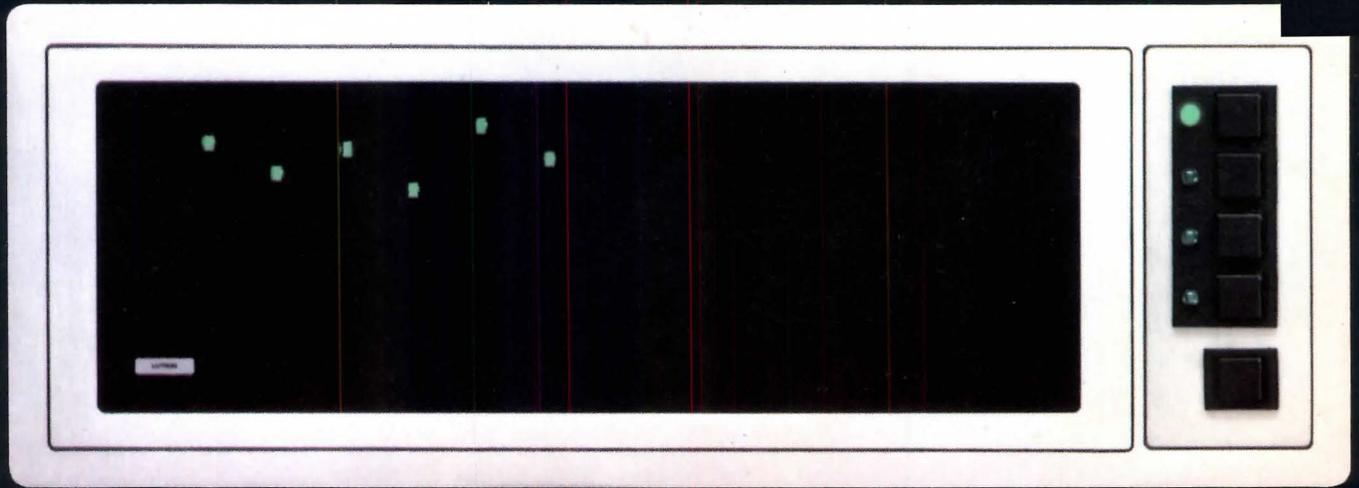




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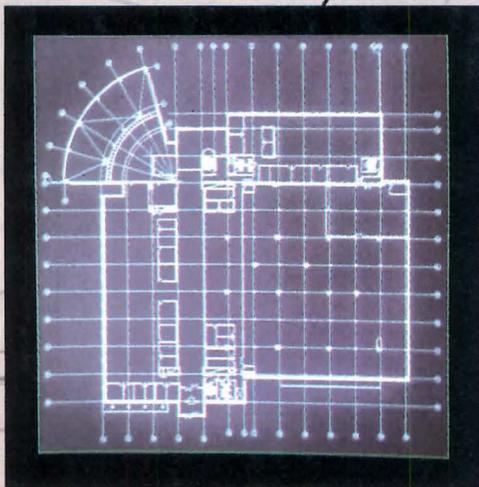
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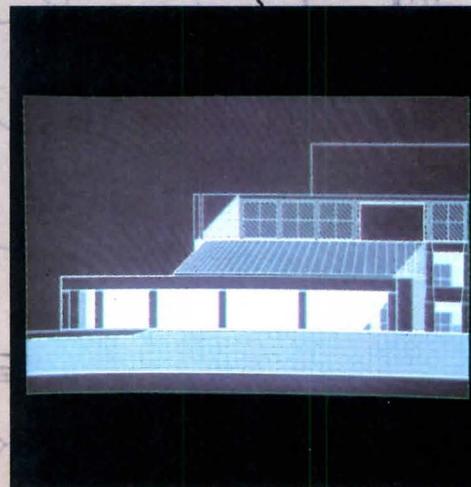
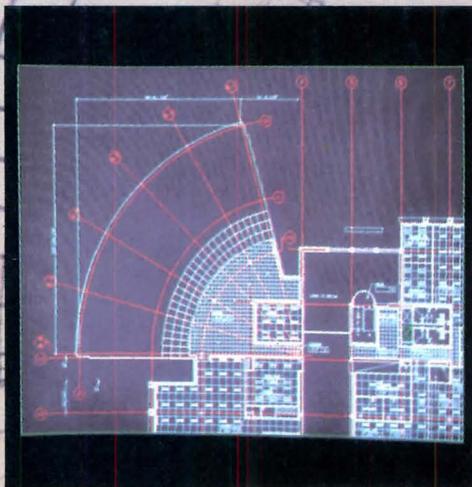
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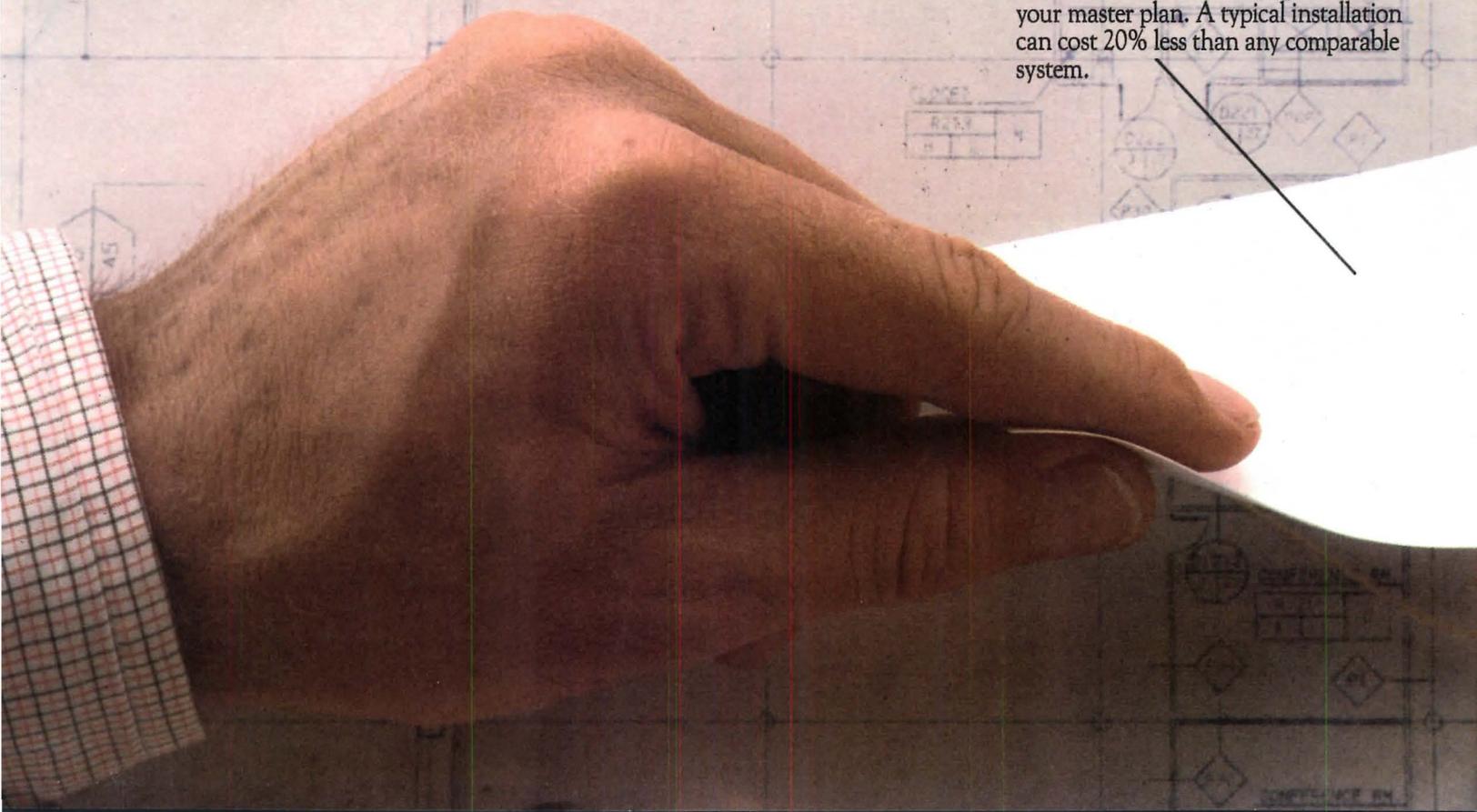


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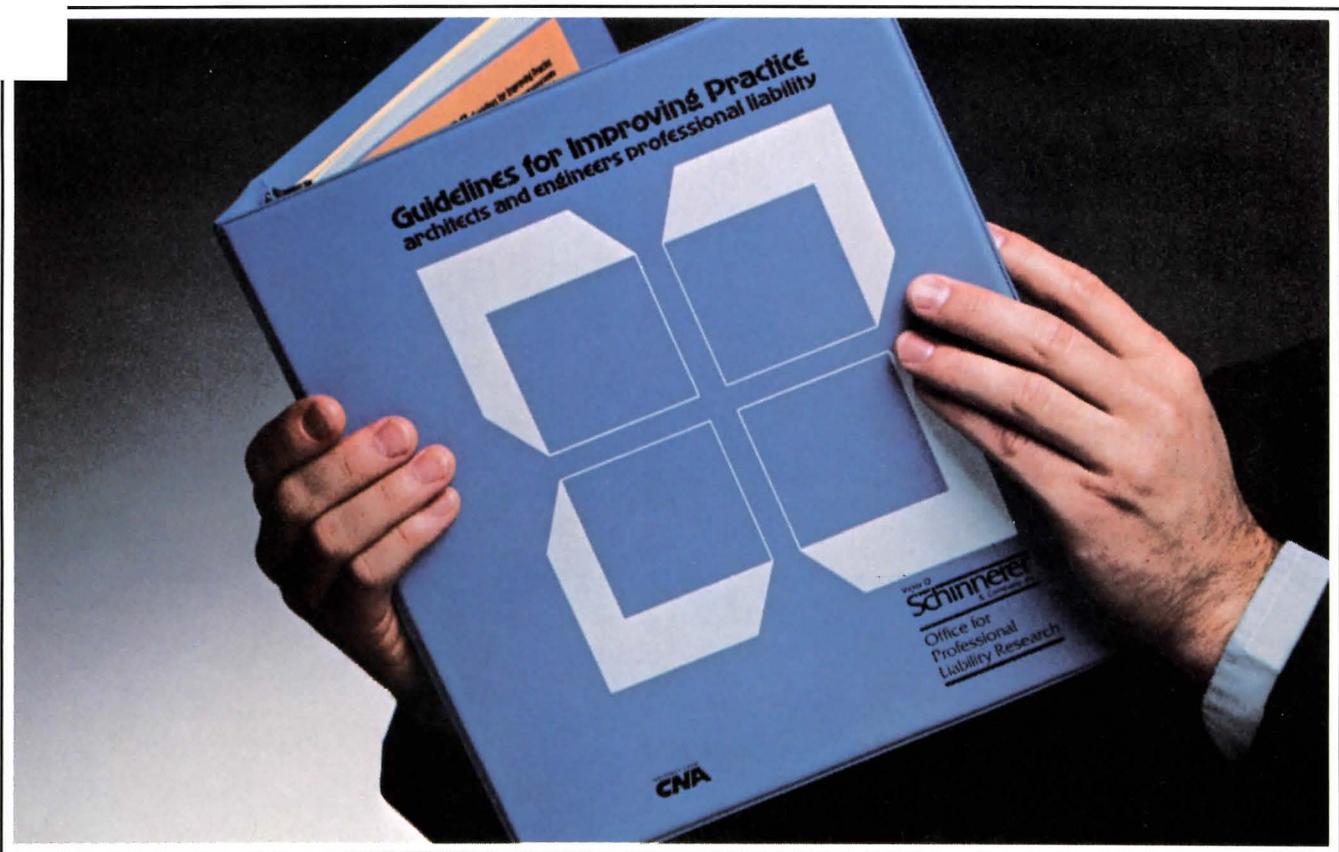


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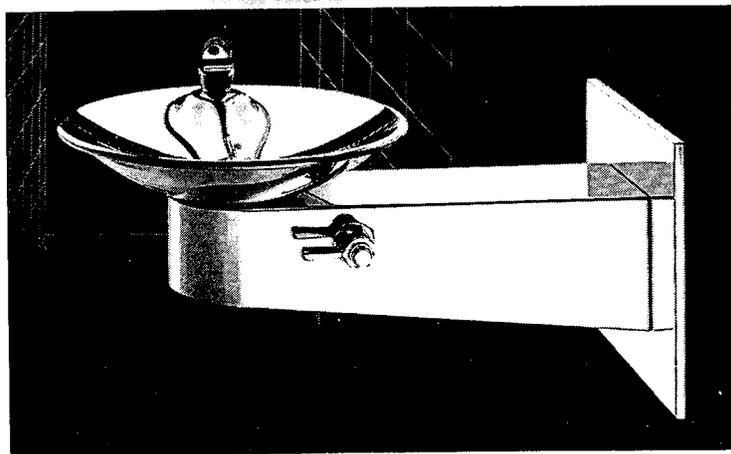
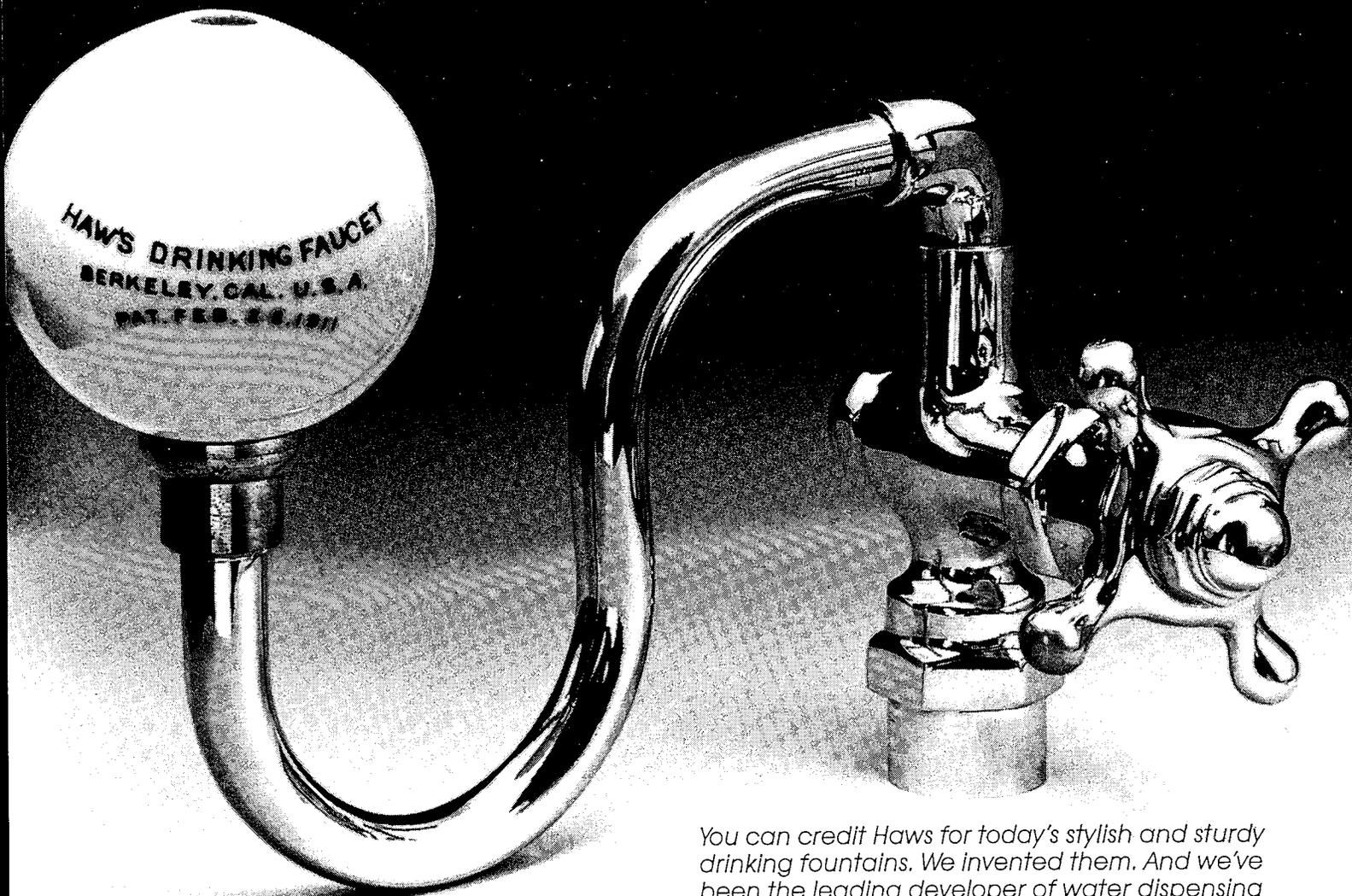
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## EVENTS

**Oct. 31-Nov. 1:** Course on Financial and Tax Opportunities for Old Buildings, Alexandria, Va. Contact: Jean Rose, National Building Museum, Pension Building, 440 G St. N.W., Washington, D.C. 20001.

**Nov. 1:** Forum on Home Energy Rating Systems and Finance, Washington, D.C. Contact: Leigh Maddux, National Institute of Building Sciences, 1015 15th St. N.W., Washington, D.C. 20005.

**Nov. 1-2:** AIA Energy in Architecture: Process Workshop, Jackson, Miss. Contact: Brenda Henderson at Institute headquarters, (202) 626-7353.

**Nov. 1-2:** Conference on Excavation Failures—Causes and Prevention, College Park, Md. Contact: Donald W. Vannoy, AEPIC, University of Maryland.

**Nov. 1-2:** Seminar on Preliminary Structural Design Techniques, Department of Engineering & Applied Sciences, University of Wisconsin, Madison.

**Nov. 1-3:** CONEXION '84, Annual Contract Design Exposition, Atlanta. Contact: Susan McCart, Atlanta Market Center, 240 Peachtree St. N.W., Atlanta, Ga. 30043.

**Nov. 2-3:** AIA Energy in Architecture: Redesign Workshop, Philadelphia. Contact: Brenda Henderson at Institute headquarters, (202) 626-7353.

**Nov. 7-9:** Conference on Energy Efficient Retrofits, Newport, R.I. Contact: Alex Wilson, New England Solar Energy Association, P.O. Box 778, Brattleboro, Vt. 05301.

**Nov. 7-9:** Capital Design Week, Washington, D.C. Contact: Charlene Reznick, The Washington Design Center, 300 D St. S.W., Washington, D.C. 20024.

**Nov. 8-9:** Seminar on Energy Conservation and Cogeneration, Atlanta. Contact: Association of Energy Engineers, 4025 Pleasantdale Road, Atlanta, Ga. 30340.

**Nov. 9:** AIA Energy in Architecture: Microcomputer Energy Analysis, Houston. Contact: Brenda Henderson at Institute headquarters, (202) 626-7353.

**Nov. 9-10:** Symposium on Indoor Air Pollution, San Francisco. Contact: Vicki Thacker, California Council/AIA, 1414 K St., Sacramento, Calif. 95814.

**Nov. 12-13:** Conference on Computer-Aided Space Design and Management, New York City. Contact: Barbara Dales, Gralla Conferences, 1515 Broadway, New York, N.Y. 10036.

**Nov. 13-16:** Course on the Application of Infra-red Scanners to Detect Building Energy Losses, Burlington, Vt. Contact: The Infraspersion Institute, Juniper Ridge Road, Box 2643, Shelburne, Vt. 05482.

**Nov. 15:** Course on Indoor Air Pollution, Office of Graduate and Continuing Education, Yale University.

**Nov. 15-17:** AIA Conference on Building

Redesign and Energy Challenges, Boston. Contact: David Bullen at Institute headquarters, (202) 626-7448.

**Nov. 17:** Seminar on Smoke Control and Life Safety, New York City. Contact: Michael Dexter, New York Chapter/ASHRAE, Box 2425 Grand Central Station, New York, N.Y. 10163.

**Nov. 17-20:** Annual Meeting and Exhibition of the American Society of Landscape Architects, Phoenix, Ariz. Contact: Ann McMurray, ASLA, 1733 Connecticut Ave. N.W., Washington, D.C. 20009.

**Nov. 27-30:** International Symposium on Architectural Fabric Structures, Orlando, Fla. Contact: David Stumph, Architectural Fabric Structures Institute, 1800 Pickwick Avenue, Glenview, Ill. 60025.

**Nov. 28-30:** Conference on Forming Techniques for Concrete Buildings, Chicago. Contact: Portland Cement Association, 5420 Old Orchard Road, Skokie, Ill. 60077.

**Jan. 19-26, 1985:** International Union of Architects World Congress, Cairo, Egypt. Contact: UIA 15 rue Eugene Varlin, 75010 Paris, France.

**June 9-12, 1985:** AIA Annual Convention, San Francisco.

## LETTERS

**Teaching to Think:** Robert Campbell's article on the Harvard graduate school of design (Aug., page 36) mentioned an issue that had been raised this summer in a meeting of the AIA committee on architects in education. The issue is the identity of the correct role of the university in architectural education. In the committee meeting the issue was framed as "Should the university provide people with entry level job skills or should it train people to think?" In the Campbell article, the issue was whether design schools should accept a questing, open-ended, investigative ethic that advances the state of the art by researching and reflecting on the collective intellectual tradition.

I suggest that there are good grounds for adopting the latter position. Architecture is design, which means that certain means, such as 2x4s, bricks, or gypsum wallboard are used to achieve certain ends, such as the standard of the office or the clients' program and desires. Wise design requires expertise in selecting both means and ends. This wisdom requires practice and development; it is not an innate talent.

The grounds for distinguishing the role of the university in architectural education are simply this: It is much easier to explore value systems in the context of a university than it is in the context of a design office.

The central question in the study of values is "What is worth doing?" Can you imagine the mood of an office if someone questioned the worthiness of a client's desire to have a huge pylon sign in a

residential neighborhood, or if someone questioned the use of technicalities to circumvent the intent of the building code? Different offices will have different value systems, of course, and people can always select a different system with their feet. But that is a very slow process.

In the university context, on the other hand, a person can explore a wide variety of value systems very quickly, even without leaving the design studio. For example, students could design the same program for the users, then for the owner, then for the public. The value systems would be represented by environmental literature, the real estate appraisal literature, and the building and planning codes, respectively.

Once access to the collective intellectual tradition is available, people can pursue a much wider variety of possible design ethics, such as Malcolm Wells' nature ethic, West Churchman's systems approach, or even Kant's kingdom of ends. Within the university people can *choose* design ethics. It is because of this choice that they can develop judgment. In the professional office, the design ethics are already established; there is little room for cultivation of judgment.

To summarize: Wise design requires practice in judging values. The office context typically does not provide the opportunity to exercise this practice, while the university context does. Therefore, if we are to have wise designers, the universities will have to support and encourage open-ended reflection on design ethics.

*Arthur E. Stamps III, Ph.D., AIA  
San Francisco*

**Cooper Union and John Hejduk:** I read with interest Michael J. Crosbie's extremely well done article on Cooper Union (Aug., page 42), and I congratulate him on his perceptions, which, for those of us who have closely followed Cooper's course for the past 20 years, we also share. Crosbie's observations through student interviews of Dean John Hejduk's infectious enthusiasm are wonderful to read about in a magazine for *all* architects! It is precisely because ARCHITECTURE represents the broadest spectrum of the profession and not just the avant-garde that his article is so genuinely important. That Crosbie has captured Hejduk's commitment, which still remains fresh after so many years in place as dean, is an observation I personally congratulate him on arriving at. Hejduk, his diverse faculty, and that wondrous student body on Astor Square have all been a source of great pleasure for us on the other side of the Hudson who as amateurs in architectural education have always looked with envy at Hejduk's professionalism.

*Stanley Tigerman, FAIA  
Chicago*

## Design Vivid, Diverse Images of A New Times Square Tower

The Municipal Art Society of New York City has announced the eight winners in a competition for the redesign of the Times Square Tower. The competition, which was directed to architects, planners, landscape architects, and artists (but open to anyone), was sponsored by the society and the National Endowment for the Arts. Fourteen hundred individuals from 47 states and 19 countries registered for the competition and 565 entries were received by the July 3 deadline.

According to the art society, the "idea" competition was held to stimulate discussion about the fate of the Times Tower, centerpiece of the tattered yet legendary square. A redevelopment plan for the surrounding 42nd Street area by John Burgee Architects with Philip Johnson would remove the tower to provide an open plaza, a focus for four large new office towers (see May, page 54).

Controversy erupted almost immediately after the plan was unveiled last December, centering on the four towers, which together would comprise nearly 4.3 million square feet with a floor area ratio of 46, compared with the standard 18 for that part of the city.

While proponents of the plan said that it would revitalize the area and clean up one of the most dangerous places in Manhattan, critics, including the art society, citizens' groups, local businesses, and the New York Chapter/AIA, countered that it would erase the lights and color of Times Square and with them its unique character. The architect revised the redevelopment plan, mostly at street level, to include larger neon signs and more open glass.

But the issue of the Times Tower remains. According to the art society, "... the Times Tower has performed a vital urban function, anchoring the southern end of Times Square. The tower and the square have become a magical and irresistible symbol of the city and the crossroads of the world." A final environmental impact statement on the redevelopment area, released by New York State's Urban Development Corporation, suggests that the tower be condemned

and replaced with another structure.

The competition jury of nine met in the tower in mid-July to judge the entries, each a single board 30x40 inches. The jury commented that it was "impressed by the diversity as well as the number of entries." Among them were historicist commentary on the significance of the structure, highly articulated replace-

ments of it in glass fiber, megastructure schemes, and poems, one of which was awarded a prize for its recounting the sacred and profane nature of street life in the square in a parody of Dante's "Inferno."

The jury explained that "awards were given both to new building proposals and to proposals for restoration of the Times Tower to a simulacrum of its original state. In both cases, the jury favored schemes that promised active use as well as vivid imagery. Appropriately, many entries exploited the opportunity for spectacular transformation through the use of light. . . ." *continued on page 16*



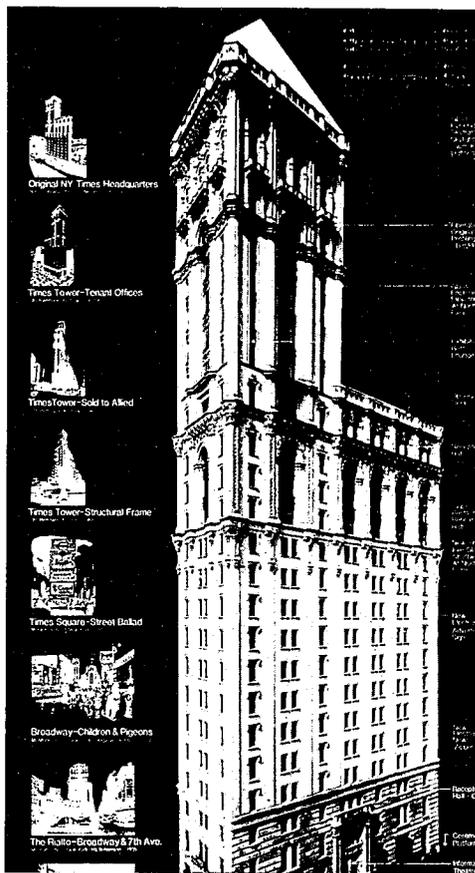
One of eight competition winners, this design by Lee Alan Dunnette had a tower of light described as 'an exclamation point.'

**Design from page 15**

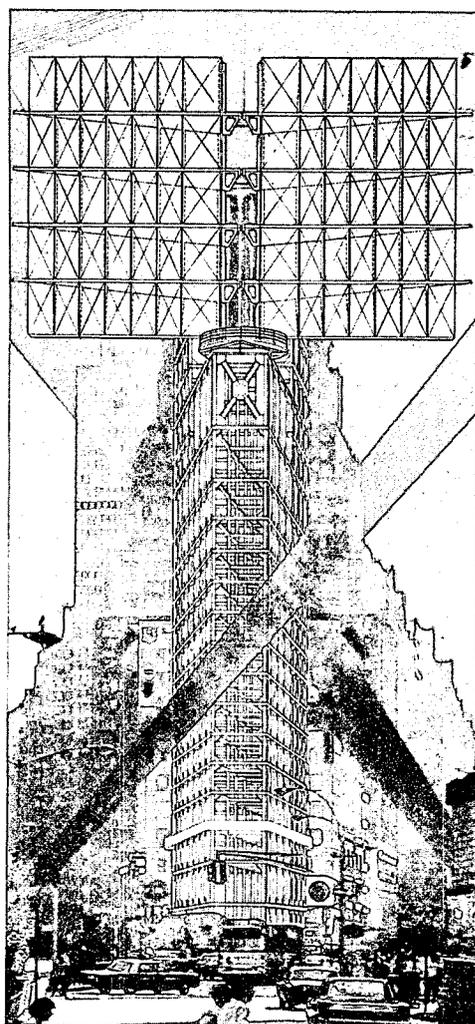
In summing up its impressions of the entries, the jury made three recommendations: "The Times Tower site should be occupied by a building . . . it is not an appropriate site for an open plaza or monument. The building . . . should respect and reinforce the street walls of Seventh Avenue and Broadway. The building site should be multi-use and at least in part accessible to the public."

The winners, each of whom will be awarded a prize of \$2,250, are Raimund J. Abraham, New York City; Paul Bentel and Carol A. Rusche, Cambridge, Mass.; Lee Alan Dunnette, New York City; Christopher Genick and Peter Stein, New York City; Frank Lupo and Daniel Rowen, New York City; William F. Schacht, New York City; Peter Waldman, Houston; and Taeg Yoshinobu Nishimoto, Ithaca, N.Y. The winning entries will be exhibited in New York City's Urban Center through Oct. 27.

The jury consisted of Henry Cobb, FAIA (chairman); Jonathan Barnett, FAIA; Vartran Gregorian; John Hejduk, FAIA; Ming Cho Lee; Adele Naude Santos; Hideo Sasaki; Carl E. Schorske; and Richard Sennett.



Winning designs by Taeg Yoshinobu Nishimoto (left), William F. Schacht (above), Frank Lupo and Daniel Rowen (below).



**Conference Dissects Works of 'Five Very Different Architects'**

A "conference on wheels" sponsored by AIA's committee on design drew some 300 to San Diego in August. The conference entailed visits to, and on-site discussions of, the works of five very different architects:

James and Merritt Reid's grand Hotel del Coronado of 1888, Bertram Goodhue's romantic Panama-California exhibition buildings of 1916, Irving Gill's quietly regionalist houses and La Jolla Women's Club of the same period, Louis Kahn's brooding Salk Institute of the 1960s, and the just completed San Juan Capistrano library by Michael Graves, FAIA.

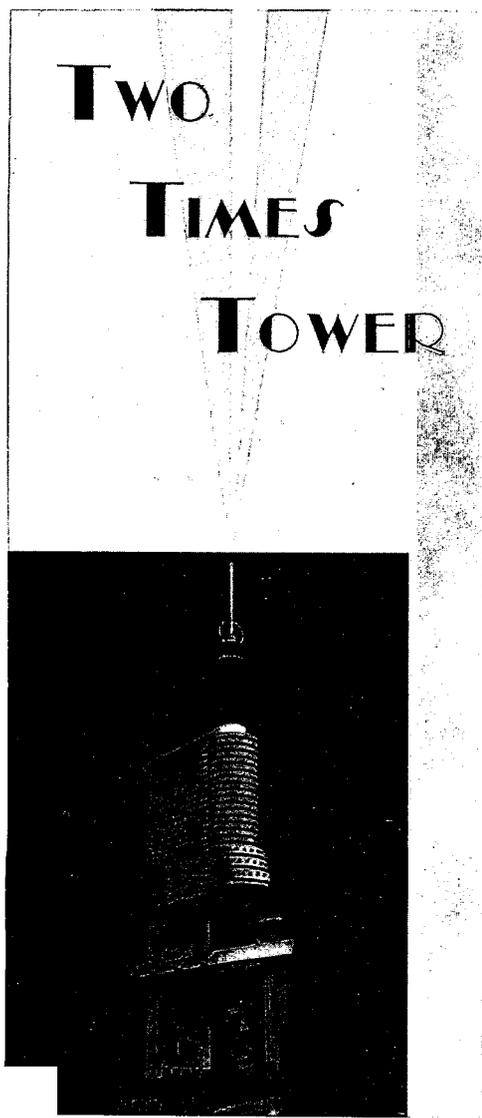
Richard Oliver, a native of San Diego, now practicing in New York City and author of *America's Grand Resort Hotels* and the newly released biography of Goodhue, related Hotel Del Coronado and the Panama-California Exhibition buildings through their captured imagery, different as each is.

"The Del," as locals call the hotel, expresses a romantic spirit of time and place for a popular Western luxury hotel, yet does so through Eastern stylistic "symbols of luxury," such as expanses of clapboard siding topped with huge conical-shaped cupolas and turrets.

As the hotel has its own particular illusionary nature, so does the world's fair buildings of Bertram Goodhue. Goodhue ruled-out the traditionally used mission style and opted for a more romantic idea of an idealized Latin City, a place with lots of contrast. A strong urban plan set the stage for exuberant, monumental shapes and flowering details, surrounded by lush gardens and courtyards.

After touring many of Irving Gill's residences and the women's club, Donlyn Lyndon, FAIA, author and University of California, Berkeley professor, examined

*continued on page 18*



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**Design from page 16**

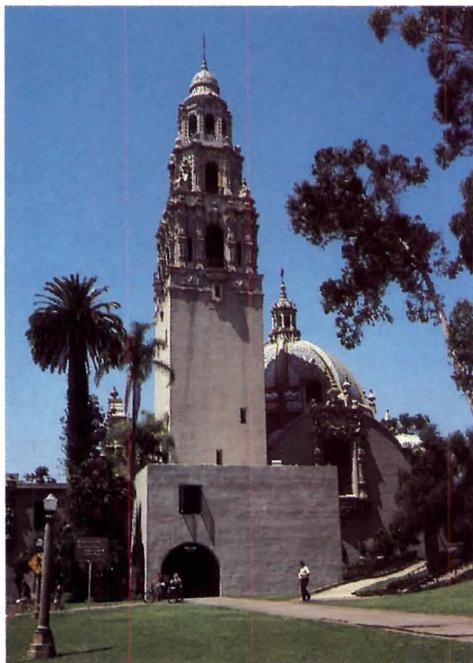
Gill's stylistic struggles to find simple and easy ways to live in the Southern California climate. "As Gill sorted out how architecture fits location and culture, his designs evolved into distinctive shapes that always provided a strong bond between inside and outside," Lyndon said. Gill recognized the importance of landscaping, so much so that he often designed his houses to be overrun with foliage.

Moving from an historic presence to a classic modern building, conferees were met at the Salk Institute by its founder, Jonas Salk, who spoke of his relationship with Louis Kahn and the design of the institute.

As Salk said, "I worked with Kahn in the same manner as I deal with science; I think I'm really a closet architect. Our bond was creativity."

"We developed a vocabulary between us in which I talked in scientific terms that related to human structure, and Kahn transformed them into architecture. This place is imbued in human evolution with a sense of perpetuity. What if man built that way? By example, the brain doesn't change much, but the ideas within change dramatically. This building was designed as that sort of framework. I have no doubt that the building has a positive effect in evoking the creative spirit."

The controversial San Juan Capistrano Regional Library was also on the tour, and Graves spoke from a podium set up on the elevated courtyard colonnade. Graves attempted to answer, in an off-the-cuff manner, critical comments on the building's design. This resulted in a dialogue mostly about details, such as the "banality" of the courtyard, off-the-shelf products, and refacing the courtyard fountain.



*Top, design conference participants at Michael Graves' San Juan Capistrano library; above, one of Bertram Goodhue's Panama-California exhibition buildings.*

"While the city was quite imaginative in holding a competition of this kind, and I received tremendous support from the library staff and consultants," Graves said, "there are many things I'd still like to change." Such things included the scale of the colonnade and the table reading lamps.

The session was excited by Charles Moore, FAIA, who questioned Graves' winning the competition with a design that did not strictly adhere to the original guidelines (which, of course, Moore helped write). "We proposed a highly individualistic answer to the guidelines," Graves responded, "using a stylistic ap-

proach that looks over the shoulder to past references. I believe the building will improve in time, as landscaping becomes more prominent and the colors weather and fade, relating with the Mission Inn and other older neighbors."

Two other important speakers came from geography disciplines. Lawrence Ford, a specialist in "urban geography," urban design, and historic preservation, spoke knowledgeably about the "evolution of sense of place." With historical references to the common mission and mission revival styles spread throughout Southern California, Ford explained the urban development of San Diego. He also charmed the audience with such ideas as "Cecil B. DeMille's architectural influences" and his own vocabulary, including "stucco deco," "Western colonial," "Bauhaus buccanneer," "Japo-Polynesian," and "GDL" (garage dominant L-shaped house) styles, all observed in San Diego.

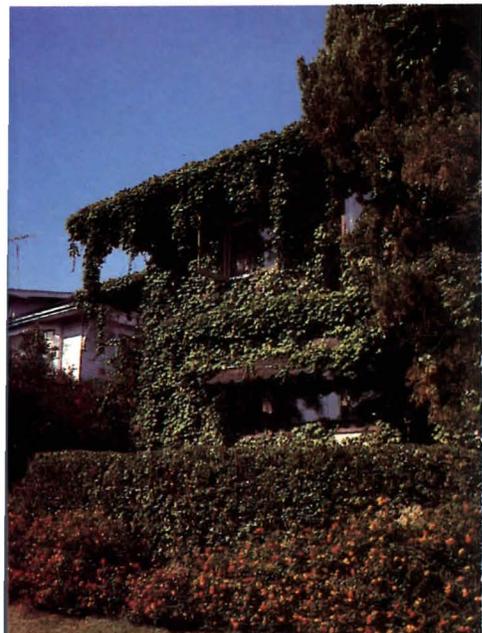
Ford concentrated on how to build a better future in San Diego, namely by respecting the natural resources of canyons, beaches, and deserts, and advised "looking at the past to see what works. We should retain Victorians as symbols or monuments of the past, even though they are not indigenous to San Diego, and keep the character of bungalows and popular mission style. But we must also develop a sense of fun and whimsy in our new buildings."

Pierce Lewis, also a geographer but with a special interest in American "physical and human landscapes," stressed that "we must take the past seriously, using the past as a guide for our future." Lewis elaborated on six common American themes—small town environment, downtowns, houses, freeways, shopping centers, and community strip developments. "These developments have created the American urban fabric; we should concentrate design efforts not on just a single building, but on generating an appropriateness in this urban fabric."

Through a series of panels, there was spirited interaction between the audience and all the speakers. The panels—moderated by Robert Campbell, architectural critic for the Boston *Globe*, aided by Tom Hine, architectural critic for the Philadelphia *Inquirer*—extended the issues of design beyond the five buildings toured. Questions of contextualism, technology, review boards, and regionalism were all examined from different perspectives.

In the first of three panel discussions, Campbell set the stage with his general assessment of design. "There is worldwide entropy," he said, that is partially a result of architects working in many locales. Campbell is critical of what he calls "parachute architecture" in which he envisions an architect "flying over a city and drop-

*continued on page 21*



Also on the design tour, one of Irving Gill's vine-covered regionalist houses.

### Design from page 18

ping his design from the plane; by the time it lands, the architect has moved on to the next city."

In an analysis of design review boards, Charles Moore flatly declared "they have precious little design insight and can dampen individual creativity. For example, consider the California energy regulations that restrict the use of glass according to formulas." On the other hand, one attendee ventured "not all the boards are bad. In some cases, they can thwart a totally unacceptable solution for a neighborhood."

"High-tech buildings are crude compared to the Shuttle," said Richard Oliver on the issue of technology as a contributing factor to design homogeneity. And Larry Ford wrapped up by implying that it is difficult to focus on regionalism, "for there is no single style prevasive in any of our cities." JANET NAIRN

*Ms. Nairn is a freelance writer in California who specializes in architecture and design.*

## Design Plagiarism Questions Raised in New York, Miami

The thin line between design influence and plagiarism has been questioned in recent years by an increased number of lawsuits, threats of legal action, and formal accusations. Two related cases in New York City and Miami between architects and developers address the rights of ownership of designs. They appear to confirm the view that copyright laws protect plans, drawings, and models, but laws do not cover architectural concepts and images or the completed building.

According to Barry B. LePatner, a New York City attorney who specializes in representing architects, all rights of ownership and future use of drawings and plans remain with the architect unless he or she specifically contracts the transfer of copyright to the client. The standard AIA owner/architect agreement states, "Drawings and specifications as instruments of service are and shall remain the property of the architect whether the project for which they are made is executed or not." There is no provision on ownership of a design concept.

LePatner adds, "The question of ownership and use of plans is one of the most important and least understood provisions in an architectural contract." Many clients mistakenly believe payment of an architect's fee routinely purchases the ownership of the plans, but the client has paid only "for the right to build from those plans on one occasion," he says.

In one recent case, New York City developer Donald Trump sued for \$60 million in damages over the design of an apartment building with a similar appearance to one designed for Trump.

Philip Birnbaum & Associates was hired by Trump to design a luxury cooperative apartment building in midtown Manhattan. Birnbaum's design for the recently completed 39-story building has a limestone and bronze glass exterior detailed with horizontal strips of brass.

A second developer, Morton L. Olshan, commissioned Birnbaum's firm to design another apartment building diagonally across the street from Trump's. Olshan released a rendering of the apartment building he planned to construct, and Trump alleged that the facade is too similar to that of his building. Birnbaum contends that in his contractual agreement with Trump he did not transfer the rights of ownership of the plans to Trump.

In legal documents, Trump maintained that the construction of an apartment building with a similar appearance would damage not only his reputation but also his ability "to sell the remaining apartment units." He argued that a main proponent of his real estate marketing is developing unique structures.

Birnbaum said each building has its own design with different floor plans and dimensions. He did not intend to repeat the Trump building, he said, but to remove all doubts, he has agreed to consider substituting a "glass window wall" facade.

The two parties are working out of court to resolve the issues. It is unlikely the case will provide definitive answers to the question of design ownership.

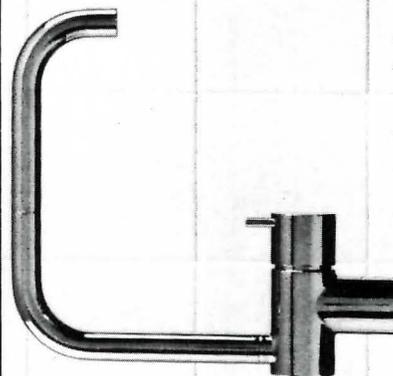
A related case over ownership of an architectural idea was recently ruled in favor of the architect in a Florida court. The case involved the widely publicized

*continued on page 23*

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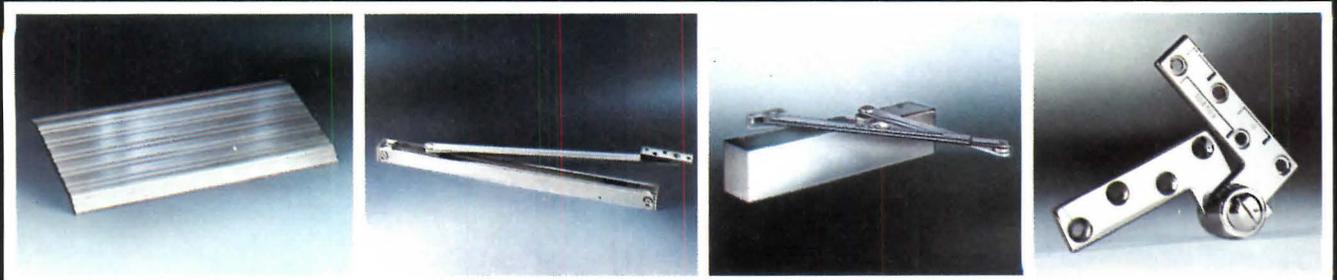
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## Design from page 21

Atlantis, a 20-story condominium overlooking Biscayne Bay in Miami designed by Arquitectonica. The architect punched a 37-foot-square hole from the middle of the building that serves as a "sky patio" with a red spiral staircase and a palm tree to break up a long expanse of wall.

Bernardo Fort-Brescia, AIA, a founding partner of the firm, says developer Hugo Zamorano originally commissioned his firm to design an apartment building for the site. In the architectural agreement, Fort-Brescia's firm retained all copyrights and ownership of the plans.

Before construction began, Zamorano sold the land to the present owner, who also hired Arquitectonica. According to Fort-Brescia, the second design that was constructed is similar to the original—the void and the bright colored details—but zoning changes and different program requirements called for significant changes in the dimensions and interiors.

However, Zamorano sued, claiming ownership of the design. Fort-Brescia emphasizes that "the most important factor is not the copyright issue but the fact that the developer claims he owns our style. That's ridiculous." It is a common practice to be influenced by the work of other architects, and Zamorano's suit says architects can't draw ideas from their firm's previous designs, he adds.

The Copyright Act of 1976 protects "original works of authorship fixed in any tangible medium of expression . . ." and is interpreted to include ". . . diagrams, technical drawings, and models." In reaffirming the concept, a recent federal court decision stated, "The architect who originates a set of blueprints for a dwelling is as much an author for copyright purposes as the writer who creates an original novel or the dramatist who pens a new play. . . ."

"It is the embodiment of the idea—the plans—that is given copyright protection," says Carl M. Sapers, acting general counsel for AIA and a partner with the firm of Hill & Barlow. Legally, nothing prevents someone from measuring I. M. Pei's East Wing and constructing the same building. Pei of course can do the same thing. It only becomes a question of copyright if the person had access to the plans and copied or traced them. Then the issue is who owns the plans.

## Waterfront Competition Winner

The team of Robert W. Carr Associated Architects and Coulter Associates landscape architect, both of Durham, N.C., is the first place winner of a design competition for a six-acre waterfront park at the confluence of the Neuse and Trent rivers in New Bern, N.C.

Sponsored by Swiss Bear, a nonprofit downtown revitalization organization, and

the City of New Bern, the program called for a multipurpose river center for exhibits and education programs, a waterfront promenade, areas for outdoor performances and festivals, and a boat moorings facility. In the winning scheme, the southern portion of the competition site will be dredged to create a protected harbor, and a barrier island formed by the remaining land of the site is designed to reduce the impact of wave action and create a protective mooring for 70 boats. The River Center will be built on pilings on the shore of the Neuse River. Its design is intended to recall the lighthouses along the coastline. The team was awarded a cash prize of \$5,000.

The second place award of \$1,000 was presented to Planning Design Associates and Bell Design Group landscape architects of Raleigh, N.C. A team of Synthesis Architects & Planners of Wrightsville Beach, N.C., and Edward Stone Jr., landscape architects of Wilmington, N.C., was awarded the \$500 third prize. Jurors were Denise Scott Brown of Philadelphia; landscape architect John F. Collins of Philadelphia; Banks Talley of the National Trust for Historic Preservation, Norman E. Johnson of the Weyerhaeuser Co., and attorney John A. J. Ward of New Bern.

## Landscape Awards Given to 36

The American Society of Landscape Architects has honored 36 landscape architects in its 1984 professional awards program that "recognize superior achievement by landscape architects nationwide."

Anne Whiston Spirn, an associate professor of landscape architecture at Harvard University graduate school of design, was given the president's award of excellence for her book, *The Granite Garden: Urban Nature and Human Design*.

Ten honor awards were presented to the following landscape architects:

- EDAW, Inc. of Alexandria, Va., for the Signers of the Declaration of Independence Memorial in Washington, D.C.
- Johnson, Johnson & Roy of Ann Arbor, Mich., for the Akron Riverway/Goodyear Technical Center in Akron, Ohio.
- Michael R. Van Valkenburgh of Cambridge, Mass., for an exhibition and catalog entitled *Built Landscapes/Gardens in the Northeast*.
- Schmidt Copeland & Associates of Cleveland for the All People's Trail in Shaker Heights, Ohio.
- Sasaki Associates of Watertown, Mass., for the Dallas Arts District urban design master plan.
- Paul F. Anderson of Iowa State University for a national survey on design and planning applications of computer technology.
- Hargreaves Allen Sinkosky Loomis of

*continued on page 25*

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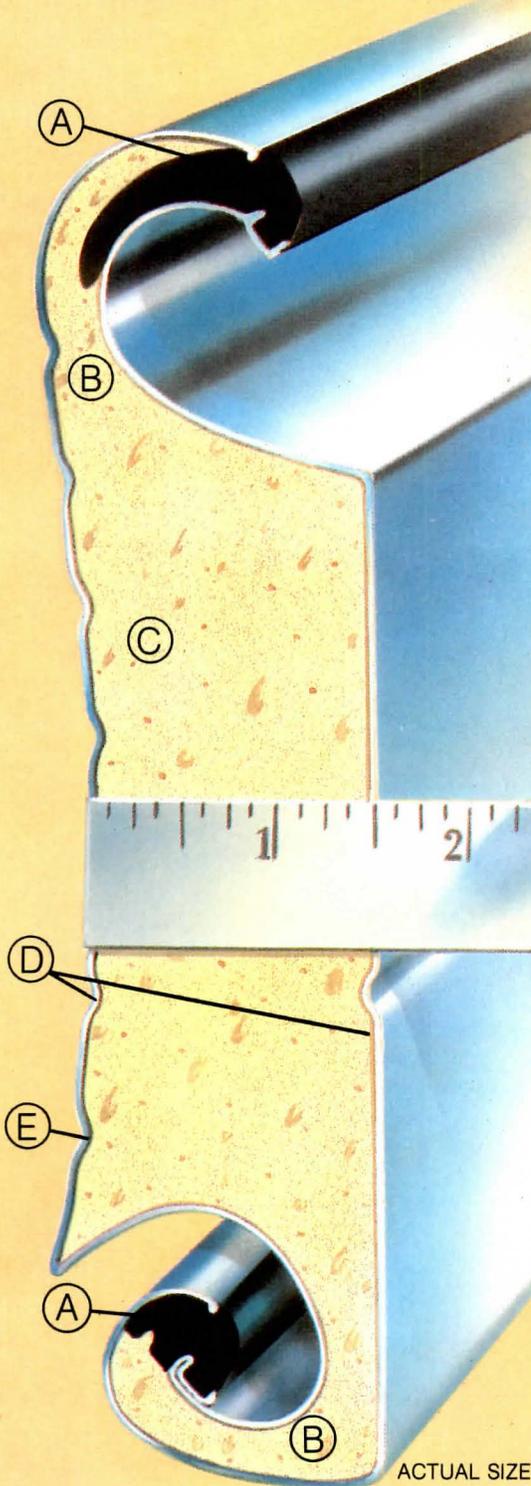
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**Design from page 23**

San Francisco for Fiddler's Green Amphitheatre in Englewood, Colo.

• Matarazzo Design of Concord, N.H., for Lake House and boat dock in Moultonborough, N.H.

• Randolph T. Hester Jr., of Berkeley,

Calif., for the Manteo, N.C., community design plan.

• Belt, Collins & Associates of Honolulu for the Mauna Lani Resort Golf Course in Kawaihae, Hawaii.

Merit awards were presented to 25 landscape architects.

*Government*

# The Steward of the Smithsonian Reflects on a Built Legacy

During his 20-year tenure as secretary of the Smithsonian Institution, S. Dillon Ripley oversaw development of more than \$200 million in major construction projects, including the creation of eight museums. But, impressive as that record may be, Ripley, who retired last month, thinks his most significant architectural achievement was not a building.

Instead, it was "making the Mall a civilized setting for all the people." He adds quickly that he does not mean "all the people" in a political sense, but rather literally a place for people. "It is not a space to be tiptoed on," he notes, adding, "the Mall is too often thought of as reverent."

Ripley recalls telling President Reagan, after the President had waxed poetic about the great American heroes visible from the inaugural stand on the West Front of the U.S. Capitol—Washington, Lincoln, Jefferson—that there was only one person buried on the Mall—James Smithson, founder of the Smithsonian.

The secretary believes he has succeeded in making the various Smithsonian museums along the Mall exciting places to learn, and that has helped turn the Mall from a "dead space" when he arrived in 1964 to a lively one now.

Ripley, who was made an honorary member of AIA in 1976, discussed architecture and its directions during an interview in his office in James Renwick's 1849 "Castle" last month, a week before he was to be succeeded by Robert McCormick Adams, a University of Chicago provost and archaeologist. Ripley, 71, said that his interest in architecture dates back to the mid-1920s when he attended St. Paul's, a Concord, N.H., prep school. "I would spend study hall drawing," he said, designing additions in various historical styles to old cottages.

A biologist by training and a noted ornithologist, Ripley believes architects can learn a great deal from the natural environment. "The lessons you can get in looking at a forest—the vegetation, the ground cover—are very relevant to design," he notes.

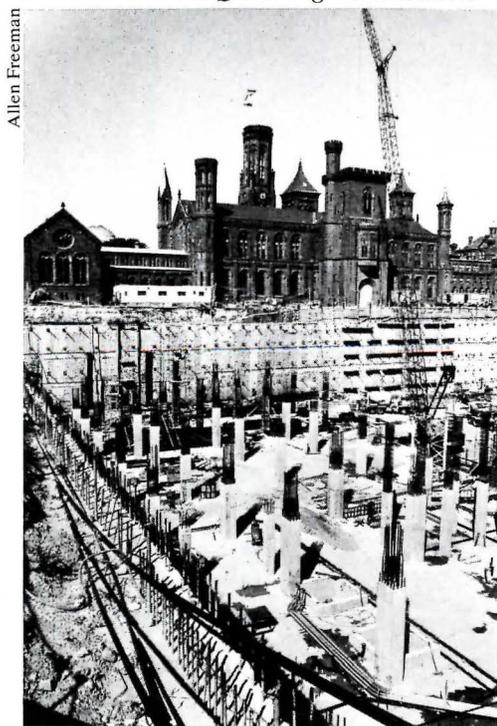
Ripley's swan song at the Smithsonian

combines elements of the natural and built environments. Still only a 60-foot-deep hole in the ground behind his office, the Center for African, Near Eastern, and Asian Cultures, also known as the Quadrangle, will be a tri-level underground building entered from two pavilions in a garden. It is located directly to the rear of the Castle, the administrative headquarters of the Smithsonian, and between the Freer Gallery of Art and the Arts and Industry Building, and is scheduled to open in 1987.

The gestation of this building dates back to Ripley's earliest days overseeing the nation's attic. He recalls reading an early annual report for the Smithsonian by Secretary Joseph Henry who described the institution as "a college that didn't grant degrees." Ripley, a former professor of biology at Yale University, was intrigued by this reference, and, with a twinkle in his eye, notes, "it deserved a quadrangle like the great colleges of the past."

In 1972, at Ripley's behest, Gordon Bunshaft, FAIA, of Skidmore, Owings & *continued on page 29*

*The 'Castle' and Quadrangle excavation.*



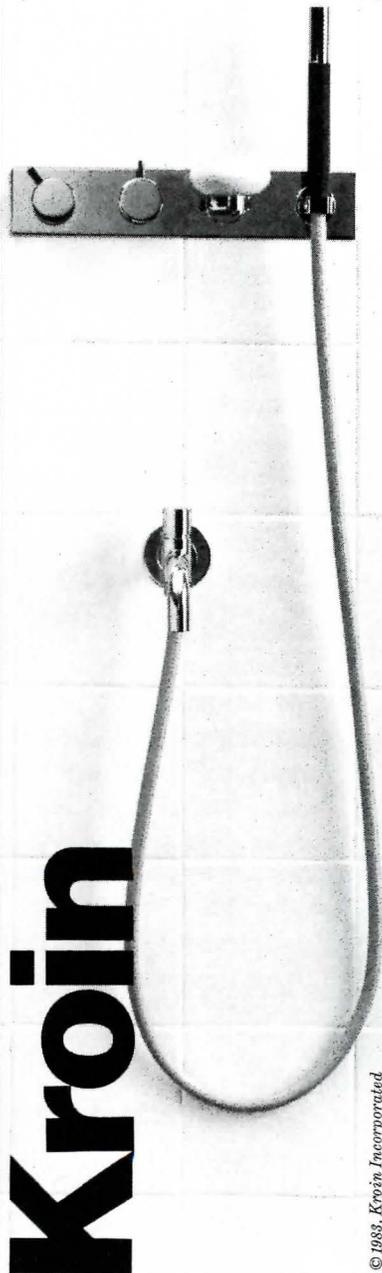
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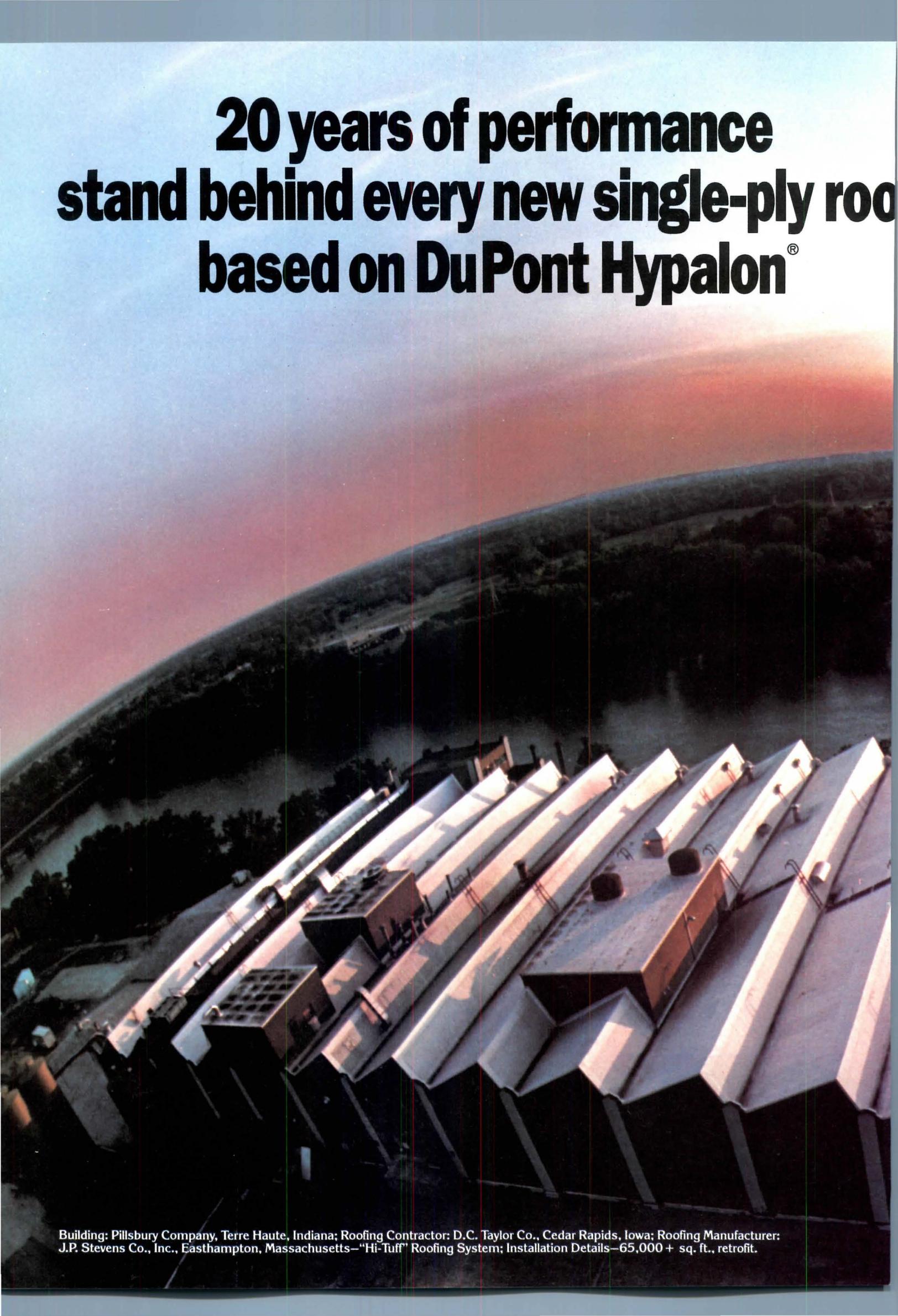
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**Government** from page 25

Merrill designed an underground addition to the Freer, but it died for lack of funding. Seven years later, Japanese architect Junzo Yoshimura, whose design of the Japan Society headquarters in New York City Ripley admired, was commissioned to plan the by-then-larger concept of an international cultural study center.

Early on, Ripley recalls asking Yoshimura if some kind of wall could be constructed on the open side of the quadrangle in order to create a buffer and hide the "menacing" Forrestal Building on the other side of Independence Avenue. That was not possible, but Yoshimura came up with the idea of two pavilions by which to enter the underground center. Ripley believes they will act as a "ski jump," taking the eyes up and over the Forrestal Building, so visitors "don't see the wild animal across the avenue."

The pavilions will also offer a sense of enclosure for the garden atop the center, and Ripley is pleased that a pair of iron gates designed by Renwick but never used are to be installed there, giving an additional feeling of intimacy to the space. The pavilion designs are sympathetic to the surrounding buildings. "They honor them with just a suggestion of a relationship between the arts of the Orient and of the Middle East," he says, referring to the collections in the Freer and the Syrian antecedents of the Arts & Industry Building.

Lack of sympathy in the design of new buildings as they relate to older ones riles Ripley. Jean Paul Carlhian, FAIA, of Shepley, Bulfinch, Richardson & Abbott was chosen to replace the ailing Yoshimura for the Quadrangle design, Ripley says, because "he has a feeling of respect for the past." Ripley rails against much contemporary architecture, which he describes as "brutal and sadistic." He thinks architects today often "insult their predecessors," and compares many additions to old buildings as "hurling wet mops" at them.

New buildings, Ripley states, are frequently "monuments to the high egocentricity of the architects." And, he adds, the problem is exacerbated when there is a client with an equally large ego.

The secretary notes that Hugh Hardy, FAIA, was chosen to renovate the Carnegie Mansion in New York City into the Cooper-Hewitt Museum, the Smithsonian's national museum of design, because Hardy had a "combination of style and a respect for the past." The museum, only eight years old, is running out of space and Hardy Holzman Pfeiffer Associates has been commissioned to design a \$15 million addition, now awaiting funding.

Asked about why the Smithsonian winds up using so many historic buildings, Ripley

*continued on page 31*



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**Government** from page 29

replies jocularly, "Beggars can't be choosers." And then he adds, "They love to give us old buildings. We like the esthetics and find them ideal for museum spaces."

Ripley's first new building while at the Smithsonian was the Hirshhorn Gallery, designed by Bunshaft and completed in 1974. Ripley had known the SOM architect from the days when Ripley served on the building committee for Yale's Beinecke Rare Books Library, also by Bunshaft. The secretary welcomed the Hirshhorn's "modernistic" design, which is not unrelated to the kind of art inside, he notes. "I wanted it to be a shock on the Mall. It would scare the pants off people. That was the only way to have a modern art museum in Washington."

The National Air and Space Museum, the world's most popular museum, with 10 million visitors annually, had already been designed by Gyo Obata, FAIA, of Hellmuth, Obata & Kassabaum when Ripley arrived. But he recalls, much to his delight, that it came in 25 percent over budget. Ripley was pleased because he hated the original design, which featured a huge cornice. The building was "too massive, an insult to John Russell Pope's National Gallery of Art across the Mall."

Ripley told Obata that the project would have to be canceled unless the cost could be reduced. "It came out much better," Ripley says of the second, and smaller, design. Now, Ripley is excited about the Obata design of a glass tent structure at the east end of the building that will hold a restaurant capable of feeding 1,200 visitors. It is expected to open in late 1986.

The proposed National Air and Space Museum annex to be located on land near Dulles International Airport outside Washington is now on the back burner, Ripley says, awaiting a decision by the new secretary.

Ripley says he loves talking with architects, adding that he had dealings with many during his Washington career, not only at the Smithsonian. President Kennedy appointed him to the original commission taking a look at the future of Pennsylvania Avenue, and he worked with Nathaniel Owings on the replanning of the Mall.

He enjoys the interplay with architects on a job and takes a great deal of interest in their work. Carlhian says Ripley displayed a strong interest in all aspects of the Quadrangle design, even down to the choice of materials. "He participates in every single decision," Carlhian says.

Carlhian adds that Ripley "is the best client I've ever had," noting that the secretary is "absolutely remarkable, a Lorenzo de Medici incarnate. He is a Renaissance

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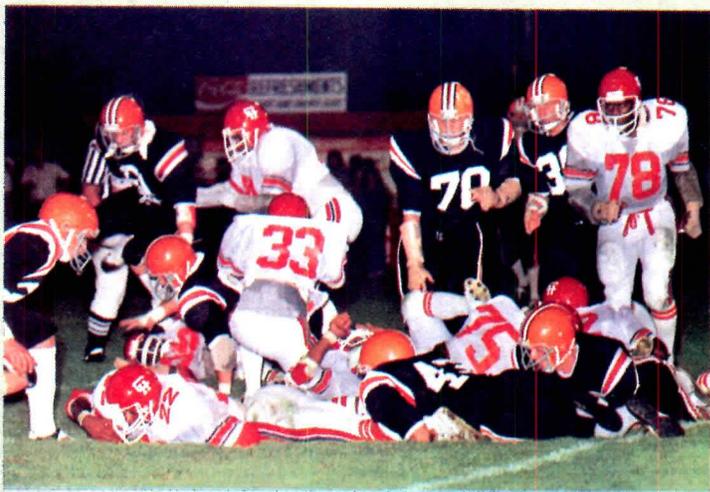
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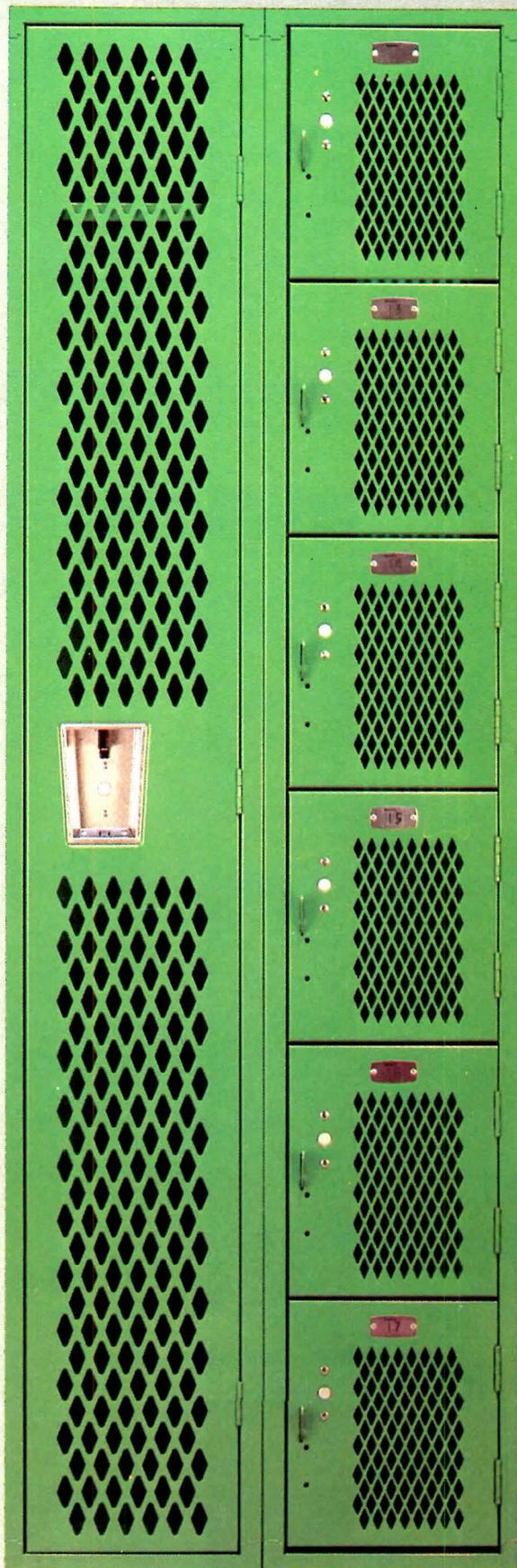


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**Government** from page 31  
man with a universal grasp of all matters pertaining to architecture."

Hardy echoes Carlhian's assessment when he says Ripley's "creative energy is incomparable." Hardy praises the secretary's support of Cooper-Hewitt Director Lisa Taylor and notes that while some who deal with the Smithsonian regard it as "a giant bureaucracy, Ripley was able to accomplish things of an extraordinary nature. He was not the top bureaucrat."  
CARLETON KNIGHT III

## Plans to Revive Washington's Union Station Announced

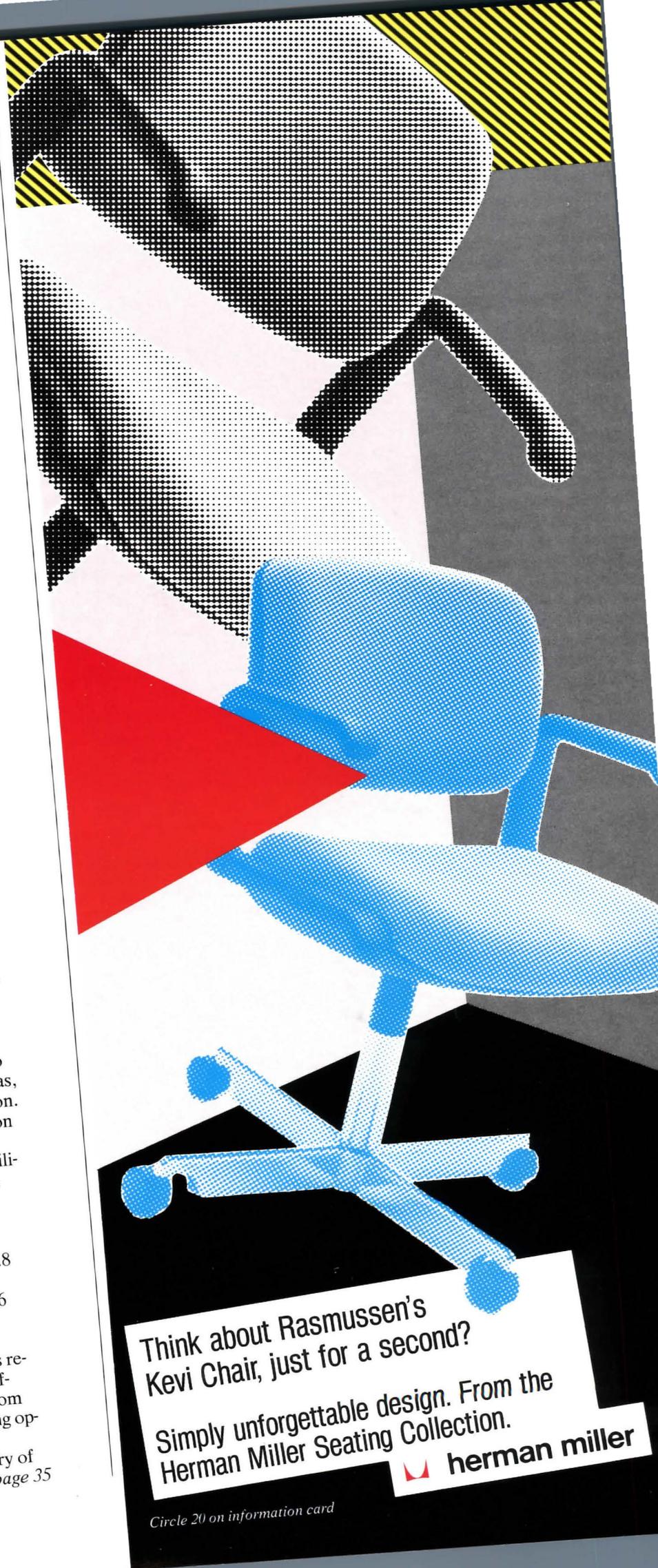
In 1981 the Union Station terminal in Washington, D.C., was closed to the public. Despite a previous \$117 million effort by the federal government to turn the station into a national visitors center, the building was declared unsafe due to leaking roof and structural deterioration. Now, a team of developers and architects has been chosen to "revive the bustling atmosphere and elegance that the station had in its heyday," according to federal officials.

Chosen through a limited design competition, the new developers are Equity Associates, Williams Jackson Cavanaugh, and Benjamin Thompson & Associates. The Thompson firm also will act as architect for the project. The team will be responsible for rehabilitating Daniel Burnham's 1908 Beaux-Arts building and turning its vaulted waiting room into an arcade of restaurants and shops. During the previous restoration undertaken a decade ago, a large slide-show pit had been installed in the center of the waiting room. Also at that time Amtrak's passenger terminal was moved into a new building appended to the rear of the original station and connected by a long, enclosed passageway. The new restoration will also improve transition between the two areas, and is expected to cost nearly \$40 million. The target for completing the renovation is mid-1987.

New, "more convenient" Amtrak facilities will be designed by Harry Weese & Associates, principal architect for the city's Metro rail system. The five-tier parking garage behind the terminal is now being completed to a tune of \$24.8 million by the District of Columbia. Work on the garage had halted in 1976 because of multi-million-dollar cost overruns.

Federal officials said that the plans require Union Station to become a self-financing enterprise, with income from the commercial developments covering operation and maintenance costs.

In announcing the plans, Secretary of  
*continued on page 35*



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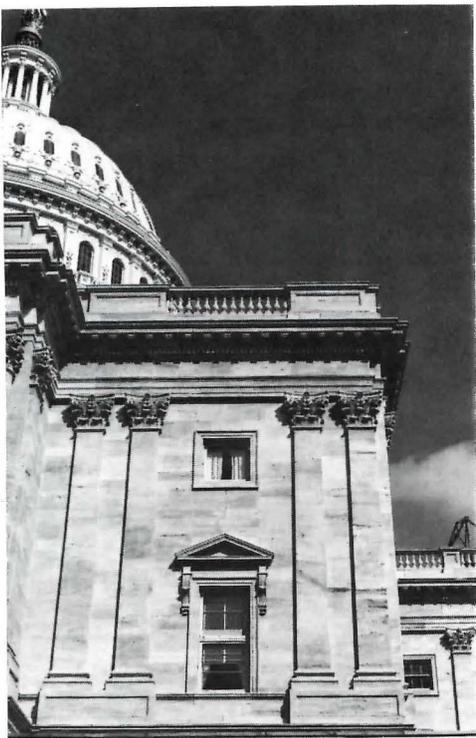
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**Government from page 33**

Transportation Elizabeth Dole said, "In about three years, it will be a beautifully restored transportation center with an exciting new collection of shops and restaurants."

Allen Freeman



**Capitol Restoration Work Continues.**

Replacement and repair of the stone of the West Front of the U.S. Capitol building commenced last month. The work is part of an overall restoration project to restore the West Front's building wall, which has suffered severe deterioration, and brace it to the building's structure (see April, page 11).

According to William Raines, who is administrative assistant to the architect of the Capitol, cleaning of the stone on the West Front was recently completed. "As a result of the cleaning," explains Raines, "the contractor was able to identify some additional stone that needed to be replaced or repaired." Raines adds that the extent of this additional work should be "nothing major." It is estimated that roughly a quarter of the West Front's Aquia Creek sandstone will need to be replaced.

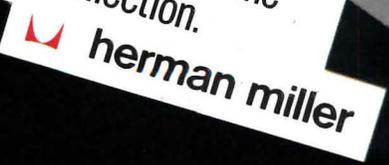
After cleaning was completed the scaffolding that had covered the entire West Front was taken down, exposing the bare sandstone walls for the first time since shortly after it was burned during the War of 1812, when it was painted white to hide the charring.

Charles H. Tompkins Co., a Washington, D.C., building contractor, is responsible for the work, except for the repainting and bird-proofing. The company was also involved in the building's East Front extension during the Truman Administration. Work should be completed in three years.

*News continued on page 36*



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The Institute

# Poster Encourages Students to Learn about Built Environment

"We want to tell schoolchildren the importance of good, quality design in their environment and the roles that architecture and architects play in making a quality environment," says Alan R. Sandler, AIA's director of public education. "Schoolchildren are going to be decision-makers very soon. We feel strongly that what architects need is a better informed client."

The poster bound into this magazine at right is the Institute's attempt to spread awareness about the built environment through the classroom to young people. More than 250,000 of these posters are being similarly folded into the October issue of *Instructor* magazine, a national publication for teachers with an estimated readership approaching 700,000. AIA's intent is to encourage teachers of children in grades four through eight to incorporate activities related to architecture into the established curriculum.

Sandler says that in addition to creating in teachers an awareness of architecture, the poster and text on its reverse are attempts to get teachers to view architects

as a classroom resource, "not just as someone to come in on career day, but as a partner in the education process. If we can get teachers to understand what architects can do in helping teachers explain to students about architecture, we will be further along in educating the whole population."

"The message to students is not that they should become little architects, but rather that they should know how to make conscious, reasoned decisions about what they want their environment to be," adds Sandler.

The poster is a photograph by Skip Brown who employed a telephoto lens to bring into proximity facade details of two very different lower Manhattan skyscrapers: Cass Gilbert's 90 West Street office tower of 1905, an intricate Gothic composition in terra cotta and limestone, set against the minimalist 1960s marble pinstripe of Minoru Yamasaki's World Trade Center. The obvious differences between the two are intended to encourage children to think about contrasting approaches to building design.

The narrative side of the poster first addresses teachers directly, explaining the value of architecture in the classroom and telling how to locate architects and best use them as teachers. The second part suggests three activities for teachers and/or architects to use in the classroom: re-designing a classroom space for different functions, creating a "recipe for a city," and visiting an architectural office "to experience the practical side of the profession and practice of architecture."

The poster was prepared by *Instructor* Education Service; Marjorie Wintermute, FAIA, wrote the section describing the "designing your classroom" activity; and Kenneth Filarski, AIA, contributed the "recipe for a city" worksheet concept.

Sandler says he hopes to promote initiative on the part of architects. "The key is to get architects to be viewed by educators as really concerned about the education of children and not just designing another building. If architects took this poster to school superintendents and school boards and expressed concern about creating a quality environment, they could be viewed by educators in a different, more positive light."

Additional copies of the poster are available free to AIA members from Sandler at AIA headquarters.

News continued on page 105

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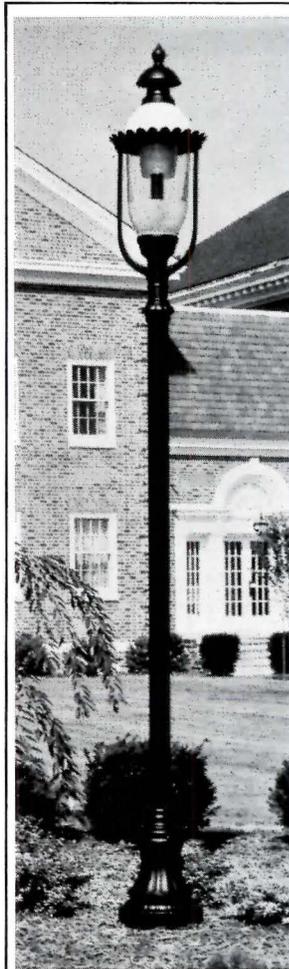
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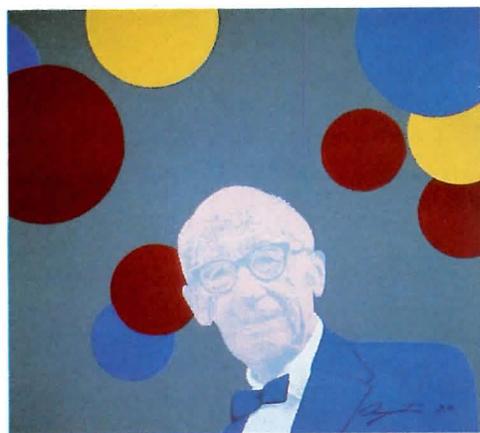
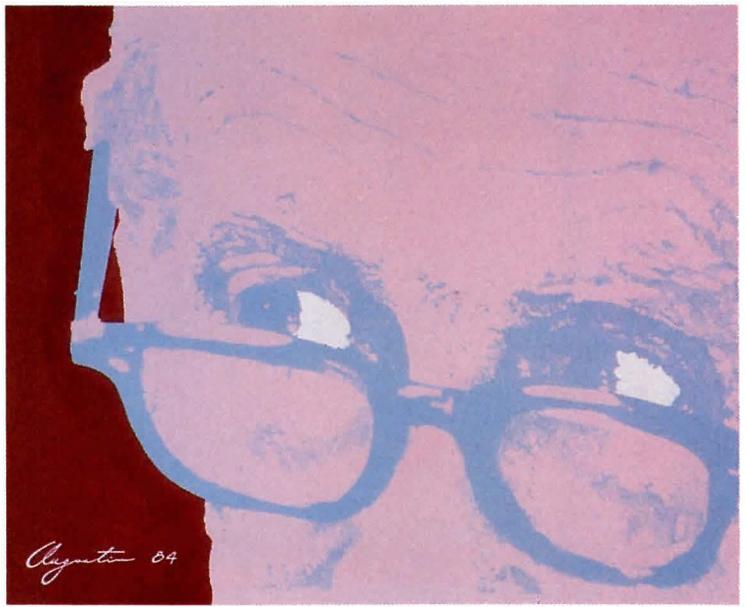
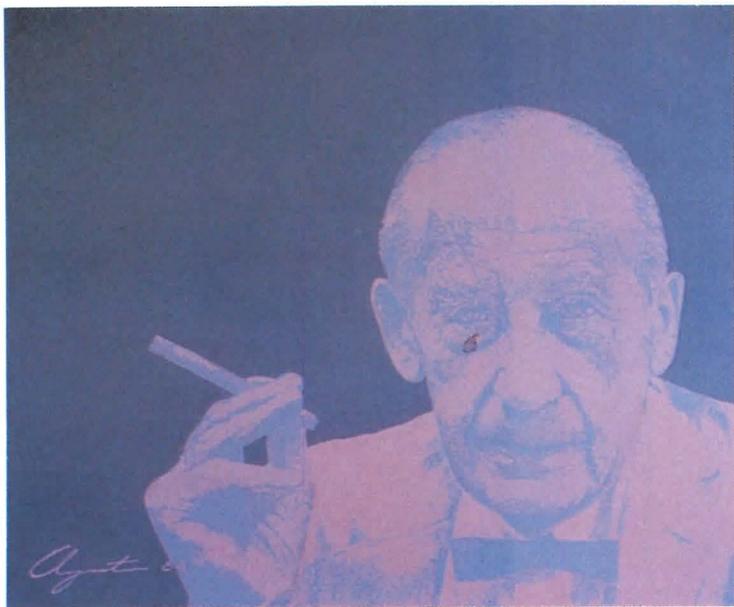
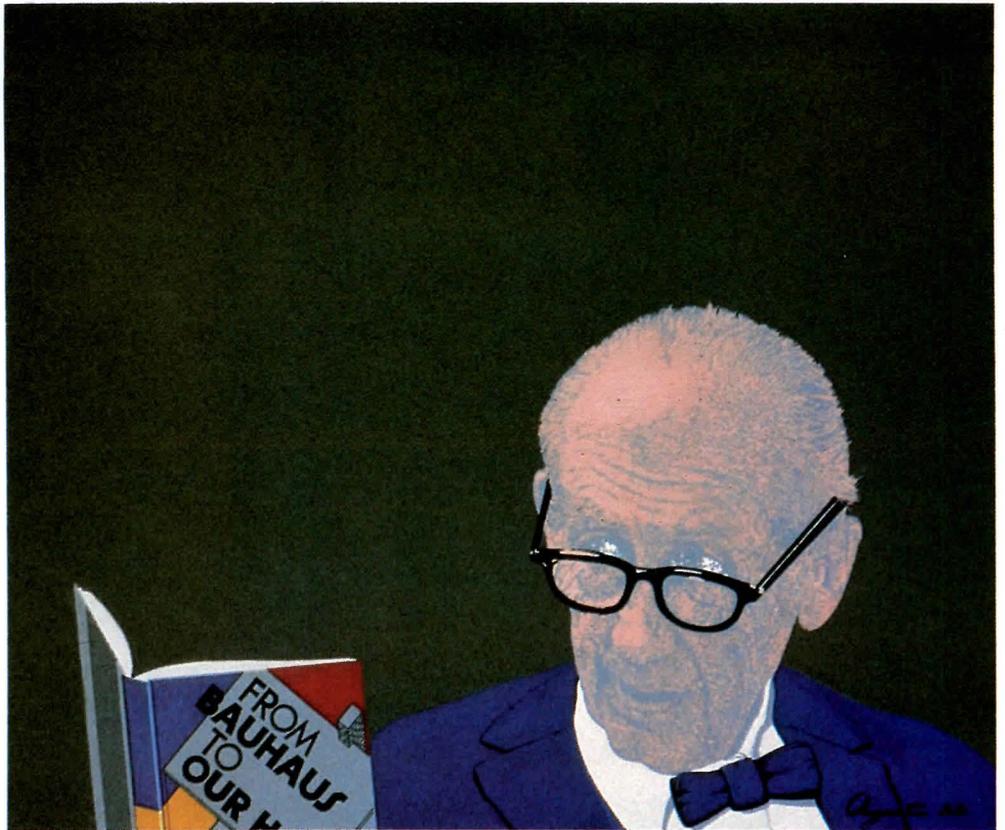
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The Arts

## Vivid Images Of Gropius



Architect and artist Robert Augustine became interested in Walter Gropius while working at The Architects Collaborative in Cambridge, Mass., a few years ago. After hearing stories about “Gropie” and learning more about his persona, Augustine adopted the Bauhaus master as a subject in a series of paintings. The first, titled “Gropie 100,” depicts Gropius peering over Tom Wolfe’s *From Bauhaus to Our House*. “Gropie 100” has been exhibited at the Boston Architectural Center and became the centerpiece of a poster for TAC’s Gropiefest this year, to honor its founder’s birthday.

Augustine says that the paintings have elicited different reactions, especially “Gropie 100.” Tom Wolfe enjoyed it, he says, but a few have found the four irreverent, while others say they capture Gropius’ partying spirit, especially the painting that surrounds him with brightly colored balloons. Gropius’ daughter Ati told Augustine that her father would have loved them. The artist reports that his work has made him more familiar with his subject because it has stimulated contact with people who knew Gropius personally. “I call him Walter now,” he says with a laugh. MICHAEL J. CROSBIE

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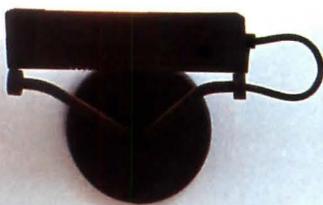
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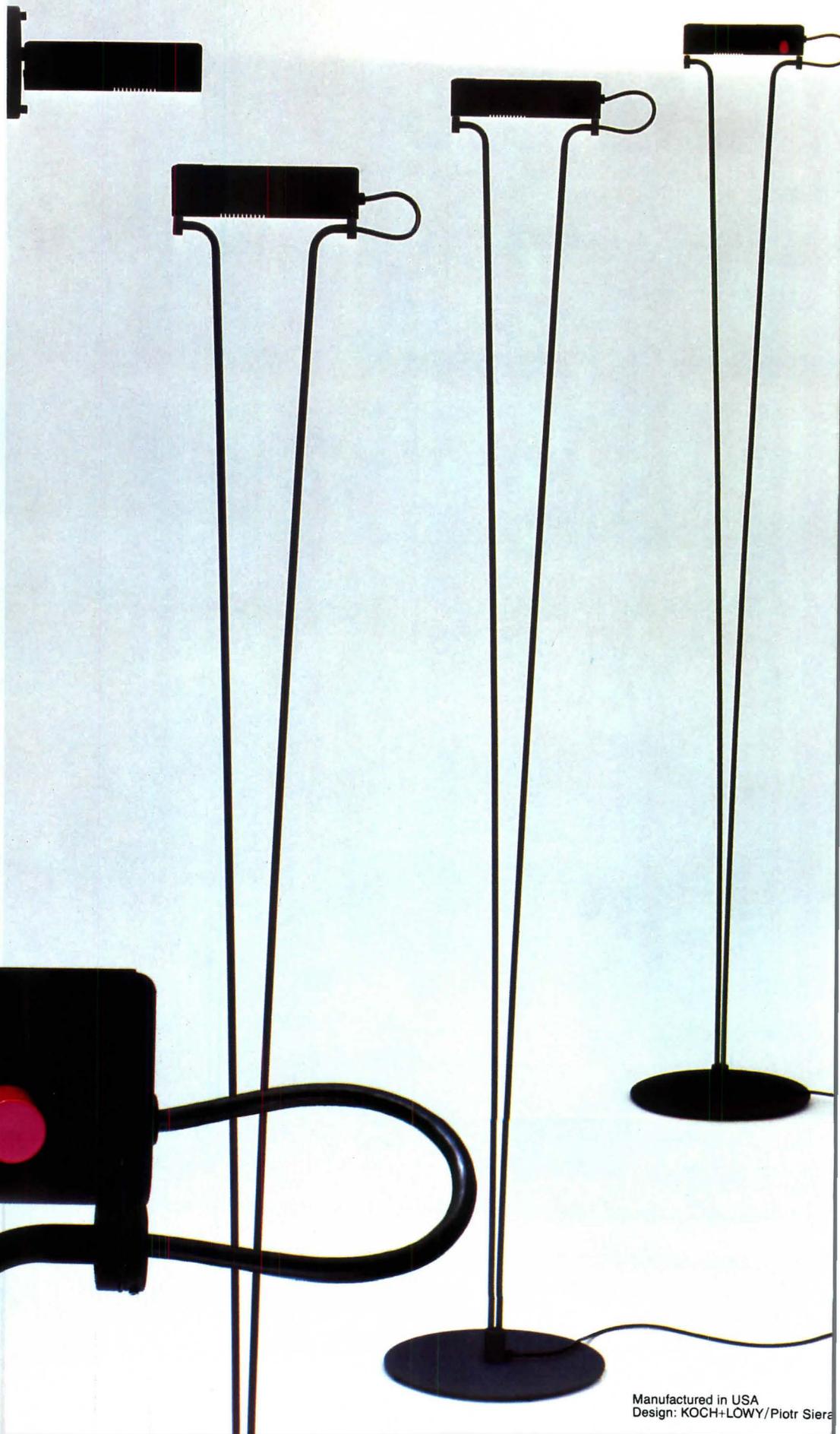
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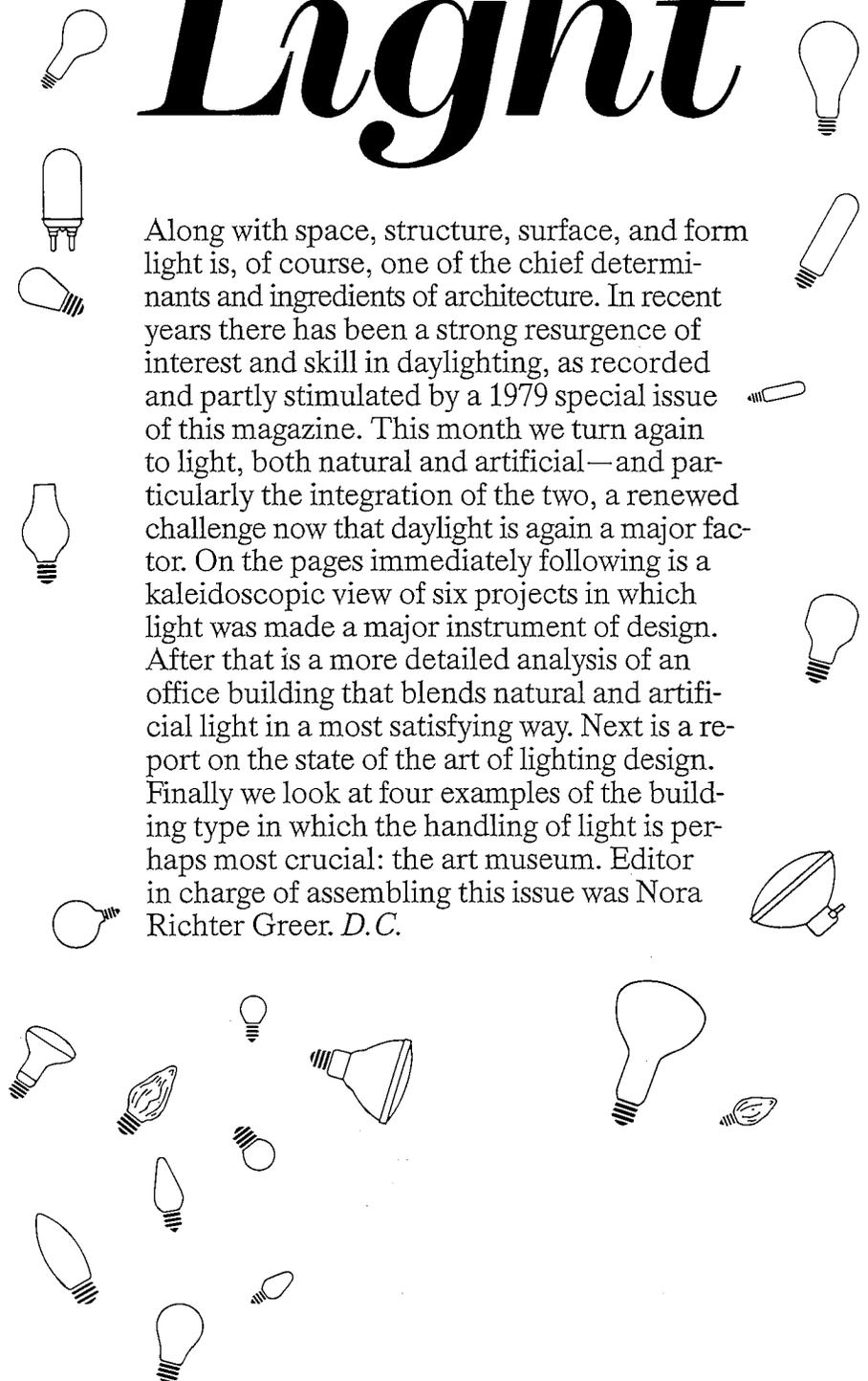


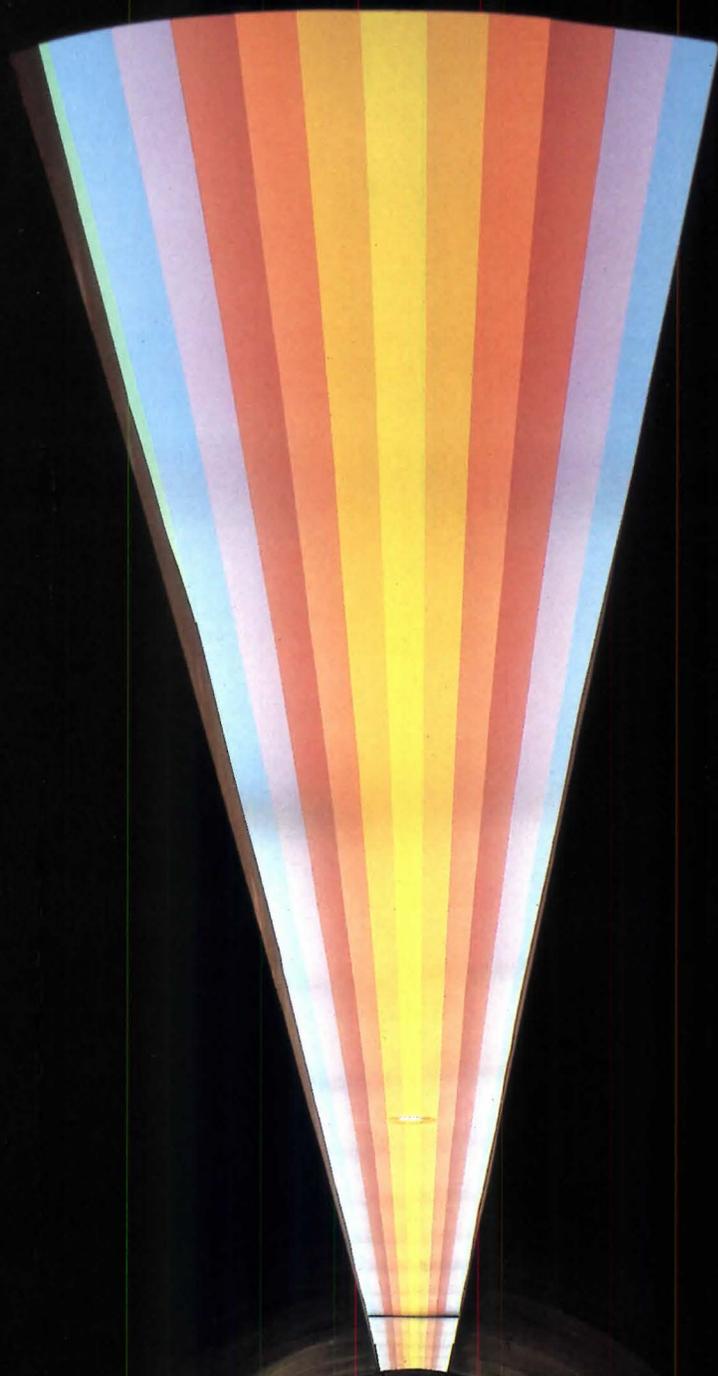
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## *Light*

Along with space, structure, surface, and form light is, of course, one of the chief determinants and ingredients of architecture. In recent years there has been a strong resurgence of interest and skill in daylighting, as recorded and partly stimulated by a 1979 special issue of this magazine. This month we turn again to light, both natural and artificial—and particularly the integration of the two, a renewed challenge now that daylight is again a major factor. On the pages immediately following is a kaleidoscopic view of six projects in which light was made a major instrument of design. After that is a more detailed analysis of an office building that blends natural and artificial light in a most satisfying way. Next is a report on the state of the art of lighting design. Finally we look at four examples of the building type in which the handling of light is perhaps most crucial: the art museum. Editor in charge of assembling this issue was Nora Richter Greer. *D.C.*





# Lighting as a Tool of Design

Six projects in which it plays significant roles. By Nora Richter Greer.

In 1927 Paul Cret designed a Romanesque building to house the Detroit Institute of Arts. In 1966 a south wing was added and in 1972 a north wing. However, no provision was made to connect the circulation systems of the three sections. Visitors to the museum had to take a long, circuitous route to move from wing to wing.

Correcting the circulation problems was one of the major tasks for William Kessler, FAIA, in renovating the interior. To unite the two wings, Kessler turned some of the previous storage/employee space in the original building into a lobby for the auditorium that sits at the rear of the structure. In the center of the lobby stands an Arp sculpture (below) enclosed in a semi-circle of floor-to-ceiling glass and flooded with spotlights. The Arp sculpture acts as the anchor for the east/west passage, which is through a black, vaulted tunnel that is lit by a bright rainbow ceiling (left). While appearing to be translucent, the ceiling is simply brightly painted and sidelit by fluorescent tubes hidden in coves. Directly on center at the other end of the tunnel is another sculpture flooded by spots that marks the middle of the front gallery.



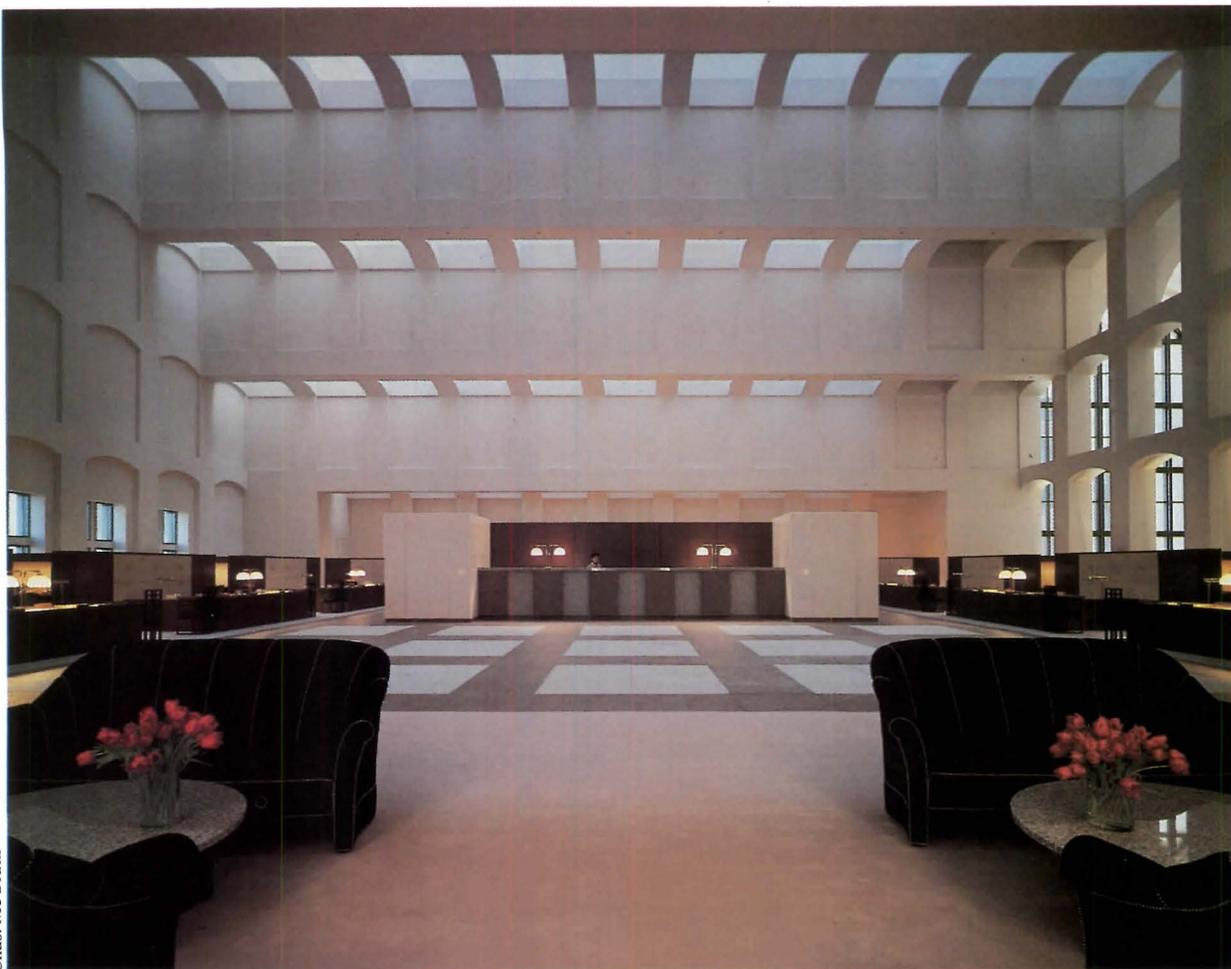
Santi Caleca



Santi Caleca

In remodeling the ground and fifth floors of the Banque Bruxelles Lambert's Lausanne, Switzerland, branch, Emilio Ambasz wanted to "demonstrate architecturally the bank's intention to become an accepted and integral part of that city and the surrounding region," in his words. To accomplish this he used light and imagery to "turn the walls transparent so as to bring back the countryside that once was there."

His technique is well illustrated in the rather small (8x12 meters) main hall. On one wall is a *trompe l'oeil* presentation of painted mountains—three cut-out panels of different heights spaced slightly apart (above). Light from fixtures placed on the floor between the panels reflects off the mountains and filters through hanging yarns of silk. In front of the curtains is a brightly illuminated model of the building, which hides the doorway to the bank's safe. The mountain imagery is continued on the main hall's left side (top), where a scenic panorama is seen through three fake windows, again covered with silk fibers. On the fifth floor the Alps are seen through real windows that lie behind silk hanging yarns lit by a row of ceiling lights.



Chas. McGrath



Chas. McGrath

**I**n a manner reminiscent of Louis Kahn's natural-light fixtures at the Kimbell Art Museum in Fort Worth, Tex., the hallways of the executive offices and dining floors of the RepublicBank in Houston are lit by a light vault (above). In this case the lights are artificial (fluorescent) and are hidden from view by a concrete light shelf. Lighting designer Marlene Lee devised the vaults as a way to indirectly light the corridors without physically intruding into the space.

The bank's mezzanine level receives abundant natural light emitted through the building's lobby window as well as from a series of skylights placed in the stepped-back roof forms (top). Downlights are placed in the ceiling directly above the tellers' stations, and table lamps provide task lighting. The building was designed by Johnson/Burgee, with Gensler & Associates responsible for the interior architecture.



© Peter Aaron/ESTO



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Nightfalls restaurant is located in two joined-together brownstones in Brooklyn, each of which has two arches on its facade. In designing the interior Edward I. Mills, AIA, of Voor-sanger & Mills repeated the arches and turned the ground floor into a "vaulted, tense, solid space." The interior geometry is highlighted by the use of lively pastel colors and light. In the corridor leading to the main dining room (right), the tops of the vaults are cut out and lit indirectly by fluorescent tubes. The main dining room (top) is illuminated by sconces set on walls and columns.

The upstairs bar (above) is likened to a roof garden, with the bar becoming the "handrail" and the windows and wine holders becoming a "city skyline." The room is lit by incandescent "stars," 150-watt bulbs set between two layers of sheet rock that are painted silver.

Central to the design of the Mobil Exploration and Production Research Laboratory in Farmer's Branch, Tex., is daylighting. Designed by Henry Cobb, FAIA, of I.M. Pei & Partners, the building is basically shaped by two predominant, daylit interior spaces: an atrium rising 52 feet in the building's cylindrical wing and a gallery running 500 feet through the center of the two-story laboratory wing (photo, below right).

On the exterior, an orange ceramic tiled half-barrel vault marks the gallery on the north. Cut into the curve of the vault at 52-foot intervals are strip skylights framed in red-painted aluminum. On the southern exposure, a clerestory runs the length of the vault's apex.

On the interior, natural light is reflected off the walls and supplemented with artificial lighting directed upward from light coves (below). Bridges transverse the 24-foot-wide gallery, connecting the offices with the laboratories. Stairwells leading to the ground level allow the natural light to penetrate farther into the building.

The parameters for the addition for the Western Colorado Center for the Arts in Grand Junction, Colo. (right), were a limited site, a low budget, and a program that basically dictated a large boxy building.

To lessen the impact of the center's bulk in the surrounding residential neighborhood, Chamberlin Architects placed a concrete wall around the boxy addition and bermed it with molded hills of earth. The hills run along two sides of the building and around the corner of a third. Inside the wall are two courtyards that may eventually become enclosed galleries. Outside, the molded hills give the front and side elevations an undulating sculptural effect. The curve of the hills is highlighted by a continuous tube of neon that is covered by steel L-shaped frames. The neon light also serves a practical purpose: In the original building passersby could tell that there was an evening function by the lights shining through the window. The unfenestrated wall now hides the interiors, so the neon is only lit on those nights when there is an event inside. □



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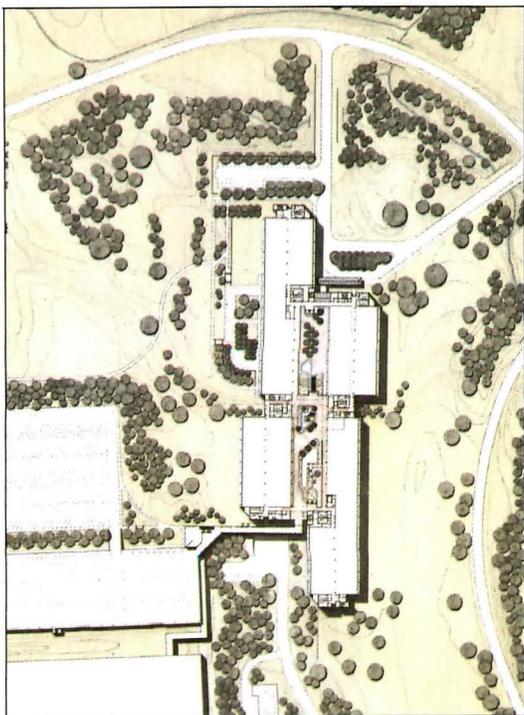






# Lighting Strategies: Case Study

*TAC's CIGNA office building, Bloomfield, Conn. By Michael J. Crosbie*



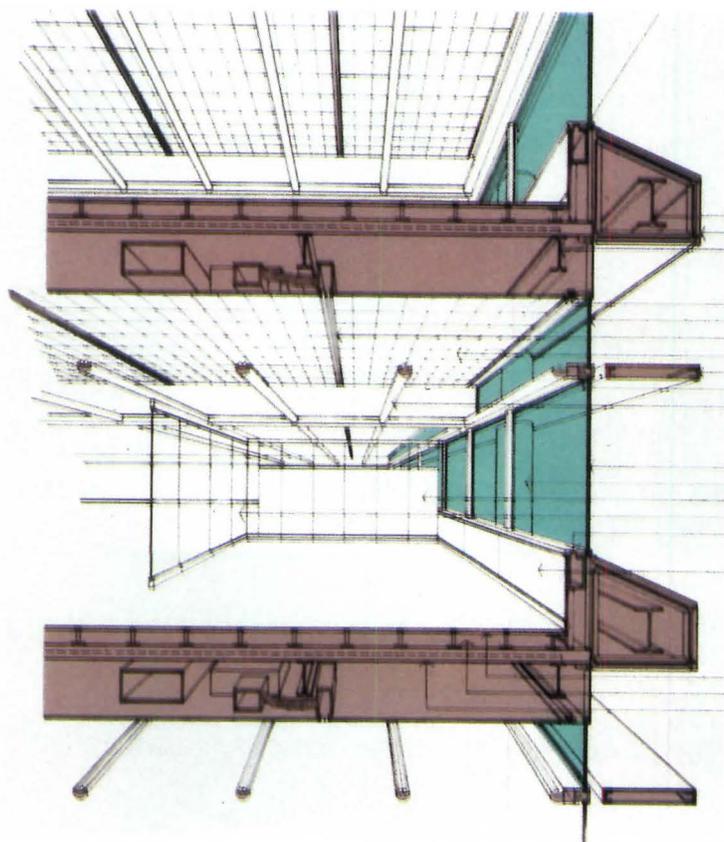
The CIGNA corporate offices in Bloomfield, Conn., by The Architects Collaborative display a number of natural and artificial lighting techniques at a variety of scales, each the product of careful consideration. TAC, however, used these lighting strategies in such a way that the result appears quite effortless. They are successful without calling attention to themselves.

The building is sited in the midst of CIGNA's parklike complex. It is actually two long, rectilinear buildings sliding past and overlapping each other. Where the two converge an atrium is created.

The building's longest sides face north and south, opening themselves to collect as much natural light as possible without glare. The narrow east and west elevations are virtually solid to omit the rising and setting sun. The atrium's glass is clear, save for the east and west ends, where reflective glass is used.

The 35,000-square-foot atrium is the communal center of the building, the receiving space for employees, the setting for lunchtime dining and after-work parties, and is also used by outside organizations. On entering from the west its full height is four stories. Opening onto it are dining areas, company stores, and the cafeteria. At approximately midpoint in its 470-foot length an escalator takes you up to the atrium's second level (you ride

*Across page, the light filled atrium with sun shades retracted, looking toward west; above, west elevation's opaque end walls.*



W21 Girder  
2" Thermal finish granite veneer  
W16 Filler beam

Adjustable horizontal blind  
1" Insulating glass panel (clear)  
Linear air diffuser  
Concealed spline acoustic tile ceiling  
Aluminum sun screen  
Roll shade  
Indirect light tube 6' 0" on center

1" Insulating glass panel (tinted)  
Aluminum column cover  
Movable opaque partition  
Movable glass partition  
Perimeter air supply

Plastic laminate panel

Access floor  
8" Power and communication distribution plenum  
Composite concrete—metal deck



*Across page, top right, east entrance lobby with 'floating' light tubes; immediate left, movable partitioning system in office space as it works with artificial lighting system; far left, light fixtures and bottom of beam read as ceiling height; left bottom, south wall section; above, detail of south wall with light shelves.*

up past a watercourse) that includes covered seating areas. The watercourse meanders its way beneath and beside the escalators, and plants thrive to soften the atrium's masonry edges.

But the atrium's main function is to deliver natural light to the three stories of workspaces that open onto it. Its clear glass roof has a motorized shading system that can be used on summer days to cut down on heat gain while still admitting soft light. On a winter day the shades are open to welcome as much light as possible, and at night they close to prevent heat loss. The shading can be varied too; shades at the roof's edge can soften harsh light in the work areas while sunlight fills the atrium proper.

On the smaller, workspace scale, TAC constructed a full-size mock-up of a building section on the site during the design phase to measure the effects of natural and artificial lighting. From the mock-up TAC determined that the width of the office wings should be no more than 50 feet, which would allow sufficient penetration of daylight into the center of the workspace, reducing the amount of artificial light needed. By pulling the building's column line outside, the workspaces are kept virtually column-free, and this contributes to daylighting efficiency.

The south wall employs an exterior, horizontal, aluminum shelf that blocks summer sun glare and heat, while it bounces light up onto the ceiling that is then reflected into the workspace.

Venetian blinds above the fin direct light onto the reflective ceiling and are adjusted twice a year to accommodate sun angles. On the north wall the shelf is omitted, allowing as much ambient light as possible.

The artificial lighting system was designed to work completely off the ceiling, providing nonglare, indirect illumination. Long lighting tubes are placed six feet on center, parallel to the windows and even with the bottom of the beam—a height of nine and a half feet. Three and a half feet above the fixtures is the white, acoustical ceiling that bounces the light back down into the work areas. This dimensioning allows enough height for adequate indirect lighting, while the fixtures' placement in line with the beams allows them to be read as the ceiling surface, thus lowering the scale.

TAC worked with Interspace Inc. of Philadelphia on the design of a movable partition system that enhances lighting. The workspaces are planned on a three-foot module. Full height partitions are connected to the bottom of the beams and light fixtures, which provide lateral stability. In general, all partitions perpendicular to the windows and atrium are opaque, while partitions parallel are clear glass, allowing penetration of natural light. Finishes of the partitions, work surfaces, and carpeting were chosen with light reflectivity in mind. The building's service cores are concentrated between the office wings and the atrium and are finished in dark colors for contrast.

The overall integration of the lighting design, at both large and small scale, is to TAC's credit. It reveals a consideration of such design not as a special case, but in the total scope of architecture. □

# Lighting Design:

*Blending natural and artificial with emphasis on quality. By N.R.G.*

A quiet revolution in lighting design has taken place over the past decade. No longer is the bland, general lighting of buildings acceptable. No longer is simply fulfilling functional needs (quantity) enough. Light must also meet biological, psychological, and esthetic needs (quality). No longer are daylight and artificial light considered isolated phenomena; the integration of all light to produce a pleasing environment is the goal.

The turning point was the 1973 oil embargo. The subsequent rise in energy costs forced architects, building owners, and lighting manufacturers to think about lighting in a different way. David Childs, FAIA, of Skidmore, Owings & Merrill's Washington, D.C., office says that it is a bit ironic that "rather than esthetic considerations it would be cost considerations that forced designers' interest back into how light can make space. Instead of just dead even light over the space, designers became aware of a hierarchy of space that can be created within a volume that is lit by different intensities of light, of a whole sense of procession that you can have going from a darkened into a brighter, lighter space." As Donald Gersztoff, a principal of the New York City lighting design firm of Wheel/Gersztoff, says, "The energy crisis is the best thing that ever happened to us. It made people much more aware of lighting."

Throughout this century, the "state of the art" of lighting design has been inexorably tied to the technology of artificial light (or as one lighting devotee called it, manufactured light). While the first incandescent electric light was invented almost simultaneously by Thomas Edison in the U.S. and Sir Joseph W. Swan in England in 1881, incandescent lights were not widely used in buildings until after the invention in 1901 of the tungsten filament lamp, which produces light by heating a tungsten wire to incandescence. However, the esthetics of electric lighting in buildings was hardly a consideration. As Howard Brandston, of Howard Brandston Lighting Design, Inc., of New York City and past president of the Illuminating Engineering Society, says, "At first, the job of whoever planned the lighting for a building, to the extent that it was planned at all, was to make sure that there were some lights every once in a while." At that time, the need for daylight in buildings was much more influential on building design, generating central courtyards, narrow building configurations, high ceilings, and large window openings.

It was the invention in 1939 of the fluorescent lamp—producing light by means of an electric arc that excites a phosphor coating deposited on the inside of the glass bulb—that ultimately

turned things around. While the early fluorescent tubes produced a very poor color rendition, they produced more light at significantly lower energy usage and longer life than incandescents. As the color rendition was improved, at the cost of some of the lamp's efficacy, use of the fluorescent increased, and by 1965 the lamp had become "the work horse of the lighting industry, providing nearly 75 percent of the world's light," in the words of James Nuckolls, an architectural lighting design consultant and director of lighting studies at the Parsons School of Design.

As the fluorescent tube became more accepted, the use of daylighting in buildings proportionately decreased; by the post-war years it had almost become a lost art. Except in certain types of buildings, such as museums and churches, and certain parts of buildings, such as lobbies and lounges, a rather bland general lighting by fluorescents became the norm. The common practice was for the electrical engineer to come into a building after it was designed and basically recess a grid of fluorescent tubes into the ceiling system. Abundance of light was the goal, with the Illuminating Engineering Society calling for higher and higher illumination levels. With higher levels of artificial illumination came a buildup of internal heat, increasing reliance on airconditioning. The sealed building, more susceptible to efficient air handling, became dominant.

In the '60s, the lighting industry had high hopes for new sources: high intensity discharge lamps, in which light is produced when a high-pressure electric arc is passed through a gas vapor. While these lamps have been used somewhat successfully in exterior, security, and warehouse lighting, they have not been used widely in building interiors. HID lamps are substantially more energy efficient than fluorescents, but the color spectrum of light produced is very limited and the consistency of light varies greatly over each lamp's life.

Mercury vapor, the first HID source introduced, emits a greenish-blue light. Mixing metal halides with mercury vapor improves the spectral distribution, but the light has a shorter life and is more inconsistent in color. High pressure sodium lamps have excellent optical control but produce a severely distorted salmon-appearing color and have a shorter life than the other HID sources.

With the oil embargo, the manufactured lighting industry turned its efforts toward creating *more and more* energy efficient lamps. In fluorescent lighting, the development of rare earth phosphors and the use of a triphosphor blend, as contrasted to the broad

# State of the Art

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spectrum phosphor approach, allowed for higher efficacy and better color rendition (light output that is even closer to natural light than incandescent, called delux white). Lower wattage incandescent lamps, the PAR lamps, using a halogen quartz filament, were developed. For both sources, the trend was toward miniaturization, which allowed for greater optical control. Two-inch-diameter MR-16 projector incandescents were developed for general use. Smaller fluorescent tubes, U-bends, and circles were brought to market.

But the greatest impact of the energy crisis was on the long-standing debate in the lighting field over emphasis on quantity versus emphasis on quality, giving a strong and still growing importance to the latter. Says John Burgee, FAIA, "It is really the quality of light that is much, much more important than the level. The engineering society has only recognized this lately." It was not until 1981 that IES illumination standards were changed to reflect minimum lighting requirements rather than maximums, which, according to Brandston, allows for more flexibility in lighting design. "Good lighting design means putting light—and the right kind of light—where it is needed . . . a focused, flexible system." Brandston adds, "Lighting should be designed and engineered based on human requirements, for the esthetic look desired, and the psychological effect of color, placement, and intensity of light as well as the task to be performed," rather than the footcandles achieved.

Along with the new emphasis on light quality came widespread use of task/ambient lighting. "The old days of having a single light solution for a multi-purpose facility where you pick a 2x4 fluorescent and you put it in six or eight feet off center in each direction no matter what the usage of space is gone forever," says the lighting designer Jeffrey Milham of the New York City firm Design Decisions.

Mitchell B. Kohn, an architectural lighting consultant in Highland Park, Ill., recently wrote in *Lighting Design & Application* (February 1984): "Task lighting may be furniture integrated or attached, ceiling mounted or combined to originate from the same luminaire as the ambient illumination. Most significantly, task/ambient light allows us to focus attention on the needs of task lighting from the standpoint of quantity, quality, area of coverage, flexibility, changeability, and other requirements that otherwise may be taken for granted or overlooked. General illumination is now free; it no longer has the responsibility of providing task level illumination."

Says lighting designer Jules Horton of New York City, "There is nothing more disconcerting, more counterproductive in dollar and human terms than a blanket of uniform light levels throughout a space, unless it is a basketball court." Nuckolls says, "I think that the idea of task/ambient as opposed to general lighting is one of the most important things that has happened."

New emphasis has been placed on the esthetics of lighting—both artificial and natural. The new, expressive language of lighting looks at properties that create atmosphere, the emotional feelings evoked by the visual experience—bright, cheerful, gloomy, colorful. In *Perception and Lighting as Formgivers for Architecture* William M. C. Lam writes of the "irrelevance of single-parameter numerical criteria such as footcandle levels" and emphasizes that it is the "patterns of light sources and the nature of their relationship to other elements in the visual field that largely determine the overall quality of the luminous environment. . . . Fulfilling minimum light levels required for tasks is not difficult and is usually a by-product of lighting designed for the qualitative aspects of dispelling gloom and darkness and providing visual interest and delight."

What are needed, Lam continues, are "positive focus, sparkle, orientation, and guidance, elimination of glare." A poor visual environment, says Lam, is "dominated by visual information that is irrelevant to interest or needs, is ambiguous, unpleasant, distracting from desired principles." In a study on the integration of daylight and electric light in buildings for the Lawrence Berkeley Laboratory at the University of California, Elyahu Ne'eman found that the "quality of the visual environment depends generally on adequate illumination for visual activity, elimination of glare, and subjective considerations such as avoiding a gloomy interior, achieving a color scheme, providing an acceptable size and shape of windows to maintain contact with the outside world."

Brightness contrast, almost unachievable with general lighting, is now considered all important. Benjamin Evans, FAIA, in his book *Daylight in Architecture* wrote, "It is often thought that more light on an object or task will make it more visible. To some degree this is true, but visibility also depends upon visual acuity (the ability to distinguish fine details) and contrast sensitivity (the ability to detect the presence of luminous, or brightness, difference). R. G. Hopkinson, one of the leading English authorities on lighting in buildings, maintains that "lighting

design depends largely on the control of brightness contrast: the interaction of light and dark, texture (a pattern of highlight and shadow), and color—light and color to clarify the form of a building, to underline its structural logic, to help users find their way about, to draw attention to particular features of interest, to point out hazards.” Hopkinson, however, warns against creating extreme levels of brightness and darkness: “One essential requirement of good lighting is to avoid creating situations where the eye is called upon to adapt too quickly over too wide a range of lighting levels.”

In addition to esthetics, human biological needs related to lighting are receiving more attention. In his second book *Sunlighting as Formgiver for Architecture* (to be published next spring), Lam writes that in the programming stage “rather than producing a list of footcandle levels to be achieved in the various types of rooms, the design team should list in the program the activities and biological needs, as well as their implications, for the luminous environment.” Lam’s fulfillment of biological needs concerns location, time, weather, enclosure, presence of other living things, territory, opportunity for both relaxation and stimulation, place of refuge, sense of horizontal and vertical to ensure a proper feeling of balance, orientation in space, and sense of stability. The basic biological need for the production of vitamin D3 by the body’s absorption of ultraviolet radiation from the sun has become an acknowledged benefit of daylighting, as has the “body’s and mind’s need for a change of stimuli or mood,” which the “constantly changing nature of daylight automatically and naturally provides,” in Evans’ words.

Information on the biological and psychological effects of light is scant. “It amazes me how little is understood about how the eye sees and how much light is really needed, and how you really measure good quality light,” says Maxine Savitz, president of the Lighting Research Institute, established in 1982 by IES as an independent research organization. LRI sponsors investigations into photobiology (the health implications associated with artificial illumination), the relationship between vision and the lit environment, psychology (how light and color affect human feelings of well-being, mood, behavior, fatigue, and productivity), and system applications (the engineering, physical science, and economic aspects of lighting systems).

Daylighting is again perceived as a viable, important light source. In October 1979 Marguerite Villecco wrote in this magazine: “More recent interest in energy conservation has focused on a complement between changing environmental cycles and building design, urging the designer to integrate building and nature. The location and form of the building have become the focus of energy-conscious design rather than mechanical systems. With increased interest in natural ventilation, passive solar energy, and dynamic design responses to climate, daylight design is again rising to the fore. Classical approaches to day-

lighting are being enhanced with new knowledge about ways to make the light more useful, farther into the building.”

From this perspective daylight, much more than electric light, is implicit in every design decision. As Lam writes, “The esthetically successful utilization of sunlighting opportunities in buildings requires that the associated forms and devices be conceived as an integral part of the architectural design, as much as floors, walls, and beams. The selection of materials and finishes that have a role in shading or redirecting light must be in harmony with the total palette selected for the buildings. Scale, proportion, rhythm of sunlighting devices should contribute to the whole, in deference to the larger order of design.” Natural factors affecting daylighting design are variations in the amount and intensity of the sun; the luminance distribution of clear, partly cloudy, or overcast skies; the effects of local terrain, landscaping, nearby buildings, and the glare and luminance patterns within view; and the color of daylight.

The re-investigation into daylight as a source has naturally brought attention to its inherent differences from electric light. Daylight is a variable, changing source of illumination, which needs to be directed and controlled by such things as “reflection, refraction, polarization, interference, diffraction, diffusion, absorption, baffling,” in Lam’s words. Electric light is static and more easily controlled. “One thing that is wonderful about daylight is that it is changeable. Artificial light without dimmer controls is constant, static. The wonderful thing about daylight is its variability, its changes in color temperatures, its changes in quantity, its changes in diffuseness to spectral light. But there is always a danger that it is so totally controlled that you homogenize it,” says George Sexton, an architect who specializes in lighting design.

With the increased use of daylighting new concern has arisen over how to successfully integrate it with artificial light. In recent building designs, Harrison Fraker, AIA, has been “trying to pay attention to the way in which the changeover between natural and artificial light can be a very natural one so there isn’t an abrupt ‘so the lights are on’ or ‘no, the lights aren’t on.’” Childs says, “I find it disconcerting to design a building where natural light will enter in one particular way and the artificial light in the opposite.” Hopkinson writes, “The relation between daylighting and artificial lighting should be considered in the earliest stages in a design. Each should be used in a way that exploits its special quality: the variety and directional characteristics of daylighting, the constancy and instant availability of artificial light.”

Direction of light and color of light are of the utmost importance. Evans says, “Electric lighting systems in buildings must achieve a degree of compatibility with the daylight that is to be admitted—compatibility in terms of color, direction, general effect.”

Ne'eman says that "the electric lighting should have a color appearance and color-rendering characteristics compatible with those of daylighting and should be also compatible with interior color finishes." Evans adds that daylight entering through skylights is "compatible with ceiling-mounted electric fixtures because of location and light direction, but will sharply contrast with indirect or task/ambient lighting." Skylights with a diffusing material at the roof surface or at the ceiling will "produce a source of brightness similar to that of an electric fixture." Overall, Evans says that "skylights and clerestories are particularly more likely to be compatible with electric systems when used in an indirect way and mixed with electric light."

The newest mechanical tools for daylighting/artificial integration are automatic controlling systems in which photocells sense the amount of daylight and either automatically raise or lower the level of artificial light or switch the artificial light on or off. In the past these control systems have been very expensive to operate. But now a new generation of solid-state electronic ballasts for fluorescent lights is about to be introduced into the market. These will provide dimming capabilities at a moderate cost. Sometimes, though, the system's success relies on a human factor. "The problem is that the perceived light level inside is not measured psychologically. People often use the override because they just want more light," Nuckolls says. Another new tool is the occupancy sensor, a system using motion sensing sound waves or infrared radiation that reacts when someone enters or leaves a room and turns the light on or off. While not directly having an impact on the daylighting/artificial lighting relationship, the occupancy sensors can provide large energy savings, particularly in offices.

Over the past decade a great deal of research has increased the knowledge of daylight availability and conditions in different climatic zones and seasons of the year. Design tools for making energy and lighting calculations have proliferated. Computer programs can provide detailed point calculations of daylighting effects on interiors, comparing how those figures change as components of the design change, such as glass, orientation, angles of fenestration, overhangs, or shadowing mechanisms.

"I think enough tools are available," says Fuller Moore, AIA. "But unfortunately most architects are not aware that the tools exist, and, daylighting is a fairly mysterious phenomenon. I don't think most architects understand conceptually how daylighting works from the standpoint of anything beyond just opening a window to let light in." Lam agrees, "There has been a groundswell of interest in daylighting, but perhaps the interest has grown faster than the knowledge. Many people are finding faster, more convenient ways of calculating it, but treating it like just another source of energy without understanding what they are trying to achieve besides numbers, or the significance of the numbers they are trying to calculate." Says Burgee, "Lighting is

one of the most overlooked elements in architectural design."

Steve Selkowitz of Lawrence Berkeley Laboratory believes that "there still need to be more and better tools for daylighting," but stresses that, especially with computers, "all you see is pretty graphics on the user friendly front end, and the question of what goes on inside the computations doesn't get asked. How do you know it is the right answer? How do you know what the limitations of the program are?"

For the future, Selkowitz foresees "new and better technology that will give you better control of light coming from the outside and at the same time there will be equivalently impressive improvements in electric lighting systems, hardware design, and control. I think 20 years from now the economic rationale for daylighting will be based on user expectance and color and connecting with the outside as much as or more than energy issues."

While even lighting manufacturers are hard-pressed to make long-term predictions for artificial lighting, some new developments are just over the horizon. New fluorescent lamps are being developed that are very compact and will fit into incandescent light fixtures. While still not a point source, the lighting industry sees broad use of these lamps where high controllability is not an issue. Higher efficacy incandescents are also likely: Higher energy efficiency levels will be achieved by reflecting infrared light back to the filament off of a selective coating on the bulb's glass. Another possibility is a metal halide lamp that can provide output characteristic of an incandescent, and there may be improved color rendering high pressure sodium lamps.

For daylighting, already on the market are windows that "by virtue of their coatings basically let in the daylight component but reject the heating component of the solar spectrum by reflecting it back outside," says Timothy Johnson of the Massachusetts Institute of Technology. In the long term, windows may have internal switching devices that will transform their optical properties from highly transmissive to totally or partially reflective, in response to changes in light intensity, spectral composition, heat.

One question remaining is how architects will use these new lighting tools. A positive trend is the greater use of lighting consultants and designers early in a project's conception. "We find that clients more and more just immediately assume that part of our team structure will include a lighting designer," Childs says. As advanced lighting technology continues to provide for more diversity in design, more architects may feel as Burgee does: "It is really not so much that we don't know the effect that we want, but it is the mechanics of how to accomplish that effect." And it seems highly possible that more architects will realize, as did Frank Lloyd Wright; that "light is the beautifier of the building." □

# The National West: Gleaming New Galleries

*Keyes Condon Florance in  
collaboration with in-house  
designers. By Allen Freeman*





Unexceptional in proportion, muted in color, virtually devoid of architectural detail, the room is nonetheless sensational. It is a small sculpture gallery created as part of a major remodeling by Keyes Condon Florance of the National Gallery of Art's West Building ground floor. In this room, KCF provided background for the work of the museum's exhibition staff, and especially the gallery's gifted lighting designer, Gordon Anson.

About three dozen human figures and busts are displayed in the space, males along the periphery, females in the center. Except for three small built-in exhibit cases and four scrimmed windows facing north, illumination is from ceiling track fixtures. Set against softly washed vertical surfaces, the objects of stone and metal are dramatically lit in strong highlight and deep shadow, with infill providing enough light in shadow to reveal detail. The most telling evidence of lighting care and precision is the choreographed dance of light and shadow cast by the artworks on the floors, walls, and partitions.

Appropriately, the room's most prominent figure is a dancer, a bronze ballerina by Degas. She seems poised to perform, strongly illuminated, mostly from the front, as if by theatrical spotlight. The plane behind her is lighted at a level that makes

*Two views of the West Building's small sculpture gallery.*

her plexiglass box mirror slightly, giving multiple views of her sides at once. Yet the reflections are sufficiently faint not to distract from the figure. Also unobtrusive are the seams of her case, as Anson focused her light to avoid a neon edging effect more appropriate to late-20th century art than subtitles of Degas.

Near the dancer are three cases built into an L-shaped partition extending from one wall into the center of the room. They contain miniatures by Degas—wax figure studies for his large sculptures, including an early version of the young ballerina. The cases are lit from within to minimize room reflections and to keep light sources clear of obstruction by visitors. More importantly, instead of blanketing the little figures in ambient light, Anson illuminated each case as if it were a miniature gallery: Works are individually lit with the precision and drama of the larger pieces in the surrounding spaces. And because the wax figures are sensitive to heat, *each case has an independent* airconditioning system integrated with its lights.

Although these cases and this room are unusually intricate displays of lighting virtuosity, they are typical of the approach



*Narrow corridor with serpentine walls, right, is lit as a gallery. Beyond it lies the museum shop, across page, that combines ceiling incandescents and display cases with fluorescents. The Garden Cafe, below, is lit mainly by a make-believe skylight.*



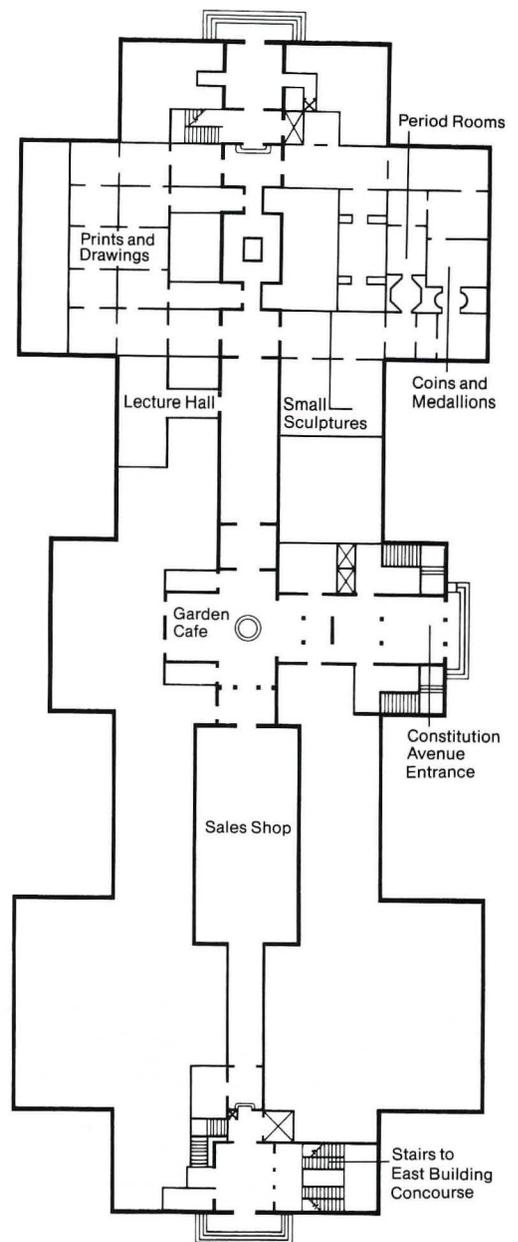
Photographs by Gary P. Fleming



### *Uniform level of excellence in lighting.*

throughout the museum, where more emphasis is placed on lighting than perhaps in any other major museum in the world. And, while there are critics of the National Gallery's "theatrical" approach to lighting (as mentioned elsewhere in this issue) in the context of the design of the East Building (see page 74), there can be little dispute about the National Gallery's uniform level of technical lighting excellence. Says Anson, "In some museums, an exhibition might be designed and even constructed before lighting is considered. Here, every decision is based on whether the lighting is going to work." The result is underscored when exhibitions mounted at the National Gallery travel to other museums where less emphasis is placed on lighting.

Anson joined the gallery staff as lighting designer in 1977, when he was still in his 20s. Schooled in exhibition design at California State University at Fullerton, he had learned exhibition lighting in independent study. "Lighting educators, other than electrical engineers, tend to be broad in approach," he says. "I learned very quickly that exhibition lighting isn't taught." After graduate studies, Anson designed the illumination for a variety of temporary exhibitions for museums on the West Coast and a traveling bicentennial exhibit for the Georgia Council on the Arts.



His first year at the National Gallery involved preparation for opening the East Building. The museum's next big project was to renovate and convert the ground floor of John Russell Pope's 1941 West Building to new public uses, changes made possible by expansion into the I.M. Pei addition. This \$10 million, phased project took the better part of four years, with Keyes Condon Florence working in collaboration with the gallery staff and outside consultants, including Charles B. Froom and Mark Hampton, Inc.

A major accomplishment of the project was the opening, for the first time, of an east-west, ground-floor public circulation route. This required cutting a corridor (facing page, top photograph) from the east through a space formerly housing mechanical equipment. This opens into a new sales area (above), leading to a garden cafe in the center of the building (left), and on into the exhibition spaces shown on previous and subsequent pages.

The corridor walls undulate in front of a double row of columns that support the east garden court on the main level. Anson lit this narrow space as a gallery, with recessed fixtures focused on framed reproductions for sale in the adjoining store. Lighting is used to visually expand the tight space, an effect replicated in the sales area. Both spaces are exceptionally pleasant, entirely new interiors by KCF.

Allen Freeman



Gary P. Fleming



Allen Freeman



### *Accenting art, de-emphasizing ceilings.*

Although contemporary in design, the store has elements that recall the building's classicism, most notably in a series of arches that reinforce the east-west axis. Anson's lighting here de-emphasizes the low ceiling by pulling one's attention to the north and south walls and keeping the ceiling as uncluttered as possible. Recessed fixtures are directional and adjustable but detailed as simple down lights. Handsome custom counters and wall cases of glass, marble, and plastic laminate contain fluorescents, color balanced for incandescents, nicely integrated and hidden.

Adjoining the museum shop is the Garden Cafe in a room dotted with columns directly under the National Gallery's rotunda and Neptune fountain. While the location makes the cafe's central skylight a physical absurdity, the touch of make-believe creates a soothing psychological effect. Using a blanket of fluorescents color balanced for daylight, Anson pulled off a trick

that would be a disaster if unconvincing. (Unfortunately, budget constraints precluded dimmers for a twilight effect.) KCF restored this space; furnishings and decor, including trellises that could be improved by better detailing, are by Mark Hampton.

Just beyond the cafe lies a long, segmented gallery intended for rotating exhibits, shown above right in its first post-renovation show, of the museum's *American naive paintings*. In this original 1941 space restored by KCF and the gallery staff, Anson removed a very prominent central lighting plane that ran the length of the long room and replaced it with a pair of tracks integrated into a custom-detailed wood molding. Because exhibitions change here, Anson had to provide a flexible system that would allow illumination of movable partitions as well as walls. A cover can be snapped over the track when it is not in use, camouflaging it as a molding with reveal.

The photographs above left show permanent installations. For a series of rooms designed by Charles Froom for the display of



*Three contrasting lighting solutions: above, a quartet of ceiling tracks integrated with molding in a gallery for changing exhibitions; top left, coins, medallions, and other small objects articulated with key lights and infill; lower left, period rooms.*

hundreds of medallions and other small objects (top), Anson raked key lights from within the cases to accentuate the bas relief and washed the cases from ceiling track fixtures to bring out detail in shadow. Objects within the cases are mounted on acrylic sheets that allow viewing both sides and minimize the claustrophobic effect that a roomful of cases can produce.

A quite different kind of lighting is found in the adjoining suite of 18th century French period rooms (lower left). Here Anson took cues from the curatorial staff, highlighting rare or interesting objects, such as the candelabras, while lowlighting more commonplace ones, like the commodes on which they stand. The bas relief rear wall of the fireplace is softly, if

improbably, lit, while for reasons of security the porcelain vase in the room's center is somewhat over-illuminated.

The National Gallery's emphasis on lighting and technical virtuosity is vividly apparent in these period rooms, especially in a behind-the-scenes situation. High on the walls over doors and mirrors is a series of panels painted in oils depicting monkeys engaged in such artistic endeavors as painting, sculpting, music-making, etc.—a curious example of 18th-century French humor. Because of position, the panels are hard to see. Anson successfully lit some with focused beams through tiny holes in the walls directly across the room. Unfortunately, because of limited space behind some of the walls, some panels had to be lit from the ceiling, which causes glare from the perspective of the floor.

Says Anson: "The framing projector requires a lens, which adds prohibitive depth to the equipment. We have eight inches of space. The smallest fixture I've been able to find is nine and a half inches. I am searching for the right fixture." □



Allen Freeman

# The National East: An Evaluation

*I. M. Pei's landmark after six years. By Andrea Oppenheimer Dean*

I am biased. I live in Washington, and since its completion six years ago, the East Building of the National Gallery of Art has become like an old and valued friend, most of its peculiarities familiar and easily forgiven. As the well-known poet William Meredith wrote in 1979:

Meanwhile Munch and Noguchi  
and a long deposit of  
the sweetest  
troublers  
required this reckless  
glacier,  
these knives of stone,  
these pink prows, . . .  
We've given assent to  
ourselves in this city  
for a while,  
laying down stone like  
our own sweet lives.

In its organization around a now-famous central atrium intended as flypaper to attract not only the cognoscenti but ordinary people who may never before have set foot in a museum of art, the East Building has had obvious influence on the rash of recently completed museums, including Stirling's addition to the Fogg in Cambridge, Mass., Hollein's municipal museum at Mönchengladbach, and Meier's High in Atlanta, all atrium buildings. Asked if the East Building was a direct influence, Meier said, "It helped shape not only the High but museum building in the U.S. in defining the role of the public institutional space as a center of the community in many different ways. It's not as though we didn't know the National Gallery or didn't look very carefully at the way natural light was brought into the atrium space." J. Carter Brown, director of the National Gallery, adds, "I wouldn't be surprised if the East Building gave impetus to communities to build museums to generate collections." He has, however, denied that attracting donations to the gallery's sparse contemporary collection was a motivating factor for its building program.

Though it opened in 1978 to an accolade of praise, the pre-



William Schaeffer/National Gallery of Art

dictable backlash soon followed. Some of the criticism could be easily dismissed, such as the imprecise "tyranny of the triangle" epithet. Though governed by that shape, its galleries are, after all, variously shaped—some hexagonal, some rectangular, others completely open (depending on the needs of each exhibit). And can you think of a space with richer, more complex geometries than the triangular atrium? The major faults attributed to the building in the late 1970s can not be ignored, however, for they remain targets of criticism.

But first, a word on an issue about which there's virtually no disagreement, namely the building's success as urban design. It is of course a trapezoid of marble, concrete, and glass poised and aimed at the Capitol and sliced into two triangles, one for the galleries (the only portion I'll deal with here), the other for the study center. A line bisecting the galleries triangle would continue the West Building's axis, and the building defers to the physical and symbolic elements of its key site where the Mall ends and Capitol Hill begins.

The East Building also continues the cornice lines of its older sibling and is faced in the same Tennessee marble, solid at the corners to give a sense of compression and make the structure appear carved rather than clad. But here controversy begins. There is a belief that as a huge minimal sculpture whose design began in the late '60s it is too different in spirit and feeling from the neoclassical, 1941 West Building by John Russell Pope. To some extent, this is unavoidable, "a question of *zeitgeist*," as Carter Brown puts it. "The two are at home together without the usual hypocrisies," wrote Ada Louise Huxtable. Or, as Frank Lloyd Wright used to say, "Come on, fellows, let's not concern ourselves with the matters of taste."

But it is precisely such matters of taste that often color how

the East Building is perceived. As Brown points out, "I didn't know anyone in the '50s who had a good word to say about the West Building. It was considered old-fashioned, the pits. Now everyone is enthusiastic about it, and the pendulum has swung. We like a little more articulation of surfaces, recall of classical motifs."

Ironically, the East Building is experienced as a collage, an attribute generally associated with postmodernism. Since, as a triangle, it has three vanishing points instead of a single one, as have squares and rectangles, its images shift, slide, and multiply as one moves around or through the building. As Brown says, "Our world is one of multiplicity and simultaneity, and our approach to it assumes not one point of reference but many. This is reflected with great clarity in the East Building, which is a summary of a whole century of esthetic thought starting with the cubists and constructivists, respecting Frank Lloyd Wright, Mies, and Le Corbusier." Ironically too, in repudiating modernism for a more eclectic, historically based approach we have returned to an earlier, simpler view of reality—squares and rectangles, a single reference point, stationary, predictable—pre-Einstein, precubist.

And so, for a final irony: because the East Building is not pre-Einstein and precubist and does not allude to historical models, it seems old-fashioned to some. "An instant period piece," proclaims an art critic, a friend of Pei's who prefers anonymity. A colleague at this magazine who is most comfortable with articulated, old timey buildings, thinks of the East Building as 'cold, with all that expanse of stone. If it were a movie star it would be Lawrence Harvey in 'Room at the Top,' pristine, obsessional, calculating. It feels like houses in *Architectural Digest* that you can't possibly relate to." But he adds a qualification: "At least that's how I feel when I think about the building; I warm up to it when I'm in it." A Washington designer again generally unsympathetic to modernism describes it as "a place where I don't have to be a fancy-type, dressed-up, gallery-goer. It's comfortable." Most first time visitors I spoke with at the gallery agreed. So, the issue goes beyond a war of styles or what Wright called matters of taste.

Brown, predictably, sees the building as friendly with its splayed over-shaped arms, its warm pink color, and low entry on Fourth Street. "People stroke it like a pet," he says, pointing to finger marks where the building forms a 19-degree angle to the right of the entrance. My colleague and friend, on the other hand, takes the same evidence to mean that people touch it as they might a pristine object. If that were so, I suspect the marks would be far fainter.

The East Building is also faulted as too monumental, a criticism to which Brown responds not only with the phrase "Modern *zeitgeist*," but with a reminder that "I.M. [Pei] was very aware of his monumental directives. That's why the building

has a kind of classic, not classical, quality. I kept pointing out to him that we would expect the East Building to be around hundreds of years from now, and that we had to end Pennsylvania Avenue with a bang not a whimper."

Far more controversial than the exterior, however, are the East Building's interior spaces. Its main temporary exhibition areas consist of an 18,000-square-foot gallery on the concourse (lowest) level. It is at the end of the underground connection with the West Building, which is comprised of a large bookstore and seating area (that recalls an airport lounge), a people mover (that feels like a subway station), and a cafeteria between the two. These spaces were designed with a heavy hand that seems unconnected with the Pei office. Climbing the stair from the concourse to ground level, the space explodes upward to rise 80 feet and outward to encompass another 16,000 square feet in an atrium topped with tetrahedral skylights. At this level there are two, 10-foot-high trapezoidal galleries, each tucked into a tower; two similarly placed galleries on the mezzanine rise to 14 feet. The upper level is best remembered for its amphitheater-like, natural light-filled gallery of David Smith sculptures. Flanking it are linear galleries. The top level features a tower room devoted to Matisse cutouts, again with natural toplighting.

The reason for this clustering of tower spaces is that Brown wanted domestically scaled "house museums" surrounding a sort of park and orientation space for refreshment of psyche and senses—the atrium.

The atrium is, quite literally, the building's centerpiece, the place where the most design attention and affection were expended—on soaring volumes enlivened by diagonals (escalators, stairs), secured by horizontals (lintelled entryways, bridges), and choreographed to shift with every step you take. There are windows framing views of the Capitol and Mall; detailing, as throughout the building (with exception of the non-gallery spaces at concourse level), is exquisite.

The oft-repeated argument is that the atrium is too imposing, the galleries around it ancillary. When asked to comment, Gaillard Ravenel, director of exhibitions and installations, chided: "You architecture critics look at the building as architecture separate from its function as a museum for experiencing works of art."

So I sought the opinion of some art critics and artists, of whom several would speak only off the record. Typical, if salty, was this remark by Robert Hughes of *Time*: "The essence of the building is that bloody great atrium with the airport effect. It's entirely dedicated to crowd circulation, restaurants, and the like. One has the feeling that the coherent display of art is subordinated to its role as a place for social promenading. One of the problems is scale. They have that enormous Calder, which is certainly one of the most boring things that Calder ever did. And you have that ugly Miro tapestry, which is about as ugly

## *Village square vs. museum as temple.*

as Miro ever got." About the Miro I would agree, though not the Calder, nor Hughes' perception of the scale.

Though a very large space, the atrium doesn't overpower because it is full of incident, has subtle modulations, a variety of levels, shifting vanishing points, natural light filtered and softened by overhead sunscreens, ficus trees, a dappling of shadows; and strong horizontals serve to anchor the whole, as does even the huge Calder mobile slowly revolving overhead like a giant umbrella.

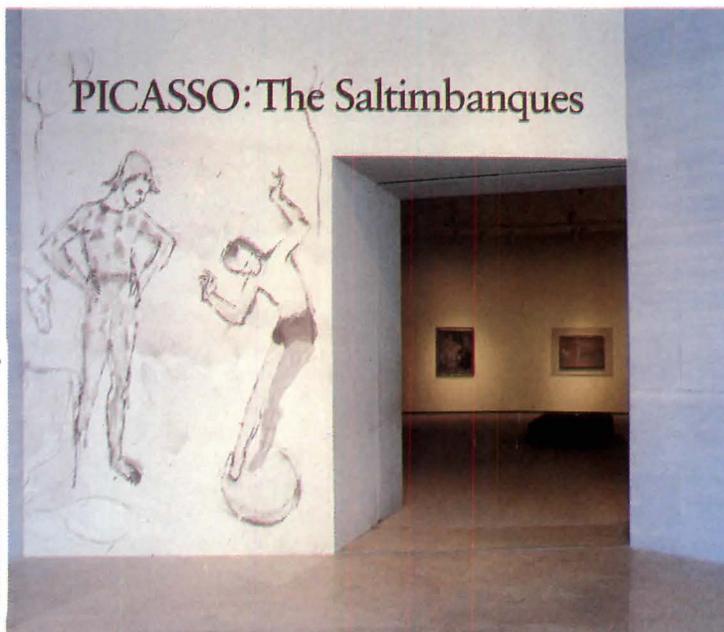
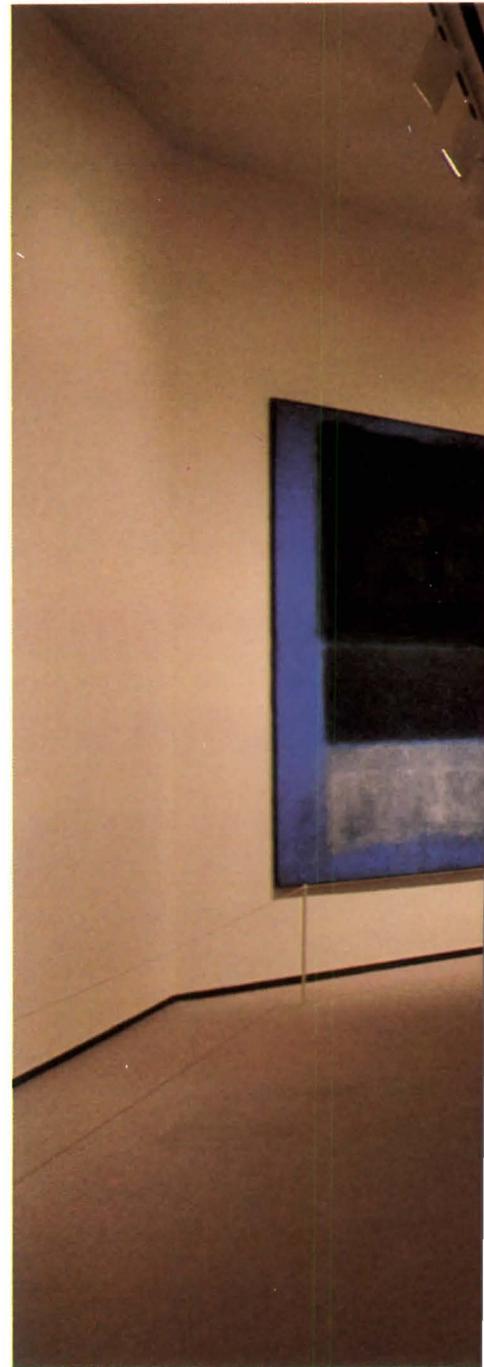
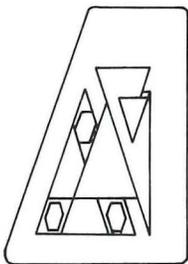
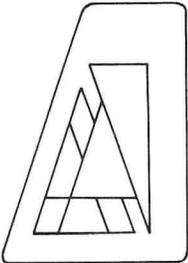
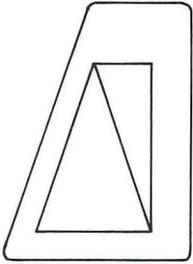
The relationship of the atrium and surrounding gallery rooms can be likened to a southern European village where you wander freely from the atrium-cum-town-square into individual houses or shops and out again. Quite a different experience from the museum as temple, which was the model for the West Building. There you proceed in straight symmetrically plotted lines along double loaded corridors from gallery to gallery.

Pei, especially, underlines the East Building's intended role as an addition or adjunct to the West Building, which, he points out, was not conceived as an "active" museum. It lacks adequate cafeteria, laboratory, public reception and storage spaces—all functions now housed in the East Building. "Programmatically," says Pei, "the East Building would be difficult to understand by itself. The building was made to take traffic away from the West Building so it can be itself, a place for contemplative enjoyment of masterpieces."

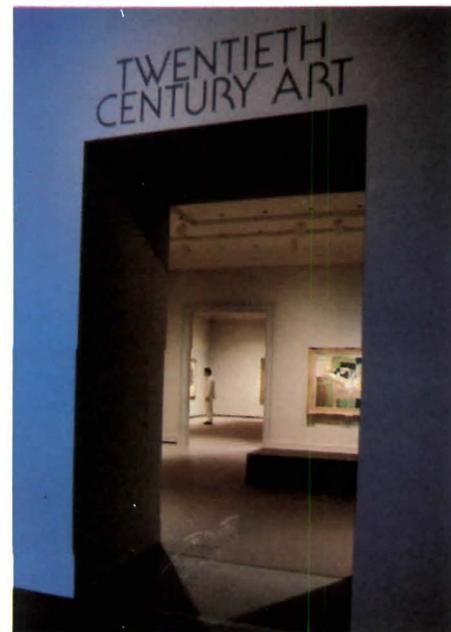
That the East Building was intended for a more active experience than its older sibling is immediately apparent. People walk faster in its atrium than in the West Building's rotunda, garden courts, or corridors; they talk louder, lounge around more, watch other people more. And, the atrium is one of the few places where you see people actively looking at architecture and enjoying it.

The atrium, say Pei and Brown, was intended principally as a public gathering place, a place to hold state receptions, absorb Easter vacation crowds. It was calculated to snare and wow tourists and encourage them to linger and perhaps sample a gallery or two. This idea of museum as popularizer of art, as something of an outreach program rather than a sanctuary, has, predictably, been criticized for turning the art experience into a consumer activity. "To some extent that's marvelous," says Brown.

*Right, view from artificially illuminated, upper level Rothko gallery to brightly daylit David Smith room. Similar contrasts in tone and feeling between atrium and galleries are seen below.*



William Schaeffer/National Gallery of Art



Allen Freeman



But, ask the critics, if the atrium wasn't intended as a place to display art, why put art in it? Hughes of *Time* dismisses the art work commissioned for the atrium as interior decoration. And, in fact, nothing looks as good in the space as people and by extension some figurative sculptures. Especially effective are a Maillol sculpture and work by George Siegel, who, incidentally, says he likes the East Building better with every visit.

For others, it hasn't worn as well. Hilton Kramer, former art critic for the *New York Times* and now editor of *New Criterion* magazine, wrote a favorable review of the building when it opened, but now finds it has "tremendous problems." The main problems cited by him and echoed by others is that the galleries seem shunted off to the side, secondary to the main space, fragmented; that there are too many small spaces that feel cramped and dark.

"If there are too many small galleries," says the museum's Ravenel, "that's our doing." The model, it must be remembered, was the "house" museum, such as the Phillips Collection, also in Washington. Ravenel explains that all the display spaces to either side of the David Smith Gallery, and including the Smith gallery, can be turned into one huge, uninterrupted space, though they have never been used this way. And the concourse gallery

is just a huge, raw space that has been used at times as a single open area, at others as 20 to 30 discrete spaces. Says Ravenel, "We want many of those spaces to be intimate and give you a sense of human scale for which a lot of the pictures, especially the old prints and drawings, were originally created. You kill a work of art by putting it in too grandiose a setting. I think that the esthetic experience of a work of art consists partially in walling out other impulses, so that you build a sort of personal theater."

Does the problem then reside in the gallery's design staff rather than in the building? Hughes, among others, regards Ravenel's installations and lighting as too theatrical, saying, "I think the whole idea of depriving works of art of natural light is essentially a bad one. It's part of the theatricalized popular strategy which Carter Brown believes in. It's not an approach to the display of works of art that I approve of or believe in." What museums does he approve of? "The Uffizzi, Kahn's Kimbell and Yale museums, the Frick, the Phillips, MoMA. If you have the conservative ideas about the *function of museums* that I do, then you're bound to judge museums in terms of those ideas," he says.

Most people I spoke to, however, gave Ravenel's exhibits top



William Schaeffer/National Gallery of Art



William Schaeffer/National Gallery of Art



*This page, three different installations in the concourse gallery: Top, 'The Folding Image: Screens by Western Artists of the 19th and 20th Centuries,' where screens on exhibit serve as partitions; center, postimpressionists exhibit with built-in walls; and, bottom, 'Rodin Rediscovered,' using gallery as one open space. Across page, Miro tapestry commissioned for East Building atrium.*

## *Subdued galleries, bright atrium.*

marks. Paul Richard, art critic for the *Washington Post*, for instance, claims "there's no place in the planet, and I include Manhattan, where the level of installations is more apparent."

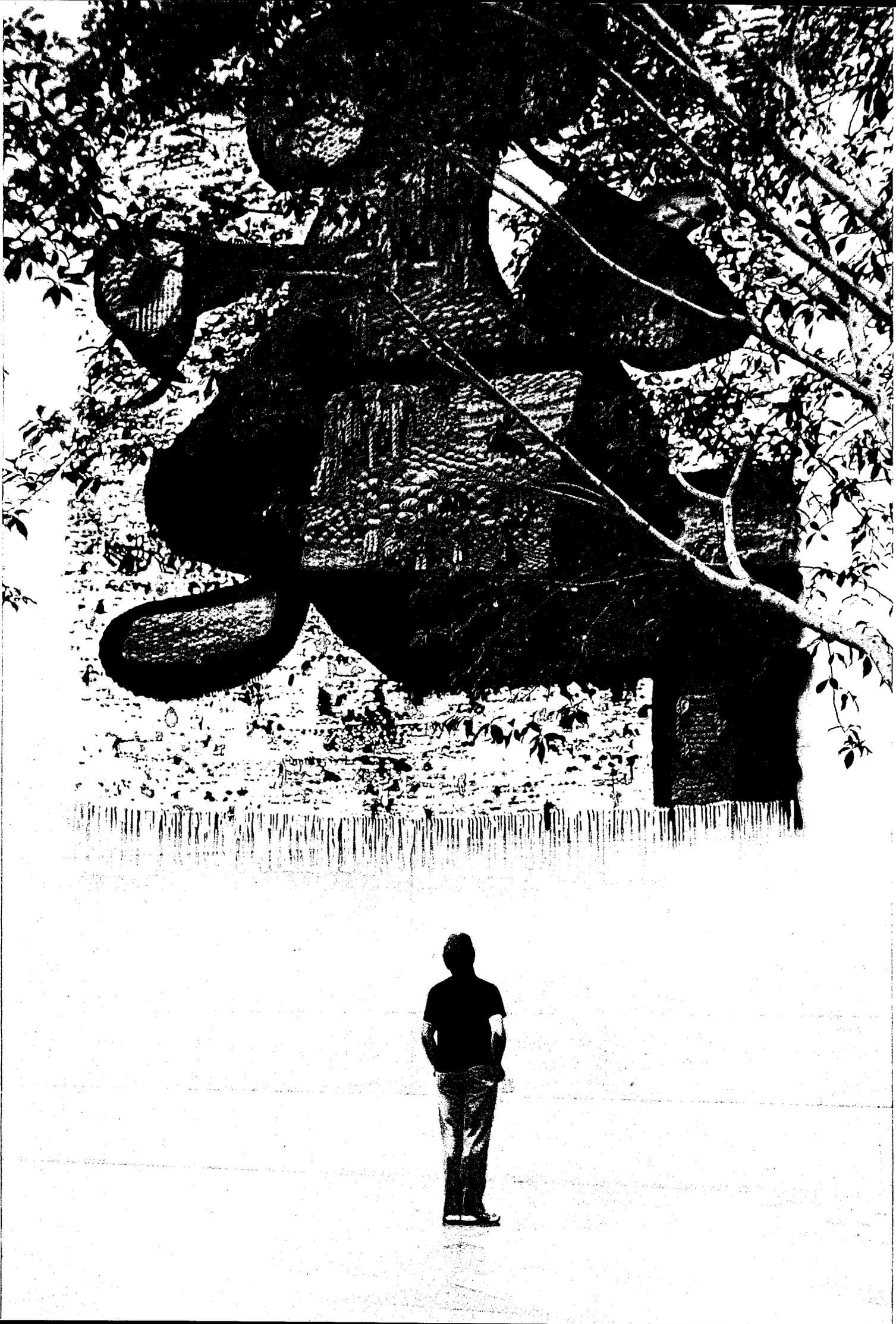
I suspect that the perception of the galleries as too removed from the atrium, too enveloping, and cocoon-like is due, at least in part, to the dramatic contrast between exhibit spaces and those of the atrium to which one must repeatedly return. This is especially apparent after visiting the West Building where light levels in galleries and circulation areas are similar, if not the same, as are the spaces' architectural styles, time periods, and overall feeling. In the East Building, on the other hand, moving from atrium to galleries creates a time warp, the atrium being eminently mid-20th century, while display areas are appointed according to the period of the art they house; one may be Victorian, another Renaissance. Moreover, the sharp contrast between the atrium's soaring, wide open, light-filled spaces and the artificially illuminated galleries that seem all the more cave-like because of their hexagonal shapes requires a mental shift from fifth to first gear. And dark walls and floors in many galleries accentuate the sense of dislocation. This shift in moods, between introverted, self-contained display areas and the exuberance of the atrium can have its appeal. But in the concourse, especially, the contrasts between exhibit areas and the atrium are too abrupt.

Once in this temporary gallery—itsself as large as many museums—and absorbed in the art, its basement feeling wears off. But to reach it you climb from ground level down one flight, then down another, then comes a sort of foyer in front of the entrance, then a low-feeling entry. The perception is of descent, and the fact that you must return to the entrance of the gallery to leave it, or form a loop, underlines its closed circuit feeling. Pei explains that he had no choice but to locate the largest temporary exhibition space below grade where it could be close to the loading dock, easily secured, and acoustically sealed to prevent the clatter of construction from disrupting the rest of the museum.

What I and virtually everyone I questioned felt the lack of most in the East Building galleries is a sense of airiness and natural light. Brown says he would have liked to have "the capability" for more natural illumination, and Pei, though agreeing, says that "you would have ended up having to screen out all but about 10 percent of daylight for conservation purposes, which has already been done in the Matisse room." He and Brown also admit that the building's circulation "needs to be learned." One tends, for instance, to bump into elevators where a gallery is expected. Lacking too is any sense of procession or progression, which is a function of the "house" museum concept.

It certainly has its share of irritating peculiarities and characteristics, this new old friend. But as the *Post's* Paul Richard put it, "If you think of how this museum solved the problem of creating something grand at the foot of Capitol Hill, how it solved all the functional problems, how it works as a welcomer for tourists, and as a liberator of the old building, I think it gets very high marks."

It is also quite possible that the reason people remember most vividly not the East Building's exhibition spaces but rather its exterior and its atrium is that both are so splendid esthetically. By contrast, when you think of MoMA, for instance, you do remember first the galleries because nothing else about it is memorable. Says Carter Brown, "What I value most is that the East Building is a great work of art in its own right. There must be carry-over value in examining works of art and the museum setting. I feel that all of this is a seamless web. A visitor to an art museum should have an opportunity to realize from the first step inside that he or she is in a special environment. The building has to impart the fact that it is something very special." With exception of Eero Saarinen's Dulles airport, no other contemporary building in the Washington area does this so well. □



# A Special Kind of Classicism

*GBQC's Speed Museum addition, Louisville, Ky. By Robert Campbell*

The revival of classicism in architecture in recent years has often led to buildings that look a lot like a child's rebus puzzle, an assemblage of mismatched clues clipped from history, containing "coded" references and ironies to be deciphered and appreciated by the witty and clever observer.

Robert Geddes' addition to the J. B. Speed Museum in Louisville, Ky., is classical, too, or neoclassical, with its roots in Adam and Soane, and it must be seen as marking the transition of yet another architect from modernism to postmodernism. But this is classicism of a different kind. It's accomplished without fuss or self-consciousness, without bathos or kitsch, without cleverness. If one essential characteristic of postmodernism is that it is an architecture conceived as being permanently on display, like art, then the Speed doesn't qualify. Nothing is here in order to be appreciated as architecture. Nothing is ironic, nothing mannered. Instead everything—from the forms themselves to the cultural memories they so tenderly evoke—is here to support and define a larger experience, one in which the rooms and vistas combine with the paintings on the walls to create the eternal classical ideal of a harmonious and untroubled universe.

The Speed, it must be pointed out, already had a modern wing—an elegant flowing space in the Miesian manner, built a decade ago, containing large modern artworks. What was wanted from Geddes was a place primarily for the growing collections of traditional painting, of "old masters," so to speak. Geddes responded to this brief with a piece of architecture that is classical in every respect except that of literal detailing.

The Geddes wing is classical in the symmetry of its plan, organized around a grand stair and an interior court. It's classical, too, in the simple, enclosed volumes of its spaces, each one a true room with four walls and four corners, complete in itself yet opening *en filade* into other rooms to create ordering, axial vistas. It's classical in the way every element seems to return on itself, framed and completed, never open or ragged, the reach never exceeding the grasp. The wall and floor, for instance, are framed in oak borders, both becoming framed surfaces belonging to the same order of being as the paintings.

The Speed is classical, too, in the tripartite division of the wall into base, shaft, and capital, here expressed as wainscot, hanging surface, and vaulted skylight. It's classical in the even, undramatic Mediterranean light, without Piranesian mysteries. It's classical, finally, in the attention to joinery and detail.

Nothing could be more appropriate to the style of this museum than the fact that it opened with an exhibit of the painter Ingres. For architects there is even, perhaps, a small poignance in the fact that this exhibit was entitled "In Pursuit of Excellence" and that its next stop on that pursuit was Louis Kahn's Kimbell Gallery in Forth Worth, Tex.

You don't require the architect's generous acknowledgement to realize that the Speed is heavily indebted to Kahn, especially to his Yale Center for British Art. Much is borrowed from Yale—the soft, even, yet always live, daylight, the arrangement of rooms *en suite* around an atrium, and the oak framing of the floors. Besides Kahn, the source Geddes always mentions is Sir John Soane, in his Dulwich Picture Gallery of 1814, not so much for Dulwich's well-known skylighting as for a special group of rooms to be found there. These are the rooms called "cabinets": small, squarish exhibition spaces, modeled on the "cabinets of curiosities" for displaying scientific exotica that were a feature of the academies of the 18th century.

Says Geddes: "We looked broadly at the history of museums and at the types of galleries that have been most successful in

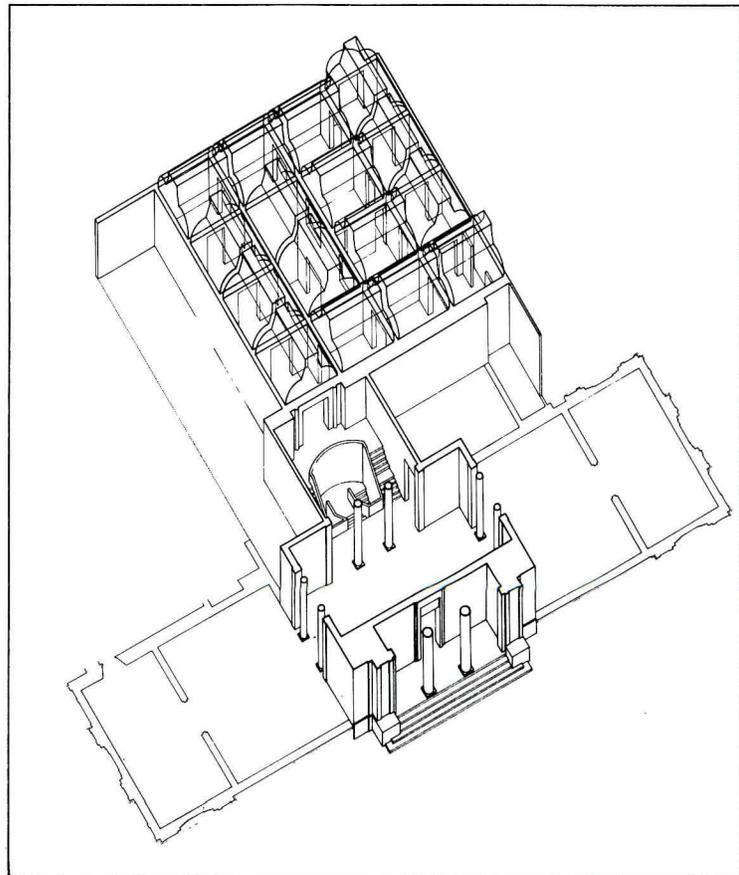
the past. In essence, the real inhabitants of museums are the paintings and sculptures. The rooms are their rooms, and we come to their homes as visitors. The setting should be appropriate and comfortable. I was particularly struck by the appropriateness of 'cabinet' galleries, square rooms, rather than long extended galleries, for the display of the relatively small old masters paintings in the Speed collection."

The cabinet idea led to the series of 20x20 rooms that make up the new wing. In Soane's original, the cabinets are secondary spaces off the larger, longer main galleries. In the Speed in a similar way, the new suite of cabinets is a kind of backstage to the larger spaces of the older parts of the museum.

The new wing, in fact, is the third addition made over the years to the original Speed Museum of Art, designed by Arthur Loomis and completed in 1927. Loomis's original is a typical, handsome example of American Beaux-Arts in the late manner of McKim, Mead & White, built of richly detailed white limestone. The first addition was a nondescript rear ell in the '50s, the second the cool Miesian pavilion of the '70s, which contains an auditorium as well as display space and which is executed in black metal glass and green slate. The design problem for Geddes was to add a third wing providing a different kind of display space while improving internal focus and circulation, and, at the same time, handling the exterior in a way that would help the whole complex look like one building instead of four.

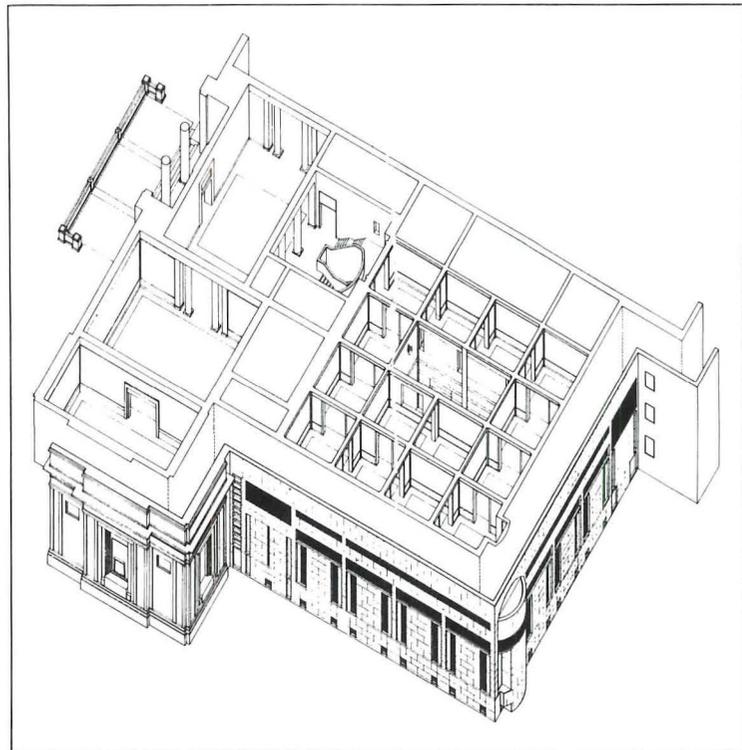
Not everyone wanted so tricky a job. Two prominent architects declined to be interviewed. Geddes, however, founding part-

*In axonometric, new grand stair connects the addition's two levels. Paired columns at main entry in drawing are recalled by red columns, facing page, at entry into temporary exhibit space.*





Right, the museum exterior, with original 1927 building at left, new wing at right. Below, the apsidal corner. Below right, the new wing in axonometric showing the 14 upper level 'cabinet galleries' and the two-bay atrium. Opposite page: above, view of the grand new stair from the old lobby; below, the 'cabinet galleries.'



Photographs © Paul Warchol

### *A set of skylit 'cabinet' galleries.*

ner in the Philadelphia firm of Geddes Brecher Qualls Cunningham and former dean of architecture at Princeton, saw the opportunity, grabbed a plane, and got the job.

When you arrive today at the Speed, you see at first no evidence of Geddes' new wing. What you see is the Loomis original and, to its left, the slate auditorium. To see Geddes' work from the outside you have to go around the building, where you find it mediating quietly among its predecessors by combining the limestone of Loomis with the slate of the auditorium.

On the exterior, the new wing is a kind of diagram of classical architecture. Parapet, cornice, pilaster, and rusticated base are all diagrammed in green slate against the limestone. A deliberate abstraction of the rich vocabulary of classicism has been created in two tones on two planes, picking up horizontals of the original building. Only once is a more expressive architecture attempted: at a corner where the new building swells forward beneath an arched opening, making a kind of apse that accents and turns the corner and creates, on the interior, the single very special place—a place, you're not surprised to discover later,

where hang the most valuable by far of the museum's paintings.

If the Speed addition's exterior possesses primarily the grace of being no more than it need be, the inside is a far more marvellous achievement. Geddes has replanned the entire museum complex around a new grand staircase on axis with the original Loomis entrance, restoring that entrance to primacy and creating the kind of formal cross-axial plan that suggests the building's order the moment you enter. Up the stair in the new wing are the 14 square skylit "cabinet" galleries, grouped around an open sculpture atrium the size of two galleries. Down the stair, visible through a dramatic vertical slot, is a larger, more open space for traveling exhibitions, plus a few more galleries and the floor of the sculpture court.

As there should be in a good classical building, there are enough kinks in the apparently firm order to keep you interested as you move around. The grand stair does not enter the new wing at its center, as you anticipate, but at an edge. The sculpture atrium is asymmetrically placed. The vaults over the cabinets keep reorienting themselves unpredictably by 90 degrees as you move from one gallery to the next—a reorientation that is subtly enforced by the treatment of the intersection



of the walls at each corner, where a white vertical strip trims only the walls that cross the vault.

The galleries are varied in other ways. The wall above the chair rail is linen fabric, but the wall below is painted—yet paint and fabric are always the same color so the difference is merely one of texture. Geddes originally wanted the lower panels painted a darker shade of the fabric color, but the Speed's director, Franklin Page, demurred. The colors change, from gallery to gallery, according to a simple principle: green for Italian art, blue for French, raspberry gray for Dutch, burgundy for Flemish. According to Geddes, each group of galleries has been given "the characteristic color of its paintings." Such a choice can only be arbitrary, yet it works well, and as you move from one room to another you find yourself quickly learning to associate the wall colors with the changing artistic traditions. Furniture and decorative objects are displayed together with the paintings, reinforcing the domestic scale.

The daylighting system is a success. *Light enters through a slot at the top of a barrel vault, most of it landing on a grid-dled translucent ceiling panel that is suspended freely in space. The panel reflects some light out to curved side surfaces of the*



*Even the light has a classical feeling.*

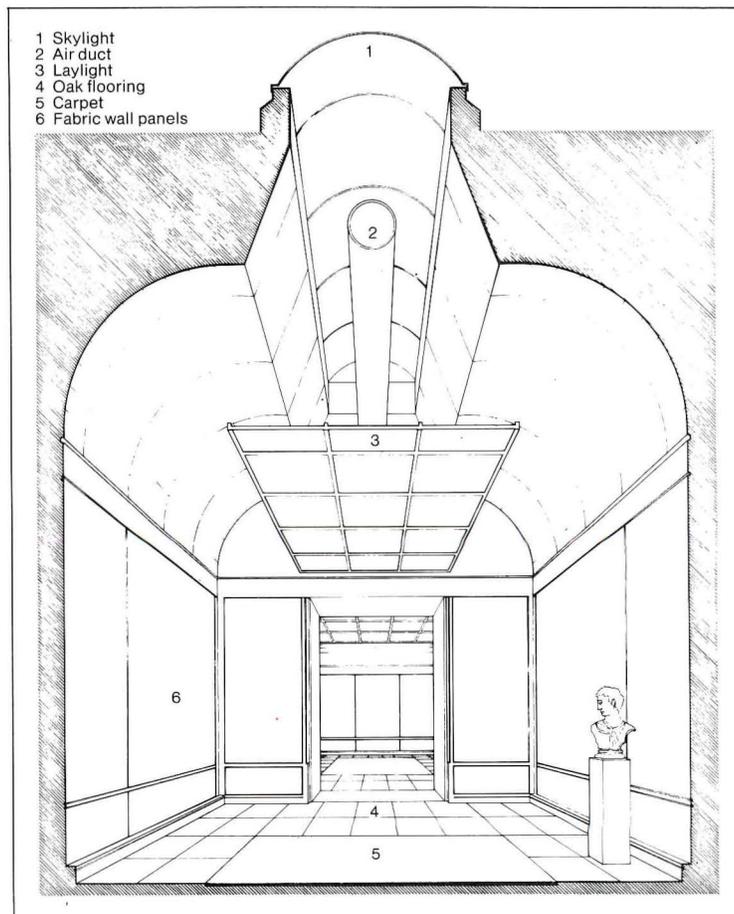
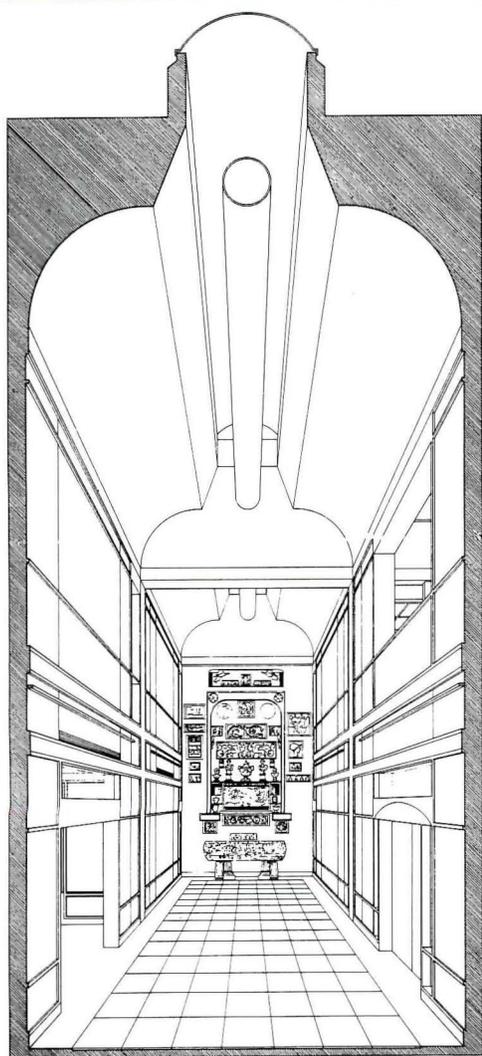
vault that wash it down over the linen walls. The panel also transmits some light directly. Incandescent spots, fluorescent tubes, and an air-handling duct are tucked above the suspended plane. Although the system has some resemblance to that of Kahn's Kimbell Gallery, the ambiance is very different. Instead of the shifting, baroque quality of Kimbell light, Speed light is—like everything else—classical in feeling, even and bright, alive but not elusive. The clear Cartesian grid of the suspended panel, as contrasted with the Kimbell's evanescent aluminum screen in the same position, symbolizes the difference. The lighting consultant was Claude R. Engle.

The two-story sculpture atrium is the one place where Geddes removes the gridded panel and lets you see the vault, explaining his building. There's logic in that choice since sculpture isn't hurt by direct light and since the extra height that the vault provides gives this one vertical space a soaring quality. Besides the atrium, the only oddity in either daylighting or floor plan is the curved apse at the building's corner, which turns out to occur in the Dutch section, its distinctive curve hung with a single small Rembrandt, isolated like the cross above an altar.

The galleries on the lower level, of course, don't receive any skylighting, although some daylight is borrowed laterally from the sculpture atrium. In compensation, the spaces here are larger, more open and flowing and public, less domestic in character, with white painted walls instead of the wainscot and linen, and all-oak floors instead of carpet.

The simple pleasure of moving through all these spaces is as great as that of seeing the excellent collection. The *en filade* arrangements create a half dozen favored locations for paintings, locations which can be seen on axis from three galleries away, framed in receding planes of colored walls. It takes a

*Left and across page, sculpture atrium with vaulted skylight. Below left, apsidal corner with Rembrandt's 'Portrait of a Woman'. Below, detail perspective of typical skylight vault.*



- 1 Skylight
- 2 Air duct
- 3 Laylight
- 4 Oak flooring
- 5 Carpet
- 6 Fabric wall panels

Typical Cabinet Gallery



© Paul Warchol

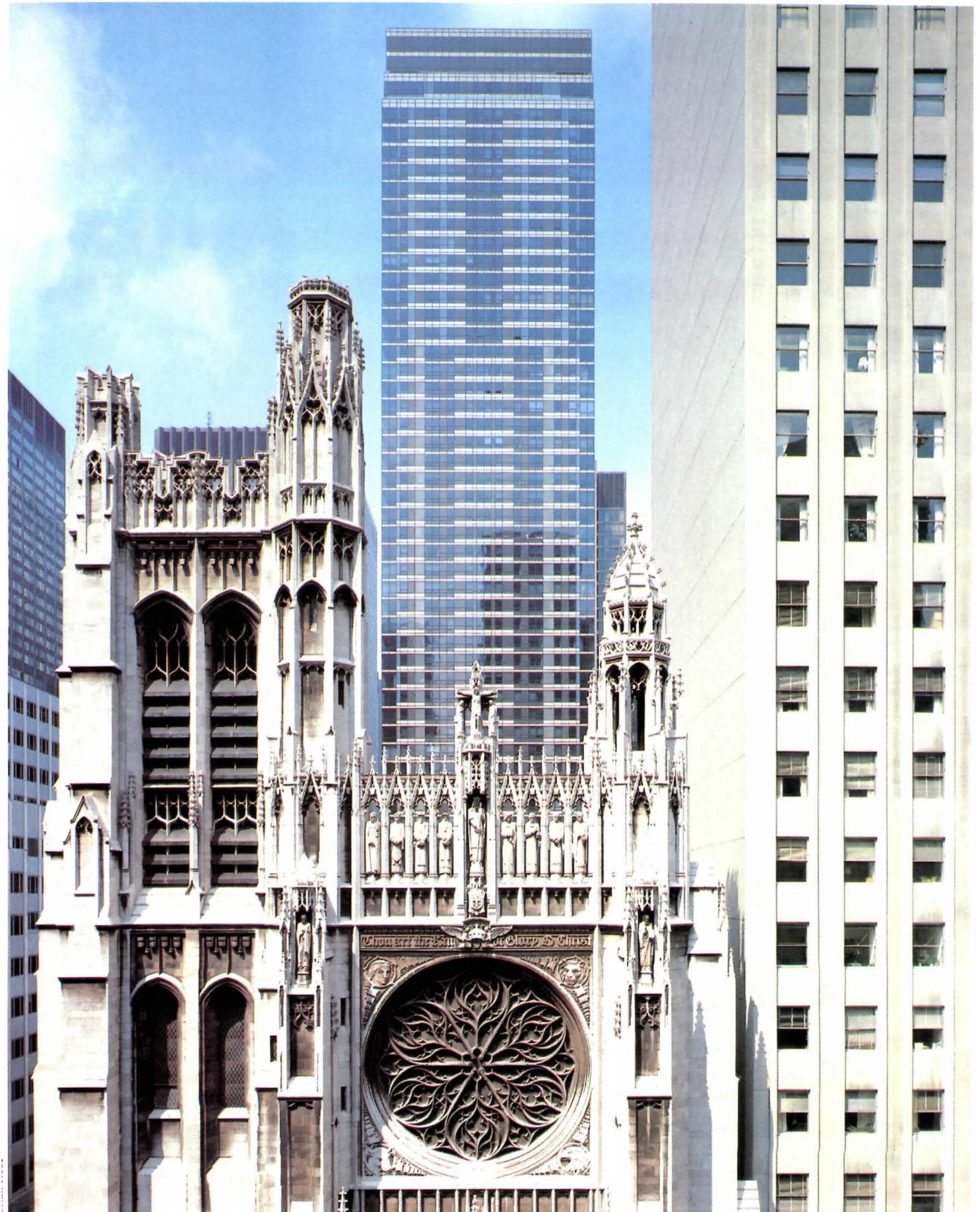
boldly composed or colored painting to carry off such a location, but those that do create a fine effect.

Detailing and craftsmanship throughout the museum are outstanding yet plain. Oak trim in simple sectional shapes—quarter-round, half-round, dowel, rectangle—gives just the appropriate amount of interest and definition to the chair rails, baseboards, and archways, making them a pleasure to look at but never a distraction. As Geddes notes: “Details play such an important part in a museum. . . . Every door and molding counts.”

The Speed is perhaps at some level an implied and very polite criticism of certain other recent American art museums. It makes the criticism by what it refuses to be. It doesn't, for instance, resemble a festive airline terminal, like some. Nor does it foolishly pretend that it's no more than a neutral white background for art, like others. Instead of such posturings it presents a series of domestic character, rooms that are firmly shaped, boldly colored, and decisively detailed and that have great presence in their own right. But that presence is one that is so well adjusted in scale to both the art and the occupants that it never obtrudes, but only supports the experience of civilized movement through space and a kind of tête-à-tête, conversational encounter with art. It isn't the museum for all purposes, but for what it is, it's well-mannered perfection. □

# MoMA Builds Again

*Cesar Pelli's tower and additions. By Stanley Abercrombie, AIA*



**T**his the way to the museyroom. Mind your hats goan in."  
James Joyce, *Finnegans Wake*

For any red-blooded American esthete, *the* museum for over half a century has been New York's Museum of Modern Art. And not just for New Yorkers: A brilliant series of publications—free, until recently, with museum membership—spread the word everywhere. And MoMA's exhibitions have been worth the coverage; think what we owe to Philip Johnson and Henry-Russell Hitchcock's International Style show of 1932, to John McAndrew's Aalto show of 1938 and his Frank Lloyd Wright show of 1941, to Johnson's 1947 Mies show, to Edgar Kaufmann's series of Good Design shows, to Emilio Ambasz's Barragán show of 1976.

To think only of architecture-related events that have occupied MoMA's famous sculpture garden, there have been Marcel Breuer's exhibition house of 1949, the Japanese house of 1954, Bucky Fuller domes in 1959, and Frei Otto tents in 1971. Finally, the two most profound influences on current design thinking, the two big jolts that broke the lockstep march of modernism, are both MoMA products: Robert Venturi's 1966 *Complexity and Contradiction in Architecture*, volume one in *The Museum of Modern Art Papers on Architecture* (Joseph Rykwert's *On Adam's House in Paradise* was volume two in 1972; we still wait for volume three), and Arthur Drexler's eye-popping,

**Mr. Abercrombie**, formerly a senior editor for this magazine, is now editor of *Interior Design*.

prejudice-shattering "Architecture of the *École des Beaux-Arts*" in 1975.

Compared to these contents and products, the museum building itself has always been a bit dull. The 1939 building by Philip L. Goodwin and Edward Durell Stone, which remains as the core of the museum after its recently completed \$55 million expansion, was never in anyone's book of masterpieces. It was most respected for its stylistically precocious 53rd Street facade—in its original context of demure brownstones, a glass and white marble announcement of the 20th century.

The other highlight has always been the sculpture garden at the rear of the building. As designed for the May 1939 opening by architecture curator John McAndrew and museum director Alfred Barr, it was quite informal, paved with pebbles and divided by a scattering of straight, curved, and T-shaped wood partitions. In 1942 Philip L. Goodwin was asked for a new garden design; it included a large grove of regularly spaced plane trees and a small pavilion where visitors could buy lunch and tea.

Eleven years later the garden, in the hands of Philip Johnson working with Landes Gores, then his associate, and landscape architect James Fanning, was transformed into something brilliant. Johnson has called it "a roofless room," and Elizabeth Mock Kassler, writing in a 1975 MoMA publication, rightly called it the "center of the museum and architecturally its most distinguished component." So it remains.

Between the facade and the garden, however, there was only a quiet and utilitarian container for museum activity. This was a deliberate (and premonitory) choice over, for example, some more architecturally adventurous tower schemes commissioned by MoMA from Howe & Lescaze in 1930 and 1931. The Goodwin & Stone building's ceiling heights were modest (paintings in 1939 not often requiring anything more), and circulation elements were kept to the side to allow unobstructed floor areas. These elements—two elevators and a stair—were not only in a somewhat obscure location, but they must also have been inadequate almost from the beginning. Certainly, in recent years, vertical circulation in the building had become a nightmare and one of the problems the new construction was mandated to cure.

This had been only slightly alleviated by the 1964 addition, obtruding into the garden, of a new stair tower. At the same time, the garden was expanded to the east, a new east wing of gallery space was added, the lobby was redesigned, and the facade of the Whitney Museum (built at the west end of the garden in 1954 to a design by Auguste Noel) was redesigned. Except for some garden landscaping changes by Zion & Breen, all this 1964 work was by Philip Johnson. (An earlier west wing had been added by Johnson in 1951. A narrow sliver of office space, its upper floors unaligned with the gallery levels, it was destined for demolition in any major expansion.)

Even as the 1964 additions were underway, the late René d'Harnoncourt, then director, was looking forward to a much greater museum expansion by 1970. From 1965 to 1967 a number of expansion studies were produced in-house under the direction of architecture curator Arthur Drexler, but with the advent of the Vietnam War and economic difficulties, these had to be shelved. (One of these is worth noting as probably the only reasonable alternative to the scheme just built: a new ground-level and underground gallery wing where the garden is now, with a new garden on its roof, and with the entrance moved to 54th Street.)

The present expansion, then, is the result of two decades of planning, both architectural and economic. In the end, new galleries were financially supported by a new apartment tower in

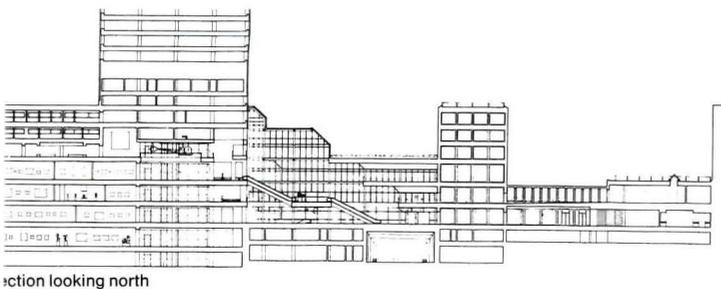
*Left, the original facade with the 1960s Johnson addition. Right, the facade against the Pelli addition and tower. When built, the light colored facade gleamed in its setting of town houses. The dark additions serve to replicate the contrast.*



The Museum of Modern Art, N.Y.







*No excess of either space or time.*

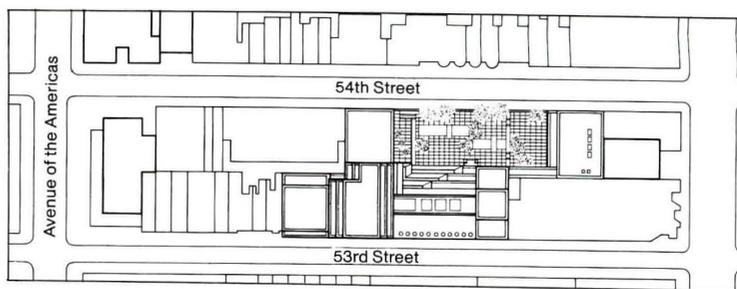
an arrangement of Byzantine complexity. This arrangement and its implications have been the subject of a searching article by Suzanne Stephens in the May 1976 *ArtNEWS* and of many other articles. Now that the work is finished, the time has come to turn our attention from how MoMA's money was raised to how it was spent.

The major elements of the scheme that has been built seem to have first appeared in work done by architect Brian Smith in the last three months of 1975. Smith had become involved along with legal advisers and with Arlen Realty as a prospective developer) at the request of Richard Weinstein, then with the Rockefeller Brothers Fund, who had been asked by MoMA for an overall feasibility study. The scheme proposed two major features: the apartment tower in its present location and with its present general shape and the glazed addition housing escalators along the south side of the garden. When a committee of trustees and staff members chose Cesar Pelli & Associates (with Gruen Associates, where Pelli was formerly partner for design, as collaborator) just over a year later, this general scheme probably seemed inevitable. No plagiarism of Smith's design should be inferred, for, as Smith himself says, there was "not really too much choice."

Nor was there too much time. "Within something like a month of being commissioned," Pelli has said, "we had to make our first public presentation on the position of the tower and the general configuration of all the elements of the project."

The position of the 52-story, 263-unit tower may have been inevitable, but it is not without two major faults: First, it interrupts the relatively low density of a narrow Manhattan side street with a building mass typically found on a broad Manhattan avenue. Second, it stands at the southwest corner of the sculpture garden and must therefore cut off much of the garden's afternoon sun. To claim, as Pelli has, that "the effect of the tower

left, the sculpture garden surrounded by (from left) the Johnson addition, the original museum with its new cascades of glass, the Pelli tower, the former Whitney Museum. Below, a '60s view.



in its present position is rather slight" seems sanguine.

Pelli's treatment of the tower's bulk, however, is skillful. The skin, while not remarkable in its detailing, is remarkable in its subtle coloration, the product of a carefully considered pattern of almost a dozen tints of opaque glass, chosen to blend happily with each other and with the colors of neighboring buildings. The tower mass is also lightened by a series of recessed—not projected—terraces. Even from the garden, the tower is an elegant and benign neighbor, whereas the tops of Der Scutt's Trump Tower and Philip Johnson's AT&T building, while both farther away, are more aggressive presences. (Also visible is the recently regilded top of the Crown Building, formerly the Heckscher Building, where, in a small space on the 12th floor, the museum first opened its doors in 1929.)

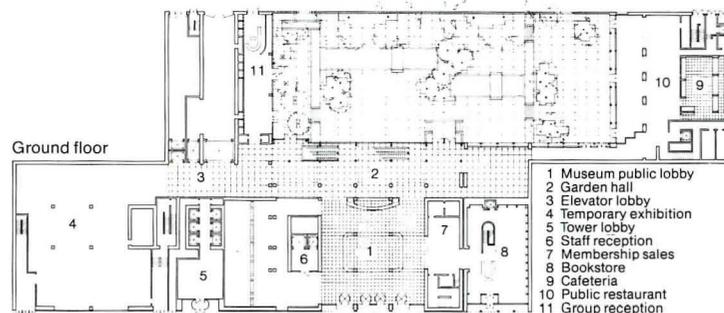
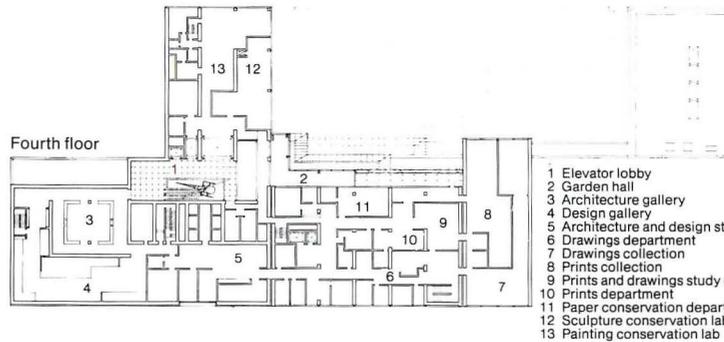
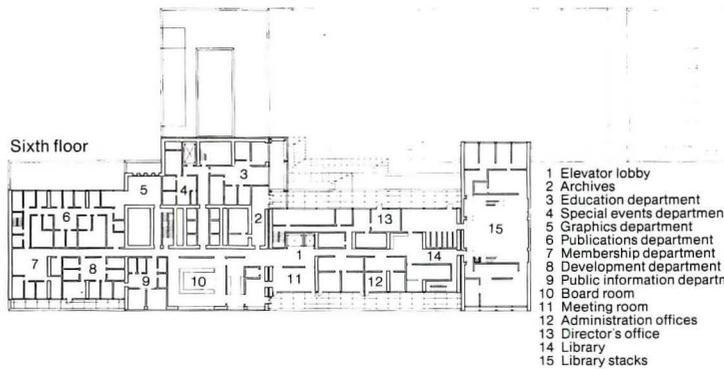
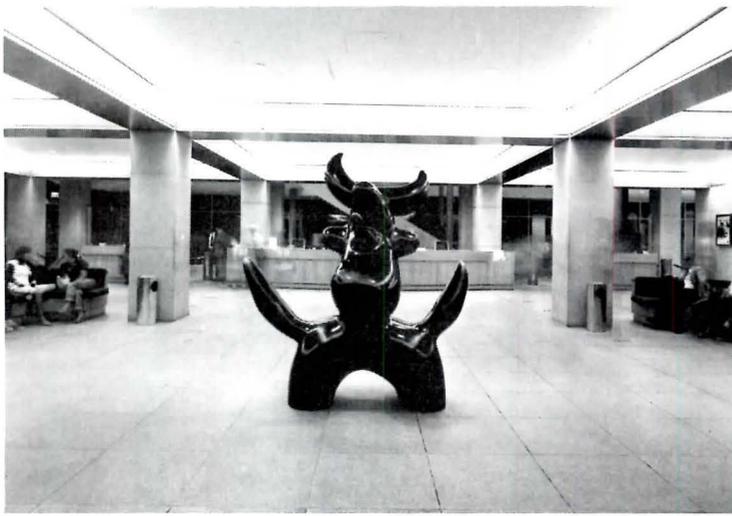
Johnson's garden, we hasten to assure, is perfectly restored by Zion & Breen and is as handsome as ever. The new Garden Hall, as the escalator addition is called, has taken 18 feet off the garden's southern edge, but, on the other hand, the bulk of the 1964 stair tower is gone. The members' dining room now occupies a second level at the east end of the garden, over a ground floor cafeteria, and thus replaces an upper level of terrace added in 1964, but this upper level was never as successful as the original garden.

From the garden one naturally looks for the critical junction at the southwest corner where the wall of the Garden Hall meets the base of the tower and, at right angles, the former Whitney. It is not a felicitous meeting. The Garden Hall has been made tall enough so that, above the Whitney, it overlaps the tower by about 20 feet, and half a dozen horizontal mullions carry through from one mass to the other. But there is an abrupt change from the clear glass of the Garden Hall to the opaque panels of the tower, and the lower structure gains only the most tenuous fingerhold on its giant offspring.

On 53rd Street, Pelli has preserved the original Goodwin & Stone facade ("To reface it," he says, "would be like painting over a Cézanne.") and also Johnson's 1964 facade of black steel to the east. Everything west of the original is new and, like the Johnson wing, relatively dark, so that the white 1939 building is appropriately emphasized.

Appropriately, too, it still serves as the museum entrance, and it has been reorganized inside to offer a much more generous and much more clearly organized lobby than ever before. It is still, as it has been since 1939, rather low-ceilinged ("Mind your hats goan in."), but at least there is some breadth now, and a view of the sun-filled Garden Hall beyond. Here, too, in some crisp and attractive ceiling lighting coves of stainless steel, is a promise of a high level of interior detailing. To move east from the lobby into the wood-paneled bookshop is to prolong this expectation for a few moments more, but when one moves directly through the lobby into the Garden Hall, one begins to see trouble.

Arthur Drexler points out that "the Garden Hall is extraordinary" in that, while from the sculpture garden it appears to be a rather small addition to the old building, from inside, "standing in it on any level, it looks enormous." That is true, and an accomplishment. It is also true that the Garden Hall opens the museum to views of the sculpture garden as never before. And true, too, that the escalators it contains are essential for handling MoMA's visitors (an average of 6,200 a day since the May



## *A pleasant place, worrisome details.*

reopening of the galleries; at this rate, the museum can expect two million a year).

But the details here are far from what one expects from Pelli, who, on the basis of his California work at Gruen, and at Daniel, Mann, Johnson & Mendenhall, has earned a reputation for precision and sophistication. A few specifics:

- At the top levels of the Garden Hall, gray-and-white marble facing continues from exterior onto interior surfaces, but on lower levels the marble changes to white plaster at the glass line.
- At the west end of the new structure, one large rectangular beam is painted black and is met in a curious juncture by a white beam of similar size; all other visible structure is either white or gray.
- The grid of the 1x2-foot marble paving is unrelated to the grid of the structure, so that columns puncture the floor pattern in awkward ways.
- The greenhouse-like structure is supported by an extremely crude framework of 12-inch diameter steel pipes, quite roughly finished. (It seems to be a rampant misconception, by the way, that we can reproduce the elegance of the 1851 Crystal Palace. With heavier glass to support and with more stringent fire and safety codes to obey, all our current efforts are relatively thicklimbed.) This framework, painted gray, is sometimes aligned with the mullions of the glass surfaces it supports, but often not.
- At the edge of the triple-height space, large columns, faced with gray granite on the first floor and ostensibly structural, have strips of air-handling grilles running between them along their center lines and are therefore, one assumes, really vertical ducts. *On the second floor*, the granite is replaced by white

*Above left, the main lobby with its Miró sculpture. Left, one of the new galleries, typical in its plainness and modest scale. Across page, glass encased escalators with Lachaise figure.*

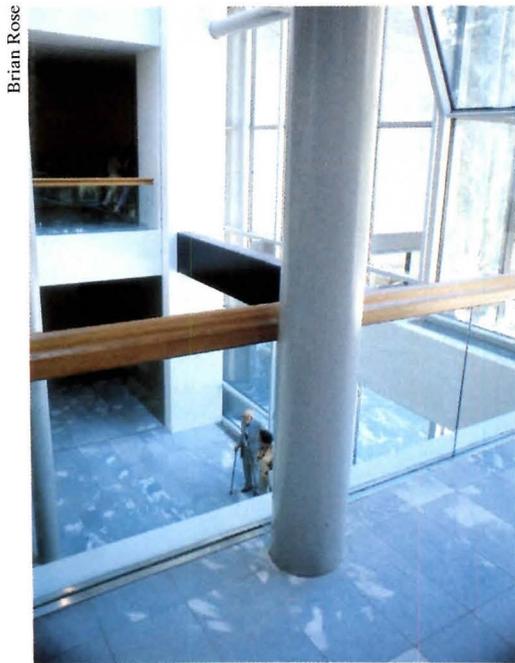
plaster. On the third floor, two of these columns disappear, but a third one continues.

- Convenience outlets, fire alarms, smoke detectors, and other, unidentifiable little panels and boxes—all doubtlessly necessary—are sprinkled throughout like raisins in a cake, some of them not even installed level.
- A white-painted fascia is interrupted at one point (one passes it just as one begins the escalator ascent to the second floor) to allow a gray column to be seen continuing. About 20 feet away, the relationship between fascia and column is different, and the fascia goes by uninterrupted.
- Most fundamentally, there is no clear distinction between building structure, greenhouse structure, and mechanical equipment, nor is there any consistent manner of decorative cover-up.

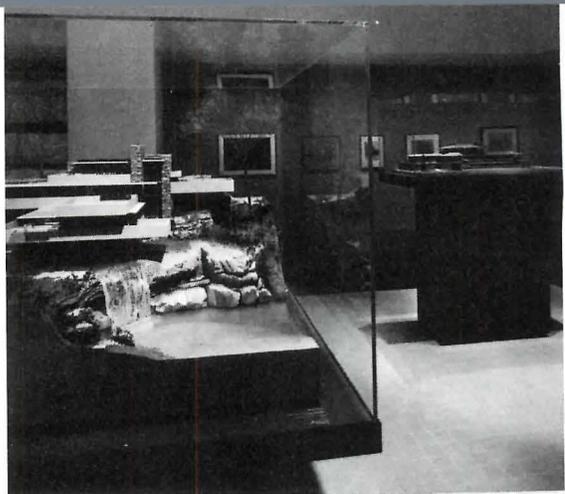
What all these little lapses add up to is nothing so dramatic as a disaster; the Garden Hall, in fact, is a quite pleasant place to move through. But it is a built version of one of those puzzles titled "How Many Things Can You Find Wrong in this Picture?" and it never exhibits the degree of logic or intelligence that would repay close inspection. Somewhere along the line, someone didn't care or someone lost control.

But the Garden Hall exists to give access to the galleries, and the galleries are fine, even if deliberately ordinary. They make no attempt at any effect other than serving as sympathetic background for the collection, and the MoMA collection, beautifully rehung and well lighted, looks wonderful here. By this criterion, surely the most important of all, the new building is clearly a success. Quibbles about the 1939 galleries—low ceilings and a disorienting plan—still apply, but these characteristics of the





Brian Rose



Brian Rose



Adam Bartos/The Museum of Modern Art, N.Y.

## *Serving the museum and its public.*

old building were well-known by the curators, and their retention must be intentional. "The gallery type has not been changed much in the expanded museum," as Pelli puts it. "The rooms remain basically apartment-size."

If the character of exhibition space is unchanged, the quantity has been more than doubled, from 40,500 square feet to 87,000. (For comparison: Paris' Centre Pompidou, a.k.a. Beaubourg, has 180,000 square feet of exhibition space; Washington's National Gallery East Building has 67,000; and New York's Guggenheim has only 33,000.)

One gallery area, however, has been saved from total anonymity by the different nature of its subject—Architecture and Design—and, one assumes, by the efforts of its director, Arthur Drexler. This area is found on the new fourth floor, directly under the apartment tower. At the top of the escalator from the Garden Hall one is greeted by a big green 1945 Bell helicopter suspended overhead, and just beyond is the museum's only double-height gallery space, used currently for displaying pieces from the department's poster collection. One next moves into the architecture gallery dedicated to Philip Johnson. Here a perimeter circulation space, hung with architectural drawings, is separated by leather-cushioned benches and a pair of tiny fountains from an inner area where a dozen architectural models are on display. (Central among these is a spectacular new model of Fallingwater. It is the type of painstakingly realistic model—complete with ripples in the stream—that can set one's teeth on edge, yet, to be fair, no abstract model could possibly have worked as well in this case, so essential to Wright's design are the surrounding earth and water.)

*Left, the odd black beam. Above, the architecture gallery. Top, model of Wright's Fallingwater. Right, the sculpture garden—the museum's cherished 'roofless room'—with its new 'Garden Hall' and without the stair tower.*

A pleasant L-shaped space wrapping around two sides of the Johnson Gallery is devoted to industrial design, furniture, and—not recently emphasized at MoMA—crafts. The furniture classics are displayed against five-foot-high panels of German oak, of which Mies would certainly have approved, and the signage is exemplary. Having grown from 1,700 square feet of gallery space in the old building to 6,500 square feet, the department of architecture and design is one of the components of MoMA that seems to have benefitted most in the expansion.

That expansion has provided more, of course, than enlarged gallery space and new public areas. There are as well new offices, expanded study and storage facilities, a new theater for films and lectures, a bigger library, an enormous (12x19 foot) new freight elevator, a modernized mechanical plant, and, not yet finished, a new film study center and screening room.

All this has been accomplished despite what must have been the most trying of conditions: a jumble of imperfect existing construction, a sacrosanct garden, a severe circulation problem, and the killer proviso that the museum offices and even some of the galleries had to continue functioning during most of the four-and-a-half-year construction period. The new building is a very respectable answer to some near-insuperable demands. It well serves both the museum's collection and its public. But the powerful art of architecture is here only a fourth-floor display, not a full-scale demonstration.

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## Mr. Wright Writes To His Colleagues

**Letters to Architects.** Frank Lloyd Wright. Selected, with commentary, by Bruce Brooks Pfeiffer. (The Press at California State University, Fresno, \$18.95 hardbound, \$9.95 paperbound.)

Frank Lloyd Wright's vast outpouring of letters (there are some 1,400 in the Taliesin archives alone) provide clues about everything from his attitude toward money (a means to an end, and never enough of it), to the Bauhaus (the personification of the death of Beauty).

"I have no hobbies, belong to no clubs, have designed no projects that have no intimate side," Wright wrote to architect George Allen in 1931. This and dozens of other letters to critics and colleagues comprise this volume, the second in a letters trilogy currently in production by the Frank Lloyd Wright Memorial Foundation. The first, *Letters to Apprentices*, was published last year (see June 1983, page 85), and the third, *Letters to Clients*, is scheduled for next year.

Editor and Taliesin archivist Bruce Brooks Pfeiffer has selected letters to an orchestra of Wright contemporaries. Here are off-the-cuff remarks to architects Oud, Berlage, Wijdeveld, Schindler, Moser, Hood, Mendelsohn, and Belluschi, as well as sharp pronouncements to critics Henry-Russell Hitchcock, Lewis Mumford, and *Architectural Forum* Editor Howard Myers. Other players emerge, such as the young Philip Johnson, associated with the Museum of Modern Art at the time of their acquaintance. Wright's comments to Johnson are severe and caustic, and Hitchcock also draws deep fire, as FLW finds himself trapped superficially and branded as an "internationalist."

We see many architects as Wright's friends—there's even a plea to Eliel Saarinen to help raise funds desperately needed to get the Taliesin fellowship up on its feet. Wright often talked to us about his trip to South America with Saarinen, saying, "All I learned from Eliel was how to draw up an expense account."

Although the letters are not always in chronological order, Pfeiffer's grouping of them as well as his commentary draw our attention to distinct eras in the Wright work. In a section of the book entitled "Three Critics," Hitchcock, Mumford, and Myers are lumped together, with the letters spanning many years. In the letters

to Myers, we read of the conception of two historic issues of *Architectural Forum*, one in 1938 and the other in 1948, devoted entirely to Wright's work. While the Wright/Mumford letters show a good deal of acerbity and even fury, the Wright/Myers correspondence is filled with grace and charm, revealing the mutual esteem that ended so sadly when Myers died before the well-received 1948 issue of *Forum*, on which they had worked so hard.

Perhaps most touching of all, though, are the letters Wright addressed to his own *Lieber Meister*, Louis Sullivan. An entire section of the book is devoted to these letters from pupil to teacher, and

vice versa. In them we learn of terrible shortages of money, jobs, and lack of appreciation that both men endured. These letters reveal a profound sadness that for Sullivan knew no end until his death in 1924 and that continued for Wright through long years of struggle.

Although many postscripts as well as marginal editings and revealing closings have been omitted in the letters, this book is a new and admirable addition to the Wright writings. EDGAR TAFEL, AIA

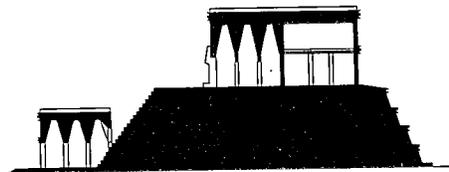
*Mr. Tafel of New York City is author of Apprentice to Genius: Years with Frank Lloyd Wright.*

**Drawings of Great Buildings.** Edited by Werner Blaser; text by Monica Stucky; drawings by students of Ogden Hannaford. (Birkhäuser, \$29.95.) The beautifully rendered drawings in this book were originally executed by first-year students of Ogden Hannaford at IIT as wall posters. The task was aimed at teaching lessons in space and scale as students produced plans, elevations, and sections on a uniform scale of 1:800. Knowing the true size of a structure, Hannaford says, "is a necessary condition for judging its validity as a work of art." If one knows the size of a particular building, the relative size of the others thus becomes apparent. At one scale, similarities and differences become obvious, he explains. "The idea is not a new one," Hannaford says, "but I had never found an extensive collection at uniform scale where the orthogonal views, floor plan, and section appeared together on the same page or at least on facing pages for easy comparison." The accompanying text by art historian Monica Stucky, in English and German, provides an incisive history of changing architectural principles over two and a half centuries.

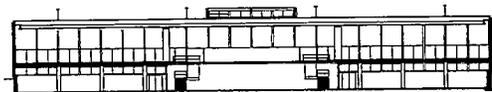
*Books continued on page 101*



Moscow, St. Basil's Cathedral, 1550-60



Chichen Itza, Temple of the Warriors, c. 950 A.D.



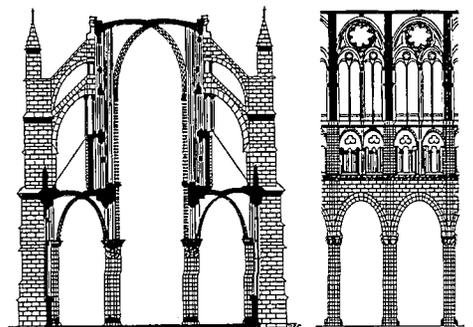
Chicago, Crown Hall IIT (by Mies van der Rohe), 1950-56



Xochimilco (Mexico), Los Manantiales (by Candela), 1957



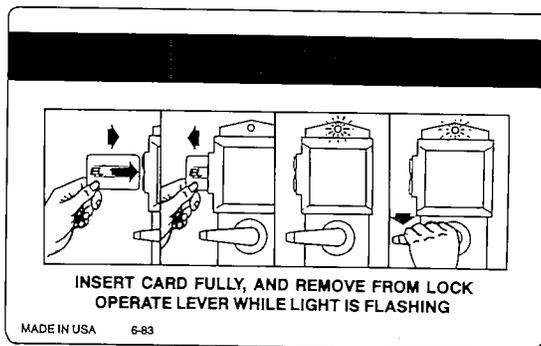
Didyma (Turkey), Temple of Apollo, c. 300 B.C.—2nd cent. A.D.



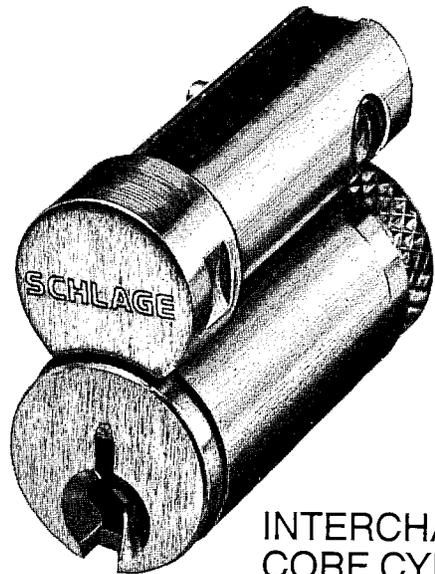
Amiens, Cathedral of Notre Dame, 1220-1288

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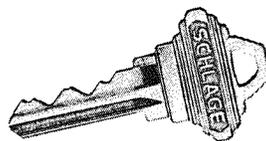
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**Modern Canadian Architecture.** Leon Whiteson. (Hurtig, \$50.)

This coffee table survey of Canadian architecture includes extensive color and black and white photographs, drawings, and critiques of 60 major Canadian buildings.

In his introduction, Leon Whiteson explores two major forces that have shaped the design of these buildings. Externally, the "modern" movement of LeCorbusier, Mies, et al., began to influence Canadian designers only after the Second World War. That it took hold so slowly is probably the effect of the second force he investigates, the restraining influences of the political, social, and physical "climate" of Canada itself.

The most intriguing question Whiteson addresses is why, when there are so many fine architects practicing in Canada, there is so little innovative or cutting edge design to be seen. Architects like Arthur Erickson, Eb Zeidler, Macy DuBois, and Barton Meyers are becoming well known internationally for their responsive, well conceived, and very well executed buildings. But where are the iconoclasts, the cerebrals, the outrageous, the architects whose ideas and buildings shock or delight architects south of the border, yet cause them to re-evaluate their own work? The Tigermans, Hejduks, Architectonicas or SITEs have no counterpart to the north. Why not?

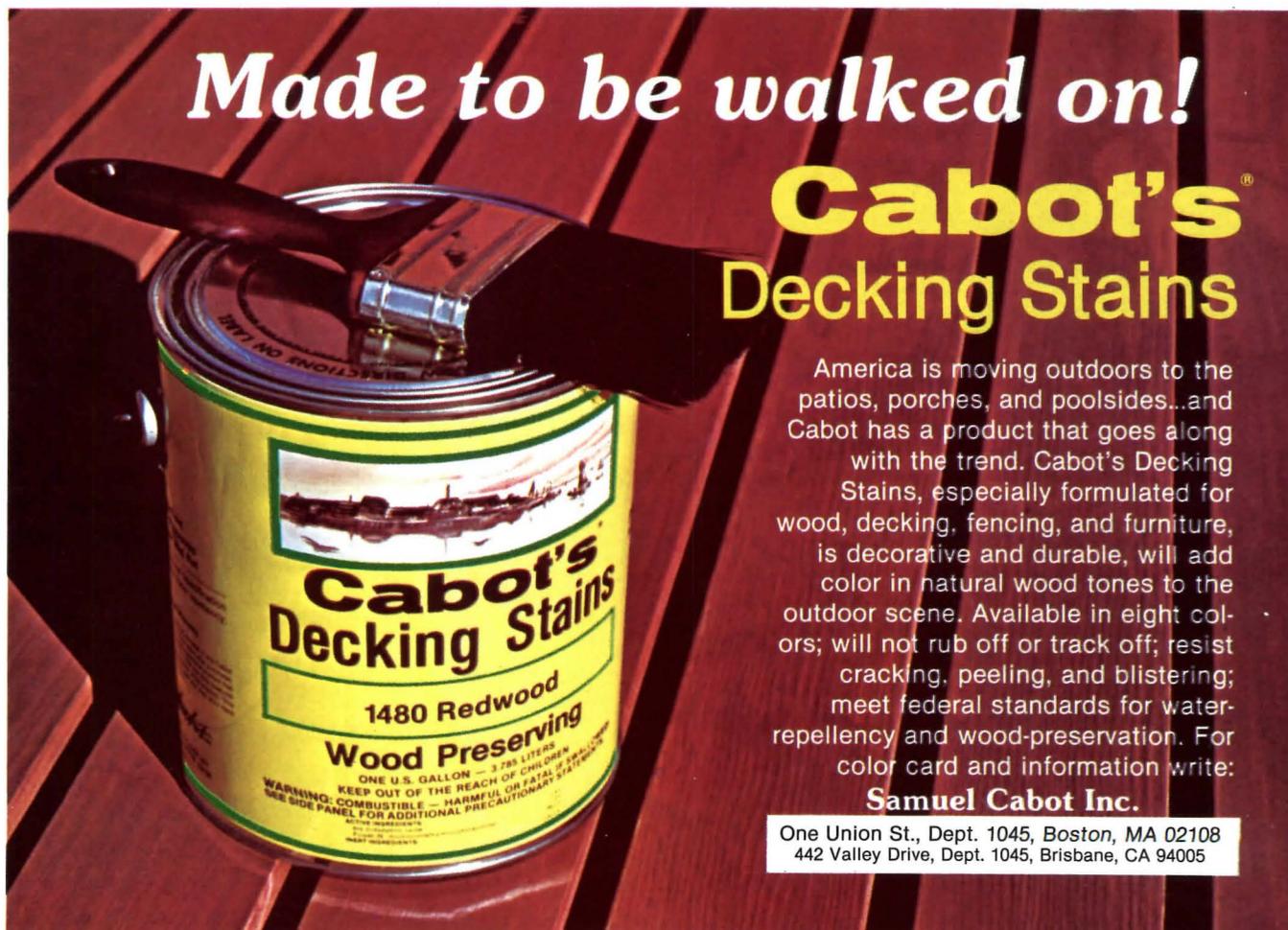


*The approach elevation of the Bradley house by Canadian architect Peter Rose in North Hatley, Quebec, completed in 1977.*

Whiteson gives two answers; first, that Canadian architects are "less hip, less street smart, . . . not so acutely aware of the agitation of the times." I disagree. These architects may be less hip, but they understand exactly what is happening in the U.S. and abroad and they pursue their own ways by choice, not by ignorance.

Whiteson's second answer is on target. That Canadian buildings are less shocking and more agreeable "is rooted," he says, "in the Canadian social, political, and personal temperament." The Canadian traditions of responsibility to the public and commitment to social welfare, as well as a cold climate that requires respect, are factors that create a cultural environment in which most Canadian architects, native and imported, seem happy to work.

*continued on page 102*



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### Books from page 101

This sense of responsibility results in neither a capitulation to, nor a suppression of, personal freedom but a humanistic architecture that surfaces in the design of delightful public buildings and spaces, and that has created some of the most humane cities in North America. Whiteson makes this case and is convincing.

I wish this thesis had provided more of the thread for the bulk of the book. The survey of buildings is presented region by region, with introductions by well-known architects from British Columbia, the prairies, Ontario, and Quebec. Selection, probably intended to be fair or comprehensive, is insufficiently discriminating. Too much average work is presented. The regional approach has precluded the opportunity to present either a chronology of the development of the modern movement in Canada or a demonstration of the special relationship of a group of architects to people, places, and politics, an investigation that is truly worthy of study.

I still recommend the book for its introduction and for a lot of the work that should be better known south of the 44th parallel. GEORGE BUCHANAN, AIA

*Mr. Buchanan practices in Branford, Conn., and teaches at Yale.*

### Charles Rennie Mackintosh: Architect and Artist. Robert Macleod. (Dutton, \$14.50.)

Charles Rennie Mackintosh (1868-1928) was presented to the world some 30 years ago by Nikolaus Pevsner and others as a precursor of modernism. His work attracted little further attention even when Robert Macleod's monograph appeared in 1968. In the '70s, however, a surge of interest arose when a substantial newsletter was inaugurated by the Charles Rennie Mackintosh Society of Glasgow. Dutton has now brought out this handsomely illustrated, extended, and amplified text of Macleod's study, complete with references to the mass of material uncovered in the past 15 years. The color plates are particularly welcome in view of Mackintosh's use of polychrome and the book's emphasis upon his work as an artist as well as an architect.

Mackintosh began his architectural career in accord with the regular procedure in Britain by an apprenticeship at age 16 to a practicing architect. In 1889, he joined the firm of Honeyman & Keppie, becoming a partner in 1904. Although his ideas and talent and the atmosphere of the period should have led to a long and successful career, he left the firm in 1913, moving to London where he spent his time designing furniture and fabrics. He is perhaps best known as an architect for

the design of an extension to the Glasgow School of Art, won in a competition when the young designer was eight years from a partnership. Macleod gives us plans and photographs of exteriors, interiors, and furnishings that reveal Mackintosh as designer of the total environment.

Mackintosh also created distinguished and original interiors as a result of commissions from Catherine Cranston for a chain of tearooms, a collaboration that extended over 20 years. Queen's Cross Church in Glasgow (1897-1899) showed his skill in handling traditional forms in contemporary terms, while his first independent residential commission, Windyhill near Kilmacolm, retained the traditions of Scottish housing along with Mackintosh's unprecedented elements.

These examples, as well as some provocative drawings for projects never realized, including a house for an art connoisseur that won a prize in an international competition sponsored by the *Zeitschrift für Innendekoration*, show Mackintosh to be capable of organizing his architectural skills with his decorative virtuosity.

Inevitably, we ask how the vision and promise of this man could have been spent so quickly and be so little recognized in his own time. He resigned from a partnership of less than 10 years standing,

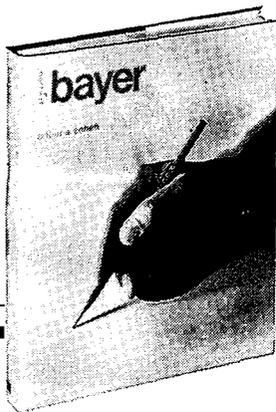
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ter antagonizing both clients and colleagues.

World War I cut off Mackintosh and his wife who had collaborated with him designs (even when a drawing was not joint enterprise, he would sign her initials beside his own) from connections with the continent. The Mackintoshes spent their time on watercolors, theater designs, fabric design, and whatever opportunities arose, including proposed workers' housing that remained unbuilt. Discouraged, they moved to southern France to await the outbreak of World War II. Macleod calls these paintings the tangible evidence of an unrealized potential.

In 1928, Mackintosh died in London, leaving personal effects valued at less than 100 pounds (a value of one pound was equivalent to four dollars of today's money). The range in taste away from the crafts towards modernism, in architectural education with the awareness of the prestige of Ecole training, and in the role of the architect in an industrial society were all more than Mackintosh could cope with.

This book is worth reading if only for the details about the Glasgow School of Art and the story of Miss Cranston's tenements. But Macleod gives us much more. He has celebrated Mackintosh for his particular individuality, his technical awareness, and his rare talent expressed in paint-

ing, graphics, furniture, interior design, and above all in the unique Glasgow school. SARA HOLMES BOUTELLE

*Ms. Boutelle is founder/director of the Julia Morgan Association in Santa Cruz, Calif.*

**Search of Liberty: The Story of the Statue of Liberty and Ellis Island.** James B. Bell and Richard I. Abrams. (Doubleday, \$10.95.)

The Statue of Liberty, which is now undergoing extensive renovation and restoration, was designed by French sculptor Frederic Auguste Bartholdi (see July, page 44). Standing 305 feet high, the lady with the torch is visible on a clear day for 42 miles. Called by poet Emma Lazarus the "Mother of Exiles," the statue is known to every school child to be a symbol of liberty.

Ellis Island, in continuous operation as the immigration center of the U.S. from 1892 to 1954, is also being restored for its centennial. It is estimated that between 12 and 16 million immigrants passed through its doors during those years.

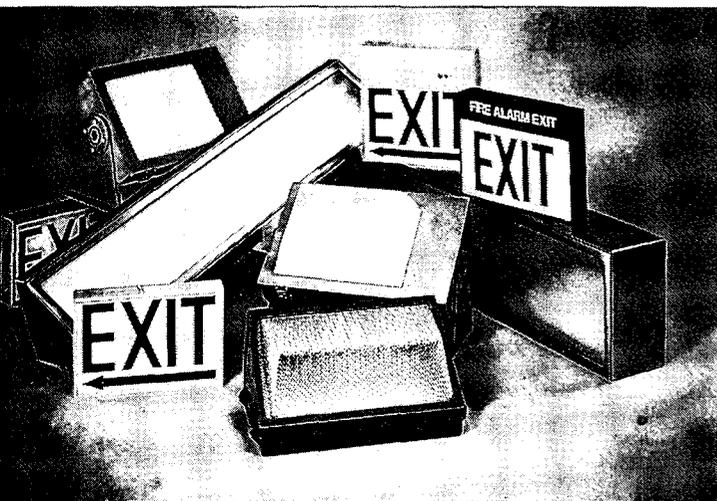
This book is part of a celebration of the centennials of both the statue and the island. It recounts their history, extols their symbolism, and outlines current efforts to restore the two.

**Alvar Aalto: An Annotated Bibliography.** William C. Miller. (Garland, \$65.)

This useful reference on Alvar Aalto, his work, and writings, is organized in five major parts, the first considering Aalto's published essays and lectures and conversations held with him. Part two covers materials about him in books and monographs, while part three is on works in collections and general reference sources. The final section references periodical articles, in which Miller provides a brief summary of each entry. The bibliography is further enhanced by Miller's comments and notes, and author, title, and building and project indexes.

**Landscape Plants in Design: A Photographic Guide.** Edward C. Martin. (AVI Publishing Co., Box 831, Westport, Conn. 06881, \$45.)

The title of this book spells out very well what it is all about. There are 1,900 black and white illustrations of more than 600 trees, shrubs, vines, ground covers, and turf grasses that show plant applications in a variety of landscape design situations. Better than the photographs, however, is the concise text, which describes each plant, giving the zones in which it is best adapted, its form, texture, color, growth rate and proper spacing, culture, design qualities, and varieties. □



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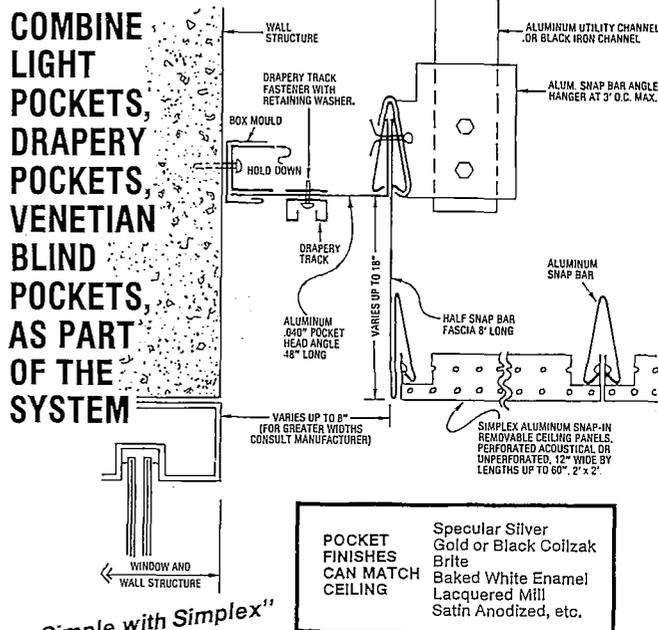
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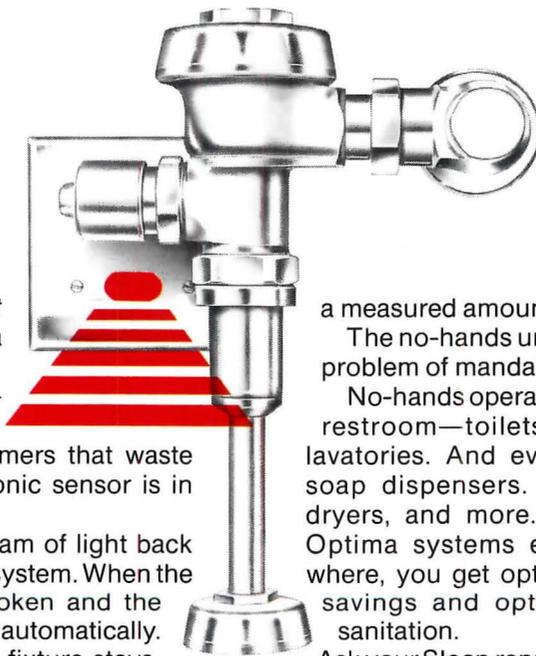
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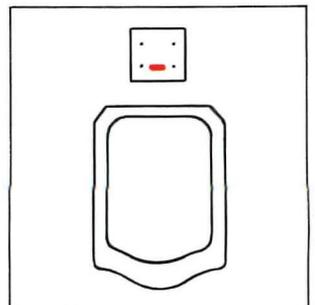
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Circle 38 on information card

## DEATHS

**Arieh Sharon, Hon. FAIA:** An architect and town planner who greatly influenced the development of Israeli and third world architecture, Sharon was a native of Jaroslav, Poland. He immigrated to Palestine in 1920 as a young adult, where he worked and lived on the Kibbutz Gan Shmuel.

After graduation from the Bauhaus in 1929, Sharon worked in the Berlin office of functionalist architect Hannes Meyer. Upon return to Tel Aviv in 1932, he set up an architectural office and through his first commissions for a number of urban housing projects and several kibbutzim introduced many of the Bauhaus concepts in Israel. After independence in 1948, Sharon was appointed Israel's first director and chief architect of the National Planning Authority. His built works include the medical school at Tel Aviv University, dormitories and the physics building at the Hebrew University in Jerusalem, the Bank of Israel in Jerusalem, Soraka Hospital in Beersheba, and the University of Ife in Nigeria.

Sharon died at the age of 84 during a visit to Paris.

**Thomas Byerts, AIA,** Chicago  
**Janith Davids, AIA,** Bronxville, N.Y.  
**Wayne M. Donovan, AIA,** Vincennes, Ind.  
**Fred M. Fargotstein, AIA,** Venice, Fla.  
**Charles G. Gable, AIA,** Los Angeles  
**Harry W. Ganstrom, AIA,** Los Angeles  
**Karl B. Hoke, AIA,** Port St. Lucie, Fla.  
**Amadeo Leone, FAIA,** Detroit  
**Max L. Lowenberg, AIA,** Deerfield, Ill.  
**Robert Mather, AIA,** Austin, Tex.  
**D. Michael McKee, AIA,** Santa Barbara, Calif.  
**William Wolf, AIA,** Los Angeles

## BRIEFS

### Preservation Conference.

The Conservation Foundation, National Trust for Historic Preservation, and the American Bar Association will sponsor a conference on "reusing old buildings: preservation law and the development process," to be held Nov. 28-30 in Fort Worth, Tex. For more information, contact National Trust, 1785 Massachusetts Ave. N.W., Washington, D.C. 20036.

### Chicago Beaux-Arts.

The Chicago Architecture Foundation has mounted an exhibit at the Chicago Architectural Center on the Beaux-Arts heritage of the city. "Beaux-Arts Chicago: The Athens of the Midwest" illustrates many of Chicago's finest neoclassical buildings, such as the Field Museum and the Adler Planetarium. Most of the works exhibited through photographs and drawings were constructed in the late 1800s up through

the 1920s and are representative of architects such as Daniel Burnham, David Adler, and Charles Atwood. The exhibit runs through Nov. 27.

### Energy Engineering Conference Papers.

The Association of Energy Engineers seeks papers addressing strategic planning for energy management for its eighth world energy engineering congress to be held Oct. 23-25, 1985, in Atlanta. One-page abstracts should be submitted by Feb. 1 to AEE, 4025 Pleasantdale Road, Suite 340, Atlanta, Ga. 30340.

### Papers on Construction Management.

The American Institute of Constructors is seeking papers on "state of the art" techniques in managing construction projects and examples of exemplary work in the field for a forum to be held in April 1985 in Scottsdale, Ariz. For more information, contact Bob Varnon, AIC, P.O. Box 22622, Cleveland, Ohio 44122.

### Interior Design Entries Sought.

The International Interior Design Award, sponsored by AGB Westbourne Limited of London, has set Jan. 4 as the deadline for receipt of entries. A cash prize of 10,000 pounds will be awarded for the best interior completed during 1984. For more information, contact International Interior Design Award Secretariat, AGB Westbourne, Audit House, Field End Road, Eastcote, Middlesex HA4 9XE, England.

### Earth Sheltered Housing Manual.

*Building Your Own Earth-Tempered Home*, a 96-page construction manual published by *Mother Earth News*, includes working examples that detail the construction of an earth-sheltered house. Information on financing, structural methods and materials, and natural lighting is also included. Copies are available for \$9.95 from *Mother Earth News*, 105 Stoney Mountain Road, Hendersonville, N.C. 28791.

### Fellowships in American Cultures Studies.

UCLA's Institute of American Cultures is offering graduate and postdoctoral fellowships to support study of Afro-American, Asian Americans, Chicanos, and American Indians. The stipend for graduate fellowships is \$5,000 per year plus registration fees and tuition, and postdoctoral fellowships range from \$20,000 to \$23,000 per year. The deadline for submitting applications is Dec. 31. For more information, contact Norris Hundley, Institute of American Cultures, UCLA, Los Angeles, Calif. 90024.

### Railway Office Design Competition.

The American Railway Engineering Association has set Jan. 31 as the deadline in a student competition for a railroad classification yard office building. Cash prizes

totaling \$2,000 will be awarded to seven finalists. For more information, contact D.A. Bessey, Assistant Chief Engineer, Room 898, Chicago Union Station, 516 W. Jackson Boulevard, Chicago, Ill. 60606.

### Architects for Social Responsibility.

The New York City based group, Architects for Social Responsibility, will be holding a national conference meeting in Chicago on Oct. 15, at the Graham Foundation Building at 9 A.M. The agenda will include election of a national board of directors, ratification of national by-laws, and a program of activities for the coming year.

## CREDITS

**Connecticut General Life Insurance Co., Bloomfield, Conn.** (page 60). *The Architects Collaborative, Inc., Cambridge, Mass.* Principal: John C. Harkness, FAIA. Co-principal: Richard A. Sabin, AIA. Project manager: Stephen Dauphine, AIA. Project landscape architect: Timothy Coppola. Project architect: Richard Radville. Interior planner: Interspace, Philadelphia. Project executive: Barbara F. Graf. Project director: Vic Antes. Design team: Mary McAuley, Arthur Ott, Rinaldo Veseliza. Mechanical and electrical engineers: Syska & Hennessy. Structural engineers: LeMessurier Associates/ SCI. Traffic consultant: Barton-Aschman Associates, Inc. Energy consultant: Van der Ryn Calthorpe & Partners. Construction managers: Turner Construction Co. Exterior landscaping: Glen Terrace, Inc. Interior landscaping: John Mini. Precast concrete: Blakeslee Prestress. Site and interior granite: National Granite, Ltd., Moliterno Stone Sales. Ornamental metalwork: Allied Bronze. Exterior aluminum column covers: AmPat Eastern. Interior column covers: Pittcon. Access floor: Liskey. Glass handrails: Clearrail (AmPat Midwest). Millwork: L. Vaughn Co. Plastic laminate work: Valley City, Ltd. Roofing system: Carlisle. Skylights: Fisher. Windows and curtainwall: AmPat Eastern, Kawneer. Entrances: Dawson Metal Products, Kawneer. Hardware: Von Duprin. Ceramic tile: American Olean. Quarry tile: Dennis Ruabon, Ltd. Acoustic ceiling: Armstrong. Vaulted fabric ceiling: Architectural Fabric Systems. Hollow metal: Biltrite Products. Carpeting: Milliken. Kitchen equipment: J. Licht, Inc. Office lighting: Peerless. Elevators and escalators: Otis. Office and atrium sun control: General Drapery.

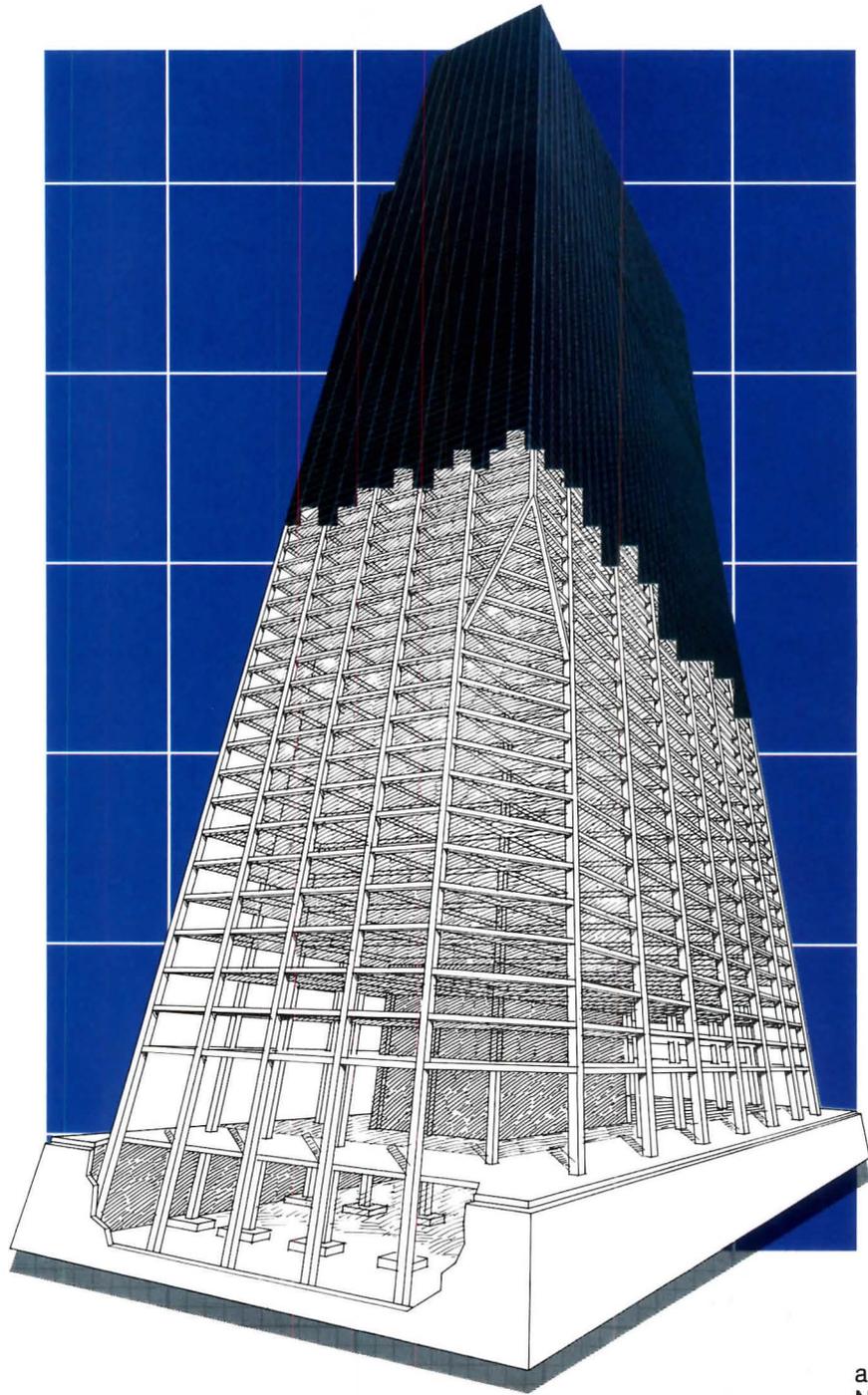
### National Gallery of Art West Building Renovations, Washington, D.C.

 (page 68).

*Keyes Condon Florance, Washington, D.C.* Ceiling surfacing and sealants: Duron Paints. Doors: American Plate Glass Co., Knipp/Algoma, Superior Door Co. Ele-

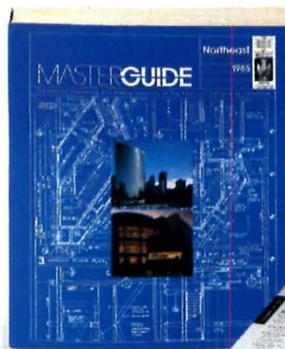
*continued on page 107*

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Circle 39 on information card

redits from page 105  
 tors: Schumacher Elevator Co. Envi-  
 nmental control systems: Robertshaw  
 ntrols. Floor surfacing: Azrock. Inter-  
 or floors: Bloomsburg Carpet Inc.,  
 rmai & Mariani of Italy, Boatman &  
 agnani. Lighting: Edison Price. Wall  
 rfacing: Duron Paints, Designer Acous-  
 s, Gretchen Bellinger. Skylights: Bronze  
 ork. Door closers: Corbin. Hinges:  
 anley. Locksets: Corbin. Paint and stain:  
 ron Paints. Partitions: U.S. Gypsum.  
 ush valves: Sloan. Toilet stalls: Boat-  
 an & Masnani. Tubs and lavatories:  
 ohler. Washroom accessories: Accessory  
 ecialties, Inc. Water closets: Kohler.  
 ater fountains: Haws. Kitchen: LeBow  
 quipment Co.

**B. Speed Art Museum, Addition,  
 Louisville, Ky.** (page 80). *Geddes,  
 recher, Qualls, Cunningham, Philadel-  
 ia.* Waterproofing/sealants: Carlisle Cor-  
 oration, Sonneborn, Williams Products  
 c., Wasco, Woodmount Products Inc.  
 ush valves: Sloane Lavatories. Plumb-  
 g fittings, water closets: Kohler. Wash-  
 om/bathroom accessories: Bobrick.  
 ater fountains: Filtrine Manufacturing  
 orporation. Fire security and detection:  
 Industries. Signage: Moldcast. Stairs  
 d treads: Flexco, American Abrasive  
 etals. Interior wall surfacing: Stretchwall,  
 merican Olean. Skylights: Naturalite,  
 enco, Inc. Door closers: LCN, Hinges:  
 ager. Locksets: Schlage. Panic Exit: Von  
 uprin. Paint and stain: Glidden, Tnemeç,  
 PG, Pratt & Lambert. Interior doors:  
 uperior Fireproof Door Co., Eggers In-  
 ustries. Elevators: Dover. Environmen-  
 tal control systems: General Electric,  
 onner, Robert Shaw. Interior floors: Car-  
 ets from London Inc., GAF, American  
 lean. Handrails: Champion Iron, Tuttle  
 uminum & Brass. Lighting: Lightolier,  
 homas Industries.

**Museum of Modern Art, Addition, New  
 York City** (page 87). *Cesar Pelli Associ-  
 es, New Haven, Conn.* Ceiling system:  
 rmstrong Co. Entrance doors: Alumiliner  
 oors Inc. Interior doors: Weyerhaeuser.  
 elevators: Dover. Environmental control  
 stems: ITT Controls. Carpeting: Milliken  
 arpets. Handrails: Ampat/Eastern Cor-  
 oration. Door closers: Sargent & Co.  
 ling: American Olean (bathroom),  
 arrazzi USA Inc. (Garden Wing kitch-  
 ns), Heath Ceramic Tile (4th floor Ar-  
 chitecture and Design Gallery). Hinges  
 d lockset: Sargent & Co. Paint: PPG  
 dustries. Flushvalves: Sloan Valve Co.  
 aterfountains: Sunroc Inc. Roofing:  
 arlisle Roofing. Fire alarms: Pyrotronics  
 c., Acme Fire Alarm. Cabinet work:  
 ternational Store Fixtures. Heating  
 stems: Trane Co., Baltimore Aire Coil,  
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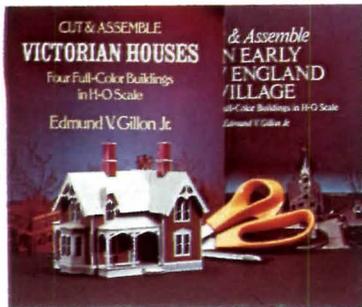
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# Furnishings

*As resources for design  
and objects of design.  
By Nora Richter Greer*



1



2

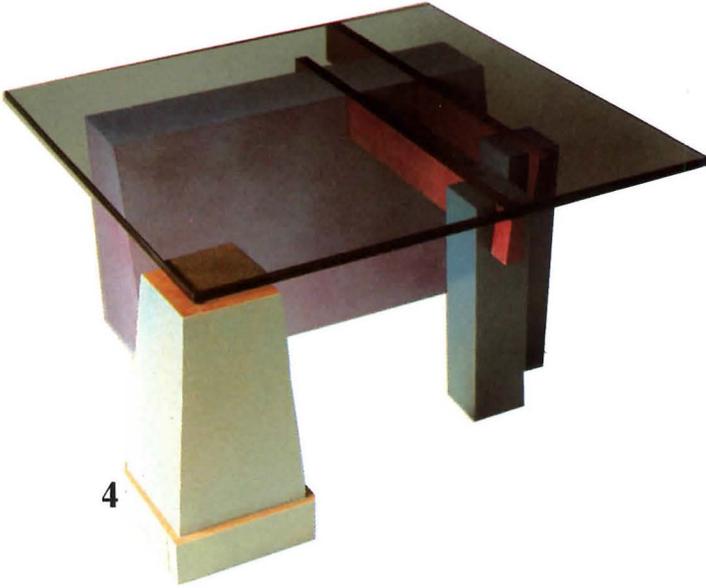
Craftsmen Edward Zucca and Jack Larimore work miles apart from one another (Zucca in Putnam, Conn., and Larimore in Philadelphia), yet their work shows some striking similarities. Both designers take old forms, reinterpret them, adding wit, humor, and color. Their work illustrates the idiosyncrasy evident in current hand-crafted furniture.

Zucca's living room chair (1) is reminiscent of a '50s upholstered seat with its broad planes and geometric shapes, which in this case are exaggerated. Made of maple, maple plywood, aluminum, rubber, and leather, the chair has ebony "claws," rounded pieces of ebony attached to the armrests and bony, solid "legs." The dining table (2) and the mantelpiece (3) borrow from the art deco period. The dining table is Honduras mahogany, curly maple, prima vera, and ebony, and is characterized by a rounded base and exquisite details carved into the table top. The mantelpiece has slats of cherry and cherry plywood intermixed with gray raku ceramic tiles (designed by Zucca's wife Kathi Yokum). The image is of a '40s streamlined radio. The hearth sits above a storage bin for wood, with a small mirror positioned above the hearth.

For the Ruins I table (4), Putnam "doddles" with sculptural bases, which resemble architectural ruins, to produce a tense composition under a glass top. Bright colors add to the base's drama. The China Gothic chairs (5) borrow from the Chinese esthetic in their massive sculptural quality and graceful lines and the Gothic in their mass and thronelike sense of regal comfort. Materials are cotton velvet or wool mohair with a hardwood frame. Leather is used to trim the top and front panels of the chairs. The lacquered top, mahogany desk (6) is deco-inspired and is meant to be an abstraction of a game table. Dark and light lacquers are used on the desk's top to convey a "different sense of order," in Larimore's words. The Tête-à-tête coffee tables (7) were designed to offer surface volume without bulk. The minimally designed glass top tables have light Honduras mahogany frames and can either sit as in conservation with one another or be separated to allow circulation through the pair. Details are painted on the top corners as well as reveals at the corners of the legs. Little feet painted at the base are to give "animation" to the pair. □



3



4



6



7



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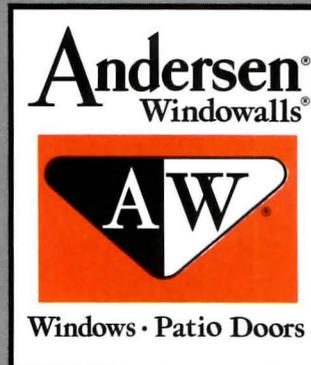
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# Products

*A selection of notable offerings and applications. By Lynn Nesmith*



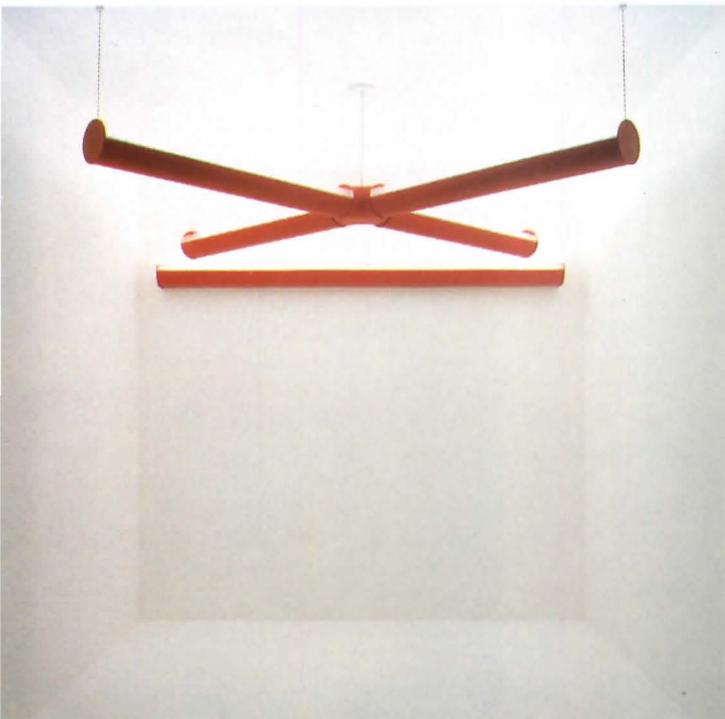
1



2



3



5

Tivolene light tubing by Tivoli Industries (1) is constructed of extruded polycarbonate tubes filled with a nonflammable clear gel surrounding the lamps for moisture and vibration resistance. Clear and colored tube sections are available with two-, four-, six-, and 12-inch bulb spacing. (Circle 201 on information card.)

The nine-lamp EJS Reflections wall or ceiling mounted fixture (2), with hand-beveled mirror squares and solid brass socket covers, measures 18 inches square. (Circle 202.)

Wall mounted fixture made of aluminum and steel (3) by Staff Lighting uses two nine-watt compact fluorescent lamps. Measuring 9x6.75 inches, it is available in bronze or white. (Circle 203.)

Six configurations of extruded aluminum Lite Ducts in six standard lengths from four to 24 feet and 35 connecting pieces in 14 standard and custom finishes comprise the collection of Longlites by Peerless. The suspended six-inch round and a wall mounted up-light (4) are two of nine mounting options. (Circle 204.)

The main components of the Wes-Lite system (5) from Westinghouse are ambient and under-shelf task lighting with varied intensities and lens options built into the open office furniture system. HID fixtures and Luxo lamps provide additional lighting where required. (Circle 205.)

Capri Lighting's series of low-voltage fixtures (6) is comprised of 11 track styles, six coordinated miniature track lights, and seven recessed lamps. (Circle 206.)

Products continued on page 116 6



### Signage.

Signspec standard identification signs are constructed of clear heart redwood and weather resistant glues and finishes. All lettering and graphics are carved or sand-blasted into the wood. The collection has 16 styles and sizes, with a variety of colors, graphics, and typography. (Southwood Corporation, Charlotte, N.C. Circle 220 on information card.)

### Power Monitor.

Portable power line monitor for analyzing disturbances that may affect sensitive electronic equipment is designed to be plugged into any 120-volt outlet. A series of red lights and alarms indicates six types of power disturbances. Problems identified are high line voltage, low line voltage, voltage surge, voltage drop, transverse mode electrical noise, and common mode electrical noise. The monitor is designed for testing circuits before installing automation equipment. (General Electric Co., Fort Wayne, Ind. Circle 221 on information card.)

### Reflective Insulation.

Foil-Ray reflective insulation is made of polyethylene bubbles with an aluminum foil bonded to both sides. Measuring 1/4 inch thick, the insulation is designed to be installed with a hand stapler and to

be cut with scissors. (Energy Saver Imports, Inc., Arvada, Colo. Circle 218 on information card.)

### Ceramic Pavers.

Heavy-duty ceramic floor tiles, measuring 6x6, 4x8, 8x8, and 9x12 inches, are designed for high traffic installations. Pavers are available in composite grays and earthtones with slip resistant textures, in addition to hexagonal and circular patterns. (Forms + Surfaces, Santa Barbara, Calif. Circle 219 on information card.)

### Storage System.

Vinyl coated steel rod products are designed to be assembled into storage units in bedroom closets, garages, and pantries. The line includes several types and sizes of ventilated shelving, sliding basket systems, and hooks and racks for doors, walls and cabinets. (Clairson International, Ocala, Fla. Circle 210 on information card.)

### Suspended Light Fixture.

Aurora low wattage, high intensity halogen lamp, designed by Perry King and Santiago Miranda to provide direct and diffuse light, is made of a ring of clear acrylic, sandwiched between two textured plates of glass and suspended by three cables from a ceiling canopy. Each cable

is attached to a metal, cone-shaped light source housing. Fixtures are available with blue or white finishes. (Atelier International Lighting, New York City. Circle 212 on information card.)

### Custom Lighting Fixtures.

Trianon Chandelier series provides direct lighting from tungsten halogen lamps within one-third-inch chrome or brass finished troffers. Fixtures are suspended from ceilings by thin aircraft cable and are available in single-, double-, and triple-layered styles. (Modulightor, Inc., New York City. Circle 213 on information card.)

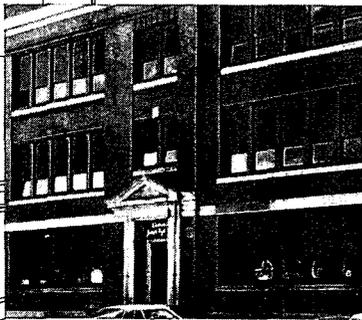
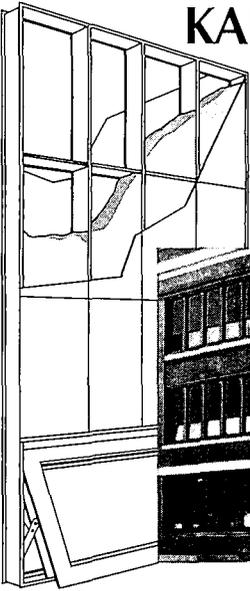
### Outdoor Lighting.

Pole-mounted luminaries are designed to provide accent illumination for walkways and general landscape lighting. Fixtures have a 1/4-inch-thick aluminum shield secured with tamperproof screws to the lamp housing and a cast aluminum housing welded to the pole shaft. All models are adaptable for incandescent or long life mercury vapor lamps. (Imperial Bronzelite Architectural Lighting & Fountains, San Marcos, Tex. Circle 214 on information card.)

### Task Lighting.

Performance Lighting System, designed by Robert Worrell, integrates light fix-

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ures within storage cabinets. A batwing lens is designed to reduce eye fatigue and improve visibility for computer installations. The light has a five-level dimming switch. (All-Steel, Inc., Aurora, Ill. Circle 215 on information card.)

#### Portable Storage Unit.

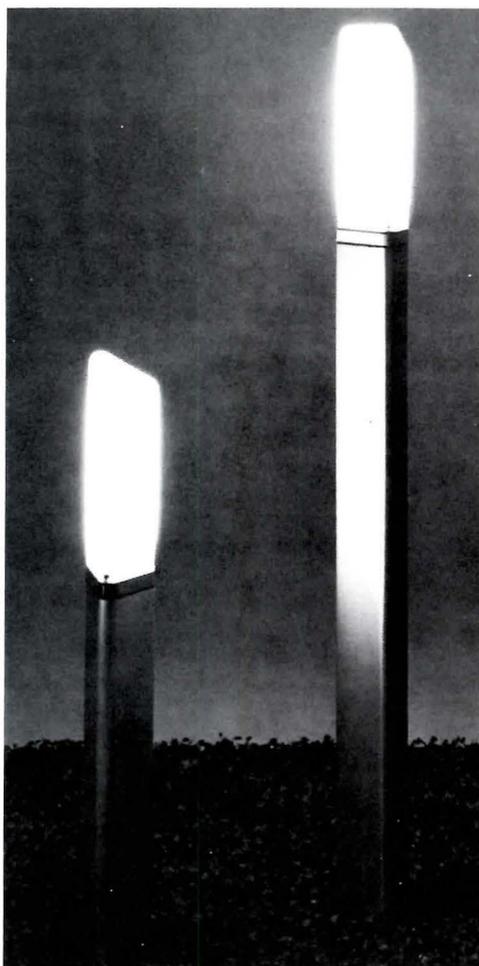
Oak taborets measuring 30 inches in height have a hinged top with a gas spring cylinder and rolling casters. Units are available with natural, golden, or presanded, unfinished surfaces. (Mayline Corporation, Sheboygan, Wis. Circle 217 on information card.)

#### Outdoor Lighting Fixture.

Teseo 50/100 garden light fixture (right) is constructed of an extruded anodized aluminum stem and a molded plastic diffuser. Available in two heights, units use 15-watt fluorescent bulbs. (Artemide, Inc., New York City. Circle 211 on information card.)

#### Roof Windows.

GGL window unit for sloped roofs has a wooden frame and sash with mortise and tenon joints and exterior aluminum cladding. Factory-installed weatherstripping is designed to provide tautness against air infiltration, and a gasket across the bottom sill to allow condensation drainage.



Overhead control bar provides operation of sash and ventilation flap. Available in nine sizes, the units are recommended for installation in roof pitches between 20 and 85 degrees. (Velux-America Inc., Greenwood, S.C. Circle 216 on information card.)

#### Wood Panels.

Panels with gloss, semigloss, satin, or matte finishes are pre-assembled for walls and ceilings in commercial and retail installations. Oak construction is standard, but panels are also available in ash, walnut, hemlock, cherry, and mahogany. Standard panel lengths are four, six, and eight feet. Ceiling profiles are designed to adapt to standard T-bar suspension systems on a 2x4-foot grid. Matching self-adhesive backed wooden veneers are available to cover the face of the grid. Wall mounted panels can be installed with blind nailing. (AcoustaWood, Inc., Penfield, N.Y. Circle 232 on information card.)

#### Wall System.

Durasan gravity lock demountable partition system is made of vinyl surfaced gypsum wallboard. Available in 37 colored patterns, panels are premounted and end-wrapped. (Gold Bond Building Products, Charlotte, N.C. Circle 230 on information card.) □

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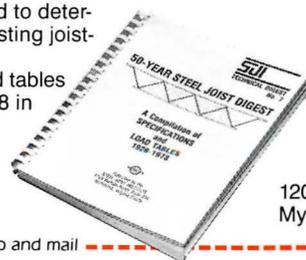
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# Résumés des Articles Principaux

## Les styles d'inspiration dans l'éclairage.

L'architecte William Kessler utilise la lumière à la fois naturelle et artificielle pour éclairer et organiser la distribution des trois immeubles composant l'Institut des Arts de Detroit (page 54). Tel que dessiné par Kessler, la lumière met en évidence les objets d'art pour orienter la distribution et donne une qualité d'éclairage naturel à un passage intérieur. Le designer Emilio Ambasz utilise la lumière de manière à donner un esprit d'accueil au caractère d'une banque suisse (page 55). Ici, un panneau mural représentant la montage reflète la lumière sur des fils de soie, et une maquette de la banque très illuminée permet de laisser à la discrétion des regards la partie sécurité de la banque. La Republic Bank (page 56) utilise des techniques d'éclairage réalisées par Marlene Lee, y compris une corniche d'éclairage en béton pour éclairer les couloirs. La lumière est utilisée naturellement pour la mezzanine du gratteciel de la banque, qui fut réalisé par Johnson Burgee avec Gensler et Associés. Voorsanger et Mills utilise la lumière de manière à porter l'attention sur la géométrie intérieure d'un restaurant à travers des voutes ajourées et des appliques (page 57). Un laboratoire de recherche dans la branche Farmer au Texas (page 58), a des voutes ajourées pour donner une provision de lumière naturelle, également recue à travers une clostra et un atrium de 1 mètre 75 de haut. Le laboratoire a été réalisé par IM Pei et Bartenaires. Le centre des Arts de l'ouest du Colorado (page 59) utilise une rampe à néon pour souligner des événements se déroulant dans le soubassement de l'immeuble dessiné par les architectes de Chamberlin.

## L Immeuble CIGNA.

Page 60: Ce plan de bureaux corporatifs, à Bloomfield, dans le Connecticut, a été réalisé par The Architects Collaborative. Il établit la combinaison d'un certain nombre de sources de lumières naturelles et artificielles, y compris un atrium central dont la lumière peut être tamisée, des étages de lumière courent sur le mur sud afin de renvoyer leur apport à l'intérieur. Et un système de fixture partage la lumière qu'il redistribue vers le plafond. Ce système emploie des divisions parallèles aux fenêtres longeant le mur pour accrocher plus de lumière naturelle encore.

## L'éclairage.

Page 64: L'éclairage des immeubles est un des éléments les plus étudiés de l'architecture d'aujourd'hui. Mais à cours des dix dernières années une lente révolution a pris place dans le domaine de l'éclairage de style. Le mouvement s'est

dégagé de l'éclairage habituellement blafard des immeubles vers une approche ambiante plus adaptée comprenant une bonne part d'esthétisme, ainsi que des considérations visant aux conditionnements biologiques, et psychologiques de la lumière artificielle aussi bien que naturelle. L'article retrace le développement et l'utilisation de la lumière à la fois artificielle et naturelle au cours du siècle.

## La National Gallery of Art.

Page 68: La salle comprenant les petites sculptures dans la bâtiment ouest de la National Gallery of Art, à Washington, D.C., montre le formidable travail du designer éclairagiste Gordon Anson. Cela représente un exemple d'une série de galeries et de espaces publics réalisés par Keyes Condon Florance, l'équipe en charge des expositions au Musée et les consultants. Chaque espace a été éclairé par Anson, membre de l'équipe de façon à rendre le côté imposant de l'art et de l'architecture environnante.

## La Bâtiment Est, Revu et Corrigé.

Page 74: Bien que critiqué pour sa géométrie sévère, I.M. Pei & Partners de la National Gallery of Art de Washington, D.C., a influencé le dessin de bien des musées successifs et représente un exemple

de programme d'urbanisme réussi respectant la géométrie remarquable de son site sur le Mall national. Ouvert en 1978, le bâtiment Est, est imposant quoique composé de galeries plus intimes.

## Le Musée J.B. Speed.

Page 80: Dessiné par Geddes Brecher Qualls Cunningham, Cette annexe du musée Speed de Louisville dans le Kentucky, est classique sans être en soi extraordinaire. Au contraire, il représente un environnement idéal et orchestre pour la contemplation artistique. Le Musée ressemble en bien des points au travail d'un Louis Kahn, tel que l'utilisation d'une lumière du jour diffus la disposition des pièces autour d'un atrium et les planches en chênes. Il y a aussi bien des références à l'architecture d'un Sir John Soane.

## L Annexe du MoMA.

Page 87: Dessiné par Cesar Pelli et Associés, la tour de 53 étages comprenant 263 appartements au dessus du MUSÉE d'Art Moderne de la ville de New York, utilise des tons subtiles pour son enveloppe. Malheureusement, la tour rompt la faible densité du voisinage et bloque malencontreusement le soleil d'après-midi dans le jardin aux sculptures. Les terrasses en renforcement de la tour ajoutent de la douceur à l'ensemble bien que la jonction de la tour avec le Musée original soit loin d'être un succès.

# Resúmenes de Artículos Principales

## Diseños inspirados por la luz.

El arquitecto William Kessler utiliza la luz, tanto natural como artificial, para alumbrar y organizar la circulación de los tres edificios que constituyen el Instituto de Artes de Detroit (página 54). Según el diseño de Kessler, la luz sirve para realzar los objetos de arte a la circulación directa e imparte una calidad cenital a un pasaje interior. El diseñador Emilio Ambasz utiliza la luz para dar un sentimiento de espacio al aire libre a un banco suizo (página 55). Aquí, un mural de montañas refleja la luz a hilos colgantes de seda y un modelo fuertemente iluminado del edificio encubre la caja fuerte del banco. El RepublicBank en Houston (página 56) utiliza técnicas de alumbrado diseñadas por Marlene Lee, incluyendo una repisa de hormigón para iluminar los corredores. La luz natural se utiliza en el entresuelo del banco rescacielos, diseñado por Johnson/Burgee con Gensler & Associates. Voorsanger & Mills utilizan la luz para llamar la atención sobre la geometría interior de un restaurante de la Ciudad de Nueva York (página 57). También se proporciona luz en el restaurante a través de bóvedas con aberturas y brazos de luz. Un laboratorio de investigación en Farmer's Branch, Tejas

(página 58), tiene bóvedas con aberturas para permitir el paso de la luz natural, que también entra a través de clarestorio y un atrio de 52 pies de altura. El laboratorio fue diseñado por I. M. Pei & Partners. El Western Colorado Center for the Arts (página 59) utiliza un tubo ondulado de luz fluorescente para señalar los eventos que ocurren en el edificio dotado de bermas de tierra diseñado por Chamberlin Architects.

## Edificio de CIGNA.

Página 60: Este diseño para las oficinas de la empresa en Bloomfield, Connecticut, es realización de The Architects Collaborative. Combina cierto número de estrategias de alumbrado natural y artificial, entre ellas un atrio central que puede sombrearse, repisas de luz en el muro sur para hacer entrar luz adicional en el edificio y un sistema de partición-luces combinado que refleja la luz del techo. El sistema de partición utiliza divisores claros paralelos al muro de ventanas para admitir más luz natural.

## Alumbrado.

Página 64: El alumbrado de los edificios es uno de los elementos más descuidados

hoy en el diseño arquitectónico. Pero, en el curso de esta última década, ha ocurrido una calada revolución en el diseño del alumbrado. Este movimiento se aparta del alumbrado eléctrico blanco general de los edificios hacia un enfoque ambiental/especial más flexible que también abarca consideraciones estéticas, biológicas y psicológicas de la luz: tanto artificial como natural. El artículo relata el desarrollo y uso de la luz artificial y natural durante el siglo actual.

#### Galería Nacional de Arte.

Página 68: La habitación de esculturas pequeñas en el Edificio Oeste de la Galería Nacional de Arte, en Washington, D.C., representa el logro sensacional del alumbrado obtenido por el diseñador Gordon Anson. Es una de una serie de galerías y zonas públicas diseñadas por Keyes Condon Florance, el personal de exposiciones del museo y los consultores. Cada espacio fue alumbrado por Anson, a partir del cuerpo de la galería, de forma que realizara dramáticamente su arte y arquitectura.

#### Nueva vista al edificio Este.

Página 74: Aunque criticado por su geometría severa, el Edificio Este de la Galería Nacional de Arte en Washington, D.C., realizado por I. M. Pei & Partners, ha influido en el diseño de museos posteriores y constituye un buen ejemplo de una buena planificación urbana que respeta la geometría de su destacado emplazamiento en el Mall de la capital. El Edificio Este, abierto en 1978, es monumental y posee, sin embargo, espacio íntimos de galería de arte.

#### J. B. Speed Museum.

Página 80: Esta adición al Speed Museum de Louisville, Ky., es clásica sin caer en extremos. En vez de ello, presenta un ambiente ordenado ideal para la contemplación del arte. El museo es análogo, en algunos aspectos, a la obra de Louis Kahn, como en el aspecto de la luz natural suave, la disposición de las salas alrededor de un atrio y los suelos de madera de roble. También hay referencias a la arquitectura de Sir John Soane.

#### Adición a MoMA.

Página 87: Diseñada por Cesar Pelli & Associates, la torre de apartamentos de 52 pisos y 263 unidades sobre el Museo de Arte Moderno en la Ciudad de Nueva York utiliza colores sutiles para su exterior. Desafortunadamente, la torre interrumpe la baja densidad de la vecindad y bloquea el sol de media tarde al jardín de esculturas. Las terrazas rebajadas de la torre contribuyen a su suavidad. La unión de la torre con el museo original, empero, está menos lograda. □

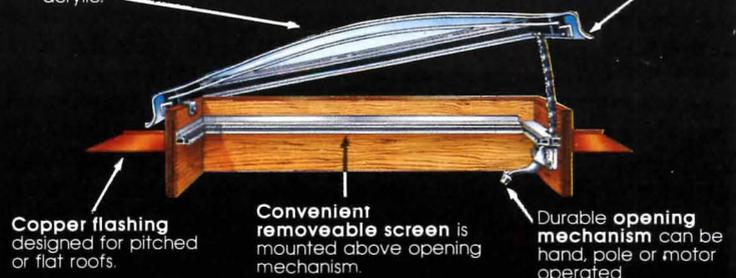


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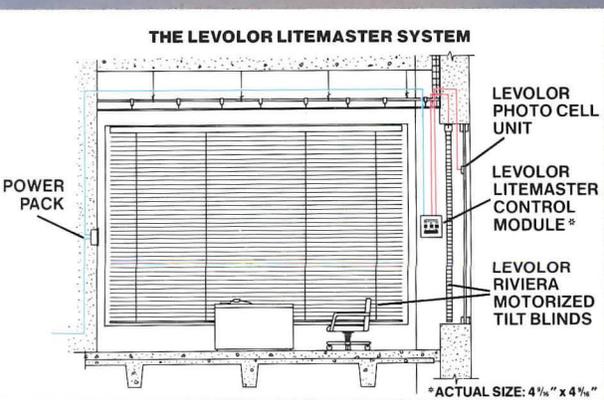
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