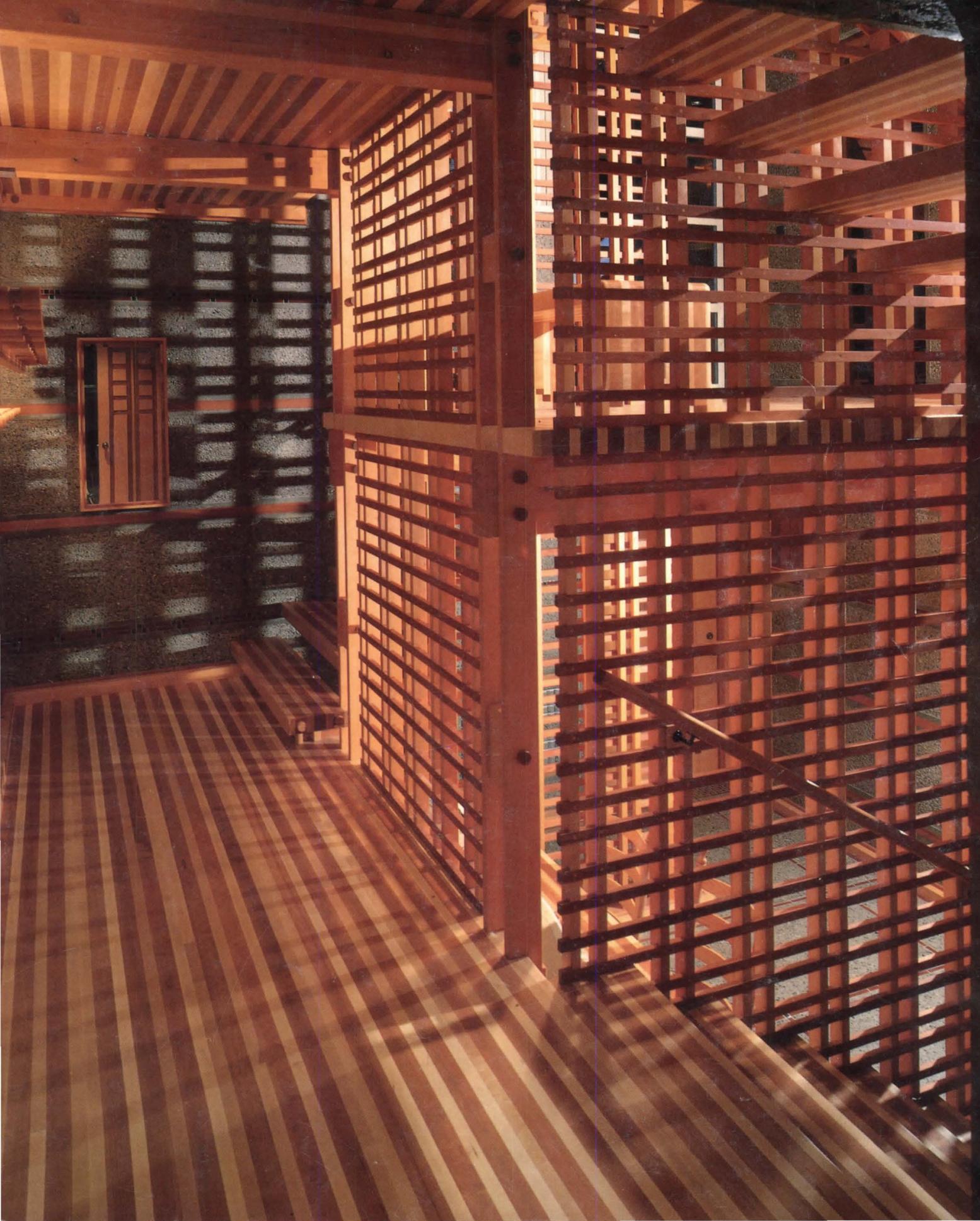
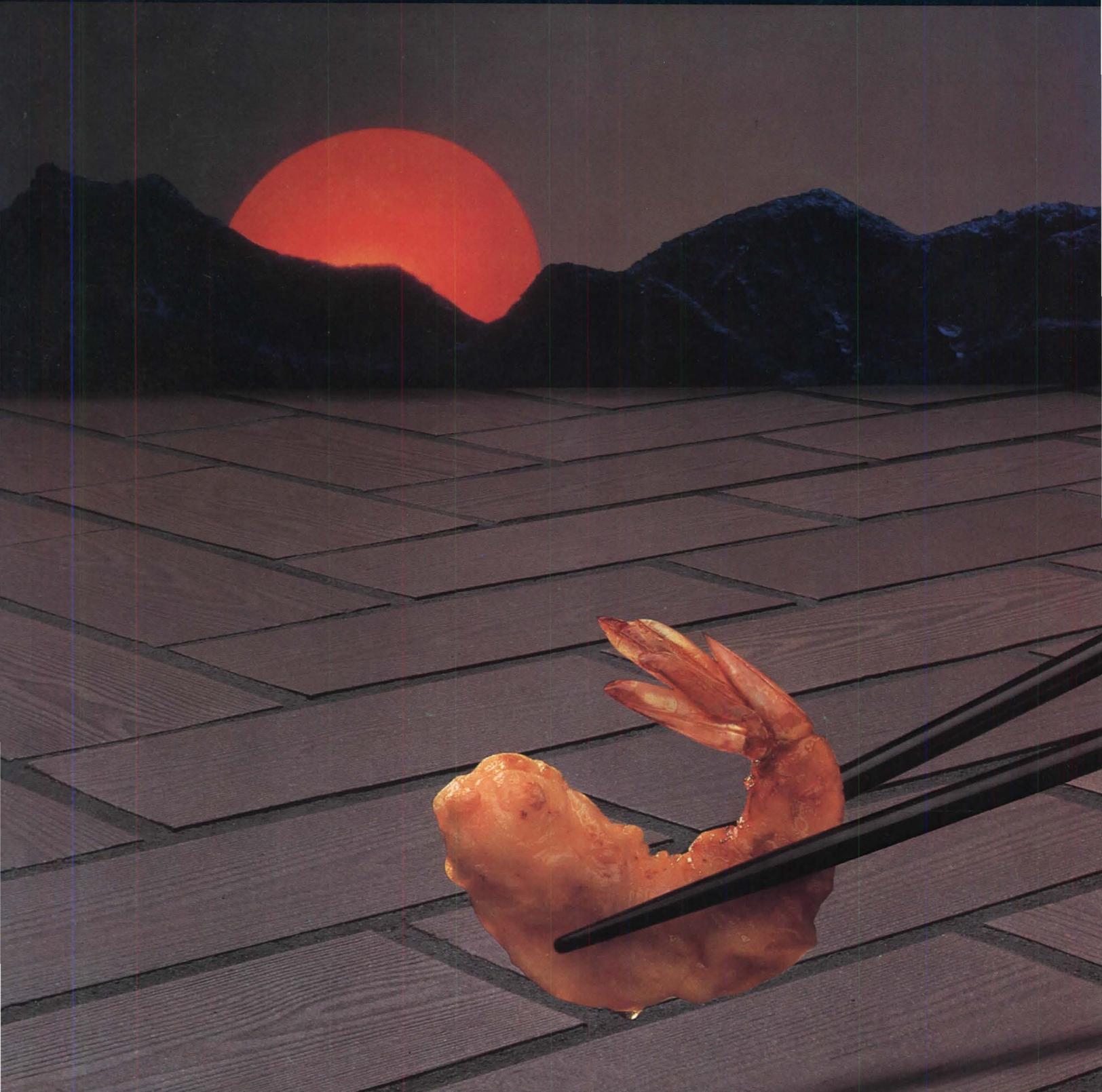


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Editors in charge: Susan Doubilet and Thomas Fisher

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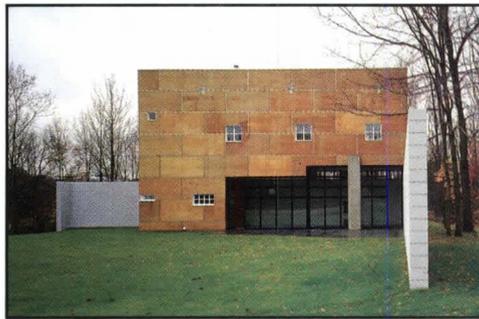
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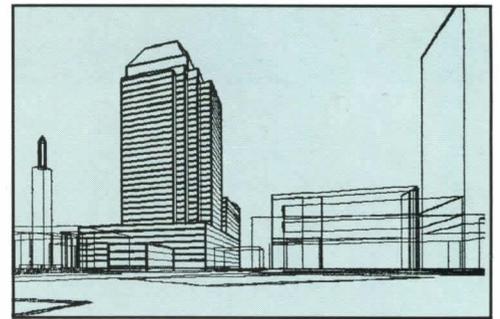
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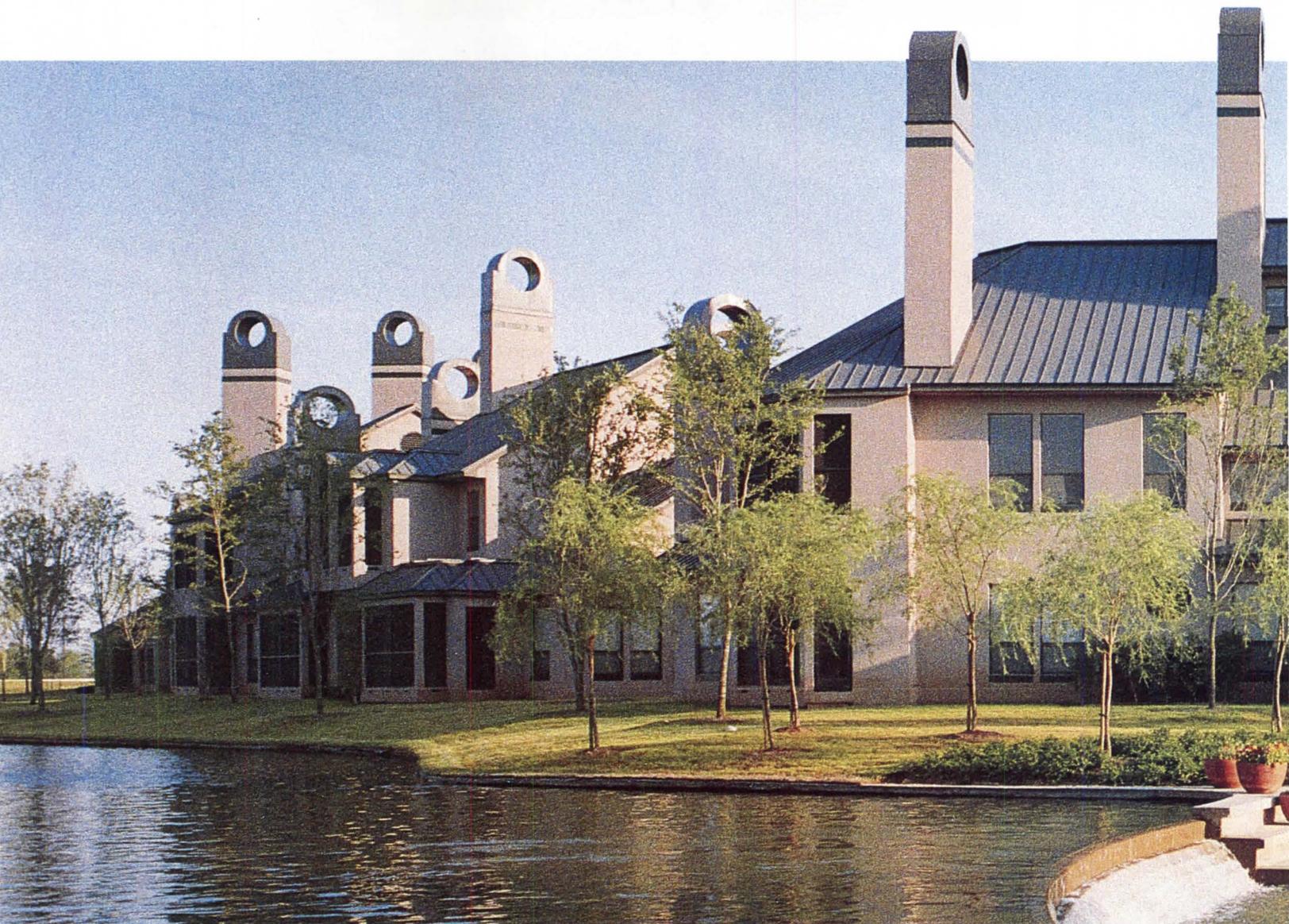
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House, Sun Valley, Idaho (p. 86) by Arne Bystrom.
Photo: John Fulker.

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Pleasures of Pre-Modernism

In the once-scorned “traditional” works of the 1920s and 1930s, we can often find deft solutions to design problems that seem hard for our contemporaries to resolve.

ON some of my recent trips for P/A, the most enlightening works of architecture I have seen have been buildings from the 1920s and 1930s that remained traditional, but show the liberating influence of Modernism. By that I mean the kind of works where liberties have been taken with historical forms, where ornament is often unconventional in distribution, materials, and motifs. Their combination of simplified form with an emphasis on craftsmanship often gives them an archaic look, without linking them to any specific historical period.

There were in those decades several degrees of separation from tradition: More conservative than the kind of design I have in mind was the widespread NeoClassicism, the least ornamented of historical styles one could adopt; at the more liberated end of the spectrum were the modes of Art Deco and Moderne, which used modern technology as a source of ornament, but were nevertheless worlds away from the International School Modernists who were then establishing standards for coming decades.

For most American design professionals of the 1920s and 1930s, the progressive traditionalism I am talking about here may well have seemed the most promising way to be Modern. The majority of AIA Gold Medals of those years went to this group of freer traditionalists—Sir Edwin Lutyens, Bertram Goodhue, Ragnar Ostberg, Paul Cret. None went to those who did Deco or Moderne work (unless one counts as Deco some of Cret’s work, as at the Dallas Fair Park). And maybe those judgments were right: Art Deco easily acquired a kind of camp charm for Modernists, but it often lacked the integration of form, ornament, and building fabric found in architecture that was more firmly rooted in tradition.

In the past year I have visited two of Goodhue’s buildings for the first time and found the experiences even richer than I had expected. The Nebraska State Capitol in Lincoln combines severe masses with areas of opulent surface decoration (much as does Ostberg’s Stockholm Town Hall, widely admired during this period). Stylistically, the capitol mixes elements that look NeoClassical, Byzantine, Egyptian, Romanesque, and Gothic, all remarkably unified, overlaying a plan that is timeless yet unmistakably Beaux-Arts in origin. A comparison of the building to published drawings shows progression toward abstraction, as where certain conventional cornice lines are deleted and little domes on turrets give way to pyramidal caps.

Goodhue’s art museum in Honolulu is almost unornamented, with only rudimentary capitals on the columns that surround its gardened courts. Somehow a few incisions on a lintel or a bit of chamfering on a jamb make eloquent events of this building’s doorways. This is one of several surviving buildings of this period in Honolulu that seem to present a plausible image of how the oceanic peoples might have built office buildings or art museums if they had never encountered a Westerner.

These architects who modified traditions, but didn’t reject them, brought with them from their schooling a sure sense of how to handle elements such as joints, corners, cornices, and parapets—not to mention proportion, balance, shadow, color, and texture—which doctrinaire Modernists would not accept from the past. It is this skill with form and detail that makes such buildings not just period curiosities, but models for architects of today.

It is no accident that on my visit to the Honolulu museum I ran into Charles Moore and William Turnbull examining Goodhue’s accomplishment. Moore has expressed his admiration for this phase of architecture in books (such as *Dimensions*, 1976, with Gerald Allen). If appreciation for this kind of architecture fades with the decline of Post-Modernism—which is reported by some to be under way—that will be a great loss, because such buildings present lessons of value to architects of any persuasion. ■

John Morris Dixon

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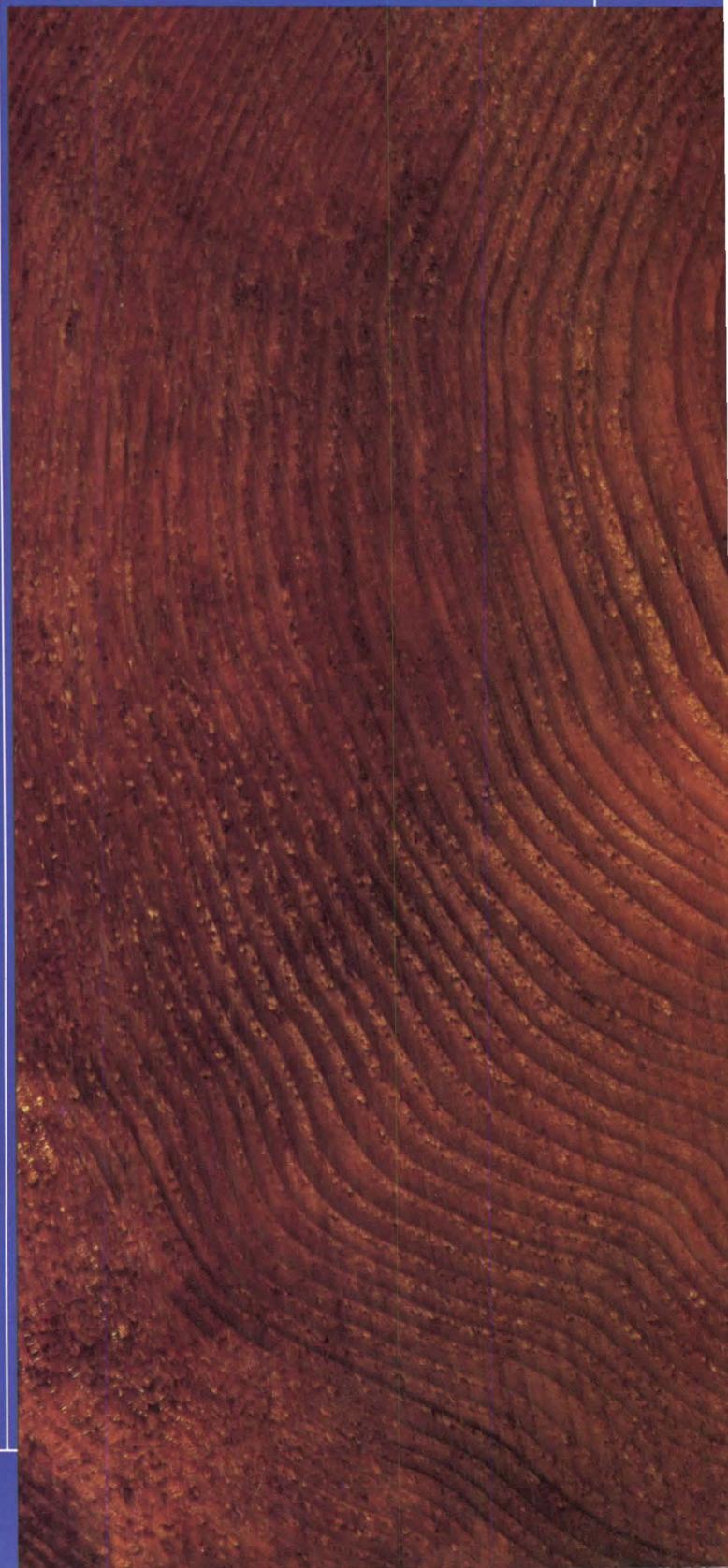
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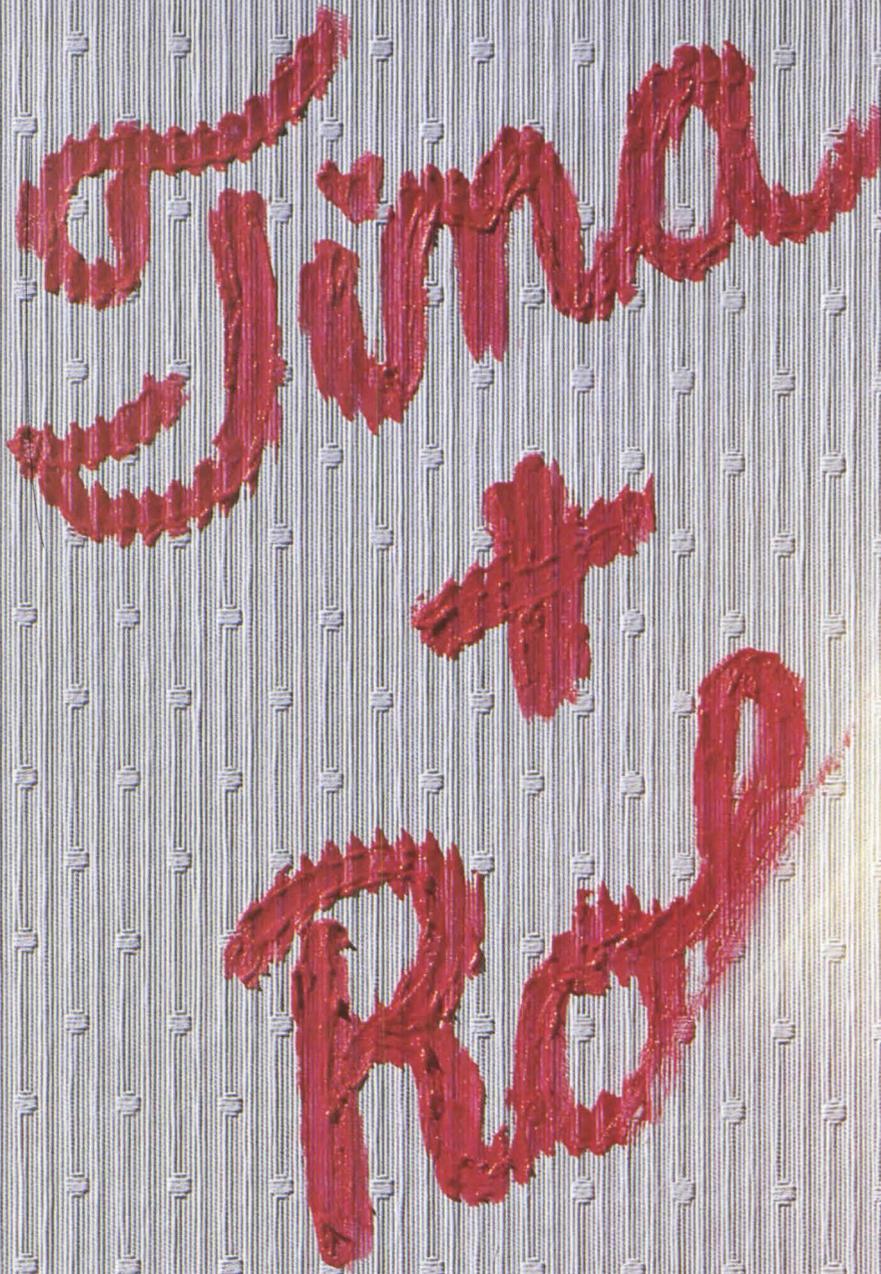
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P/A's first award this year given for housing for needy families is flawed in that the wood stove is proximate to the only exit from the sleeping loft. In the past, P/A has had useful articles relating to fire protection. Regrettably, one has to wonder if they are read by the profession.

*William E. Proper, P.E.
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Further Information

I congratulate you on the new direction taken by *Progressive Architecture* during 1986. The content revisions indicate a great sensitivity to the needs of the architectural community and have served our company well.

I was especially impressed by the listing of information sources in the December issue. This listing is a valuable reference guide that by itself is well worth the price of the entire subscription.

For the list of marketing sources I suggest the addition of the book *Getting Back to the Basics of Public Relations and Publicity*, Matthew J. Culligan and Dolph

Green (Crown Publishers, Inc.). It gives a very good overview for those who are just starting a Public Relations campaign.

*Michelle A. Brown
Marketing Director
S.I.L.O. Architects Ltd.
Denver, Colo.*

Joint Credit

The VanTeekelenburgh house (Energy Portfolio, April 1986, p. 49) was designed by Raymond L. Caselli, Architect, of Morristown, N.J., with M. Stephen Zdepski (who, alone, was credited in our article). Both names appear on the contract with the owners and on the construction documents; Mr. Caselli sealed and filed plans with the municipality.

Codex Credits

Interior design of the Codex Corporation headquarters (Feb. 1987, p. 23-28) was by Carol Fippin, Inc., of Boston, who shares credit for the quality of the interiors with architects Koetter & Kim.

Contents Page Corrections

The Citation-winning research project on Predicting the Acoustical Qualities of Buildings, by Gary Walter Siebein (Jan. 1987, p. 135) was omitted from that issue's contents page.

The P/A Technics article on Industrialized Housing (Feb. 1987, p. 92 ff.) was written by Emanuel Levy, who was not credited on the contents page and whose by-line on the article was misspelled.

Name Change

Edward McCagg of TRA, quoted in the P/A Inquiry on airport terminals (March 1987, pp. 96-103) was incorrectly identified there as Theodore McCagg.

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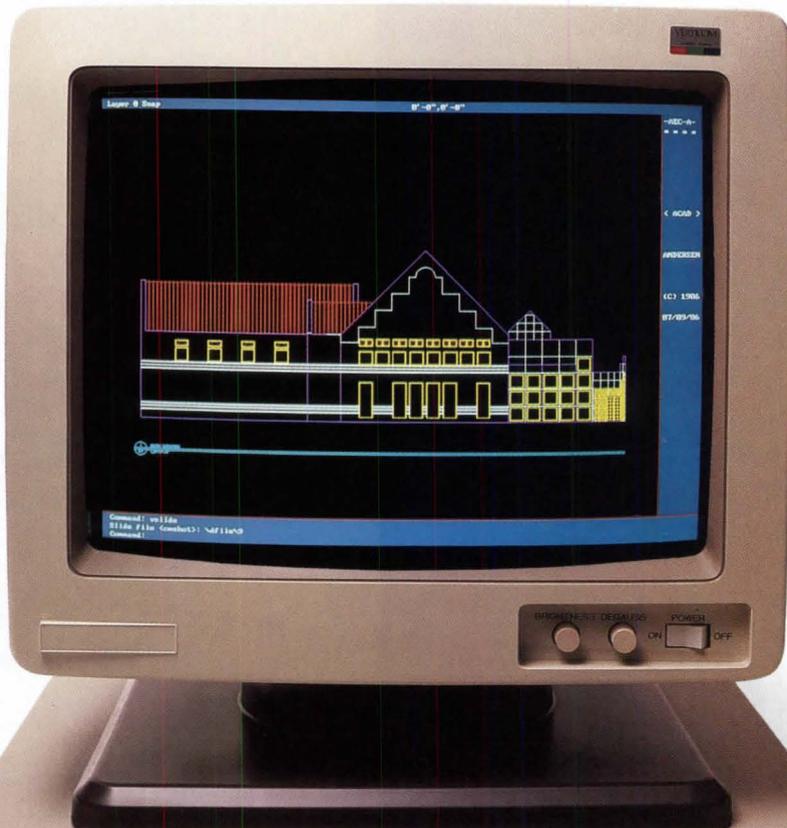
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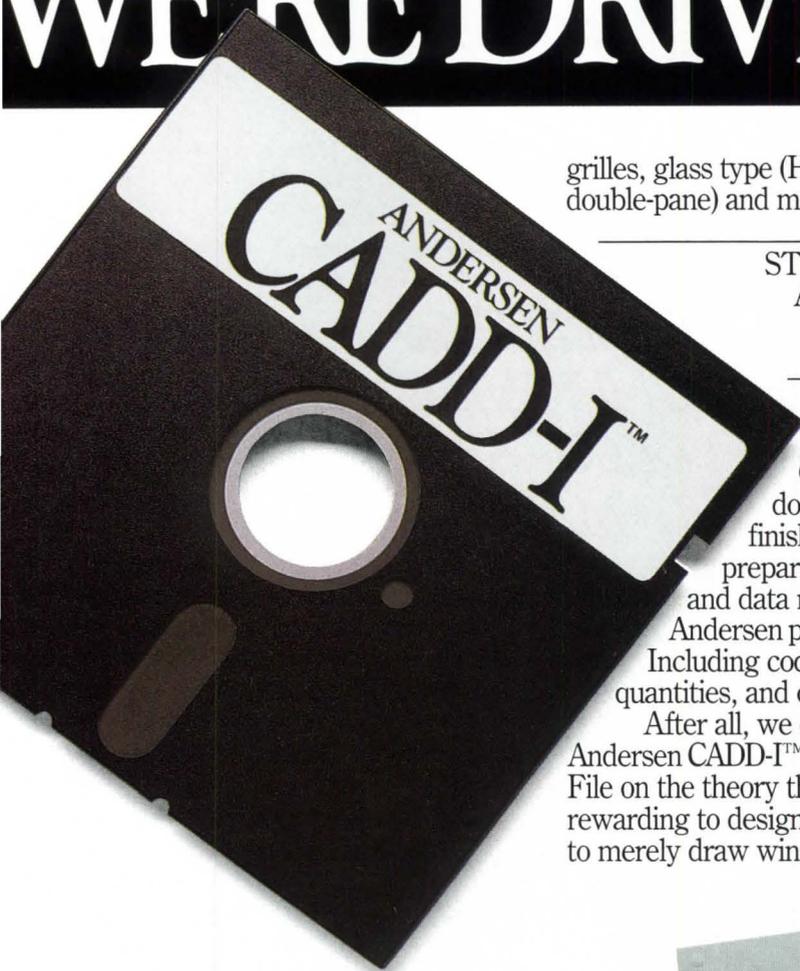
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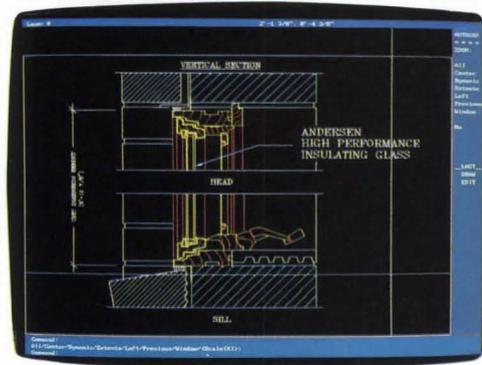
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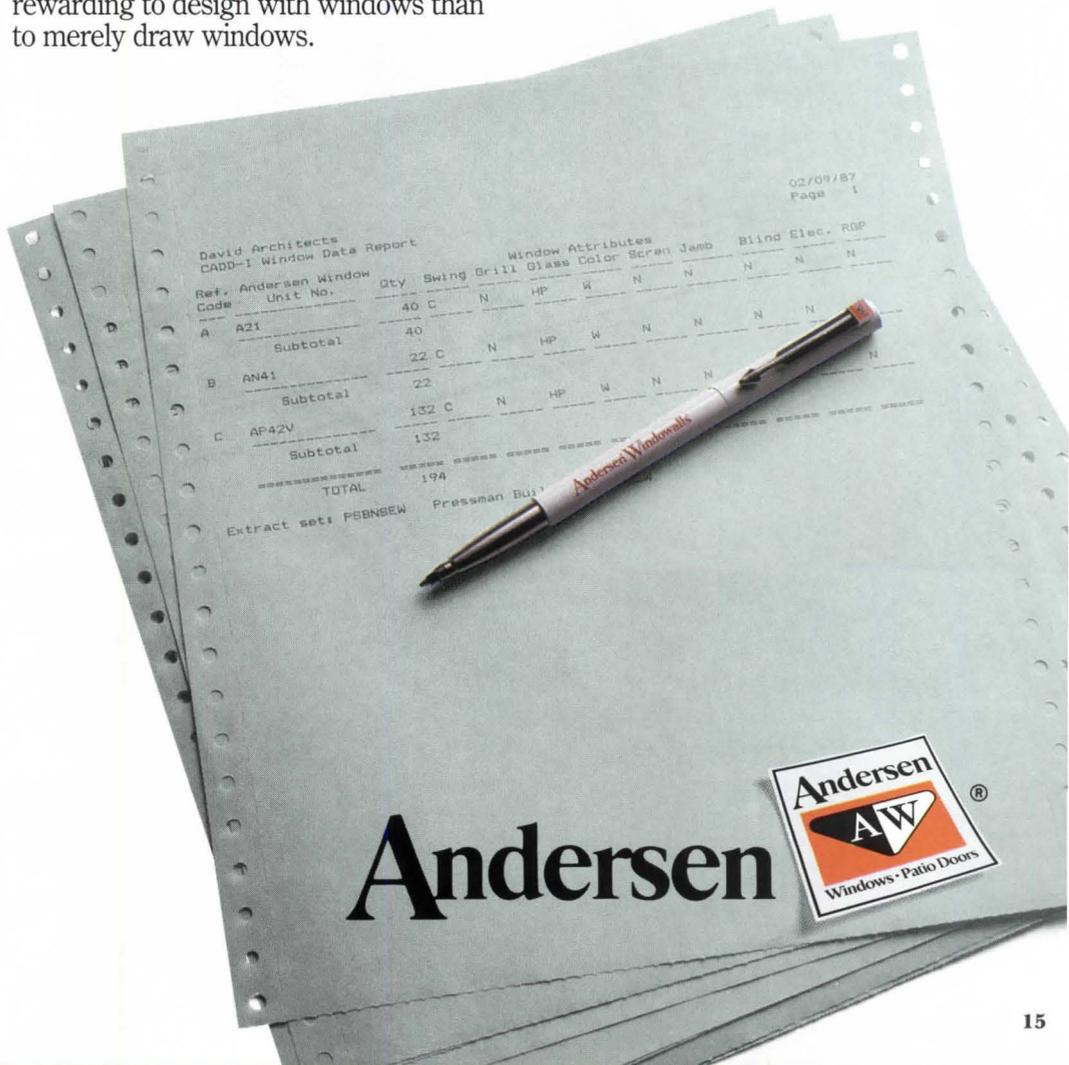


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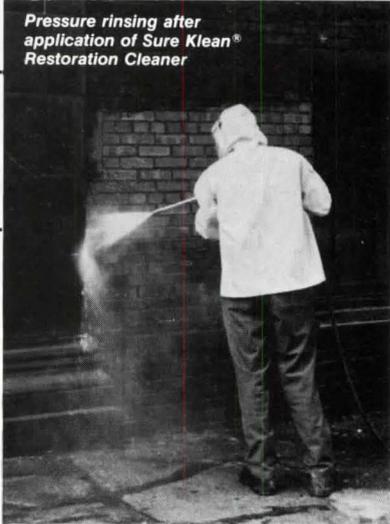


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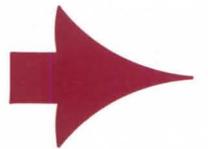
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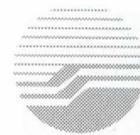
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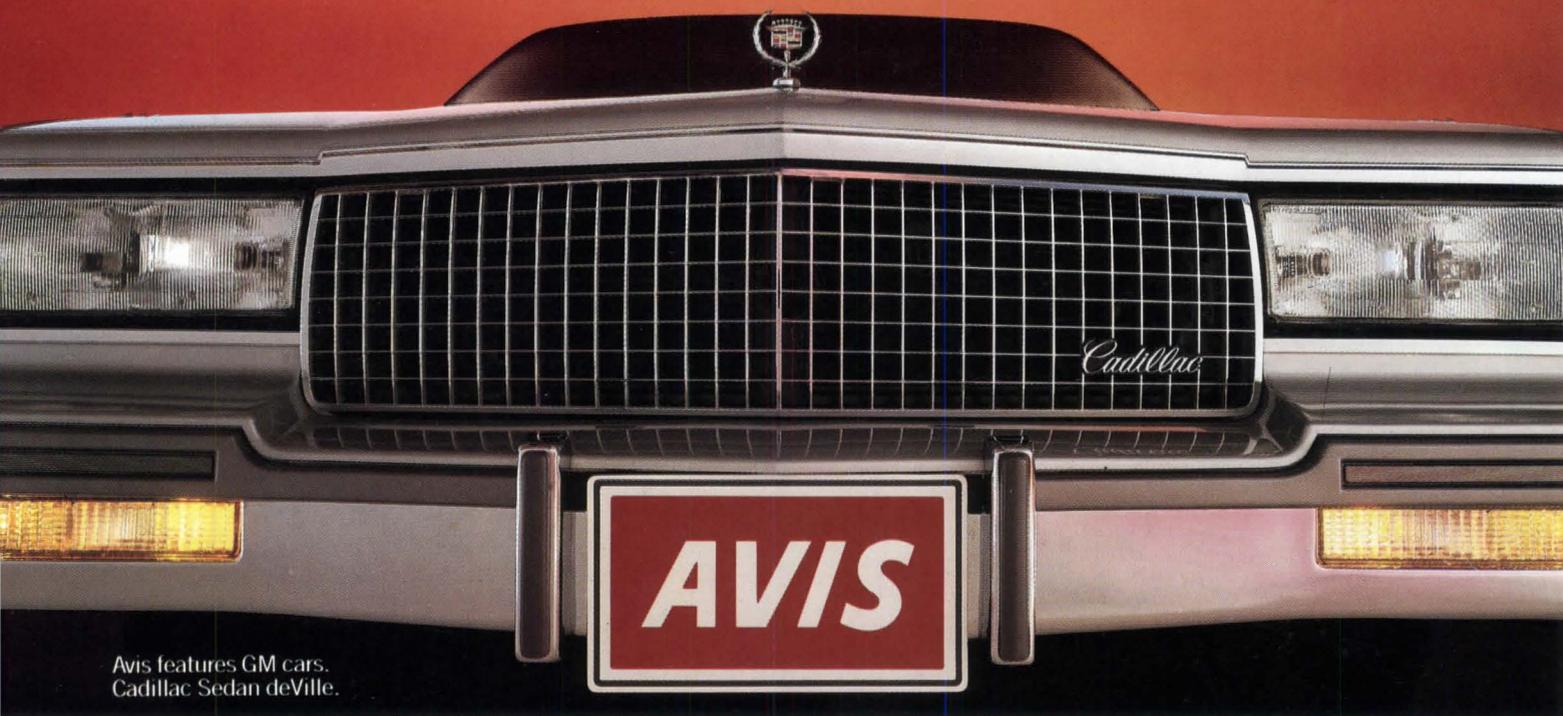


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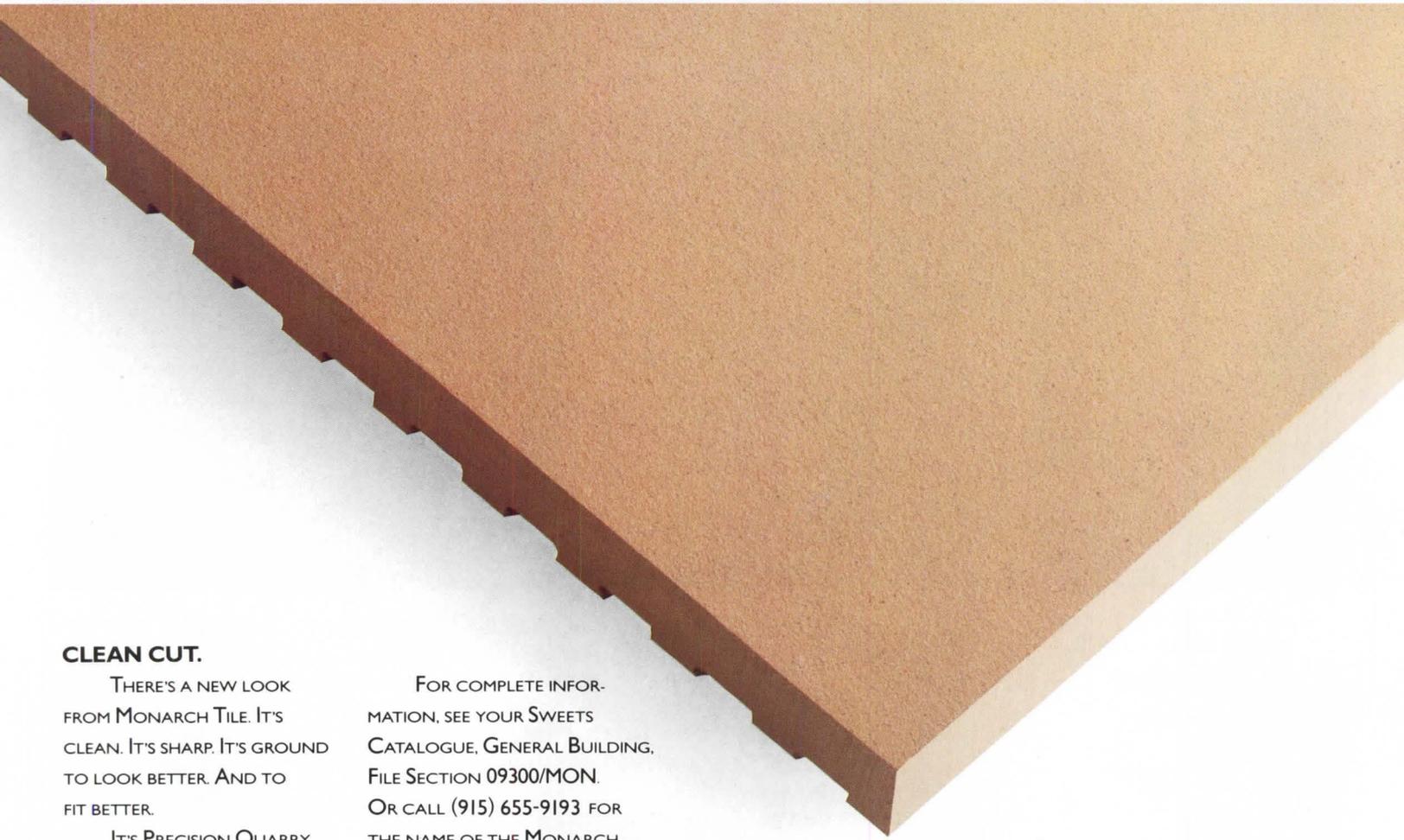
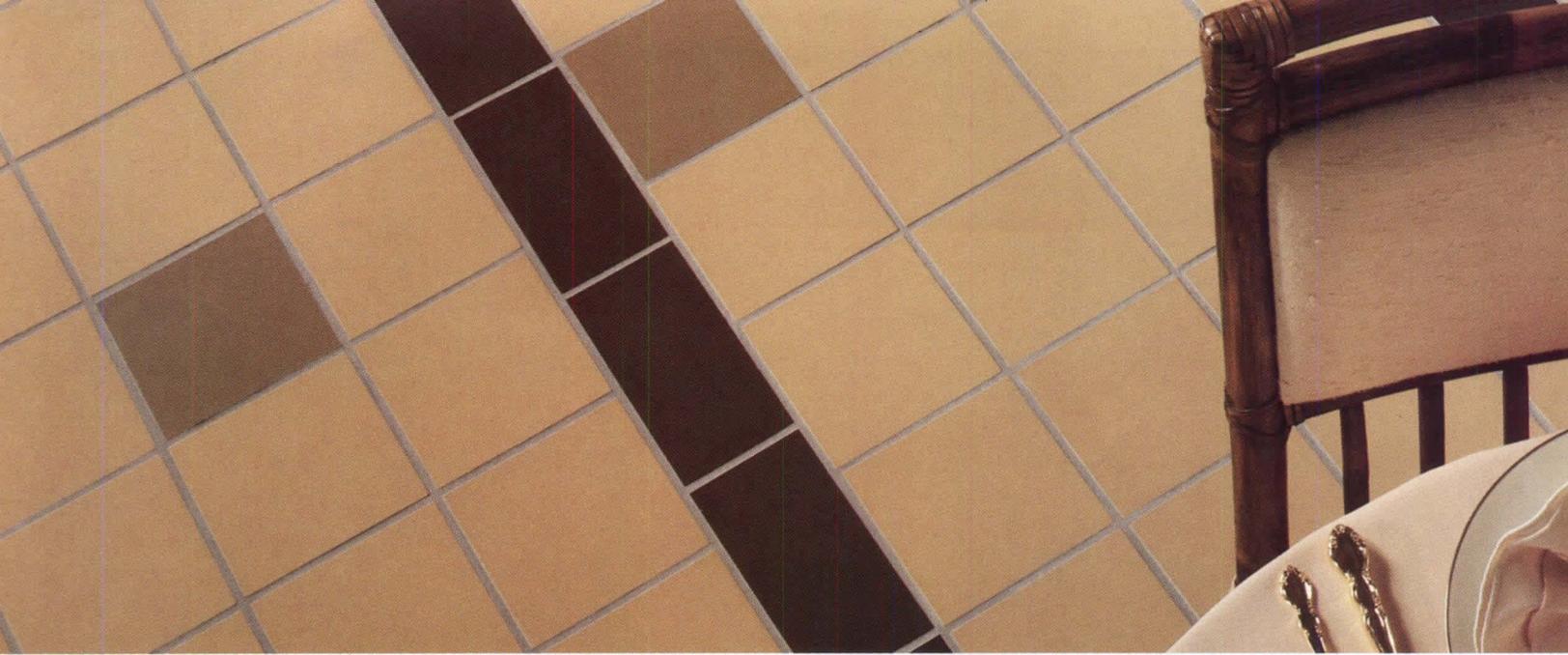
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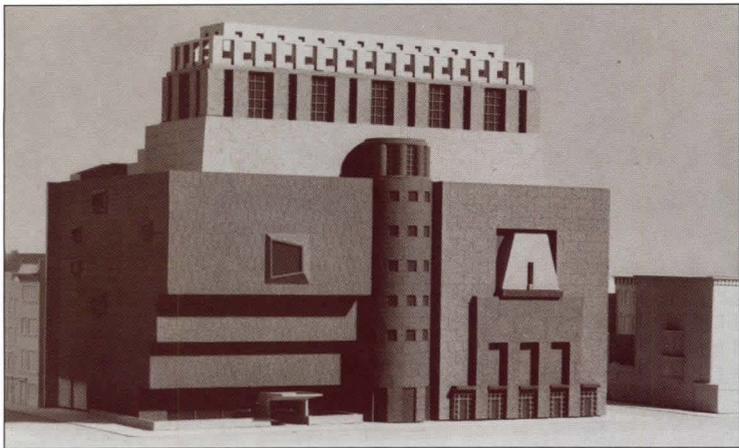
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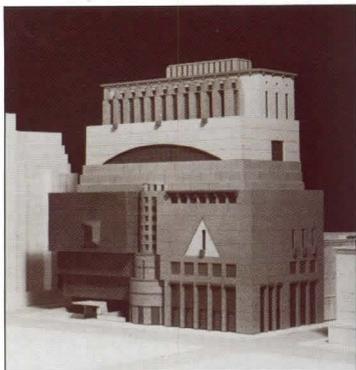
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William Taylor



Paschall Taylor

Original (bottom) and revised (top) designs for Whitney Museum addition by Michael Graves.

Revised Whitney Unveiled

One month after the Guggenheim Museum in New York unveiled a dramatically revised plan for its addition (P/A, March 1987, p. 40), the Whitney Museum of American Art, also in New York, has followed suit, making public a similarly downsized design by Michael Graves.

The addition, unveiled at the Whitney on March 10, is 24 percent smaller and 47 feet shorter than the original proposal (P/A, July 1985, p. 23 and Sept. 1985, p. 25). Most cuts were made in the superstructure, which has been reduced 60 percent.

The basic diagram, however, remains the same: Graves balances the original building, completed in 1966 to the design of Marcel Breuer and Hamilton Smith, with a mass of similar size and scale on the southern half of the Madison Avenue block.

Breuer and Graves are separated
(continued on page 29)

Building Barcelona: 1873–1926

The Catalan Spirit: Gaudí and his Contemporaries (Cooper-Hewitt Museum, New York, through June 9) represents the most significant attempt to date at placing Antonio Gaudí (1852–1926) in context. The show, curated by Judith Rohrer and George R. Collins, of Barcelona and New York respectively, successfully demonstrates that Gaudí was not operating in a vacuum, but was indeed part of

(continued on page 29)



Museu Gaudí

Gaudí Chair from Casa Calvet, 1902.



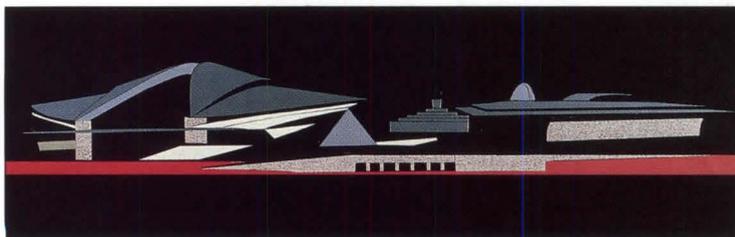
Hectic Pictures

Winning design for The Hague City Hall by Office of Metropolitan Architecture.

Koolhaas and OMA Win The Hague City Hall Competition

After 80 years and myriad competitions and architectural commissions, the city of The Hague has a design for a new city hall . . . or does it? Even as Rem Koolhaas of the Office for Metropolitan Architecture, Rotterdam, has received the jury's vote, word on the street in the Hague holds that the design by Hans Boot of Van den Broek en Bakema was favored by the public and that Richard Meier's design was the known choice of an influential city councilman and competition organizer. Other competitors were Helmut Jahn of Murphy/Jahn, Chicago, and the Cabinet Saubot et Julien, Paris, with the Webb Zerafa Menkes Housden Partnership, Toronto. OMA replaced origi-

(continued on page 28)



Toshiharu Kitajima

Five projects by Japanese architects, including Fumihiko Maki's Sports Complex, above, are shown in progress, page 41.

Historian, Critic Remembered

It would be tempting and dramatic, but probably misleading, to say that the death of Henry-Russell Hitchcock at the age of 83 on February 19 marked the end of an era, for the scholarly standards that Hitchcock espoused have been passed on to students and admirers who will carry on his tradition of architec-

(continued on page 31)

Pencil Points

Kenzo Tange of Tokyo is the 1987 recipient of the Pritzker Prize for Architecture.

Frank Gehry of Venice, Calif., is among eleven individuals named to the American Academy and Institute of Arts and Letters.

Aldo Rossi has been commissioned to design a new School of Architecture for the University of Miami.

Thomas S. Monaghan, Domino's Pizza president and architecture buff, has announced the establishment of a \$20,000 challenge grant to be awarded annually to nonprofit organizations for the restoration of structures designed by Frank Lloyd Wright.

Bruce Goff's Bavinger House in Norman, Okla., will receive the 1987 Twenty-Five Year Award from the American Institute of Architects.

Ralph Rapson is the 1987 recipient of the Topaz Medallion for excellence in architectural education, awarded jointly by the AIA and the Association of Collegiate Schools of Architecture.

Lisa S. Taylor, director of the Cooper-Hewitt Museum (the Smithsonian Institution's National Museum of Design in New York) for nearly two decades, plans to resign because of ill health.

The Rotterdam Arts Council plans to found a new school of architecture called the Durand Institute. The private school is also intended to stir discussion of architecture in the Netherlands.

The Greyhound Terminal in Washington, D.C., has been designated a local historic landmark. The action is noteworthy because the original 1940, Art Deco structure is now hidden behind a 1976 façade, and the ruling sets an important precedent for other "slipcovered" buildings.

Office rental rates in the U.S. have dropped an average of \$1.71 per square foot, according to a new survey by The Office Network. The average vacancy rate is 18.6 percent, up from 16.9 percent a year ago. Worst off is Dallas, with a 30.9 percent vacancy rate, followed closely by Houston with 30.6 percent.

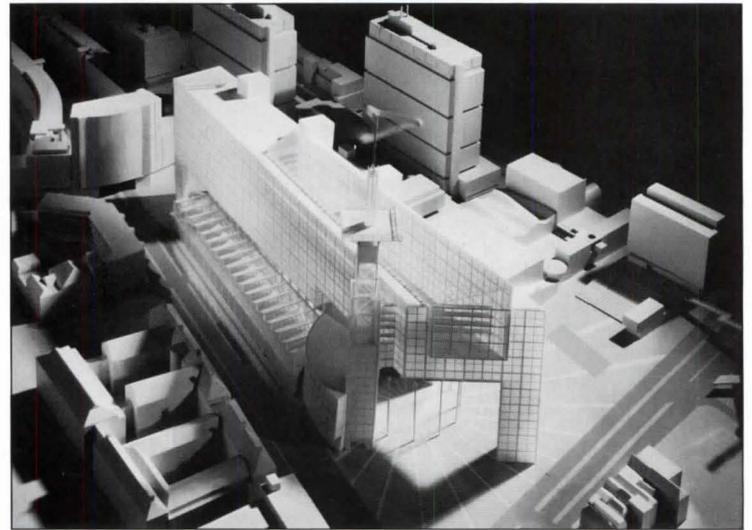
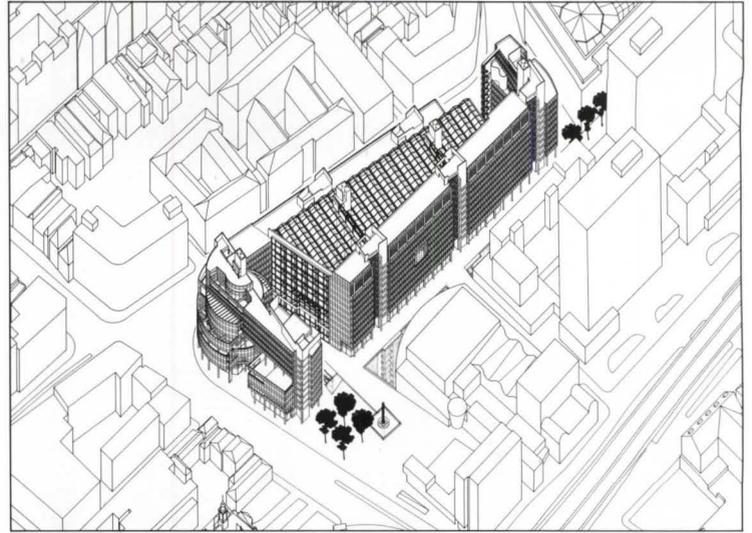
Koolhaas (continued from page 27) inal competitors James Stirling, Michael Wilford & Associates, U.K. six weeks before the design was due.

Existing conditions proved to be the *primum mobile* of all five designs. The narrow, wedge-shaped site, fronting two of The Hague's main streets, adjacent to the new cultural center designed by Koolhaas and others and terminating an axis leading to the city's central train station, provided a feast of site-planning issues. Furthermore, the site's keystone position between the new and old halves of the city posed difficult questions of scale and architectural vocabulary.

Koolhaas's scheme, a city within a city hall, resembles a miniature Manhattan like that evoked in his famous manifesto *Delirious New York*. Along the southern edge of the site, a sunken plaza with skating rink, recalling that Koolhaas favorite Rockefeller Center, provides access to the new public library and fronts on the adjacent concert hall and dance theater (the latter also designed by Koolhaas). The bulk of the building forms a bar along the site's northern edge. Here, the Dutch preoccupation with shallow, slab-like office buildings has been both satisfied and subverted: Koolhaas takes a sandwich of three such buildings and carves them in such a way that the otherwise overbearing mass is reduced to a collage of more manageably scaled towers—an approach that Koolhaas compares with Michaelangelo's liberation of slaves from their marble bondage. The slab facing the old city receives a traditional skin of stone, while a stainless-steel-clad counterpart faces the new city; between the two lies an "abstract horizon of glass." All in all, the scheme is a fanciful, idiosyncratic, yet for Koolhaas unusually subdued response to a difficult site and program.

Richard Meier responds to the asymmetries of the site with a Yin and Yang of interlocking L-shaped buildings that hold between them an atrium of monumental proportions. That Meier's building, at ten stories, is shorter than the other four designs does not help lessen its apparent bulk. It is still twice the height of its neighbors in the old city, to whom it would present a largely unbroken elevation half a kilometer long.

Both the scheme by Van den Broek en Bakema and that of the Cabinet Saubot et Julien are clearly of the new city. Their tight-skinned, mechanistic forms



American proposals for The Hague City Hall: Meier (top) and Jahn (bottom).

and reflective glass towers are at home among the decade-old office towers and government ministry buildings that rise to the east of the site. Based on public reaction, this is the glitzy imagery that many feel is most appropriate.

Helmut Jahn's design gets top marks for boldness, but the size of the bite seems to be more than either jury or public could chew. The scheme creates a series of vast indoor and outdoor public spaces at ground level. Floating ten stories above this base, a slab of government offices runs the entire length of the site, while a freestanding, constructivist tower marks the main entrance.

However, it is Ricardo Bofill, a nonparticipant in the city hall competition, who seems to be its uncontested winner. Bofill received the commission to design 850 units of housing, which will replace the current city hall on the Burg de Monchy square in the residential neighborhood of Archipel. His design, though characteristic, is uncommonly responsive to context, its dark blue metal-slate roofs and the vertically proportioned, divided

light windows a refreshingly modern reinterpretation of their 19th-Century counterparts.

Both the city hall competition and Bofill's housing represent an attempt to give new order to one of Europe's most disorganized cities. The Hague literally has no center; the current city hall sits on its own, far from the commercial center, transportation hubs, and both the national and European political districts of the city. These concerns are no surprise to the city fathers—the site of the current competition was first proposed as a new political and cultural center in 1909, and virtually each subsequent decade has seen either a commission or competition for the site, producing designs by Berlage, Dudok and even Rem Koolhaas's grandfather, D. Roosenburg. If this latest competition comes to fruition, it will be a boon for The Hague and a coup for Koolhaas; but as 80 years of unrealized designs have shown, it's not over until it's over. **Graham Wyatt** ■

The author, an associate at Robert A.M. Stern Architects, New York, is working on projects for that office in Holland.

Whitney (continued from page 27) by a central hinge, simplified in this scheme from a telescope to a cylinder. Above, three floors of gallery and office space and a mechanical penthouse span across old and new.

Gone is the eyebrow window; gone too the triangular oculus, replaced by a still larger alabaster trapezoid within a square window. Other significant changes include:

- *elimination of the proposed 74th St. entrance and below-grade commercial space;

- *introduction of a 20-foot setback on the east façade to let more light and air into mid-block brownstones;

- *relocation of public elevators from rear wall to central core, with improved circulation;

- *elimination of structural transfer at the 6th floor and conversion of existing mechanical space at that level to galleries, so that all gallery floors are now contiguous.

Gallery space for the permanent collection—the motivation for this addition in the first place—has been increased slightly in this scheme.

The scheme still faces a full review process, starting with the city landmarks commission in May. It is due, however, a vastly different reception from the hue and cry that greeted its predecessor. Photomontages suggest that Graves has satisfied the most significant criticism of his scheme by reducing its bulk. His chastened clients have carefully consulted appropriate community groups in the preparation of this second plan.

Those architects who signed a petition against the original scheme may still feel that Graves and Breuer do not mix, but they must respect the architect's and clients' response to criticism, and their right to proceed with a much improved plan.

Daralice D. Boles

P/A Wins Neal Award

Progressive Architecture has been awarded a Certificate of Merit in the 33rd annual Jesse H. Neal Editorial Achievement Awards competition, sponsored by the Association of Business Publishers. P/A Senior Editor Thomas Fisher accepted the certificate at a luncheon in New York on March 18.

The certificate recognizes the P/A Technics department, represented in the competition by three articles from the February, July, and August 1986 issues. P/A's entry was one of 32 award-winners, out of 676 entries.

Sharing credit for the submitted articles were art director Richelle J. Huff; associate art director Samuel G. Shelton; copy editor Virginia Chatfield; executive editor David A. Morton; and editor John Morris Dixon. ■

New at Lighting World

Promising "the latest in lighting today," the sponsors of Lighting World are planning a new Preview of Products to take place the first afternoon of the three-day expo staged in New York's Jacob K. Javits Convention Center May 11 through 13.

In one 90-minute session starting at 2 P.M., manufacturers will present and demonstrate their latest products and systems. The featured fixtures and controls will be selected by a panel from show sponsors—the International Association of Lighting Designers, the Illuminating Engineering Society of North America, and the New York Section of the Illuminating Engineering Society.

Also on May 11, Viennese architect Hans Hollein will deliver the keynote address at Lighting World. See special section, pages 129–196. ■



Casa Amatller, Barcelona, 1902, designed by Josep Puig i Cadafalch.

Barcelona (continued from page 27) a larger cultural, religious, and political reawakening in Catalonia. Coming soon after exhibitions on Vienna (P/A, Aug. 1986, p. 23) and Berlin (P/A, Jan. 1987, p. 33), this one portrays fin-de-siècle Barcelona similarly as a fertile city for varied and rich conceptions in the fields of architecture, urbanism, and the decorative arts.

Ildefons Cerdà's plan of 1859, which gave the city its characteristic chamfered blocks, set the stage for a flourishing movement, in gestation since the 1830s, known as La Renaixensa (renaissance). Medievalist and pluralist in scope, this movement found its greatest expression in the International Exposition of 1888. Notable examples in the show are Josep Vilaseca i Casanova's triumphal brick arch and Lluís Domènech i Montaner's eclectic café—the one decidedly monumental and heroic, the other picturesque and domestic.

By 1900, another movement, nationalistic and synthetic in spirit, began to take form with Gaudí as one of the protagonists. Among exemplary works of this new Modernisme we can find at the Cooper-Hewitt not only Gaudí's Casa Batlló (1905–1907) and Casa Milà (1906–1910) but also Josep Puig i Cadafalch's decoratively imperial Casa Amatller (1898–1900).

As the show clearly demonstrates, however, neither movement remained a lofty ideal realized in isolated buildings for the Catalan bourgeoisie on the one hand or the Catholic church on the other. In fact, Modernisme worked its way down to daily activities throughout the

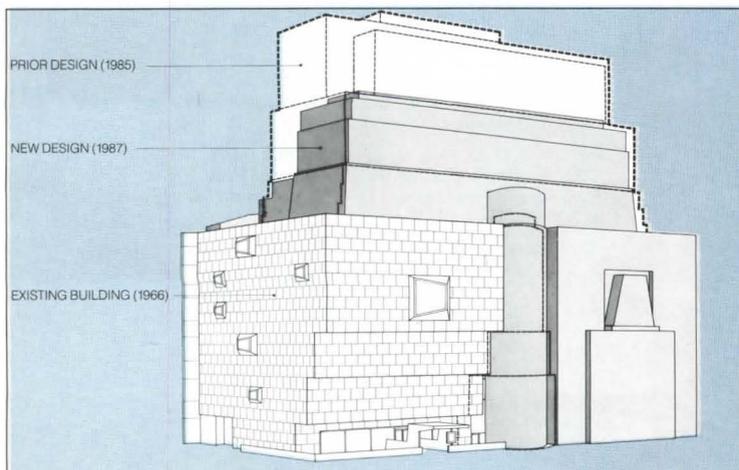
city, embellishing urban furniture, such as flower stands, street lamps, and fountains, and mass-produced domestic items. The show emphasizes not only the evolution of a particular style in architecture, but also parallel developments within various interrelated design fields. Josep Maria Jujol, a Gaudí disciple, is an important example, producing completely coherent buildings and interiors, with appropriate furniture, objects, and tiles.

This exhibition concentrates on original drawings, objects, and furniture. The selection of work and its casual chronological arrangement are superb. Most convincing is the entrance and main room at the museum, where dark wood paneling begins to suggest the dark medieval spaces found in Gaudí's Palau Guell (1885–1889) or the interiors of Domènech i Montaner's Casa Lleo Morera, without resorting to reproducing period rooms. The rest of the installation design, however, although not obtrusive, is rather bland and unrelated to the show's flamboyant subject.

A forthcoming catalog accompanies the exhibition with four essays. Tragically enough, as Rohrer points out in her essay, Gaudí's death in 1926, coupled with Le Corbusier's visit in 1924 at the invitation of a group of architecture students led by Josep Lluís Sert, brought the era to an abrupt end.

Warren A. James

The author is a designer with Robert A.M. Stern Architects, New York, and the editor of Ricardo Bofill/Taller de Arquitectura: Buildings and Projects, 1969–1985, to be published by Rizzoli this spring.



Comparison of proposed Whitney expansions, 1985 (dotted line) and 1987.

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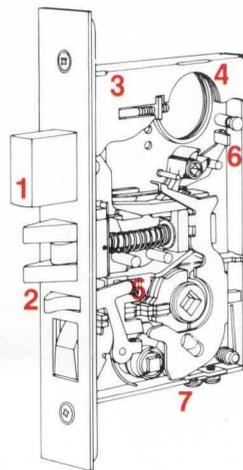


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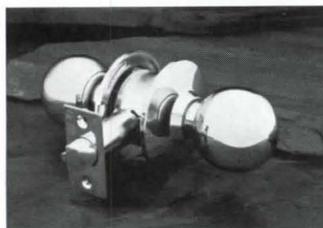
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Hitchcock (continued from page 27) tural history. Moreover, the aesthetic values that he supported in contemporary architecture survive today in the work of many practitioners. It would not be an exaggeration to assert, however, that Hitchcock's appearance in 1927—first as a writer with an inimitable, somewhat mannered syntax, then as teacher, curator, and museum director—was the beginning of an era.

To the professional no less than the layperson, Hitchcock brought a new, modernist sense of architecture's significance. His personal acquaintance with many of the most influential practitioners of the 20th Century, such as Frank Lloyd Wright, Le Corbusier, J.J.P. Oud, and Philip Johnson, lent his discussions of contemporary architecture a special urgency, but he was no less committed to revealing the sensual and emotional resonances of buildings from many epochs. Hitchcock's range as an architectural historian is probably unsurpassed. His love of buildings—the sheer physical look and feel of them—led him to embrace works from apparently incompatible periods. Reluctant to discuss a building that he had not experienced first hand, he traveled tirelessly in Europe and America, in later years assisted by his long-time companion Robert Schmitt.

Hitchcock donned the critic's mantle far more willingly than most of his fellow historians and curators. Making aesthetic judgments was an integral part of his method when considering buildings of the past no less than the present. Whether discussing architecture, landscape or urban design, he focused on formal elements, and especially enjoyed tracking down the antecedents for motifs that appeared completely original. Although a committed liberal who in his private life was deeply concerned with social issues, Hitchcock concentrated his professional energies on the visual and kinesthetic properties of buildings. His training at Harvard University's Fogg Museum, where connoisseurship was emphasized, doubtless contributed to this preference, but his distrust of self-serving ideologies in architecture surely played a role.

Unwittingly, Hitchcock became a tastemaker, but he was not the single-minded proselytizer for the International Style that he has been painted. His vision of Modernism was never monolithic. As Vincent Scully has reminded us, Hitchcock's



Hitchcock and his bust, c. 1949.

identification in 1929 of the "New Tradition" provided the genealogy for an alternative, and still progressive, 20th-Century architecture. Hitchcock may have introduced the American public to avant-garde architecture, painting, and music, but he also reintroduced Victorian design and Dutch gables.

Both as historian and critic, Hitchcock preferred architects such as H.H. Richardson and J.J.P. Oud, in whose work could be traced an orderly progression towards mastery. Although he would, at Wright's invitation, publish in 1942 what remains the most comprehensive consideration of that architect's career, ten years earlier in *The International Style*, he had expressed regret for the "lack of continuity in (Wright's) development."

In his introduction to *The Architecture of Skidmore, Owings & Merrill* of 1962, Hitchcock contrasted himself to "the liberal critic (who) will respond to the excitement of perpetual novelty," as well as to "the conservative critic (who) will regret that the 'high' period of modern architecture is over." He acknowledged that, on the contrary, "this middle-of-the-road critic . . . retain(s) the conviction that on balance the massive preparation of SOM is a better omen for success than the impetuosity of those (viz. Alvar Aalto, Louis Kahn, Manoru Yamasaki, and Eero Saarinen) who change their esthetic goals almost from building to building."

Hitchcock's failing health over the last three years forced him to curtail lectures and writings. His influence however has endured, not only through the publications, many consistently reprinted, but also through his continued engagement with the discipline of architectural history and the profession of architecture. Until the last months of his life, this generous scholar remained eager to engage in stimulating dialogue with architects, historians, and critics of all ages. By the many beneficiaries of his incisive intelligence and warm hospitality he will be perpetually missed. **Helen Searing** ■

The author is professor of architectural history at Smith College.

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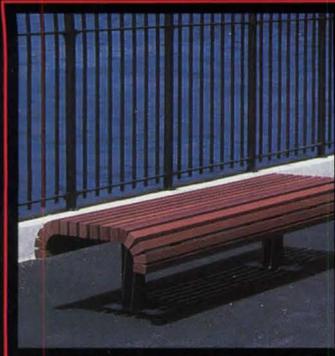
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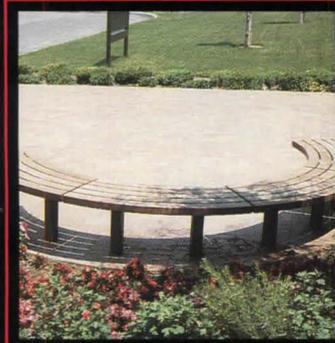
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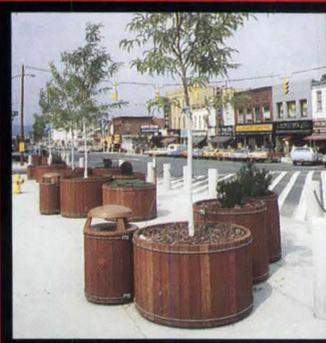
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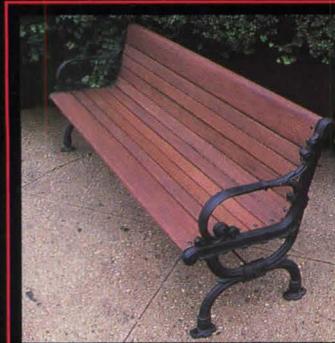
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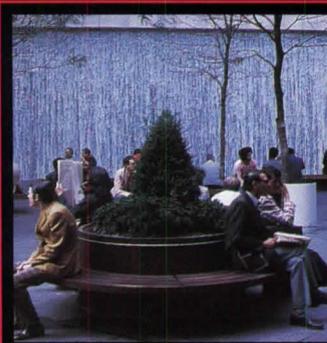
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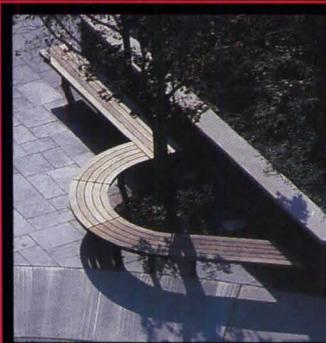
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Two adjacent projects on the Boston Harbor have been planned by Cesar Pelli and Kallmann McKinnell & Wood, with buildings by a host of other architects.

New Design for Boston Piers

As regularly as the tides, the Boston promoters and designers of the adjacent Fan Pier and Pier 4 projects have evoked "the River Seine," "the Back Bay," "the Piazza San Marco in Venice," and "the Galleria in Milan" when speaking of their plans.

The pair of projects together total a billion dollars and five million square feet of development on Boston's Inner Harbor. Five times the size of the Prudential complex, which started this city's building boom two decades ago, the combined 35-acre plan is the biggest project since the building of the Back Bay.

Now undergoing intense review from the Boston Redevelopment Agency and various citizens' groups after a conditional okay from the state secretary of environmental affairs in mid-February, the project also covers the last major waterfront lot in the city's densely developed downtown.

The Fan Pier plan, for residences and offices, a hotel, a cultural center, and assorted parks and lagoons occupying piers 1, 2, and 3 at the mouth of Boston's Fort Point Channel, comes bearing the tags of six major architects. The 18.5-acre site features an urban plan by Cesar Pelli & Associates, New Haven, and buildings by Frank Gehry, Venice, Calif.; Hammond Beeby Babka, Chicago; Koetter, Kim & Associates, Boston; Rafael Moneo, Cambridge; Pelli; Robert A.M. Stern Architects, New York; and Venturi, Rauch & Scott Brown, Philadelphia.

The other 16.5-acre segment on the adjacent Pier 4 features a plan by Kallmann, McKinnell & Wood, Boston, for a hotel, a seven-story retail building and four towers of 9, 16, 26 and 27 stories.

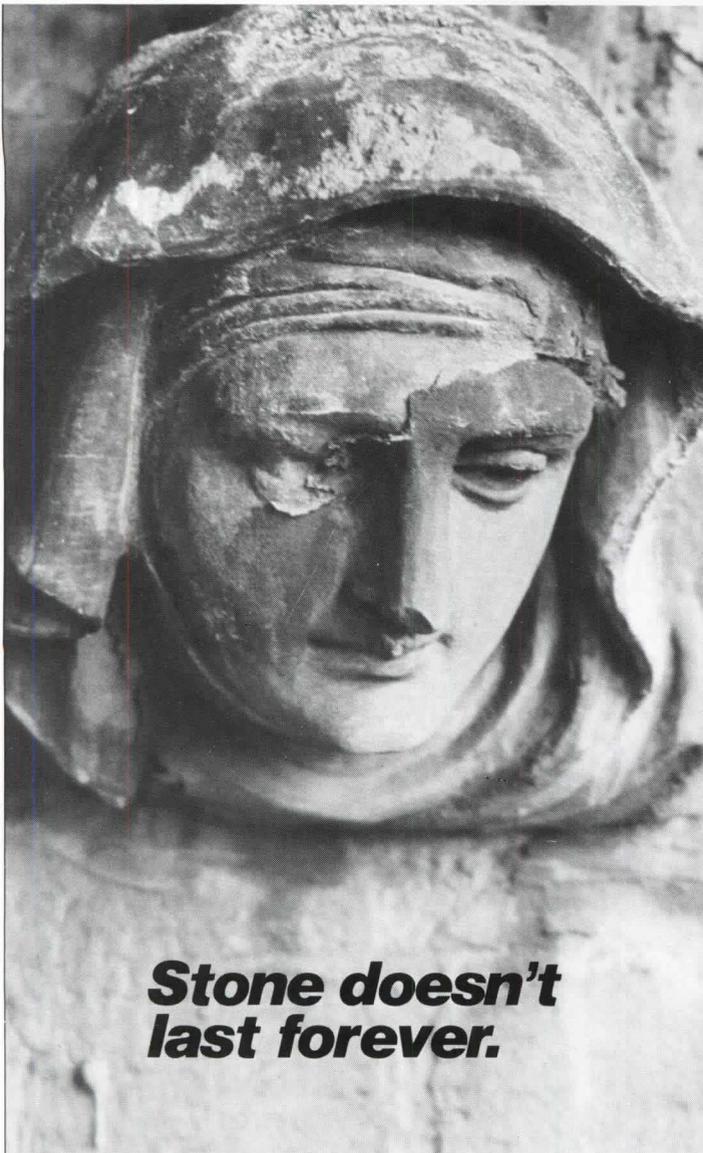
The two sites, which appear to be only marginally integrated, hold an assemblage of varied buildings, from a 47-story Hyatt hotel to low-rise condominiums, with far less signature than the



Steve Rosenthal

Adjacent plans by Pelli (top) and Kallmann, McKinnell & Wood.





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architects' names would suggest.

The amenities of both site plans have more appeal. Pelli's new canal lined with shops, for example, seems artful. (Critics claim, however, that this segment will stay permanently in shadow.) A lagoon and marina provide a picturesque focus in some views. McKinnell's plaza makes the projects' most congenial public gesture. But the basic decision to create a hard-edged, highrise gridded city by the water, wrapped by roads and penetrated by parking for 5150 cars, makes the entourage more of an island than the public waterside place promoted.

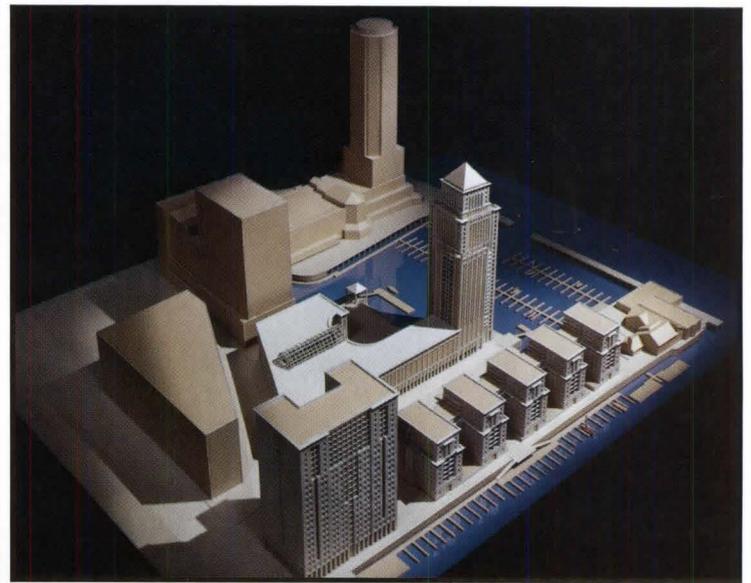
Though now a barren and bleak parking lot for 1500 cars, the piers have attracted greater public scrutiny as new structures on neighboring sites—the new Rows Wharf (SOM) and Marriott Hotel (Araldo Cossuta)—wall off the waterfront. South Boston neighbors now voice concern about the impact of this affluent development on their

neighborhood. Conservationists have expressed concern about new sewage demands as the city cleans its old harbor. The potential traffic pile-up has united any number of opponents. "The project will cost its private developers \$1.075 billion, but public expenditures for necessary and assumed infrastructure improvements will more than double the price tag," the Conservation Law Foundation observed.

Some criticisms, however, have already been taken into account. The architects are considering limited redesign, and the developers are sponsoring a \$50,000 study of traffic impact.

Whoever and whatever prevails, critics will no doubt continue to insist that the pier developers and planners bear in mind the Back Bay environment they invoke: The pedestrian scale and parklike quality of that district should be their model, if not its 50-year building time.

Jane Holtz Kay



McKinnell design for Pier 4.



Pelli plan. Buildings from left, foreground: Pelli, Gehry, Stern. Rear: Koetter, Kim (behind Pelli tower), Hammond Beeby Babka (pair to Koetter, Kim; barely visible), Venturi Rauch & Scott Brown, and Pelli.

Photos: Steve Rosenthal

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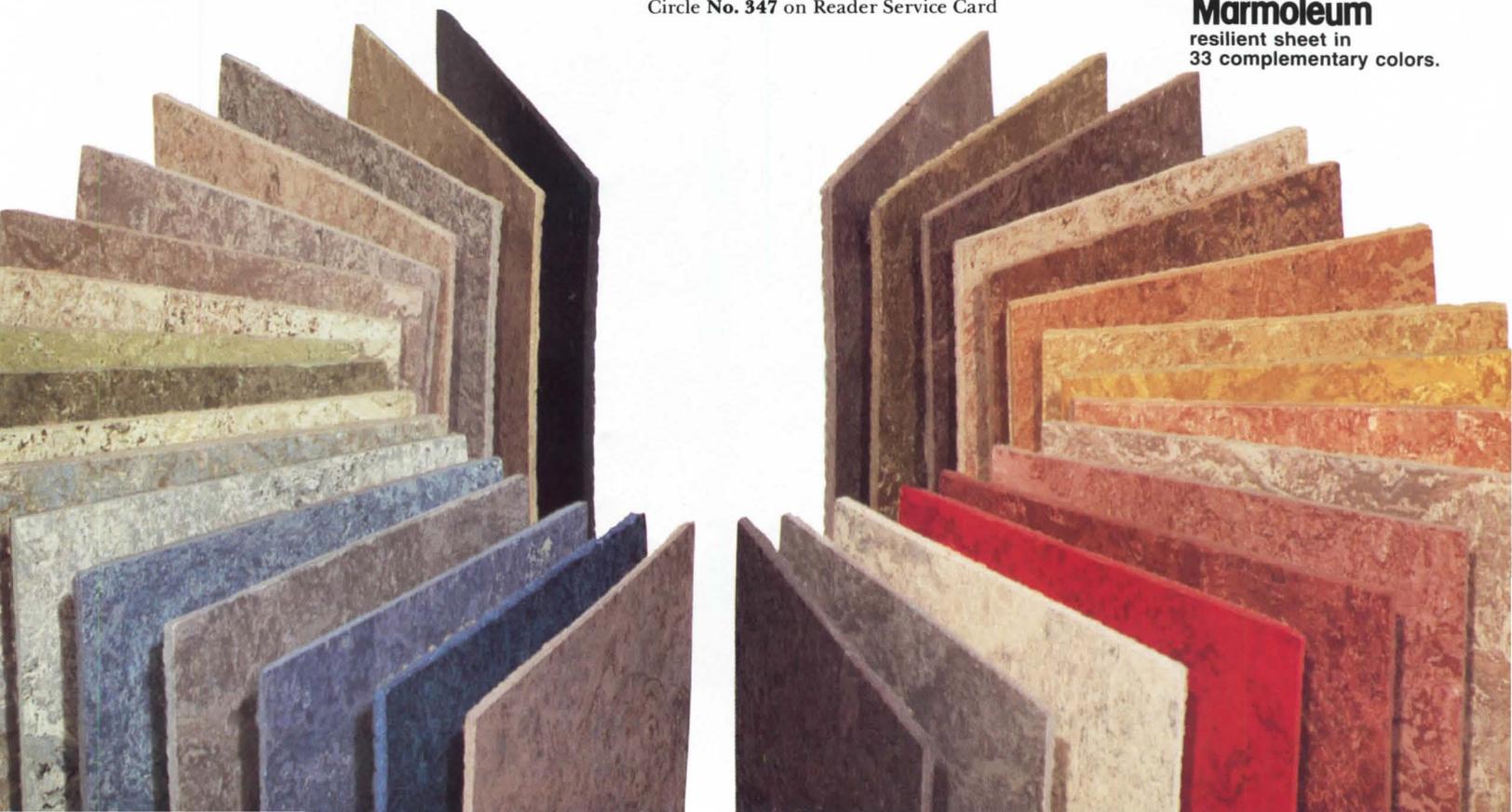
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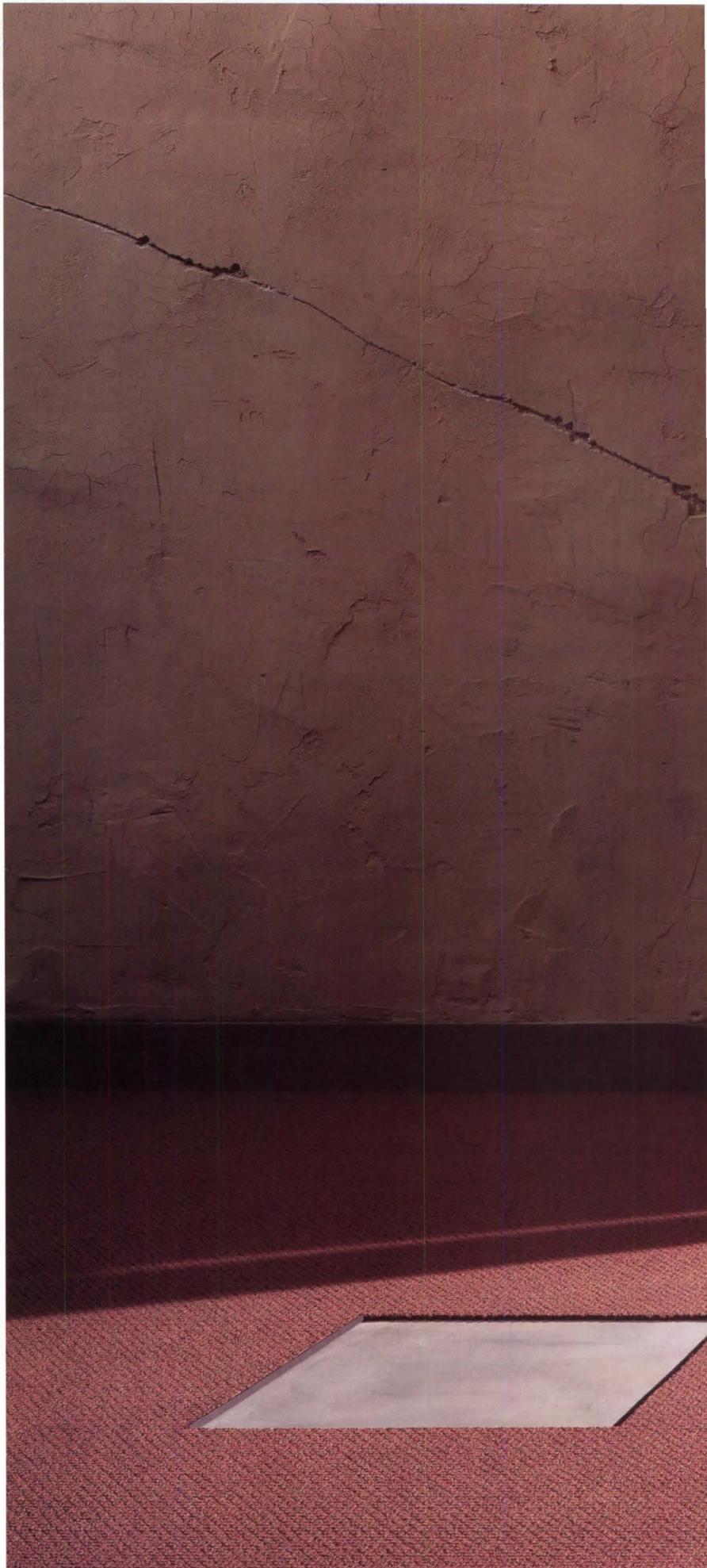
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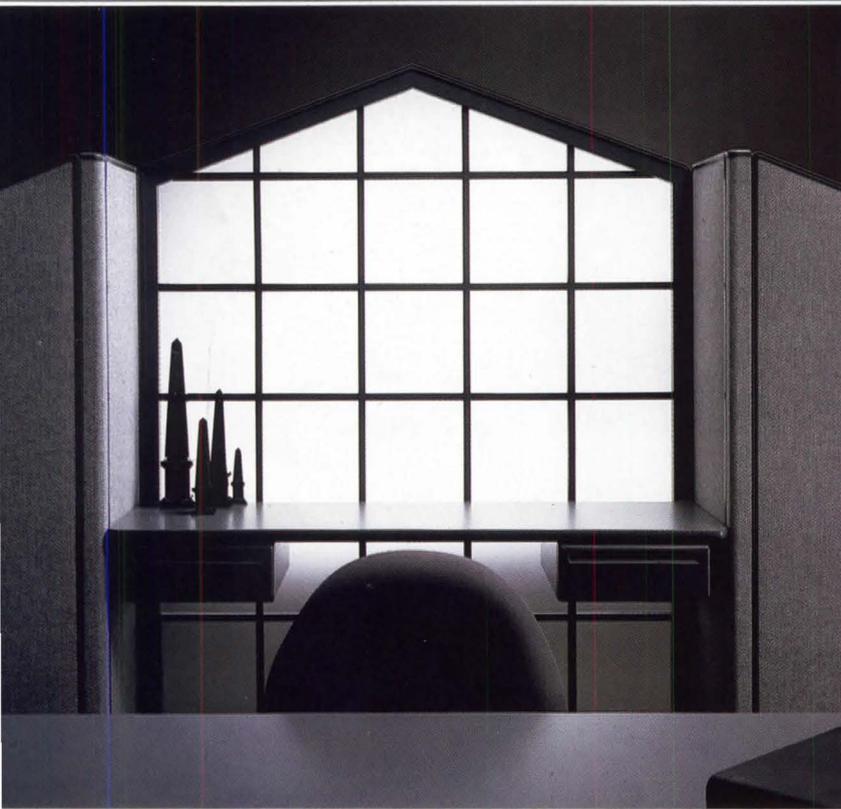
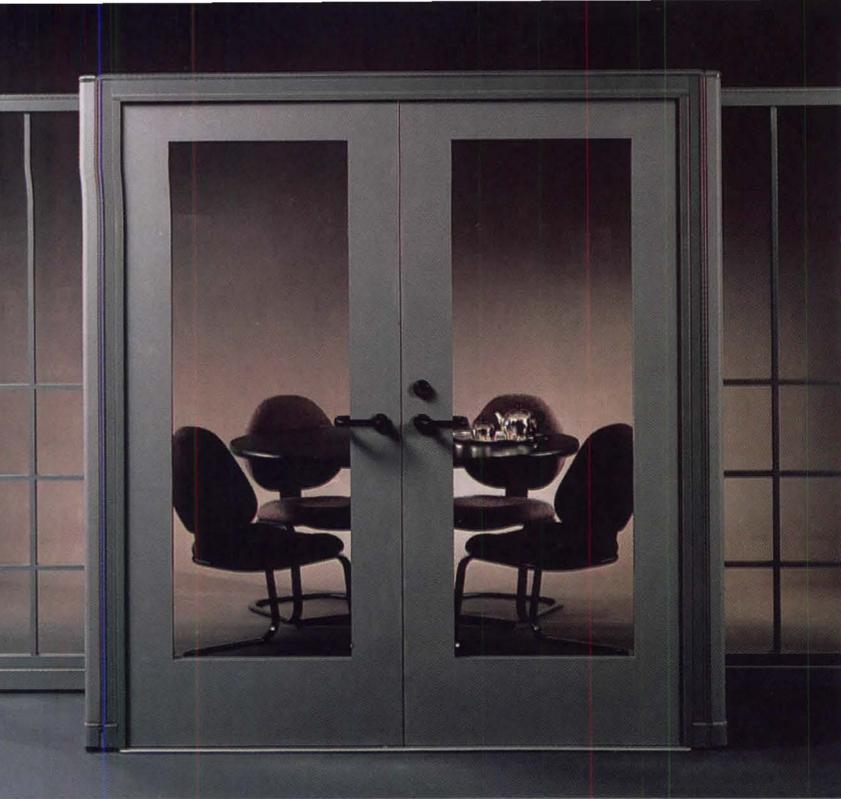
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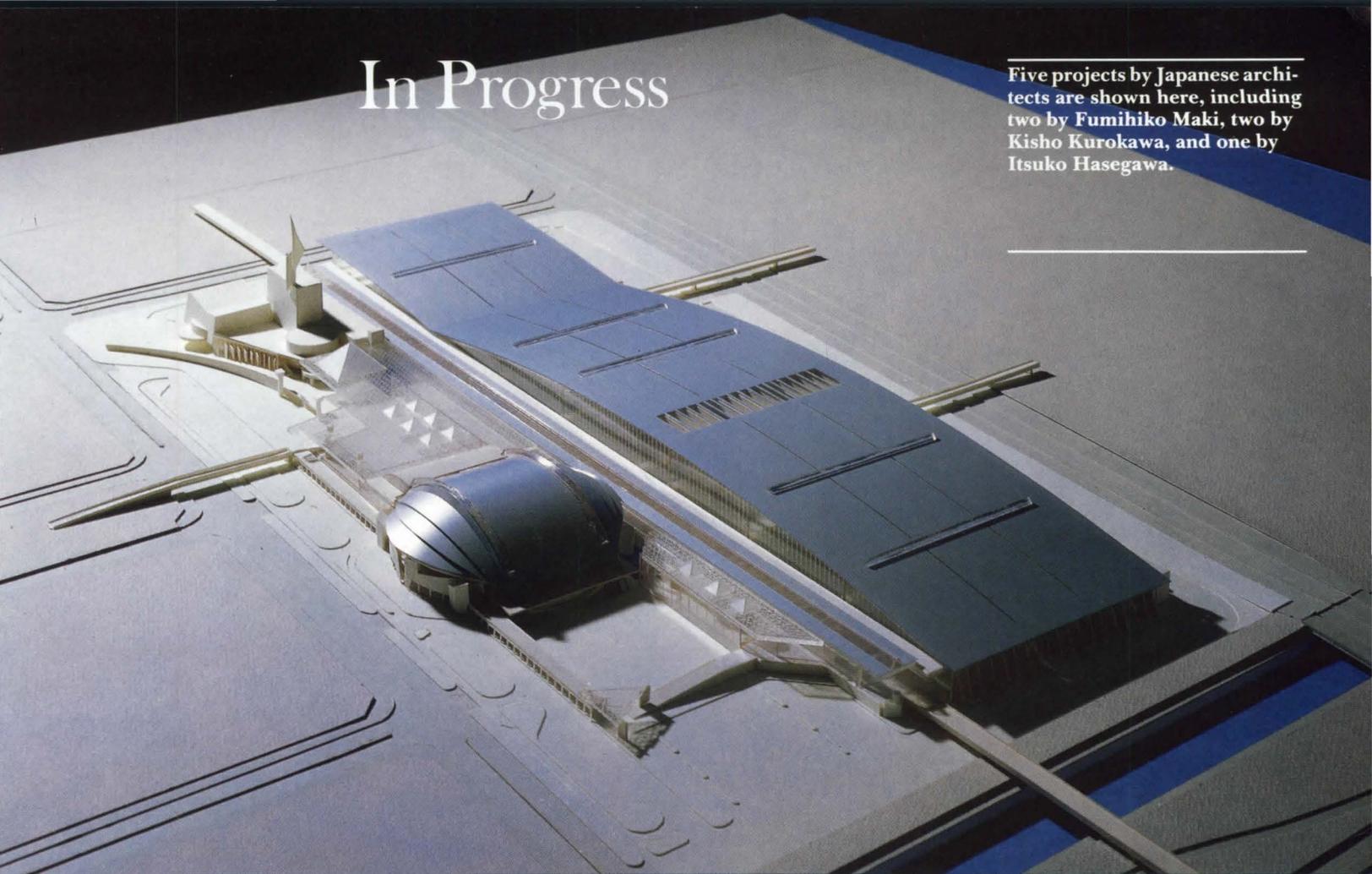
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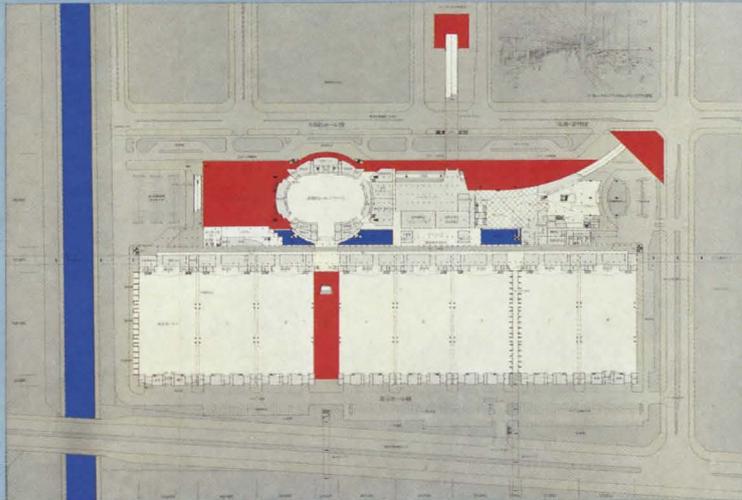
They're built.

In Progress

Five projects by Japanese architects are shown here, including two by Fumihiko Maki, two by Kisho Kurokawa, and one by Itsuko Hasegawa.



1a



1a GROUND FLOOR PLAN

N↑



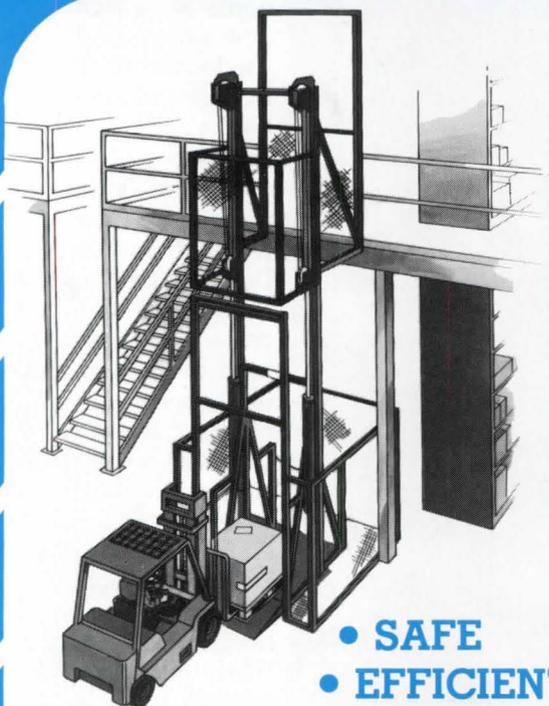
2

Photos: Toshiharu Kitajima

1 Mahuhari Messe Exhibition and Convention Center, Tokyo. Architects: *Fumihiko Maki & Associates, Tokyo.* The winning entry in an invitational competition staged last summer by the Chiba Prefecture, Maki's convention center is to be built on reclaimed land in Tokyo Bay. The 130,114-square-meter center, Japan's largest, will act as a new gateway to Tokyo. Its three components are a 600-meter-long flexible exhibition hall, a conference hall, and a 5000-seat gymnasium. The connecting spine links to adjacent parking and hotels. The steel-frame and reinforced concrete structures are on a fast-track schedule, for 1989 completion.

2 Metropolitan Sports Complex, Tokyo. Architects: *Fumihiko Maki & Associates, Tokyo.* Slated for a site adjacent to that of the 1956 National Stadium, this 44,000-square-meter sports complex is divided into two gymnasiums and an indoor swimming pool. All three buildings will be constructed in steel frame with reinforced concrete. The pool building will be roofed in stainless steel. The architects viewed the project as an opportunity to create a high-tech urban landscape, harmonizing with the natural landscape through the use of distinctive roof forms.
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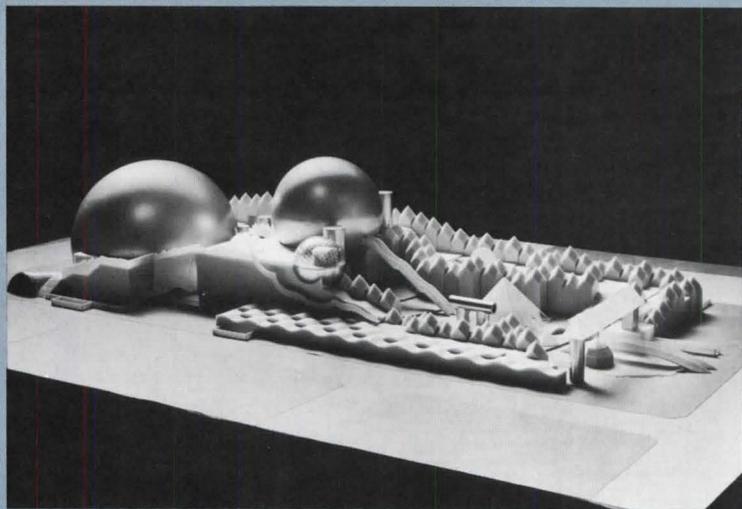
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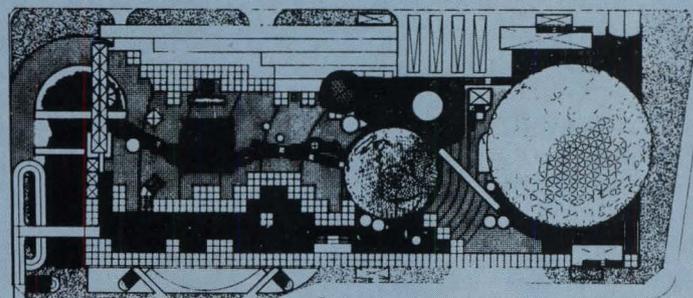
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5a



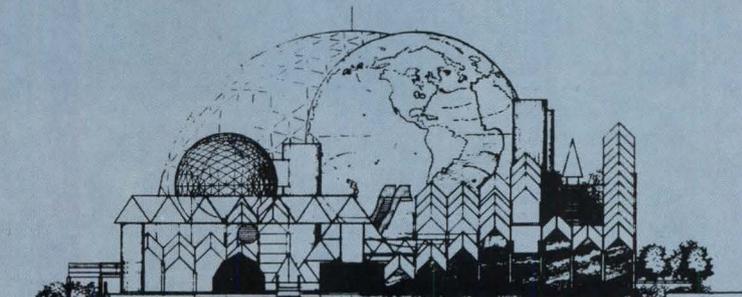
SITE PLAN, SHONAN-DAI CULTURAL CENTER

5b



SECTION, SHONAN-DAI CULTURAL CENTER

5c



5d

5 Shonan-dai Cultural Center, Fugisawa City. Architect: *Itsuko Hasegawa, Tokyo.* Winner of the 1986 competition for Fugisawa City's Shonandai Cultural Center, Itsuko Hasegawa is perhaps Japan's best known woman architect. The center's program called for a civic auditorium and theater, a children's museum, a planetarium, gymnasium, restaurant, various support spaces, government offices, and parking totaling 13,000 square meters. These facilities are interlocked in a space-age landscape dominated

by geodesic domes covering the auditorium, planetarium, and a radio satellite studio. A mountain range of small, gable-roofed elements lines one side of the site; a raised terrace and water course furnish elements of earth and water. Three underground levels contain the gym, museum, and parking. The 20 by 50 meter site is tied to an adjacent park by a pedestrian bridge over a main street. The center is to be built in two stages over the next three years, beginning this summer.

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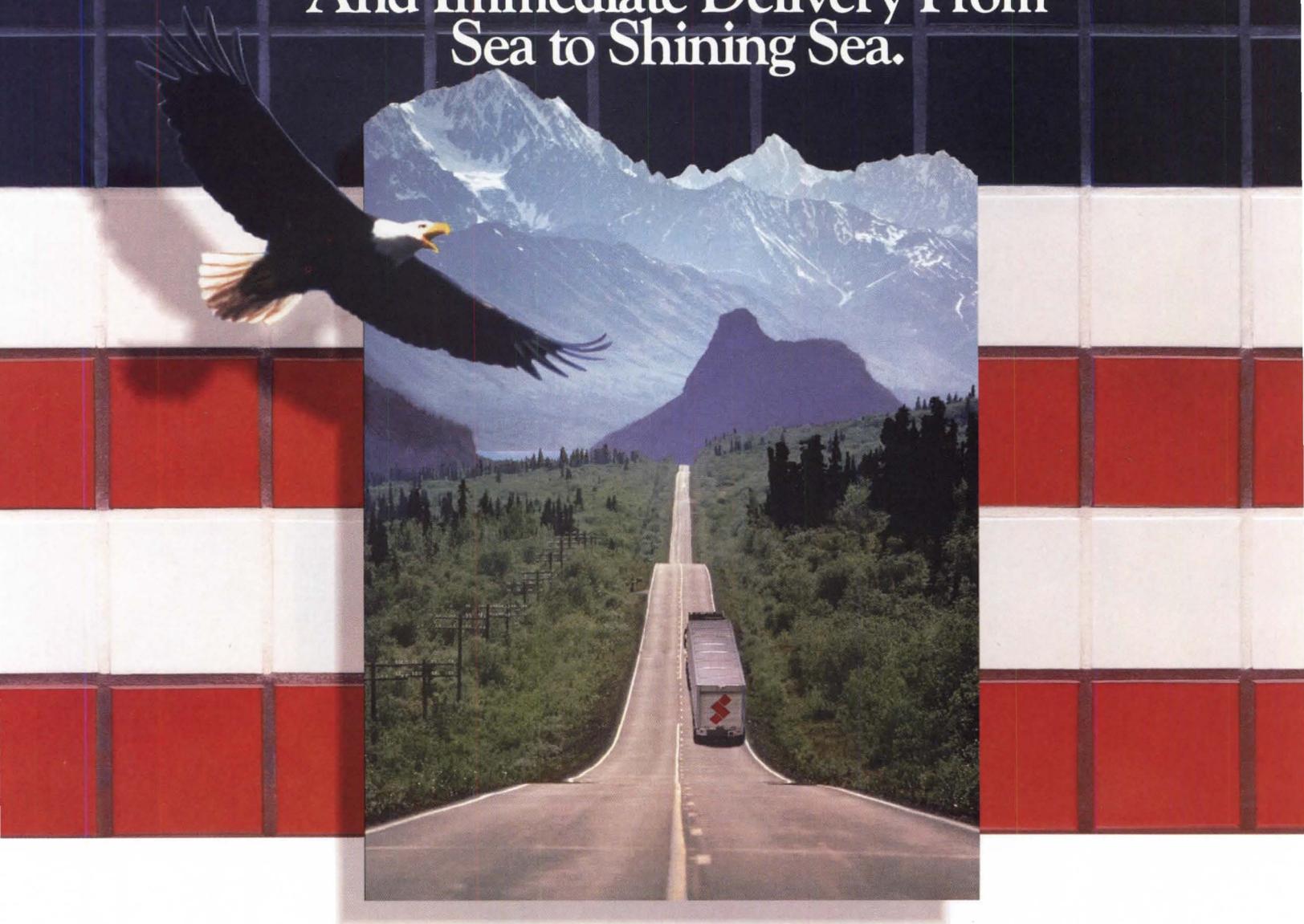
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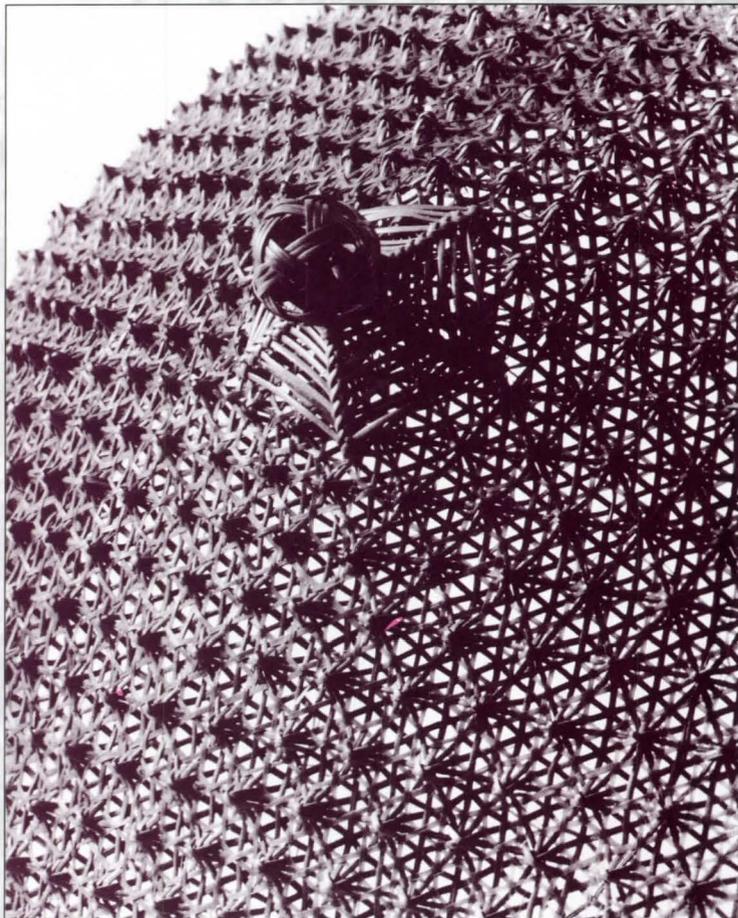


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David Arky

Thai Food Cover from *Interlacing*, American Craft Museum, through July 17.

Exhibitions

Through April 26

The Imagined Cities: An Italian Voyage. Nine Projects for Nine Cities. Palazzo della Triennale, Milan, Italy.

Through April 26

Crystal Palaces. Cooper-Hewitt Museum, New York.

Through April 26

Frank Lloyd Wright and the Johnson Wax Buildings: Creating a Corporate Cathedral. Grand Rapids Art Museum, Grand Rapids, Mich. Also, **May 12–July 19**, Cooper-Hewitt, New York (See P/A, April 1986, p. 27).

Through May 1

Radical Regionalism: Current Bay Area Work by Five Architectural Firms. San Francisco Arts Commission Gallery, San Francisco.

Through May 3

Tokyo: Form and Spirit. San Francisco Museum of Modern Art, San Francisco (See P/A, June 1980, p. 24).

Through May 3

Hugh Ferriss: Metropolis, National Building Museum, Washington, D.C.

Through May 24

The Golden Age of Ottoman Architecture: Sinan, Sultan Suleyman's Court Architect. The Octagon Museum, Washington, D.C.

Through May 24

Le Corbusier: Sculpture, Painting and Drawing. Carpenter Center for the Visual Arts, Harvard University, Cambridge, Mass.

Through May 25

Decorative Brickwork: Instant Style for New & Old. Glen-Gery Brickwork Design Center, Washington, D.C.

Through May 31

The Art that is Life: The Arts and Crafts Movement in America 1875–1920. Museum of Fine Arts, Boston.

Through June 7

Le Corbusier: Architect of the Century. Hayward Gallery, South Bank Centre, London.

Through June 9

Gaudi in Context: Building in Barcelona, 1873–1926. Cooper-Hewitt Museum, New York (page 27).

Through June 28

The Function of Ornament: The Architecture of Louis Sullivan. Cooper-Hewitt, New York (See P/A, Nov. 1986, p. 26).

Through June 28

The Machine Age in America 1918–1921. Museum of Art, Carnegie Institute, Pittsburgh, Pa. (See P/A, Nov. 1986, p. 110).

Through June 30

What Could Have Been: American Unbuilt Architecture of the 80's. Memphis Brooks Museum of Art, Memphis, Tenn.

Through July 17

Interlacing: The Elemental Fabric, curated by Jack Lenor Larsen. American Craft Museum, New York.

Through July 19

American Decorative Window Glass, 1860–1890: The Home as Heaven Below. National Building Museum, Washington, D.C.

Through July 20

Die Revision Der Moderne: Postmodern Architecture 1960–1980. Williams College Museum of Art, Williamstown, Mass. (See P/A, Sept. 1984, p. 26).

Through July 31

New and Different: Home Interiors in 18th Century America. Museum of American History, Smithsonian Institution, Washington, D.C.

April 17–July 26

American Art Deco. Renwick Gallery, Smithsonian Institute, Washington, D.C.

April 21–May 23

Room in the City, proposals for tenement housing in New York. The City Gallery, New York.

April 27–June 8

Ornamental Architecture Reborn: A New Terra Cotta Vocabulary. Atlanta Historical Society, Atlanta, Ga.

May 5–31

Le Corbusier at Geneve (1922–1932), Immeuble Clarte & Galerie Bonnier, Geneva, Switzerland.

May 28–June 26

The Art of Tall Building. Gallery at the Old Post Office, Dayton, Ohio.

Competitions

April 30

Application deadline, AIA/SUNSET Magazine Western Home Awards Program. Contact AIA/SUNSET Magazine, P.O. Box 2345, Menlo Park, Calif. 94025 (415) 321-3600.

May 1

Deadline, Arnold W. Bruner Grant. Contact New York Chapter/American Institute of Architects, 457 Madison Ave., New York, N.Y. 10022 (212) 838-9670.

May 1

Deadline, Du Pont Hypolan Excellence in Architecture Awards. Contact Bill Onderick, Du Pont Company, External Affairs Department, Wilmington, Del. 19898 (302) 774-9471.

May 1

Deadline, 1987 Industrial Design Excellence Awards program. Contact IDSA, 1142-E Walker Rd. Great Falls, Va. 22066 (703) 759-0100.

May 15

Deadline, Second Annual DataCash Contest for projects using DataCAD. Contact Lou Bodnar, Microtecture Corp., 617 W. Main St., Charlottesville, Va. 22901 (804) 295-2600.

(continued on page 51)

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Deadline, Second Annual Hardwood Flooring Design Competition. Contact Kentucky Wood Floors, P.O. Box 33276, Louisville, Ky. 40232 (502) 451-6024.

June 1

Deadline, Work Space Design Competition. Contact LIMN Company, 821 Sansome Street, San Francisco, Calif. 94133 (415) 397-7471.

June 5

Application Deadline, Architectural Awards Program of the Red Cedar Shingle & Handsplit Shake Bureau and the AIA. Contact Red Cedar Shingle & Handsplit Shake Bureau, 515 116th Ave., N.E., suite 275 Bellevue, Wa. 98004 (206) 453-1323.

June 15

Deadline, ACSA/General Motors Interdisciplinary Design Research Competition. Contact Daphne Scott, The Association of Collegiate Schools of Architecture, 1735 New York Avenue, N.W., Washington, D.C. 20006 (202) 785-2324.

June 15

Deadline, East Meets West in Design. Contact East Meets West, P.O. Box 974, Rockefeller Station, New York, N.Y. 10185 (212) 586-6314.

June 15

Application deadline, Fulbright Scholar Awards. For program details contact Council for International Exchange of Scholars, 11 Dupont Circle N.W., Washington, D.C. 20036-1257 (202) 939-5401.

June 19

Deadline, Town of Leesburg Design Competition. Contact Competition Project Director, Town of Leesburg, 15 West Market Street, P.O. Box 88, Leesburg, Va. 22075 (703) 777-2420.

Conferences**April 25-26**

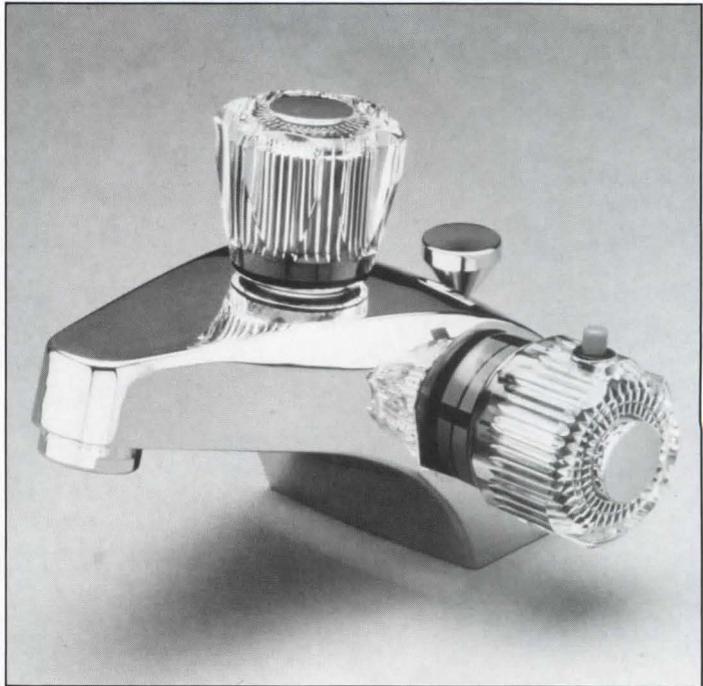
Corrosion of Artistic Works & Historic Structures, Massachusetts Institute of Technology, Cambridge, Mass. Contact Technology & Conservation, One Emerson Place, Boston, Mass. 02114 (617) 227-8581.

April 25-26

The Baroque: Its Power Today, participants include Charles Moore, Robert A.M. Stern, Christian Norberg-Schultz and others. Contact San Francisco Architectural Club, P.O. Box 5688, San Francisco, Calif. 94101.

(continued on page 56)

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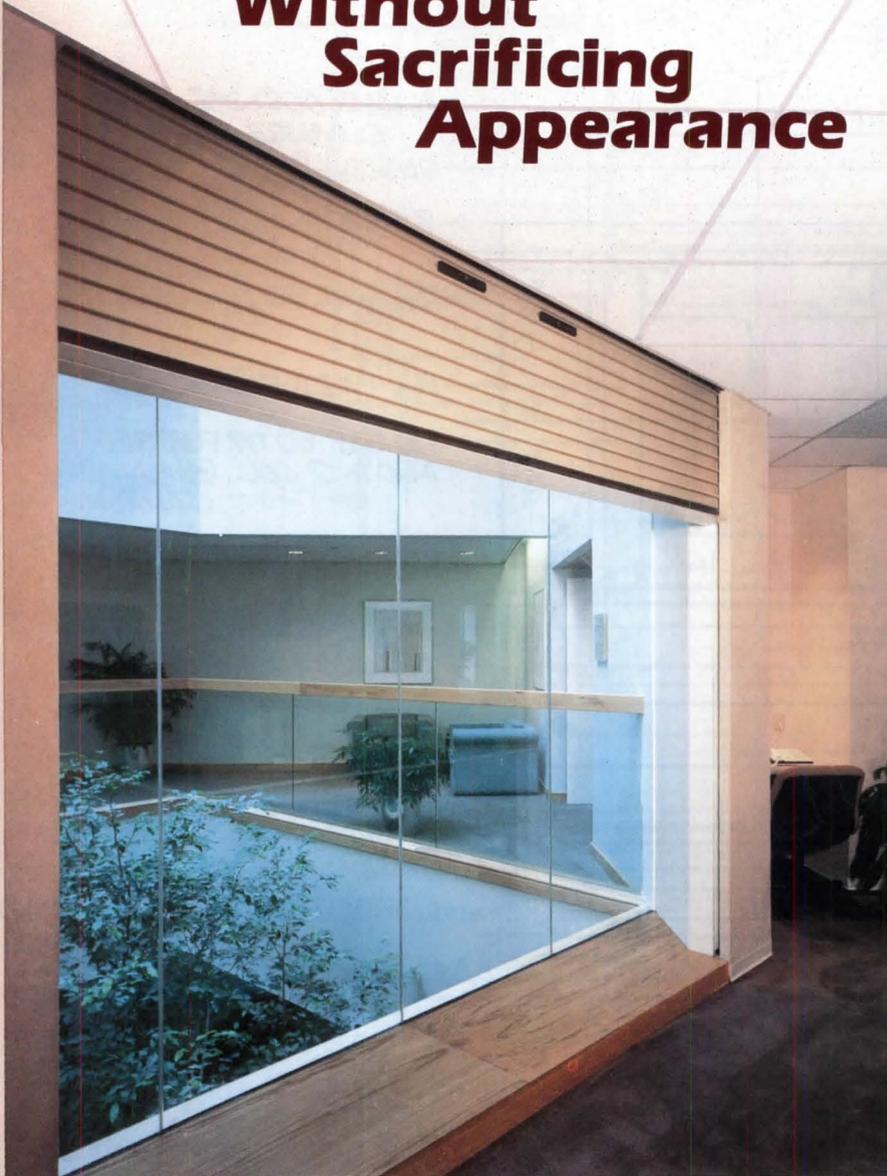
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Calendar (continued from page 51)

April 25-29

American Planning Association 1987 National Planning Conference, Sheraton Centre Hotel, New York, N.Y. Contact Director of Public Information, APA, 1776 Massachusetts Ave., N.W., Washington, D.C. 20036 (202) 872-0611.

May 2-10

National Roofing Week. Contact The Asphalt Roofing Manufacturers Association, % Sumner Rider & Associates, 355 Lexington Avenue, New York, N.Y. 10017 (212) 661-5300.

May 6-10

Scandinavian Furniture Fair, Bella Center Exhibition Hall, Copenhagen, Denmark. Contact Gura Public Relations, 156 Fifth Ave., New York, N.Y. 10010.

May 10-16

Landmarks of Democracy, 15th Annual National Preservation Week. Contact National Trust for Historic Preservation, 1785 Massachusetts Ave., N.W., Washington, D.C. 20036.

May 11-13

Lighting World International, Jacob K. Javits Center, New York. Contact National Expositions Co., 49 W. 38th St., New York, N.Y. 10018 (212) 391-9111.

May 29-June 2

Environmental Design Research Association Conference, Ottawa, Canada. Contact Conference Coordinator, EDRA, L'Enfant Plaza Station, P.O. Box 23129, Washington, D.C. 20024.

June 9-12

NEOCON, The Merchandise Mart and Expocenter, Chicago, Ill. Contact Exhibit Manager, Expocenter/Chicago, 350 N. Orleans Street, Chicago, Ill. 60654 (312) 527-7633.

June 14-19

Success and Failure, 37th Annual International Design Conference, Aspen, Colo. Contact International Design Conference in Aspen, P.O. Box 664, Aspen, Colo. 81612.

June 19-22

Architecture '87: Fact, Future + Fantasy, American Institute of Architect's National Convention, Orlando, Fla. Contact Joy Brandon, AIA, 1735 New York Avenue, N.W., Washington, D.C. 20006 (202) 626-7464.

June 23-26

A/E/C Systems '87 and DesCon '87, Washington, D.C. Convention Center, Washington, D.C. Contact Conference Director, P.O. Box 11318, Newington, Conn. 06111 (800) 445-7790.

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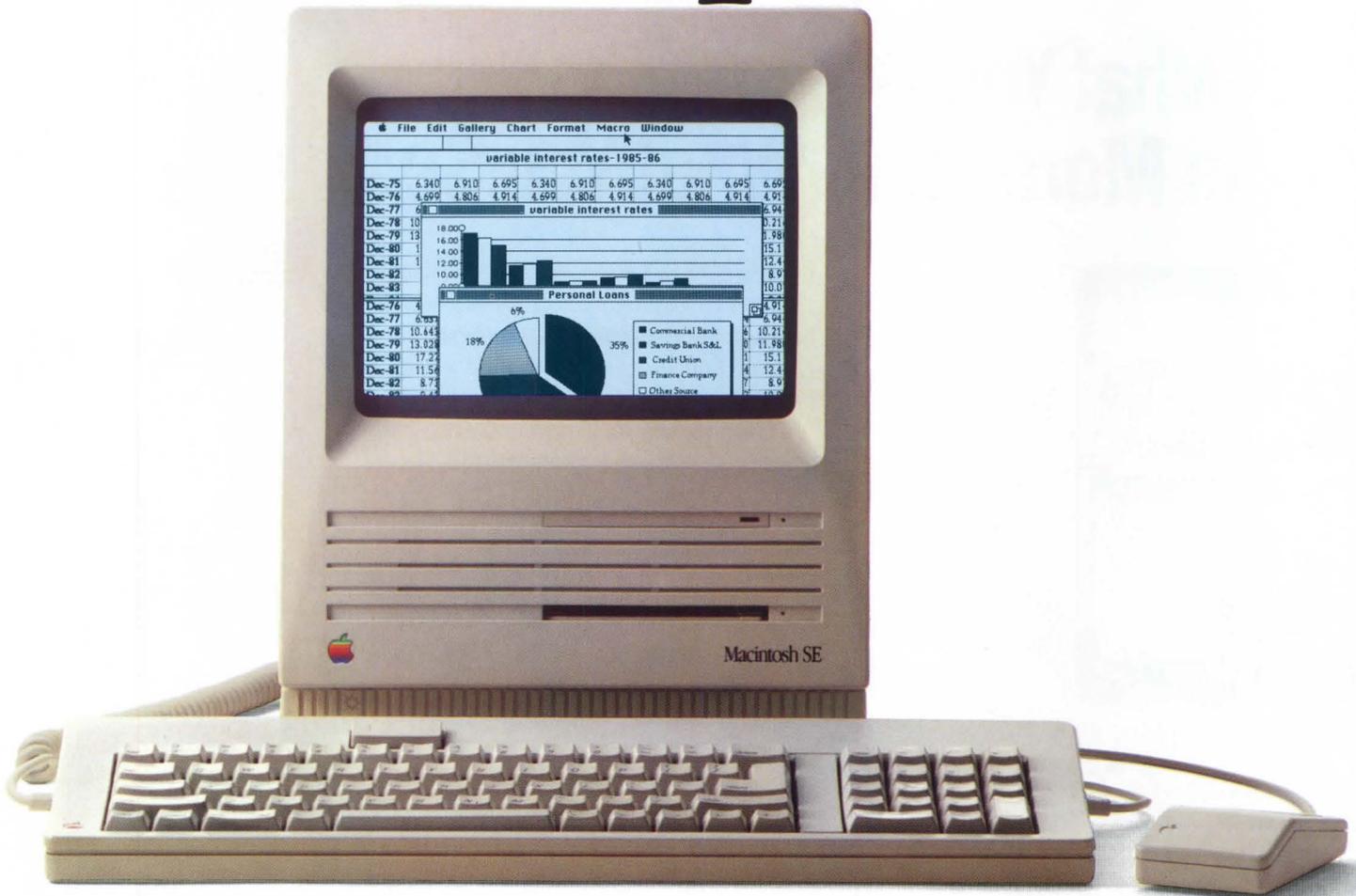
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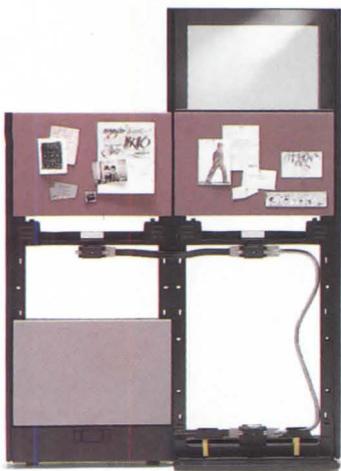
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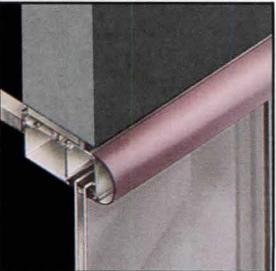
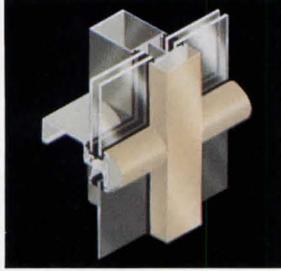
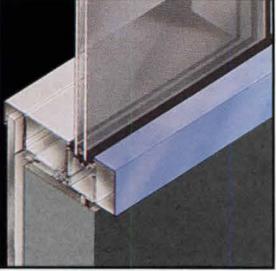
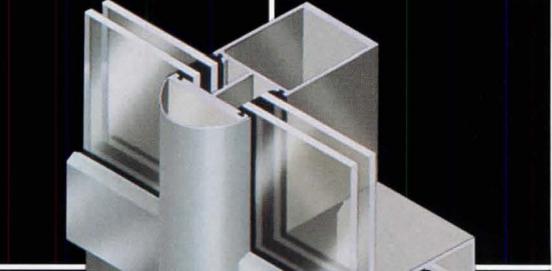
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Circle No. 334

Management: Artist Stephen Knapp suggests ways of choosing an artist to work with the architect on building ornamentation.
Law: Robert Greenstreet discusses legal liability protection for the small practice.

Management: Collaborating with Artists



The collaboration of artists and architects has drawn increasing attention in recent years. This trend is due, in part, to Post-Modernism's celebration of ornamentation on buildings, but it is also due to a rediscovery of a collaborative tradition. Many of the celebrated buildings of the past were the result of successful collaborations of disciplines that were not so specialized that they wore the names "architect," "landscape designer," or "artist."

Economics has been a major factor in this trend. "In today's market, both the developer and the architect should realize that artwork in a building is not only important and highly desirable, but essential. It makes a better building," notes architect Vlastimil Koubek. Legislation, too, has played a role, giving us the various "Percent for Art" programs at local, state, and federal levels, that allocate from 1/2 to 2 1/2 percent of construction costs for artwork. "Unfortunately," notes Francoise Yohalem, Washington-based art consultant, "sculpture is often just plopped in front of a new building. Dwarfed by the architecture, it struggles for an identity, unable to compete with the mass of the building, unable to create its own special place."

This makes collaboration vital, from the earliest possible stage. Yet most architects and artists have not been trained to work together, as schools have maintained these as separate disciplines and not encouraged cross-over. Indeed, most architects and artists have viewed the collaborative process, until recently, with a wary eye and have engaged in it only reluctantly. Both artist and architect must realize that they can work together and that a successful collaboration can enhance rather than diminish the work of either one. With some guidelines, the process should be not only rewarding, but enjoyable.

Timing

Architects, artists, and consultants alike agree that this is the most crucial part of the project. All too often the artwork is a major focal point of the design, but the decision is made to get to it later. If it is not a line item in the budget, it is easy to eliminate the piece, leaving a focus on a blank space.

Equally damaging can be efforts to plan for art without the artist's input. Done with all good intentions, bases are made for sculpture, atriums are designed for hanging pieces, and walls are recessed for murals without an understanding of the piece that may go there. Not only can this be restrictive for the artist but it is usually costly, as walls, floors, and ceilings have to be retrofitted to receive the art.

Planning with the artist can save time and money. The lighting of the art is a prime example. Although fine tuning cannot be done until the piece is installed, planning for its lighting will save expensive change orders later on, and eliminate the need to replace useless fluorescent coves or wall washers that are improperly placed. Early involvement of the artist can also have a major impact on the overall design. Notes gallery owner Max Proetch, "The way buildings are designed and fees are set, the architect cannot always concentrate on what is a relatively small space. For the artist, though, this might be a very large space, and for a modest commission, he can afford to concentrate all his energies into making it special."

Selection

Having a working knowledge of the art world is a great place to start, but a lack of it should not be a deterrent. More and more museums have advisory services, and consultants abound. A number of architectural and design firms are now adding art consultants to their staff on a full or part time basis.

Money spent in the selection process is often the most important use of funds. Reviewing

(continued on page 68)

Law: Strategies for the Small Firm

In the past few years, there has been great attention directed to the issue of legal liability in architectural practice. Not surprisingly, much of the work has come from lawyers who, perhaps even less surprisingly, often suggest the involvement of legal personnel in situations throughout the construction process. Furthermore, many of their ideas are framed in legalistic language and tend to reflect the perspective of the lawyer rather than that of the practitioner. Although much of this information is extremely valuable, it tends to be geared toward larger practices; they, after all, are more likely to be able to afford the considerable fees that such services command (in Wisconsin, for example, appropriate legal advice will cost between \$75 and \$150 per hour) or can employ individuals to concentrate on law/practice-related issues and make the best use of the available information. However, the American Institute of Architects estimates that less than 5 percent of architectural firms employ more than ten architects, while 62 percent are simply one-person practices. The likelihood, therefore, of the majority of practices either being able to afford much legal advice or having a workforce devoted solely to liability does not seem high. Also, much of the available advice may be inappropriate or hard to implement.

Developing a Defensive Mind

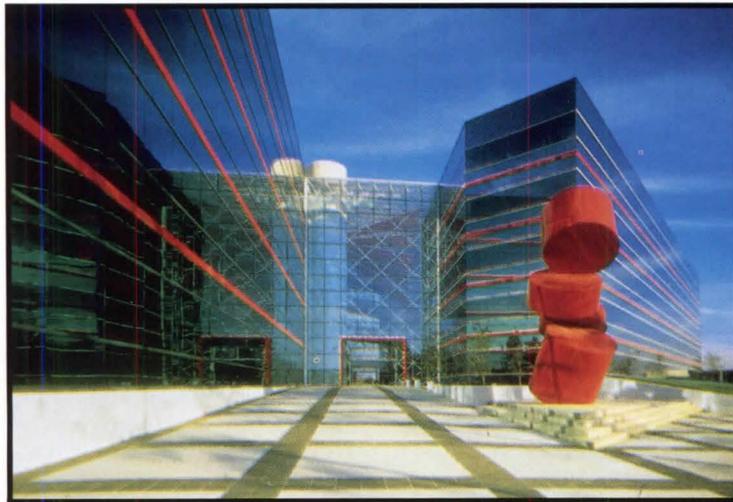
An analysis of numerous cases involving architects suggests that, although the standard of performance expected by the courts has risen, there are still many instances where litigation is caused by actions of the architects that were taken with little understanding of their implications. For example, a variety of cases can be cited involving poor contract formulation, where problems have arisen because of inadequate attention to establish-

(continued on page 72)



Untitled Piece by Daniel Graffin, at Atlanta Marriott Marquis.

The Portman Company



Paul Sisko sculpture at Merrill Lynch Executive Center.

The Spector Group

Management (continued from page 67) previous work, either completed pieces or sketches or maquettes, can winnow the selection down to a few artists or even a single artist. At this point a series of sketches or maquettes from the artist will show how he works and how well he can relate to the space. The creative process being what it is, the first few ideas might be totally off the mark, but the collaboration might feel right. What you are

looking for is creativity as well as craftsmanship; testing and searching are part of the early stages of any collaboration.

While an architect should understand the artist's work to make a successful installation, responsibility should not be the architect's alone. The artist working on a commission should understand the architect's requirements as well. An artist who can read blueprints, understand the structural require-

ments of his work, and give input into the lighting requirements will help the project flow more smoothly.

Aesthetics and Collaboration

One of the biggest fears artists have of the collaborative process is its effect on the creative process. The selection process itself will help alleviate some of these fears. By viewing the artist as part of the design team from the start, the collaboration is made easier. Ken DeMay, of Sasaki Associates, points out that, for them, collaboration is a constant. With landscape architects on one side and interior designers on the other, architecture has always been a team effort; adding an artist is just a continuation of the design process.

Much of the success of a project revolves around the confidence architect and artist have working together. Early work with maquettes and sketches does much to establish this as do well-defined parameters for the artist. Careful studies of the site, covering its flow of traffic, lighting, use, maintenance, and historical and cultural connections, must all be considered.

Art Consultants

In many collaborations, there is no need to get a consultant involved. There are artists who have long worked successfully with architects without intermediaries. Past collaborations or recommendations from other architects will often suffice.

When consultants are required, there are many ways to work with them, from selecting the art or artist, to overseeing the whole project, to a continuing involvement with both education and curatorial duties. A good consultant not only can get the process started, doing site analysis, making budget recommendations, and working with the architect on the selection, but can make sure that contracts are established properly, work is on schedule, and any problems are resolved.

Beatrix Medinger, president of the Association of Professional Art Advisors, points out that after the art is selected, the advisor should be involved in both curatorial and educational activities, helping the community understand the art and establishing a care and maintenance program. This follow-up work often plays a major role in the success of an art program.

Galleries that handle the artist's work can be a good place to start for contracts and scheduling, and the Association of Pro-

fessional Art Advisors, whose members work strictly as advisors with no financial interest in the art, is a good source for consultants. "An art collection is the most highly informed and accessible statement that a company makes about itself, next to the building itself," notes Joan Kaplan of Joan Kaplan Fine Art. "Senior management should make the same informed choice about its art advisor as it does for its architect, lawyers, and other professional advisors."

Other Consultants

There are other roles a consultant can play as well, as Henry Vasquez of Fine Art Consulting Service explains: "There is a lot to watch out for in commissioned art. For many artists this is the first time working in new materials and on a large scale." For some, the transition is perfectly natural; others need coaxing and guidance.

Joyce Pomeroy Schwartz, a consultant for many major public art projects, advocates hiring a troubleshooter/fabricator to work with the artist. Many large commissions mix various media as well as cross established lines of responsibilities. A troubleshooter will often work with various fabricators to coordinate the work of the artist, architect, and landscape architect.

A good installer should become involved early in the project as well. Although it is usually preferable to install the artwork last, there are times when it makes more sense to install it early and protect the piece. A good installer can also make recommendations about fabrication and construction that will make the final installation easier. Larry Doherty of Fine Arts Express notes that their getting involved up front has often resulted in savings of more than their fee. On large pieces, engineering plays an important role. Art advisor Mary Zlot specifies outside engineering reports in the contract, to insure that this type of work is not left to chance.

Hiring the Artist

It is best to specify a turn-key operation with the artist responsible for design, production, shipping, and installation. Unfortunately, with the complexity of most large projects, this is becoming increasingly difficult. Another approach is to hire the artist as a consultant, paying a fee for the work; the architect then assumes responsibility for the other areas of the project.

(continued on page 70)

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Management (continued from page 68) This saves the artist from playing hardball with the contractor, and puts the onus of change orders related to the art on the architect, who is better equipped to deal with them.

Payment Schedule

Most payments are tied to a review process, and so act to monitor the progress of the work. The payment schedule usually is one third in advance, one third upon approval of the final design, and the balance upon completion. Coupled with a maquette fee for preliminary design, this provides natural stopping points that make the creative process seem less all-or-nothing and generally makes clients and architects alike feel more comfortable with the collaboration. Also, when determining the schedule of payments, consider the cost of fabrication. Artists are usually not prepared or equipped to carry even part of the cost of fabrication.

If the commission is cancelled for any reason, payments made up to that point are generally considered payment for work completed. If the artist has completed the piece on schedule and there is a delay in acceptance, final payment is usually made

with the stipulation that the artist still be responsible for overseeing installation. Storage fees are usually assumed by the client at this point, but this should be addressed in the initial contract.

Contracts

The best contracts tend to be those between the owner and the artist directly; the worst, those that go through the general contractor. Contracts should be site specific and cover installation, shipping, and fabrication.

There is a temptation to take a standard contract for buildings and use it for the artist. This seldom works, for much of it does not apply, and the time spent redefining it with lawyers usually is not justified by the size of the commission. Many artists work with simple letters of agreement, trying to cover as many details as possible.

With the advent of Percent for Art programs, many of the administering organizations have developed standard contracts that are available. New York's Volunteer Lawyers for The Arts, with Columbia University School of Law, has developed an annotated model agreement for commissioning a work of public art. Not only is this a good reference for a contract, but it is an insight-

ful look at the whole process of producing a work of commissioned art.

Most artists lose money or break even at best in the preliminary maquette stage of a commissioned piece, so both the rights to and the physical sketches or models generally belong to the artist. Sometimes even the commission itself is at best break-even, and the right to sell sketches, drawings, or models is the artist's only hope financially.

In virtually all cases, the artist maintains the copyright to the piece, although there are sometimes restrictions placed on how the images might be used. Equally important is the issue of credit, both for the architect and the artist. In a collaboration, the work of the artist, architect, and landscape architect often merge, and proper credit should be given on all press releases and documentation.

There has been a trend towards the inclusion of arbitration clauses in artists' contracts, because most artists are ill-prepared for the cost of litigation, and the subject itself is so subjective that a specialized panel can deal with it more thoroughly. Other areas to consider including in contracts are resale

clauses, a warranty on the workmanship, and maintenance.

Budget

With the recognition of the importance of art in buildings, there has come increased confusion as to how much to spend. Very rarely are there previous budgets with good guidelines for art. Fortunately, the numbers are becoming increasingly consistent. The Percent for Art programs range from 1/2 to 2 1/2 percent of the total cost of the building, and most private development seems to mirror that, with the percentage occasionally going up as high as 5 percent. Most consultants agree that 1 1/2 to 2 1/2 percent is enough to do a good job. All this, of course, depends on what the client wishes to achieve.

Maintenance

Maintenance is perhaps one of the most overlooked aspects of artwork, yet its importance cannot be downplayed. In some cases weathering is a part of the artist's design; in others it is something that needs to be countered. Input from the artist and a plan for maintenance should be considered. Most artwork needs to be maintained in-

(continued on page 72)

(Advertisement)

Small Firm's New Golf Ball Draws Hole-in-One Letters from All Over U.S.

Seller Guarantees Ball Will Cut Strokes — or Money Back

64 Times More Accurate

By Mike Henson

NORWALK, CT — A small company in Connecticut is selling what might be the most hook-free, slice-free ball in golf. Unsolicited hole-in-one letters from men and women all over the U.S. suggest it is 64 times more accurate than a well-known distance ball. Some report holes-in-one the first time they use it!

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In light of tests and that file-full of hole-in-one letters, the company guarantees Guidestar will cut a golfer's score dramatically. If it doesn't they will take back the balls within 30 days used, and refund their price promptly.

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To charge it include your card's name, account number and expiration date. No P.O. Boxes, please; all shipments are UPS. CT and NY must add sales tax.

Guidestar conforms to U.S.G.A. Rules and can be used in tournament play.

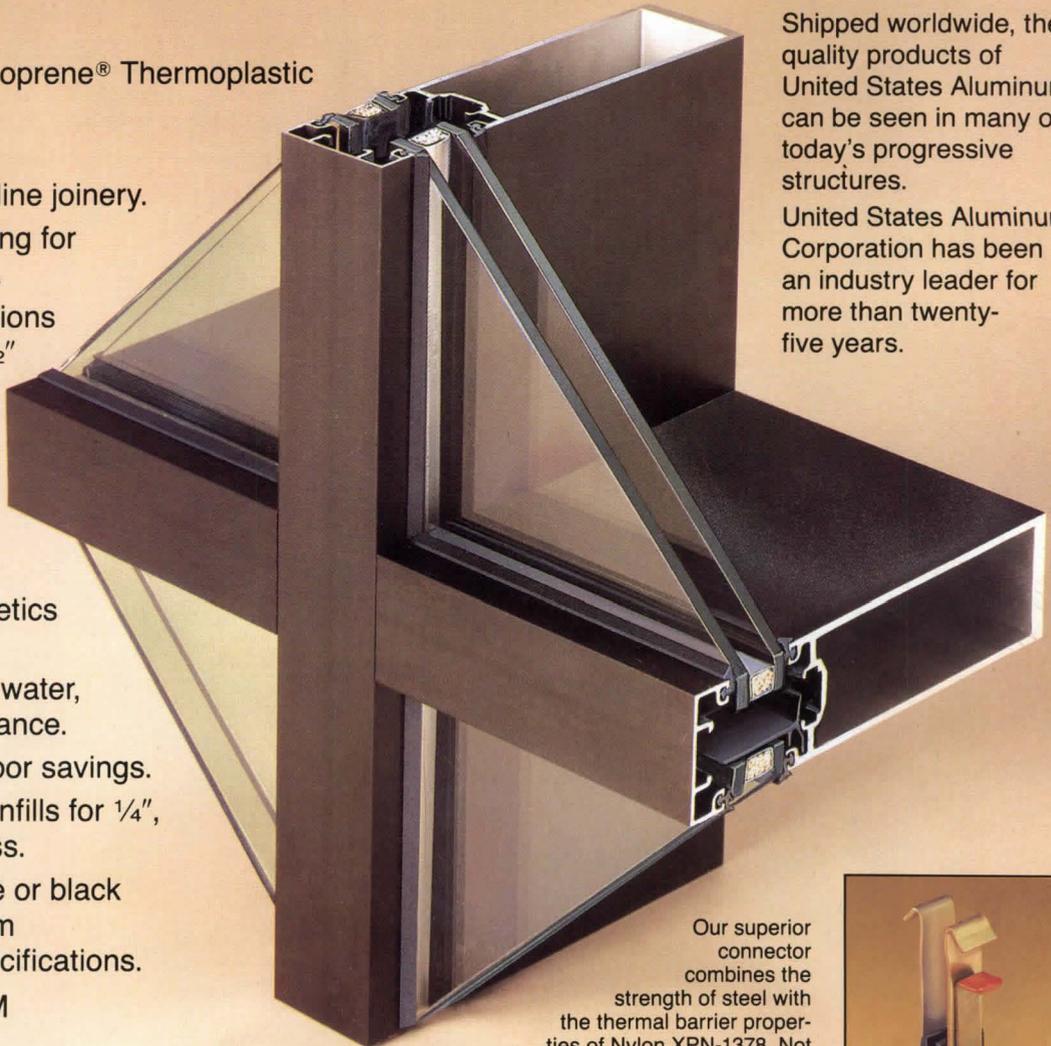
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Management (continued from page 70) frequently at best, but this insures continuity and involvement of the right people.

Shipping

The mere mention of shipping artwork brings chills to the most experienced project managers. With the increasing use of public art, however, there have sprung up a number of companies that specialize in shipping art. With years of museum experience behind them and special trucks and crating departments, it is no longer the problem that it is perceived to be. Some companies maintain regular routes so some scheduling here can avoid additional costs.

Installation

Many of the same people who ship art have installation crews who are often museum trained. Used to working on site, they can develop a rapport with subcontractors, which makes the work flow smoothly. This avoids the problem of trying to use the best carpenter on the job and praying a lot.

Lighting

Early discussions of the lighting are of prime importance. Once a client has spent vast sums on the artwork, it is hard to go back and ask for more for the lighting. The lighting consultant and the artist have to work in concert. What may be a correct lighting

solution may not show off best the texture of the piece or capture nuances that the artist is trying to create.

Security

Fortunately, one of the best solutions for securing a piece of art is the art itself. Areas of buildings traditionally covered with graffiti are usually unmarred when art is placed there, and even small pieces of sculpture are generally left alone. Here again, education and community involvement play a major role. When a piece of artwork becomes important to the community, it is rarely bothered. For smaller pieces of art there are a number of security brackets that have been de-

vised for protection.

In both the public and private sectors, the collaboration of artists and architects is a growing phenomenon. Yet, notes Joyce Pomeroy Schwartz, "Much public art selection bypasses the architect, and this is a mistake. Most architects end up working with the artist whether they have selected him or not." Understanding and embracing this process will afford the architect more control, resulting in more exciting and better buildings.

Stephen Knapp

The author is an artist living in Worcester, Mass., with extensive experience producing art works for buildings.

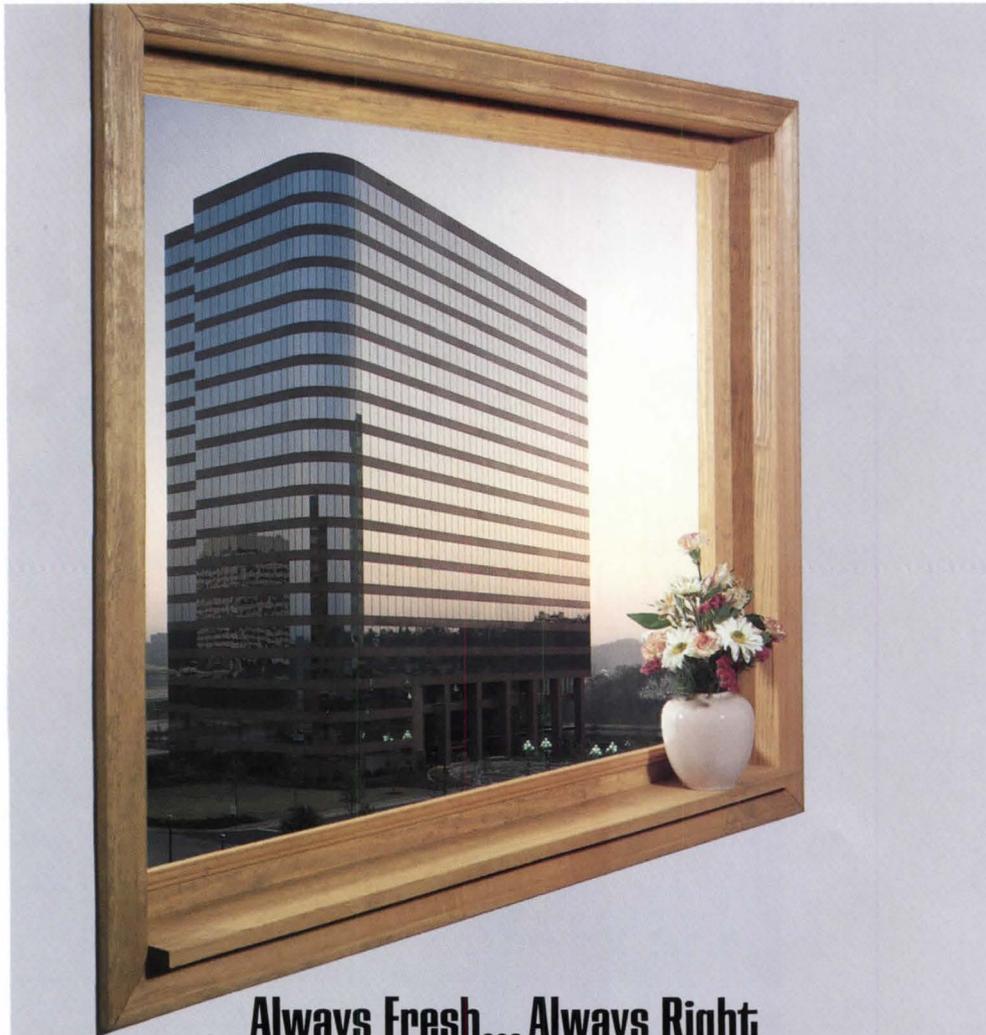
Law

 (continued from page 67)

ing the relative duties and responsibilities of the architect and client or the amount of remuneration involved. Similarly, hasty or ill-conceived actions, such as giving instructions to contractors without maintaining a written record or securing advance approval, have also led to problems. In an increasingly litigious environment, it is vital that every action taken by the architect is carefully thought out and, if possible, reviewed dispassionately as if it were being scrutinized several years later by an impartial third party, which is how it is likely to be treated if a dispute goes to court. This requires the adequate recording of all decisions or discussions that involve money, time, the nature of the project, or the relationships among the parties.

The process begins with the contract between the architect and the client (which preferably should be standardized), and continues through all levels of communication between all parties. Important decisions should be transmitted or confirmed in writing, and all telephone conversations noted, and if necessary, supplemented with a written communication. Such activity creates an effective "paper trail" through each project that can be referred to at a later date if problems arise. In the absence of documented proof of what happened and why, court decisions may hinge on one person's word against another, which may entail conflicting or inaccurate accounts of past events.

In addition to the adequacy of good records, the habit of thinking ahead to the implications of one's actions and their interpretation by a third party is in itself a useful if pessimistic exercise, helping the architect to develop a continuously watchful, defen-



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sive posture. The act of preparing for problems thus may help to minimize their occurrence and reduce the liability threat accordingly.

Weighing Up the Risk

The architect is exposed to a variety of risks, and it is important to assess the nature and extent of these risks in each situation. Indemnifications or warranties may be sought, or insurance policies purchased to provide some degree of protection to the architect. Where additional or unusual risks appear in new or ongoing jobs, it is important to determine whether they are worth the trouble. A heightened threat of future problems may be considered acceptable if the remuneration is adequate, which may involve the negotiation of higher fees or additional services. Conversely, the expansion of liability by taking actions without adequate consideration or compensation is both dangerous and financially inept. This may seem self-evident, but many architects provide services, often unknowingly, that go beyond their conventional duties without requesting extra pay, even though the extra work inevitably involves an increased risk. Stopping or changing work on site or instructing the contractor as to construction or safety matters are typical examples. Again, the development of a defensive, forward-looking attitude toward the implications of all actions and activities is in itself likely to lessen the potential outcome of many legal problems.

When You Need Advice

In the case of contract modification or legal action taken against the practice, it would be unwise to cope with the situation without expert, professional advice. However, in some circumstances, it may be possible to secure assistance without immediate recourse to the law. The American Institute of Architects, for example, maintains a legal staff at its headquarters in Washington that is very knowledgeable in the liability field. Although they are unlikely to provide specific legal advice over the telephone, they may be able to give some direction to the practitioner. In addition, the AIA has established the CAL Resource Team, which provides a hotline for members with questions concerning compensation, and published the "AIA Liability Strategy Guide: State Legislative Remedies." Similarly, state chapters may provide some assist-

ance; the Wisconsin Society of Architects, for example, has a lien hotline and often publishes useful legal tips in its monthly journal. It is possible that such help may not be applicable or useful in particular cases, although the investment of the cost of a telephone call (sometimes a toll-free number) is modest enough to make the process worthwhile.

Other sources of free information may also be useful. Universities, for example, may be a source of reference and expertise, and calls to Departments of Architecture, Engineering, or Law may yield some valuable advice or direction. Public libraries, some of which maintain

extensive "Ready Reference" services, may be a good starting point, while various public agencies, such as Public Health or Building Inspection, may provide useful information. Although legal aid is unlikely to be available to practitioners, some cities offer services, including the Better Business Bureau and Consumer Advice/Protection agencies, that could be useful in securing advice or information.

When You Need a Lawyer

When matters should be dealt with by a lawyer, the expenses incurred are secondary to the expert handling of the situation. In these cases, a suitable attorney's office should be selected

carefully and their services utilized effectively. As most legal services are billed on an hourly rate, it is important not to waste time in consultation with long-winded or scrambled accounts of the problem. If it involves a complex series of events, it is advisable to prepare all documentation in chronological order to facilitate its discussion. In addition, a brief account of the facts and important dates of the project and an outline of the problem may be useful both to give the attorney an introduction to the case and to clarify the major issues in the mind of the architect. Any questions that the latter may wish to ask should also

(continued on page 74)



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Law (continued from page 73)

be written down in advance, as well as any specific advice or actions required from the lawyer.

If Legal Action Is Necessary

If threatened with legal action, one should carefully consider any responses and avoid any precipitous or ill-conceived emergency measures. Although the prospect of impending litigation is unpleasant and an immediate reaction may be to try to deal with the problem, the architect should try to view the issues objectively before taking any steps. Should the case be brought to court (by no means a certainty), it will not necessarily be heard in the near future, and action taken in haste may reduce the chances of a successful outcome for the architect. Instead, potential responses should be explored and carefully considered before any action is taken. It may be necessary to contact an attorney and the insurance broker if insurance is carried. In the latter case, notification is likely to be a requirement of the policy, and should not be overlooked if coverage is to remain intact.

Where the architect is considering legal action against another party, the implications of the suit should again be considered before any plans are put into effect. Litigation may seem to be the appropriate action to settle a dispute, but excessive costs and time requirements, and even adverse publicity, may deter the architect from pursuing this course of action. Although arbitration provides an alternative solution to the courts, another mechanism that may be worth exploring lies in the process of mediation. A relatively new concept, mediation is being forwarded by the American Arbitration Association as an informal dispute resolution technique where disputing parties refer their problem to an impartial third party who provides a non-binding judgment that they may agree to accept. This system works on the principle that it is usually cheaper, faster, and preferable to settle disputes through some degree of compromise on both sides rather than by court order. If any potential for settlement exists without jeopardizing the architects' case should litigation go ahead, mediation should be explored. **Robert Greenstreet** ■

The author is an associate professor at The School of Architecture & Urban Planning at the University of Wisconsin-Milwaukee and Chair of the Department of Architecture.

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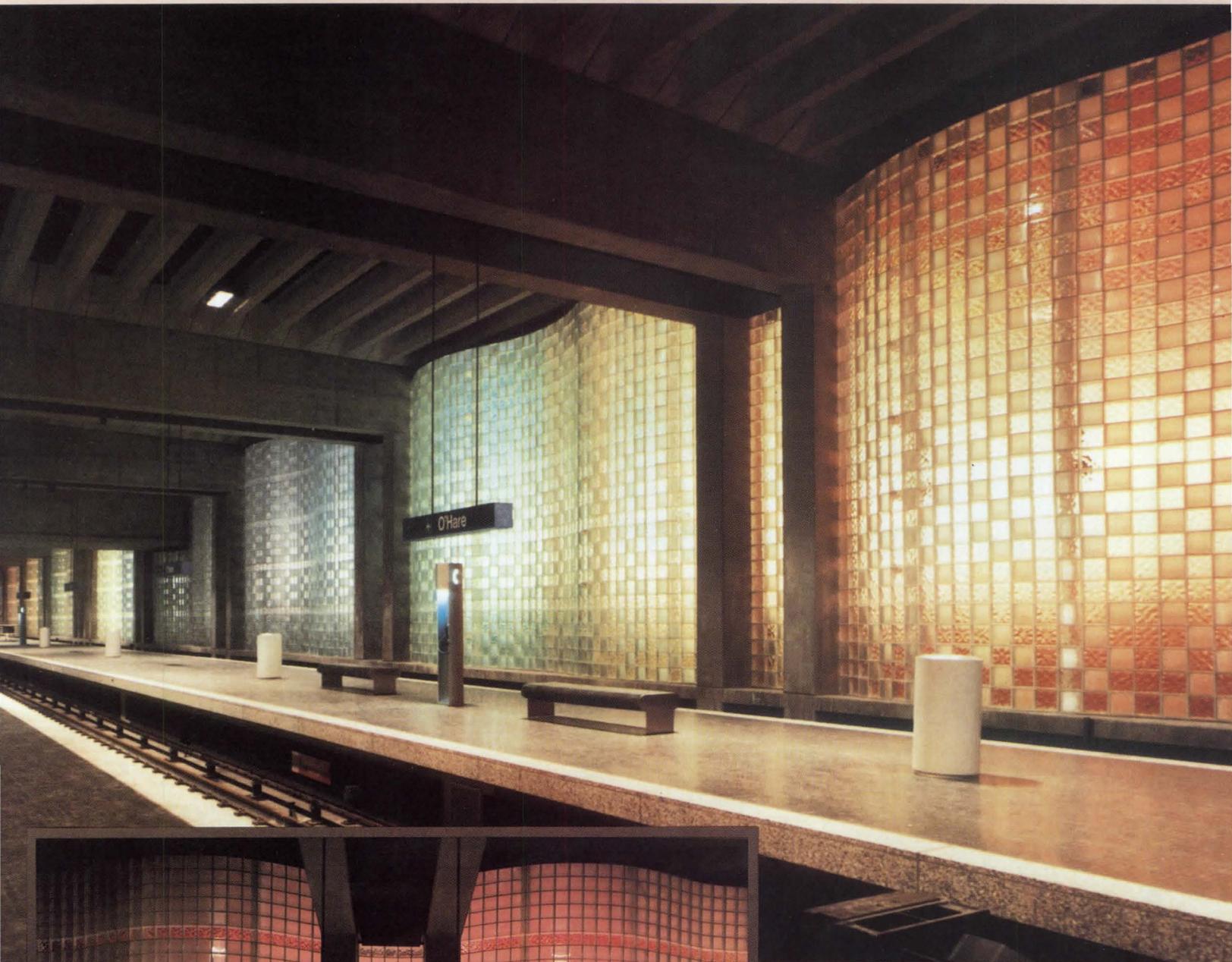
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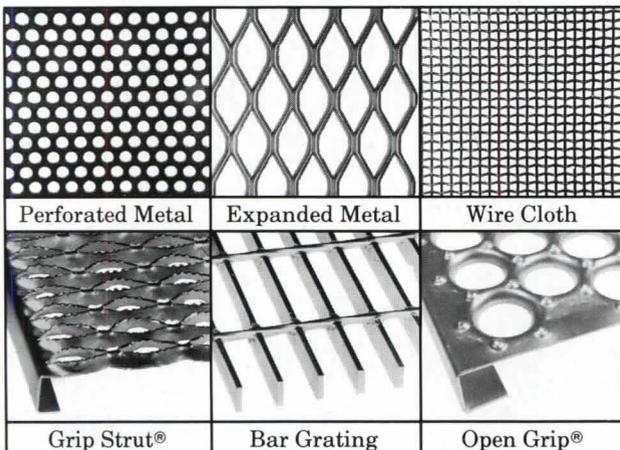
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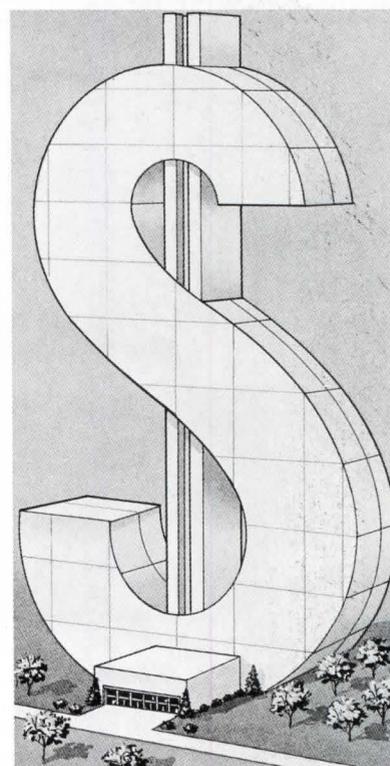
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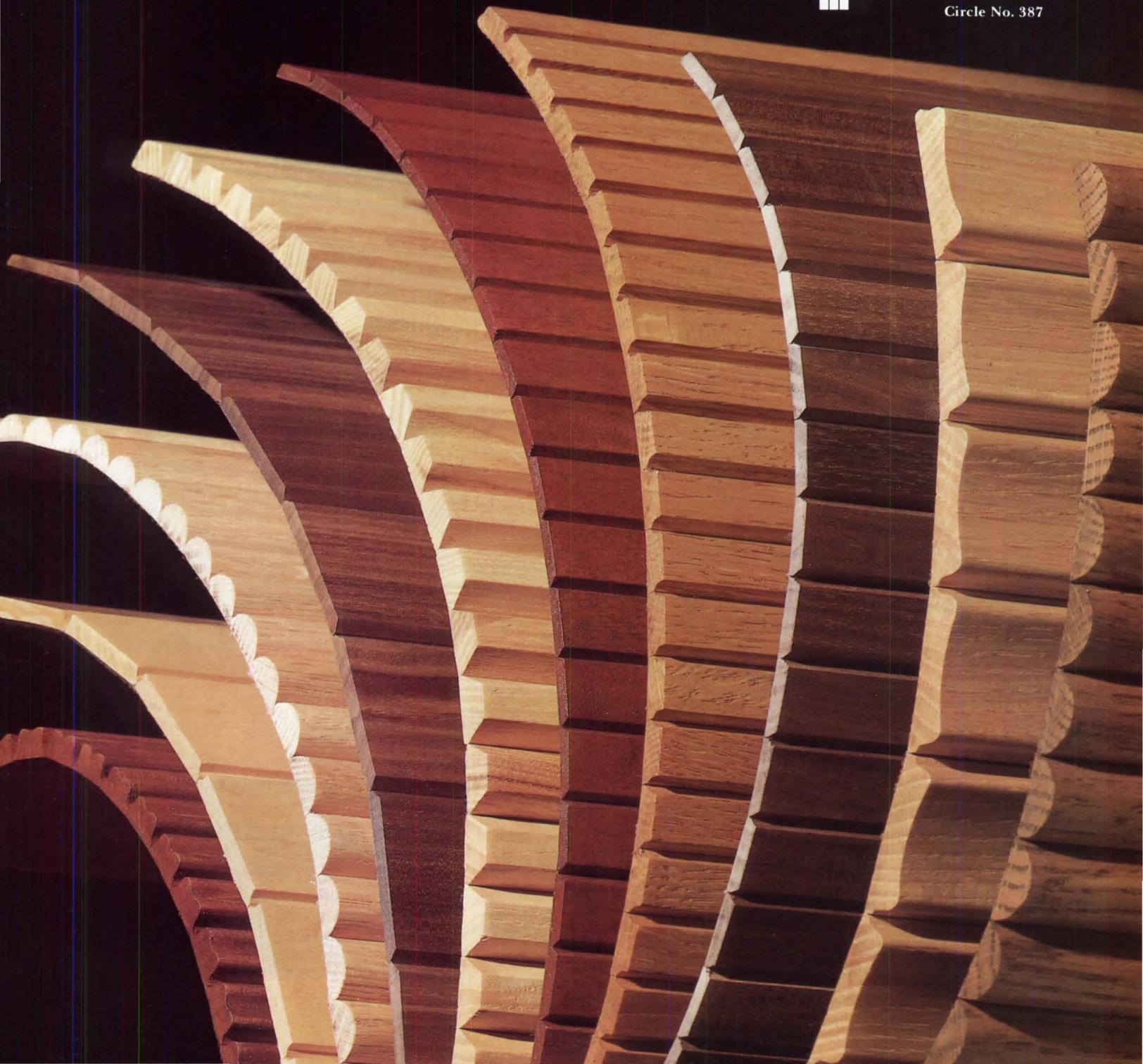
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Three Houses

As unlike each other as they are unlike the houses around them, these three, each a Citation winner in the P/A Awards program, pursue design directions that derive from recognized masters yet go well beyond pure derivation.



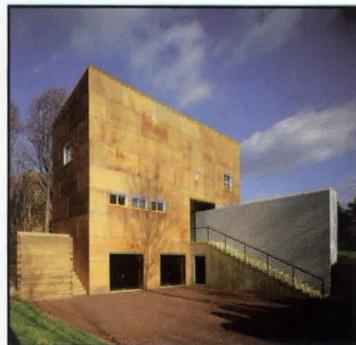
Bystrom

John Fulker



Ames

Stephen Brooke



UKZ

Mark Darley

A time-honored truism holds that houses offer the architect an unequalled laboratory, a field in which to try out or perfect a philosophy within the art of architecture. It has also been obvious in recent times that it is no longer scandalous to admit one's sources of inspiration, even if it is the intent from the outset to modify or combine those sources. In following up on three previous P/A Awards Citation winners (of the four in this issue), both of those points are prominently illustrated. All of these houses are clearly Modernist, yet with fascinating modifications in allusions the architects discuss readily. The cast of references is just as interesting—Scarpa, Wright, Greene & Greene, Mies, Corbusier, and several others. These houses are not derivative in the negative meaning of that term, yet all of them owe something to earlier precedents; they are not Post-Modern, but are born of the reevaluation that the "dread" PM movement prompted. It was well worth all the posturing, the counterposturing, and the soul-searching. *Jim Murphy* ■

A Marriage of Disciplines

A house that aspires to heroic goals in both craftsmanship and energy technology, this design by architect Arne Bystrom is an assured answer to those and other related challenges.

IT takes imagination to conjure up a picture of how Trail Creek Valley must have looked to Ernest Hemingway before his death in 1961. A modest and relatively untended monument to him maintains a position overlooking this valley, reminding visitors of his love for the Sun Valley area in Idaho. Trail Creek still tumbles past below this vantage point, lined by a golf course which, while not the natural landscape, nevertheless provides a green belt. The immense power of the hills and mountains and vistas still controls any perception of the place, despite a fair amount of aggressive construction.

The houses that line the southeast side of Trail Creek Valley are expensive, assertive, and largely architecturally uninspired. An exception to the latter is to be found in their midst; nothing about the 8600-square-foot house shown here, a P/A Awards Citation winner (P/A, Jan. 1985, p. 128), is ordinary. Designed by Seattle architect Arne Bystrom, it is not inexpensive, and is assertive in its own way. But sited between two other houses and viewed end-on from the street, it is far from overwhelming, approached in the normal way. Arriving from the center of Sun Valley, a visitor can just see the distinctive roof form—a sheltering bent plane—hovering above the adjacent meadow. The form is meant to recall the roll of the terrain beyond, and the full extent of what it shelters is not apparent until closer inspection begins to unfold the complexity of the house.

In addition to the sweeping roof gesture, the imagery sought by the owner and the architect was one of combined craftsmanship and technical sophistication. Craft permeates the entire building, while the technology is most directly expressed by the white glazing frames and suspended solar collectors; the rest of the intense solar and energy measures are much less evident. Berms on the northeast perimeter of the house, and the broad, sloping copper roof protect against the snow season, and passages through the berms are simply not used at that time of the year.

In plan, the rooms are arranged in an offset, sawtooth configuration. This allows the best solar orientation, and an autonomy for each of the bedroom/bath/dressing suites on the upper and lower levels, of which there are five, including the master bedroom but excluding the caretaker studio. All of these suites are basically self-contained and front on a "solar gallery" encapsulated by the





P/A Awards Update
Sun Valley House



and Scarpa in the details. Among those, the gates, railings, and fireplace screen combine with ceramic tile banding and edging.

Interior paneling and woodwork produce the overall effect of one cohesive declaration, that of a fine cabinetmaker. All cabinets, in fact, are faced with doors and drawers of redwood, inlaid with fir detailing; the same routed cross-hatching first noted on the outside occurs in courses inside, reinforcing the effect of tile and wood banding where concrete is exposed. Probably the most prominent examples of wood craftsmanship are the two main stair compositions, one a spiral and the other boldly bracketed from the wall in the entry space. It is not possible, in less space than a book, to describe all the design facets of the house. The examples shown here will have to be taken as typical and illustrative of the whole.

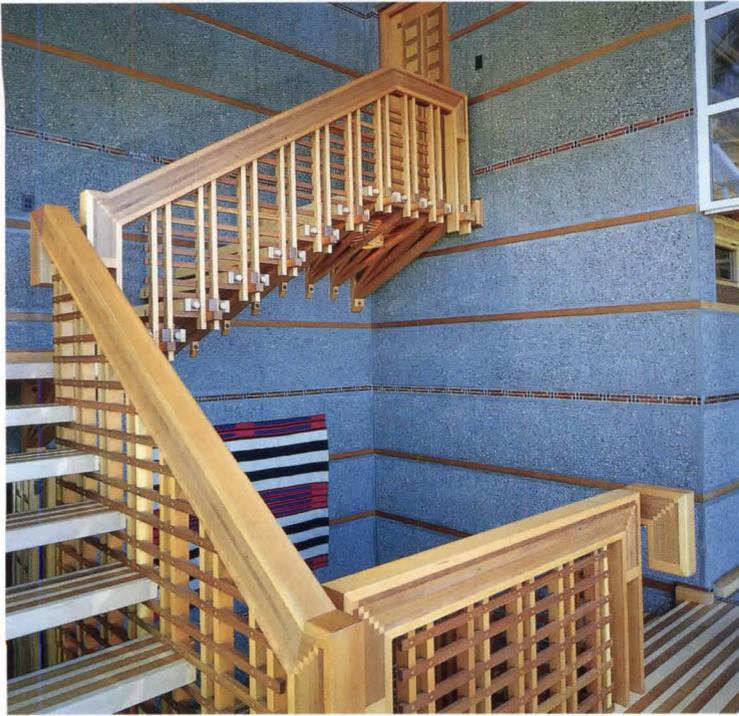
Having invested so many months of their time, the builders and various tradespeople—a mostly young and enthusiastic group of men and women—were somewhat at a loss about how they could now return to building “normal” houses. It will probably be a long time before such a client/architect pair come along. Perhaps never, in Sun Valley. *Jim Murphy* ■

Arrival from the street is by way of the paneled garage doors (top left), where the craft aspects of the wood and the technical imagery of the suspended collector array begin to become recognized as an intentional design direction. Only from the field south/southwest of the house (top right and preceding page) is the full complexity of the merged disciplines obvious. On the bermed north side (bottom left), the standing seam copper roof and laminated structural members hover just above the embankment and the exit/entry slots, minimizing exposure in that direction, yet allowing access to the tennis courts beyond

in warm weather. On the way to the entry, a visitor passes carefully detailed walls and gates (above) with a tile threshold and a water-filled moat, beyond which is a courtyard with fountains. Directly inside the solar gallery from the courtyard (facing page) is one of the spectacular stairs, a spiral, with a sunken spa beyond it. Operable sash and fixed glazing permit light and ventilation into the bedrooms; fixed glass is detailed in between the projecting wood members in lower bedrooms, above awning windows.



**P/A Awards Update
Sun Valley House**



Stairway to the upper bedrooms (above left) is another example of the amount of time lavished on careful detailing, with its intricate bracket, handrail, and tread assembly. Medium red tile banding is typical of the condition at exposed concrete walls. From the entry, a visitor passes the kitchen/dining area (below), located under the master bedroom suite. The dining

table and chairs are the creation of the architect as well. From the dining area, a mezzanine overlooks the living area (above right and facing page) and the view over the valley and golf course beyond. The focus of the living space, the fireplace, is a few steps further down, enclosed by an almost Wrightian iron and glass



folding screen. As in cabinetry throughout the house, the redwood door and drawer fronts are inlaid with fir bands; the wood, concrete, tile, and metal detailing is impeccable, and the level of craft by the builders and finishers follows suit. All blinds along the south wall are computer-controlled to get maximum gain or shading, as needed for comfort in the space.





**P/A Awards Update
Sun Valley House**



Bedrooms each have bath and dressing spaces; one, on the lower level, is shared with living areas, but the other four suites are self-contained. As is common on the lower level, walls in bath (above) and bedroom areas are exposed concrete with a warm-toned aggregate, banded with ceramic tile. Upper level bedrooms (below) have the feeling of separate cottages, with their own climate and

daylighting controls. Individual blinds for each section of the interior window wall retract into pockets in the sill below, and have angled tops to seal against the pitched members of the roof above. Conditioning of the air temperature in these spaces is separately controlled, independent of the solar

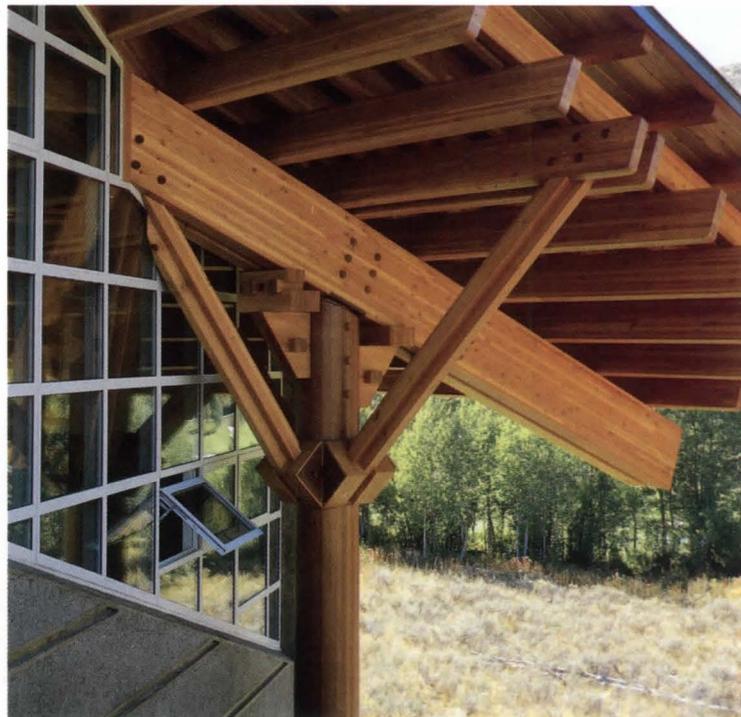
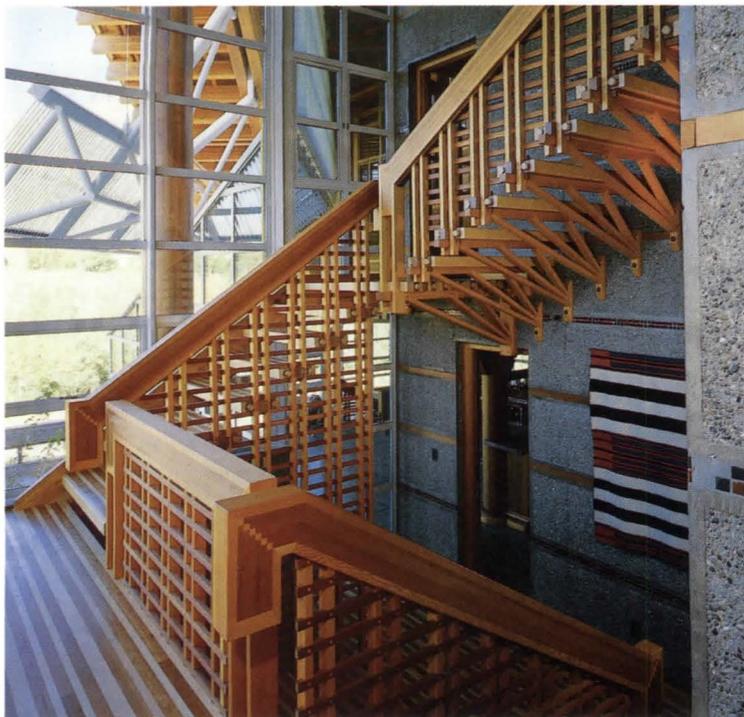


gallery beyond, and can be monitored by the central computer. Operable sash allows fresh air ventilation in each room.

Structure, whether for the stair or the roof, is treated with the same care as the cabinetry (facing page, top). The lyrical water wheel, by The British Engineerium in England (facing page, center), is an expression of the client's interest in

engines; it incorporates a locomotivelike set of pistons, driven by the wheel. At dusk, the house is dramatically lighted to reveal its spaces to the outside.

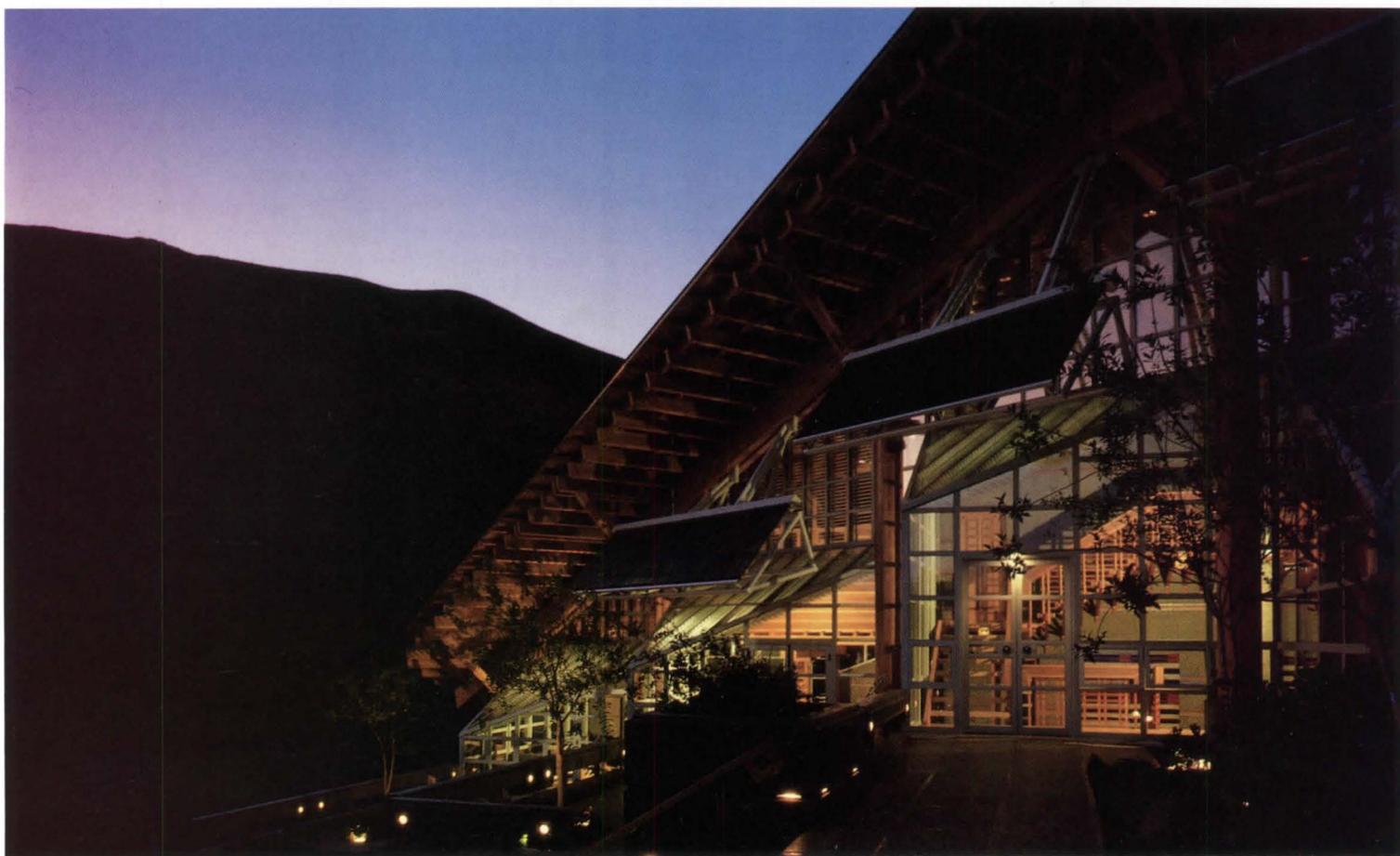




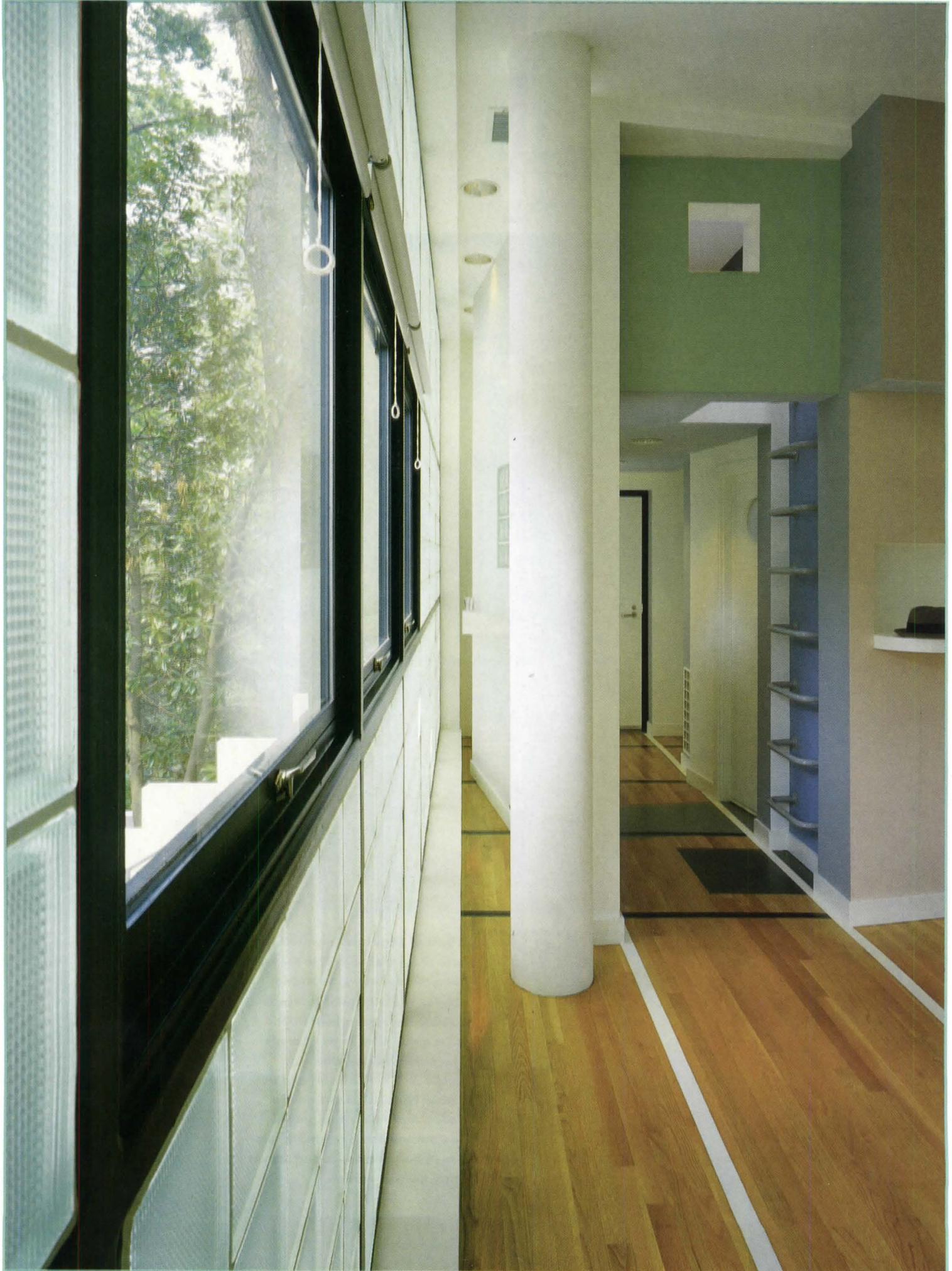
Project: Sun Valley House, Sun Valley, Idaho.
Architect: Arne Bystrom Architect, Seattle, Wash.
Site: large parcel along residential road, sloping from road level down 30 feet to golf course. Elevation is 6000 feet, in a transitional zone between high prairie and alpine, subject to heavy snows.
Program: second home for California clients; strong emphasis on energy and technology, with equal stress

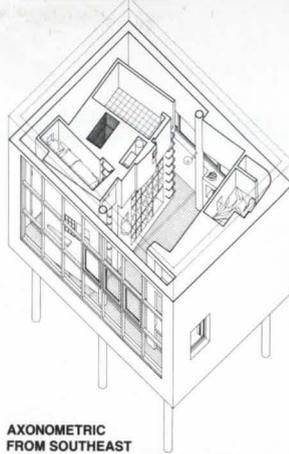
on craft and alpine tradition.
Structural system: concrete foundations and lower walls; glued laminated beams, purlins, and decking on redwood columns.
Major materials: copper standing seam roof, redwood, fir, cedar decking, special glazing system, ceramic tile, and ground and/or sandblasted architectural concrete (see *Building Materials*, p. 206).
Mechanical system: computer-controlled shading and ventilating; heat

pipe solar collectors and passive solar rock bin storage, gas-fired boiler and conventional air-handling equipment backup, with fin tube radiators.
Consultants: ENSAR Group, solar design; Ian Mackinlay, snow design; Darrold Bolton, structural; Torgerson-Yingling Associates, electrical; Robert Murase, Murase Associates, landscape.
Contractor: Grabher Construction.
Costs/client: withheld by request.
Photos: John Fulker.

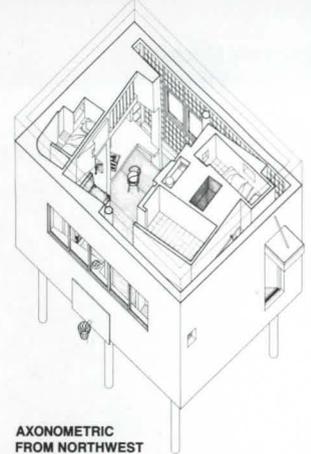


P/A Awards Update
Garden Pavilion





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FROM SOUTHEAST

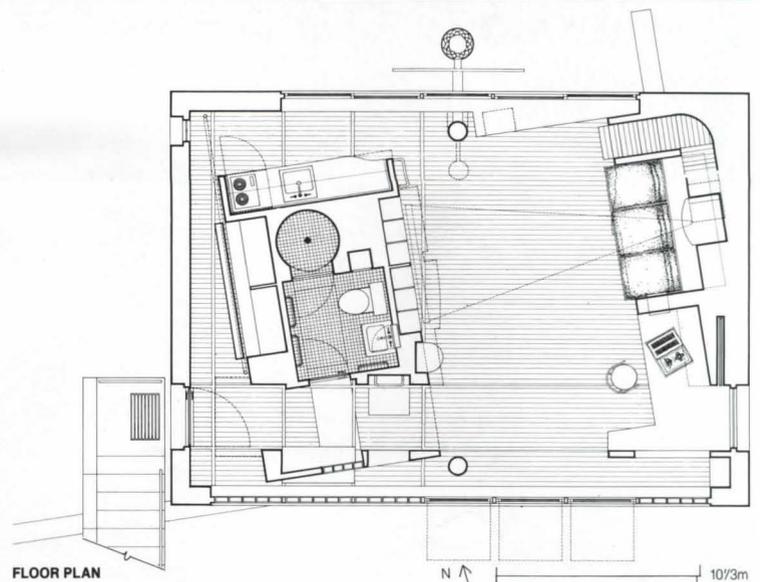


AXONOMETRIC
FROM NORTHWEST



The interior of the pavilion clearly demonstrates the opposition of rotated to "un-rotated" plan: the shell of the building is rotated at an angle to the main house, while the central core (which includes bookcases, above at far right) and the pochéd "solids" from which the seating alcove and desk (above, at left) were carved align with the main house's axis. This creates the triangular "sliver" of space between the garden façade wall and the wall that brackets the central core (facing page, with bathroom door and ladder to stor-

age loft at right, entrance at rear). The parallel white lines on the floor trace a "circulation swath" on the rotated grid, while the black lines define the "un-rotated" axis.



FLOOR PLAN

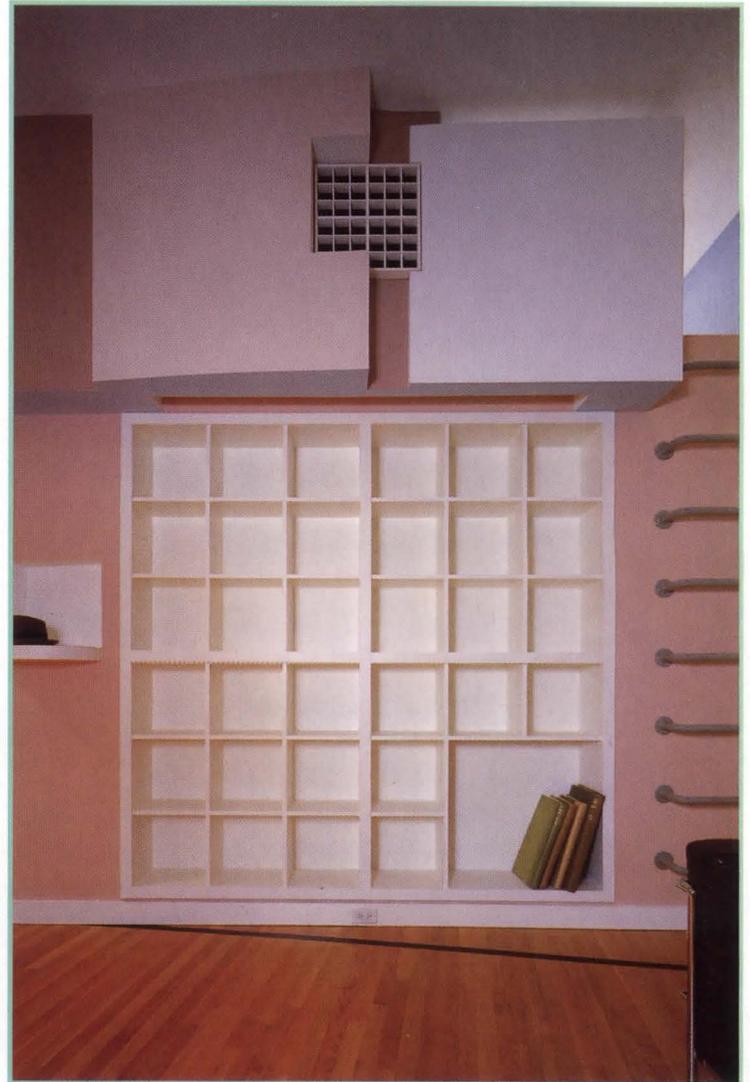
P/A Awards Update
Garden Pavilion





The axis from the entrance (facing page) ends in a square window, above the desk, which offers a glimpse of the main house beyond. The bookshelves and loft (above right, loft is reached by ladder) are carved out of the exterior of the central core, while the seating alcove (above left) is carved out of the poché at the eastern end of the building. Above the alcove is a sleeping loft that is reached by a narrow oak stair, which begins to the left of the alcove and which can be seen winding around behind it. The air re-

turn grille above the bookshelves is intended as a "microcosm" of the shelves' grid, while the square window and cloud form above the alcove mark the sleeping loft.



Project: Garden pavilion, Atlanta, Ga.

Architect: Anthony Ames, Architect, Atlanta, Ga. (Margaret Minor, William Pantsari, Clark Tefft, assistants).

Client: Anthony Ames.

Site: a one-acre wooded lot in a residential neighborhood.

Program: a 570-sq-ft studio and guest house.

Structural system: concrete columns, steel platform, wood framing.

Major materials: synthetic stucco, glass block, and exterior grade gypsum board (see *Building Materials*, p. 206).

Mechanical system: electric furnace and air conditioning.

Consultants: Jack Lynch & Associates, structural; Morrison Newman, mechanical; Anthony Ames & Doug Allen, landscape.

General contractor: Harben Construction Company; Sawhorse Inc.

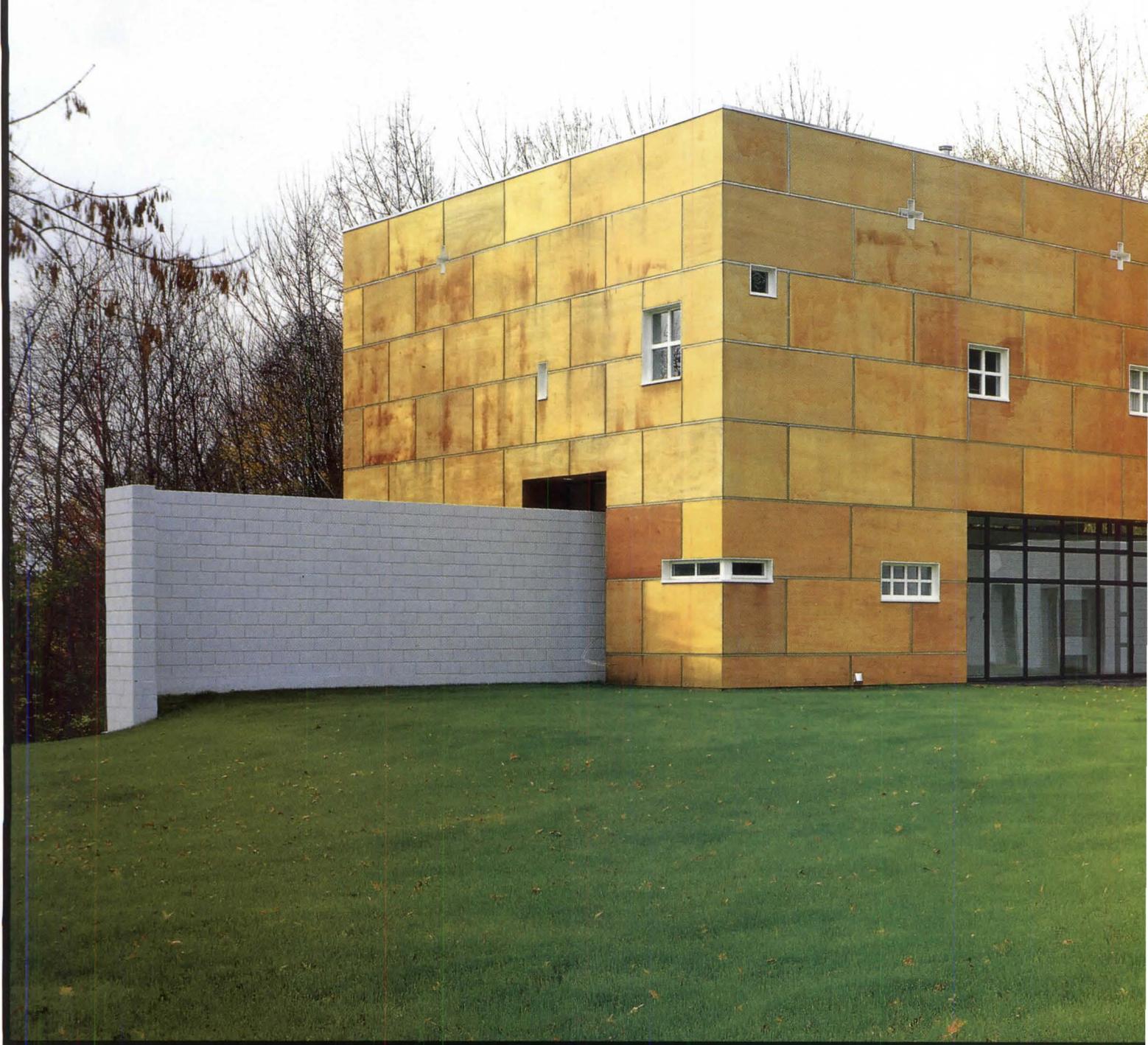
Costs: withheld at client's request.

Photos: Stephen Brooke.

**P/A Awards Update
Knee Residence
North Caldwell, N.J.**

On the Wall

A jewelike house by UKZ Architects introduces Modernism to a colonial suburb of New Jersey and investigates the nature of the wall.

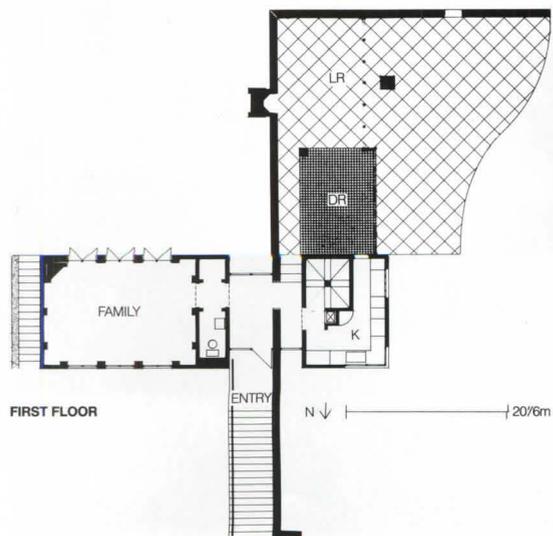
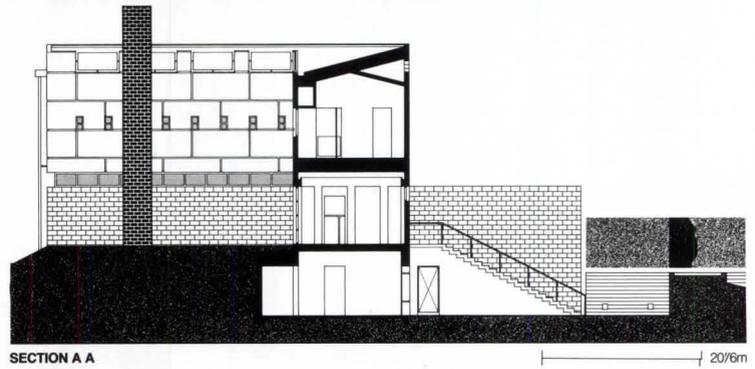
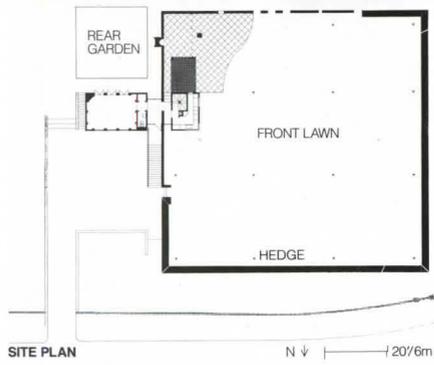
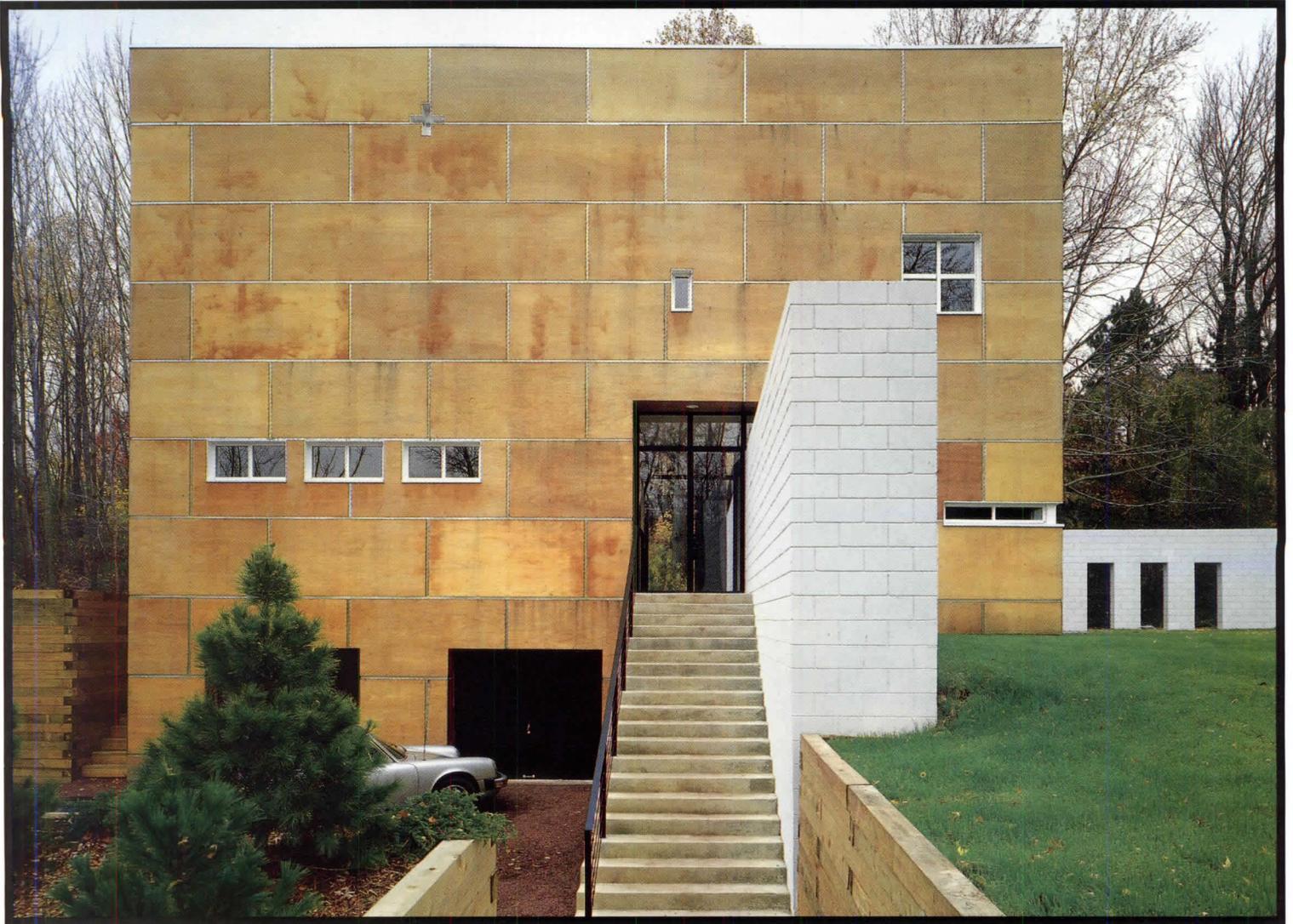




When viewed from the northwest, the concrete block garden wall that runs through the house is clearly visible. The wall continues inside to form the rear wall of the glass-faced living room, which faces the more public side of the house toward the large front garden. The marine-grade mahog-

any-faced plywood panels, which are used both inside and outside the house, were a compromise solution that was reached after other solutions were either rejected or too expensive.

**P/A Awards Update
Knee Residence**





"THIS is a Colonial neighborhood!" asserted one perturbed member of the community planning board when UKZ revealed drawings for their P/A Award citation winning Knee Residence (P/A, Jan. 1984, p. 124). The problem, however, was not so much that the house wasn't Colonial, or even that it was uncompromisingly Modernist. The community seemed more perturbed by the materials. The glass and stone (or at least what looked like stone) building was too stark and did not produce an aesthetic deemed appropriate for the pastoral suburban neighborhood.

The entire upper story of the house appeared to be stone, but it was actually faced in horizontal wood plank siding, painted and scored in the 18th-Century manner to look like stone. This was what the community objected to, and finally an agreement was reached to change the material to natural vertical planking. That turned out to be much too expensive, though, when finally costed out (this house was built very economically), and all parties finally agreed on the unusual but brilliantly inventive solution of using the marine-grade, mahogany-faced plywood panels now in place. Some of the neighbors still don't like what they call "that house," but it does now have a degree of coziness acceptable to the community.

Although the house appears to be Miesian, especially in plan, strictly speaking it is not, the architects explain. But to the degree that it deals with "the universal quality of astylistic language of each component" contributing "to the abstract qualities of . . . a three-dimensional collage," as did the Hobbs house (P/A, July 1982, p. 88), it is very much concerned with the Miesian mode of Modernism.

Like that earlier house and the later Wiemer winery (P/A, April 1985, p. 98), it departs radically from a main concern of the Miesian country houses, which dealt with the abstract positioning of planes in space, thus creating ambiguous or unclearly defined space. Instead, it concentrates on the non-Miesian notion of clearly defined volume-as-object, for which there is no ambiguity.

The house is composed of two primary elements: an L-shaped wood-frame building and an L-shaped concrete block garden wall that intersects the house and becomes a major part of it. At the ground level, the wall divides the house into public and private zones, and it extends into the landscape (very much in Miesian fashion) to continue the demarcation of open vs. closed, of formal and informal spaces.

In order for the living room to be seen almost as a "public outdoor pavilion," enclosed only by the garden wall and a full-height glass wall, the rooms above it have been cantilevered by means of a bridge-type structure to free that ground-floor space of any supporting function above it. Inside the living room, from the top of the garden wall to the ceiling, a clear glass band suggests nothing above it; the only obvious support for the upper floor is a large column (unnecessary, the architects say) outside the living room.

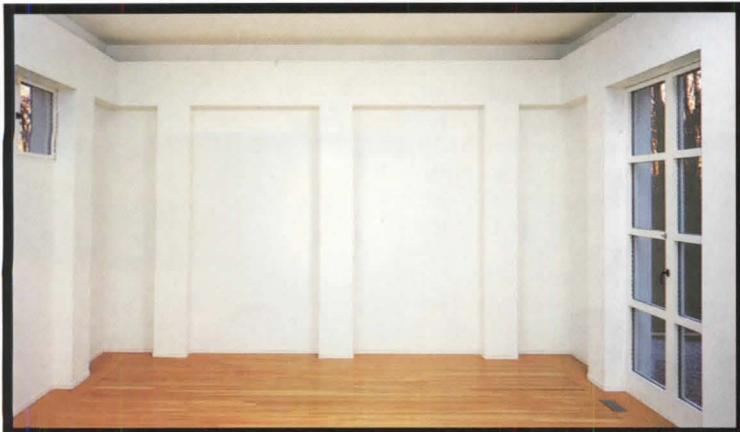
In contrast to the public, formal side of the house, the back is intimate and informal. There, the family room in the leg of the L opposite the living room encloses, along with the exterior side of the living room's interior garden wall, a small private garden protected on its far side by a dense wooded area at the back of the lot.

The main entrance to the house is at the north, street, side over the garage and basement storage area (facing page, top). Directly above the garage is the family room, which looks out directly to the south (above) onto a private garden area enclosed on the west side by the back wall of the living room and at the far south by a densely wooded area.

**P/A Awards Update
Knee Residence**



In the living room (left and above), a band of windows can be seen at the top of the concrete block interior garden wall, indicating that the walls have no bearing function. The rooms above, in fact, are cantilevered, and the large column seen outside is really unnecessary. The marine-grade plywood used outside can be seen on the wall dividing the dining area from the kitchen (facing page). Opposed to the openness of the more public space of the living room, the family room (bottom left) is enclosed; high windows face the street and French doors open onto a small, private garden.





Essentially, say the architects, the house concerns itself, as does Mies's architecture, only with elements particular to architecture. In this case, the house primarily concentrates on the wall. But, as distinguished from that of Mies, it does not look at the wall as a generator of planes creating ambiguous space. Instead, the emphasis here is on clarity, on definition; and where there is transparency, on that which is definitely literal, not virtual. The only mystery in the house would have been the "floating" level above the living room, but the local building inspector's insistence on the supporting column jinxed that.

It's harder to figure out, however, what jinxed the neighbors into changing their attitude about "that house," but something must have. The local garden club recently asked the owners if the house could be put on their annual tour. No one suspected that something this house might also have been about one day was irony. **David Morton** ■

Project: Knee Residence, North Caldwell, N.J.

Architects: UKZ, Yonkers, N.Y. (Simon Ungers, Laszlo Kiss, Todd Zwigard) with Associate Architect Adalbert Albu.

Client: Mr. Stephen and Mrs. Carole Knee.

Site: a suburban corner lot of 1.2 acres with an incline from north to south.

Program: a single-family house of 4000 sq ft with 1500 sq ft of outdoor terrace.

Structural system: concrete block foundation on poured concrete footings; reinforced cast-in-place concrete columns and steel-pipe columns for west wing; house shell of wood frame with 35' x 4' wood box beams at west wing cantilever.

Major materials: 12-inch Insolite concrete block garden walls; marine-grade, mahogany-faced plywood panels with galvanized steel channels at joints for house walls; plaster finish over poured-concrete columns and entry stairs (see *Building Materials*, p. 206).

Mechanical system: two independent systems of gas-fired, forced-air heating; forced-air supply/central return air conditioning.

Consultants: Raymond A. DiPasquale Associates, structural.

General contractor: CSR Construction Corp.

Costs: withheld at owners' request.

Photos: Mark Darley.

A Set Piece

SAN FRANCISCO'S comprehensive Downtown Plan (P/A, Jan. 1986, p. 122), adopted in 1985, contained aesthetic guidelines devised to restore to contemporary buildings the kind of plasticity so admired in the city's pre-Modern skyscrapers. The result so far has been a set of mostly lackluster buildings ineffectually dimpled and pimpled with knobs and other nameless features. What went wrong? Nothing, maybe. The suspicion grows that the fault lies in the basic assumption that design quality could be legislated.

Now comes a building from Skidmore, Owings & Merrill (the firm which, in the good-old-bad-old days before The Plan, contributed most significantly to changing the downtown skyline) that demonstrates conclusively that richness and plasticity are more often than not a product of wrestling with the elements at hand than leaning on the past.

While 388 Market Street (P/A, Jan. 1983, p. 114) reveals aesthetic guidelines to be weak generators of quality, it offers positive evidence for limiting height and bulk. Actually, the limiting factor here, the size of the site, was a fluke. The collision of two street grids at Market Street, which created generous triangular blocks along the length of its north side, yielded only one of this small size.

Larry Doane, the design partner, strongly believed that the building should read as a set piece. But, rather than settle for the simple geometry of an extruded triangle, the designers sculpted and refined the form to express the variations suggested by the triangular site and its context.

The teardrop shape created by articulating the shaft as a cylinder set into a triangle permitted the building to "bow" to the faceted tower of the Johnson Burgee building across the street at 101 California Street. But the mechanical floor, defined by narrow slits instead of louvers, serves, as does the smooth cornice, to tie the forms together. (Tangential beams, 31 feet long, running between the two forms do the real work.) A courteous touch, invisible from the street, is the metal doughnut that shields the rooftop equipment from the view of the taller neighboring buildings.

Aesthetic considerations aside, the building's asymmetric form gave it a natural tendency toward wild lateral and torsional displacement under seismic and wind loads. To minimize this and to stiffen the structure adequately, the chief structural engineer, Navin R. Amin, connected a perimeter, ductile, moment-resisting



A 1983 P/A Awards Citation, SOM's 388 Market Street offers positive evidence for limiting building height and bulk as prescribed by San Francisco's new Downtown Plan.

space frame to the heavy frame of the central building axis. The presence of this crucial element of the structure is subtly indicated by the unfenestrated section running down the wall at this point.

The deep red color of the granite cladding, which would be overwhelming in a bulkier, taller building, intensifies the effect of the building-as-object. The tinted glass also contributes by minimizing the contrast between the windows and the wall. Besides responding to changes in the building's uses, the fenestration expresses the mutations of its form, as when the rectangular openings in the triangular end of the shaft shift to squares on the swelling form of the cylinder.

Designed during the period of interim controls before the Downtown Plan became official, 388 Market reflects a short-lived official approach to solving the city's increasing housing shortage brought on by skyrocketing development of office space. For a brief period, developers were allowed to provide housing in new downtown buildings. Since 388 Market Street was one of a handful of projects that became eligible for this, the upper seven floors are composed of one- and two-bedroom apartments. The apartments have French doors opening onto three-foot-deep, glass-railed balconies. Because 70 percent of the apartments' perimeter can be opened to the outdoors, prevailing winds and fog can provide air-conditioning.

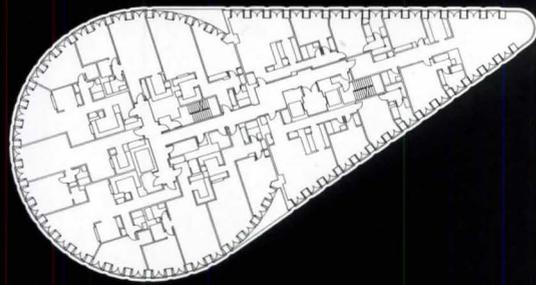
The building base, which contains 9300 square feet of commercial space, conforms to the site footprint. The corners abutting Market Street are rounded; the north corner is squared to reflect the grid. The street-level fenestration is more kin to portals or shop windows scaled to the pedestrian pace. Tripartite windows in blue-green metal frames edged with narrow panels are set in granite reveals. A faceted granite strip added at the bottom of the reveal suggests a plinth. The glazed sections are graded in size and shape from rectangular to square. The placement of the larger square at the top increases the diffusion of natural light into the interior.

Two blocks up Market Street is SOM's 1959 Crown Zellerbach Building, a glass-curtain-walled office tower that signaled both the firm's arrival in town and the city's post-war wave of downtown development. That wave appears to have crested. If, for good or ill, downtown has finally been locked up by a combination of economic and political factors, this well-orchestrated building is a great swan song. *Sally Woodbridge* ■

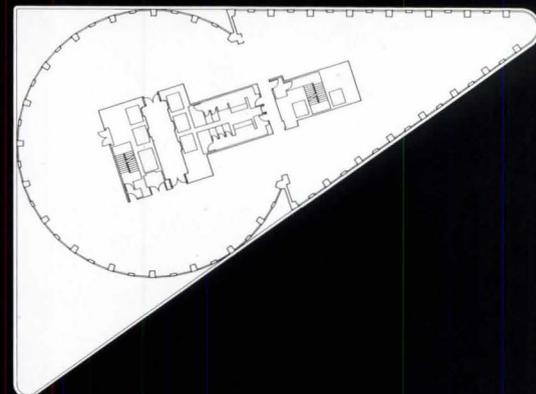
388 Market Street is partly the result of the guidelines set forth in San Francisco's new comprehensive downtown plan, but its odd-shaped lot was also a very decisive factor in the design of the building. Rather than let the simple geometry of the triangular site dictate shape, SOM sculpted and refined the form to express the variations suggested by the site and its location, which is across the street from Johnson-Burgee's 101 California Street (at far right in photo at right). The entry (facing page) shows the polished red granite that is a prominent feature of the lobby.



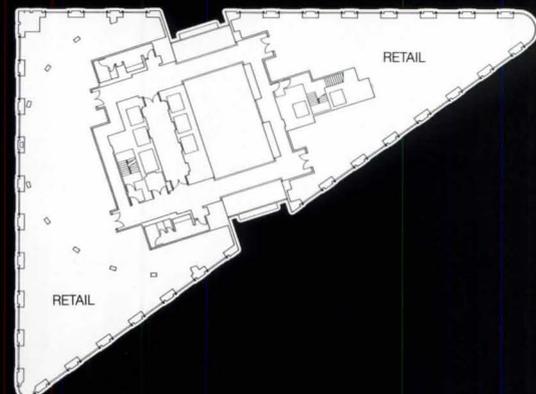
**P/A Awards Update
388 Market Street**



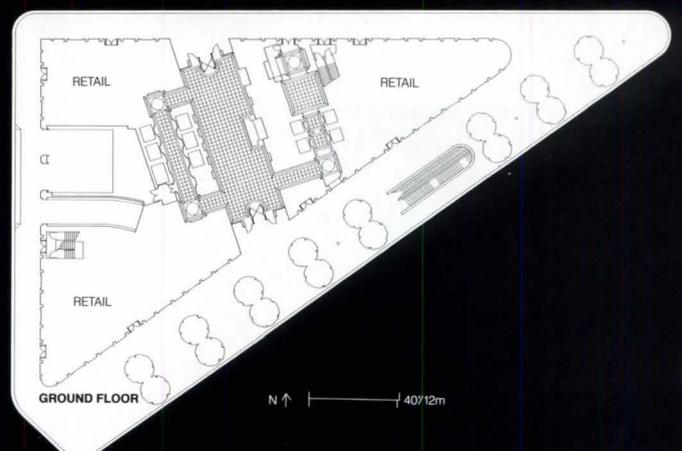
TYPICAL RESIDENTIAL FLOOR PLAN



TYPICAL OFFICE FLOOR PLAN



SECOND FLOOR

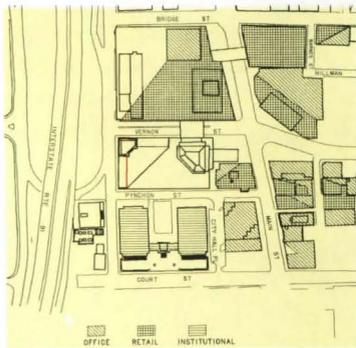


GROUND FLOOR

Although the red granite predominates in the entry lobby (facing page, bottom left), the palette changes to gray granite and white Carrara marble in the elevator cores (facing page, top left). The entrances, which appear to be angled into the base of the building (see ground floor plan, facing page, bottom), are actually set parallel to the central axis. The corners of the building abutting Market Street are rounded (right), and reinforce a motif previously established at 101 California Street (seen in top right corner of photo, right).



P/A Technics
Computers



SITE PLAN

Prepared for P/A

PROGRAMMING

Monarch Place

The program for this large but relatively straightforward project was developed, without the help of computers, before J/BA was commissioned to execute the design. There was to be a 350,000-square-foot office tower, a 270-room hotel with unusually large function spaces (40,000 square feet in total,

including a 9000-square-foot ballroom), a health club with enclosed courts and pool and an outdoor deck, and 20,000 square feet of retail space with separate but connected banking space. Architect David Williams of Amherst, Mass., had prepared a conceptual design for the developers, calling for a tall office tower and a shorter hotel building rising above a 4-story podium. The podium contained the retail spaces and the function rooms and formed an upper-level plaza that tied into Springfield's Airwalk system, with a walkway to the Bay State West development on one side and provisions for a connection to the City Hall plaza on the other. Two levels of below-grade parking were proposed at that time.

Norman Abend of Concord prepared an Environmental Impact Study, which included

shadow studies (facing page) done by computer, and land use and traffic analyses not executed by computer, though the data were later entered into the computer (below). While computers were used at this phase only for shadow studies, in other projects now in the office J/BA is using computers heavily: For Deer Island, a small island in Boston Harbor, they used CAD to study the environmental impact of a proposed sewage treatment plant in its center, and devised a method to screen the plant using landscape profiled in such a way that views from surrounding neighborhoods would seem virtually unchanged. Bruce K. Forbes, president and CEO of J/BA Research and Development, explains that "the more givens or limitations in a project, the more useful is CAD," which is the reason that J/BA is using CAD for all phases of a rehab project, and that hospital projects, for example, are particularly suitable for development on CAD.

Overview of the Present

It is now possible to use the computer to analyze a building's program in terms of its functional relationships, room adjacencies, and the like. And it will soon become possible to go one step further: using the computer to determine which arrangement of spaces is best according to some predetermined criteria,

such as the shortest circulation or the least perimeter area. Such software not only can increase a firm's productivity, but can help it derive an optimum arrangement of rooms, whether or not that arrangement is ever followed.

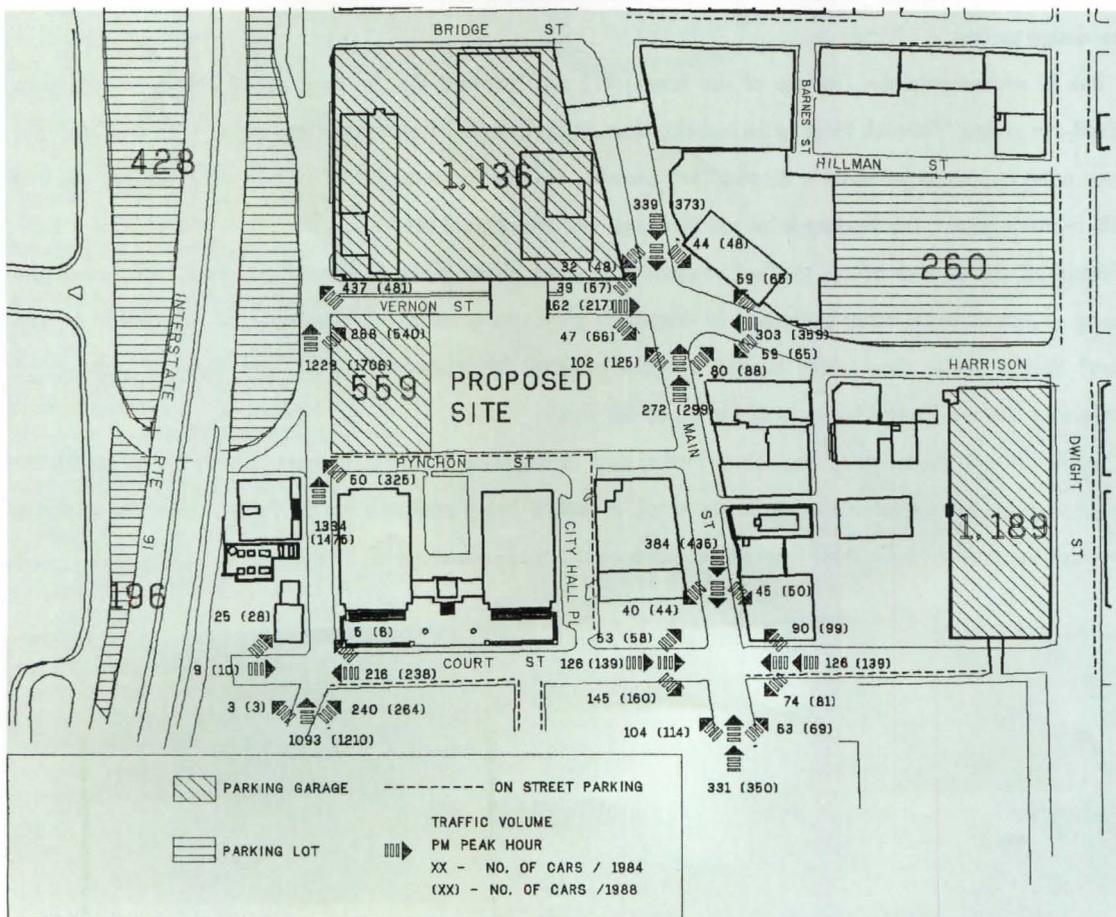
Computers also have enabled some architectural firms to expand greatly the programming services that they offer clients. Some firms, for example, have helped institutional and corporate clients develop a database of their existing organization and facilities as a first step toward a building decision. Others (such as J/BA with their Dynamic Archival System) have aided developers' investment decisions with software that overlays physical and economic information about a site and its locale. Such work not only offers architects a new source of fees and an expanded role within the building team, but a more active involvement in the initial and often most important decisions about projects.

The Future

Some architects expect that automated programming will make this phase of work an ever larger share of architectural services; Bruce Forbes of J/BA puts its potential at 8 percent of total fees within a decade. Others, though, see programming taking less and less of an architect's time.

Both directions are possible. If expanding architectural services is the goal, then the computer does offer a basis for consulting with clients on their facility needs and thus a basis for establishing an ongoing relationship with them. If the goal is to reduce the time a firm spends on a program, the same software offers that as well. The computer makes it much easier to order similar functions in a complex program or to visualize the relative sizes of various square foot requirements.

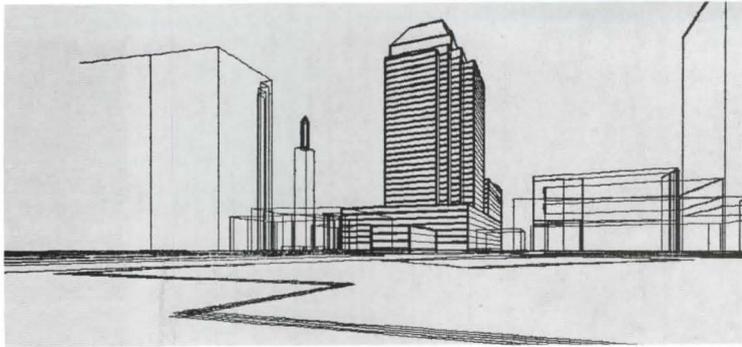
Whatever the aim of its use, though, such software promises a future in which the development and accommodation of a building's program are better informed. It will give a much broader factual base to decisions about what to build. And it will allow programs to contain a finer grain of information, describing not just raw square footage requirements, but the reason for and exact functions in each space.



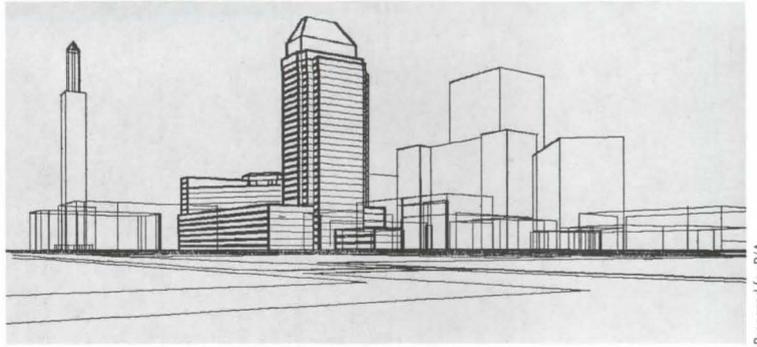
TRAFFIC STUDY

Prepared for P/A

SHADOW STUDY



PERSPECTIVE STUDIES



Prepared for P/A

URBAN DESIGN

Monarch Place

While computers were used, as mentioned, to study the effect of shadows cast by Monarch Place upon adjacent buildings, other urban design issues were studied and resolved manually, which was the most efficient method given the time and staff then available for this project. The computer drawings

shown here indicate some of these issues.

The effect of the project on City Hall was crucial. To provide a neutral backdrop for that Neoclassical structure and the adjacent campanile, glass was used on the adjacent sides of the two buildings; to give a sense from City Hall plaza of the city beyond Monarch Place, a slot was strategically located between the new highrises; and to maximize the feeling of the tight civic space, the office tower was oriented at 45 degrees to the plaza. Also important were vistas to the river from the office and hotel, so the initial design concept was changed, putting the shorter building in front of the taller one.

Traffic studies were especially crucial, given not only the central location of the site but also its proximity to highway I-91. As a result of these studies, a private drive was put through the site, facilitating the unloading of hotel guests, while service deliveries were located on a secondary side street. One level of underground parking was eliminated for budget reasons, and alternatives for parking were investigated.

Overview of the Present

One of the major benefits the computer holds for urban designers is its ability to help people visualize what a building will look like in its

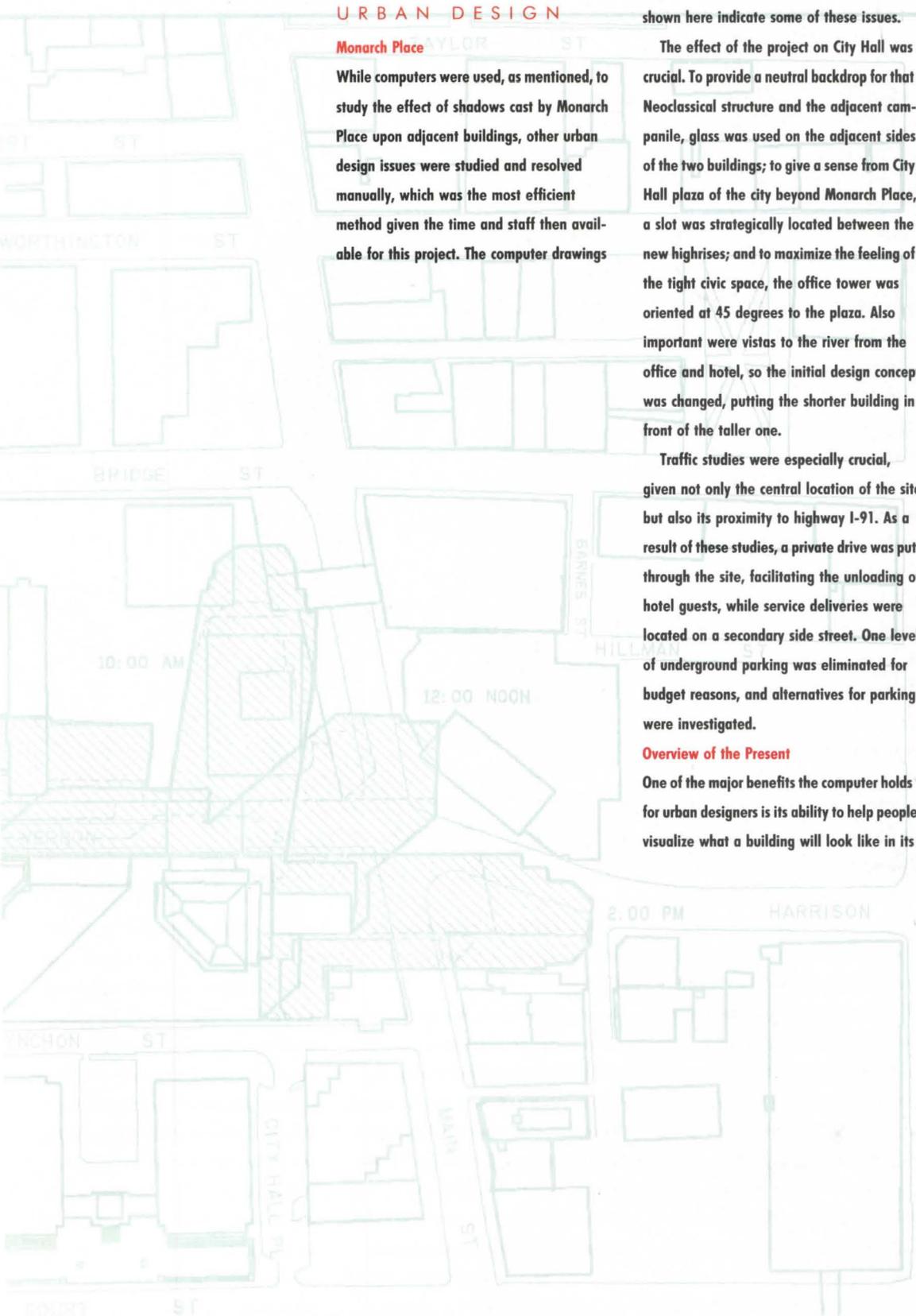
surroundings. Researchers at MIT, for example, have combined computer and video technology so that a three-dimensional, computer-generated image of a building can be placed in a real-time video of its surroundings, allowing a viewer to simulate walking around and even through the structure (P/A, May 1984, pp. 155-157).

Another current use of the computer's graphic ability is in code compliance. Zoning codes, particularly in some of the larger cities, have begun to regulate the effect buildings have on such phenomena as daylight, glare, or wind turbulence. While compliance with such regulations can be accomplished manually, the computer does ease the process. Shadows can be cast without having to build a physical model; sky exposures, calculated without having to use daylight protractors; or reflected glare, estimated without having to construct extensive building sections. Firms that have developed software for zoning compliance claim that it not only speeds up the process, but can help win approvals.

The Future

One implication of computers for urban design is to enhance its experiential aspects. While urban design has been characterized by an order largely perceptible from the air (no doubt the result of studying designs using small-scale models), the ability of the computer to simulate walking down a street may shift our conception as well as our perception of proposed developments.

Another effect computers may have on urban design is the encouragement of performance-oriented zoning codes. Such codes have always faced the obstacle of being too difficult to enforce. The greater speed and accuracy of computer analyses, though, raises the possibility of zoning codes that, instead of specifying heights or setbacks, could set performance criteria for such issues as daylight or wind speeds at street level and would leave it up to architects to satisfy the requirements.



microcomputer. Yu Sing Jung, Principal in Charge of Monarch Place, and Lu Seto Chin, Computer Operations and Control Coordinator, explain that CAD is especially useful in schematic design when the site plan is very tight, for cut and fill calculations, for quantification

with the nature of schematic design itself. Computer graphics is best used in situations that involve much data and repetition, just the opposite of what's involved in schematic design. Still, much research has gone into the development of schematic design software in

alternative, in this case that of an information-rich, multidisciplinary approach to schematic design, the new standard against which clients judge the performance of all firms.

WORKPLAN
 PROJECT:
 Revised:
 STARTING WEEK
 BEGINNING MONDAY:

SAMPLE WORKPLAN
 20-Jan-87
 08-Dec-86

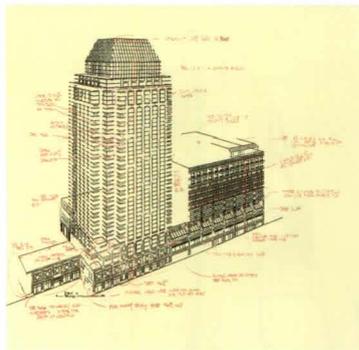
Jung/Brannen Associates, Inc.

NET A FEE \$366,050
 AVG RATE \$55.00
 TOT HRS 6,655
 LESS SP 8 (666)

						% SPENT	ORIG	BUD
PD	0	0	0	0	0	0%	0%	
SD	938	929	247	1176		79%	99%	
DD	1066	60	906	966		6%	6%	
CD	1752	0	1752	1752		0%	0%	

cc: Onofrey
 Roth
 Brannen
 Lindblad
 Rasco

**P/A Technics
 Computers**



CAD PERSPECTIVE, ANNOTATED BY HAND



**DESIGN
 DEVELOPMENT**

Monarch Place

As design development began, CAD became indispensable, given the two opposing grids, the nonrectangular site, and the need to use 100 percent of the available space. Column locations were fixed, based on the site perimeter, as foundations had to be designed before the building design was finalized. In fact, because of the developers' eagerness to complete the project in a short time, delays in waiting for UDAG grant approvals, and major changes throughout the design and construction processes, Monarch Place was particularly difficult to keep on track, as J/BA principal and project director Axel Kaufmann explains. One level of parking was eliminated only three months before groundbreaking, many

transfer columns were needed because the building design had not been fixed before the foundations were poured, the cladding material was changed to precast concrete from granite after the steel was bid, and two stories were added after the steel was erected. Yet from schematics to move-in this fall only three years will have elapsed.

The core of the office building (above) was only partly developed on the computer. The stairs were designed using the relevant expert system program developed as part of J/BA's Archibus microcomputer software (see P/A, June 1986, p. 106), while the remaining core was developed manually and refined on the computer. The Archibus expert system core program is now ready for use, helping to optimize what Forbes calls the spine of the building, and coordinating the requirements

of, in addition to the architect and client, six engineers (structural, HVAC, electrical, elevator, fire protection, telecommunications) with more experts beginning to contribute (microdish, videoptics, computer). Forbes predicts that expert systems will allow the development of the core in response to both code and real requirements (permitting the use of performance codes), and will enable predictions as to core changes in the lifespan

Overview of the Present

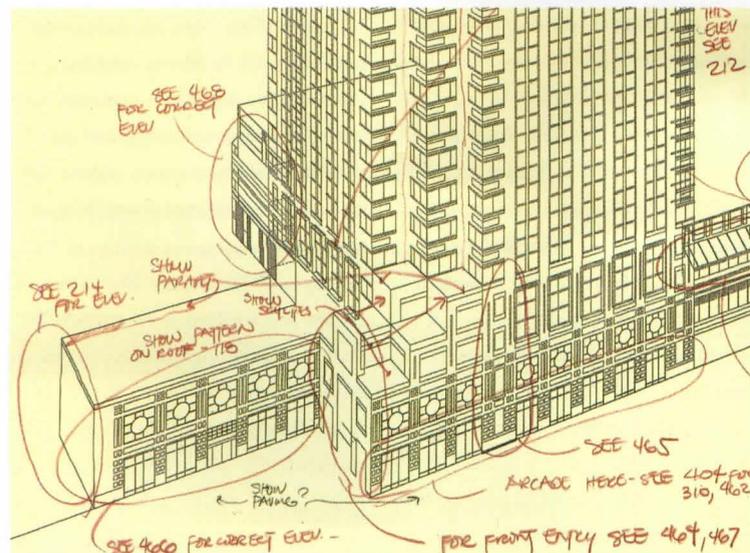
The design development phase may undergo an even more dramatic change than that which some have predicted for schematic design, although the nature of the change will be very different. Right now, the use of the computer for design development varies from firm to firm and job to job. Its use seems to depend on other factors such as project size.

As microcomputers have become more powerful and less expensive, though, they appear to have brought an increase in the computerization of design development, since such machines seem perfectly suited to the detail required for that phase of work. The increasing compatibility among machines also has encouraged their use for design development since work begun on a microcomputer can be more readily up-loaded to a large machine for the preparation of contract drawings. Or, as J/BA has done for Aetna Insurance Company, the building plan can be broken down into segments allowing contract drawings to be prepared by several PCs.

The Future

The change some see the computer bringing to the design development phase is the automation of much that is now done manually. Large amounts of time in this phase are spent drawing standard elements or locating manufactured products. While the computer can speed up that activity, it also can be programmed (as J/BA has done with the Archibus system) to generate design development drawings, requiring the input of people only at the beginning and end of the procedure. Savings in time and labor are significant.

Such automation takes us a step closer to the establishment of expert systems for architecture. Rather than just draw details automatically, expert systems would serve as an information resource to which architects could refer (as physicians now do) for second opinions. Considerable controversy exists over the viability of expert systems especially in fields such as architecture that are so hard to quantify and that lack standard procedures or a single, common body of knowledge (see P/A, June 1986, pp. 106-107). Yet, as expert systems are developed for other disciplines, the power of the tool (and more important, the expectations of clients and the courts) may force changes in our thinking about architecture. Whatever knowledge is capable of being codified may, by default, become the common knowledge base for these systems. And whatever formats or procedures ease that codification may, by default, become the profession-wide standard.



MARKETING

Monarch Place

Computers can help clients market their project and can help architects market their services. The partial rendering (below), prepared on a CAD-generated drawing, illustrates the first of these possibilities, while Jill Weber, J/BA Senior Associate and Director of Development, explains the second:

Word processing is used to prepare and update firm and partner resumes and experience lists, to prepare marketing letters, and to retain and update lists of all kinds, including mailing lists, which are referenced by both client type and contact within J/BA. Word processing is used to maintain regular contact with former clients, and for callback systems for leads and prospects.

The IBM PC is used by J/BA's librarian for

market research, accessing specific and general information through the use of the DIALOG system.

CAD itself is seen as a marketing advantage, and prospective clients are always shown the CAD department in operation, though J/BA has developed no demonstration program as yet.

H&S and the Workplan system (p. 116) is used to manage marketing costs, both for general marketing and for specific projects.

The most exciting use of computers in marketing is explained by Weber as well as Dennis Roth and the partners Yu Sing Jung and Robert Brannen. Building trends can be observed and analyzed, the probability of J/BA's getting a certain percentage of expected commissions can be factored, and a prediction can be made as to the firm's staffing needs for the next year, using Workplan as a forecasting tool. The firm recruits young architects in schools all over the country, and with its forecasting method, is able to follow its policy of never downsizing its staff.

Overview of the Present

A primary role for computer-aided design and drafting equipment in many architectural offices is as a marketing tool. When such

equipment isn't demanded by clients as a requisite for securing a commission, it almost always is useful in impressing them.

Computers, though, do have greater marketing benefits. Many firms report that desktop publishing software has greatly eased the production of marketing brochures, allowing, for example, the tailoring of information about previous work to suit a client's particular interests. The professional quality of most desktop publishing also has allowed even the smallest firms to produce marketing materials that they would never have tackled before, for example newsletters or large-format newspapers.

Computers also have aided the marketing of firms by simplifying the production of renderings. It has become common among many firms to use the computer to generate perspective views of a project and use them as the base for hand-finished renderings. That has not only speeded up the rendering process, but has enabled many firms to do most of their rendering in-house, at a considerable cost saving.

The Future

As computers become more common, other marketing benefits will undoubtedly accrue. For example, some firms already have found a strong selling point in offering a client a direct electronic link to their computers so that the progress of a design can be monitored and regularly commented upon. Other firms have joined forces and linked their offices electronically to get work that might otherwise be too large for any one of the firms to handle. Such a computer network overcomes the common objection that associations of small firms are too cumbersome.

Implicit in using the computer to link firms to their clients or to each other is a blurring of traditional boundaries or rivalries—which could have an enormous impact on the marketing of professional services. The direct link of architect and client, for example, not only changes their relationship, making it more open and less fraught with communication problems, but puts a premium on the service aspects of the profession. The accessibility of the design process could become as important to clients as to the final product. The increased use of electronic links among firms also may make marketing less a matter of selling one firm's experience than in selling that of several firms as one package.



Prepared for P/A

Rendering Prepared for P/A by James Earl

P/A Technics Computers

CONTRACT ADMINISTRATION

Monarch Place

As numerous small changes still had to be made after construction began, and the database was so big that the computer moved slowly, drawing revisions began to be made manually. Once this process began, the database was no longer quite accurate, and so all further changes had to be made manually.

Since the drawings had been prepared at three scales, revisions had to be entered in triplicate.

Some of the shop drawings—for the ductwork, precast concrete, steel, and the PPG window wall—were produced using CAD.

Contract administration was tracked using Workplan, as explained above (p. 116).

Overview of the Present

Computers also have facilitated communication among the people in an office and in the field. Some firms have placed computer workstations in their field office to allow for a faster response to and better communication of field changes. The combination of video and telecommunication technology (P/A, June 1986, p. 183), while only indirectly related to that of the computer, also now serves the same end.

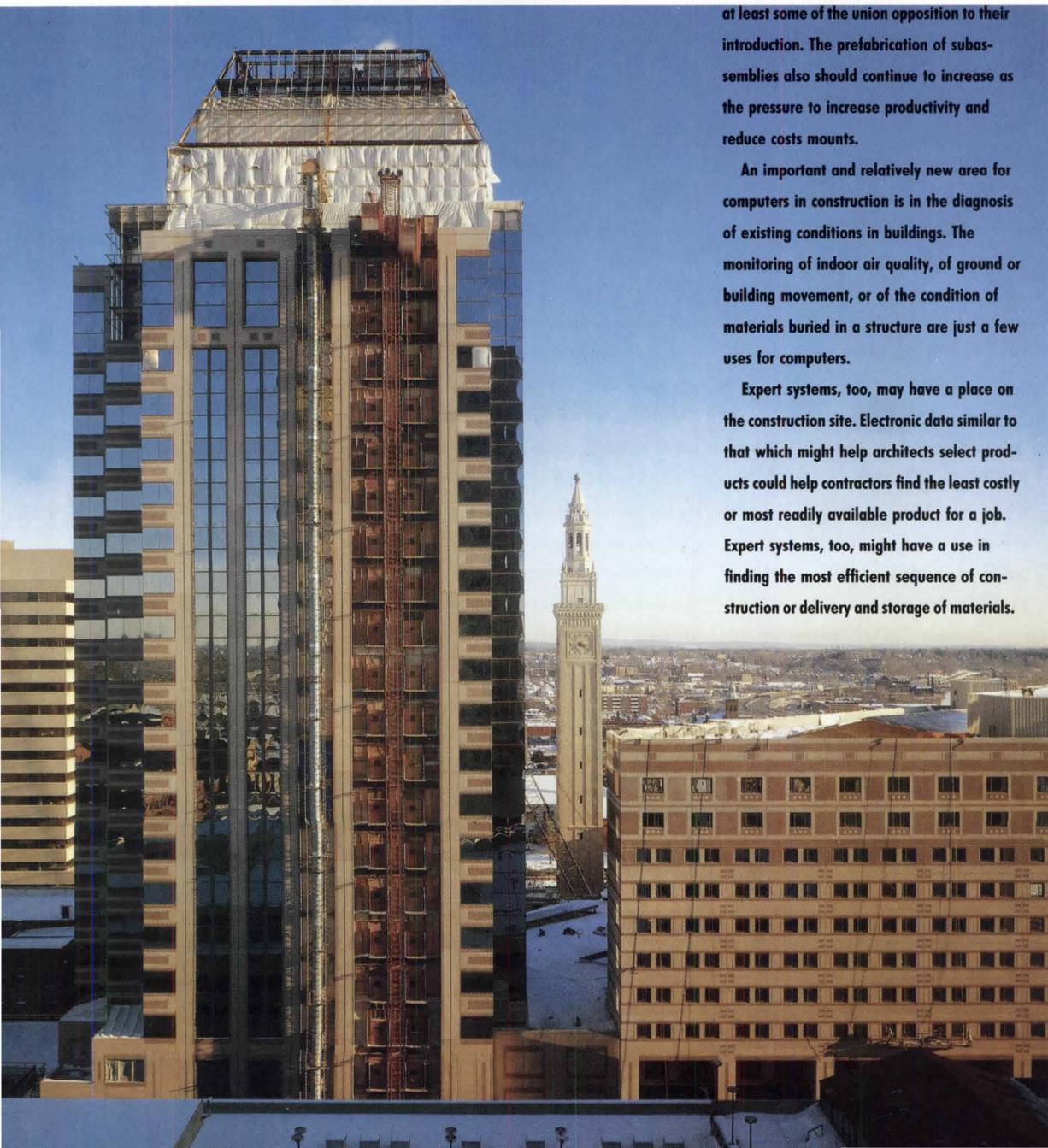
Computers have been increasingly used in the actual construction of buildings as well. The use of computer-aligned lasers to insure the alignment or levelness of elements on a site is one example. The computer-based fabrication of products and the computerized reading of bar codes on products as they are delivered to a site are others. Of all the new technology, though, construction robots (P/A, June 1986, pp. 110–111) have pushed it the farthest.

The Future

No one expects the construction industry ever to become fully automated; the unpredictabilities of site conditions, alone, would preclude it. But many people have predicted that the industry will become much more automated than it is today. According to these predictions, robots will become increasingly used especially for dangerous work, reducing at least some of the union opposition to their introduction. The prefabrication of subassemblies also should continue to increase as the pressure to increase productivity and reduce costs mounts.

An important and relatively new area for computers in construction is in the diagnosis of existing conditions in buildings. The monitoring of indoor air quality, of ground or building movement, or of the condition of materials buried in a structure are just a few uses for computers.

Expert systems, too, may have a place on the construction site. Electronic data similar to that which might help architects select products could help contractors find the least costly or most readily available product for a job. Expert systems, too, might have a use in finding the most efficient sequence of construction or delivery and storage of materials.



Project: Monarch Place, Springfield, Mass.

Architects: Jung/Brannen Associates, Inc., Boston (Yu Sing Jung, principal in charge; Axel Kaufmann, project director; Thomas Dalle, project designer; John Willand, Marshall Silva, Theodore Callahan, project architects).

Client: Monarch Place Associates, a joint venture of Forge Capital Corp., O'Connell Brothers Development Corp., The Flatley Co.

Site: 89,402 sq ft in downtown, adjoining City Hall and near highway I-91.

Program: office building, 388,000 sq ft; 300-room hotel with extensive function spaces and health club; retail; bank building; public plaza; below-grade parking. Total 894,000 sq ft.

Structural system: friction piles, structural steel frame with composite slab (office building), bar joists (hotel).

Major materials: precast concrete backed with Styrofoam; all-glass curtain wall with insulated reflective vision glass and reflective spandrel glass backed by

FACILITIES MANAGEMENT

Monarch Place

J/BA was able to provide shell drawings for tenant use, and to build on its own database to provide interior design services for the Bank of New England, which has now taken about 120,000 square feet of space. Bob Onofrey of J/BA's interior design department explains that the bank has introduced many changes and CAD has saved considerable time in incorporating these. CAD was not used for adjacency and stacking studies, as the bank provided the allocation of departments, but it has been useful in doing 3-D studies of various areas both as an internal design tool and to clarify design intentions to the client. Various workstations have been explored, using a wood-paneled system.

It has not been decided whether the eventual database will be converted to micro-computer and used as a facilities management tool by the client, as J/BA is doing in its rehabilitation project for Aetna Insurance Company in Hartford.

Overview of the Present

Many vendors have found that the best market for architecturally oriented software is not among architects, but facilities managers.

While the larger capital reserves available to facilities people certainly has something to do with their larger investments in computers, so too does the nature of the problems they must deal with. Facilities management is a very information-intensive business and its growth has nearly coincided with the computer's.

The software currently available for facilities managers, for example, can help them identify all of the equipment in a building according to its type or location, plan and schedule the reorganization of spaces, or predict the financial and spatial implications of future growth.

Some building product manufacturers have developed their own tools to help the management of buildings. H.H. Robertson, for example, offers a software package that helps a facilities manager keep track of all the wiring and cabling in a building and find the most efficient (or least clogged) path for new lines. Otis, to take another example, maintains a 24-hour call-in service, with repair records of all its installations on computer, to help crews minimize an elevator's down time.

The Future

The future uses of the computer by facilities managers are considerable. For example, the computer has the potential for allowing a

building to monitor and diagnose its own operation or condition. Energy management systems already perform that monitoring of buildings' thermal conditions. The capacity of the computer to take in and summarize large amounts of data and the variety of sensors now available make it possible for a system to monitor the amount of moisture in an exterior wall or roof membrane, the amount of settlement occurring in a foundation, or the amount of rebar corrosion occurring in a structural member. Acceptable limits of moisture or movement might be programmed into the computer so that it would only report conditions that exceed the limits. A similar monitoring of electronic equipment in a building also is possible: the computer can check every line to insure that equipment is still connected.

The computer, too, offers facilities managers not just a fixed set of contract documents of a building, but a database that can be referred to and modified long after the structure itself is complete. That database also offers architects opportunities for expanded services, either to maintain and update the database, or to train and consult with a facility's managers.

See Technics-related products and literature, p. 124.

INTERIOR LAYOUT, BANK BUILDING

thermafiber insulation; fully adhered EPDM roofing membrane with roofblok ballast over insulation.

Mechanical system: office building: hydronic heat pump system, gas-fired boiler. Hotel: vertical VCU's (guest rooms), AHU's (public areas), gas-fired boiler.

Consultants: Kevin McNeil, Jung/Brannen Assoc., landscape; Di-Leonardo International, The Flatley Co., hotel interiors; Weidinger Assoc., structural; Syska & Hennessey, mechanical & electrical; Cavanaugh & Tocci, acoustical; Goldberg/Ziono, geotechnical; Facilities Technologies Consultants, engineering management systems; John Redmen, hardware; Calvin Kort, elevators.

General contractor: O'Connell Monarch Place Venture, Springfield, a joint venture of Daniel O'Connell's Sons, Inc., Holyoke, and O'Connell Bros. Corp., Quincy.

Rendering: James Earl.

Photos: Stephen Rosenthal.

DEFINITION FOR WORKSTATION WS-6				10:56:51	04 NOV 1986						
CODE	REV	CAT	NO	REV	QTY	MFR	COMPONENT				
P3-5	A		98113	A	1	SCSE	30"W x 53"H TACKABLE ACOUSTICAL PANEL	PAINT	FABRIC REGATTA 5338	LAMINATE	TRIM TV5 4691
P2-5	A		98112	A	1	SCSE	25"W x 53"H TACKABLE ACOUSTICAL PANEL		REGATTA 5338		TV5 4691
P4-6	A		98905	A	1	SCSE	48"W x 81"H ENERGY MANAGEMENT PANEL		REGATTA 5338		TV5 4691
			-XC	A	1	SCSE	HOR. CABLE DIST. CAVITY, CABLE WINDOWS, -P4				
			-P4	A	1	SCSE	3+D: 3 PLUS DEDICATED CIRCUIT POWERWAY				
P2-6	A		98902	A	1	SCSE	25"W x 81"H ENERGY MANAGEMENT PANEL		REGATTA 5338		TV5 4691
			-XC	A	1	SCSE	HOR. CABLE DIST. CAVITY, CABLE WINDOWS, -P4				
			-P4	A	1	SCSE	3+D: 3 PLUS DEDICATED CIRCUIT POWERWAY				
			98862	A	1	SCSE	VERTICAL POWER CABLE MANAGER				
			98667-4	A	1	SCSE	PANEL TO PANEL POWER "I" CONNECTOR, 3+D				
WU-1L	A		9059B-1	A	1	SCSE	30"W x 60"W SINGLE PEDESTAL UNIT	TV1 4650		TV1 2751	TV5 4691
			W.99172	A	1	SCSE	FULL HEIGHT BACK PANEL	TV1 4650		TV1 2751	
			99223	A	1	SCSE	25"D RIGHT "L" PEDESTAL				
			98683-4S	A	1	SCSE	SIMPLEX RECEPTACLE, LINE 3+D				
			98683-2D	A	1	SCSE	DUPLEX RECEPTACLE, LINE 2	TV5 6605			
			98683-3T	A	1	SCSE	TRIPLEX RECEPTACLE, LINE 3	TV5 6605			
WU-2L	A		9047B	A	1	SCSE	25"D x 70"W WORKUNIT	TV1 4650		TV1 2751	TV5 4691
			W.99174	A	1	SCSE	FULL HEIGHT BACK PANEL				
			99223	A	1	SCSE	25"D RIGHT "L" PEDESTAL				
			98683-4S	A	1	SCSE	SIMPLEX RECEPTACLE, LINE 3+D				
			98683-1D	A	1	SCSE	DUPLEX RECEPTACLE, LINE 1	TV5 6605			
			98683-2D	A	1	SCSE	DUPLEX RECEPTACLE, LINE 2	TV5 6605			
			98683-3T	A	1	SCSE	TRIPLEX RECEPTACLE, LINE 3	TV5 6605			
			ZUMTOBEL	A	1	ZUM	ZUMTOBEL LIGHT FIXTURE WITH BRACKET	MATCH TV1			
USA	A		6651-03-00	A	1	HFT	UNIVERSAL SWIVEL ARM, HUMAN FACTORS TECH	BROWN			
CH	A		CPU-HOLDER	A	1		CPU HOLDER	TV1 4650			
KB	A		99274	A	1	SCSE	ARTICULATING KEYBOARD ARM				
SH-2	A		98507	A	1	SCSE	48"W HALF HEIGHT SHELF	TV1 4650			

SAMPLE WORKSTATION

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Real Estate Development Overview
Residential Development Site Planning
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Technology and the Building Envelope

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Eight Architectural Wonders

- 1 I wonder what new developments there are in awning fabrics.
- 2 I wonder what awning fabrics are best suited for interior use.
- 3 I wonder what types of materials are available.
- 4 I wonder what styles, designs and colors are offered.
- 5 I wonder what fabrics are best suited for back-lighting.
- 6 I wonder what the energy-saving qualities of various fabrics are.
- 7 I wonder what kinds of flame resistant fabrics are offered.
- 8 I wonder what types of awning hardware are recommended.

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Background: The first women's rights convention was held in the Wesleyan Chapel in Seneca Falls, New York in the summer of 1848. In 1980 Congress authorized the National Park Service to acquire and interpret the site of the convention, the Wesleyan Chapel.

Today, little remains of the original fabric of the Wesleyan Chapel. The challenge of the design competition is to create a physical place which preserves the remains of the Wesleyan Chapel and celebrates the events of 1848. In addition, entrants are asked to address the site of the Wesleyan Chapel for present day National Park Service needs which will include a visitor's center, open plaza space and parking facilities.

Sponsors: *National Park Service*
National Endowment for the Arts

Awards: *1st Prize \$15,000.00*
2nd Prize \$10,000.00
Up to 10 honorable mentions \$1,000.00

Eligibility: This is a one-stage idea competition open to all US citizens or permanent residents of the US

Registration: For a complete competition program package, send a written request and a check or money order for \$45 made out to the Elizabeth Cady Stanton Foundation to:

Women's Rights National Historical Park
PO Box 70
Seneca Falls, New York 13148

The registration fee must be postmarked no later than July 1, 1987. Deadline for submissions is Sept. 22, 1987

The International Advanced
Illumination Exposition & Conference

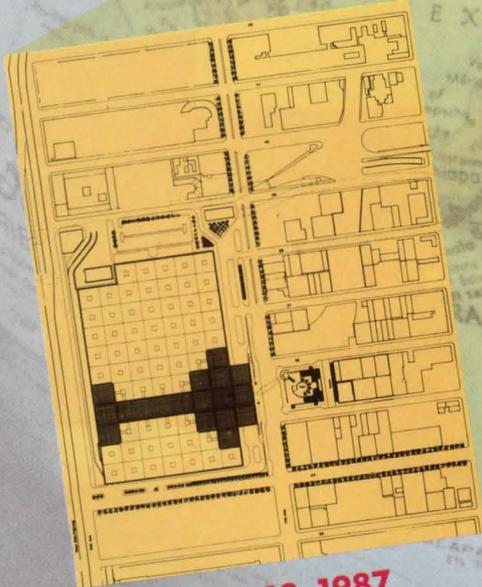
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May 11, 12, 13, 1987
Jacob K. Javits
Convention Center
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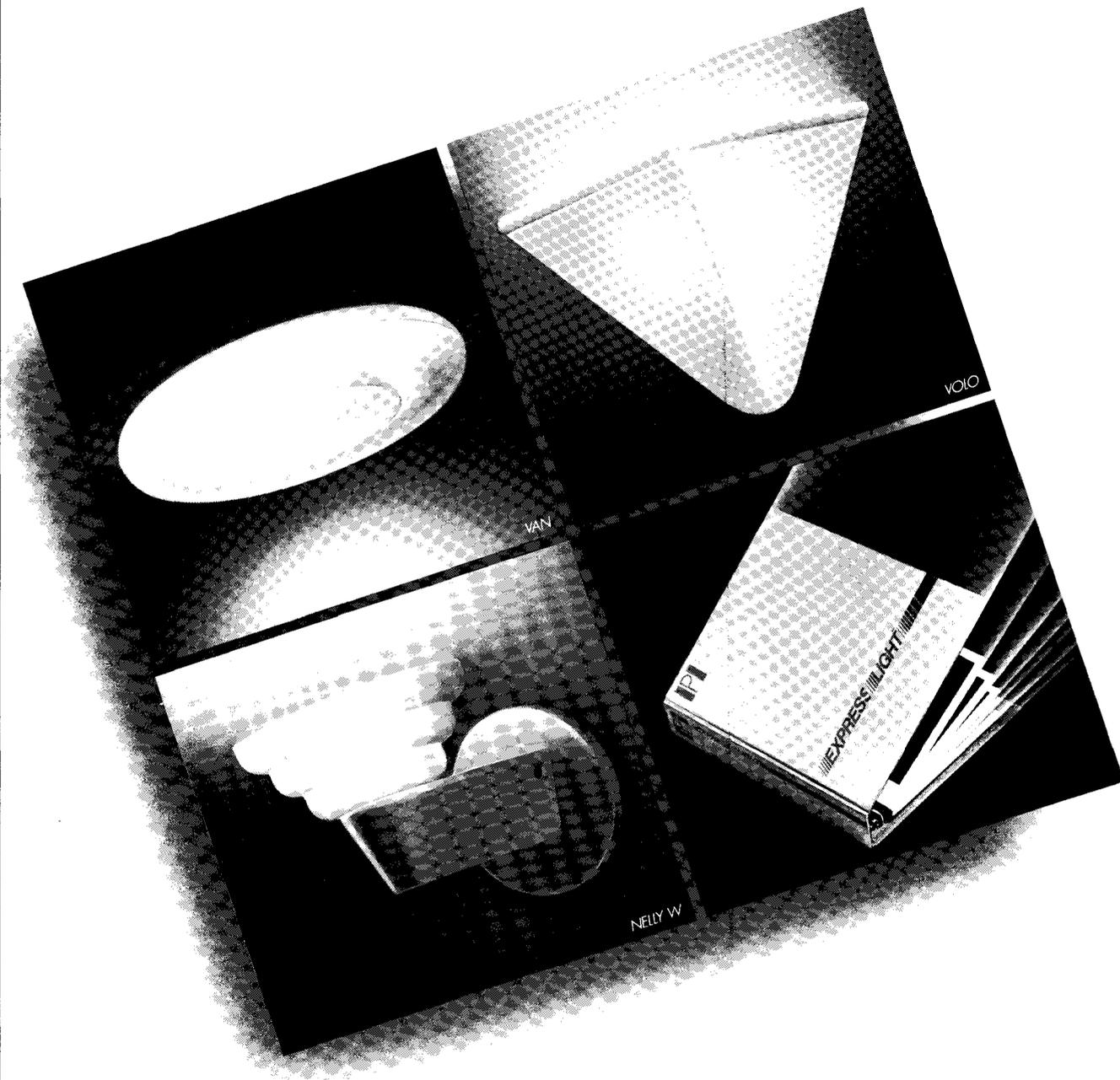
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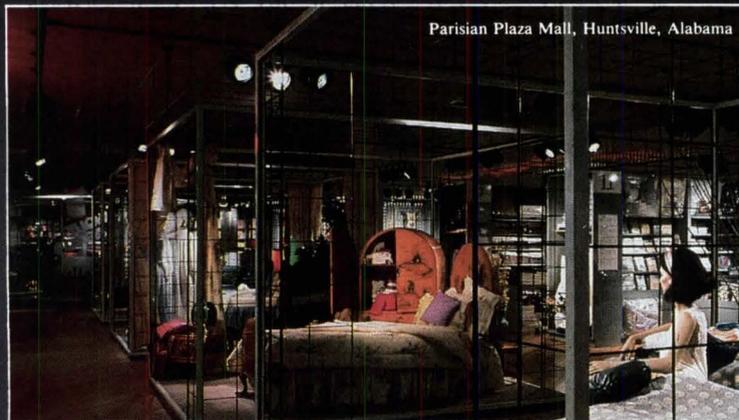


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Welcome

The International Advanced Illumination Exposition & Conference
LIGHTING WORLD INTERNATIONAL
 New York City • Jacob K. Javits Convention Center • May 11, 12, 13, 1987

Welcome to Lighting World International, the largest conference and exhibition of architectural lighting equipment, sources and control products in North America.

It seems that at each new Lighting World we talk about "more" - more exhibitors, more designers and specifiers, more educational sessions, more products, more space.

Lighting World 1987 is no exception. Once again, it is larger in every way than any previous show. We started in 1981 with 130 exhibitors. This year our sold-out floor will total more than 450 companies. In 1986 we presented 15 educational and social events. This year we will have 21.

We think you will find the show not only bigger but better. Our educational program represents the consensus of some 600 comments, suggestions, and requests submitted to the program committee. A new session entitled "Preview of Products" will introduce the latest in lighting and control equipment, and you can go from there to the booths for details.

The person who said that business and pleasure don't mix was wrong. Our cruise in New York harbor will give you the chance to relax with colleagues while the lights of Manhattan provide the backdrop.

We're sure that Lighting World 1987 will be well worth the time you spend here, but we won't sit back when it's over. Look for even "more" in Los Angeles in 1988.

Gene Stival
 Gene Stival, President
 International Association of Lighting Designers

Robert V. Day
 Robert V. Day, President
 Illuminating Engineering Society of North America

Peter Blaubeux
 Peter Blaubeux, President
 New York Section Illuminating Engineering Society

Robbi Lycett
 Robbi Lycett, Show Manager
 National Exposition Co., Inc.

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Office of the Mayor
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Proclamation

AS THE INTERNATIONAL CENTER OF BUILDING DESIGN AND ENGINEERING TECHNOLOGIES, NEW YORK CITY HAS THE GREATEST CONCENTRATION OF LIGHTING DESIGN AND ENGINEERING TALENT IN THE WORLD. IT IS ALSO THE HOME OF SOME OF THE WORLD'S MOST EXCITING LIGHTING PROJECTS, IN BUILDINGS, ON THE STAGE, AND ON THE AVENUES.

WE ARE PLEASED THAT LIGHTING WORLD '87, A MAJOR ADVANCED ILLUMINATION EXPOSITION AND CONFERENCE, IS BEING HELD IN NEW YORK CITY. THIS CONFERENCE BRINGS TOGETHER ILLUMINATION ENGINEERS AND DESIGNERS TO EXCHANGE INFORMATION CONCERNING THE LATEST TECHNOLOGICAL ADVANCES IN LIGHTING APPLICATIONS, EQUIPMENT, DESIGNS, AND LIGHTING ENERGY CONSERVATION.

NOW, THEREFORE, I, EDWARD I. KOCH, MAYOR OF THE CITY OF NEW YORK, DO HEREBY PROCLAIM THE WEEK OF MAY 11, 1987 TO BE

"LIGHTING WEEK"

IN NEW YORK CITY.

IN WITNESS WHEREOF I HAVE HEREUNTO SET MY HAND AND CAUSED THE SEAL OF THE CITY OF NEW YORK TO BE AFFIXED.



Ed Koch
 EDWARD I. KOCH
 MAYOR

colleagues while the lights of Manhattan provide the backdrop.

We're sure that Lighting World 1987 will be well worth the time you spend here, but we won't sit back when it's over. Look for even "more" in Los Angeles in 1988.

**Gene Stival, President IALD
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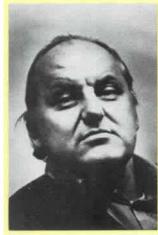


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Schedule of Events



Hans Hollein



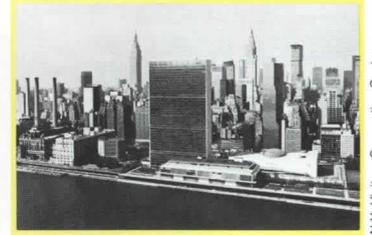
Alexander Styne



Frank A. Florentine



Roger L. Knott



N.Y. Visitors Convention Center

Monday, May 11

The Opening Breakfast: A Lighting World Tradition* 8:30–10:30 A.M.

Keynote Speaker: Hans Hollein
Level 1, Special Events Hall

The Opening Breakfast on the morning of the first day of each new Lighting World has become a popular tradition. The convocation of designers, specifiers, buyers, manufacturers, and those whose interest is simply to learn, testifies to the diversity of the lighting industry.

Lighting World '87 will continue the tradition of a welcoming address by a prominent political figure, followed by a keynote address by **Hans Hollein**, the noted Viennese architect, artist, teacher, and author. Mr. Hollein received the Pritzker Architecture Prize in 1986.

Color in the Mind's Eye* 11:00–12:00 NOON

Session 1
Speaker: Alexander Styne
Level 1, Special Events Hall

All designers want to achieve a color result in the final installation that closely matches their design concept. Understanding the basic concepts of color and perception can help the designer be more confident in color application and more closely approach the intended result. Professor Styne will explain the basic principles underlying color and perception, illustrating how insight into the process, potential, and limitations of perception can be used to advantage in lighting design.

Alexander F. Styne is an industrial design consultant and adjunct professor of electrical engineering at the University of Miami. He has specialized in lighting and color for over 25 years.

Gallery and Museum Lighting: Combining Preservation and Artistic Expression* 12:30–1:30 P.M.

Session 2
Speaker: Frank A. Florentine
Level 1, Special Events Hall

Aesthetics and technology, the primary issues in lighting, are nowhere more important than in a gallery or museum. Light, heat, and humidity are the enemies of a collection if not properly applied and controlled. Gallery and museum lighting must be designed to conserve the life of the artifacts and, at the same time, to express the artistic intent of the exhibit. Frank Florentine will discuss the considerations involved in presenting a visually interesting exhibit, including forming a concept and developing a process. He will give equal time to preservation issues such as footcandle levels, ultraviolet emissions, and exposure levels, including measurements, filters, fading and energy management. He will briefly discuss electrical systems, power distribution, and maintenance of equipment.

Frank Florentine is responsible for lighting design for the exhibitions at the National Air and Space Museum of the Smithsonian Institution. His background in theater lighting, particularly the ballet, taught him the importance of lighting artwork from different angles—a technique not always used to advantage by exhibition designers.

Preview of Products—The Latest in Lighting Today 2:00–3:30 P.M.

Session 3
Level 1, Special Events Hall

The "best and the brightest" in the world of new lighting products and control systems will be unveiled by manufacturers at this special Lighting World session. In one 90-minute program, specifiers and buyers will have the opportunity to survey the state-of-the-art of lighting technology as manufacturers present

and demonstrate their latest products and systems.

The fixtures and controls featured will be selected by a panel from the International Association of Lighting Designers, the Illuminating Engineering Society of North America, and the New York Section Illuminating Engineering Society. The products will be drawn from those exhibited at the show: commercial/industrial fixtures, programmable lighting control systems, light sources, occupancy-sensing technology, switching and dimming systems, outdoor walkway and roadway equipment, floodlighting, security lighting, fiber optic developments, retrofit and conversion fixtures, theatrical and special effects, track lighting, task lighting, landscape lighting, and decorative fixtures.

Industrial Lighting* 4:00–5:00 P.M.

Session 4
Speaker: Roger L. Knott
Level 1, Room 1C04

Industrial lighting systems present special design and installation challenges. This discussion of industrial lighting will be of particular interest to engineers, contractors, facility planners, and lighting designers. It will cover the use of various lamps and lamp/ballast combinations in industrial facilities, with particular emphasis on products introduced recently. Factors to be considered in choosing the most effective luminaires for industrial applications will be explored. Representative tasks will be reviewed with emphasis on their special lighting problems and possible solutions. The session will include many application slides illustrating principles of industrial lighting.

Roger L. Knott is vice president and manager of electrical engineering for HWH Architects Engineers Planners, Inc. of Cleveland, OH. The majority of the firm's work over the last few years has been industrial, and many Fortune 500 companies are among their clients. Mr.

*For information on taped sessions, please see page 55LW.



Lighting
World
International



New York Harbor Cruise



The "Bubble boat"



Dr. Ian Lewin



Helen Diemer



Peter Barna

Knott is a member, and has twice served as chairman, of the IESNA Industrial Lighting Committee.

New York By Night 7:00–11:30 P.M.

A New York Harbor Cruise

Boarding begins at 7:00 p.m.; boat leaves promptly at 7:30 from Pier 62 at West 23rd Street and the Hudson River. Transportation will be provided from the Javits Center to Pier 62 and back to mid-town. Limited pay parking available on first come, first served basis.

What is more spectacular than the New York skyline at night, seen from a luxury yacht cruising the waterways around Manhattan island? Lighting World will take to the river for a four-hour cruise timed to view the setting sun behind the Statue of Liberty. As twilight fades and the lights of Manhattan rise, our craft will pass the Statue, and Eric Staller's latest light sculpture creation, the "Bubbleboat," will appear on the water. Staller, the recipient of an IIDA award, is a light artist with a degree in architecture. He created the "Bubbleboat" for Liberty Weekend. The 12-foot diameter craft has 594 computer-controlled red, white and blue bulbs, which display an infinite variety of visual patterns.

The water-proof cruise (the yacht is heated, air-conditioned, and totally enclosed except for promenade decks) will include a full gourmet buffet, open bar, and live disc jockey. More social than business, this special Lighting World evening event will bring together people from all facets of the lighting community. Space is limited—reservations are required.

Tuesday, May 12

Photometrics Workshop for Lighting Designers and Engineers

8:30–11:30 A.M.

Speaker: Dr. Ian Lewin
Level 1, Room 1C04

Photometric factors can dramatically affect the lighting design and engineering process. This half-day workshop is intended for lighting designers and engineers who are familiar with the basic principles of photometrics. Comprehensive presentations on the following topics will include:

- Quantitative uncertainties in photometry.
- Tolerances and variations in lamp operation.
- Tolerances and variations in luminaire operation.
- Environmental factors influencing photometric performance.
- Meters and field measurements.
- Comparing predictive calculations and field measurements. Demonstrations will be given and written material provided. IES CEUs will be offered to those who complete the workshop.

Dr. Ian Lewin is president of Lighting Sciences, Inc., of Scottsdale, Arizona, an independent laboratory offering professional services in optics, vision, testing, and illumination design. He received a doctoral degree in illumination engineering from the University of Newcastle, England.

Photometrics for Architects and Interior Designers*

9:00–10:00 A.M.

Session 5

Speaker: Helen Diemer
Level 1, Special Events Hall

Photometry, the measurement of light intensity and distribution, is used by lighting designers to compare the performance of various light fixtures. A knowledge of basic photometrics can help architects and interior designers appreciate the functions of various types of luminaires

and understand why they are appropriate for some applications and not for others. This program is intended for those with little or no background in photometrics and will provide a conceptual understanding of the considerations involved in assigning numbers to lighting. Simple graphics and calculations, as well as actual mockups of typical fixture types, will be used to show how photometrics fit into the lighting design process.

Helen Diemer is director of lighting services at Flack + Kurtz Consulting Engineers. An architectural engineering graduate of Pennsylvania State University, she is experienced in design of lighting and electrical systems.

Light and Expectation: The Retail Experience*

10:30–11:30 A.M.

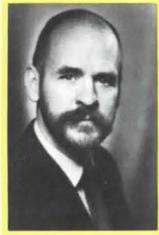
Session 6

Speaker: Peter Barna
Level 1, Special Events Hall

Lighting design for retail sales is a study in customer expectation. Customers whose expectations about product quality and price are fulfilled during the shopping experience are usually satisfied customers, and lighting plays a significant role in forming customer expectation. Peter Barna will discuss the role of lighting in the retail establishment, particularly the ways in which it structures space. Generic or glamorous, K-Mart or Bloomingdales, retail lighting's first priority is expectation fulfillment.

Peter Barna is president of Light & Space Associates Ltd., a New York City-based lighting design and interiors firm with a diversified practice that includes many retail installations and showrooms. He received an electrical engineering degree from Virginia Tech. University and a master of Industrial Design from Pratt Institute.

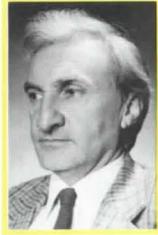
*For information on taped sessions, please see page 55LW.



James L. Nuckolls



Gerry Zekowski



David Loe



Dr. Alan L. Lewis



Noel Florence



N.Y. Visitors and Convention Center

Behavioral Responses to Lighting*

1:00–2:00 P.M.

Session 7

Speaker: David Loe

Level 1, Special Events Hall

In creating a pleasant, effective, and efficient environment, visual performance and comfort are only two of the important lighting considerations. Research shows that the pattern and brightness of the lighting in a space affect mood, productivity, traffic patterns, and many other kinds of behavior. David Loe will use the results of his own research to illustrate how behavior is affected and changed by light and lighting patterns, thereby demonstrating the importance of incorporating subjective considerations into the lighting design process.

David Loe is a lecturer in lighting and color at the Bartlett School of Architecture and Planning, University College London. He and his students have conducted research projects on behavioral response to various kinds of lighting, and have observed the changes in behavior that accompany changes in lighting. He was previously deputy manager of the Lighting Equipment Test Laboratory of the British Standards Institution.

Lighting: By Design or by Default?

1:30–4:30 P.M.

A Workshop Presented by the NY Designers Lighting Forum

Speakers: James L. Nuckolls, Gerry Zekowski; Moderator:

Connie Jensen

Level 1, Room 1C04

Do you have a client who wants a bright but all black showroom? Or one who has a living area with 18' ceilings and needs a sense of intimacy? Do you want artwork without glare? Spaces that come alive?

How do you approach these challenges? How do you determine the solutions?

The New York Designers Lighting Forum is offering a dynamic two-part workshop to

address these questions and many more:

Part 1: Developing a lighting design—a step-by-step approach.

Part 2: Lighting applications and techniques—the all-important “how to’s” and “why not’s.”

With the help of your questions, the speakers will discuss, illustrate and demonstrate perceptive solutions and approaches to lighting commercial and residential spaces. Take back to your office the valuable reference binder that is included in this workshop. It will reinforce the approaches and applications covered during this session.

James L. Nuckolls is president of LuxCo Limited, a past president of the IALD, a faculty member at the Parsons School of Design, and recipient of the New York Designers Lighting Forum Honor Award. He is author of the classic *Interior Lighting for Environmental Designers* and has been a lighting designer for 20 years.

Gerry Zekowski, lighting consultant and partner in Lighting by Design, is a recipient of the IES Distinguished Service Award. He has been published frequently, and is a much sought-after international speaker. He was for many years Director of Education and Labs for Lightolier, Inc.

Connie Jensen is a lighting consultant and president of Lighting Professionals, Inc. As an educator and lecturer, she developed “The Art and Science of Lighting,” a course sponsored by the New Jersey Section Illuminating Engineering Society.

Emerson said, “. . . we have no questions to ask which are unanswerable.” Question the experts—let them excite you with their ideas.

Is Lighting Harmful? A Health Controversy*

2:30–3:30 P.M.

Session 8

Speaker: Dr. Alan L. Lewis

Level 1, Special Events Hall

Today’s light sources and lighting systems are more efficacious, more powerful, and offer a

greater spectral range than ever before. However, these sources have also created concern about the photobiological and psychological effects of visible and near-visible radiation. Reported effects range from the possibility of melanoma associated with fluorescent lamp exposure in Australia to retinal damage from quartz halogen sources among dentists. Light sources have also been reported to affect muscle strength, personality, cataract formation, vitamin D synthesis, and the formation of bilirubin. Many of these effects are based on hard data but others are at best questionable. Dr. Lewis will review the non-controversial uses of light as a therapeutic agent and will assess the scientific validity of the controversial claims. He will address the role of infra-red, short wavelength visible and ultraviolet radiation in health and vision, and the indications for limiting our exposure.

Dr. Alan L. Lewis is professor of physiological optics at the State University of New York, College of Optometry in New York City. His research interests are in the areas of human visual performance, color vision, and illumination, with special emphasis on vision of the aged and partially sighted.

What A Specifier Should Know About Luminaire Design*

4:00–5:00 P.M.

Session 9

Speaker: Noel Florence; Level 1,

Special Events Hall

Unless specifiers have seen a given luminaire in an actual installation, they must rely on catalog specifications and drawings to determine how the luminaire would look and perform in the space they are designing. Often, this paper representation is unavoidably inadequate.

The performance of a luminaire, and the differences between similar luminaires, can be better appreciated if a specifier understands the considerations involved in their design.

Noel Florence will describe where luminaire designs come from, how ideas are developed, how light is controlled, how to select materials and processes for maximum value, the importance of details, and how fixtures are tested. The presentation will include slides and demonstrations.

Noel Florence, who retired in 1986 as Lightolier’s vice president of research and technical development, is currently an independent design consultant. At Lightolier, he produced many original lighting equipment designs and holds numerous patents. He studied engineering at Birmingham University in England, and fine arts at Cooper Union.

Lumen Awards Dinner of the New York Section of the IES

6:30–9:30 P.M.

Speaker: Bartholomew Voor-

sanger

Cash Bar, Crystal Palace (6:30–

7:30 p.m.)

Dinner and Awards Presenta-

tion, Special Events Hall Lobby,

Level 1 (7:30–9:30 p.m.)

The New York Section Illuminating Engineering Society will present its 22nd annual Lumen Awards at Lighting World. The Lumen Awards Program was conceived and developed to encourage and publicly recognize excellence, professionalism, ingenuity, and originality in lighting design. A special feature of the dinner will be the presentation of the first annual Lifetime Achievement Award to a distinguished member of the lighting community. All Lighting World attendees are welcome to join us at a cash bar in the Crystal Palace after leaving the exhibits.



Lighting
World
International



Dr. Stuart Rose



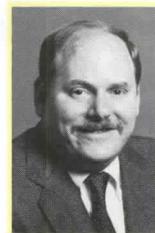
Bill Novey



Peter Golden



Timothy Coppola



Alan B. Abramson



Lee Waldron

Wednesday, May 13

Marketing: Creating New Business Opportunities for Design Professionals

8:30–11:30 A.M.

Speaker: Dr. Stuart Rose
Level 1, Room 1C04

The most accomplished designer in the world will not be in business long unless he or she knows how to attract and keep clients. This five-hour seminar, directed to designers from all disciplines, will address how to uncover early new business leads; how to educate potential clients in a way that heightens their interest and desire to use a designer's services; how to build a solid commitment from prospective clients; and how to design and conduct a winning presentation. The ASID will offer CEUs to registrants.

Dr. Stuart Rose conducts a regular series of marketing training workshops for the ASID and other professional organizations. His techniques emphasize bottom line results, and his doctoral work in management and the applied behavioral sciences enables him to present a balanced format that stresses individual responsive experience.

Fiber Optics and Architectural Lighting*

9:00–10:00 A.M.

Session 10

Speaker: Bill Novey
Level 1, Special Events Hall

In fiber optics, light is transmitted through a thin flexible strand similar to the way water is conducted through a hose. Used for years in the entertainment industry to create special effects, fiber optics are only now finding applications in architectural lighting. According to Bill Novey, they will revolutionize thinking in certain quarters of the field. Mr. Novey will explain the theory of fiber optics and its application to architectural lighting for such uses as signage, remote situations, maps, museum exhibits, store displays, and decorative needs. He will touch on the diversity of effects

obtainable with fiber optics and the cost effectiveness of the technique, which allows one lighting source to be used for hundreds of points.

Bill Novey is a principal in Art & Technology, Inc., a firm that applies high technology to contemporary exhibits and entertainment. Before starting his firm, he was co-manager of the special effects department at WED Enterprises, where he directed the design, production and installation of over 300 special effects for Disney projects.

Developing a Concept for Exterior Lighting*

10:30–11:30 A.M.

Session 11

Speaker: Peter Golden
Level 1, Special Events Hall

In any community, a building with a lighted exterior is a major presence, and rarely a neutral one. It either contributes positively or it detracts, and much of the praise or blame is traceable to the lighting concept. Exterior lighting must respect the building's architecture and the surrounding area, and it must engender a sense of place. Peter Golden will concentrate on the conceptual development of exterior lighting for façades, towers, and plazas. He will deal with color, composition, source, directionality, and intensity in terms of conceptual impact rather than application.

Peter Golden is manager of the lighting group at Seelye Stevenson Value & Knecht, engineers and planners. He has a Master of Science degree in architectural engineering from Pennsylvania State University.

Light as a Landscape Design Tool*

1:00–2:00 P.M.

Session 12

Speaker: Timothy Coppola
Level 1, Special Events Hall

Landscape lighting clarifies the organization of a site after dark and facilitates circulation. Using as its tools the built environment, the walks and drives, and the

horticulture, landscape lighting differentiates vehicular and pedestrian areas and reveals the hierarchy and pattern of circulation paths. Timothy Coppola will show how standard interior lighting considerations compare and apply to landscape lighting, and will discuss how to achieve something distinctive and special using stock fixtures. He will suggest different attitudes that can be created, illustrating with day and night photos of installations, and with diagrams.

Timothy Coppola is a landscape architect with The Architects Collaborative in their San Francisco office. A past president of the Boston Society of Landscape Architects, he has been on the visiting faculty at the University of Michigan and at Harvard, and is currently on the landscape faculty at the University of California at Berkeley.

Lighting Control in the Intelligent Building*

2:30–3:30 P.M.

Session 13

Speaker: Alan B. Abramson
Level 1, Special Events Hall

As a major operating cost in a facility, lighting is a prime candidate for application of control techniques. Automated lighting controls range from simple occupancy detection to more sophisticated centralized, computerized approaches. This presentation will cover occupancy detection, timed switching, centralized zoned switching, carrier current techniques, automatic dimming, and telecommunication system interface. All of these approaches will be discussed in terms of first cost, potential cost savings, occupant convenience, and technological requirements.

Alan B. Abramson is president of Electronic Systems Associates, a firm which designs building and plant automation, fire protection, security, communications, and telecommunication systems. A graduate of Cooper Union, he has written on intelligent building controls for *Forbes* and several McGraw-Hill publications.

Office Lighting: Matching Needs with Systems*

4:00–5:00 P.M.

Session 14

Speaker: Lee Waldron
Level 1, Special Events Hall

Designing a successful office lighting system often means finding a way to accommodate several competing needs. Owners need to control the bottom line. Employees need a workspace in which they can be comfortable and productive. With the diversity of lamps and luminaires available, there is no simple solution to matching need and system.

Lee Waldron will review the three primary approaches used in office lighting today—indirect pendant fixtures, furniture integrated systems, and recessed systems—and will discuss the many considerations involved in correlating needs with systems.

Lee Waldron is managing partner and principal in charge of the Philadelphia office of Grenal Associates Ltd., a lighting design firm. Many major office complexes are included among their projects. He is a graduate of Carnegie-Mellon University.

New York DLF Cocktail Party and Honor Award Reception

4:30–7:30 P.M.

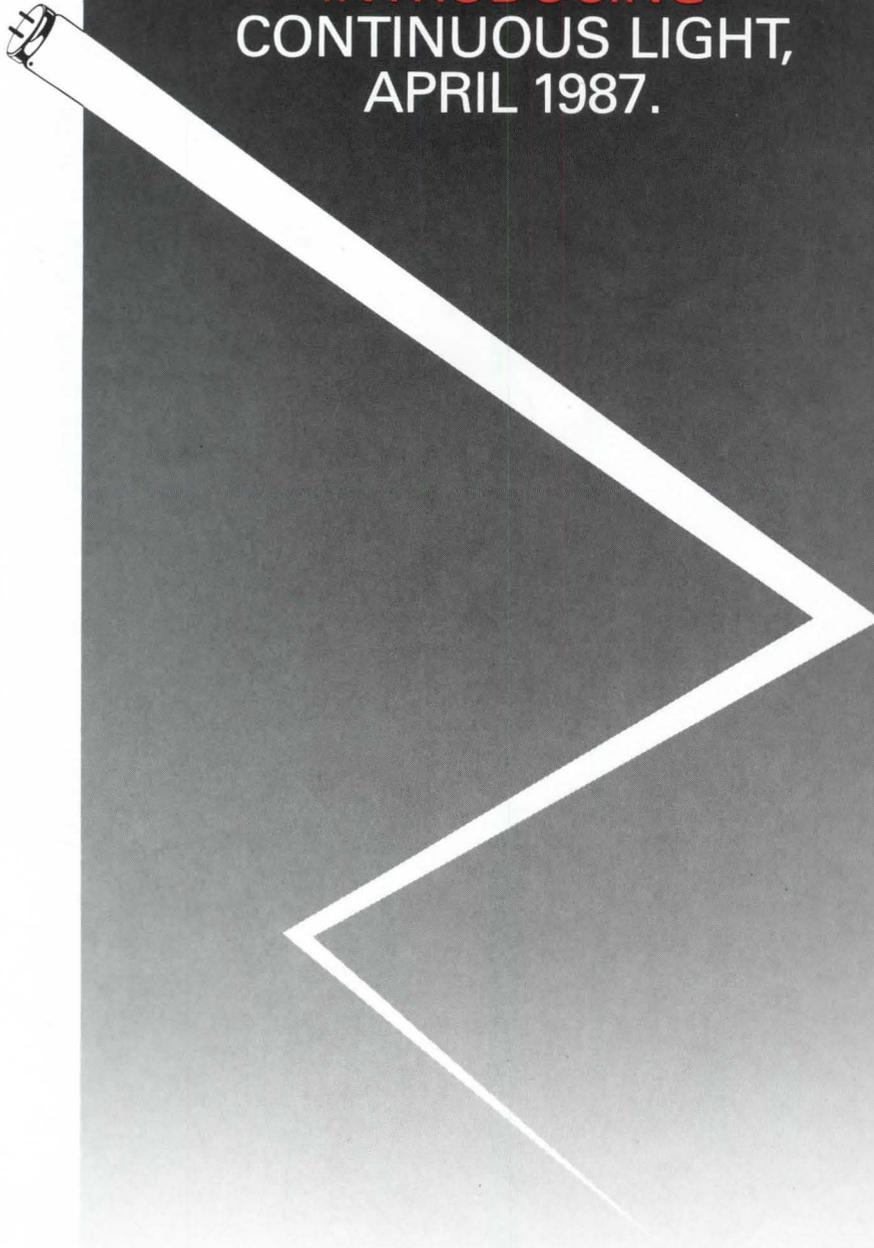
Level 1, Cafe South

The New York Designers Lighting Forum will present its Honor Award to Jeffrey A. Milham for his outstanding contributions to the initiation and continuing success of Lighting World.

All members of the lighting industry, and especially Jeffrey's friends, are invited to unwind from the rigors of three days of Lighting World with cocktails (cash bar) and hot hors d'oeuvres. Come and join us.

Jeffrey A. Milham is president and head of design for Design Decisions Inc. He is a past president of the IALD, former member of the Board of Managers of the New York Section IES, a member of the NY DLF, and former lecturer at the Parsons School of Design.

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Exhibitor's Index

See Exhibitor List, page 41LW for alphabetical listing and floor plan.

Booth 367

A&H Co.
2442 Hunter St.
Los Angeles, CA 90021
213/489-4445
Importer of quality light bulbs.

Booth 676

Aamsco Lighting, Inc.
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Jersey City, NJ 07305
201/434-0722
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Booth 480

ABK Enterprises, Inc.
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201/775-8919
Energy saving lighting fixtures. Vandalproof security lighting. Emergency lighting units. Wall packs.

Booth 946

Abolite Lighting, Inc.
P.O. Box 180
West Lafayette, OH 43845
800/848-9165
Commercial H.I.D. indirect lighting, commercial R.L.M. reflectors, and industrial dock lights.

Booth 344

Advance Transformer Co.
2950 N. Western Ave.
Chicago, IL 60618
312/267-8100
Ballasts for fluorescent and H.I.D. lighting systems.

Booth 227

AFC/A Nortek Co./Modular Wiring Div.
79 Cove St.
New Bedford, MA 02740
617/993-1781
Relocatable wiring system for branch circuit lighting, power and under-floor power distribution.

Booth 232

ALANOD USA, Inc.
5339 Spring Valley Rd.
Dallas, TX 75240
214/233-0424—Fax: 214/620-0856
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Booth 521F

Alkco
11500 Melrose Ave.
Franklin Park, IL 60131
312/451-0700
Undercabinet and wallmount fixtures including little inch, varilux, incandescents, and wallscapes . . . plus two new concepts for controlled accent lighting.

Booth 762

Allite, Inc.
106 Pierces Rd./P.O. Box 430
Newburgh, NY 12550
914/565-3635
Manufacturers and suppliers of: H.I.D. outdoor area lighting; round, square and oval extruded linear lighting systems; octagonal extruded systems for PL fluorescent lamps; residential lighting fixtures; vandal resistant fluorescent, H.I.D. and incandescent fixtures; structural truss system; store lighting systems; specialty fixtures.

Booth 132

A.L.P. Lighting & Ceiling Products, Inc.
5458 N. Mason Ave.
Chicago, IL 60630
312/774-9550
Parabolic and decorative louvers, CRT Assembly, Kwik Change.

Booth 302

Aluminum Coil Anodizing Corp.
501 E. Lake St.
Streamwood, IL 60103
312/837-4000
Preanodized aluminum in coil or sheet form for lighting reflectors.

Booth 1253

American Crafts, Inc.
426 S. Main
Coolidge, AZ 85228
602/723-4157
Ceramic sconces, pendants, table lamps, torchiers wall lite and ceiling fans. Available in high gloss glazed finish or soft matte bisque finish.

Booth 425

American Electric
8735 Hamilton Rd.
Southaven, MS 38671
601/342-1545
Outdoor and indoor lighting and security products HPS, mercury vapor, metal halide, fluorescent sources.

Booth 565

American Energy Controls
P.O. Box 364
Elk River, MN 55330
612/441-4175
Manufacturer of Silver Star® screw-in fluorescent fixtures, including dimmable electronic PL-type. Fluorescent power reducers by ESD. Eastern Sales Horizon Marketing.

Booth 760

American Glass Light Co.
49 W. 27 St./10th fl.
New York, NY 10001
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Classic, glamorous incandescent and fluorescent decorative and uplights.

Booth 866

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Newport, AK 72112
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Booth 306

American Light/div. Edson Corp.
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Bedford, MA 02744
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Booth 984

American Louver
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Skokie, IL 60077
312/470-3300
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Booth 213

American Reflector Technology
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Carlsbad, CA 92008

Booth 413

Amerlux, Inc.
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West Caldwell, NJ 07006
201/228-4242
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Ameron Pole Products Div.
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Booth 369

Arc Lighting/div. Arc Sales, Inc.
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Booth 180

Architectural Area Lighting Co.
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714/994-2700

Booth 313

Architectural Lighting Magazine
195 Main St.
Metuchen, NJ 08840
201/549-3000

A practical magazine for architects, landscape architects, engineers, and designers who work on lighting projects in commercial, industrial and institutional settings.

Booth 174

Architectural Lighting Systems
30 Sherwood Dr.
Taunton, MA 02780
617/823-8277

A coordinated linear fluorescent system of architectural ceiling and wall luminaires designed by R. Sonnemans in various decorative styles.

Booth 380

Architectural Record
1221 Avenue of the Americas
New York, NY 10020
212/512-2858

Architectural Record is edited for architects and engineers engaged in building design and product specification.

Booth 1133

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Booth 1143

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Booth 449

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Booth 777

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Booth 401

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Booth 335

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Booth 376

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Booth 203

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Booth 346

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Spokane, WA 99220
509/924-7000

Manufacturers of specification grade fluorescent luminaires. Originators of parabolume aluminum louvered fixtures and innovators in architecturally decorative interior luminaire designs.

Booth 1169

Conservaltie, Inc.

P.O. Box 215
Oakdale, PA 15071
412/787-8800

Conservaltie's Series IV Fluorescent Lighting Regulating System combines dramatic energy savings with affordable task lighting flexibility to provide quality lighting control at a price everyone can live with. The system features a continuous dimming range and incorporates automatic daylighting control as well as a manual override option.

Booth 664

Contract Magazine/A Gralla Publication

1515 Broadway
New York, NY 10036
212/869-1300

Current issues of Contract Magazine featuring annual Lighting Guide and monthly "Lighting Line" column.

Booth 733

Cooper Industries Lighting Group

400 Busse Rd.
Elk Grove Village, IL 60007
312/956-8400

Booth 466

Coronet Chandelier Originals

12-16 Grand Blvd. N.
Brentwood, NY 11717
516/273-1177
Custom chandeliers.

Booth 781

CPI Concrete Products

P.O. Box 13324
Memphis, TN 38113
901/775-9880

Manufacture color and texture treated prestressed concrete light poles primarily for direct embedded applications. Precast concrete bollards.

Booth 189

Creative Decor/Creative Industries, Inc.

1722 Sylvan La./P.O. Box 165
Gladwyne, PA 19035
215/642-9331

Manufacturers of earthenware lamps and decorative pedestals in fashion colors and faux finishes.

Booth 537

Crescent Lighting

120 Gloucester Pike/P.O. Box 99
Barrington, NJ 08007
609/546-5500

A complete line of fluorescent lighting products for the commercial, industrial and residential markets.

Booth 1040

Crestron Electronics, Inc.

101 Broadway
Cresskill, NJ 07626
201/894-0660

Creslite System 7 controls up to 15 incandescent and/or fluorescent zones with up to 11 preset levels.

Booth 733

Crouse-Hinds Lighting

Highway 61 S./P.O. Box 824
Vicksburg, MS 39180
601/638-1522

Industrial/Outdoor lighting.

Booth 283

CSL Ltd.

11150 Olympic Blvd.
Los Angeles, CA 90064-1817
213/479-8581
Surface and recessed low voltage fixtures.

Booth 115

Custom Lighting, Inc.

9150 Live Oak
Fontana, CA 92335
714/350-4505

Outdoor lighting, contemporary, decorative and turn of the century lanterns and cast steel or aluminum poles, with matching wall mount sconces.



Booth 610

C.W. Cole & Co., Inc.
2560 N. Rosemead Blvd.
S. El Monte, CA 91733
818/443-2473 or 213/283-6688
Specialty and custom architectural lighting for commercial and institutional applications.

Booth 307

Damar Products
1655 Panama St.
Memphis, TN 38108
800/238-9080
Lightbulbs, fluorescent tubes, mercury, quartz, sodium, photo, stage and studio seal beam, ballast, sleeves, starters.

Booth 978

Dansk Lights
2040 N. Dixie Hwy.
Ft. Lauderdale, FL 33305
305/565-0003
Entire collection of mix and match AN, RA and SAANI series; halogen lines and ever popular vinyl Dansk Lights.

Booth 821

Day-Brite Lighting
1015 S. Green St.
Tupelo, MS 38801
601/842-7212
Commercial and industrial lighting products. Indoor and outdoor fluorescent and H.I.D. flexible wiring systems.

Booth 249

Dazor Manufacturing Corp.
4455-99 Duncan Ave.
St. Louis, MO 63110
314/652-2400
Portable, adjustable-arm task lighting; illuminated magnifiers.

Booth 1161

DEC USA Ltd.
P.O. Box 2019
Mt. Vernon, NY 10551
914/699-8823
Chandeliers, flush mounts, wall brackets and floor and table lamps manufactured in Spain and Italy for home and contracting.

Booth 678

Decolite
9555 Owensmouth Ave./Unit 14
Chatsworth, CA 91311
818/700-8944
Decolite low voltage lighting for hotels, theatres, restaurants and homes. Architectural ceiling systems and chandeliers a specialty. Our product using one-watt bulbs for aisle and step lighting is available with a replacement plug-in feature.

Booth 508

Delta Lighting Systems, Inc.
1328 Virginia Ave.
Baldwin Park, CA 91706
818/960-7611
Decorative area, site, parking and walkway lighting.

Booth 507

Deposition Technology
8963 Carroll Way
San Diego, CA 92121
619/578-9400
Silver reflective materials.

Booth 600

The Designer/Specifier
322 Eighth Ave.
New York, NY 10001
212/620-7330
Trade magazine for the interior designer/specifier, architect specifying and purchasing for contract and residential installations.

Booth 833

Devine Lighting
4645 E. 11th St.
Kansas City, MO 64127
816/241-9440
Architectural lighting products including landscape, lighting signage and building mounted luminaires.

Booth 941

Diamond Energy Controls
23052 Lake Forest Dr./#D-1
Laguna Hills, CA 92653
714/380-8368
Aluminum reflectors.

Booth 148

DiBianco Lighting
8018 Third Ave.
Brooklyn, NY 11209
718/238-7153
Contemporary Italian lighting produced in Murano glass: floor lamps, wall fixtures, suspension lamps, table/desk lamps. Both halogen and incandescent lamps.

Booth 107

Dinico Products, Inc.
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Hackensack, NJ 07601
201/488-5700
Cast aluminum outdoor fixtures for residential, commercial and architectural applications.

Booth 1273

Diversified Lighting Ltd.
227 M Brunswick Boul
Pointe Claire, Quebec H9B 4X5
514/694-2702
Architectural lighting products, incandescent and high intensity discharge, outdoor and indoor.

Booth 963

Diversified Lighting Products, Inc.
931D Conklin St.
Farmingdale, NY 11735
516/293-8330
Parawedge and eggcrate louvers, lenses, baffles, safety sleeves, drop pans, CRT louvers, replacement wraparounds. Lighting control products from plastic and aluminum.

Booth 880

D.J.G. Factory of Electrical Supplies Ltd.
P.O. Box 8175
Jaffa, Israel 61081
03-836236-7-8

Booth 158

D'Lights
533 W. Windsor Rd.
Glendale, CA 91204
818/956-5656
Decorative contract lighting specializing in Art Deco and turn-of-the-century styling. Pendants, wall sconces, pole lights, custom fabrication.

Booth 845

Dual-Lite Inc.
P.O. Box 468
Newtown, CT 06470
203/426-8011
Battery-powered emergency lighting products, including unit equipment, exit signs and central power systems. Featured "SPECTRON" self diagnostic models.

Booth 1140

Duxbury Lighting Corp.
233 India St.
Brooklyn, NY 11222
718/389-9330
Parabolic louvers, lens, decorative mirrors with lights.

Booth 1259

Earlwood Technologies
1055 W. Germantown Pike
Norristown, PA 19403
609/268-9176
Lights-Out, a family of ultrasonic motion sensing systems which automatically turn lighting off when the controlled area is unoccupied. Commercial quality energy saving devices.

Booth 1266

East Rock Technology
30-40 N. Field Ave./Raritan Ctr.
Edison, NJ 08837
201/225-5344
Manufacturers of compact fluorescent adaptors.

Booth 783
EBT Electronic Ballast Technology, Inc.
2522 W. 237 St.
Torrance, CA 90503
213/618-8733
A full line of solid state ballasts/dimmers for commercial/industrial fluorescent lighting F30 through F96HO.

Booth 570
ECP Energy Conservation Products, Inc.
511 Canal St.
New York, NY 10013
212/925-5991
Twist of the wrist® brand energy saving retro-fit and conversion lighting fixtures. Utilizing fluorescent, H.I.D. and low voltage light sources.

Booth 966
Edison Price Inc.
409 E. 60 St.
New York, NY 10022
212/838-5212
Tracklighting, incandescent, compact fluorescent, fluorescent parabolics and photographs showing many of our past projects.

Booth 380
Electrical Construction & Maintenance
McGraw-Hill, Inc.
1221 Avenue of the Americas
New York, NY 10020
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ELECTRICAL CONSTRUCTION & MAINTENANCE is edited for electrical contractors, electrical consultants and on-staff electrical personnel in manufacturing and non-manufacturing facilities.

Booth 382
Electrix Inc.
45 Spring St.
New Haven, CT 06519
203/776-5577
Halogen task lighting, tracklighting, torchiers and sconces.

Booth 513
Electro Controls, Inc.
2975 S. 300 West
Salt Lake City, UT 84115
801/487-6111
State of the art architectural dimming and energy management control systems for incandescent, fluorescent, low voltage, cold cathode and H.I.D.

Booth 438
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Cambridge, MA 02139
617/661-4401
Emergency lights, inverters, and power supplies for short arc lamps.

Booth 242
Electronic Advanced Systems Corp.
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W. Conshohocken, PA 19428
215/828-5060
Energy-saving retrofit lighting products: REFLUOR® fluorescent downlights with 5-20 watt PL lamps and reusable glass reflectors. RETROFER® reflector kits to convert 4 lamp fluorescent troffers to 2 lamp operation.

Booth 126
Electronics Diversified, Inc. (EDI)
1675 NW 216th Ave.
Hillsboro, OR 97124
503/645-5533
Lighting control products for architectural, performance, television, and theatrical purposes. Portable and permanent systems on display.

Booth 576
Elliptipar, Inc.
145 Orange Ave.
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Asymmetric lighting for wall washing and indirect applications with fluorescent, tungsten halogen and H.I.D. lamps. Task/Ambient lighting—mounts within any modular furniture system and provides specialized task and environmental lighting from one fluorescent lamp.

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Hwy. 64 E.
Russellville, AR 72801
501/968-2232
Emergency Lights, exit signs, inverter systems.

Booth 744
Emergi-Lite, Inc.
Emergi-Lane/P.O. Box 548
Westbrook, CT 06498
203/399-7991
Several new products from a complete line of factory tested, field proven emergency lighting equipment.

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EMR Lighting
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Bohemia, NY 11786
516/563-4144
Designers and manufacturers of custom chandeliers and wall brackets for hotels, casinos and restaurants throughout the world.

Booth 179
Enercon Data Corp.
7464 W. 78th St.
Minneapolis, MN 55435
612/829-1900
RCSS (remote control and signaling system)—low voltage fashion switch plates.

Booth 505
Energy User News
7 E. 12 St.
New York, NY 10003
212/741-4425

Weekly newspaper edited for the executive in commercial and industrial operations in charge of managing, controlling and purchasing energy.

Booth 167
Enertron, Inc.
1100 Wicomico St.
Baltimore, MD 21230
301/837-1837
Energy efficient lighting control systems and devices.

Booth 343
The English Electric Corp.
106 Purdy Ave.
Port Chester, NY 10573
914/937-7450
High and low pressure sodium lamps and fixtures. Corrosion resistant water tight fixtures. Dusk to dawn fixtures. Street lighting.

Booth 963
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1940 Cotner Ave.
Los Angeles, CA 90025
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Acrylic modular luminous ceiling panels offer brilliance of stained, beveled, and contemporary etched mirror glass with greater safety and economy.

Booth 503
Exciting Lighting
a/k/a Lumitrol Corp.
110 Bi County Blvd.
Farmingdale, NY 11735
516/752-1411
Light controllers dimming circuit fixtures P-36 P-46 low voltage tube-lyte lumalite powerpacs.

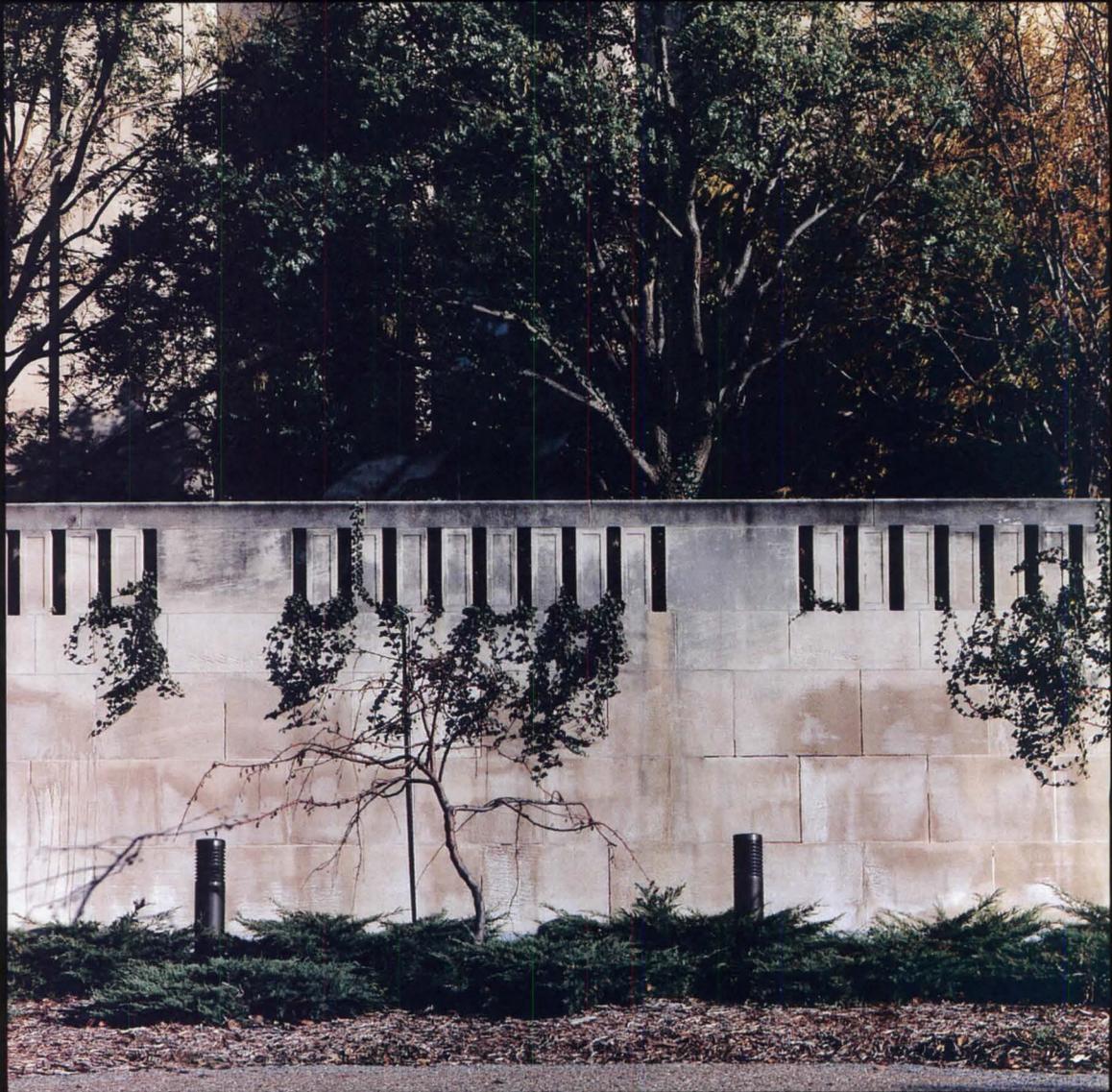
Booth 784
Exide Electronics
3201 Spring Forest Rd.
Raleigh, NC 27604
919/872-3020
Emergency lighting products including explosion-proof units, ceiling grid units and a combination exit light/emergency lighting unit.

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Facilities Design & Management/A Gralla Publication
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New York, NY 10036
212/869-1300
Current issues of Facilities Design & Management the magazine for corporate executives, managers and planners of office environments.

Booth 1243
Fail-Safe Lighting
4501 S. Tripp
Chicago, IL 60632
312/847-0200
Architectural security lighting equipment in all sources and mounting styles. Primary applications include: public access areas of commercial structures, schools, parking decks, and prisons.

Booth 860
Feit Electric Co., Inc.
1734 S. Los Angeles St.
Los Angeles, CA 90015
213/747-7505
Light bulbs—fluorescent tubes—light fixtures.

Booth 133
Forecast Lighting Co.
500 N. Oak St.
Inglewood, CA 90302
213/678-5151
Decorative incandescent and fluorescent lighting fixtures. Ceiling, wall and exterior mount.



ARCHITECTURAL LIGHTING SOLUTIONS

Innovative, creative lighting doesn't just happen. It takes technical expertise, sound planning and foresight. But more than anything, you need the right idea, the clear understanding of how lighting ought to be.

That's why Architectural Lighting Solutions from Devine Lighting will be one of your most powerful design tools. It will help you at each stage of the specification process and provide everything from needed technical information to the satisfaction that comes from using well designed and built products. Ultimately, it can be a fresh and vital source of ideas . . . real solutions.

As a catalog, ALS puts in your hands luminaires with performance verified by several independent laboratories . . . important because it lets you deal with the facts. Moreover, every one of our standard fixtures is UL listed and CSA approved, the vast majority with wet location listings. Our design process and standards have the technical foundation upon which you can rely.

Architectural Lighting Solutions is also about the value we build into the fixtures. Our luminaires are manufactured to the highest standards. We use cast and extruded aluminum in the construction of fixtures for corrosion resistance, strength and long life.

The optical systems are designed to maximize the efficiency and

economy of modern light sources and to provide the best possible lighting with the least number of fixtures. Each optical chamber is sealed to prevent infiltration by insects, dust and moisture; every specular and semispecular reflector is finished and sealed to ensure long life and peak performance. We have made great strides in providing high levels of illumination from fixtures with exceptionally low glare, a factor that contributes greatly to the visual comfort of a project.

Above all, though, Architectural Lighting Solutions is a clear vision of how lighting can be. Applications driven, the catalog presents many ways to solve your lighting problems with appearance integrated luminaires. This is important: with this concept we help you solve at a stroke many of the most common

lighting tasks with a consistent design approach. We take the pain out of research and planning. We give you the time to do what you do best.

Create.

Architectural Lighting Solutions from Devine Design. See us at Lighting World, Booth 833.

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KIDDE

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1-800-826-5496

Circle No. 341



Lighting

World

International

Booth 976

Foremost Manufacturing Co.
941 Ball Ave.
Union, NJ 07083
201/687-4646

A wide variety of alzak reflectors for all aspects of lighting. Introducing our anti-iridescent process for compact fluorescent fixtures.

Booth 502

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Cerritos, CA 90701
213/926-1361

Designer line of decorative lighting fixtures for use in architectural, commercial, and residential applications. Designs are readily identifiable and in ever increasing demand.

Booth 142

F.W. Thorpe PLC
Facet Rd.
Kings Norton, Birmingham B38 9UR
England
021-459-1122

A range of industrial commercial and floodlighting luminaires including vandal-resistant and anti-corrosive types.

Booth 1020

Fyrnetics, Inc.
1021 Davis Rd.
Elgin, IL 60123
800/222-6369
Solid state fluorescent electronic ballasts (high frequency).

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Gaslamp Power & Light, Inc.
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San Diego, CA 92111
619/279-7825
High efficiency (30%–90% energy saving), RFI-FREE electronic ballasts with full range dimming; locally/remotely adjustable lighting control products.

Booth 433

General Electric Co./Lighting
Business Group
Nela Park
Cleveland, OH 44112
216/266-2187
Incandescent, Fluorescent, and H.I.D. lamps for commercial and industrial application.

Booth 441

General Electric Co.
Lighting Systems Dept.
Hendersonville, NC 28739
704/693-2200
H.I.D. lighting systems for industrial lighting, roadway lighting, floodlighting, sports lighting, hazardous location lighting, commercial lighting, and area decorative applications.

Booth 436

General Electric Co./Lighting
Controls
225 Service Ave.
Warwick, RI 02886
401/886-6246
Relay-based lighting control products and systems including: programmable lighting control . . . integrated lighting control for intelligent buildings; smart remote control . . . low cost lighting automation panels.

Booth 551

The Genlyte Group
100 Lighting Way
Secaucus, NJ 07094

Booth 660

Georgian Art Lighting Designs, Inc.
4301 Winer Way/P.O. Box 325
Lawrenceville, GA 30246
404/963-6221
Decorative brass lighting fixtures available in a variety of styles, sizes and finishes, with custom capabilities.

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Globe Illumination Co.
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213/321-9000
Recessed fluorescent parabolic luminaires "ULTRAPAR," "TRIPAR," "MINI-PAR," plus other energy efficient systems, high pressure sodium and metal halide ULTRALIGHT garage and low bay units.

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Jamaica, NY 11435
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Recent innovative installations of decorative lighting glass in major buildings.

Booth 341

Greenlee Landscape Lighting
1220 Champion Circle/Suite 116
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214/484-1133
A complete line of specialty landscape lighting fixtures. Featuring the patented "Aubrey" downlight that was designed specifically to create the moonlight effect.

Booth 1147

GTE Sylvania Lighting Equipment
21 Penn St.
Fall River, MA 02724
617/678-3911
Lighting fixtures, H.I.D. lighting, security lighting, indoor industrial, sports lighting, outdoor security and specialty lighting.

Booth 669

Guardian Light Co.
5125 W. Lake St.
Chicago, IL 60644
312/378-2200
Energy saving decorative outdoor area lighting, security lighting, floodlighting and poles for parking lots and automobile dealerships.

Booth 521E

Guth Lighting
2615 Washington Blvd.
St. Louis, MO 63103
314/533-3200
H.I.D. indirect lighting, design/accent lighting.

Booth 644

Hadco
100 Craftway
Littlestown, PA 17340
717/359-7131
Architectural outdoor lighting. Period and contemporary fixtures, poles and landscape lighting.

Booth 1251

Halco-Marvin L. Walker & Associates
3045 Kingston Ct.
Norcross, GA 30071
800/241-3736
Bulbs, fluorescent tubes, retro-fit, ballast, H.I.D. fixtures.

Booth 733

Halo Lighting
400 Busse Rd.
Elk Grove Village, IL 60007-2195
312/956-8400
H.I.D. incandescent downlighting, track lighting, surface lighting.

Booth 1062

Harry Gitlin, Inc.
121 W. 19 St.
New York, NY 10011
212/243-1080
Decorative and display lighting, task lighting, track lighting, tungsten-halogen lighting, sconces, track fixtures and wall washing systems. Custom fabrication to specification.

Booth 1268

High-Lites, Inc.
1029 Main St.
Watertown, CT 06795
203/274-7573
Battery operated emergency lighting and exit signs.

Booth 1246

Hilight Co.
295 Park Ave. S./Suite 11N
New York, NY 10010
212/529-2849

A new accent on lighting efficiency and design. Desk lamps, wall sconces, ceiling fixtures, spotlights and downlights utilizing efficient light sources.

Booth 1066

Highline Products Corp.
330 Boston Post Rd.
Old Saybrook, CT 06475
203/388-3506
Fiberglass lighting poles, polymer decorative lampposts.

Booth 670

Holophane/Div. Manville Corp.
214 Oakwood Ave.
Newark, OH 43055
614/345-9631
Indoor and outdoor commercial and industrial lighting fixtures, poles and accessories.

Booth 300

Home Lighting & Accessories Magazine/Ebel-Doctorow Publications
1115 Clifton Ave.
Clifton, NJ 07013
201/779-1600
Since 1923, the magazine of the residential lighting business, for retailers, electrical distributors, manufacturers and lighting professionals.

Booth 337

Honeywell, Inc.
Buildings Control Div.
1985 Douglas Dr. N.
Golden Valley, MN 55422-3992
612/542-6462
New fluorescent control system for commercial, retail, and institutional applications—operates with energy management and building automation systems.

Booth 240

Hunt Electronics
4221 Airborn Dr.
Addison, TX 75001
214/248-1808
Architectural dimming controls/systems for application with incandescent, fluorescent, low voltage, or neon lamps. Available with flush mount 24V remote control.

Booth 383

Hydrel
12881 Bradley Ave.
Sylmar, CA 91342
818/362-9465
Architectural and landscape lighting, underwater lighting, fountains and fountain lighting.

Booth 112

Hytron Electric Products/div. Trojan, Inc.
114 Poplar/P.O. Box 404
Meadville, PA 16335
814/336-4460
Manufacturers of incandescent lighting products, SAF-T-COTE lamps, fluorescent lamps, self ballasted mercury, mercury, quartz, metal halide, extended service lighting products our specialty.

Booth 162

ICSI (International Conservations Systems, Inc.)
4020 S. Industrial Dr./#100
Austin, TX 78744
512/444-5821
The Sonilight and Ultralight are presence sensing devices designed to control commercial building lighting and HVAC systems. The Ultralight controls lighting by directly replacing the existing light switch.

Booth 1247

IEM
13333 Bel-Red Rd.
Belview, WA 98005
206/746-4222

Booth 381

Illumilite, Inc.
6920 Hayvenhurst/#208
Van Nuys, CA 91406
818/904-9861
Designers and manufacturers of low voltage tube lighting, chandeliers, light panels, light curtains and custom works of light. Innovative designs catering to the discriminating commercial or residential user.

Booth 1057

Illuminating Engineering Society
345 E. 47 St.
New York, NY 10017
212/705-7926
IES, a co-sponsor of Lighting World, is a technical society whose purpose is to advance the art, science and practice of illumination. IES publishes Lighting Design & Application magazine and the Journal of the IES. Other publications include technical, design and the IES Lighting Handbooks.

Booth 221

Illuminating Engineering Society—New York Section
% Peter Blaufeux
330 W. 85 St.
New York, NY 10024
212/877-1656
Co-sponsor of Lighting World. Society for the advancement of lighting. Booth will inform show attendees of our Lumen Awards program, our Richard Kelly Grant program, our educational workshops and our support of the New York Hall of Science.

Booth 215

Illumination Concepts & Engineering
500 Callahan Rd.
N. Kingstown, RI 02852
401/295-2533
Architectural extruded, and sheet metal fluorescent lighting.

Booth 368

Iluminotecnica
Via Sofocle 7
20145 Milano, Italy
2/4814800

Booth 545

Imperial Bronzelite
P.O. Box 606
San Marcos, TX 78666
512/392-8957
Architectural Fountain Systems. Landscape Lighting. Underwater Lighting.

Booth 171

Indy Lighting, Inc.
8431 Castlewood Dr.
Indianapolis, IN 46250
317/849-1233
Speciality lighting including recessed, track, accent and low voltage incandescent, fluorescent and H.I.D. systems.

Booth 336

InLite Corp.
939 Grayson St.
Berkeley, CA 94710
415/849-1067
Smallest single—two circuit track on the market today 1 3/8" wide x 3/8" high. Low voltage, line voltage fixtures and directional spotlights.

Booth 220

Inter-Linea, Inc.
4090 Morena Blvd.
San Diego, CA 92117
619/581-1808
Imported lighting fixtures for homes, offices, stores, hotels, museums, outdoors.

Booth 863

Interlectric Corp.
1401 Lexington Ave.
Warren, PA 16365
814/723-6061
Manufacturer of specialty fluorescent lamps, specializing in manufacturing odd-ball sizes, colors and special application fluorescent lamps such as Black-light, Black-light blue, sun-tanning lamps, color corrected true-lite lamps and U-Lite[™] products.

Booth 237

Interior Design Magazine
475 Park Ave. S.
New York, NY 10016
212/576-4222
The magazine for all concerned with the planning, design, specification and/or purchase of interior furnishings and products for various contract/commercial and residential installations.

Booth 481

Interiors
1515 Broadway
New York, NY 10036
212/764-7521

Booth 748

International Association of Lighting Designers, Inc.
18 E. 16 St./Suite 208
New York, NY 10003
212/206-1281
IALD, a co-sponsor of Lighting World, is the professional association of the architectural lighting designer. Founded in 1969 in recognition of the importance of the role of light in architecture and interior design, IALD sponsors programs for both the established lighting designer and the student just entering the field. In addition to Lighting World, IALD administers a student intern program, an awards program, an educational program, and is involved in energy conservation standards and research.

Booth 467

International Lighting Review
5600 AS Eindhoven/P.O. Box 721
The Netherlands
4-755252



Lighting

World

International

Booth 937

Linear Lighting Corp./
Contemporary Ceilings, Inc.
31-30 Hunters Point Ave.
Long Island City, NY 11101
718/361-7552
Linear fluorescent, extruded and
steel. Recessed wall wash systems.

Booth 958

Litecontrol Corp.
100 Hawks Ave./P.O. Box 100
Hanson, MA 02341-0100
617/294-0100
MOD 66 II, TUBE 6,8,&9, WALL/
SLOT II, VIDEOLUX, SCONCES,
COVE 45, QUADRUS, OPALESSE,
VIA, LINEAR FIRENZE, BWI.

Booth 741

Litelab Corp.
251 Elm St.
Buffalo, NY 14203
716/856-4491

Booth 127

LiteTouch, Inc.
220 W. 2855 South
Salt Lake City, UT 84115
801/466-9142
Lighting control and communica-
tions systems for custom residential
applications.

Booth 1160

Lite-Tronics International
5317 W. 123rd Pl.
Alsip, IL 60658
312/371-4950
Complete Super Service line of
20,000 hour commercial/industrial
incandescent lamps available in
popular shapes and sizes from 11W
thru 500W.

Booth 261

Lorin Industries/Coil Anodizers Div.
1960 Roberts St.
Muskegon, MI 49441
616/722-1631
Pre-anodized aluminum for lighting
reflectors, diffuse, specular and
semi-specular lighting sheet and coil.

Booth 444

Louis Baldinger & Sons
19-02 Steinway St.
Astoria, NY 11105
718/204-5700 or 212/678-0414
Decorative lighting suitable for
hotels, offices, building lobbies, res-
taurants, banks and other commer-
cial installations.

Booth 276

LSI Lighting Systems, Inc.
4201 Malsbary Rd.
Cincinnati, OH 45242
513/793-3200
Manufacturer of high intensity dis-
charge lighting fixtures, bollard
style, site lighting, steel and alumi-
num lighting standards.

Booth 321

Lucifer Lighting Co.
P.O. Box 370375
Miami, FL 33137
305/531-7978
Low voltage, incandescent linear
light system, incandescent tube sys-
tem, halogen recessed, surface and
track mounted mini spots. Showcase
reflector system featuring
TRUCOOL & RETRO-RAIL.

Booth 733

Lumark Lighting
1751 Hurd/Suite 104
Irving, TX 75038
214/258-8253
Indoor/outdoor H.I.D. lighting.

Booth 881

Lumatech Corp.
148 Grand Ave.
Oakland, CA 94612
415/444-8802
Manufacturer of compact fluores-
cent fixtures featuring innovative
and architectural designs.

Booth 581

Lumax Industries, Inc.
Chestnut Ave./4th St.
Altoona, PA 16603
814/944-2537
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cent H.I.D. lighting fixtures. In-
cludes decorative residential fluores-
cent fixtures.

Booth 477

Lumec, Inc.
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Boisbriand, Quebec J7G 2A7
514/430-7040
Beyond offering a remarkable collec-
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Lumec's dynamic team brings to life
original concepts.

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Lumiram
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New York, NY 10011
212/925-4770
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fixtures.

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Lumitel Systems Inc.
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Franklin Square, NY 11010
516/352-4301

Booth 736

Lutron Electronics Co., Inc.
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Coopersburg, PA 18036
215/282-3800
Lighting dimming and control sys-
tems for all light sources used in
architectural and energy manage-
ment applications.

Booth 521C

Luxo Lamp Corp.
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Port Chester, NY 10573
914/937-4433
Task Lighting for home, commerce
and industry.

Booth 541

Lytebrands
2345 Vauxhall Rd.
Union, NJ 07083
201/964-7000

Booth 1162

MAC-THHC
408 E. Devon Ave.
Elk Grove Village, IL 60007
312/640-0515
Various types of lamps: reflector,
sub miniature, LED, fluorescent,
halogen.

Booth 409

Macro Electronics Corp.
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Austin, TX 78702
512/385-6800
Lighting Controls and Dimming
Systems for H.I.D., fluorescent, cold
cathode, neon and incandescent
lighting sources, 2500 watts to 27,000
watts and up.

Booth 871

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Bridgewater, NJ 08807
201/526-7273 or 800-245/LITE
Custom designed specular alumi-
num fluorescent light reflectors.

Booth 469

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West Islip, NY 11795
516/669-4500
Manufacturers of outdoor area light-
ing, roadway lighting, security light-
ing, apartment and residential ex-
terior lighting and specialty items.

Booth 257

Marco Lighting
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Los Angeles, CA 90001
213/583-6551
Manufacturer of residential, com-
mercial recess downlights using
fluorescent incandescent and H.I.D.
lamp sources. Manufacturer of track
lighting and a wide variety of specifi-
cation grade lighting.

Booth 973

Mark Lighting Co., Inc.
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Moonachie, NJ 07074
201/939-0880
ILS—An indirect lighting system
providing a comfortable work en-
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and design continuity for the entire
interior space.

Booth 689

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Dallas, TX 75235
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lighting processor with its new
TouchMaster-18 "smart" switch
creates a microprocessor-based light-
ing control limited only by your
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Booth 770

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flex lights, sensor switch.

Booth 363

Maximum Technology
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Brisbane, CA 94005
415/468-2560

Booth 733

McGraw-Edison
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Racine, WI 53405
414/554-8001
Outdoor lighting.

Booth 821

McPhilben/Omega Lighting
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Melville, NY 11747
516/293-8500
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and systems for commercial, institu-
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Booth 867

Mecho Shade/Stretchwall
42-03 35 St.
Long Island City, NY 11101

HOLOPHANE PARKLANE. SHINES WITH THE LIGHTS ON OR OFF.



Holophane® brings a great new look to outdoor lighting with the ParkLane.™

This high-powered fixture's extruded aluminum housing, with internally-welded seams, is available in either painted or anodized finish.

The seamless acrylic prismatic cone/cube helps reduce "puddles" of light at the pole base while projecting light in a wide overall pattern; one wide enough to



reduce the number of fixtures and still provide up to a 6:1 spacing-to-height ratio.

The ParkLane luminaire integrates with practically any contemporary architectural theme.

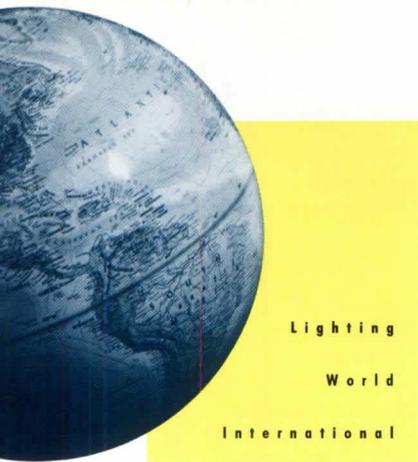
ParkLane uses either metal halide or HPS lamps and is available in 4 mounting configurations: C-bracket, tuning fork, straight arm, and flush mount. Plus, the cube can be replaced with a flat door assembly. In addition, ParkLane is backed by an exceptional 5-year warranty.

For more information, including photometric data on floppy disk or isofootcandle templates, call or write on your letterhead to Randy Crothers, Holophane Division, Manville, 214 Oakwood Avenue, Newark, Ohio 43055. (614) 345-9631, Ext. 428.



HOLOPHANE
LEADER IN LIGHT CONTROL

Manville



Lighting

World

International

Booth 776

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Booth 982

PowerSonic Corp.
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Redwood City, CA 94063
415/364-5001

Booth 457

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San Leandro, CA 94577
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Booth 457

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San Leandro, CA 94577
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Booth 183

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Brentwood, NY 11717
516/273-3636
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Cranford, NJ 07016
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Booth 583

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418/667-5013
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Booth 271

Progress Lighting
"G" St. & Erie Ave.
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Booth 767

Progressive Architecture
600 Summer St./P.O. Box 1361
Stamford, CT 06904
203/348-7531
Monthly architectural publication edited to provide information for all architectural professionals on the latest developments in their field. The magazine is directed to those individuals who take part in design and product specification.

Booth 661

Prudential Lighting
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Fluorescent architectural lighting systems of round and square aluminum extrusions for wall and ceiling mounting. Recessed perimeter and in-line systems.

Booth 665

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QOR Technology
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Philadelphia, PA 19404
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Booth 277

Radiant Illumination, Inc.
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N. Hollywood, CA 91605
818/982-0160
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20057 Vedano Al Lambro
Italy
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Booth 567

Remcraft Lighting Products
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Miami, FL 33054
305/687-9031
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New York, NY 10017
Magazines.

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Booth 580

Robertson Transformer Co.
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Blue Island, IL 60406
800/323-5633
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Booth 264

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Booth 1046

Rosco Labs, Inc.
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Port Chester, NY 10573
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Long Island City, NY 11101
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Full line of track, track fixtures, low voltage lamps and fixtures, Par 36 Pin Spot, MR-16 halogen lamps featuring lightweight solid state transformers for home use or commercial installation.

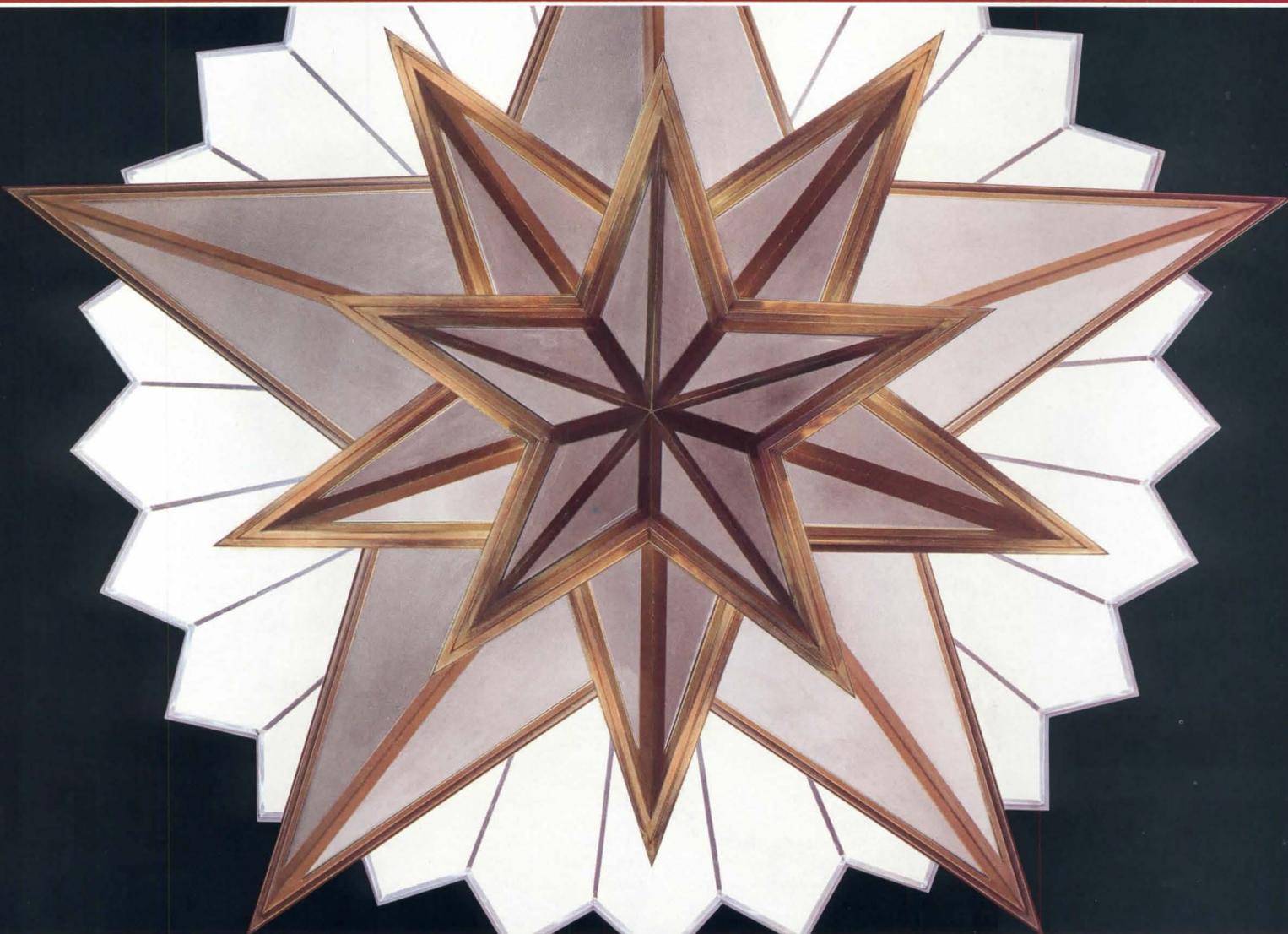
Booth 451

RWL/Welsbach Lighting
240 Sargent Dr.
New Haven, CT 06511
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One of a kind



At first glance, the elegant art deco chandelier at 275 Madison Avenue appears to be part of the original lobby.

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By closely collaborating with the project's architects, VCL was able to accommodate the demand for a chandelier to complement the art deco lobby. This design translates the lobby's striking terrazzo stellar floor pattern into a three-tiered stainless and bronze sculpture of light.

Exemplary of VCL's attention to detail and awareness of the material technology of the time, this chandelier recalls the building's original architectural and decorative aesthetic.

VCL also offers a complete line of extruded aluminum shapes and standard luminaires, which can be modified for your custom applications.

VCL is becoming the name architects and designers think of when they need unique lighting solutions. Call us or drop by our booth at the Lighting World 5 Show and let your creative ideas become realities.



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Circle No. 414 on Reader Service Card

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Booth 980

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Maryland Heights, MO 63043
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Booth 1167

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Los Angeles, CA 90023
213/264-1533
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S. Boston, MA 02127
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Boom—Exterior lighting fixtures for residential and commercial made of corrosion resistant metals and glass. Glashutte Limburg—Pendant fittings, ceiling fittings, table and floor lamps made of glass. Used both commercially and residentially.

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800/533-5103
Fiberglass street lighting poles.

Booth 1142

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Lighting Systems Div.
100 Wood Ave. S.
Iselin, NJ 08830
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Siltron Illumination
7915 Center Ave.
Cucamonga, CA 91730
800/874-3392
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601 E. Cayuga St.
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215/831-7700
Commercial—Industrial—Residential—Vandalproof and Ultratensity fluorescent and H.I.D. luminaires.

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Pt. Washington, NY 11050
516/944-6244
Thyristor dimmer components including SCRs, SSRs, heat sinks and toroidal chokes; silent convection cooled AC dimmer modules; dimmer analyzer instrumentation.

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Chicago, IL 60611
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Allentown, PA 18104
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216/486-0666

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Racine, WI 53405
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Spring City Electrical Mfg. Co.
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Spring City, PA 19475
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Cast iron ornamental lighting posts and period luminaires with the accent on French fixture designs.

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Staff Lighting Corp.
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Staff Marketing Services/3M
Bldg. 225-3S-05
3M Center
St. Paul, MN 55144-1000
612/733-1934

Booth 114

Stage Lighting Distributors
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Stony Point, NY 10980
914/947-3034

Theatrical, architectural and nightclub lighting and dimming.

Booth 366

Standard Electric Fixture Co.
2150 NW Miami Ct.
Miami, FL 33127
305/573-2020

Fluorescent lighting fixtures, including “PL,” alum tube lites, specialty lighting, outdoor, for commercial, residential and industrial applications.

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Startube low voltage lighting; techtrack MR11 halogen; new MR11 fixture series; custom projects including “starlight express” fiber optics.

Booth 151

Sternberg Lanterns, Inc.
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Chicago, IL 60646
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Historic ornamental posts, bollards and H.I.D. luminaires in “turn-of-the-century” and “art deco/post-modern” designs with wall units.

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Stonco
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Union, NJ 07083
201/964-7000

Booth 633/627

Strand Lighting
18111 S. Santa Fe Ave.
Rancho Dominguez, CA 90221
213/637-7500
Dimming and control for all applications and architectural lighting, as well as representative dimming, control and fixtures for entertainment lighting.

Booth 1063

Stress/Crete Ltd./King Luminaire Co.
P.O. Box 7
Burlington, Ontario L7R 3X9
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Authentic reproductions of ornamental concrete and ductile iron lighting poles and bollards, together with high efficiency ornamental outdoor luminaires.

Booth 936

Sun Valley Lighting Standards
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Sun Valley, CA 91352
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Sunnex, Inc.
87 Crescent Rd.
Needham, MA 02194
617/444-4730
Halogen task lights for home, office, hospital, medical and industrial applications.

Booth 733

Sure-Lites
400 Busse Rd.
Elk Grove Village, IL 60007-2195
312/956-8400
Emergency Lighting.

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Sutton Publishing Co.—CEE Magazine
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White Plains, NY 10604
914/949-8500
New products magazine serving the total electrical construction industry.

Booth 521D

Sverige, Inc.
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St. Therese, Quebec J7E 3X6
514/437-2555
Contemporary lighting for home and office. Portable, pendant and surface-mounted designs. Crafted of metal in a variety of colors to accent form and function.

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914/623-3471
Architecturally-oriented track lighting systems and universally adjustable luminaires for many new and innovative lamp sources.

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617/777-1900
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Booth 1069

Taiwan Lighting
(China Economic News Service)
561 Chunghsiao E. Rd./Sec. 4/4th Fl.
Taipei, Taiwan, ROC
02/763-1000
Taiwan Lighting Magazine, Taiwan's authoritative medium for lighting exports, is published quarterly by the China Economic News Service in February, May, August and November. Other kinds of trade magazines.

Booth 790

Teledyne Big Beam
P.O. Box 518
Crystal Lake, IL 60014
815/459-6100
Emergency lighting, power conditioning equipment, surge suppressors, UPS systems, exit fixtures and emergency fluorescent pak.

Booth 209

Teron Lighting Corp.
124 W. 66 St.
Cincinnati, OH 45216
513/242-7004
Manufacturers of decorative energy saving fluorescent and HPS lighting fixtures.

Booth 967

Theatre Crafts Magazine
135 Fifth Ave.
New York, NY 10010
212/677-5997

Booth 460

Theatre Techniques, Inc.
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Hamden, CT 06514
203/281-6111
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Booth 342

Thermalflash Corp./Encon Industries, Inc.
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Booth 837

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Booth 851

Thunder & Light Ltd.
230 Fifth Ave./Suite 400
New York, NY 10001
212/696-0262

Booth 226

Thunderbolt Electronics Co., Inc.
Chimney Rock Rd./P.O. Box 776
Boudbrook, NJ 08805
201/356-1985



Lighting

World

International

Booth 658

Times Square Lighting

318 W. 47 St.
New York, NY 10036
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A complete line of standard and low voltage lighting fixtures suitable for architectural, display, entertainment, and theatrical applications.

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604/294-8477

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Booth 147

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Infracon[®] a passive infrared occupancy lighting control by Tishman Research Co.

Booth 970

Tivoli Industries, Inc.

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714/957-6101

Light tubing, golden rain chandeliers and light curtains, tivolines, tivolite bulbs, starlite panels, twilight, tivolitrak, guidelights.

Booth 1237

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101 Morse St.
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617/926-0561

Fluorescent emergency lighting and low energy security lighting—fluorescent exit signs.

Booth 305

TPR Enterprises Ltd.

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MicroMini low voltage linear strip lighting, dazzle low voltage tube lighting, low voltage par fixtures, special effects.

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Booth 789

Transtek International

713 Elgin Rd.
Newtown Square, PA 19073
215/356-7530

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Booth 765

Triad-Utrad

1124 E. Franklin St.
Huntington, IN 46750
219/356-6500
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Booth 1044

The Trilin Group/Tek-Tron

1918 Main St./Suite 240
Santa Monica, CA 90405
213/392-7002

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Booth 157

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A skillfully designed metal space-frame system. Providing ultimate contemporary design, visual impact and creative space planning. Available in 5", 10" and 12" tribeams.

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Full line of infrared and ultra-sonic occupancy sensors, current limiters and day light dimming system all for lighting control and conservation.

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Unilight Limited

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Decorative, incandescent and energy saving light fixtures, chandeliers and custom made lighting, wall sconces and ceiling fixtures.

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300 Babylon Tpke./P.O. Box H
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Booth 402

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216/456-7653

Ornamental nostalgia poles and luminaires made from original historically accurate molds. Steel, aluminum and concrete lighting poles. Abacus raise/lowering system.

Booth 1084

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Paramus, NJ 07652
201/967-7600

Fluorescent and high intensity discharge ballasts, watt reducer ballasts, genesis electronic ballasts, emergency lighting fluor-o-pac.

Booth 865

US Powerbeam, Inc.

32 Treptow St.
Little Ferry, NJ 07643
201/641-5888

MR 16 and MR 11 tubelighting systems. Low voltage retrofit fixtures. Multiple head low voltage fixtures.

Booth 457

USI Lighting, Inc.

1251 Doolittle Dr.
San Leandro, CA 94577
415/562-3500

Commercial, institutional and residential indoor and outdoor lighting fixtures and dimming controls for fluorescent, incandescent, low voltage and H.I.D. light sources.

Booth 761

Valmont Industries, Inc.

Highway #275
Valley, NE 68064
402/359-2201

Complete manufacturer of steel street, area, sports lighting, traffic signal, sign and city scape street furniture structures.

Booth 470

Vanlite Controls

376 & 400 South/Suite 315
Salt Lake City, UT 84111
801/364-5850

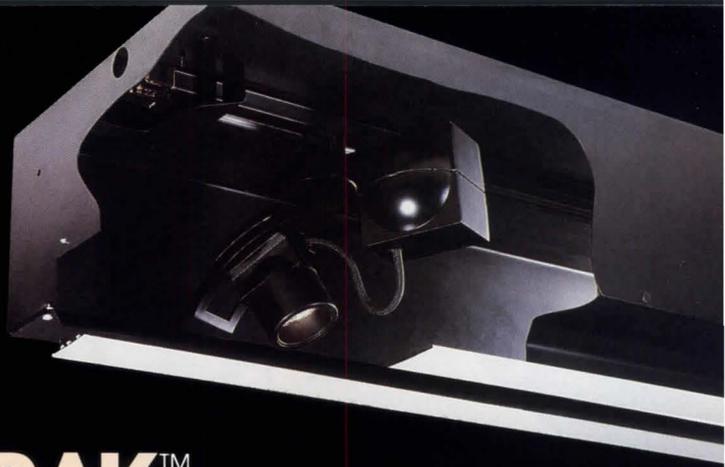
Booth 1166

Veart International, Inc.

10245 Cote De Liesse
Dorval, Quebec H9P 1A3
514/631-6703

Modern + contemporary task lighting, halogen lighting, handblown Murano glass lighting.

The Beauty of
Track Lighting...
without the Beasts!



RECESSED•TRAK™

From ALKCO

Track systems for accent lighting used to mean that the most noticeable (and distracting) accents were the track fixtures themselves!

Those days are over. New Recessed•Trak™ fits flush into any ceiling system... turns corners, runs to any length you desire. It tracks without distraction!

Totally concealed inside the housing, lightmodules can be placed anywhere along the track, rotated 380° and adjusted up to 40° from vertical.

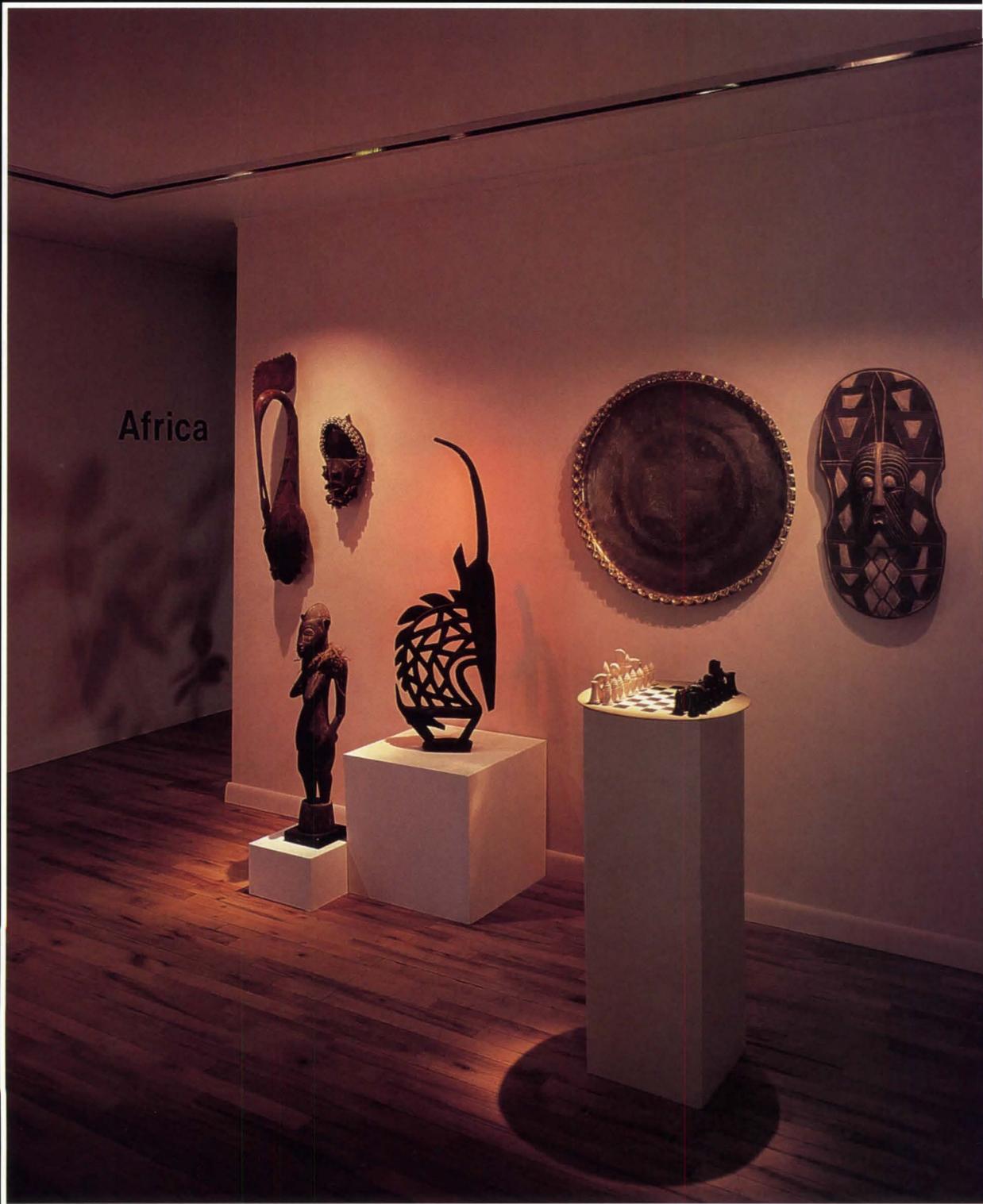
You can pinpoint, accent, highlight or flood. Optional lenses and filters produce special effects and vivid colors. Twin circuits allow individual control of lightmodules for maximum flexibility.

Miniaturized quartz halogen lamps emit true white light with exceptional color rendering.

Now, when your accent lighting message isn't the system itself, your medium most surely should be Recessed•Trak, from Alkco.

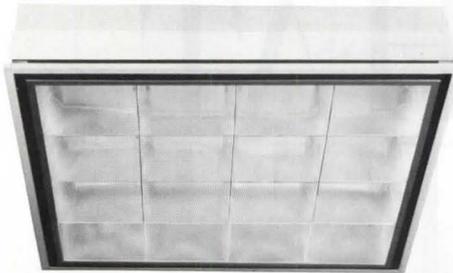
For your copy of Alkco's new condensed *Space Enhancers* catalog, write to the address below.

ALKCO
where quality
comes to light



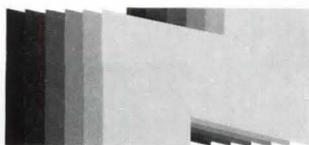
National Lighting

Fluorescents For Wide Open Spaces



When E.F. Hutton teamed up with Gerald Hines Interests to build the brokerage firm's new world headquarters, their project designers turned to National Lighting for the building standard fixture. The 2x2 low brightness champagne gold parabolic in a 5x5 ceiling module answered the unique design needs of the trading floor with its myriad desktop terminals.

National Lighting maintains the largest factory in the New York area dedicated exclusively to the manufacture of fluorescent fixtures. When a future landmark rises in Manhattan, we light the way.



National Lighting Company, Inc.
Fluorescent Lighting

522 Cortlandt Street Belleville, New Jersey 07109
N.Y. 212/267-4400 N.J. 201/751-1600

Circle No. 415 on Reader Service Card

Booth 944

Vivere Corp./Programmaluce
250 W. 57 St./ #1204
New York, NY 10019
212/315-1788

Table, floor, wall mounted lamps with halogen, fluorescent, PAR 36 VW FL bulbs for commercial and residential use.

Booth 768

Voigt Lighting Industries, Inc.
135 Fort Lee Rd.
Leonia, NJ 07605
201/461-2493

Custom architectural lighting instruments emphasizing photometric control and aesthetic grandeur—and special performance H.I.D. and LPS solutions for warehouses, tunnels, plant growth, etc.

Booth 837

Voltarc Tubes, Inc.
176 Linwood Ave./P.O. Box 688
Fairfield, CT 06430

Booth 202

Waldmann Lighting Co.
1714 S. Wolf Rd.
Wheeling, IL 60090
312/520-1060

Task lighting, CAD lighting and halogen.

Booth 1248

Wendel Lighting Co.
% Don Prohaska Commk.
Grethenweg 143
6000 Frankfurt/Main 70
West Germany

Booth 248

Wendelighting
9068 Culver Blvd./P.O. Box 667
Culver City, CA 90230
213/559-4310

Interior and landscape accent lighting products. Specializing in optical contour projectors.

Booth 1078

Westerfield Co.
770 Gateway Center Dr.
San Diego, CA 92103
619/263-6672

Energy efficient lighting systems.

Booth 971

Western Lighting Standards
18060 Euclid
Fountain Valley, CA 92708
714/549-0650

Lighting poles, bollards, nostalgia lighting fixtures, architectural amenities.

Booth 310

Westinghouse Electric Corp.
Integrated Building Systems
Five Parkway Center
Pittsburgh, PA 15220
412/937-6182

INCOM Lighting and Energy Management Systems for reliable control of lighting and energy management functions to optimize energy usage in new or existing facilities.

Booth 236

Wiko Ltd.
10490 W. 164th Pl.
Orland Park, IL 60462
312/349-1570

Wiko—replacement quartz-halogen display lamps for low voltage lighting. Both MR 16 and MR 11. Also a full line of both incandescent and quartz halogen A/V—photo lamps, general lighting, micrographic and STTV lamps.

Booth 440

W.J. Whatley, Inc.
6980 E. 54th Pl.
Commerce City, CO 80022
303/287-8053

Round tapered, square tapered, square straight and ornamental fiberglass lighting poles.

Booth 1050

Woodform, Inc.
9705 NE Colfax St.
Portland, OR 97220
800/624-5096

Contemporary outdoor laminated wood wall sconces, post lights and bollards in incandescent, fluorescent and high intensity discharge modes.

Booth 325

Yorkville Industries, Inc.
550 New Horizons Blvd.
Amityville, NY 11701
516/225-2100

Booth 311

Zelco Industries, Inc.
630 S. Columbus Ave.
Mt. Vernon, NY 10550
914/699-6230

Micro Halogen Desk Lamp, "itty bitty" booklights, "itty bitty" GroLite, Magnificent magnifying mirror, X-changer, supermatch, assorted lanterns and flashlights.

Booth 357

Zumtobel Lighting, Inc.
311 Rt. 46 W.
Fairfield, NJ 07006
201/882-9600

Parabolic fluorescent luminaires for general purpose and VDU applications.

The best investments around aren't sold on Wall Street.

In fact, most people on Wall Street probably don't even consider them investments.

But they should. And so should you.

Because these investments not only give you a high return on your money. They guarantee it.

They're energy-saving Sylvania lamps. And they prove that the cheapest lamp isn't necessarily the least expensive.

Take our Sylvania SuperSaver® fluorescent lamp for example. It costs more than the standard 40-watt fluorescent lamp, but uses 7 watts less. At the national average electric rate of 8 cents per kilowatt hour, the SuperSaver cuts energy costs by \$11.20 over the operating life of the lamp.

These savings in energy costs result in a 173% annual return on your incremental investment. Even if the standard

lamp were free, you'd be losing more than \$8.00 by not switching to a SuperSaver fluorescent.

ROI varies from lamp to lamp. But any of our exclusive energy-saving Sylvania fluorescents, incandescents and H.I.D. lamps give you a better return than stocks, bonds, and other conventional investments.

So if you're looking for a great return for your money, why look on Wall Street? Just call **1-800-LIGHTBULB** (or if you prefer, contact your IED Independent Electrical Distributor or write GTE Products Corp., Sylvania Lighting Center, Danvers, MA 01923).

Circle No. 355

SYLVANIA

GTE



**EUROPEAN GLASS
AND AMERICAN CRAFTSMANSHIP**
From Visa Lighting



CB1900 - 15" height, 7½" extension



CB1600 - 10½" height, 15" extension



CP1000 - 13½" dia., 6½" height

The Hand Blown Opal Glass Diffuser is 4¾" x 3½" high on the CB2000 and 13½" dia. on all other fixtures.

Available Finishes

Polished Solid Brass, Polished Chrome, or any painted finish you desire.

Available Lamping

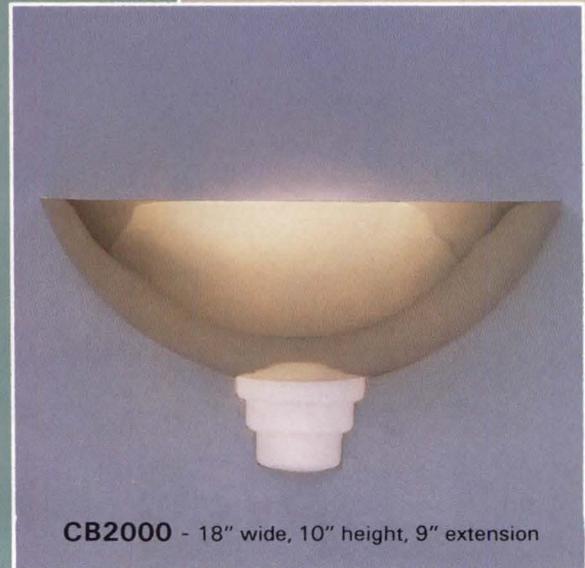
Incandescent, Fluorescent, or Quartz Halogen.



CB1700 - 10" height, 15" extension



CB1800 - 6" height, 7" extension



CB2000 - 18" wide, 10" height, 9" extension

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LIGHTING WORLD 5
NEW YORK, MAY 11, 12, 13,
BOOTH NUMBER 751

 **Visa**
Lighting

8600 WEST BRADLEY ROAD
MILWAUKEE, WI 53224
(414) 354-6600

Exhibitor's List

Lighting

World

International



See Exhibitor Index, page LW15 for complete description of products exhibited.

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ENTRANCE

Show Hours:

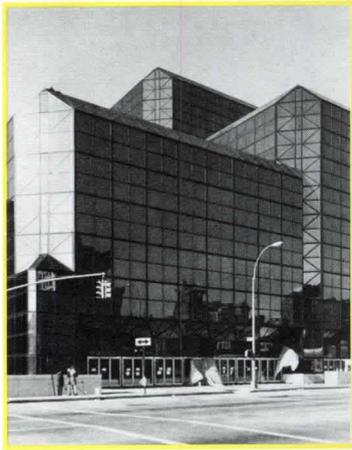
Monday 11:00 a.m. - 7:00 p.m.
 Tuesday 10:00 a.m. - 7:00 p.m.
 Wednesday 10:00 a.m. - 4:00 p.m.

Lighting World International Floor Plan

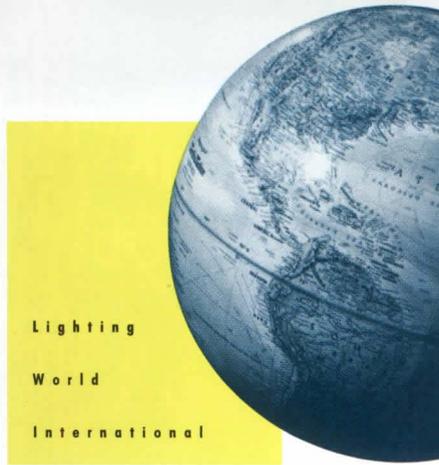
The International Advanced Illumination Exposition & Conference

LIGHTING WORLD 5

New York City • Jacob K. Javits Convention Center • May 11, 12, 13, 1987



N.Y. Convention and Visitors Bureau



Lighting

World

International

- 1245** Lumitel Systems, Inc.
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*Innovative
Solutions for
Outdoor Lighting*

HADCO
ARCHITECTURAL OUTDOOR LIGHTING



POLYQUAD TYPE II/III



POLYQUAD TYPE IV



POLYQUAD TYPE V



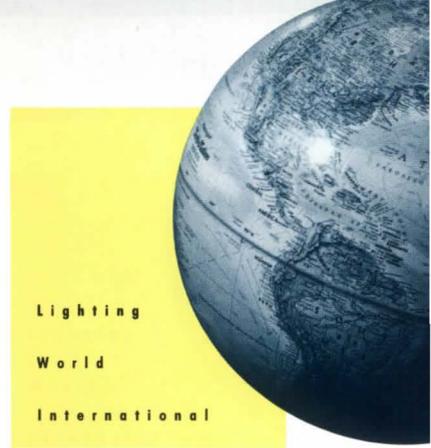
Polyquad — Hadco's family of sharp cutoff luminaires is specifically designed to offer superior performance, high quality and aesthetic continuity to a broad range of outdoor lighting applications.

The most notable characteristics in this family is a combination of unusually good light distribution, efficiency with true sharp cutoff performance, ease of maintenance and superior appearance.

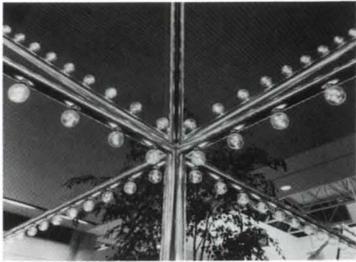
HADCO® a GENLYTE company

Circle No. 357

Products

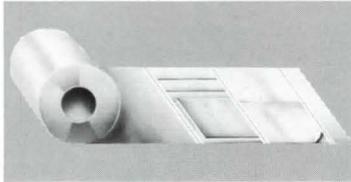


Lighting
World
International



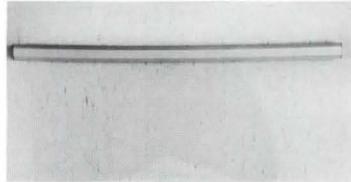
Sentinel/Airey-Thompson: Space Frame Fixtures, constructed of anodized aluminum, are offered in a choice of satin or polished finishes. The two part extrusions feature a snap-on cover for easy wiring and installation.

Circle 100 on reader service card



Alanod: Alanod reflector sheet meets every lighting application. Super specular, specular, semi-specular, diffuse, hammertones and anti-iridescent finishes are available.

Circle 101 on reader service card



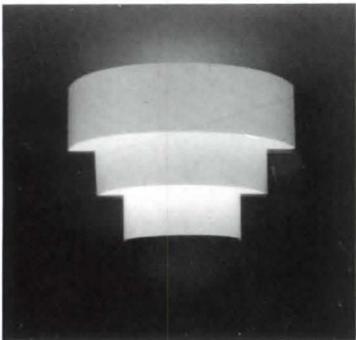
Alkco: Wallscape is an artful yet efficient alternative for wall mount fluorescents. Indirect, direct and combination direct/indirect lighting can be obtained.

Circle 102 on reader service card



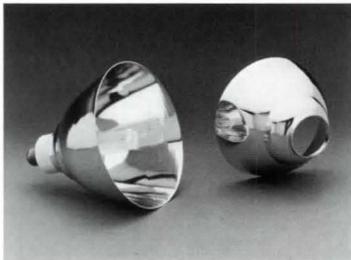
American Crafts: The new ceramic lighting line, designed by Mill Mros includes sconces, pendants, table lamps, torchiers, wall lights & ceiling fans.

Circle 103 on reader service card



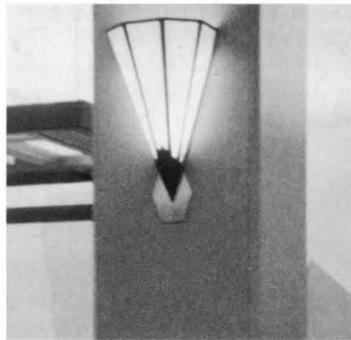
American Lantern: Many new wall and ceiling units are now available in fluorescent or incandescent lamps. Polished brass offered for some models.

Circle 104 on reader service card



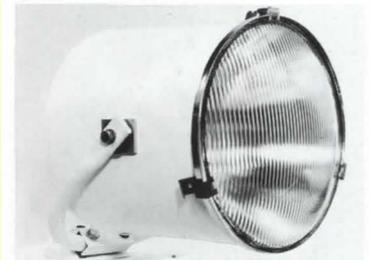
American Light: Retrofit adapters for fluorescent and HPS lamps consist of cut crystal decorative, energy-efficient fixtures and lamps.

Circle 105 on reader service card



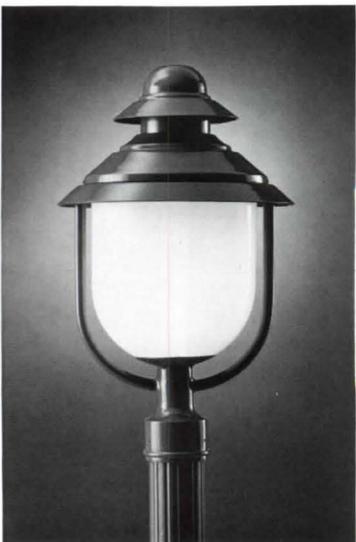
Appleton Lamplighter: This custom fabricated wall sconce consists of a solid brass frame with an opal glass lens and contains two fluorescent lamps.

Circle 106 on reader service card



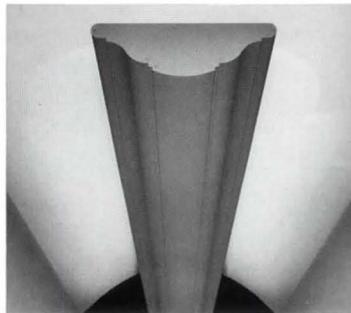
ARC Sales: The Mini-Bmf is one of five new products to be on display at Lighting World 5.

Circle 107 on reader service card



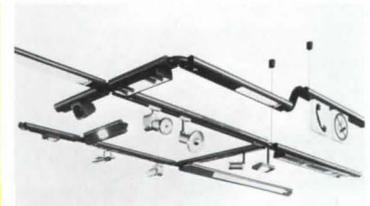
Architectural Area Lighting: Bridging the traditional and contemporary gap with a new lantern constructed of aluminum with a rounded "DR" acrylic diffuser, illuminating today's technology in outdoor lighting.

Circle 108 on reader service card



Architectural Lighting Systems: Luminaire, designed by Robert Sonneman, is constructed of extruded aluminum. Four decorative styles and over 900 color finishes may be selected.

Circle 109 on reader service card



Artemide: Anton Modular, designed by Ernesto Gismondi, consists of extruded aluminum and is offered with fluorescent, halogen or incandescent lighting. Signage and other accessories available.

Circle 110 on reader service card



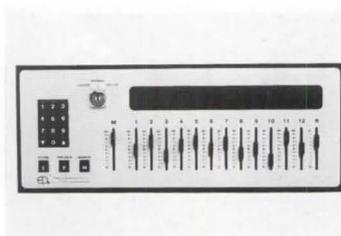
ECP: Series 10 is a screw-in hi-hat retrofit utilizing 2-twin tube lamps with a specially designed reflector. Five, seven, nine or 13 watt fluorescent tubes may be used.

Circle 134 on reader service card



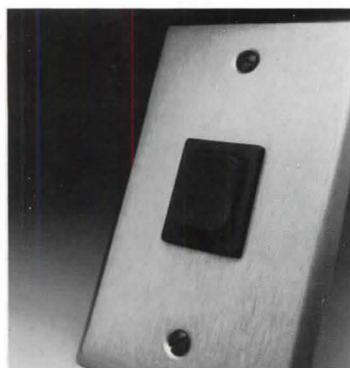
Electrix: Halogen Drafting Lamp uses zinc cast adjustable clamps and has a spring balanced 45-inch reach. Optional side bracket available for use with automatic drafting machines.

Circle 135 on reader service card



Electronics Diversified: Starlite™ Architectural Lighting Controller features a fade rate from 0-60 seconds, LED bargraph display, keyed lockout and programmable or manual control.

Circle 136 on reader service card



Enecron Data: Touch of Class fashion plate provides a lighting system that brings style to low voltage lighting control.

Circle 137 on reader service card



Envel Design: Enveltec 2-foot by 2-foot modular ceiling lenses combine highly reflective optical mirror surfaces with soft, matte white or pastel backgrounds.

Circle 138 on reader service card



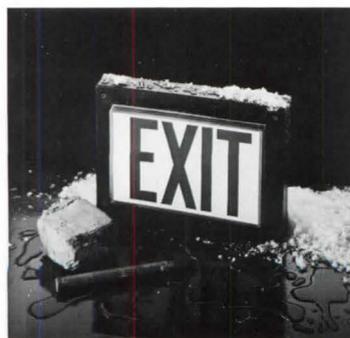
Exide Electronics: Ceil-Pak Series, a totally flush emergency lighting system, mounts in t-bar grid ceilings and offers halogen lamps as well as remote units.

Circle 139 on reader service card



F.R. Industries: Lenzi Ornamental Public Lighting is a complete line of urban furnishings in styles ranging from ornate Louis XV to popular Art-Deco themes.

Circle 140 on reader service card



Fail Safe Lighting Systems: The all weather, vandal resistant Exit sign is injection molded with a polycarbonate housing and operates on PL/7W fluorescent illumination.

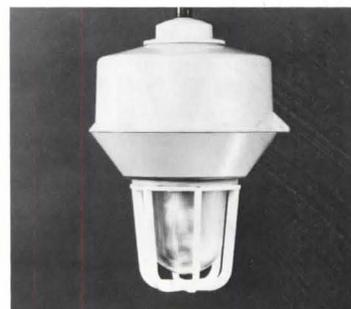
Circle 141 on reader service card



Fyrnetics
High Frequency
Electronic Ballasts

Fyrnetics: A new line of high frequency electronic ballasts is available in 120 and 277 volts in four model sizes.

Circle 142 on reader service card



General Electric: Perma Gard™ corrosion-resistant luminaire for hazardous and adverse locations has no exposed metal parts. Perma Gard™ offers a choice of optical assemblies.

Circle 143 on reader service card



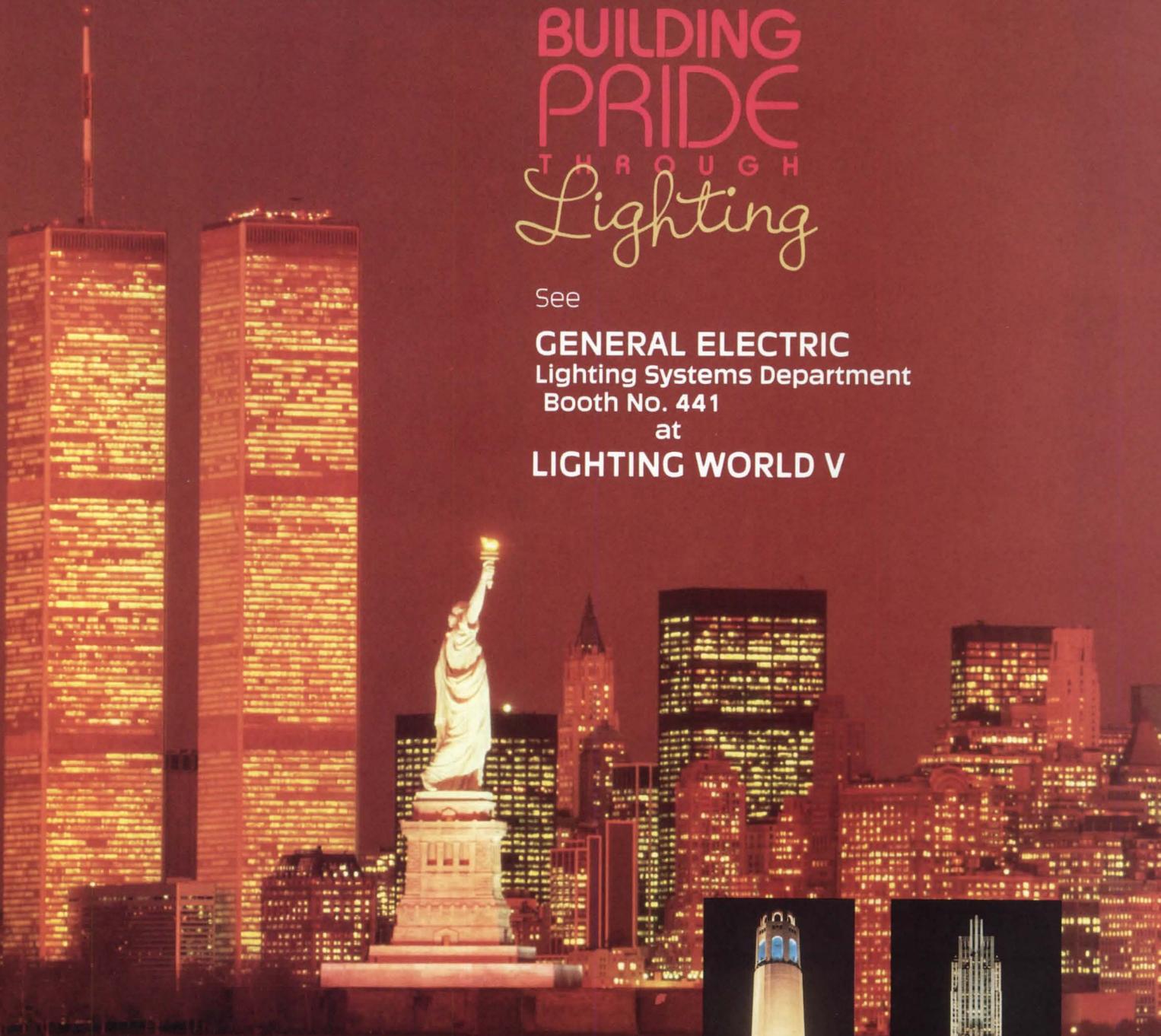
Harry Gitlin: This wall sconce accommodates both halogen and frosted lamp lighting. The flashed opal glass shade is bracket-mounted.

Circle 144 on reader service card

BUILDING PRIDE THROUGH *Lighting*

See

GENERAL ELECTRIC
Lighting Systems Department
Booth No. 441
at
LIGHTING WORLD V



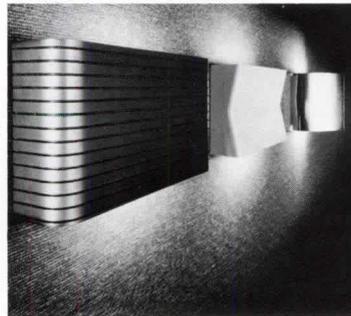
GENERAL  ELECTRIC

GENERAL ELECTRIC COMPANY
Lighting Systems Department
Hendersonville, NC 28739

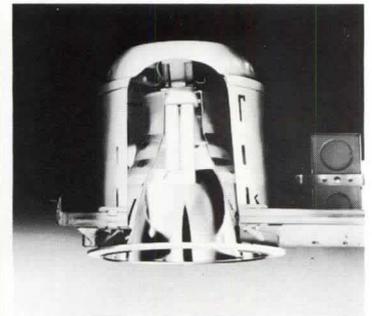
Circle No. 351



Georgian Art Lighting Designs: This solid brass lantern stands 38 inches high, 10½ inches wide, and extends 13 inches. It is available in a variety of finishes and similar styles.
Circle 145 on reader service card



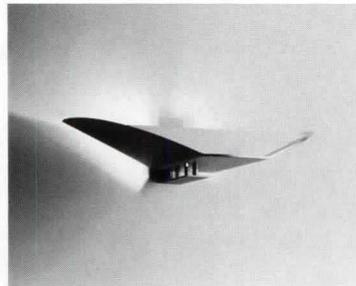
Guth Lighting: Silhouette wall sconce series for either PL-13 fluorescent or 35 watt HPS lamps is available in three faceplate styles and twenty-one material finishes.
Circle 146 on reader service card



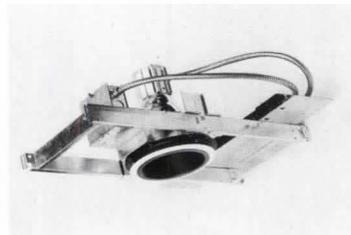
Halo Lighting: This compact fluorescent downlight features an integral ballast, snap-on junction box cover and an adjustable socket plate. Reflectors offered in different finishes.
Circle 147 on reader service card



High Lites: The all die cast exit sign is now offered with dependable twin seven-watt PL type lamps, in both nonemergency and fully self powered models.
Circle 148 on reader service card



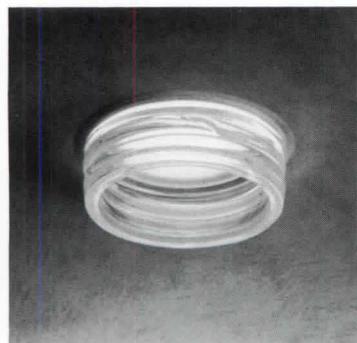
Hilight: Mosquito Halogen wall sconce is designed by Megalit, France. The body is made of lacquered aluminum and the reflector is stippled aluminum.
Circle 149 on reader service card



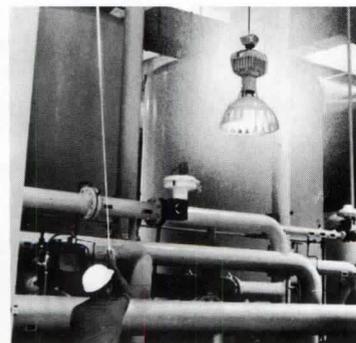
Indy Lighting: The Baffled Downlight Series highlights the G.E. 32W medium base metal halide lamp.
Circle 151 on reader service card



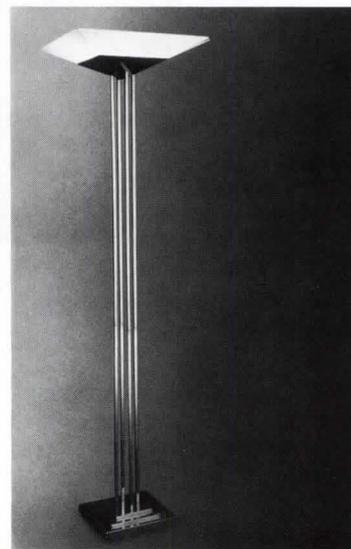
International Lighting Review: ILR is a richly illustrated quarterly review devoted to all aspects of lighting application world-wide.
Circle 152 on reader service card



IPI: Designed by Roberto Pamio, Eta is a recessed fixture providing a downward and diffused light through a translucent multi-color Murano glass diffuser.
Circle 153 on reader service card



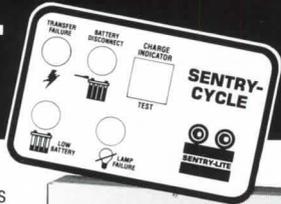
Joslyn: Joslyn/Thompson lowering systems are easy, safe, economical solutions to maintenance problems for indoor and outdoor fixtures and lighting pole systems.
Circle 154 on reader service card



J.T. Kalmar: Kalmar's products feature modern and traditional kinds of glass used in imaginative applications.
Circle 155 on reader service card

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- The only continuous diagnostic system
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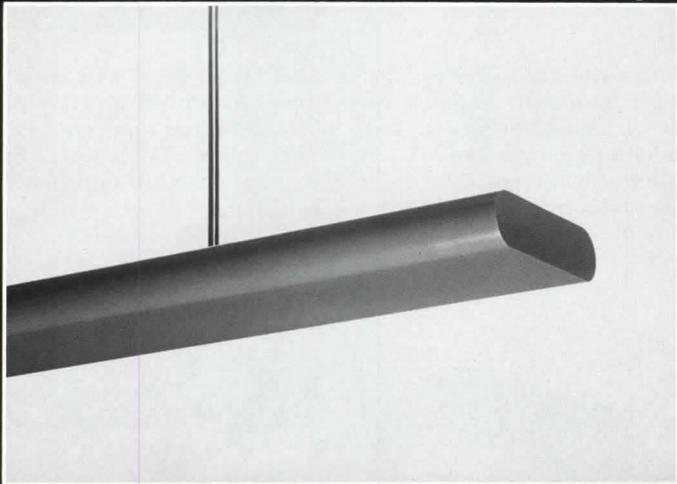
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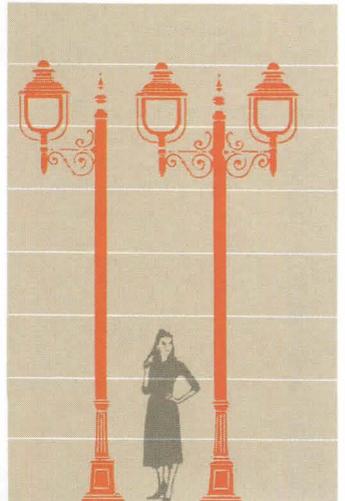


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J W Lighting: Paraloc's™ unique interlocking louver eliminates joint separation and provides optimum performance. Thirty louver/ lamp designs may be configured.

Circle 156 on reader service card



Kenro Light: Kalmar Pyramide HL is available as a ceiling fixture, wall bracket or floor lamp and consists of a polished brass opal glass.

Circle 157 on reader service card



Keystone Lighting: A new high-efficiency, open-bottom recessed reflector strip keeps the light source above the ceiling and out of the glare zone while directing the light.

Circle 158 on reader service card



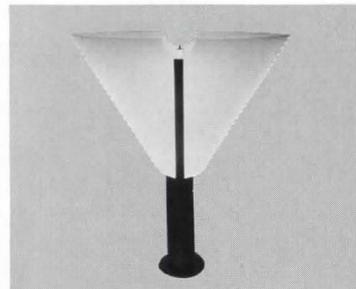
Kim Lighting: The 4300 Series Architectural Mini-Floods with die-cast swivel are low-wattage, high performance compact floodlights housed in a cylindrical aluminum extrusion. There are no exposed fasteners.

Circle 159 on reader service card



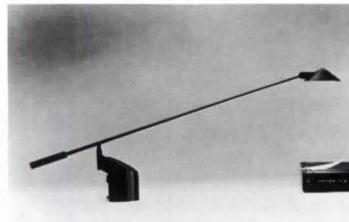
King Luminaire: The Coronet, patented version of the original style 118 Acorn, has true IES type II or type V distribution.

Circle 160 on reader service card



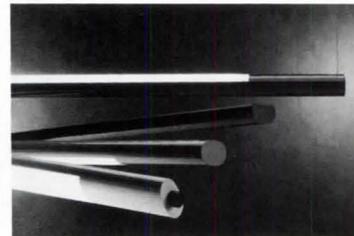
Koch + Lowy: Pharaoh T-605, designed by J. Philippe Zampol of Paris, stands 17 inches tall. The shade is finished in white acrylic and the base finish is offered in black or aluminum anodized.

Circle 161 on reader service card



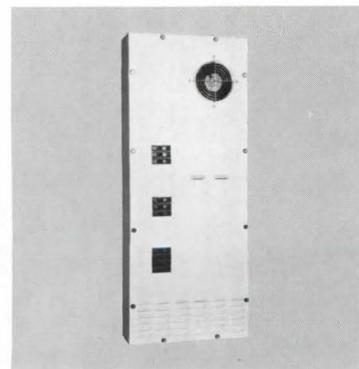
George Kovacs Lighting: Robert Sonneman designed Feather, a portable, 50 watt halogen lighting system that has a 32-inch reach, rotates 360 degrees and is finished in black satin.

Circle 162 on reader service card



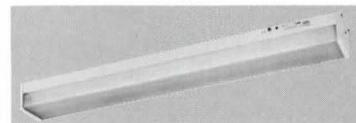
LAM Lighting: Elan is available in direct, indirect, and directable configurations using lenses and diffusers. Easily mounted, Elan is lit by Octron or rapid-start lamps.

Circle 200 on reader service card



Lehigh Electric: Sunburst, a packaged, high-performance dimming system offers manual slider or multiple scene preset controls.

Circle 201 on reader service card



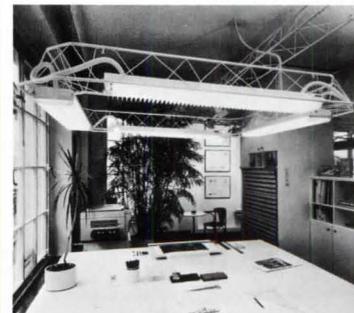
Lightalarms: Series FFAM is a tamperproof, vandalproof fluorescent emergency fixture. The battery pack provides power to one of the lamps for 90 minutes.

Circle 202 on reader service card



Lighting Systems: The Citation Series, designed to utilize a range of lamp types, is available in three sizes. The reflector has segmented optical assembly for precise control.

Circle 203 on reader service card



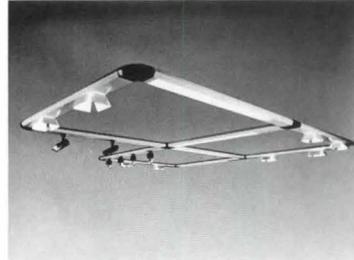
Lightolier: Structura is a new space-frame system designed to partition areas, carry loads or localize lighting. Custom colors and several lighting accessories are available.

Circle 204 on reader service card



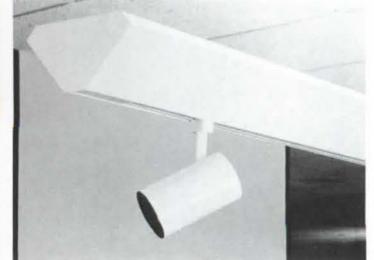
Lightworks: Crystawall is the latest in low voltage light tubing technology.

Circle 205 on reader service card



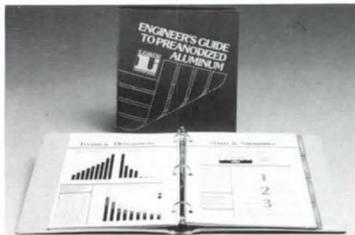
L'Image: L.L.S. are modular lighting systems capable of integrating communication, power and utility lines. Many configurations are possible for all dimensions.

Circle 206 on reader service card



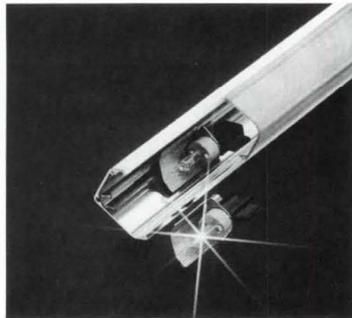
Litecontrol: The Via indirect, only 4 and 9/16 inches high, has a wide-top opening for high efficiency. Recessed track option is available.

Circle 207 on reader service card



Lorin Industries: Binder offers forming assistance for reflector designs that incorporate pre-anodized aluminum and low-iridescent materials.

Circle 208 on reader service card



Lucifer: Trucool is an air-cooled low-voltage halogen showcase reflector engineered to revolutionize cosmetic, jewelry, leather goods and fabric displays.

Circle 209 on reader service card



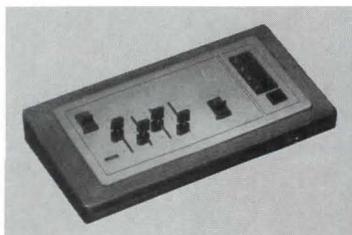
Lumec: Candela consists of a basic clear or opaline polycarbonate globe, ballast base and aluminum or steel poles and mountings.

Circle 210 on reader service card



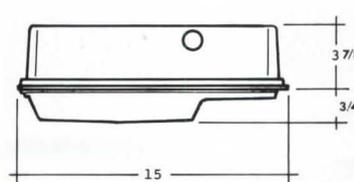
Lumatech: Reflect-A-Star 9 watt and 13 watt Quad Compact fluorescent floodlights are designed to replace up to 100 watt incandescent reflector floods in downlights and track fixtures.

Circle 211 on reader service card



Lutron: Versaplex Manual Slide Control System controls 1 to 12 independent lighting zones and can be set as well as operated from any number of locations through the "Take-Command" control.

Circle 212 on reader service card



McGraw-Edison: The HID Park-King lighting fixture provides lighting solutions for all parking structure illumination needs.

Circle 213 on reader service card

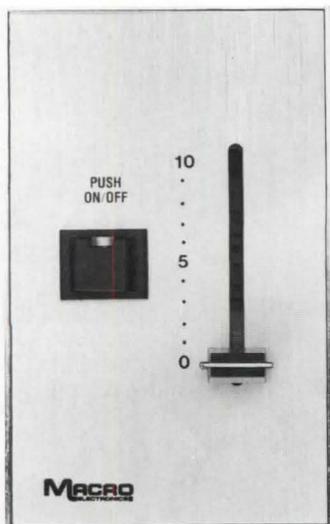


mcPhilben: A new generation of luminaires for area lighting offers a choice of reflectors. Disc, square, rectangular cube models with pole, wall or ceiling mounts are offered.

Circle 214 on reader service card



Lighting
World
International



Macro Electronics: These dimmer systems work for HID, neon, cold cathode, fluorescent, and incandescent lamps with controls from simple to sophisticated electronic memory systems.

Circle 215 on reader service card



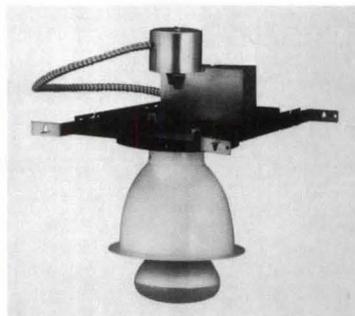
Magnalite: ML Systems are custom designed anodized aluminum reflectors for fluorescent lighting systems.

Circle 216 on reader service card



Magni-Flood: These luminaires accommodate high pressure sodium, low pressure sodium, metal halide and mercury vapor lighting in a range of illumination systems.

Circle 217 on reader service card



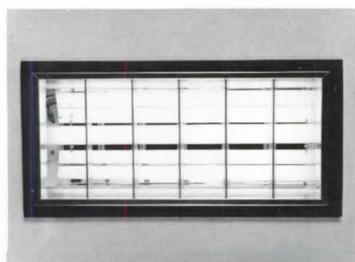
Marco/Marvin Electric: The MX711 line incandescent and fluorescent recessed downlights offer a variety of housing-trims including specular Alzak, eyeballs, and lensed fixtures.

Circle 218 on reader service card



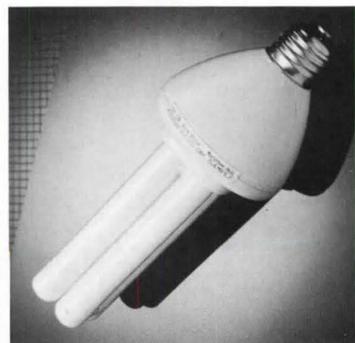
Master-Dim: Recall from 4 to 18 preset lighting scenes with TouchMaster-18 control station that features custom finishes and switch selectable personality.

Circle 219 on reader service card



Maximum Technology: These energy saving optical reflectors for fluorescent lighting utilize premium grade reflectors and are designed for both retrofit and new construction.

Circle 220 on reader service card



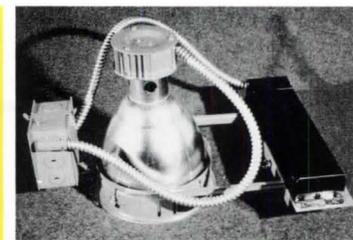
Mitsubishi: Super Marathon quad is a 22-watt instant-on screw-in compact fluorescent lamp that provides light equivalent to a 100-watt incandescent and lasts 12 times longer.

Circle 221 on reader service card



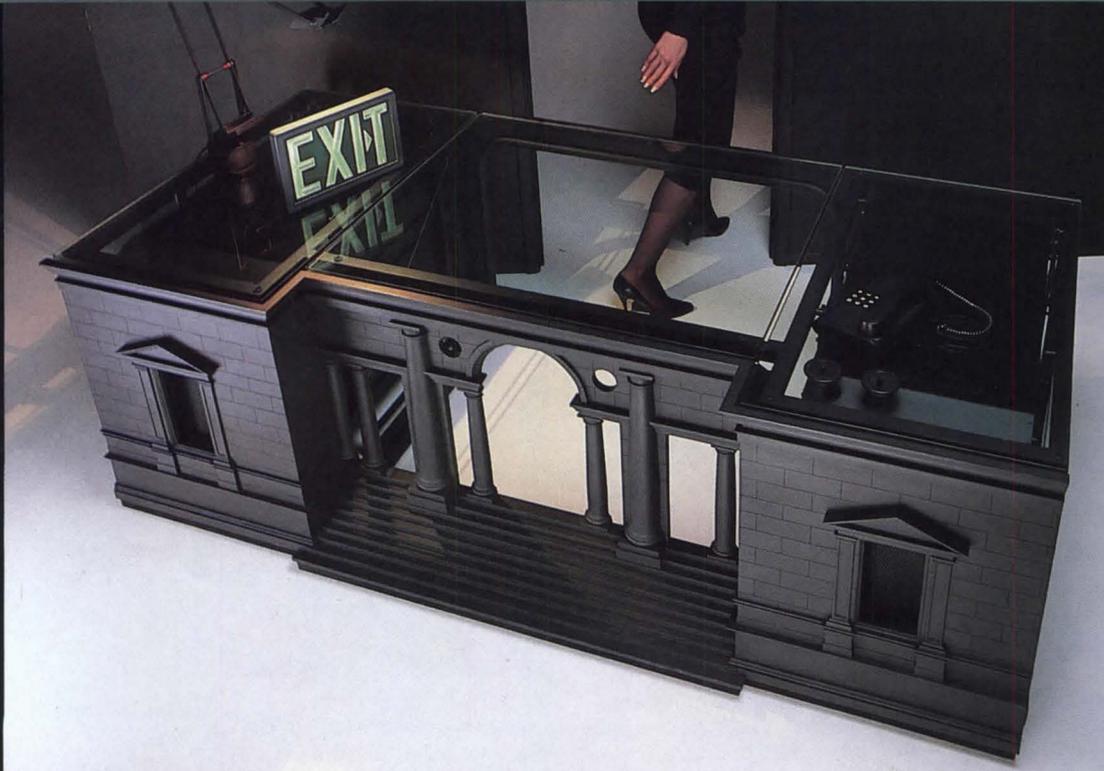
Neon Modular Systems: Laser Light Sculptures, a neon light source housed in sleek visionary designs, provide a variety of decorative possibilities.

Circle 222 on reader service card



NL Corporation: This line of recessed fixtures for G.E.'s 32-watt Halarc™ Metal Halide Lamp have electronic ballast, and are offered in 120 and 270 volts.

Circle 223 on reader service card



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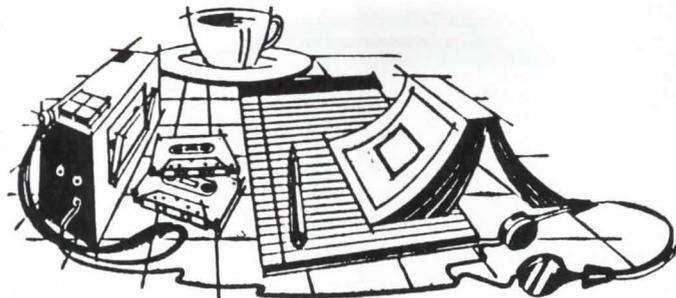
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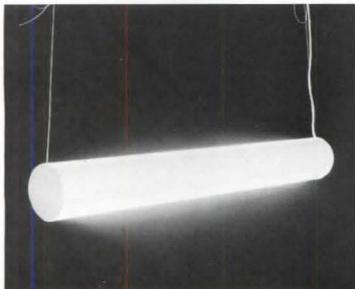
Circle No. 373 on Reader Service Card



Lighting

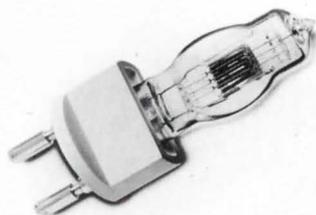
World

International



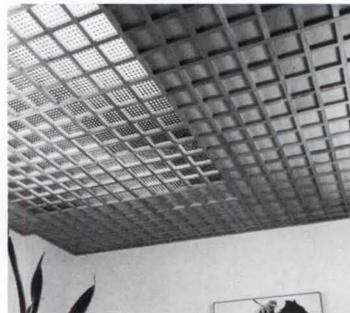
New Horizons Lighting: Series 4000 Tubular Fluorescent lighting systems are offered in standard 4-inch and 6-inch diameters. Architectural fluorescents are available in many designer colors.

Circle 224 on reader service card



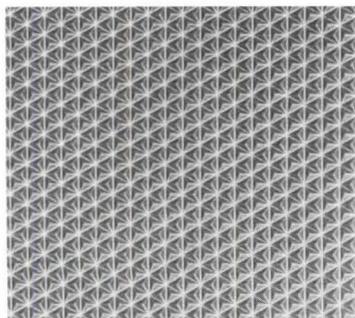
North American Philips Lighting: Intended for stage and studio use, the SureSpot lamps feature built-in reflectors which eliminate cleaning and focusing time.

Circle 225 on reader service card



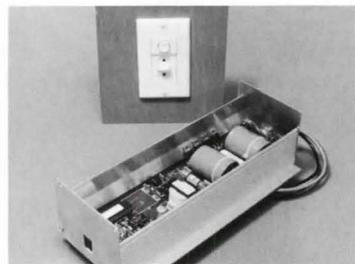
Norton Industries: NWG-C Series is a non-modular wood grille ceiling fabricated of solid hardwood to create a continuous appearance in lit or nonluminous designs.

Circle 226 on reader service card



Polarized International: Polarized/Radialens Panels, .150 inch thick, provide wide (batwing) distribution to reduce lighting and glare and improve vision.

Circle 228 on reader service card



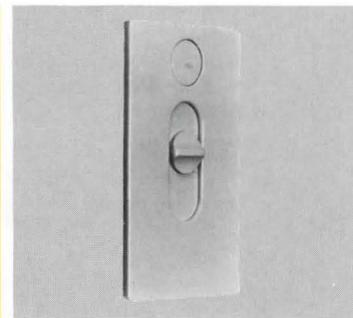
PowerLine Communications: The PowerLine Dimmer for manual control is a revolutionary microprocessor controlled dimmer that enables dimming of entire 120 or 277 volt, 20 ampere, fluorescent lighting circuits.

Circle 229 on reader service card



Prescolite: The new Double Twin Tube Fluorescent Downlight Series uses two double twin tube lamps providing a 1700 lumen package in a 6-inch aperture.

Circle 230 on reader service card



Prescolite Controls: Horizon, an ultra-thin wallbox dimmer, features an exclusive touch on/off switching separate from the slider and offers full control from multiple locations.

Circle 231 on reader service card



Prime-Color: Illumination quality meter is a sophisticated, handheld, computer-operated light-measuring device.

Circle 232 on reader service card



Progress Lighting: The collection of eleven new cord and chain hung pendant lamps offers distinctive design in a selection of accent and pastel colors.

Circle 233 on reader service card



Quoizel: Royal Kensington Series, handmade with acid etched crystal, is an authentic 19th century reproduction in solid brass with ornamental arms. Six sizes offered.

Circle 234 on reader service card

Low Voltage Architectural Incandescent Tube System

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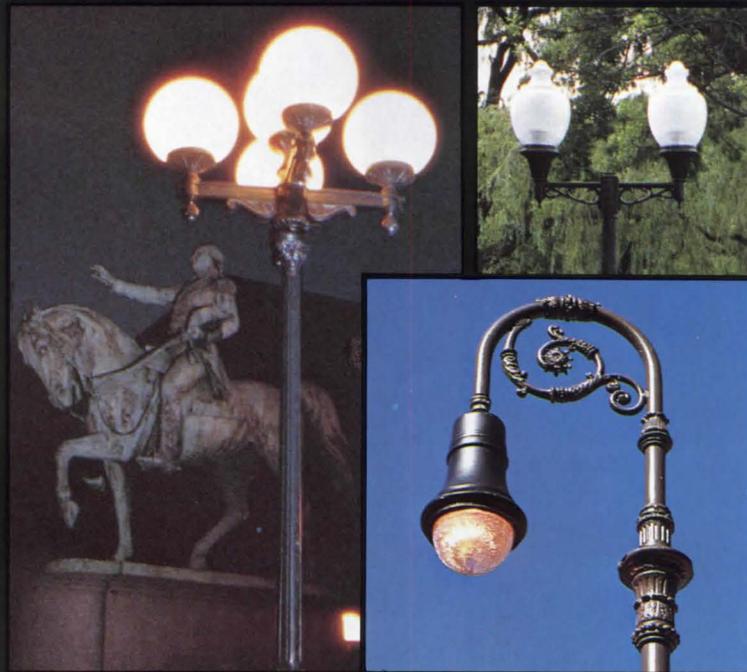
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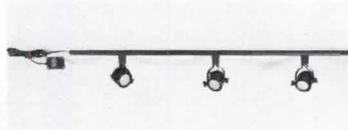
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Circle No. 403 on Reader Service Card



Fredrick Ramond: The Riva series of sculptural floor standing Halogen fixtures features optically beveled and polished acrylic columns.

Circle 235 on reader service card



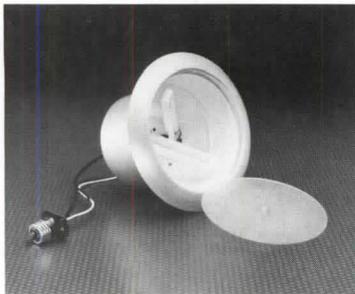
Roxter: Euro style fixtures are interchangeable on 2- and 4-foot tracks, both are offered in permanent mount and portable plug in models.

Circle 236 on reader service card



Saunders-Roe Developments: BetaLux-E, with a safety-10 rating, is the slim aesthetic solution in self-luminous exit signs.

Circle 237 on reader service card



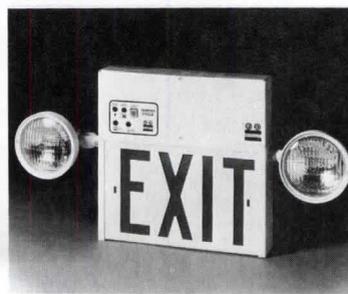
Scientific Component Systems: X18 CR Flush-mount, screw in retrofit fixtures for 6-inch diameter recessed ceiling downlights are housed in anodized aluminum and provide easy ZIP-CORD installation.

Circle 238 on reader service card



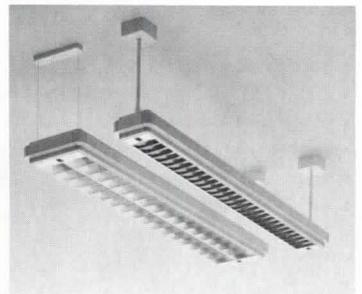
Sentry Electric: The Bishop's Crook is one of several ornamental luminaires equipped with metal halide, high-pressure sodium or mercury lamps for high light output and efficiency.

Circle 239 on reader service card



Sentry-Lite: Sentry-Cycle, a diagnostic system for emergency lighting, provides continuous (every 15 seconds) automatic monitoring along with instant display of critical functions.

Circle 240 on reader service card



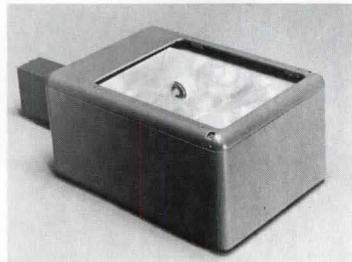
Siemens Lighting Systems: The BS 900 light fixture for ceiling and suspended mounting provides creative lighting solutions for VDU problems in new buildings or retrofit applications.

Circle 241 on reader service card



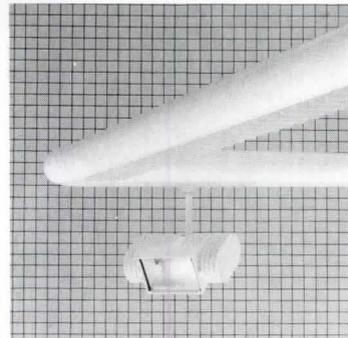
Société Pole-Lite Ltée: Square tapered or non-tapered aluminum poles are now available for applications from 8 feet to 35 feet. Color finishes can be designer specified.

Circle 242 on reader service card



Spaulding Lighting: Cambridge parking area radius corner luminaires are available with field rotatable forward-throw optics, asymmetric or symmetric distribution.

Circle 243 on reader service card



Staff Lighting: Oval Tubular Lighting System has captured a new dimension in tubular lighting. Fluorescent, track, or blank tubes are offered.

Circle 244 on reader service card



Sunnex: High-intensity, low-voltage halogen TINY lamps provide brilliant lighting, attractive design, and all-brass construction. Floor, desk/table, and wall models are available.

Circle 245 on reader service card

Grip 36 Series

Quick Ship Delivery

- Track or surface mounted
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 - PAR 36, 12 Volts
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Patent Pending

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spero lighting

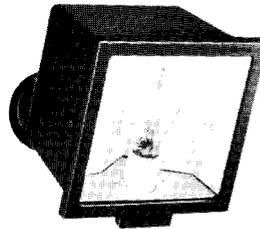
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Circle No. 374

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April 13, 14, 15, 1988 • Los Angeles Convention Center • Los Angeles, California



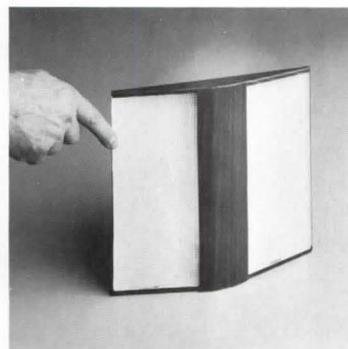
Sun Valley Lighting Standards: This collection of cast-aluminum constructed classic ornamental and traditional lighting fixtures and poles, includes matching arms, sconces and bollards.

Circle 246 on reader service card



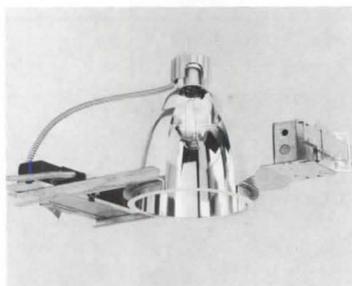
Tishman Research Company: Infracon[®], a passive infrared lighting control sensor automatically turns lights on and off according to occupancy. A wide view sensor may be added.

Circle 247 on reader service card



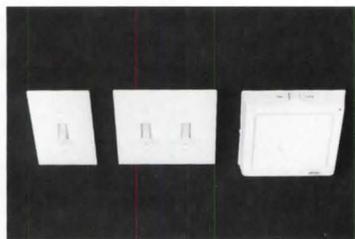
TLS: Securelight system combines a low voltage power supply with a rechargeable battery to provide emergency and energy saving night security lighting.

Circle 248 on reader service card



TrakLighting: The new line of specification grade recessed downlighting utilizes HID, low voltage, line voltage, and fluorescent light sources.

Circle 249 on reader service card



Unenco: The Unenco Switch occupancy sensor covers 250 square feet and is capable of switching up to 12 fluorescent tubes.

Circle 250 on reader service card



Union Metal: "The Real Thing" is among the original historic families of lamp posts using hand-crafted patterns manufactured since 1906.

Circle 251 on reader service card



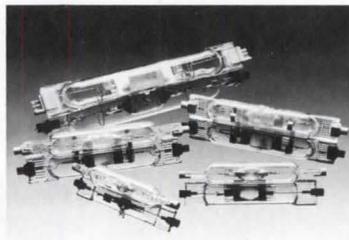
Unilight Limited: Solid brass ceiling fixtures, very practical for low ceiling areas, are available in polished chrome, antique brass, or polished brass finishes.

Circle 252 on reader service card



Universal Manufacturing: Genesis is a high frequency, solid state electronic ballast engineered to maximize reliability and minimize operating costs.

Circle 253 on reader service card



Venture Lighting International: Double-ended metal halide lamps provide the same color and color rendition as regular single-ended lamps. Both lamps may be used in the same installation.

Circle 254 on reader service card



Visual Merchandising & Store Design: VM & SD monthly design magazine for retail display designers, store planners and store interior designers features successful display techniques.

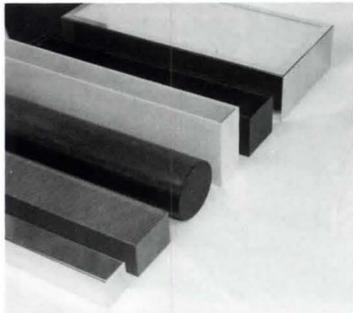
Circle 255 on reader service card

UNION METAL POLES DON'T IMITATE ORIGINALS ...THEY ARE ORIGINALS

Don't compromise your future with imitations of the past! Union Metal's Nostalgia Series is the answer. After more than eighty years, our unique combination of fabricated fluted shafts and ornamental castings remains the standard of excellence.

More than 4400 towns and cities put their first electric lighting on Union Metal lamp posts. Our historic data on these installations have helped many communities identify their past. We can help you, too! Give us a call!

Let our heritage help you restore yours!
Union Metal... America's premier pole manufacturer since 1906.



Voigt Lighting: Custom Architectural Lighting Instruments emphasize photometric control. Pictured is the Sky-Beam concept—building blocks for sculpture with light.

Circle 256 on reader service card

Vue: The MoreVue is a specular aluminum reflector which clips into fluorescent lamps and improves single lamp task lighting by 63 percent.

Circle 257 on reader service card

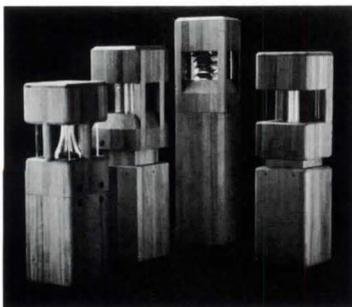


Westerfield: The Reflectocap is a screw-in R40 chrome aluminum reflector with a 72W Sylvania Halogen Capsylite lamp.

Circle 258 on reader service card

Western Industries: Omegalux 1200 Luminaires consists of metal housing, a specular aluminum reflector, 10-ambient ballasts, Lexan lens, and photometrics.

Circle 259 on reader service card

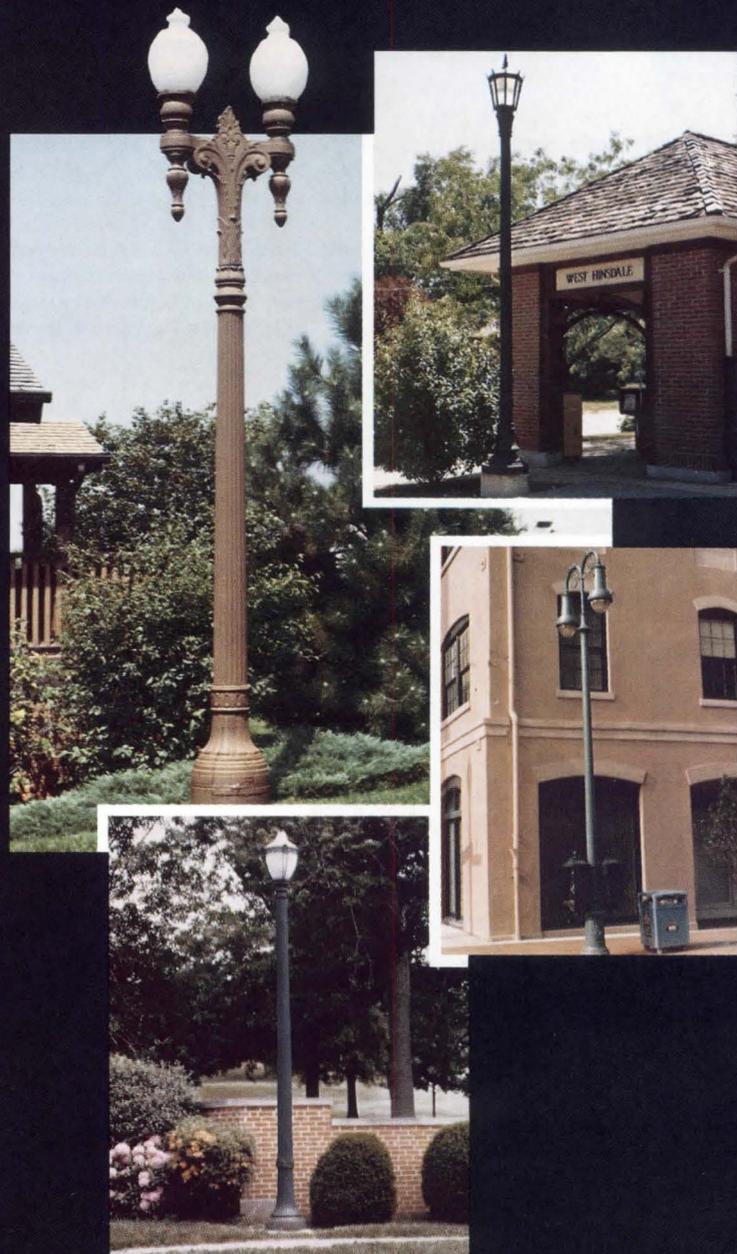


Westinghouse Electric: INCOM, a lighting and energy management system, automatically controls lighting and heating through a programmable personal computer.

Circle 260 on reader service card

Woodform: Group 4000, contemporary outdoor HID lighting, features cylindrical, conical or parabolic options to minimize glare and concealed reflector assembly to maximize light distribution.

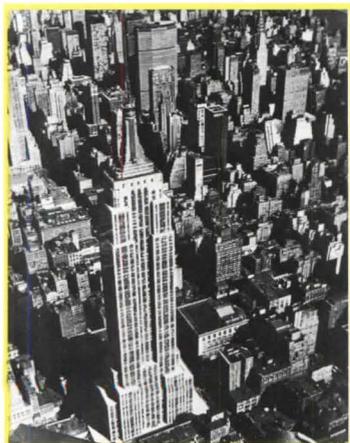
Circle 261 on reader service card



Union Metal
CORPORATION
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CANTON, OHIO 44711

Circle No. 412

General Information



N.Y. Convention and Visitors Bureau

Registration Information—Exhibits, Seminars, Workshops and Special Events

Lighting World International is the largest trade show in the United States dealing specifically with the many aspects of architectural, industrial, commercial, institutional and decorative lighting. It is an international event designed to facilitate the exchange of information and the transaction of business within the industry.

Lighting World International is open to all professionals active in the industry including architects, lighting designers, consulting engineers, building and plant engineers, interior designers, contractors and developers, facility planners and managers, distributors, manufacturers, representatives, educators and the working press. Children under the age of sixteen will not be admitted to the exhibition.

All seminars and workshops will take place on the first floor of the Jacob Javits Convention Center. Registration fees for seminars and workshops vary. Please consult the registration form for fee schedule.

Exhibit Hours

Monday	11:00 A.M.— 7:00 P.M.
Tuesday	10:00 A.M.— 7:00 P.M.
Wednesday	10:00 A.M.— 4:00 P.M.

Registration

Registration will take place in the Crystal Palace of the Jacob Javits Convention Center, 34th Street and 11th Avenue.

Registration Hours

Monday	7:30 A.M.— 7:00 P.M.
Tuesday	7:30 A.M.— 7:00 P.M.
Wednesday	7:30 A.M.— 4:00 P.M.

A badge allowing entrance to the exhibition for all three show days is \$15.00.

Badges

Where the information has been furnished, attendees will be provided with a color coded badge indicating their occupation. The coding is as follows:

Architect	Blue
Lighting Designer	Brown
Interior Designer	Green
Consulting Engineer	Black
Building/Plant Engineer	Red
Contractor/Developer Representative	Purple
Facility Planner	Orange
Facility Manager	Yellow
	White

Offices

The Show Management office will be located on the fourth floor of the Convention Center in Room 4E01. Information regarding Lighting World International will be available throughout the show.

Press Room

Working press are invited to make full use of the Press Room located on the fourth floor of the Convention Center in Room 4E02. Personnel will be on hand to assist qualified members of the press in their coverage of Lighting World. The Press Room will be open during all show hours.

Services

Lost and Found—see any building public safety officer in the Convention Center.

First Aid Room—located behind Hall 1E on Level 1 of the Convention Center.

Message Center—Messages may be left for an attendee or an exhibitor at the Information Desk located in Registration in the Crystal Palace or placed directly on the Message Board located in the Crystal Palace.

Bus Service—Shuttle buses will run continuously during show hours between the Convention Center and the New York Hilton and Sheraton Centre hotels. Consult signs in the lobbies of the hotels and the Lighting World Registration area for schedule.

Dining Facilities—There is a cafeteria located on Level 1 of the

Convention Center as well as a concession stand with seating which is located in the Crystal Palace for your convenience.

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Unauthorized Solicitation

Solicitation of business on the premises of the exhibition by anyone other than the official exhibitors is strictly prohibited. Please report any such occurrence to Show Management.



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Circle No. 367



Menil Collection, Houston, Texas, by Piano & Fitzgerald.

Museum for the Menil Collection

Designed by Italian architect Renzo Piano, in joint venture with a Houston firm, the Menil Collection is a deliberately nonmonumental structure for the care and display of Modern Art. Suspended between the art works and the Texas sun is a unique system of ferro-cement "leaves" that reduce and disperse daylight over the galleries.

P/A Inquiry Health Facilities

Examined here will be the design and remodeling of health facilities in response to changing methods and standards of care.

Also in May

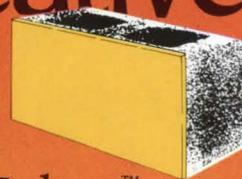
Features on other outstanding buildings, a report on the annual P/A International Furniture Competition, a special NEOCON section, a P/A Reader Poll on the AIA, and a P/A Technics article on ceilings.

Future Issues

In June, P/A will publish a special issue on Young Architects, and in July a critical look at new work in Paris.

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Let your imagination soar with color only heretofore in your mind's eye. Custom colors, too. An extraordinarily flexible design medium, interior and exterior. Great for wrap-arounds.



Spectra-Glaze II

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INTRODUCING A 21ST THAT LOOKS RIGHT AT

The Marvin Magnum Authentic Double-Hung may look like it belongs in the Nineteenth Century. But the truth is the technology we build into this window will be more at home in the Twenty-first.

AUTHENTIC. RIGHT DOWN TO THE DIVIDED LITES.

Some companies might be content to simulate what were originally divided lites by placing a wood (or even plastic) grid over a single pane of glass.

Not Marvin.

By taking the time and making the effort to create real divided lites, we give you a window that more closely replicates the original. We bring the true spirit of craftsmanship to the job. The same craftsmanship to be found in the

original windows.

At the same time, we offer you a wide range of glazings for efficiency. Choose single, insulating, solar bronze, solar gray, solar cool, Low-E, or Low-E with Argon. At Marvin, authenticity is no excuse for inefficiency.

A STRONGER WINDOW. FROM STRONGER STOCK.

This window is made to stand the load. $\frac{5}{4}$ " stock is standard in the frames, with $1\frac{3}{4}$ " throughout the sash. Header, check rail and bottom sash, all are sealed with the best possible weatherstripping.



The result is a window that performs better under severe weather conditions. Without compromising the architectural integrity of the building.



CENTURY WINDOW HOME IN THE 1800'S.

AN EASIER WINDOW TO MAINTAIN.

Both sash on every Magnum Double-Hung tilt into the room for cleaning. It's a feature that will save time and money for years to come.

Even the exterior is easy to maintain since we offer this window with Polycron finish, as well as in natural Ponderosa pine that's been specially treated to protect against rot and decay.

The object isn't just a window that looks and works better. It's a window that looks and works better while it lasts longer.

WE SET THE STANDARD FOR NON-STANDARD SIZES.

Some companies are content to offer standard sizes from inventory. We make every window to order. This unique, Marvin way of doing business makes it easier for us to fabricate windows that simply don't fit into other companies' plans.

Whether its a special project with hundreds of one-of-a-kind replicas or a single window that simply boggles the mind, we stand ready to work with you. Every step of the way.

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Maybe that's why so many architects and designers put their trust in Antron. And why they've made Antron the number one specified carpet fiber in the country.

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THE ANSWERS COME EASY WITH ANTRON[®]



Circle No. 342



We put holes in to keep it from

Generally speaking, the purpose of a roof is to keep what's outside a building from getting inside a building.

Which means the last thing you'd expect to want in your roof is a hole.

But that's exactly what we do with the most advanced single-ply roofing system you can buy. Put holes in your roof so it doesn't leak.

The mechanically-attached Hi-Tuff™ roof. What goes down doesn't come up.

To stick a single-ply membrane to the roof deck, some people use glue. Which works. For a while. But because glue can be sensitive to moisture, rooftop chemicals, and building expansion, the membrane can come unglued. And there goes the roof.

Others use ballast, or stones. Thing is, to keep a 100,000 square foot roof in place, you need a million pounds of stones on top of it. Now, is that something you want hanging

over your head?

Which brings us to the Hi-Tuff roof from Stevens.

We attach the scrim-reinforced, Hi-Tuff membrane to the deck with corrosion-resistant fasteners. We cover the fasteners with the next layer of membrane. And then we fuse the two layers together with a hot air welder. The result is a single, roofwide sheet of rubber.

A Stevens roof isn't gone with the wind.

Once installed, a Hi-Tuff roof resists destructive wind uplift forces. In fact, in Factory Mutual's wind uplift test, the Hi-Tuff roof received the highest available rating of 90 pounds of pressure per square foot, then exceeded it by 50 percent. Which means if there's a place on earth that's too windy for a Hi-Tuff roof design, nobody's discovered it yet. Or if they did, they got blown away.

When the weather gets tough, Hypalon* gets tougher.

The Hi-Tuff membrane is made

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395 Pleasant St., Northampton, MA 01061

*Hypalon is a registered trademark of Du Pont.

your roof leaking.

from DuPont's Hypalon. Unlike other membrane material, Hypalon combines the best properties of both thermoplastics and rubbers. So after it's hot-air welded and fully installed, it self-cures to resist ultra-violet rays, rain, pollution, heat, and cold.

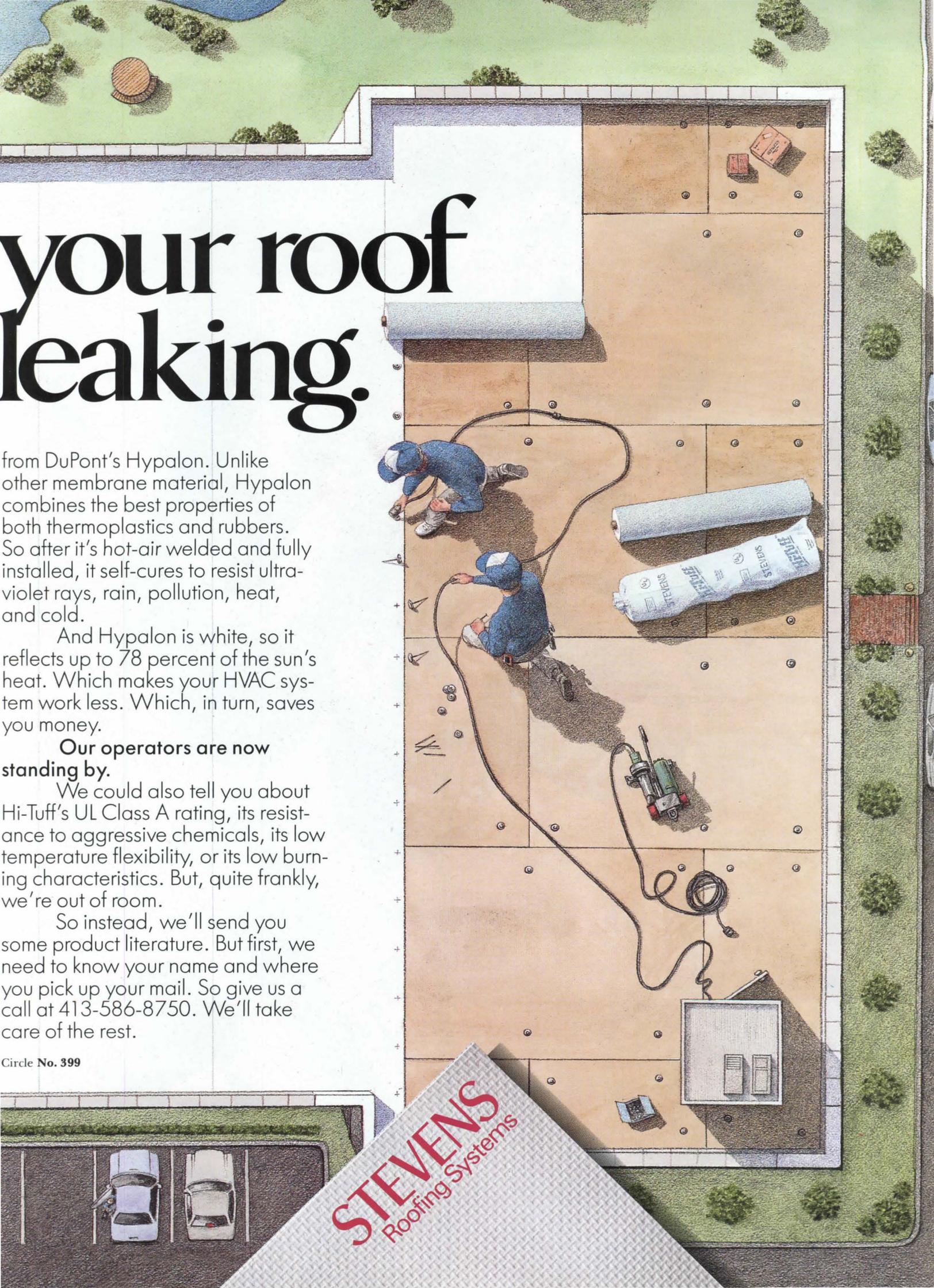
And Hypalon is white, so it reflects up to 78 percent of the sun's heat. Which makes your HVAC system work less. Which, in turn, saves you money.

Our operators are now standing by.

We could also tell you about Hi-Tuff's UL Class A rating, its resistance to aggressive chemicals, its low temperature flexibility, or its low burning characteristics. But, quite frankly, we're out of room.

So instead, we'll send you some product literature. But first, we need to know your name and where you pick up your mail. So give us a call at 413-586-8750. We'll take care of the rest.

Circle No. 399



STEVENS
Roofing Systems



NEOCON 19

JUNE 9 - 12, 1987

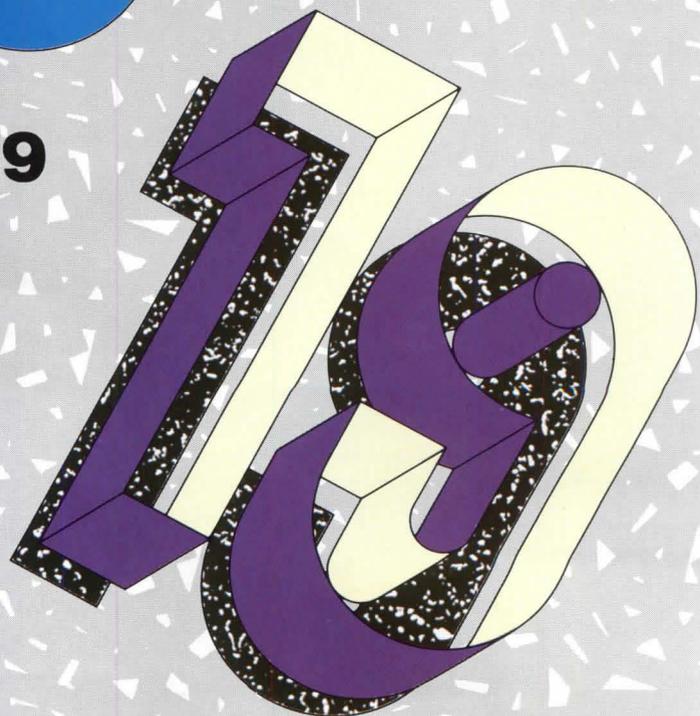
THE MERCHANDISE MART

CHICAGO

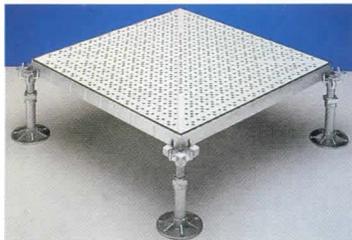
THE WORLD CONGRESS ON
ENVIRONMENTAL PLANNING

AND DESIGN

Circle No. 383



New Products and Literature



Access floor system for clean rooms, computer rooms, and other specialized environments is made entirely of aluminum for strength, durability, and static dissipation. Conductive tile and high-pressure laminates can be used as floor coverings. Standard aluminum panels are 24 inches square; each panel is rated for 1000 pounds of concentrated load and 850 pounds of rolling load. Airflow panels are available to provide laminar airflow in high-tech environments. Tate Access Floors, Inc.

Circle 262 on reader service card

Wireless microprocessor-based alarm systems for commercial and high-rise buildings provide early fire warning protection and security and personnel monitoring. The system is especially suited to installation in existing buildings. Operation is similar to that of a telephone cellular network. It offers potential cost savings from 25 to 75 percent and faster installation time. Exposed wire moldings, core boring, or refurbishing expenses are not required. World Electronics, Inc.

Circle 263 on reader service card

Versigard HP-75 extra thick roofing membrane is designed to be fully adhered to a hard insulation laminate. It has improved protection against membrane punctures, greater resistance to aging, and expansion and contraction capability to compensate for movement of buildings during thermal changes. The membrane is offered in black and white for energy savings in cold or hot climates. Goodyear Roofing Systems Div.

Circle 264 on reader service card

Teorema wall tiles have bold black and white positive and negative circles centered on five-inch-square white Italian ceramic tiles. They are also available, on special order, in blue, orange, yellow, or coffee brown. Teorama can be used as accents for solid tile or arranged in patterns. Hastings Tile & Il Bagno Collection.

Circle 265 on reader service card

"Contessa" carpet of luxury pinpoint Saxony cut pile, from the Eligere group, is made of Tactesse fiber from ICI Fibres. It has a palette of 48 colors and deep pile for high-end contract and residential applications. The fiber provides soil-hiding properties and a high level of static control. It is durable, resilient, and highly resistant to staining and soiling. The 100 percent synthetic back resists mildew and mold. Collins & Aikman.

Circle 266 on reader service card

Model FSF fixed skylight provides natural light for living areas with ventilation to remove stale air and heat build-up through a vent flap, easily operated by a pull cord or optional remote control. Frames are fine wood with mortise and tenon joints. A condensation gasket drains moisture to the outside. Double tempered glass is standard. Velux-America, Inc.

Circle 267 on reader service card

Design Series 90 fabric-faced acoustical wall panels have a composite sound-absorbing fiberglass core within an extruded channel frame. Panel thicknesses are 5/8, 1, or 2 inches, widths are 24 and 48 inches, and lengths are 8, 9, and 10 feet. The panels are covered in a range of woollike heather tones in upholstery grade fabrics or they can be covered in customer's fabric. A four-page, four-color brochure provides product design and performance characteristics, application information, and specifications. Peabody Noise Control, Interior Systems Div.

Circle 268 on reader service card

Comfort-E[™] glass makes maximum use of the sun's energy and daylight and minimizes the heat that escapes through the glass in winter. The energy-efficient properties of Comfort-E, combined with good architectural construction, assists in reducing summer air-conditioning loads. The glass has a low-emissivity coating that allows the emission of radiant energy while allowing daylight, or short-wave energy, to pass through the glass. AFG Industries, Inc.

Circle 269 on reader service card



Gullwing Terminus seating is cantilevered from the top of a tubular steel frame, leaving the floor clear for maintenance and security checks. Designed by Peter Crutch, it is intended for airports, railway stations, and shopping and leisure centers. Manufactured in 2-, 3-, 4-, 6-, and 8-seat units, it can be installed back-to-back for more flexible and cost effective seating. Clip-on pads can be removed easily for cleaning. The knockdown construction enables the seating to be transported economically and bolted together on site. Hille Ergonom.

Circle 270 on reader service card

Ceramix single-control faucet line includes Ceramix Electronix with a liquid crystal display giving the temperature of water passing through the faucet. The Ceramix and Ceramix Electronix faucets come in six finishes: chrome, polished brass, bone, white, white with gold trim, and gold. Bath/showers and showers are available with a pressure balancing feature for maximum safety in the shower. American Standard, Inc.

Circle 271 on reader service card



European style faucets and accessories are shown in a 56-page full-color catalog. There are seven collections of faucet designs in the International line. Each collection offers matched accessories. The catalog includes description, model number, finishes available, weight, and list price of each product. Moen Group, Stanadyne.

Circle 272 on reader service card

Concrete publications catalog contains over 325 listings. Publications include those on concrete technology, structural design, concrete construction, and ACI standards, codes, and specifications. The catalog also lists design handbooks, monographs, symposia, bibliographies, and special publications. The American Concrete Institute.

Circle 273 on reader service card

The Reveal-leg Parsons Table has a reveal at the juncture between the leg and apron, giving the appearance of a floating top. The table is available in 13 wood veneers, with a reverse diamond top, and in 16 colors. Tops are round or rectangular. Intrex Furniture.

Circle 274 on reader service card

Silhouette movable wall systems feature sturdy steel construction and a range of choices in colors, textures, and customized dimensions. The system requires no fastening holes to show when the system is moved. Electrical raceways on top and bottom accommodate wiring for communications and office equipment systems. Virginia Metal Industries.

Circle 275 on reader service card

(continued on page 206)



Toughwall wallcovering is intended for heavy contract use. It is available in 15 colors, has an excellent acoustical rating, and is Class A fire rated. The 100 percent polyester fabric is 54 inches wide. Coral of Chicago.

Circle 276 on reader service card

Architectural Radiation catalog of wall fin and convectors discusses product features, styling, and accessories. It includes selection procedures, ratings, correction factors, installation information, capacity data, and mechanical specifications. Used for heating commercial, institutional, and industrial buildings, the systems are available for hydronic, steam, or electric heating. The Trane Company.

Circle 277 on reader service card



A smallwares washer for fast-food operations fits under a sink drainboard. It features automatic operation, a 21-racks-per-hour capability, and a built-in drain pump for installation flexibility. The hot-water sanitizing unit saves energy, water, and detergent, as well as space. Stainless steel top and sides are standard. Hobart Corporation.

Circle 278 on reader service card

Tao wood chair has upholstered or wood back. It has tapered legs and radiused arms accented by square edges of the back frame. The chairs are available in mahogany, oak, walnut, and cherry finishes on a hardwood maple frame. Helikon Furniture Company, Inc.

Circle 279 on reader service card

The Tough Competitor, an eight-page, full-color brochure, includes uses, installation, maintenance, and custom fabrication capabilities, as well as a description of a new roofing copper, mirror-polished stainless steel, and a broad line of anodized aluminum. UNACLAD architectural metal panels are prefinished steel and aluminum with a Kynar 500® 70 percent full-strength paint system. The panels are used in roofing, mansard, flashing, coping, and fascia applications. Copper Sales.

Circle 280 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.

House, Sun Valley, Idaho (p. 86). *Architect: Arne Bystrom, Seattle, Wash.* Concrete: Monroc Concrete. Reinforcing steel: K&T Steel. Sandblasting: GTG Concrete. Glued laminated beams, custom garage doors, cherry and maple laminated stairs/treads, redwood and maple handrails: Idaho Glu-Lam. Redwood columns: Idaho Glu-Lam and Niedermeyer-Martin. Purlins and decking, milling (siding): Nu-Forest Products. Light wood framing: A.C. Houston. Siding incising, custom solid wood doors: Boise Moulding & Lumber. Cedar decking and fir purlins: Precision Redwood Products. Micro-Lam: Trus Joist. Window wall glazing: Alpen Products. Custom aluminum extrusions: Triad Architectural Products. Field-fabricated steel frame: Byron's Welding. Concrete grinding: Intermountain Terrazzo. Tile: Woodland Park Tile. Copper roof: G&H Sheet Metal. Waterproofing/sealants: W.R. Grace Company. Insulation: polyurethane (roof), Upjohn CPR; fiberglass batt (walls), Owens-Corning; rigid (wall and subgrade), Dow Chemical; preformed rigid (concrete), Thoro System Products. Paint and stain: exterior and interior wood, penetrating oil and polyurethane, Deft; exterior UV resistant marine varnish, M&A Coating Systems; fluoropolymer on aluminum extrusions, PPG Industries; acrylic concrete sealer, Crystal Seal. Hinges: McKinney Hinge, Hager Hinge. Cabinet hinges: McKinney Hinge, Julius Blum. Cabinet fittings: Precision Hardware, Ives, Dorma Door Controls. Remote operators: Clearline. Kitchen equipment: commercial gas cooktop, U.S. Range (mod-

ified); electric wall ovens, warming drawer, Thermador; dishwasher, Kitchen-Aid/Hobart Corp.; disposers, In-Sink-Erator/Emerson Electric Company. Laundry: washer and dryer, Maytag Company. Telephone systems: AT&T Information Systems. Energy controls: Andover Controls, Inc. Lighting controls: Architel, Inc. Stairs/treads, handrails: Idaho Glu-Lam Inc. Lighting: exterior, Hydrel, Kim Lighting; interior, Halo Division/McGraw-Edison, Lightolier, Alko. Electrical: panels and equipment, Square D Company. Plumbing and sanitary: tubs and lavatories, American Standard Inc., Kohler Co.; water closets, Kohler Co.; plumbing fittings, Grohe America, Speakman Co., Kohler Co.; hot tub package, Creative Energy, Inc.; towel warmers: Myson, Inc. Heating system: solar collectors, Phillips SA; collecting fluid, Burmah/Castrol; boilers, Weil/McLain Co.; pumps, Grundfos; solar storage tanks, Raven Industries; radiant slab/polybutylene piping, Shell Chemical Co.; radiators, Runtal North America. Air-conditioning system: evaporative coolers, Arven Industries; air-handling unit, Trane Corp. Custom fountain landscape feature and evaporative pool: equipment, Kim Lighting Inc.; water wheel, The British Engineerium. Environmental control systems: energy management system and building automation, Andover Energy Controls, Inc. Blind: motorized horizontal, manual vertical, Levolor Lorentzen, Inc.

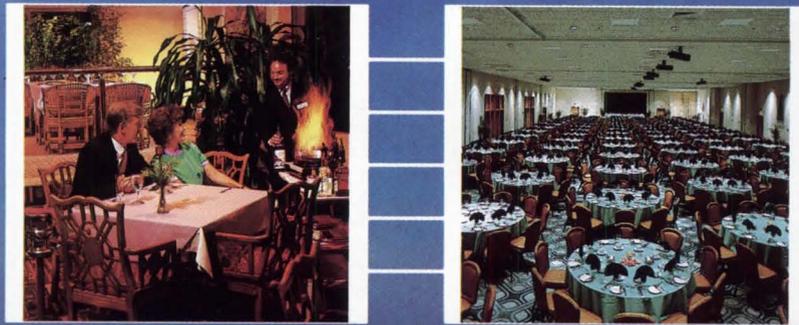
Garden Pavilion, Atlanta, Ga. (p. 96). *Architect: Anthony Ames, Architect, Atlanta, Ga.* Steel beams and wood frame; wood and steel joists: Colonial Forge. Wood truss roof: Ecco, Inc. Roofing: Tamko Asphalt Products. Exterior walls: Dryvit System, Inc. Glass block: Pittsburgh Corning Corp. Interior and ceiling gypsum board: United States Gypsum. Exterior paving: Palmer Brick & Tile. Interior floors: Olive and Olive. Batt insulation: Owens-Corning Fiberglas. Roof drains: Johns Manville. Heating, air-conditioning system: York International. Interior paint: Pratt & Lambert. Chrome hinges: Hager Hinge. Chrome/stainless locksets: Schlage Lock. Other hardware: Quality Hardware Mfg. Steel pipe handrails: Colonial Forge. Windows: Southern GF. Window blinds: American Sun Control. Skylights: Colonial Forge. Exterior lighting: Killark Electric Mfg. Interior lighting: Light-

olier. Plumbing: American Standard. Chrome showerheads: Chicago Faucets. Towel bars: Tubular Specialties Mfg. Doors: Georgia Pacific. Sealants: Pecora Sealant. Leather upholstery: Lackawanna Leather. Plastic laminate desks, kitchen cabinets: Murphy & Orr. Built-in sofa: Arthur Swenson.

Knee Residence, North Caldwell, N.J. (p. 102). *Architects: UKZ, Yonkers, N.Y., with Adalbert Albu.* Casement curtain walls and doors: Accu-Fab. Kitchen fixtures: Villeroy & Boch. Roofing: Georgia-Pacific. Glazing: P.T.I. Insulation: Owens-Corning. Penetrating clear-wood finish: Moorewood. Latex interior paint: Glidden. Hinges: Stanley, Rixson. Locksets: Yale, Schlage. Door closers: Bronzecraft. Custom wood and Formica casework: Fuch's Productions.

388 Market St., San Francisco, Calif. (p. 108). *Architects: Skidmore, Owings & Merrill, San Francisco, Calif.* Foundation: Kie-con Inc. Structure: Herrick Corp, Basalt Rock Co., Judson Steel, Kaiser Sand & Gravel Co., Swinerton & Walberg Co. Wall surfacing: Blaesing Co., Campolonghi SPA. Windows: Habenicht & Howlett, Tubelite Arch. Prod., LOF Glass. Doors: Tubelite Arch. Prod., Stiles Custom Metal, Cal-Wood Door, Weyerhaeuser Co., Cookson Co. Floor surfacing: H.G. Muddox Co., Blaesing Co., Campolonghi SPA. Ceiling systems: Conn Co., Armstrong Co. Sunshade: Dexto-tex Corp. Waterproofing: American Colloid Co., TOCH/Carboline Co., Dow Corning Co. Insulation: Owens-Corning. Lobby ceiling: Formglas. Partitions: U.S. Gypsum. Paint: Fuller O'Brien. Hardware: McKinney Co., Schlage Co., LCN Co., Von Duprin Co., Rixson Firemark Co. Kitchen/laundry equipment: Sears. Lockers: Republic Co. Signage: Pischoff Co. Elevators: Schindler Haughton Corp. Stairs: C.E. Toland. Lighting: Globe Illumination Co. Plumbing and sanitary: Kohler Co., Emerald Pools, Inc., Speakman Co., Global Co., Bobrick Co. Haws, Grinnell Co. Heating: Bryan Steam Corp. Air conditioning: Carrier Corp., Baltimore Aircoil. Environmental controls: Johnson Controls. Carpeting: Bentley Mills, Inc., Custom lighting: Shaper Lighting. Residential lighting: Atelier International, Artemide. Blinds: Levolor Inc. Drapery: Maharam, Kirsch. Linear air distribution: Air Factors. Window washing equipment: Verta/Mannesman.

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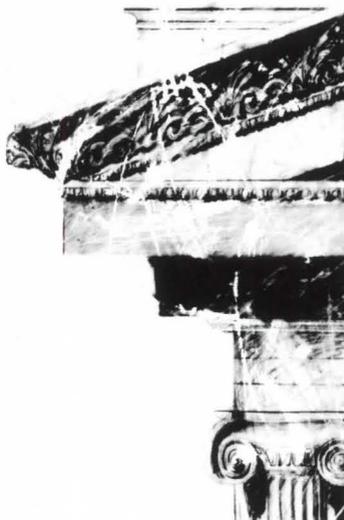
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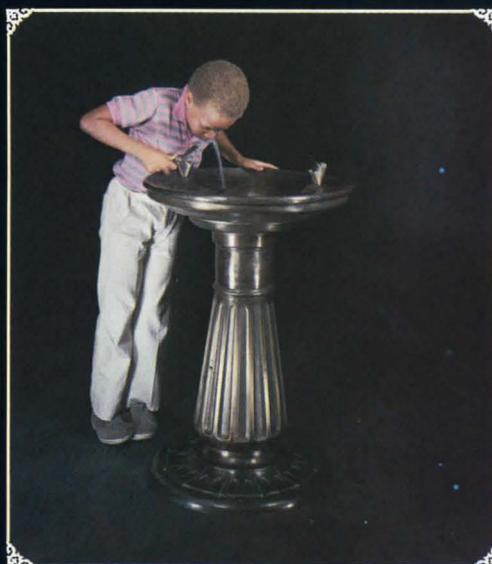
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*Contact company directly

**It's attractive.
It's aluminum.
It's 90-minute
fire rated.**

The PHOENIX*

On July 10, 1985, the independent laboratories of Warnock Hersey International conducted a 90-minute fire endurance and hose stream test on a prospective product by Alumax/Magnolia Division. The result was PHOENIX, *the first aluminum door frame to receive a 90-minute fire rating.*

PHOENIX combines the fire resistance of steel with the aesthetics of aluminum. Few materials are so fire resistant as steel. Steel alone, however, does not have the design flexibilities or aesthetic appeal of aluminum. To achieve the advantages of both metals, therefore, a bi-metal frame system was devised which consists of unexposed 16-gauge steel sub-frame and 6063-T5 alloy outer aluminum frame.

PHOENIX permits design consistency — with no job site finishing.

New PHOENIX matches Alumax's 20-minute *Royal* and *Imperial* frame lines in both color and configuration. Available are factory finishes of clear, bronze and black anodized, plus a variety of electrostatically applied, baked on paint finishes. The steel sub-frame, too, is bonderized, dip process painted and oven dried.

PHOENIX is a free-standing system which can accommodate multiple sizes of doors. PHOENIX units utilize single doors up to 4 feet by 8 feet, 10½ inches; double doors up to 6 feet by 8 feet, 10½ inches. Throat sizes range upward from 3½ inches, and corner tabs are included for convenient field installation.



PHOENIX is produced by Alumax, an integrated company. Each aspect of production, from smelting to extrusion, machining to fabrication, is Alumax owned and operated. As a result, it is able to offer not only an exceptional level of quality, but a custom capability which is second to none.

Ask us about the PHOENIX "Total Opening" package. Included are PHOENIX, Imperial and Royal interior door frames ... wood veneer and plastic laminate doors ... all hardware. For more on Alumax door systems, consult Sweet's Catalog, section 08100/ALU. Or contact us direct: Interior Products Group, Alumax/Magnolia Division, P.O. Box 40, Magnolia, AR 71753; 800-643-1514 (In Arkansas, 501-234-4260).



*Patent Pending

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