urban Mass Transportation Administration 400 Seventh Street, SW Washington, DC 20590 Contact: Linda Gosden 202-426-4321 **U.S.** Government Printing Office Superintendent of Documents Washington, DC 20402 Contact: Mrs. Glorius 202-783-3238

#### General

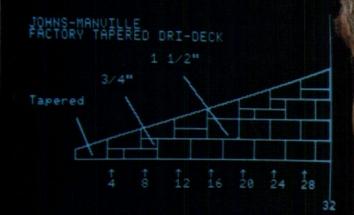
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Construction Research Council 1800 M Street, NW, Suite 1040 Washington, DC 20036 Contact: Gaines Brown 202-785-3378 Copper Development Association 405 Lexington Avenue New York, NY 10017 Contact: Mary Covington 212-953-7300 Council on Tall Buildings and Urban Habitat Fritz Engineering Lab 13 Lehigh University Bethlehem, Pa 18015 Contact: Dolores Rice 215-861-3515 Illuminating Engineering Society 345 East 47th Street New York, NY 10017 Contact: John Tausman 212-644-7926 Industrial Fabrics Association International 350 Endicott Building St. Paul, Mn 55101 Contact: Steve Warner or Deborah Jacobucci 612-222-2508 **Institute of Business Designers** 1155 Merchandise Mart Chicago, 11 60654 Contact: Lorraine Williams 312-467-1950 National Association of Home Builders 15th and M Streets Washington, DC 20005 Contact: Stephen Moore 202-822-0200 National Council of Architectural Registration Boards 1735 New York Avenue, NW, Suite 700 Washington, DC 20006 Contact: James Head 202-783-6500 National Fire Protection Association 470 Atlantic Avenue Boston, Ma 02210 Contact: John Anderson 617-328-9290 Contact: John Anderson 617-328-9290 National Institute of Building Sciences (NIBS) 1015 15th Street, NW, Suite 700 Washington, DC 20005 Contact: Frank J. Matzke 202-347-5710 National Policy Center on Housing and Living Arrangements for Older Americans 2000 Bonisteel Boulevard Ann Arbor. Mi 48100 Ann Arbor, Mi 48109 Contact: Dr. Leon Pastalan 313-763-1275 National Trust for Historic Preservation 74-748 Jackson Place, NW Washington, DC 20006 Contact: Carleton Knight III 202-673-4074 Office 'Landscape' Users Box 11182 Philadelphia, Pa 19136 Contact: Frank Carberry 215-335-9400 **Resilient Tile Institute** 1030 15th Street, NW, Suite 350 Washington, DC 20005 Contact: Robert Maurer 202-833-2635 Sealant & Waterproofers Institute 1800 Pickwick Avenue Glenview, Il 60025 Contact: Franklin D. Simpson 716-684-3550 Society of American Registered Architects 5940 North Neva Chicago, Il 60631 Contact: Stan Banish 312-763-5767 Society of the Plastics Industry, Inc. 355 Lexington Avenue New York, NY 10017 Contact: Agnes Benedict 212-573-9400

#### **Building codes**

Building Officials and Code Administrators (BOCA) 17926 South Halsted Street Homewood, II 60430 Contact: Thomas Frost 312-799-2300 National Building Code American Insurance Association 85 John Street New York, NY 10038 Contact: Michael Sbaglia 212-669-0484 Southern Building Code Congress International 900 Montclair Road Birmingham, Al 35213 Contact: Glen Winslow 205-591-1853 Uniform Building Code (UBC) International Conference Building Officials 5360 South Workmen Mill Road Whittier, Ca 90601 Contact: T.J. Koyamatsu 213-699-0541





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# Arbitration rights when a suit is involved

#### Norman Coplan

If an architect seeks a court injunction against the owner for breach of contract, he does not necessarily waive his right to arbitration of a claim for damages arising from other circumstances. If an architect, as a consequence of the owner's tortious conduct, as well as the owner's breach of the owner/architect agreement, is entitled to injunctive relief and damages, does the architect waive arbitration of his claim for damages because he first institutes a legal action to secure an injunction? This was the issue presented for determination by the court in the recent case of *Preiss/Breismeister* v. *Western Hotel Company* (Vol. 186 NYLJ No. 76).

In 1978, the parties involved in this case entered into a written agreement (American Institute of Architects Standard Form) under which the architect was to render professional services for certain renovation and construction work for a hotel project. The standard agreement contains a broad arbitration clause which provides that "all claims, disputes and other matters in question between the parties to this agreement arising out of or relating to this agreement or the breach thereof shall be decided by arbitration. . . ." The agreement also provides that "drawings and specifications, as instruments of service, are and shall remain the property of the architect whether the project for which they are made is executed or not. They are not to be used by the owner on other projects or extensions to this project except by agreement in writing and with appropriate compensation to the architect."

Both parties performed under the contract for nearly 21/2 years, but in 1981, the owner notified the architect that he was terminating the architect's services for cause. The architect asserted that the notice of termination came as a complete surprise and sought to convince the owner to reverse his action, but the owner reaffirmed his position that the contract was terminated. The architect thereupon insisted that all of his drawings and specifications be returned so as to insure that no liability would enure to him for any changes in design, scope, or construction of the remaining portions of the project. The architect contended that the owner agreed to these demands.

On the same day that the architect demanded the return of his drawings, employees of the owner entered the architect's offices at the project site and removed other architect's drawings and materials relating to the project. When the architect demanded a return of these items, some were returned, but the floor plans and other project documents were not. The architect, through his attorney, then instituted a legal action for an injunction to restrain the owner from using his plans and contending an infringement of his common law copyright in his work. While the injunction proceeding was pending, the architect made a demand for arbitration for the damages sustained from the owner's alleged breach of contract.

The owner contended that by the architect alleging in his injunction suit that the owner

had breached his contract, he had brought before the court the essence of the contract dispute in connection with which he sought arbitration, and that, in essence, his claim for damages as well as his claim for injunctive relief involved the same controversy. Consequently, argued the owner, the architect had waived his right to arbitration. The architect, on the other hand, contended that the injunctive action did not involve the same controversy and was purposely restricted in scope only requesting injunctive relief directed at the owner's infringement of his common law copyright and that, therefore, there was no waiver of his right to arbitrate his claim for damages.

The court pointed out that whether a party has waived its right to arbitrate depends upon whether he has demonstrated an intention to abandon that right, and that the general rule is that by commencing an action at law, a party waives its right to pursue the matter in arbitration. The court emphasized, however, that where claims are separate or distinct, no waiver of arbitration may be implied from the fact that resort has been made to the court on other claims arising under a common agreement which remains in force and effect. Reviewing the facts in the case before it, the court found that "while the claims set forth in the injunction action and the demand for arbitration arise, in the broadest sense, out of the contractual relationship, it is clear that each has its foundation in separate facts and circumstances." In support of this finding, the court pointed out that the requisite elements of proof and hence the evidence necessary to sustain recovery in an arbitration proceeding where a claim for damages has been asserted are quite separate and distinct from the requisite elements of proof and evidence necessary to support an action for an injunction to restrain the defendant from a tortious course of conduct.

In conclusion, the court ruled that the architect had not waived his right to arbitration, stating:

"Here [the architect] was faced with what it believed to be imminent danger of increased liability for potential modifications of its designs and specifications which arose, not under the contract, but rather as a result of a tort claim. The injunctive relief application under these circumstances was motivated solely from the viewpoint of maintaining the status quo while the time-consuming arbitration process unfolds.

"Under these facts and circumstances, this court concludes that [the architect] did not waive its right to arbitration. The injunction action was commenced to rectify what it believed to be an irreparable injury directly attributable to an intentional tort. The injunction action, had it succeeded, would not have reached the issues of payment for services rendered encompassed in the contract for which arbitration has been demanded."  $\Box$ 



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# On Saarinen

Books



Eliel Saarinen, Helsinki Railroad Station, 1914.

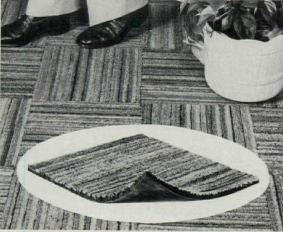
Eliel Saarinen: Finnish-American Architect and Educator, revised edition by Albert Christ-Janer. Chicago and London: University of Chicago Press, 1980, xviii/197 pp., \$25.

Reviewed by Richard Guy Wilson, chairman of the architectural history division of the University of Virginia School of Architecture in Charlottesville.

To the generations of architects who matured between 1920 and 1940, Eliel Saarinen (1873–1950) stood for a special brand of Modernism, one that rejected the rigidity and technical imperative of the European machine style and asserted instead a sensibility of the building's relationship to its site, using warm, natural materials, and images that recalled in their simplified form traditional building types. The status Saarinen held is hard to grasp today, but certainly in the 1920s, 1930s, and 1940s his fame equaled that of Frank Lloyd Wright and probably surpassed that of Mies and Le Corbusier.

Trained as both a painter and an architect in the Beaux Arts manner, his early work was traditional. Consequently his acceptance of the Jugenstil, and then his later, more simplified, flat-roofed buildings, made his progression seem very daring. Well known in Europe before his appearance on the American scene, Saarinen arrived with all the necessary fanfare when his entry in the 1922 Chicago Tribune competition missed first place on a technicality. Louis Sullivan, in one of his last writings, excessively praised it as being free of historical precedent-which it was not. The Cranbrook Academy, with all its associated institutes and schools, was one of the largest complexes of "Modern" architecture in the United States. And the Academy of Art became known as one of the few places in the United States that emphasized education in "Modern" design. Among the students in architecture were Carl Feiss, Charles and Ray Eames, Harry Weese, Florence Schust Knoll, Ralph Rapson, Edmund Bacon, Gyo Obata, and of course, Eero Saarinen. Eliel Saarinen's major published works, The City: Its Growth-Its Decay-Its Future (1943) and Search for Form (1948), highly regarded in their time, were attempts to provide a theory of "Modern" design. And of course his other designs, such as the Smithsonian Art Gallery of 1939 (never constructed), brought the battle for "Modern" architecture to the Mall in Washington, DC. It was an epoch-making design.

Saarinen's reputation since his death has suffered the inevitable decline, yet he has been admired enough professionally that the AIA gave its 25-year award to Crow Island School in Winnetka, II, in 1971, and to Christ Church Lutheran in Minneapolis in 1977. Still, in the ensuing 31 years since his death, virtually no important scholarship or commentary has been published on him. His work has been included fitfully in the various "Art Deco" books and exhibits of the past few years, but in the history of 20th-Century architecture, his work is generally relegated to a few brief sentences or ig-[Books continued on page 138] Fluff Cord Tile



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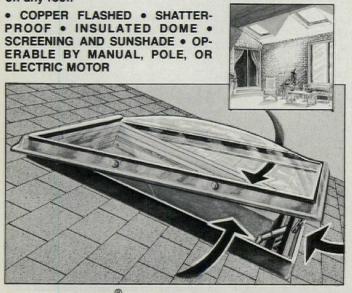
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#### Books continued from page 137

nored. Some research in progress and a major exhibition in the planning stages on Cranbrook may provide a new perspective. The new edition of Christ-Janer's *Eliel Saarinen*, originally published in 1948, is also a sign of renewed interest.

Christ-Janer's study suffers from being the official biography. Saarinen and his family cooperated and "approved" the book. While this is a revised version and several attempts are made to make it more contemporary—such as insertion of references to Robert Venturi in the Preface—the book has a dated quality. It suffers from excessive praise: "Eliel Saarinen shunned imitation; he dared assert the need for that kind of architectural thinking which designed the great monuments of high civilization." And finally, Christ-Janer, writing from the perspective of 1948, was concerned with proving Saarinen's originality and how much he broke with the past, while today Saarinen's appeal may be just the opposite. The book is well illustrated with photographs, plans, and a generous selection of Saarinen's original drawings.

In spite of being linked, as one critic claimed in 1931, "in a kind of Kyrie eleison, Saarinen, Le Corbusier, Neutra, and Frank Lloyd Wright," Saarinen always fit uneasily into the doctrinaire Modernist camp. He was the gentle or "soft" Modernist; in 1931 he could say to the AIA: "Why revolution? Why not evolution? . . . I don't see the revolution. I see only evolution," although he added, "I think often that the evolution is too slow." Later he wrote: "Is the present 'Machine Age' going to dominate future form-development to such an extent as to produce a form which is too much influenced by the cold and impersonal spirit of mechanization?" As he phrased it, "The champions of 'functionalism' do not seem to be aware that when a function is raised to an 'ism' its form-treatment is likely to become sophisticated and frequently used to express functions that do not exist."

Reflected in this is Saarinen's background in the Jugenstil, and the belief that form and ornament were the essentials of architecture. His career in Finland has been little studied, but it is evident that in this remote country he assimilated the English Arts and Crafts, Behrens, Wagner, and the Austrian Secessionist school, along with Richardson and Sullivan, and then developed his own interpretation. The heavy, blocklike masses of the Helsinki Railroad Station are basically a simplification of more traditional styles, enlivened with unique ornament. The highly praised Chicago Tribune design was certainly not radical in the ahistorical sense exhibited in the entries of Walter Gropius and Adolf Meyer, B. Bijvoet, and J. Duiker, or Max Taut. Basically, Saarinen was a conservative Modernist. His work at Cranbrook in the 1920s fits easily into the new American suburban picturesque trend of these years, and the closeness of his work, in materials and image, to the 'Period House" is one of the reasons for his popularity. Traditional images such as towers and ornament always remained a part of his vocabulary, though in the 1930s, perhaps under pressure of the "International Style," and also of the Depression, his work becomes more simplified-flat walls and roofs appear along with large areas of glass. Ornament is diminished, but never disappears. Saarinen never abandoned the heroic or the monumental, as is apparent in the arcade of the Cranbrook Academy of Art. Against this he would place delicate linear ornament and the playful statues by Carl Milles

While Saarinen has been generally viewed as an architect and secondarily as a city planner (though little of his urban design work was carried out), a major, though usually unacknowledged, contribution was in interior design. Here he frequently collaborated with his wife Loja Saarinen—an important weaver in her own right—and created some unique furniture and interiors. Hvitträsk, the studio-home he designed with his Finnish partners Gesellius and Lindgren in 1902-04, outside Helsinki, indicates the conservative direction his Modernism would take. Rustic logs are combined with a delicate sensitivity remindful of Olbrich. The nursery at Hvitträsk was one of the most elegant rooms of the period. At his Cranbrook home, which has been recently restored, the furniture is of several types, from scallops recalling the particular [Books continued on page 140]

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Da-Lite's automatic electric Electrol<sup>®</sup> screens, recessed in the ceiling and operated by remote control, lower and raise unobtrusively to set the stage for a professional presentation. Built-in rear projection and manual wall and ceiling screens



offer additional versatility in perfecting the design concept.

Da-Lite, as the nation's leading projection screen manufacturer, provides complete specifications plus size and viewing angle guidelines, picture surface information, wiring diagrams and vital installation basics. To learn more, start with Sweet's catalog (USA: 16.8a/Da, Canada: 16com/DAL). Then write us for the name of your nearest Da-Lite Audio-Visual Specialist Dealer.

DA-LITE

Da-Lite Screen Company, Inc. Warsaw, Indiana 46580 Phone: 219/267-8101

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Books continued from page 138

Rococo of the 1925 Arts Decoratifs Exposition to bent chromium-plated metal tubing.

The career of Eliel Saarinen presents some of the complexities of 20th-Century "Modern" architecture—he was by the standards of the machine image only halfway a modern. It is a career that in both sensitivity and design is well worth another look.

#### Overlooked landmarks

**Prehistoric Architecture in the Eastern United States** by William N. Morgan. Cambridge and London, The MIT Press, 1980, 197 pp., illus., \$25.

The earliest architectural landmarks of the Eastern United States have been getting little attention from our preservationists, our archaeologists, or our architects. By and large, they are known locally as curiosities worthy of no particular respect or study; if they are bulldozed for shopping centers or tract housing, if they are dug up by scavengers looking for pottery or wampum, there is little organized resistance. This book by architect William Morgan, therefore, serves a really vital purpose: it reveals to the public—and particularly to architects, who should be most receptive—the extent and sophistication of architectural remains dispersed across the eastern half of this country, from Florida to Wisconsin.

These remains are of urban and ceremonial centers constructed between 2200 B.C. and 1500 A.D. by the ancestors of the "Indians" who occupied these lands up to the time of European colonization. Because the buildings of these people were largely of wood and other materials that decay in the prevailing moist climate, little construction remains except the earthworks that made up their ramparts, moats, and ceremonial platforms. What Morgan's book shows convincingly is that these were numerous and widely distributed, very sophisticated in concept and demanding in execution, and in many cases showing phases of construction over several centuries. Implied from these remains are highly organized societies recognizing certain centers over long periods of time, able to bring large labor forces to the building task, capable of precise measurement, and exchanging architectural concepts over long distances. Artifacts found at the sites reinforce these conclusions.

After exciting interest among early explorers and settlers, these remains tended to be either obliterated for farming or urban development (one important site, for instance, is under present-day St. Louis) or abandoned to further overgrowth and erosion. Recent archaeological investigation has been far from comprehensive, the book indicates. For the first time, Morgan has pulled together in one book the disparate sometimes conflicting—observations on sites that have been documented. Eighty-two specific examples are described, between an introductory section on their history and characteristics and a final section of conclusions to be drawn.

A great virtue of the book is the consistent graphic treatment of site plans. A simple, logical drawing style in bold black and white, with a uniform scale based on a 200-meter grid, is a model of graphic communication—and a visual treat in itself. (Comparative plans of such well-known sites as the cores of Venice, Giza, Angkor Wat, and Teotihuacan vividly confirm both the validity of Morgan's graphic conventions and the grand scale of many Eastern U.S. examples.)

Less successful is Morgan's handling of the text. Understandably reluctant to romanticize these ruins, Morgan has produced a text that is terse and cautious, with an academic organization that results in a certain amount of reiteration. There is little to suggest the enthusiasm for the subject that he conveys in person. Nor, except for some pointed references to integration of architecture and landscape, is there any suggestion of what lessons we might apply in the same environment today. The book as a whole is nevertheless an effective plea for the recognition, preservation, and continued responsible investigation of these all-too-little-known landmarks. [John Morris Dixon]

140

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Less: Cost for lighting and air conditioning. More: Superior accent lighting.

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Progress Low Voltage Track Lighting provides precisely controlled accent lighting of minerals in this 'black room'. They focus a punch of light exactly where it's needed... with a minimum of distracting stray light. Visual results are dramatic. Economic benefits are significant.

Progress Low Voltage lampholders lessen lighting costs because a 12-volt 50W PAR-36 narrow spot provides more center beam footcandles than a 120-volt 150W R-40 spot or flood. They do the lighting job more efficiently, with less energy. And for every 100 watts saved, there are 341 less BTU's of heat to remove with air conditioning. A 1,000 watt reduction saves ¼-ton of air conditioning per hour. Less saves more!

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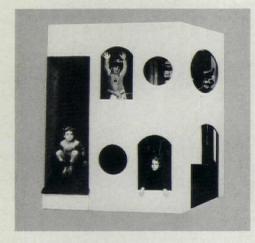
Progress Low Voltage Track Lighting. Superior accent lighting that reduces energy costs. For further information and catalog, circle reader service card.

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Circle No. 348 on Reader Service Card

# Products and literature

#### Products



Playscapes<sup>®</sup>, children's play environments for pediatric waiting rooms, amuse patients with educational toys

and activities. It was designed by James Barnard, author of Children in the Built Environment. Playscape I takes only 36 sq ft of space, providing 72 sq ft of play area on two levels. Playscape II has a carpeted slide added and fits into a 6' x 8' space. All floors and walls are carpeted to reduce noise and provided a cushioned environment. Playscapes, Children's Environments. Circle 206 on reader service card

'Sculp-Tile' ceiling tile, available in six sculptured-effect patterns, is rigid and lightweight. It has low thermal conductivity and does not expand or shrink with changing weather conditions. Its thermal properties are unaffected by humidity. The tile, which is white, can be painted with latex paint, and is easily cleaned with soap and water. Pak-Lite. Circle 207 on reader service card

Wool Plus contract carpet of 100 percent wool comes in three designs, each in seven colorways. Custom colors are available with minimum orders of 120 sq yards. The broadloom is 13 ft-2 in. wide. Robertex Associates, Inc. Circle 208 on reader service card

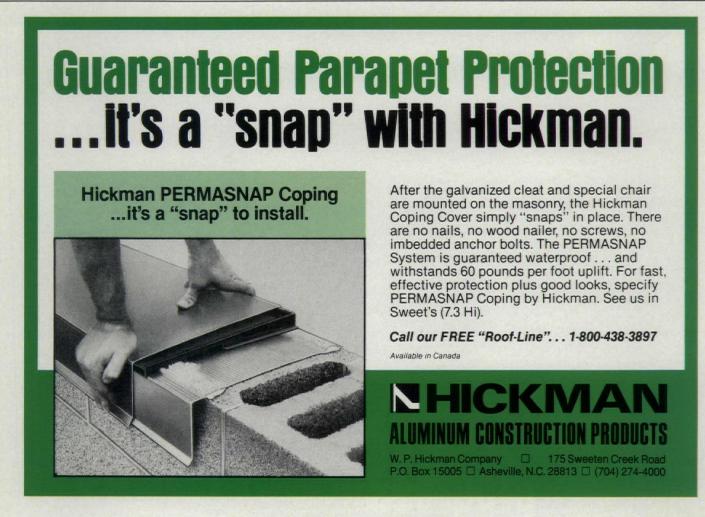
Atrium Doors® are constructed of natural wood, with optional wood grilles that are removable for periodic cleaning. They are equipped with a tamperproof deadbolt-lever system. The all-wood construction has natural insulating value, with factory-installed weatherstripping for added energy saving. Double panes of insulating safety glass are available clear or with bronze or gray tints. Each system is factory assembled to include doors or coordinating panels, with headers, sills, and jambs installed and aligned. Moulding Products, Inc.

Circle 209 on reader service card



Tables in the 316-317 series have full radius edges on oak tops, and chromium plated steel bases reinforced with welds for greater stability. The series is available in a full line of sizes, shapes, and finishes. Tuohy Furniture Corp. Circle 210 on reader service card

The Delay Control unit for fire doors provides up to 45 seconds of delay in the automatic closing of fire and industrial doors. It will continue to hold doors [Products continued on page 144]



Terra Vista built by M. S. Milliner Construction, Inc., Frederick, Maryland

### CAPTURE THE SUN WITH WEATHER SHIELD!

SolaireFilm wood windows and doors are a simple, beautiful way to put passive solar energy to work for you.

SolaireFilm units look like conventional triple pane windows and doors, but what a difference! Between the glass layers is a center lite of clear, resilient SunGain<sup>®</sup> film, developed by energy researchers at 3M. A special anti-reflective coating on the film allows more of the sun's energy to pass through, yet layer for layer, the film insulates as effectively as glass.

SolaireFilm units are available in selected sizes of Weather Shield wood windows, patio doors, and insulated entrance systems. Quad pane glazing - 1-3/4" thick overall - has two lites of film in the airspace and is offered in our direct set windows.

For easy installation, low maintenance, and energy efficiency - it's SolaireFilm wood windows and doors - exclusively yours from Weather Shield!

> Get to know Weather Shield, see the 1982 Sweet's file #8.16/wd or call Weather Shield's Marketing Manager, H. J. Koester at (715) 748-2100.

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Clear, resilient SunGain<sup>®</sup> window film

> Spring mounted spacers for suspending film

Exclusive vinyl glazing system







Products continued from page 142

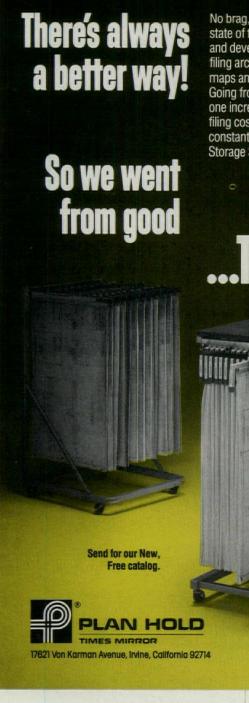
open in the event of power failure or momentary power interruption. It allows time for evacuation, but prevents disruption of plant routine during power outages. Rixson Firemark. *Circle 211 on reader service card* 

Flexwood thin veneers of real wood, such as rosewood, teak, walnut, or oak, on a fiber backing are pliable enough to be applied to curved or flat surfaces. No furring strips are required and the material does not interfere with existing trim. Properly applied, it has a flame spread rating of 15. Flexible Materials. *Circle 212 on reader service card* 

Norament Duo is two-tone synthetic rubber flooring for high traffic areas.

Permanently self-waxing, it resists scuffs, burns, and chemicals. The flooring is easily maintained with dry brushing and occasional wet sponging. The five color combinations of the raisedpastille flooring are two-tone green, blue, gray, and brown, and olive yellow with khaki gray. Nora Flooring. *Circle 213 on reader service card* 

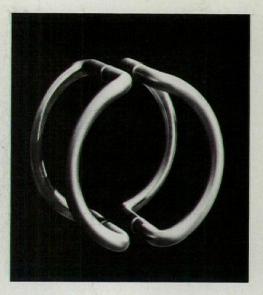
The bath exchange batch washer enables laundry processing of incompatible goods in succession as they pass through each of the modules. It accommodates 100-lb batches, which progress through the system and exit into an extractor before being transported automatically to the finishing area. The system can change from counterflow to drainand-fill, preventing water flow into a module containing an incompatible class. The washer is fully automatic, re-



No brag, just plain fact. We improved the state of the art with our new 7MS Binder and developed a more efficient approach to filing architectural plans, engineering plans, maps and other large sheet graphics. Going from a good rolling stand to a better one increased capacity 40% and reduced filing cost 15% per sheet. Plan Hold is constantly at work improving its Graphic Storage Systems for you. See for yourself.

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quiring only the selection of one of 16 possible formulations on the control panel. Pellerin Milnor Corp. *Circle 214 on reader service card* 



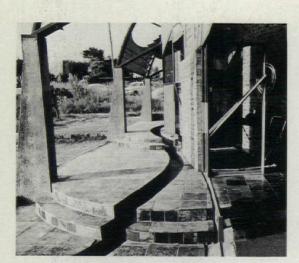
**D-line stainless steel hardware designs** are offered in a selection of doorpulls, lever handles, and other fittings, many with concealed or nonremovable fittings. The group, designed by Professor Knud Holscher, is made in Denmark. The Ironmonger, Inc. *Circle 215 on reader service card* 

**'Weathering copper'** is a coating applied to aluminum or galvanized steel substrate, said to have the look of copper at much lower cost. It is formulated from copper particles suspended in a water-base acrylic resin that forms a flexible coating on roof and wall panels and other components. When first installed, they have a shiny copper color; over time they are reported to take on the look of weathered copper. Span Metals Corp. *Circle 216 on reader service card* 

#### Literature

'The NRCA Roofing & Waterproofing Manual' comprises: the Waterproofing Manual; the Steep Roof Manual; Handbook of Accepted Roofing Knowledge; Built-up Roofing Manual; Construction details; a complete series of Technical Bulletins; a glossary of terms; and an appendix of reference materials. It is available either hardbound or in a 3-ring binder. Either version is \$63 to NRCA members, \$68 to nonmembers. The manual can be ordered from The National Roofing Contractors Association, 1515 N. Harlem Ave., Suite 200, Oak Park, II 60302.

'Guide to Information Sources for the Construction Industry' lists publications by the government; trade journals, newsletters, and other periodicals; trade associations, professional societies, labor unions. It also provides a list of directories available of architects, and contracting firms, and construction mate-[Literature continued on page 149] Coming next month



Halfway House, Transvaal, Stanley Saitowitz.

Agitprop's legacy concerns a body of architecture we have been observing that has certain characteristics in common: unexpected juxtapositions, overlaps, gaps, materials, and details, for instance, and an absorption in the process of designing and building. There is always a tension, a challenge to perception. Early in this century, Agitprop art and theater were similarly meant to jolt viewers into rethinking. Their intentions were political, but their devices for jarring and reorganizing perceptions were adopted by the visual arts and handed down to us through various kinds of collage and assemblage, Dada, Surrealism, Pop and junk art, ad hoc and selfbuild architecture, environmental art and happenings, through architecture by Scarpa, Van Eyck, Guedes, and others.

What we are calling Agitprop's Legacy is turning up in California, in Massachusetts, in Europe—among architects whose intentions differ so widely that they would acknowledge nothing beyond the most superficial resemblance. But the interconnections among them may run deeper. In the March P/A, we shall explore these linkages—and review a number of remarkable buildings that demonstrate the legacy.

**Pre-engineered metal buildings** will be the topic of our March Technics feature. After long maintaining a quiet, efficient place in the built environment, pre-manufactured buildings are now of increasing interest to architectural professionals. Energy-conserving features, new approaches to structural optimization and new, unfamiliar forms will be fully examined.

**P/A in April** will be our fourth annual special issue on Energy-conscious Design. This year we will be able to show you more examples of outstanding energy-conscious buildings, in a wide range of types and sizes. Other articles will take up the valuable legacy of DOEsponsored research, the actual performance of landmark energy buildings, design aids available to the architect . . .—all the things you have wanted to know but were afraid to calculate the Btus. When Designing New or Renovating Old Swimming Pools

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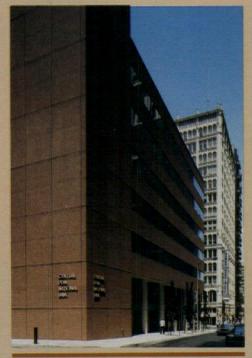
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## **CERAMIC TILE EXTERIOR : PREFAB ECONOMY** First Project in 1980....Scores More in '81–'82 Using Gail Brickplate Panels in Steel Stud Framing



SPECTRUM BUILDING, Denver, CO. Gail Unglazed Brickplate, 4"x 8" on prefabricated panels for exterior walls. Architect: McOG Associates, Denver. Gen'l Contr: Turner Const. Tile Contr.: Ace Tile, Denver.



CENTRAL PENN BANK, Philadelphia, PA. Prefab panels of Gail Brickplate (English Red) prefabricated by Duggan & Marcon in Allentown, PA. Arch.: Ballinger Co., Philadelphia. Gen. Contr.: Nason & Cullen, Rosemont, PA.

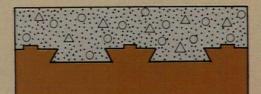
In little more than a year, this new system has become a legendary success. The first project, Denver's new "Spectrum Building," was completed in September, 1980. A host of similar buildings are now in various stages of design and construction.

This remarkable growth is primarily because the concept offers "Mercedes-Benz quality at VW prices." It's more economical and desirable for these reasons:

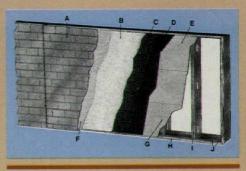
- Tons of expensive design deadload and structural mass are eliminated since panels weigh 80% less than precast concrete;
- Less expensive than glass or aluminum curtainwalls;
- Eliminates costly scaffolding;
- Provides a chase for pipes and wiring in exterior walls for faster, more economical installation;
- Virtually maintenance-free: frostproof, acid-rain resistant and vitreous...not a thin-brick veneer.
- Work proceeds regardless of bad weather since panels can be assembled in an enclosed structure;
- Excellent insulation values: U=0.048.



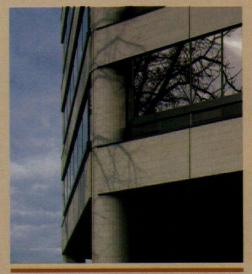
PRUDENTIAL INSURANCE CO., Philadelphia, PA. Prefabricated 20' x 7'4" panels of 4" x 8" Gail Unglazed Brickplate being installed at jobsite by Duggan & Marcon. Arch.: Ballinger Co., Phila. Gen. Contr.: Daniel J. Keating Co., Villanova, PA.



Gail Brickplate tiles are mechanically bonded in portland cement mortar and locked in place on panels with "keyback ridge" design, not possible with thin-veneer brick.



A. Gail Brickplate Tile (Keyback Design) B. ¾" leveling coat of cement plaster with latex and chopped fiberglass strands. C. 3.4-lb. self-furred Diamond Mesh Metal Lath (galvanized or painted where rust-resistance is required); secured to studs with self-tapping screws (washers optional) D. 15 pound tarred felt stapled to gypsum board E. Tongue and groove asphalt impregnated ½" thick gypsum plaster board (installed horizontally, tongue up) F. ¼" latex modified portland cement; scored, toothed, trowelled G. Gypsum board screwed to steel channels H. 1¼" plaster stop, tack screwed to frame 12" on center 1.16 gauge steel channels, 16" to 24" on center J. 18 gauge welded 2" x 6" steel channel frame.

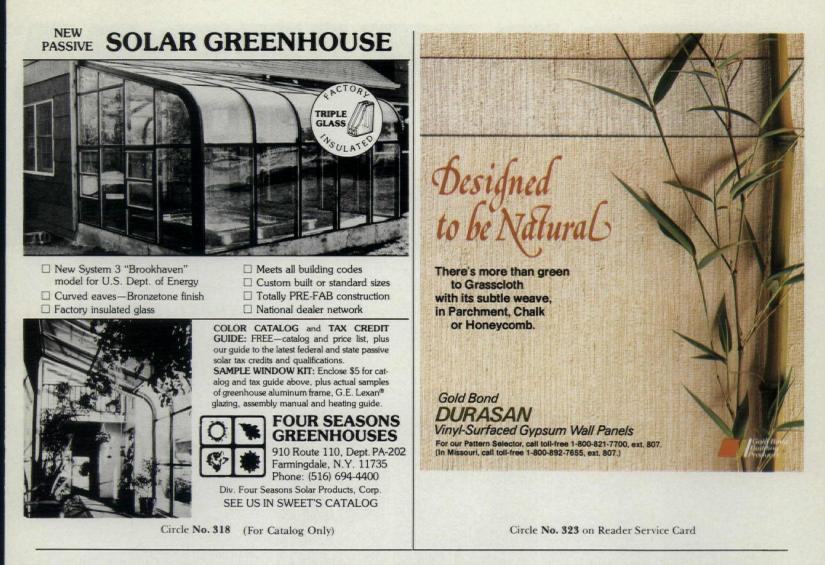


SACRED HEART HOSPITAL, Eugene, OR. Creative use of curved, quarter round prefab panels to fit around circular columns. Arch.: Balzhiser, Longwood, Smith, Paul & Assoc., Eugene. Tile Contr.: Eugene Tile Co., Eugene, OR.

For architecturally beautiful exteriors ... on a restricted budget... the prefab Gail Brickplate system warrants your interest. Write or call for our new Technical Brochure "Prefab Brickplate Panels." Or, contact Gail to arrange for a viewing in your office of our 15-minute audio-visual presentation on the Prefab Brickplate Panel System.



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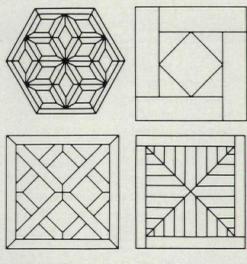
Literature continued from page 144

rials and equipment manufacturers. The 115-page source book is \$5 and can be ordered from The Construction Product Manufacturers Council, 1600 Wilson Blvd., Suite 1005, Arlington, Va 22209.

'A Guide to the Federal Government for Design and Building Professionals,' by John P. Eberhard with Peter H. Smeallie, in association with Thomas Vonier Associates, was published with the assistance of the Design Arts Program of the National Endowment for the Arts. It begins with a brief discussion of how the Federal Government is organized and the functions of its three primary branches. This is followed by descriptions of the Cabinet departments and selected agencies, along with organization charts emphasizing those affecting the building industry. The appendix lists trade associations, labor unions related to building trades, embassies for those concerned with international work, and Washington libraries. The guide concludes with excerpts from the Freedom of Information Act, indicating what records must be made available to citizens who request them. Single copies are \$9.95 each, postpaid, and can be ordered from The National Center for Architecture and Urbanism, 2000 P St., NW, Suite 413, Washington, DC 20036.

Tile catalog describes and illustrates tile for façades, exterior and interior floors, and interior walls. Drawings show dimensions and shapes, and charts illustrate colors and patterns available. Installation guidelines are included. Buchtal USA.

Circle 217 on reader service card



Hardwood parquet, plank, strip, and end grain flooring is shown in a fullcolor brochure. Along with photos of typical floor installations are drawings showing the patterns and specifications for each. Among woods available are oak, ash, walnut, cherry, and imported varieties such as ebony, mahogany, and teak. Kentucky Wood Floors. Circle 218 on reader service card

Flooring accessories brochure includes vinyl and rubber cove base, stair treads, risers, landing mats, and edge guards. The products are illustrated in color, with tables providing selection information. The Johnson Rubber Co., Flooring Accessories Div.

Circle 219 on reader service card

'1982 Designers Portfolio,' a 36-page catalog, provides descriptions and photos of a wide variety of low wattage, low voltage, low energy lighting systems. It features Neolites® as curtains, chandeliers, and flexible tubing to create special effects; sparkle lamps to be used in Litetrim strips; coffers, each with 29 tiny lights; and many other unusual lighting designs. Neo-Ray Products, Inc. Circle 220 on reader service card

'What Every Contract Specifier Should Know About Nylon' discusses nylon generations, explains the difference between spun and filament yarns, and describes Zeftron<sup>®</sup> and Zeftron 500<sup>®</sup> nylon yarn. It also covers such considerations of carpet selection as color, construction, and maintenance. Full-color photos illustrate actual nylon carpet installations. Badische Corp. Circle 221 on reader service card

'Anso® IV® Guide to Commercial Carpet' is a 24-page brochure that provides carpet specification information about [Literature continued on page 151]

149



### Energy Efficient.

Some of the freshest ideas in architecture are evolving from the use of StarTherm insulated panels. They offer exceptional energy efficiency and visual appeal. If you haven't already, you should take a closer look.

StarTherm panels are a painted metal sandwich, factory-filled with isocyanurate foam insulation. They're lightweight, easy to handle, and a snap to install either on new or existing structures.

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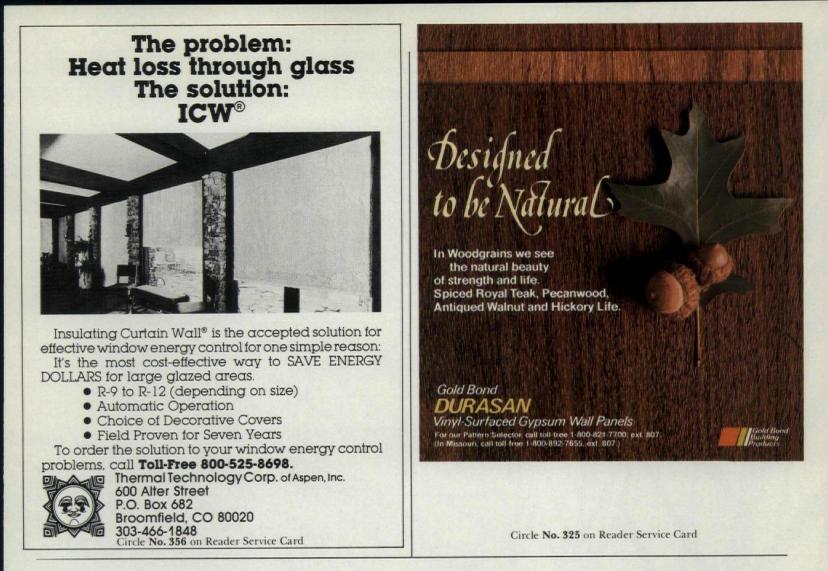
Colors? StarTherm panels are available in eight standard colors – from vibrant red to smoky gray. Star will custom-coat StarTherm panels in other shades you may specify.

StarTherm panels can be an important part of your energy design vocabulary. Call today for some fresh ideas that'll help you and your clients face tomorrow's energy demands.

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To spark ideas in man and metal.



Literature continued from page 149

contract floorcovering selection. It discusses commercial floorcovering, carpet tile, pile fabrics, carpet construction, and standards for evaluating carpet performance. Property charts of various synthetic fibers are included. Allied Fibers and Plastics Co.

Circle 222 on reader service card

Rolling doors catalog includes interior and exterior, hand- and poweroperated, service doors, insulated doors, fire doors, counter doors, side-coiling doors, and security doors and grilles. Drawings illustrate special features and installation details. The 28-page color brochure provides specifications and photos for the different products. The Cookson Company. Circle 223 on reader service card

Hinge catalog lists and describes architectural grade hinges in standard sizes, types, and finishes. Included in the eight-page brochure is information about hinge selection. Illustrations of each type of hinge are included, along with details of special features. H. Soss & Co.

Circle 224 on reader service card

Glazed handcrafted roofing tiles in ten colors are fireproof and frostproof, resistant to wind damage and water absorption. A four-page brochure shows tile colors and trim shapes, as well as installation details. Construction, installation, and specification information is included. International Tile & Supply Corp.

Circle 225 on reader service card

Dry pipe sprinkler system brochure describes components of the system and how and where it is used. Cutaway drawings illustrate the parts, and text explains their operation. Accessories shown in the 12-page brochure include maintenance air compressor, airpressure maintenance device, sprinklers, air and water gauges, pressure switches, and water motor alarm. The Viking Corp.

Circle 226 on reader service card

Lascolite® fiberglass-reinforced panels, both translucent and opaque, are described in an eight-page color brochure. Tables compare their fire resistance with that of other panels and provide engineering property data. A chart illustrates typical corrugation profiles and provides dimensions and weights for each. Warranty and specification information is included. Lasco Industries. Circle 227 on reader service card

OmniLite<sup>®</sup> anti-penetration glazing for maximum security applications is a glass-clad polycarbonate laminate that resists physical force, ballistics, and flame attack. It has superior sound control properties, according to the manufacturer. In the same 16-page brochure\_is information about OmniArmor<sup>®</sup>, which resists high-power ballistics attack, prolonged ballistics at-

tack, and physical attack. Sierracin/ Transtech. Circle 228 on reader service card

#### **Building materials**

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

Herman Miller seating plant, Holland, Mi (p. 110). Architects: Caudill Rowlett Scott, Inc., Houston, Tx. Wide flange columns: Grand Rapids Steel & Supply. Joists and girders: Haven Busch. Wall panels: Stolle Corporation, Alcoa Alply. Clear anodized aluminum window frames: Kawneer. Curved acrylic skylights: Plasteco. Aluminum medium stile doors: Alumiline. Painted steel doors and frames: Steelcraft. Insulated glazed exterior overhead doors: Overhead Door Co. Trocal roofing system: Dynamit Nobel. Ceramic tile: Romany-Spartan. Acrylic domed smoke vents: Plasteco. Plumbing fixtures: Crane. Toilet partitions: Sanymetal. Toilet accessories: Bradley Corp. Drinking fountains: Halsey Taylor. Service sinks: Powers Fiat Corp. Eye wash stations: Haws. All furniture: Herman Miller.

Rady Studio, Venice, Ca (p. 114). Architect: Frederick Fisher, Santa Monica, Ca. Paint: Sinclair. Corrugated and flat fiberglass: Ornyte. Corrugated asbestos: Indasco. Carpet: J.P. Stevens. Floor paint: Pittsburgh Paints.

# GHT GLASS HELPS YOUR B TAND UP TO THE LIGHT OF

Give full play to the noonday Denver sun in a generous atrium.

But shield the work space on the long western face from sizzling afternoons. While you hold heat gain and loss in check day and night, year round.

The right glass can meet those energy challenges. Beautifully. Efficiently. Even in the extremes of Colorado winters and summers.

The Jeppesen Sanderson building stands as living, simple proof. One high-performance glass—PPG's <u>Solarban</u> \* 550-14 (2) <u>Solex</u> \* —combines the energy efficiency, strength and stunning aesthetics

architect Robert Root demanded to bring his vision to life.

The skylight's sloped, laminated <u>Solarban</u> glass construction drinks in plenty of sun. But the same

Atrium and west face of Jeppesen Sanderson headquarters, Denver, Colorado, Johnson • Hopson & Partners Architects.

Solarban glass cuts glare and heat gain, too, in the office spaces that look west to the Rocky Mountains. And with PPG's unique Exterior Flush Glazing System 502 in place, this new low-reflectance glass takes on a seamless look that londs a on a seamless look that lends a splendid, aquamarine accent to the building's sleek exterior lines

PPG offers a broad range of high-performance glasses and glazing systems to meet the dual challenges of energy efficiency and aesthetics

head on. You'll find most of them in Sweet's 8.26/Pp.

So in your next search for the best design ideas, you'll know just where to look for the right glass to help them see the light of day.

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Path. Rath.

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Architecture—Anticipated openings for associate and assistant tenure track professorships available September 1982. Teaching areas: Architectural design and practice with supplementary teaching capability in graphics, computer application, building science, or design fundamentals. Depending upon qualifications, salary level is \$19,044-\$28,884. The department, with a highly selected enrollment of 850 students, offers B.Arch and M.Arch. degree programs accredited by NAAB. To apply send vitae, teaching areas preferred, and request for application to: Chairman of Selection Committee, Architecture Department, California Polytechnic State University, San Luis Obispo, Ca 93407. Phone: (805) 546-1316. Closing date: March 1, 1982. Affirmative Action/ Equal Opportunity/Title IX, Rehabilitation Act of 1973 Employer.

Architecture lectureships available—part-time or full-time, for teaching design, graphics, practice, control systems, and computer applications during AY 1982-83. Depending upon qualifications, salary level for full-time is \$19,044-\$36,540. The department, with a highly selected enrollment of 850 students, offers B. Arch and M.Arch degree programs accredited by NAAB. To apply send vitae, teaching preference, and request for application to: Chairman 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: March 1, 1982. Affirmative Action/Equal Opportunity/Title IX, Rehabilitation Act of 1973 Employer.

Architectural Department Manager—Multidisciplinary Ohio Valley A/E firm seeks mature, registered architect to manage architectural department. Eight years experience in project management and group management required. Health care, commercial office building and industrial plant experience very desirable. Successful candidate will have experience in setting standard procedures, providing technical direction, controlling project costs, controlling workload distribution, and client relations activities. Full compensation and benefits package including relocation. Send resume with salary history, in confidence, to Box 1361-395, Progressive Architecture.

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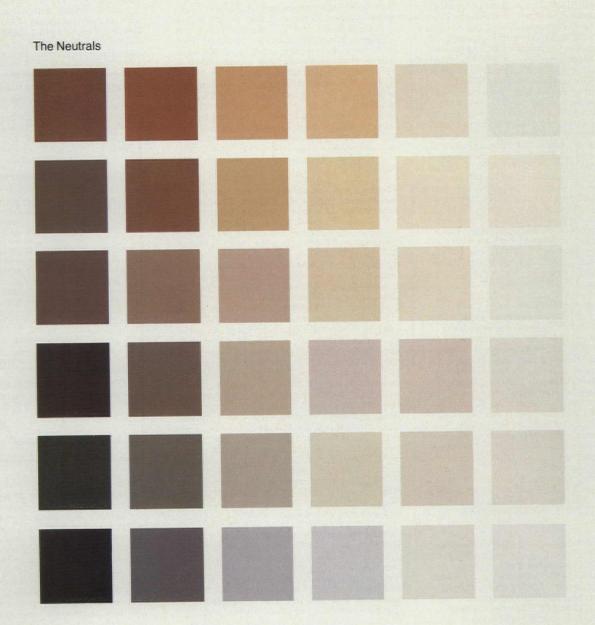
Carnegie-Mellon University, Department of Architecture: Full-time, tenure track faculty positions for 1982–1983. Seeking persons with substantial technical or theoretical knowledge that is integrated with architectural design: persons with a focused pedogogy for design studio and/or (1) management (2)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

[continued on page 156]



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Pittsburgh, Pa 15213. Carnegie-Mellon University is an Equal Opportunity/Affirmative Action Employer.

Department of Architecture-State University of New York at Buffalo: The position of Chairper son, Department of Architecture, School of Architecture and Environmental Design, State University of New York at Buffalo is still open and the search process has been extended. The position requires an experienced person who has achieved distinguished work in academe and/or the profession, with ability in administration. With 250 students in full-time day and part-time evening programs, the Department of Architecture is the largest in the School, which includes the Department of Environmental Design and Planning and the Department of Design Studies, all of which are administered by a Dean. The program starts at the junior year level, and leads to a preprofessional undergraduate degree. The M.Arch. is offered as the first professional degree, and the department expects to develop a specialized advanced Masters program. The Department is young, developing and fully accredited. Its faculty is diverse and is involved in professional work as well as research. Inquiries, nominations, and applications (with curriculum vitae, samples of work and three ref-erences) immediately to: W. Huff, Search Committee Chairman, Dept. of Architecture, Hayes Hall, SUNY at Buffalo, Buffalo, NY 14214. SUNYAB is an EO/AA Employer.

Department of Architecture—State University of New York at Buffalo: Full-time associate professor position for Fall 1982 to teach architectural courses in advanced building technology in two or more of the following areas: Innovative Construction, Building Science, Building Economics, Advanced Materials, Building Design related to Natural Hazards, Complex Building Types. Must also teach related design studio periodically. Qualifications: two professional degrees (doctorate preferred) and previous research or practical experience in advanced building technology. Teaching experience preferred. Salary according to qualifications. Nominations or applications (with resume, samples of professional or scholarly work, and names of four references) to: G. Schmitz, Chairman-Faculty Search Committee, Dept. of Architecture, School of Arch. and Envir. Design, State Univ. of New York at Buffalo, Hayes Hall, Buffalo, NY 14214. SUNYAB is an EO/AA Employer.

Department of Architecture—State University of New York at Buffalo: Two or more openings in September 1982 for positions as assistant or associate professors in the following areas: Design Studio, Design Methods, Computer Applications, Urban Design, Architectural Communications, Environmental Controls. Additional expertise teaching courses in other areas of the curriculum would be advantageous. Salary according to rank and qualifications. Applications with resume, four references, and samples of professional or scholarly work to: G. Schmitz, Chairman-Faculty Search Committee, Dept. of Architecture, School of Arch. and Envir. Design, State Univ. of New York at Buffalo, Hayes Hall, Buffalo, NY 14214. SUNYAB is an EO/AA Employer.

Director of Community Design, Assistant Professor of Architecture: Full time, twelve month faculty appointment serving as consultant/project director for a wide range of architectural and community design projects. Responsible for review of requests; preliminary development; supervision of students; community participation; and, publication in community design areas. Teaches design studies and programming courses at the graduate level. Qualifications: Minimum of first professional degree in architecture with a background in architectural programming and person-environment relations, a minimum of three years experience in a variety of architectural and community design work and demonstrated ability to work with a wide range of communities and individuals in group settings (especially minority and low-income) are required. Teaching experience, second professional degree and pro-fessional registration preferred. Interested appli-cants please mail resumes and three letters of recommendations to: Lynn Murphy, Chairperson, Community Design Director Search Committee,

Center for Community Development and Design, University of Colorado at Denver, 1100 14th Street, Denver, Co 80202. Applications must be postmarked no later than March 1, 1982; minimum salary \$25,000. The University of Colorado is an Equal Opportunity, Affirmative Action Employer.

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#### Faculty Positions: Built Environment and En-

vironmental Policy-UCLA: The Graduate School of Architecture and Urban Planning at UCLA announces two openings for Fall 1982. The first is a tenure track appointment, preferably at the Assistant Professor level, in the area of the Built Environment. We seek someone whose basic teaching area will be physical planning, to offer lecture courses, seminars and project courses for students in our M.A. and Ph.D. programs. Additional expertise in historic preservation or community-based housing development is desirable. We may also have a visiting or permanent position in the area of environmental policy and urban environmental problems. We encourage applications from candidates with an interdiscipli-nary background and experience in environmental planning or policy. The Urban Planning Pro-gram offers both M.A. and Ph.D. degrees and has sixteen faculty whose teaching and research are related to: urban and regional development, social policy and public services, natural environment and resources, and the built environment. Submit letters of application, resume and names of three referees to: Ms. Marsha Brown, Graduate School of Architecture and Urban Planning, University of California, Los Angeles, Los Angeles, Ca 90024. All applications should be received on or before March 1, 1982. UCLA is an Affirmative Action Equal Opportunity Employer. Minorities and women are encouraged to apply.

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**Iowa State University**—Starting August 23, 1982, we anticipate one or more positions becoming available. These positions may be temporary adjunct or tenure track and either full time or part-

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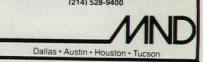
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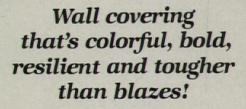
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University of Cincinnati—Seeks tenure-track faculty Fall 1982. Experienced in teaching large and small scale landscape architecture, regional design, ecological resource analysis, design of sites and immediate contexts of architecture, application deadline: March 1, 1982. Apply to: Professor Samuel V. Noe, School of Planning, College of Design, Architecture and Art, University of Cincinnati, Cincinnati, Oh 45221. An Equal Opportunity Employer.

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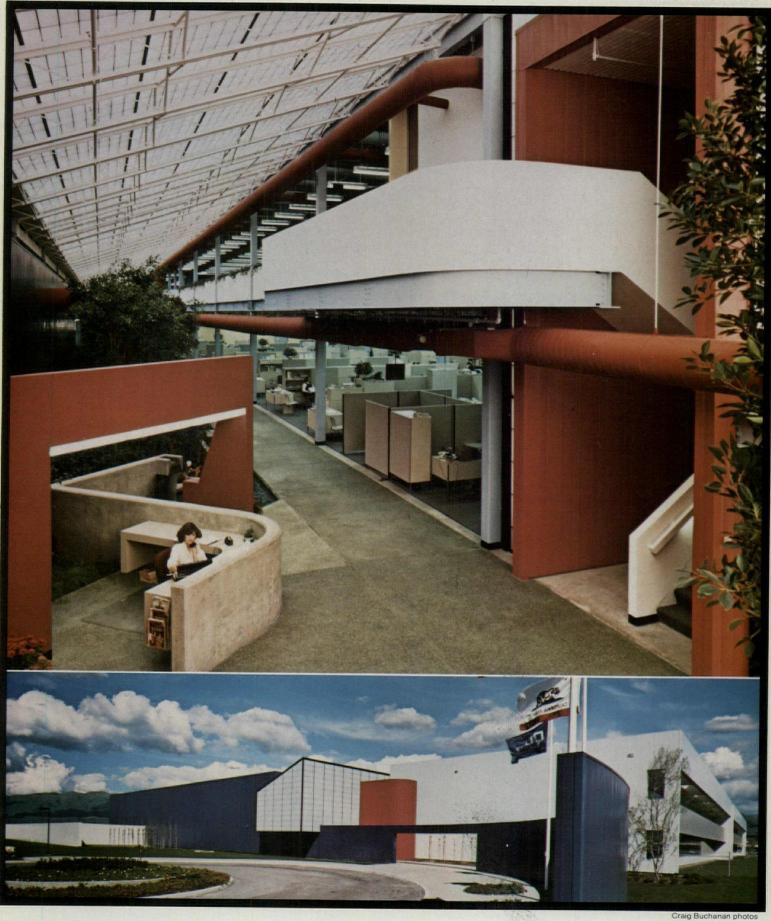
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### This is a factory?

Strong forms and bold colors give the Qume Corporation facilities in San Jose, CA, a distinctly un-factorylike appearance. On the outside, Inryco/wall IW-11A panels in postal blue and boysenberry are curved in graceful contours to break up the geometric rectangles of long, low sandstone beige walls.

Inside, the same type of panels in boysenberry and suede brown frame a skylit garden atrium between office and plant areas. Qume Corporation wanted a pleasant atmosphere for its employees, and the design team won a 1980 AIA Honor Award in providing it.

The energy efficient Inryco/wall panels are coated with long-life, low-maintenance, two-coat Duofinish over a galvanized steel base. For more data contact your Inryco representative or INRYCO, Inc., Building Panels Div., Dept. B-4069, P.O. Box 393, Milwaukee, WI 53201.

