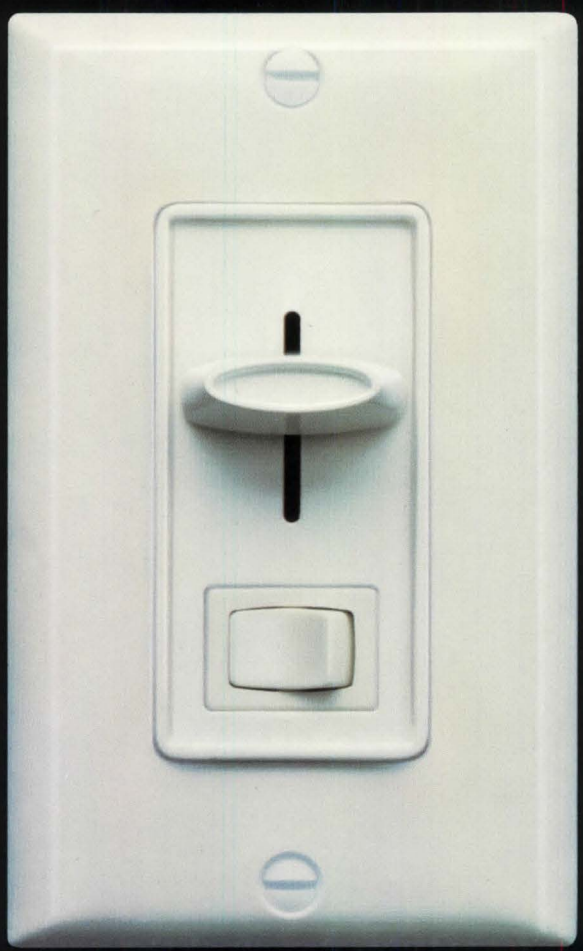
AUJOURD'HUI

Introducing

SKYLARK™

designer light dimming and fan speed controls



Now for the first time, designers can specify dimmers and fan speed controls that fit into designer wallplates to give a uniform coordinated design. Lutron's elegant new *SKYLARK* line of dimmers and fan speed controls feature a patented* sliding control to precisely adjust light intensity or fan speed–the natural human engineered way to enrich your setting and provide maximum comfort.

You can choose from a wide variety of *SKYLARK* wallbox dimmers for incandescent, fluorescent, incandescent low voltage and H.I.D. lighting. Identically styled *SKYLARK* fan controls will fully vary the speed of paddle and most common fans. Models are available in either single pole or 3-way.

Popular brands of standard designer wallplates available from a number of manufacturers provide many optional colors and styles. Your Lutron Electrical Distributor will help you select the Lutron SKYLARK and brand of wallplate to compliment your decor.

LUTRON®

COOPERSBURG PA 18036

* This product is covered by one or more of the following US Patents: 3,422,309; 3,735,020; 3,746,923; 3,927,345; DES 227,577; DES 241,853 and others pending.

Circle 51 on information card

Announcing the most profitable seminar you may ever attend.

Avoiding loss from wall and skylight design defects.

The risk of severe liability claims from design faults in curtain wall and skylight systems is a reality no architect or engineer can afford to ignore.

Now you can take advantage of the most expert advice and experience in the design and construction fields on how to minimize that risk.

Announcing a comprehensive, one-day seminar:

AVOIDING FAILURES IN CURTAIN WALLS
AND SKYLIGHT SYSTEMS

Date: November 19, 1982

Time: 8:00 a.m. to 5:00 p.m.

Location: University of Maryland
University College,
Center of Adult Education,
College Park, Maryland

This seminar is being sponsored by Shand, Morahan & Company, Inc.; in cooperation with the School of Architecture, University of Maryland, College Park Campus; and the School of Architecture, University of Illinois at Chicago. The seminar will bring together and present the current combined knowledge and experience on this subject. In addition to presentations by recognized experts in specific areas, interaction and dialog will be encouraged via panel discussions and question and answer sessions. This seminar is an extension of the Shand, Morahan seminar on water damage of last year.

As the nation's leading underwriter of Architects and Engineers Professional Liability Insurance, Shand, Morahan & Company has a continuing interest in providing educational opportunities such as this, as well as extending the current body of knowledge within the design community.

For more information or to register for this seminar, simply send in the following coupon. Or call: Roy Vince, VP, A/E Claims (312) 866-0766 or James Ruiz, Manager, A/E Claims (312) 866-0765.

Shand, Morahan & Company, Inc.

Circle 52 on information card

SPEAKERS AND TOPICS

John F. Hartray, Principal *Nagle, Hartray & Assoc., Ltd.*
A generalist's view of the problem of wind and water penetration.

Charles H. Thornton, President *Lev Zetlin Assoc., Inc.*
Interaction between structural and exterior enclosure systems.

Bernard Erlin, President *Erlin-Himes Assoc., Inc.*
Some problems of masonry and seminars.

Richard C. Elstner, Principal *Will, Janney & Elstner*
Glass and glazing failures.

Paul M. Lurie, Principal *Fohrman Lurie, Sklar & Simon, Ltd.*
How to identify and shift economic burdens of construction errors.

Mail this coupon to: Registration Clerk, Conferences and Institutes Program, Center for Adult Education, University of Maryland University College, College Park, MD 20742

☐ Please send me more information on this seminar.

☐ Please register me for this seminar.

Cost: $55.00 per person for Shand, Morahan A/E Insureds; $145.00 per person for others. Lunch will be provided. Make checks payable to: University of Maryland.

Name _____

Company _____

Address _____

City _____ State _____ Zip _____

Phone _____

The Parisien Restaurant in Trusthouse Forte's new Excelsior Hotel, Tulsa, Ok. Shown is 8 × 8 Sandstone, which is also available in 4 × 8, 8 × 12 and 12 × 12.

Elegant... Durable... IAC Ceramic Tile!

IAC ceramic tile combines elegance and durability in a surface that is ideal for heavy traffic areas in either interior or exterior applications.

Available in a wide range of beautiful, contemporary colors, textures and sizes, IAC tile is the perfect design accent for any project.

Because IAC ceramic tile is "single-fired vitreous", it has a surface of superior wearability, and provides high resistance to strain and chemical damage. As a result, maintenance is simple and minimal.

For the look of elegance, and the common sense of durability . . . specify "single-fired vitreous" ceramic tile . . . and to insure the highest quality possible . . . specify IAC

. . . it's made in America!

iac

INTERNATIONAL AMERICAN CERAMICS, INC.

P.O. Box 6600 · Tulsa, OK 74156
Call Toll Free: 800-331-3651 In Oklahoma (918) 428-3851
Telex: 79-6044

Circle 53 on information card

CONTENTS

Cover: Photograph by Romaldo Giurgola of Louis Kahn's Salk Institute (see page 26).

The AIA JOURNAL, publication number: ISSN0001-1479, official magazine of The American Institute of Architects, is published 14 times yearly at 1735 New York Ave. N.W., Washington, D.C. 20006. **Subscriptions:** for architects; students and faculty of architecture schools; libraries; building construction trade associations and building products manufacturers, in the U.S. $24 and in Canada $32. For all others, in the U.S. $30 and in Canada and other foreign nations $40 a year. Single copies, $3 each. Publisher reserves the right to refuse unqualified subscriptions. For subscriptions: write Circulation Department; for change of address: send Circulation Department both old and new addresses; allow eight weeks. Quotations on reprints of articles available. Microfilm copies available from University Microfilm, 300 N. Zeeb Road, Ann Arbor, Mich. 48106. Referenced in *The Architectural Index, Architectural Periodicals Index, Art Index, Avery Index to Architectural Periodicals.* Second class postage paid at Washington, D.C., and additional mailing offices. VOL. 71, NO. 9.

Tanks for the memories.

What's the point of equipping a toilet with a flush tank that (1) needs up to seven gallons of water to flush; (2) takes three minutes or more to refill; (3) wastes valuable bathroom space; (4) can leak and waste precious water; (5) contains far too many parts that need too much repair; and (6) is made of breakable porcelain?

The point is, a Sloan flushometer (flush valve) brings bowl flushing into the 20th century. A Sloan flushometer saves water on every flush, as much as 12% compared to a tank. It frees up floor space. It has far fewer parts and needs less maintenance than a tank. It makes cleaning the bathroom a lot easier. And it's a lot quieter than you think.

And with every Sloan flushometer, good looks go with superior function. It can be exposed, with its gleaming chrome a highlight. Or it can be hidden out of sight. It can be flushed by our new hydraulic pushbutton.

These points (and more) are discussed in detail in an objective report, "Selecting the Proper Flushing System for Your Building." It's yours, without obligation. Write us for a copy. The next time you have to decide what goes in *your* bathrooms, you may find yourself saying, "Thanks, but no tanks."

SLOAN VALVE COMPANY
10500 Seymour Avenue, Franklin Park, IL 60131

Circle 54 on information card

Modern technology blends with contemporary charm.

ELEVATORS BY DOVER

Adding to the revitalized downtown area of San Antonio is the new Hyatt Regency, a $38-million, 633-room luxury hotel on the Riverwalk along the San Antonio River. A series of waterfalls flows through the atrium lobby as an extension of the river. Six glass-walled, cylindrical Dover Elevators add their own excitement as they move guests through this dramatic space. For more information on Dover's complete line of Traction and Oildraulic® Elevators, write Dover Corporation, Elevator Division, Dept. 688, P.O. Box 2177, Memphis, Tennessee 38101.

DOVER®

The elevator innovators.

Hyatt Regency San Antonio
ARCHITECT:
Thompson, Ventulett, Stainback & Associates, Atlanta
ASSOCIATE ARCHITECT:
Ford-Powell & Carson, San Antonio
GENERAL CONTRACTOR:
Hardin International, Inc., Atlanta
Dover Elevators sold and installed by Dover Elevator Company, San Antonio

EVENTS

Aug. 30-Sept. 1: Third National Symposium on Human Factors and Industrial Design in Consumer Products, Ohio State University, Columbus, Ohio. Contact: Patricia A. Moore, Conference Coordinator, P.O. Box 12356, Columbus, Ohio 43212.
Aug. 31-Sept. 8: International Commission on Illumination Conference, Amsterdam. Contact: U.S. National Committee, CIE, c/o National Bureau of Standards, Washington, D.C. 20034.
Sept. 5-11: International Passive and Low Energy Alternatives '82 Seminar, Bermuda. Contact: International PLEA 82, Box 248271, Coral Gables, Fla. 33124.
Sept. 8: Seminar on How to Make a Profit in a Recession Economy, Boston. (Repeat seminars Sept. 9, Chicago; Sept. 10, Los Angeles; Sept. 24, Houston.) Contact: PSMJ Seminars, 45 Van Brunt Ave., Dedham, Mass. 02026.
Sept. 9: International Seminar on Earth Shelter, Bermuda. Contact: International PLEA 82, Box 248271, Coral Gables, Fla. 33124.
Sept. 10-11: AIA Energy in Design: Process Workshop, Orlando, Fla., and Great Falls, Mont. (Repeat workshop Sept. 24-25, Pittsburgh.) Contact: Brenda Henderson at Institute headquarters, (202) 626-7353.
Sept. 10-11: International Symposium on Architecture and Energy, Bermuda. Contact: International PLEA 82, Box 248271, Coral Gables, Fla. 33124.
Sept. 12-15: Ceramic Tile Distributors of America Fourth Annual Convention and Exposition, Detroit. Contact: CTDA, 630 N. Craycroft Road, Room 202, Tucson, Ariz. 85711.
Sept. 13-15: International Passive and Low Energy Alternatives 82 Technical Conference, Bermuda. Contact: International PLEA 82, Box 248271, Coral Gables, Fla. 33124.
Sept. 15-17: Passive and Hybrid Solar Energy Program Update Conference, Washington, D.C. Contact: Marianne McCarthy, MCC Associates, Inc., 8534 Second Ave., Suite 400, Silver Spring, Md. 20910.
Sept. 15-17: Fifth World Energy Engineering Congress, Atlanta. Contact: Association of Energy Engineers, 4025 Pleasantdale Road, Suite 340, Atlanta, Ga. 30340.
Sept. 17-18: AIA Energy in Design: Techniques Workshop, Raleigh, N.C. (Repeat workshop Sept. 24-25, Muncie, Ind.) Contact: Brenda Henderson at Institute headquarters, (202) 626-7353.
Sept. 18: Solar Expo '82, Flint, Mich. Contact: Jordan College Energy Programs, 360 W. Pine Cedar Springs, Mich. 49319.
Sept. 19-23: National Association of Women in Construction Annual Convention and Exposition, Albuquerque, N.M. Contact: NAWIC, P.O. Box 181068, Fort Worth, Tex. 76118.
Sept. 20-22: Sixth Annual Conference on Fire Research, Gaithersburg, Md. Contact: Sonya Cherry, Polymers Building B250, Center for Fire Research, National Bureau of Standards, Washington, D.C. 20234.
Sept. 22-24: Conference on Rehabilitation of Historic Commercial Districts, Macon, Ga. Contact: Georgia Main Street Center, Department of Community Affairs, 8th Floor, 40 Marietta St. N.W., Atlanta, Ga. 30303.
Sept. 24-25: AIA Energy in Design: Practice Workshop, Boise, Idaho. Contact: Brenda Henderson at Institute headquarters, (202) 626-7353.
Sept. 26-29: National Conference on Toxicology Laboratory Design and Management, Arlington, Va. Contact: National Association of Life Science Industries, Inc., 1919 Pennsylvania Ave. N.W., Suite 702, Washington, D.C. 20006.
Sept. 26-29: Door and Hardware Institute Annual Conference and Exposition, Salt Lake City. Contact: Ray S. Robinson, Door and Hardware Institute, 1815 N. Fort Myer Drive, Arlington, Va. 22209.
Sept. 30-Oct. 3: AIA Conference on The Unconstitutional Jail (overcrowding, etc.), Houston. Contact: Michael Cohn at Institute headquarters, (202) 626-7366.
Oct. 6-8: International Forum of the International Federation of Interior Architects, Madrid. Contact: Sobre Identidad Professional del Arquitecto/Diseñador de Interiores, Organizado por el Colegio Nacional de Decoradores, Calle Ayala, n. 20, Madrid 1, Spain.

LETTERS

Old San Antonio: It was astonishing to read in Sinclair Black's interesting article in the splendid June issue (page 44) that San Antonio is 100 years old. Well, yes, it is, but to cite that part of its age alone is misleading. In fact, San Antonio is more than 250 years old. It was in 1731 that the municipality was created, city government instituted, a town plan laid out, and property allocated to the civilian settlers.

First settlement dates back a few years earlier, to 1718, when the Franciscan mission San Antonio de Valero and the military post San Antonio de Bexar were established there. The place was named San Antonio in 1691, when the Spanish discovered what a pleasant place it was to break the long journey from Coahuila to Texas. The attractive river scene has been regularly admired by visitors ever since.

Ernest Allen Connally, Hon. AIA
Washington, D.C.

Credits for Levi Plaza: We appreciate the coverage of Levi Plaza in your mid-May issue (page 152), but want to clarify the credits listed for this project:

Design and planning consultant to Levi Strauss & Co.: Howard Friedman & Associates. Architects for new buildings: Hellmuth, Obata & Kassabaum, Inc. Architects for interiors of new buildings: Gensler & Associates. Architects for renovation of the Italian Swiss Colony building (Stern building): Gensler & Associates and Howard Friedman & Associates.

Darlene A. Weidert
Gensler & Associates
San Francisco

Questioning Buildings' 'Fit': The AIA JOURNAL's past content, in comparison to the majority of American architectural periodicals, has been reasonable, unbiased, and pertinent to real and serious issues. I am writing to point out what seems to be a departure from that pattern. The opening paragraphs of the Fifth Annual Review of American Architecture (mid-May, page 123) refer to "a common quality of . . . fit" among the award recipients and selected projects. This fit is defined as the quality of a building that "fits the surroundings, programs, and needs . . . and fit . . . to its essential nature."

I am surprised that the JOURNAL's editors see "fitness" in a majority of the projects reviewed. Does the Hartford Seminary fit with its neighborhood's domestic architecture? Does the American Academy of Arts and Sciences fit with its neighbors in Sommerville? Does its structural and material theatrics fit with its essential nature? Does the Coleman Young Recreation Center's gray, black, and brown block, glass block, and "all-permeating modularity" fit the need of a play facility for urban children? Does the Wainwright progeny fit its parent? Does the Baltimore aquarium fit the essence of sea and sea-life? Does the Gettysburg College library fit with its windowed neighbors and with the needs of a place to read? Does the Boston museum addition fit with the essence of the original building and reinforce its use? Does the Herman Miller plant really fit its programmatic requirements of "good Scanlon?" Are the colors and arbitrary forms of the Illinois Regional Library for the Blind and Physically Handicapped appropriate to a building for the blind? Does it really respond to the users' needs for tactile, olfactory, and auditory stimuli? Does the green facade of the Princeton house fit the essence of garden? Does this walled house fit the essence of neighborhood? Enough.

I ask the JOURNAL's editors to look again; or better, to ask two of the same issue's nonarchitect commentators, Henry Fairlie and John Feild, to evaluate the

continued on page 68

The first family of fiber glass.

When you specify fiber glass roofing felts from the Manville family, you can be sure you've made a wise selection.

You see, fiber glass felts are well-known for their unique features — conformability, porosity and resistance to moisture absorption. But what isn't well known is that there are differences between fiber glass felts from different manufacturers.

Because the Manville family uses specially constructed fiber glass mats as the heart of all its fiber glass felts, the result is a family of products that not only meet ASTM requirements, but also provide other advantages — exceptional stability, greater uniformity and better natural resistance to all the other factors affecting roof performance.

This difference is built into all felts manufactured and marketed by the Manville family: GlasPly™ ply felts, GlasKap™ cap sheets, GlasBase™ base sheets, Ventsulation® felts, and Planet II™ roofing felts.

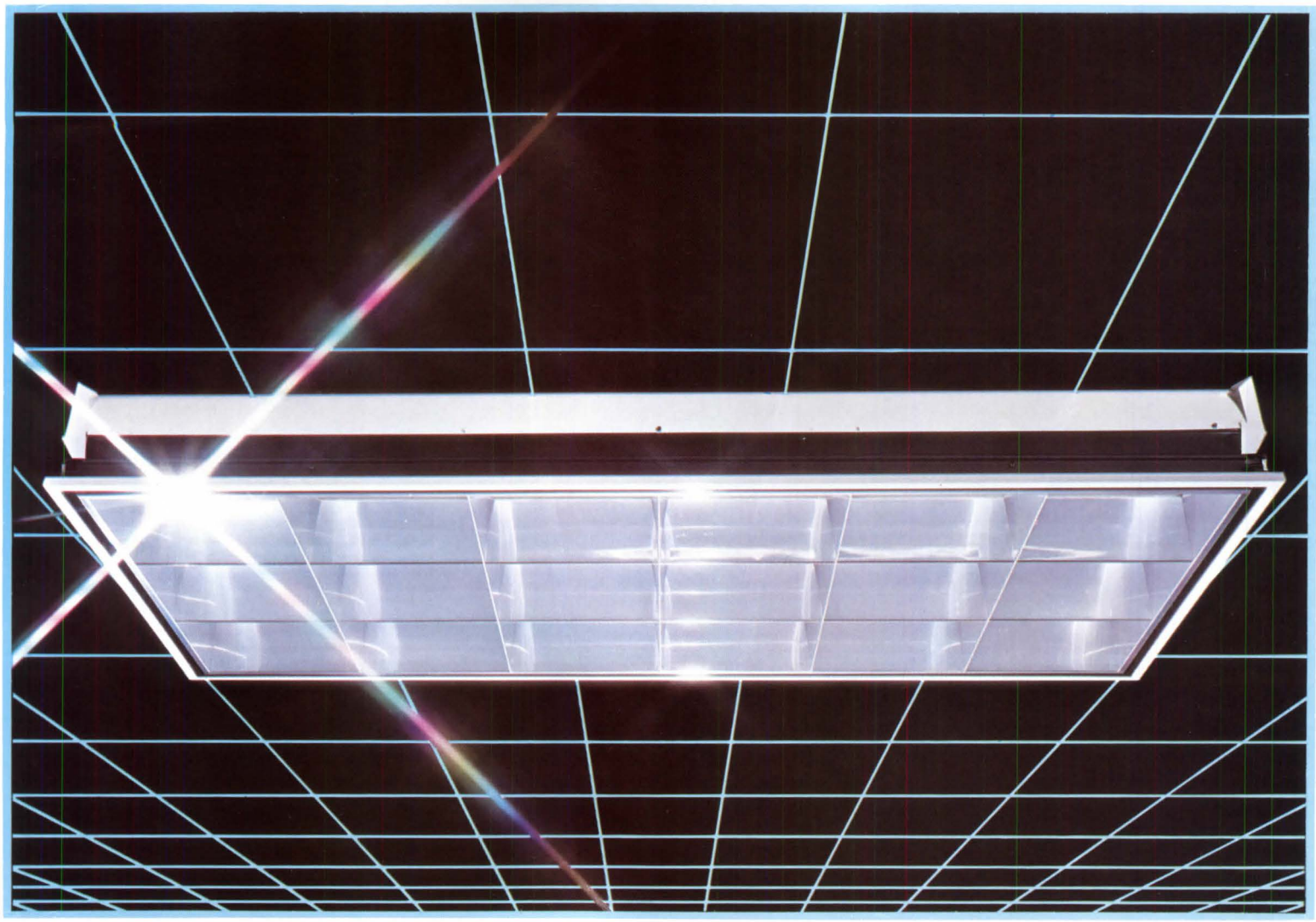
And it is this difference that sets the Manville family's fiber glass roofing products apart. That spells superior quality and assures long-lasting performance on the roof.

For more information consult Sweet's or contact Bob Graboski, Manville Building Materials Corporation, Ken-Caryl Ranch, Denver, Colorado 80217, (303) 978-2228. These felts are produced by Johns-Manville Sales Corporation and marketed by Manville Building Materials Corporation.

Manville

Circle 55 on information card

Introducing P3 Parabolume™
. . . A Fluorescent Luminaire for Today.



Columbia Lighting's brand new innovation in Parabolume design looks a lot like earlier models . . . but it does more!

PARABOLUME

The all new P3 offers highly improved efficiency while preserving the lighting control and the rich low brightness appearance of Columbia's original Parabolume. Carefully designed reflector contours mate precisely with curves of the parabolic baffle to provide a completely new optical system — A unique combination of computer design technology and traditional Columbia craftsmanship.

For tomorrow's fluorescent lighting needs. . . Specify P3 Parabolume™ today!

For information, contact your Columbia Lighting representative or write us at:

Columbia Lighting Inc

North 3808 Sullivan Road
T.A. Box 2787
Spokane, WA 99220 • (509) 924-7000

USI A Subsidiary of U.S. INDUSTRIES, INC.

Circle 56 on information card

Government

Viet Memorial Designer, AIA Strongly Denounce Alterations

After a relatively quiet eight weeks, the controversy surrounding construction of a memorial honoring the Americans who fought in Vietnam was rekindled last month with the announcement that an artist had been chosen to produce a work of sculpture to be part of the memorial.

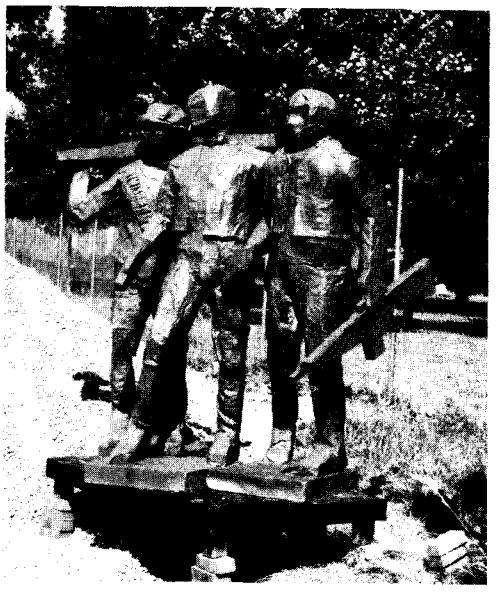
Selected was Frederick Hart, a Washington, D.C., sculptor who was a member of a team that won third place in the memorial competition held in the spring of last year. At the time of the announcement, Hart was quoted as saying, "I intend to preserve completely the artistic integrity of the existing design by Maya Ying Lin." But Lin, whose design was selected from more than 1,400 entries, soon strongly denounced the addition of the sculpture and a flag in interviews in the *Washington Post* and on National Public Radio and "Today." It was her first public comment.

And, in a letter to the District of Columbia Fine Arts Commission, Institute President Robert M. Lawrence, FAIA, called the proposed changes "ill-conceived" and "a breach of faith" with the designer who won the competition, with the jury, and with American veterans.

Meanwhile, construction of the memorial as designed by Lin proceeds in Constitution Gardens, near the Lincoln Memorial on Washington's Mall. The two, 246-foot-long concrete walls are poured, ready to be faced with polished black granite inscribed with the names of 57,692 war dead and missing.

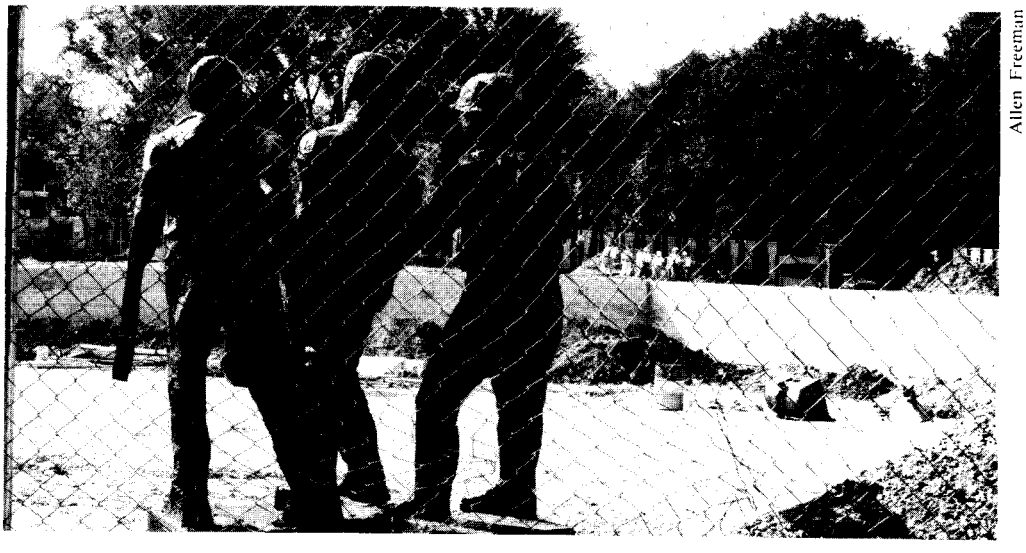
The Vietnam Veterans Memorial Fund, sponsor of the competition and fundraiser for the memorial, agreed to the additions to Lin's design early this year in return for permission from Interior Secretary James Watt to proceed with construction of the memorial as originally designed. Lin's design had been approved for construction when its opponents mounted a vigorous political offensive, using Secretary Watt's final authority for groundbreaking to win concessions (see April, page 46). Now, approval of the design, size, and placement of the sculpture and flagpole must be obtained from the Washington Fine Arts Commission, the National Capital Planning Commission, and the Interior Department. A VVMF spokesman says the fund will be ready to present the proposed changes this fall.

Sculptor Hart, 38, previously created two works for the west front of the Washington Cathedral, a figure of Adam and the tympanum at the central doors. He was an apprentice to Felix de Weldon, sculptor of the Iwo Jima Memorial in



Allen Freeman

Above, maquette of a Hart sculpture that was part of the third-place entry in the memorial competition. A rough styrofoam mockup of his proposed addition to the winning design (right and below) was photographed on the memorial site in late June. The wall of the memorial is under construction in the center of the lower photo, facing the figures. A VVMF spokesman, when questioned about the mockup, objected to publication of the photos as being premature.



Allen Freeman

Arlington, Va. Hart has said the sculpture for the Vietnam Memorial "will be figurative in style and humanist in substance."

Lin, 22, a Yale graduate student, avoided the ground-breaking in March and has since remained silent. But after Hart's selection was announced, she publicly defended her minimalist design, liking the additions to "drawing mustaches on other people's portraits." The sculpture is going to "make one feel watched," she said. "It's crucial visually what you come across first. . . . I don't want it to appear they're going to shoot you when you start walking down toward the walls." The single flag on the two-acre site would "look pretty much like a golf green," she said. "The whole point of the V shape was to point at the Washington Monument and Lincoln Memorial. . . . They're much stronger visually than any flag could be."

Replied Hart: "It's not Maya Lin's memorial nor Frederick Hart's memorial. It's a memorial to, for, and about the Vietnams veterans to be erected by the American people—in spite of what art wars occur."

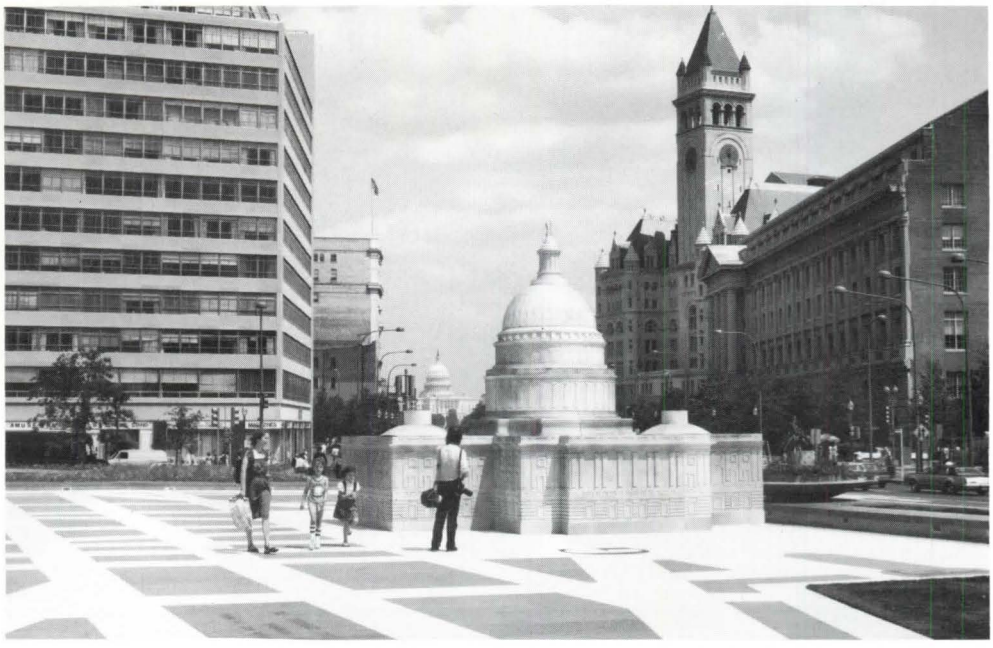
Jan Scruggs, VVMF president, said, "We really fought for Maya's design, but we are happy with the compromise. The way it's done does not detract from the design. It makes it 100 percent better, much more beautiful."

But members of the design community strongly disagree. Said Paul Spreiregen, FAIA, adviser to the memorial competition, "This work [Lin's design] just doesn't need anything more. Statues of soldiers coming out of the trees is meaningless." He urged American designers to "speak up against this outrageous desecration."

AIA President Lawrence wrote in his letter to the Fine Arts Commission that the proposed changes "lay the groundwork for a dangerous precedent. . . . The very integrity of this competition process is at stake. . . . [This] competition worked. An eloquent, dignified monument honoring those who served in the Vietnam War has been designed. But this proposed monument is in great danger of being redesigned. Without the benefit of an open and advertised competition, a sculptor has been selected to intrude into the winning design a trio of soldiers. This intrusion will cut the soul out of what columnist James J. Kilpatrick has predicted to be 'the most moving war memorial ever erected.' "

Another outspoken critic of the modifications is *Landscape Architecture* Editor Grady Clay, chairman of the jury for the memorial. He called them "a hell of an intrusion," saying Lin's design "ought to be built and judged. Let the public see what a great work of beauty it is. Once that has happened, I think the public would be in outrage that anything could be foisted on it."

Allen Freeman



Navy Memorial Arch Rejected; Western Plaza Models Revived

The National Capital Planning Commission last month rejected the proposed Navy memorial arch/bandshell for a site on the north side of Pennsylvania Avenue in Washington, D.C., calling it a "huge elevator building" that is inappropriate for the location. Meanwhile, one of the original ideas for the Pennsylvania Avenue's Western Plaza, designed by Venturi, Rauch & Scott Brown and George Patton, is being reconsidered—a 22-foot-high model of the Capitol and a smaller model of the White House set on the plaza's paved terrace.

NCPC's vote on the arch came two weeks early, and the plan was rejected almost unanimously. The proposed 112-foot-high "Arc de Triomphe" had been approved by the Pennsylvania Avenue Development Corporation and in concept by the District of Columbia Fine Arts Commission, although the latter group suggested that the "relative proportions of the arch and its specific architectural treatment require study." Approval from all three groups was necessary for construction to begin.

The proposal would have placed the arch on Pennsylvania Avenue's Market Square, which is across from the National Archives and at the foot of the Eighth Street corridor. To accommodate the military band concerts, acoustical panels would have dropped from within the arch to form a backdrop. The structure would have also contained a small Navy museum and office and storage space for the U.S. Navy band. Fountains and an underground theater were also proposed for the Navy Memorial Foundation's project. The architect was the New York City firm of Conklin Rossant.

NCPC's opposition to the proposal centered around its scale, the "destruction" of vistas, and "incompatability" of its dual functions. As for scale, the commission argued that it would overpower Market Square and compete with the National Archives facade. The commission thought the arch would "destroy the vista on the Eighth Street axis" between the Archives from the Portrait Gallery and would "interrupt and obscure the visual and symbolic axial relationship" of that area, which it called "major elements of the L'Enfant plan." It also thought it would "diminish the vistas along Pennsylvania Avenue because of its awkward relationship to the avenue involving oblique views of the freestanding buildings in approaches from both directions."

The commission also questioned if it was appropriate to place a "triumphal Roman arch through which processions traditionally pass" at the dead-end of a street "within 55 feet of and at an oblique angle to the nation's main processional avenue."

However, the commission did endorse the concept of an "appropriately scaled memorial," and directed its staff to work with PADC and the Navy Foundation to develop one for Market Square or another site.

During the months preceding NCPC's vote, a verbal battle ensued between opponents and supporters of the proposed arch. Directors of the Smithsonian Institution, the National Portrait Gallery, and the National Museum of American Art (which is housed in the Portrait Gallery) objected to the disruption of the vistas and the "excessive scale" of the arch. Rep. John F. Seiberling (D.-Ohio), chairman of the House subcommittee on public lands and national parks, writing of the subcommittee's opposition, said that "a monumental arch at this location would be extremely detrimental to the revitalization of Pennsylvania Avenue as

envisioned by the Congress in approving the Pennsylvania Avenue Development Corporation development plan of 1974."

Among other groups expressing opposition were the Commission of 100 on the Federal City, the Joint Committee on Landmarks, Don't Tear It Down, the Dupont Conservancy. A number of architects voiced their dissent. In a joint letter, Washington architects Peter Blake, FAIA, Hugh Newell Jacobsen, FAIA, Joseph R. Passonneau, FAIA, Cloethiel Woodard Smith, FAIA, and John Wiebenson said that the arch would "badly obscure the National Archives, impede views, destroy the historic shape and size of Market Square, and require $10 million worth of land to provide an audience area."

However, Philip Johnson, FAIA, wrote that the "classical style" of the arch "is most fitting with the old buildings in the neighborhood."

Meanwhile, reconsideration of placing models of the Capitol and White House on Western Plaza was initiated by PADC. If approved by PADC, the Fine Arts Commission, and NCPC, the models would be built in stone and placed at their appropriate places on L'Enfant's map of Washington, which is inscribed on the plaza's flat terrace. The third component of the original design by Venturi, Rauch & Scott Brown and George Patton—two 85-foot-high stone pylons that would frame the view down Pennsylvania Avenue toward the Capitol—is not being reconsidered at this time.

For a few days in June, plywood models were placed on the plaza as a "test" of their appearance. Tourists snapped photographs of the intriguing view of the model of the Capitol in the foreground and the real thing in the distance.

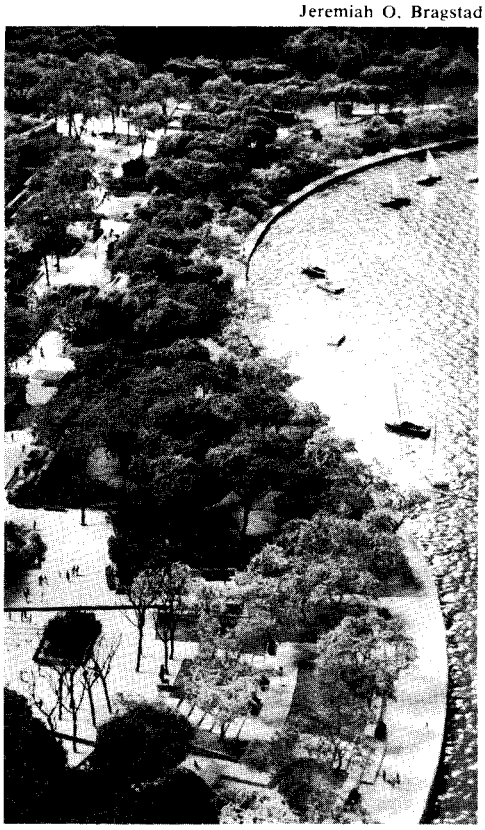
Halprin's FDR Memorial Design Gains Congressional Approval

The House of Representatives last month approved Lawrence Halprin's design for a garden wall memorial to President Franklin Roosevelt, to be built at the Tidal Basin in Washington, D.C. The Senate cleared the measure in March.

Halprin's design (above) calls for a 14-foot-high wall to wind along the cherry trees on the edge of the Tidal Basin, near the Jefferson Memorial. The area along the 800-foot-long wall would be landscaped with gardens, terraces, pools, waterfalls, and sculpture. This version is estimated to cost $28 million. An earlier design by Halprin, proposed in 1977 and priced at $50 million, comprised 1,200 feet of wall and a visitors' center.

The new design has been approved by Washington's Fine Arts Committee, and no opposition is expected from the National Capital Planning Commission,

Jeremiah O. Bragstad



which has reviewed but not yet voted on the scaled-down version.

The history of a memorial to President Roosevelt began in 1955 when Congress created a memorial commission. A national competition was conducted, and first place was won by architects William F. Pedersen and Bradford S. Tilney, whose design called for eight white steles, the highest reaching 165 feet, bearing quotations of Roosevelt's writings. After plans for this memorial failed to materialize, Marcel Breuer was asked in 1966 to develop a new concept, which was accepted by the memorial committee and the Roosevelt family but rejected by the Fine Arts Commission.

Halprin's earlier design for a larger version was criticized by then-Secretary of the Interior Cecil Andrus as too expensive to build and maintain. Congress took no action on that proposal, as it had similarly failed to authorize the Pedersen-Tilney and Breuer designs.

Two Versions of Policy Report Elicit Ire of Urban Interests

The Reagan Administration's first urban policy statement, issued last month, contains the same basic message as the draft version that provoked fury from the nation's big-city mayors in June. The message: Cities must rely more on the private sector and less on federal aid.

But the language of the final report is less inflammatory. For instance, the draft stated: "Today's cities are not exempt from . . . natural processes, and the fed-

continued on page 13

From the Kimbell Museum to the kitchen, Naturalite is the Skylight source.

Skylights are playing an increasingly important role in today's energy conservation efforts. In summer, skylights reduce energy costs by lowering electric lighting heat gain, thus diminishing air-conditioning loads. In winter, skylights displace some of the need for electric lighting and admit free solar heat.

For **every** skylight application, Naturalite is your single source supplier.

Naturalite manufactures a complete line of premium quality standard skylights, as well as custom products of virtually any size and configuration. The award-winning Kimbell Museum is one example of Naturalite's custom skylight capabilities.

To discuss how Naturalite skylights will play an important role in your project's energy efficiency, call collect or write: Mr. James J. Wozniak, V.P.—Arch. Design, Naturalite, Inc., P.O. Box 28636, Dallas, TX 75228, (214) 278-1354.

NATURALITE®, INC.

America's largest manufacturer of skylights.

Circle 57 on information card

Government *from page 11*

eral government cannot be the life-support system for all urban communities. Cities are not guaranteed eternal life." The corresponding section in the final report, as is whole document, is more succinct and soothing, offering such phrases as: ". . . the Administration recognizes that many urban leaders have already taken responsibility for directing their own affairs, that they have learned from examples of successful urban strategies of others, and that they are increasingly aware of opportunities for using private institutions in place of federal programs, regulations, and taxes." And cut from the report is the draft's statement that federal aid has transformed mayors from "bold leaders of self-reliant cities to wily stalkers of federal funds."

Both the substance and tone of the draft —first excerpted in a *New York Times* article and then distributed at the U.S. Conference of Mayors' annual meeting in Minneapolis—provoked the nation's big-city mayors into a round of denunciation. "Even as a draft statement it shows the kind of mentality we are dealing with," said San Francisco Mayor Dianne Feinstein, and the mayors passed a resolution urging President Reagan to reject the draft's "philosophy, approach, and contents." An Administration assistant disavowed the draft, which eminated from the office of E. A. Savas, HUD assistant secretary for policy development and research.

The final version was presented last month for hearings before the Joint Economic Committee of Congress, chaired by Representative Henry Reuss (D.-Wis.). A report is required every two years.

A major section of the report is entitled "Restoring Balance in Our Federal System of Government." It quotes Reagan's State of the Union address, citing the "principles" of "the President's federalism initiative" that would shift responsibilities from the "overloaded" federal government to state and local entities. "The Reagan Administration intends to devolve the maximum feasible responsibility for urban matters to the states, and through them, to their local governments, and to limit federal government responsibilities to those matters where clear national interest is at stake," concludes the report.

Specifically, the federal government would fund Medicaid, but the states would assume total responsibility for the Aid to Families with Dependent Children program, as well as other programs relating to social, health, and nutrition services; transportation; community development and facilities; revenue sharing and technical assistance; education and training; and income assistance. Federal money would be channeled to the states, which would control its use and distribution.

"In the area of housing policy," says the report, "the Administration will rely upon private housing markets to provide sufficient supplies of housing and to remove inadequate units from the housing stock, and it will provide assistance in the form of housing certificates to some households with insufficient income to afford decent housing."

In the hearings before the Reuss committee, several mayors accused the Administration of abdicating federal responsibility. Said Seattle Mayor Charles Smith: "The urban policy report and the 'new federalism' initiative together are an attempt to rationalize some serious budget-cutting with a certain amount of rhetoric." Although the "aggressive, belligerent, nearly insulting language" of the draft had been toned down, Smith continued, the report is still "a blueprint for surrendering America's cities."

Reagan Administration Proposes Increased Sale of Public Lands

If the Reagan Administration's plans for public lands come to fruition, the biggest shift from public to private control will take place since frontier times.

The President's budget proposal for fiscal year 1983 calls for revenues of $1.3 billion to be raised from the sale of federal land to private interests during that year and more than $4 billion a year indefinitely after that. The Administration also plans to accelerate long-term leasing of resources on or under public lands, such as oil and gas tracts, coal, timber.

Secretary of the Interior James Watt has said that national parks and other federal lands with "unique characteristics and national values" would not be put on the market. He suggested that no more than 5 percent of those lands would be sold. But since the government owns nearly 750 million acres, that would mean a sale of 35 million acres.

Critics of these plans maintain that the result will be the sale of the "legacy of future generations" of Americans for short-term economic and political gains. They contend that the plans ignore uses and values other than development, such as recreation, wildlife protection, maintenance of biological diversity, watershed protection, and the beauty and solitude of natural areas. And, too, they say this rapid transfer of public property to private control will prevent the government from receiving fair prices for the property.

Among the supporters are private industries who would benefit economically and those arguing that the government is less competent than private concerns to manage a large-scale land program.

News continued on page 15

Electric excitement.

The Ontario Hydro Building in Toronto never looks quite the same.

That's because the entire surface of its upper floors is curtained in LOF glass with Vari-Tran® coating. The mirrorlike finish of its curvilinear facade reflects constantly changing images of nearby buildings, street traffic and Mother Nature's sky.

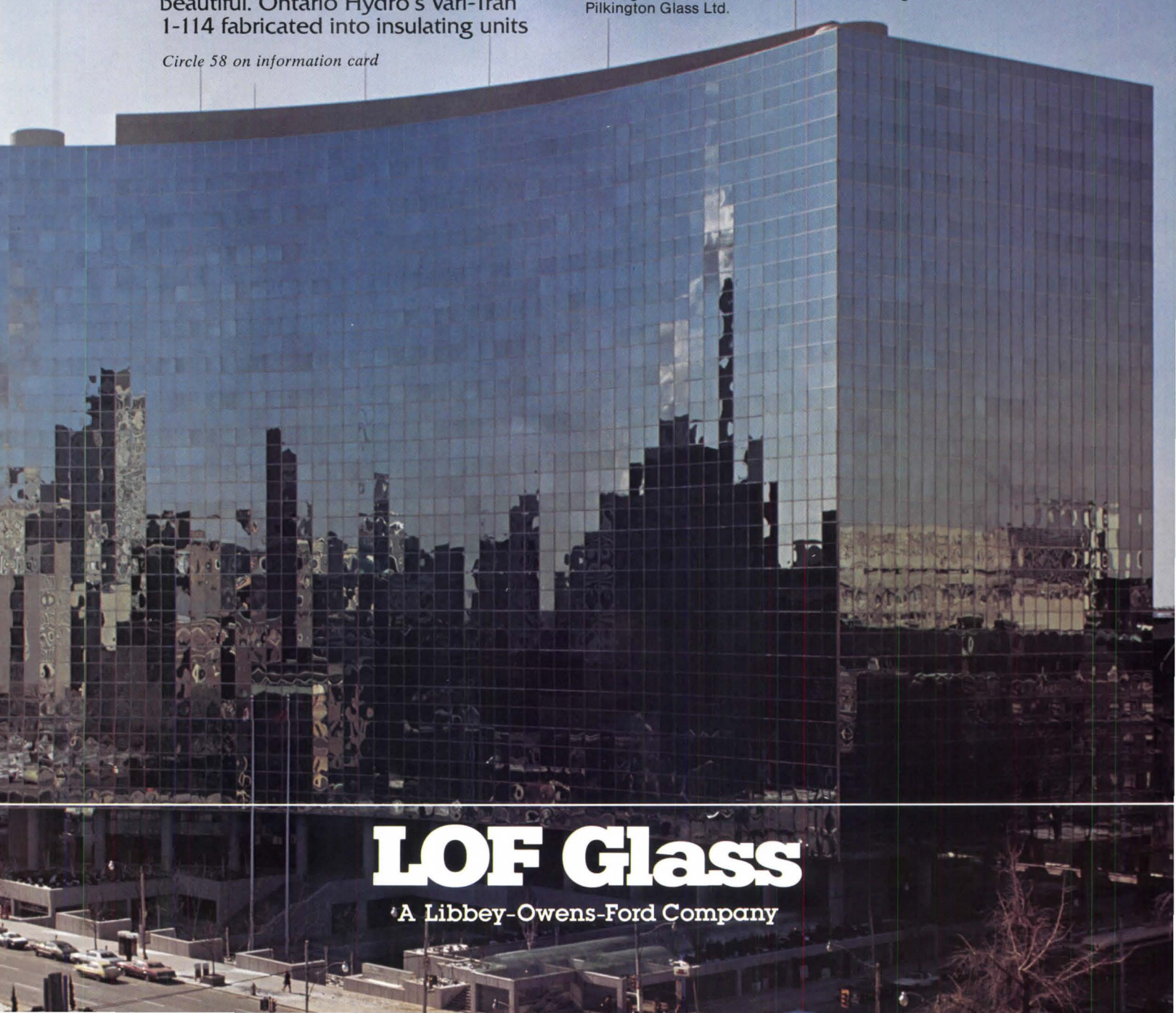
Architects everywhere are relying on the unique aesthetics of Vari-Tran glass to add architectural interest and excitement to all sizes and types of building design. It's a cost-conscious, energy-efficient way of making your building dramatically stand out from its neighbors.

But Vari-Tran is much more than beautiful. Ontario Hydro's Vari-Tran 1-114 fabricated into insulating units combines the advantages of heat reflection with insulating glass to make year-round climate control far easier. Air conditioning costs are reduced. The building has no standard heating system. Instead, heat energy generated by lights, office equipment and people is recycled throughout the building to maintain comfort.

If you would like to know more about the beauties of Vari-Tran glass, write to Greg Oehlers, Libbey-Owens-Ford Company, 811 Madison Avenue, P.O. Box 799, Toledo, OH 43695.

Building: Hydro Place, Toronto, Ontario
Owner: Canada Square Corporation
Consulting Architects: K. H. Candy, Chief Architect—Ontario Hydro, and Adamson Assoc., Toronto, Ontario
Architect: K. R. Cooper, Toronto, Ontario
Glazing contractor and fabricator of insulating units: Pilkington Glass Ltd.

Circle 58 on information card



LOF Glass

A Libbey-Owens-Ford Company

Government *from page 13*

Reagan Ordered to Release Energy Conservation Funds

A U.S. District Court in New York has directed the Reagan Administration to release the $21.85 million appropriated for fiscal year '82 for the solar and energy conservation bank. The action is the result of a lawsuit filed in April by a coalition of organizations, cities, and individuals alleging that the Administration has violated congressional intent by not distributing the funds.

The bank was created by Congress under the Energy Security Act passed during the Carter Administration to help homeowners and commercial operations finance solar and conservation expenditures. The bank was authorized to subsidize 20 to 60 percent of financing for solar or conservation improvements and was also permitted to issue direct grants to lower-income persons for up to 50 percent of conservation projects. During Carter's tenure, advisory members were appointed, staff was maintained to supervise the bank, and regulations were approved by Congress.

The Reagan Administration had requested in 1981 that all funds for the bank be rescinded, and Congress rescinded all but $250,000. However, in the Omnibus Budget Reconciliation Act of 1981, Congress authorized future bank appropriations to a maximum of $25 million each for FY '82, FY '83, and FY '84.

After the lawsuit was filed in April, the Office of Management and Budget released the funds to HUD, but the plaintiffs in mid-May filed a motion asking the court to order HUD to issue the regulations, to hire appropriate staff, and to distribute the funds during the remainder of FY '82.

In ruling on the case, U.S. District Judge Charles Haight ruled that the "officials at HUD could have done more than they did to lay the groundwork for the implementation of the Act," and ordered them to "implement the Act" and "appropriate the funds to qualified applicants as expeditiously as good faith efforts may permit." Although the judge did not set a specific date for distribution of all funds, he did require that HUD submit a status report by Sept. 2.

A spokesman for the Solar Lobby, one of the plaintiffs, called the decision a "far-reaching legal precedent." He said the decision suggests that "the congressional command on how to spend funds must be followed. The President and his cabinet cannot stall domestic programs that they do not like." Other members of the coalition included Representatives Steward McKinney (R.-Conn.), William Green (R.-N.Y.), Richard Ottinger (D.-N.Y.), Stephen Neal (D.-N.C.), and Mike Lowry (D.-Wash.); the cities of Philadelphia and St. Paul, Minn.; New York State; the National Resources Defense Council; the National League of Women Voters; the National Audubon Society; NYPIRG/Citizens Alliance; the National Association of Solar Contractors; and solar bank advisory members Paul Sullivan, Joseph Honick, and Harry Schwartz. The defendants were President Reagan, David Stockman, and cabinet secretaries Samuel R. Pierce Jr., James B. Edwards Jr., Donald T. Regan, John R. Block, and Malcolm Baldwin. The judge dismissed Stockman as a defendant since OMB has released the funds to HUD.

Mortgage Aid Bill Vetoed

Prospects of federal aid for the ailing housing industry this year were dimmed when President Reagan vetoed in late June an "urgent" $8.9 billion supplemental appropriations bill that included $3 billion for mortgage subsidies. The House upheld the veto.

The mortgage program would have offered interest-rate subsidies of 4 percentage points on mortgages for newly built homes for moderate-income families. A mortgage rate of no lower than 11 percent could have been offered, and the subsidy would have lasted five years. The subsidy was to be repaid when the house was sold or refinanced.

Proponents of the program, led by Sen. Richard G. Lugar (R.-Ind.), the author of the original mortgage subsidy bill, argued that it would have provided the stimulus needed to pull the country out of the recession. Lugar predicted that the federal aid would have spurred construction of an estimated 200,000 new houses and would have led to 500,000 new jobs in the building trades and related industries, such as lumber, insulation, furniture, and appliance manufacturing.

In his June 24 veto message, President Reagan argued that the emergency housing program would do little to help the industry, while worsening the overall fiscal position of the federal government. "We will not promote a housing recovery by going even deeper in debt," Reagan said. "More red ink spending will only make the housing recession worse." Reagan also said that he "cannot justify singling out one industry for special relief."

One argument Reagan used in vetoing the bill was that housing starts increased by 22 percent in May and were 27 percent above their October low. Proponents of the measure insist that the housing market is still in its worst slump since World War II. They now concede that it is unlikely that Congress will pass a mortgage subsidy program this year.

News continued on page 16

'The Prepared Professional' Dissected at Aspen Conference

This year's International Design Conference in Aspen proved to be an intellectual mountain range, full of high highs and low lows.

From the high points, about 900 conferees enjoyed enlightening views. In at least one case, the view was inspirational. In the low places, they experienced dense, dark intellectual thickets where they got quite lost.

Conference chairman George Nelson, FAIA, used the theme, "The Prepared Professional," to assemble speakers ranging from the chief executive officer of a major company (he provided the inspirational high) to an M.I.T. professor who is one of the nation's experts on artificial intelligence (he vanished in an intellectual thicket right before the audience's eyes).

It was a high risk conference because Nelson—and his wife Jacqueline, who was program director—chose speakers from diverse fields, many of which were at best peripheral to design. In a few cases it took some imaginative mental gymnastics to make any connection between a speaker and the design field.

But the diversity provided a welcome and useful escape from that all-too-frequent conference bugaboo: the self-serving intellectual incest and navel contemplation that can result from members of any given profession talking to and about each other.

Besides speakers fitting into the very broad limits of the conference theme, Nelson said his criteria for picking participants were that they be brilliant and entertaining. "We've got here a megatonnage of brain power," he said on the first day of meetings, and subsequent days proved him to be right.

Overall, an air of restrained optimism enveloped the conference, combining with the spirit of adventure and the sense of freedom that seem to be as much a part of the annual event as the extraordinary natural beauty of its location in the Colorado Rockies.

Architecture's biggest moment in Aspen this year came during a panel discussion moderated by Jane Thompson, vice president of the architecture firm Benjamin Thompson & Associates in Cambridge, Mass.

"In architecture," Thompson said, "there seems to be an emerging professional schizophrenia or identity crisis in which the schools and practitioners hold quite different ideas of who they are and what they stand for." In the past five years, she said, practitioners have had to "unlearn" students, "reversing attitudes, habits and mannerisms that were engendered by the schools."

Thompson got support from her panel: architect Moshe Safdie of Boston, sociologist Robert Gutman who teaches in the architecture department at Princeton University and James Wines, president of SITE Projects, Inc. in New York City.

Safdie said students come out of architecture schools "with a bag of tricks, you know, mannerisms to exhaust anyone, and it takes a tremendous amount of energy to actually undo the whole business."

Thompson focused much of her criticism on the studio system of teaching design. There is an unrealistic, one-to-one

"father-child" relationship between design studio students and critics, she said. And there is a fixed program that has none of the real world "give and take" between client and designer.

Most importantly, Thompson said, in a design studio "the work of the student is guarded from the eyes of others, and personal identity is the most important thing . . . so what you have is a mood of competitiveness and sibling rivalry set up rather than one of constructive teamwork and collaboration."

Among her other criticisms were:

- "The craft of architecture is nowhere present, even as an esthetic concern. The quality of structural and finish materials, the interplay of material and form, do not seem to arise as part of esthetic expression."
- Students attack problems unsystematically, usually defining them only in the process of solving them.
- Design studios foster a lack of intellectual discipline as indicated by their failure to test the validity of student ideas through rational process, or to distinguish between objective needs and subjective interpretation, and the total lack of continuity between any given studio experience and work in other studios or courses.

Edward J. Logue, director of the South Bronx Development Office, was a questioner at the panel session and had this to say about architects:

"The best architects are only as good as their clients . . . in their professional relationships I have frequently found architects to lack courage . . . I've found them extremely unwilling to turn down work (even if they don't approve of the project) . . . Nonetheless, I've found architects much more fun over 25 years or more than lawyers (Logue is a lawyer), and in my next incarnation that's what I would prefer to be."

Surprisingly, the inspirational high point of the conference was a talk by Max De Pree, head of the Herman Miller furniture company.

In an extraordinarily personal talk about the nature of his company (and, by extension, attitudes that can be developed within nearly all companies), De Pree emphasized the importance of respecting employees, working for the future rather than for immediate gain, and generally bestowing upon a company the kind of love and care usually reserved for special friends and family members.

De Pree said he wants people to look at the Herman Miller organization and say, "Those folks are a gift to the spirit."

His sincere, unpretentious, almost homey presentation, coupled with its idealistic, optimistic message, struck a resonant chord in the audience. De Pree's talk remains one of the most memorable hours of the conference. *continued on page 18*

Design *from page 17*

Low point of the six-day event was a highly touted "debate" between Hubert Dreyfus, philosophy professor at the University of California at Berkeley, and Marvin Minsky, Donner professor of science at M.I.T.

Dreyfus for years has taken the position that computers can't be "taught" to reason the way people do, while Minsky has said he sees the brain as a machine and, since computers are also machines, they can be taught to reason and have common sense.

Both men are internationally respected experts in their fields. Before this year's conference, they had last met publicly some 17 years ago while in the audience of a meeting where they got into an argument that Minsky said "sort of took over the show."

Because of the high regard in which the two professors are held, since they have disagreed so vehemently, and because they had not met publicly in nearly two decades, their confrontation was expected to be informative, fascinating, and perhaps on the hot and heavy side.

Instead, it was just heavy.

Computers and computer technology received considerable recognition at the design conference. The most encompassing view was presented by Nicholas Negroponte, professor of computer graphics in the department of architecture at M.I.T. He currently is on leave to serve as director of the World Center for Personal Computation and Human Resources in Paris.

Negroponte walked to the podium with a sophisticated computer in his hand and a talking, computerized clock tucked in his pocket. He predicted that film will be replaced by electronic video devices, newspapers will only be used for wrapping fish by the end of this century, and electronic books will be developed with which "readers" will be able to confer.

It will be possible, Negroponte said, to read the same book at various levels, depending on one's degree of knowledge and personal goals. He said some computerized books—such as cookbooks—over years of use by a given person will develop a changing program that will anticipate the degree of detail needed by that person, and will not impart unneeded information.

Librarian of Congress Daniel J. Boorstin, speaking about professionalism, said that professional people often fall in the trap of believing a profession exists for the sake of its members. That fallacy is reinforced by professional organizations, which "fragment" professions into highly specialized areas that become self concerned, Boorstin said.

"Amateurs become professionals, and professionals tend to become bureaucrats," he said. Boorstin cited the motto of a French bureaucrat—"never do anything for the first time"—and made a plea for the audience to promote an "amateur spirit" that would result in a "search for lost innocence."

"It takes special talents to overcome the limitations of professionalism and rise to the status of an amateur," the librarian of Congress said.

James Ogilvy, senior social scientist at Standard Research International, ended the conference with a compelling talk about options for the future. The author of *Many Dimensional Man,* and coauthor of *Seven Tomorrows: Toward a Voluntary History,* Ogilvy outlined three scenarios, each depicting a different political-social situation.

"Solid society" is based on an authoritative, hierarchical political system that emphasizes absolute values, Ogilvy said. "Gaseous society" features political anarchy and a nihilistic approach to values. "Liquid society" has different centers of control with no absolute leadership (Ogilvy compared it to the children's game of paper-rock-scissors) and features an effective yet flexible value system.

Ogilvy said we are moving from a solid society through a gaseous one toward a liquid society. He emphasized that his scenarios are not predictions, but "a tool to use to think through some of the things that may happen so you won't get blindsided," either by the present or the future.

The social scientist indicated that there is no certain progression from one scenario to another, and that we have a hand in guiding our own direction into the future.

That future, he said, is "the ultimate design question." *John Dreyfuss*

Dispute Erupts Over Olmsted's Role in Central Park Design

A new controversy over the reputation of Frederick Law Olmsted and his role in the design of Central Park has erupted. It centers around a pamphlet entitled "The Men Who Made Central Park" by M. M. Graff, whose conclusion that Olmsted's role in the park's development is "vastly overblown" is being disputed by Olmsted devotees, among them the Frederick Law Olmsted Foundation and the National Association for Olmsted Parks.

The 42-page booklet, which was originally sent to 8,500 park enthusiasts by the Greensward Foundation, contends that the men who should be credited with the creation of Central Park are William Cullen Bryant, who published editorials in the *New York Evening Post* urging the purchase of the site; Andrew Jackson Downing, a nurseryman, landscape designer, and editor of the magazine *Horticulturists;* Ignaz Pilat, an Austrian plant expert and landscape gardener who selected plants for the parks; Jacob Wery Mould, an architect responsible for many elegant embellishments in the park, such as the Minton tiles on the ceiling of the arcade near the Bethesda Fountain; Samuel Parson Jr., a plant expert who tried to halt the decline of the park under William M. Tweed and his followers; and Calvert Vaux, the British architect and codesigner with Olmsted of Central Park and Brooklyn's Prospect Park.

Graff writes that the eclipse of these men "came about through an unforeseen circumstance: the 35-year-old Frederick Law Olmsted found his ultimate vocation while working on the park site and rose to national fame. The publicity surrounding his later career has overshadowed the gifted men who taught Olmsted his craft. Despite their major contributions to the competition of the first successful venture Olmsted engaged in, they have been denied due credit if indeed they are remembered at all."

Graff relates that in 1857 a competition for the design of the park was initiated to "circumvent the botched plan" of Ebgert Viele, chief engineer of the park. In explaining how Vaux and Olmsted formed a partnership for that competition, Graff refers to a memo by Vaux that is now in the New York Public Library.

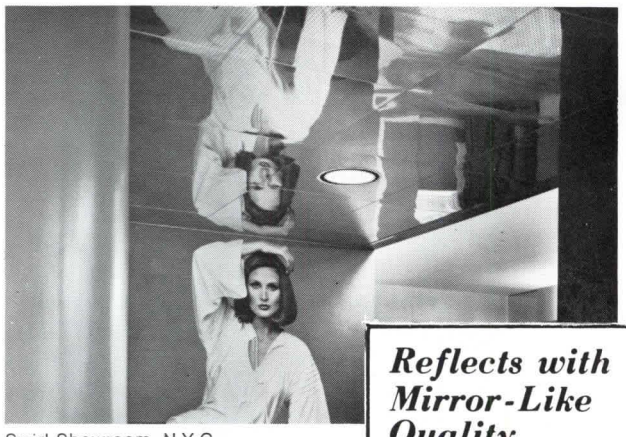
Vaux wrote: "I first met Mr. Olmsted at the house of Mr. Downing [who died in 1852] at Newbourgh and was led to ask him to cooperate in the preparation of a competitive design for Central Park partly because I was interested in Mr. Olmsted's book *Walks & Talks* but mainly because at the particular time his days were spent on the park territory where he was in the city's employ [he was the park's superintendent of labor from 1857-1863]. . . . In this way Mr. Olmsted, without expense to himself or to me, was so situated that he could bring and did bring to my house where the study was prepared accurate observations in regard to the actual topography that was not clearly defined in the survey furnished to competitors by the board."

Graff acknowledges that "the question of the role of each man is the subject of endless partisan argument, no less heated for being essentially unsolvable." But she maintains that Vaux was the principal designer of the park. Of the winning design by Vaux and Olmsted, which was called "Greensward," Graff says: "This spaciousness and the flowing curves of drives and walks probably reflect the professional training Vaux received under Downing. The fact that the plan was so neatly tailored to the site that it required little alteration in the building was to Olmsted's credit." She also quotes Samuel Parsons Jr., who retired in 1911, as saying

continued on page 20

SPECULAR TILE *"Living" Ceiling*

HIGHLY POLISHED FLUSH ALUMINUM PANELS HUNG FROM SNAP-IN OR LAY-IN SUSPENSION SYSTEM



Swirl Showroom, N.Y.C.
Archt: Gwathmey & Siegel, N.Y.C.

Reflects with Mirror-Like Quality

- Lively dramatic ceiling and wall treatment.
- Mirrors your merchandise, fixtures and features.
- Creates illusion of spaciousness without adding an extra inch.

Available direct from mnfr.

UNPERFORATED FOR UTMOST REFLECTING QUALITIES OR PERFORATED FOR ACOUSTICAL CORRECTION Available in gold or silver

Dramatizes Your Lighting Effects

For sizes, finishes or prices, call or write

Refer to **SWEET'S CATALOG** Section 9.1

SIMPLEX CEILING CORP.

SALES OFFICE: 50 HARRISON ST., HOBOKEN, N.J. 07030 • PHONE (212) 349-1890
DIRECT PHONE TO FACTORY: (201) 864-6630

Sales "Reps" needed—Write to Simplex for information

Circle 63 on information card

Are you on the mailing list?

Quarterly newsletter features:

- interviews with people in industry
- articles on new construction
- articles on renovation
- announcements

To receive your copy write:
Thiokol/Specialty Chemicals Division
Mkt. Comm., Dept. AIA
Box 8296, Trenton, NJ 08650

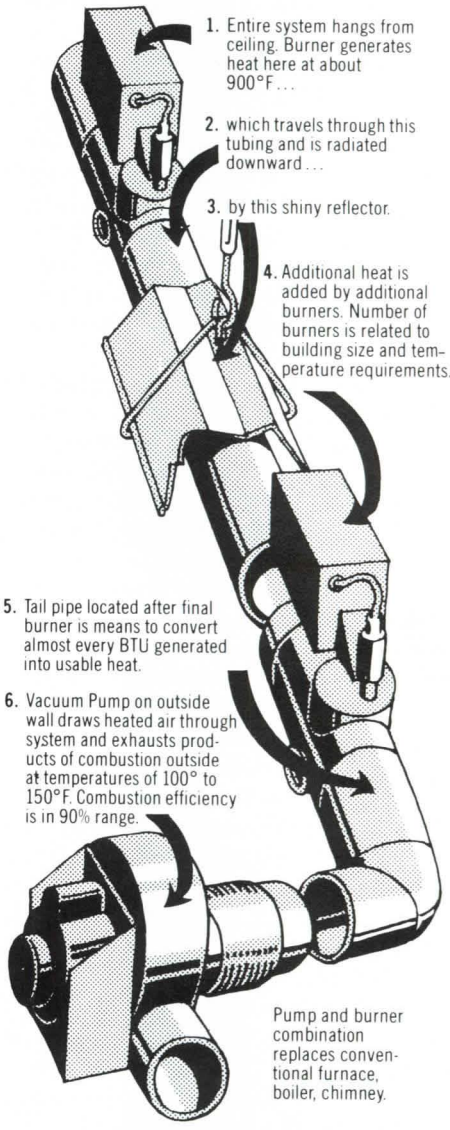
Thiokol / SPECIALTY CHEMICALS DIVISION

Circle 64 on information card

FUEL SAVINGS START AT THE TOP!

CO-RAY-VAC® HEATING SYSTEM

So energy efficient it cuts fuel usage up to 50% and more!



1. Entire system hangs from ceiling. Burner generates heat here at about 900°F...
2. which travels through this tubing and is radiated downward...
3. by this shiny reflector.
4. Additional heat is added by additional burners. Number of burners is related to building size and temperature requirements.
5. Tail pipe located after final burner is means to convert almost every BTU generated into usable heat.
6. Vacuum Pump on outside wall draws heated air through system and exhausts products of combustion outside at temperatures of 100° to 150°F. Combustion efficiency is in 90% range.

Pump and burner combination replaces conventional furnace, boiler, chimney.

- **Gas-fired system ideal retrofit for industrial and commercial buildings.**
- **Warms people and objects at floor level with even, draftless heat.**
- **Life-cycle cost analysis prepared to tell you costs, pay-back period and operational costs.**
- **Write for specific data on CO-RAY-VAC Heat in**
  - **Factories**
  - **Schools**
  - **Aircraft Hangars**
  - **Fire Stations**
  - **Warehouses**
  - **General use**

CO-RAY-VAC... The original radiant infrared heating system proved in thousands of buildings since 1962.

For the name of the Co-Ray-Vac Sales Representative nearest you, phone toll-free number **[800-828-7450.]**

Roberts-Gordon

Appliance Corporation
Subsidiary of A.J. Industries, Inc.
44 Central Ave., Buffalo, N.Y. 14206
Phone 716/892-8400

AIA-3

Circle 65 on information card

Design *from page 18*

of Vaux: "He, with Mr. Olmsted, perhaps he, even more than Mr. Olmsted, had in my opinion created Central Park. Mr. Olmsted was a leader of men, a man of magnetism and charm, a literary genius, but hardly the creative artist that Mr. Vaux was."

Some admirers of Olmsted agree that a case can be made that Vaux was indeed *the principal* designer of the park. However, what may have piqued Olmsted devotees most is Graff's personal attack on Olmsted. She writes: "Horticulture is a profession in which no unqualified person ever hesitates to meddle. Olmsted was no exception. Central Park still suffers from the effects of his ignorance of the nature and habits of plant material." Graff also writes of Olmsted's "unusually prolonged adolescence," and that "like Napoleon" he "held the firm conviction that he was destined for greatness."

However, other Olmsted enthusiasts say that Graff's account is inaccurate. Alexander W. Allport, executive director of the National Association for Olmsted Parks, says that the pamphlet is "so full of inaccuracies that to try to reply to it point by point would take more time than it is worth."

Such a point by point dissection was undertaken by Charles Farrell, a "practicing scholar" for the Frederick Law Olmsted Association. In his 20-page, single-spaced rebuttal, Farrell writes, "Mrs. Graff has written a completely tendentious tract riddled with every kind of factual error that should never have been put into print."

Farrell disputes Graff's proposition that Olmsted was a "shiftless failure who fell into the park by chance and subsequently had to be taught his business by Vaux and others." Farrell argues that Olmsted "was an experienced farmer, a first-rate journalist with a particularly good eye for agriculture, a dedicated student of Capability Brown, of Humphrey Repton, of Sir Uvedale Price, and of William Gilpin, and personally acquainted with many of the great parks of England." That Olmsted "had to be taught the rudiments of park planning by Vaux, who was primarily an architect and only secondly a landscape gardener, is one that is completely proposterous. In fact, we know, from Vaux's own statement to Olmsted, that if Olmsted had not come into the park project with him, he would never have been involved in the park."

As to Graff's claim that all credit for the park has been given to Olmsted, Farrell suggests that Graff "deliberately seeks to misrepresent the truth," by ignoring other accounts that give due credit to Vaux, Mould, Pilat, and the others.

Although Olmsted's role in the park's development is essentially a dispute among scholars, the controversy comes when the original plan for the park is a matter of some public debate. Currently, the New York City Parks Department is conducting an extensive 10-year restoration of the park based on the original design. Aspects of the project are being protested, such as cutting down trees to recapture vistas originally planned by Olmsted and Vaux.

Courtesy of Library of Congress

Practice

NCARB Adopts Uniform Exam, Upholds Degree Requirement

Delegates to the National Council of Architectural Registration Boards' annual meeting in late June voted for a "uniform" registration examination to be administered nationally beginning in June 1983. They also reaffirmed the NCARB requirement that all candidates for certification shall hold a professional degree as of July 1984.

The vote on the examination in effect directs NCARB to complete work begun two years ago on the development of a single examination for architectural registration candidates in all 50 states, plus the District of Columbia, Guam, Puerto Rico, and the Virgin Islands. The need for such an examination was recommended by a two-year study concluding that NCARB's examination is "reasonably related to the knowledge required in practicing architecture to protect the public health, safety, and welfare" (see Oct. '81, page 40).

However, the validation study also concluded that the examination should be improved in content and method to result in greater benefits to public health, safety, and welfare; that implementation of improvements should begin immediately; and that "it is essential" that a program be established for continual evaluation and improvement of the examination.

In the meantime, NCARB's examinations coordinating council has been testing possible examination methods. The council told the delegates that the new examination may last 32 hours, with 16 hours on site planning and building design.

The requirement that all candidates for NCARB certification hold a professional degree from an accredited architectural program was adopted in 1980. Resolutions and amendments proposed at the annual meeting ranged from rescinding the degree requirement to an NCARB board proposal to develop an "education alternative" for "applicants who are able to demonstrate the educational qualifications equal to those of accredited degree holders." In the end, the delegates upheld the requirement.

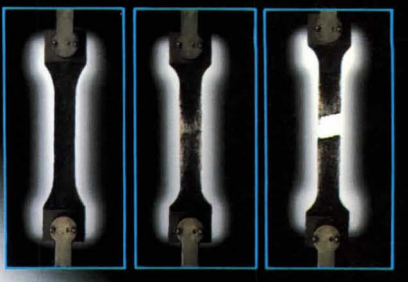
(At AIA's '81 convention in Minneapolis, delegates passed a resolution rejecting the degree requirement. AIA supports the requirement of a professional degree from an accredited program, or *its equivalent,* for NCARB registration, see June '81, page 9.)

In other action, the delegates:

- approved an amendment to NCARB guidelines on rules of conduct so that there must be a registered architect in resident and regularly employed in a firm's branch offices;
- passed an amendment to NCARB's legislative guidelines suggesting wording that will reflect the new registration requirements;
- passed a second amendment to the

continued on page 68

WE STRETCHED OUR PRODUCT TO PROVE A POINT.

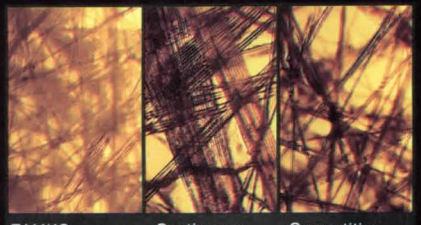


1 Independent Test Report

Recently, we had our TAM-GLASS™ fiberglass roofing felts and three-ply membrane samples tested by Structural Research, Inc., a leading materials testing laboratory.

Though our own tests and customer applications have proven our product to be superior, these new independent test results confirm and quantify our claims.

2 Isotropic Felt Quality



TAMKO Wet Process | Continuous Strand Process | Competitive Wet Process

As shown in the 20x magnifications above, TAMKO's special wet process uniformly distributes fibers in a 360° multidirectional orientation. This *isotropic* characteristic permitted the TAM-GLASS felts to demonstrate average breaking strength of 57 (lb/in) in *both* the machine and cross-machine directions—29.5% higher than required for Type IV felts.

As further demonstrated in the membrane test, isotropic strength helps the finished membrane to perform more evenly under the stresses encountered in actual use.

3 Membrane Performance

Standard ASTM dogbone samples exhibited three-ply ultimate strength of 246 (lb/in) in the cross-machine, or weakest, direction at 0°F—46 pounds in excess of the 200 (lb/in) NBS suggested minimum.

"TAMKO TAM-GLASS Type IV felts and membrane samples exceeded all applicable ASTM and NBS suggested performance criteria.

"For the felt sampling portion of the test sequence, SRI developed a special microcomputer program to generate a more random sampling than required by ASTM D 146"
Structural Research, Inc.

Ask for your free copy of the Test Report brochure.

TAMKO TAM-GLASS™
FIBERGLASS BUILT-UP ROOFING SYSTEMS

TAMKO Asphalt Products, Inc.
P.O. Box 1404, Joplin, MO 64801
417 624-6644 • TWX 910-774-4521

Circle 62 on information card

Robert Mapplethorpe

Robert Mapplethorpe

Below, the installation at M.I.T.'s Hayden Gallery. Two recent designs in the show were, far left, a 1981 spiral coat by Ronaldus Shamask and, left, a 1982 cape by Yeohlee Teng. A 1938 precursor of such sculptural clothing, bottom, was Charles James' down-filled satin evening jacket.

Herb Engelsberg

The Arts

'Intimate Architecture' Show Highlights Sculptural Clothing

This summer at the Massachusetts Institute of Technology, that infamous hotbed of practicality, there was an exhibit of contemporary clothing design. Let it be quickly noted, however, that it was by no means a costume show, where spectators are meant to gasp at tiaras and brocades. Nor was it a fashion show. Rather it was a show of clothing designs determined by dominant and symbolic forms.

Titled "Intimate Architecture," the show's concern with such architectural matters as space and structure was clear. As curator Susan Sidlauskas wrote in the accompanying catalog, the eight designers whose work was included have the skills "of builders rather than decorators. The garment is conceived and assembled as a three-dimensional entity, not as a facade for frontal display. As in the paradigms of certain utopian architectural visions, such as those of the Russian constructivists and the Bauhaus, the structural decisions (cut, seams, darts, pleats) compose the decoration."

The designers, who included Giorgio Armani, Krizia, and Claude Montana, were chosen because of a shared orientation, which, according to Sidlauskas, "is their reliance on forms that are deliberately distinguished from the organic curves of human anatomy. This is accomplished not by mannered exaggeration, as with the bustle, wasp waist, or puffed sleeve, but by a geometrizing abstraction with its own justification and integrity."

Courtesy of Harper's Bazaar, © 1938 Hearst Corp.

LCN's new open door policy is as easy as this.

LCN's new Auto-Equalizer™ brings the benefits of barrier-free passage to people who are handicapped, disabled, or elderly.

At the push of a button, the pneumatically-powered Auto-Equalizer gently swings doors open automatically. Doors remain open for up to 30 seconds, allowing people who are handicapped to pass through unimpeded. And Auto-Equalizer does not require the use of warning mats or guardrails.

Auto-Equalizer does all this without sacrificing full door control or full closing power. It operates in both new construction and retrofit applications.

New Auto-Equalizer, for automatic door opening.

To get complete information about the new Auto-Equalizer, send for free information or contact your local LCN representative.

LCN CLOSERS

Part of worldwide Ingersoll-Rand

LCN Closers, Princeton, IL 61356. 815/875-3311, LCN Canada, Mississauga, Ontario L5G 4L5. 416/278-6128

Circle 61 on information card

TAKE TWO TO RELIEVE STRESS.

There's a lot of stress when you get to the top. To the top of your building, that is. Especially on your roofing membrane.

Owens-Corning has a remedy for it: use two layers of insulation instead of one. That's because in a single layer of roof insulation, gaps of up to 3/16 inch can occur between the insulation boards. And these gap locations provide the greatest potential for membrane stress.

The second layer of insulation can contribute to reducing stresses to the membrane and, therefore, to longer roof life. It's installed over the bottom layer, with the joints offset and the bottom layer gaps covered. By eliminating the continuous vertical gaps that extend from the roof deck to the built-up roof in this way, you can reduce membrane stress by as much as 10%.

But double-layer insulation does even more than that. It also increases the energy efficiency of your building. By eliminating continuous vertical joints with double-layer insulation, you'll have less heat loss or gain than you would with just a single layer. So naturally, you'll save money on heating and cooling your building.

For more information, write B.J.C. Meeks, Owens-Corning Fiberglas Corp., Fiberglas Tower, Toledo, OH 43659.

OWENS/CORNING FIBERGLAS TRADEMARK ®

This issue, whose major articles all are related to AIA gold medalists in one way or another (or two) seems an appropriate time to announce an effort to uncover talent not yet so widely recognized.

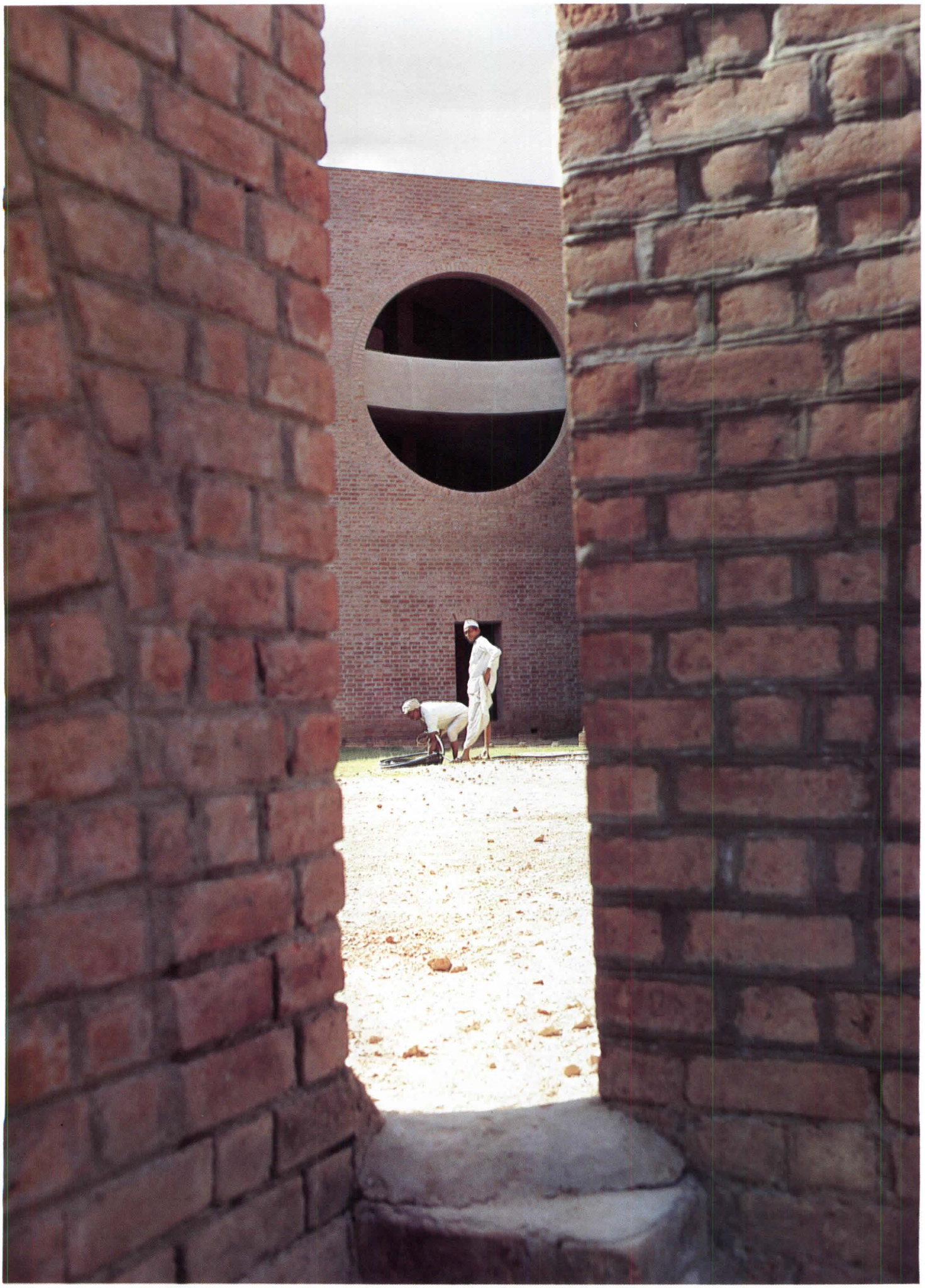
Part of the December issue will be devoted to the works of individuals or firms in the U.S. who have never previously had buildings published in a major American architectural magazine. Submissions of such works are hereby solicited. Deadline for their receipt is Oct. 10.

There is no set form for submissions. Anything that gives us information about the success of a building as a work of architecture is welcome. It must be a built work, not a project, but it can be a renovation or addition.

By major magazines we mean the JOURNAL, *Architectural Record, Progressive Architecture,* and the late *Architectural Forum* and *Architecture Plus.* Having had work published in any other medium (local and regional publications, trade magazines, foreign magazines, etc.) doesn't affect eligibility to appear in the issue.

Nor are individuals ineligible if they previously worked on published buildings for firms not bearing their names.

One often hears, and suspects, that there is a lot of talent out there not represented in the magazines. The December issue will be a test of that hypothesis, and we're mightily curious to see the results. *D.C.*



Mike Yoshida

Above, detail of the Institute of Management, Ahmedabad, India; right, Kahn at work on Wolfson Center, Tel Aviv.

Giurgola on Kahn

Louis Kahn (1901-1974), through a great love of architecture, a lifelong effort, and a few years of intense activity at the end of his life, reintroduced inspirational and spiritual values to an art that had become stereotyped into anonymity and abstractions. His buildings are a luminous testimonial of his beliefs, and, like all great buildings, they challenge time as works of extraordinary beauty.

An immigrant to Philadelphia in 1905 from the small Russian island of Saarama in the Baltic Sea, he was at the same time an immigrant to a new age that slowly had come to recognize the frightening limits of industrialization and technology. A courageous immigrant, he lived his new world intensely, gaining strength from an isolation that made him free from contaminations. He avoided groups and denied himself the hectic consolation of being part of a movement. He was an individual doing his work, and, like all people whose work is outstanding, he was single-minded and quite separate. This separation had one exception, however; he reached for inspiration both in the reality of building and in contacts with the young, saying frequently "the university is my chapel . . .; the profession is in the marketplace." No master has been more of a teacher; no one has been more available to his students.

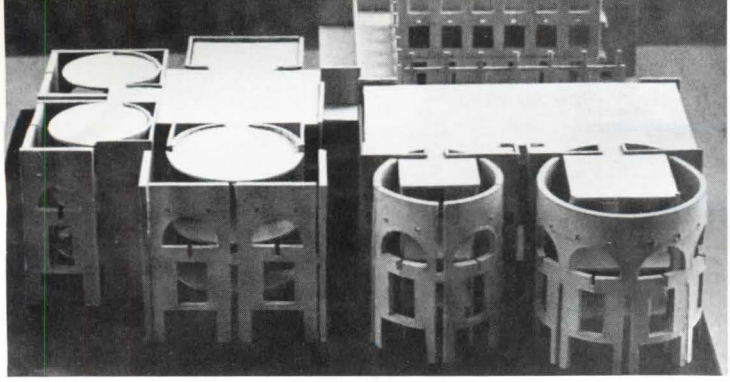
In physical appearance, Kahn was a singular person: small, with his face badly scarred from an accident during early childhood. He possessed a temperament full of passion, of enthusiasm for his work, and of devotion to a personal discipline focused upon the search for truth. In this search he was uncompromising, which made him a very religious man. He was superbly Jewish in his fundamentalism, in his concept of order, and in his questioning mind. He was often simply but smartly dressed in a bow tie and blazer that he never took off even on the hottest days or in the most tumultuous meeting. His speech was fast, sprinkled with dry humor, his relatively high-pitched voice surprisingly clear when speaking to large groups. He spoke intensely and expressively, communicating by means of parallels and metaphors that could go on at great length, but he was never verbose.

After the period of 1948 until 1957, in which he served as chief critic in architectural design and professor of architecture at Yale University, Kahn divided his time between his office on Walnut Street in Philadelphia and the school of architecture at the University of Pennsylvania, except for the traveling that became extensive in his later years. His real friends were his students, the only ones really capable of questioning him, of arousing his interest. He was always ready to defend their work in review sessions, to see their potential, and to reveal hidden talent. Friends among his colleagues were few, even though he greatly enjoyed camaraderie and good parties, where he relished being at the center of attention. In every sense, Louis Kahn loved life. After school, on weekdays, a small group of teachers frequently met at an apartment near the school of architecture belonging to Robert Le Ricolais, himself an exceptionally inspiring teacher and an "inventor" of structures, whose thoughts fascinated Kahn. In those gatherings, as in his reviews of students' work, Kahn sat in long reflective periods of silence, which he punctuated with remarks that gradually mounted to a passionate level.

In practice, Louis Kahn was interested in any architectural challenge, and he was prone to accept almost any commission. But he was very conscious of avoiding commercialism and spec-

Joan Ruggles

Editor's note: This article was written by Romaldo Giurgola, FAIA, with the assistance of Pamille I. Berg for the *Macmillan Encyclopedia of Architects,* to be published this fall. The encyclopedia will be a four volume work of some 2,000 pages containing signed biographies of more than 2,400 architects. Editor in chief is Adolf K. Placzek, former Avery librarian and professor emeritus at Columbia University. The encyclopedia will sell for $225 if ordered before Nov. 1 and $275 thereafter. Inquiries should be directed to Barbara Wasserman, Macmillan Professional Books Division, 866 Third Ave., New York, N.Y. 10022.



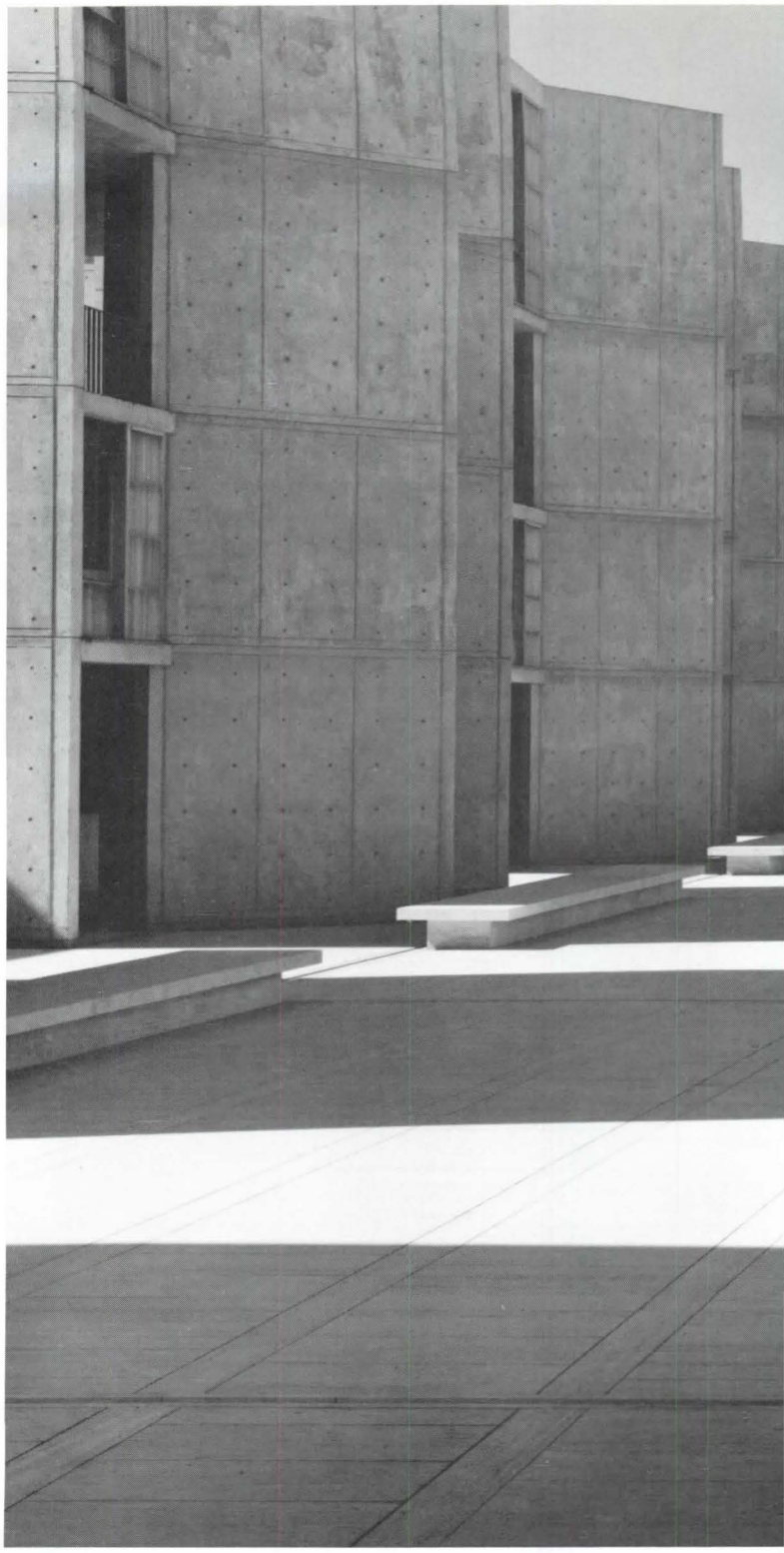
After 'silent' *work*, a growing prominence.

ulative efforts. Of great significance for his thoughts was his contact with India; he maintained a serious admiration for the people he met there. On the other hand, one of his most disappointing experiences was his work from 1962 to 1974 with the Pakistani authorities for the National Assembly of Bangladesh in Dacca. At the dinner given in his honor by the Pakistani ambassador at the United Nations, Kahn did not hesitate in his formal speech to indicate his great distress at the callousness and unresponsiveness of the Pakistani authorities, who were slow in providing payment and who turned to another architect from Japan for a new building in the complex. Such unresponsiveness was one of the causes of the financial indebtedness of his office, a debt which, after his death, could only be resolved with the purchase of his sketches and drawings by the State of Pennsylvania.

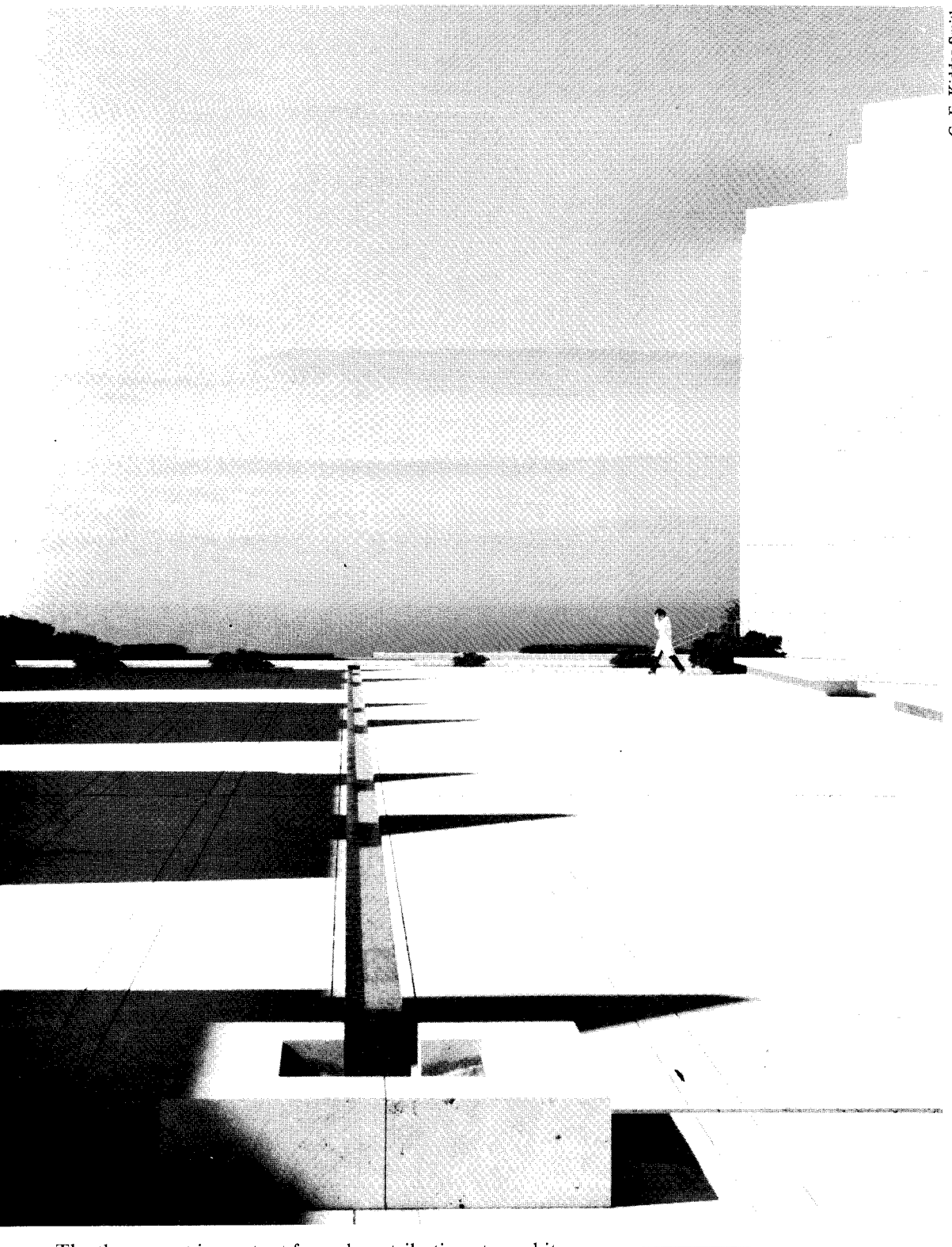
In work Kahn saw the sublimation of human values, and in architecture an uncompromising reflection of them. By his own account, he began making drawings by the age of 3, and continued to be recognized and appreciated for that ability among his young friends throughout his youth. From 1912 through 1920, he was educated at the Central High School and Public Industrial Art School in Philadelphia, winning numerous prizes for his drawings, and he graduated in architecture from the University of Pennsylvania in 1924. During that same year, while working in the office of John Molitor, the city architect, he was appointed chief of design for the Sesquicentennial Exhibition of 1926. After traveling in Europe for the first time in 1928, he worked for a brief period in the office of Paul Cret. In 1935, he went into private practice in Philadelphia, and in 1941 he entered into association with George Howe and shortly afterward with Oscar Stonorov for work on several projects. Both men had an influence on the formation of Kahn's convictions. George Howe in particular introduced Kahn to a refined and elegant version of the modern movement. With Stonorov, he became involved in the social aspects of architecture, becoming a consultant to the Philadelphia Housing Authority and working on several housing projects with him. During the Depression, Kahn had established friendships with planners such as Clarence S. Stein and Henry Wright, and he also became acquainted with the philosophy of the "greenbelt towns." His involvement in social projects culminated in the Mill Creek Redevelopment project in Philadelphia (1946-1954), developed with Kenneth Day. In total, nearly 30 years were spent by Kahn in what might be called "silent" work.

In the 1950s, Louis Kahn began to emerge as an architect of national prominence. Beginning with an imperfect philosophy, elaborated through experience and expressed aphoristically, he began to develop a coherent theory of architecture that excluded the intransigencies and the abstractions of the International Style, but in many ways remained deeply rooted in the tenets of the modern movement, in fact producing a profound evolution within it. Kahn's memorable statement about the distinction between "servant and served space" in architecture can be seen as a form of sublimation of the postulates expressed by the theorists of the modern movement with regard to function.

As Kahn's theories unfolded, even more basic principles were exhibited as being embodied in his architecture. Space acquired an essential architectural role, no longer as a mere result of the assembly of functional elements, but as an entity in itself, actually a tangible element capable of giving order to the architectural complex in a hierarchic system. For Kahn, the two concepts of space and place were inseparable, space always possessing the humane connotation of place. As a consequence, the abstractions of modern architecture became translated into an ideology expressed in a fundamental proposition between the environment and a program for life.

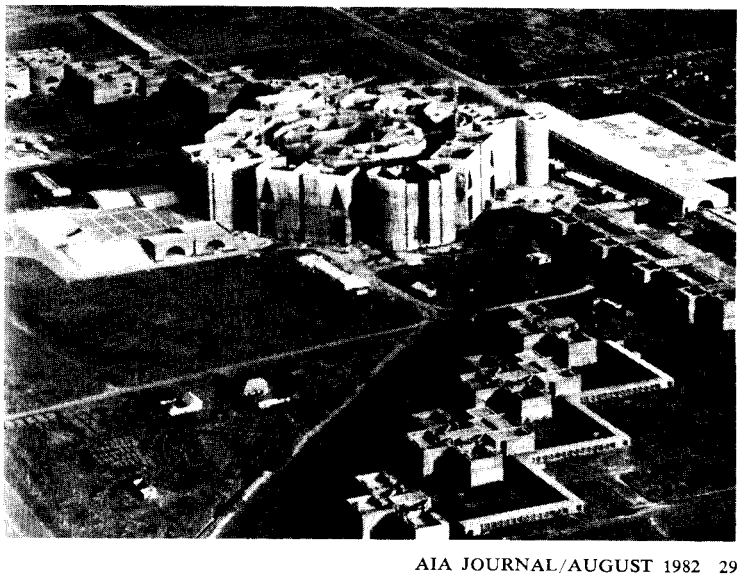


"Order" was often appealed to by Louis Kahn as something that manifests itself through art, for man is endowed with a sense of prevalence of order, a common bond among all beings. "Form" was referred to as the potential for making spaces, while "design" is the singular, individual interpretation of the form through shapes and configurations. With such premises, Kahn brought the contemporary discourse about art into focus in architecture, freeing the latter from the limited perceptions of function and technology. In so doing, he reassessed the language of defined and self-sufficient spaces, of solid volumes, and of enclosure versus open spaces in architecture.

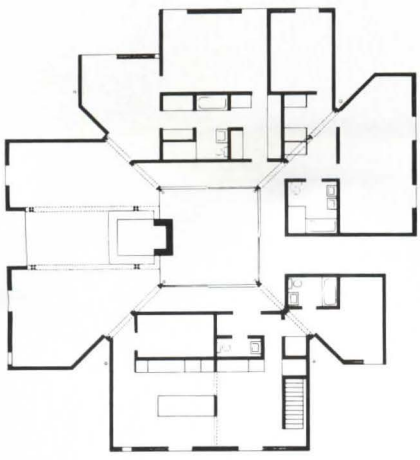


G. E. Kidder Smith

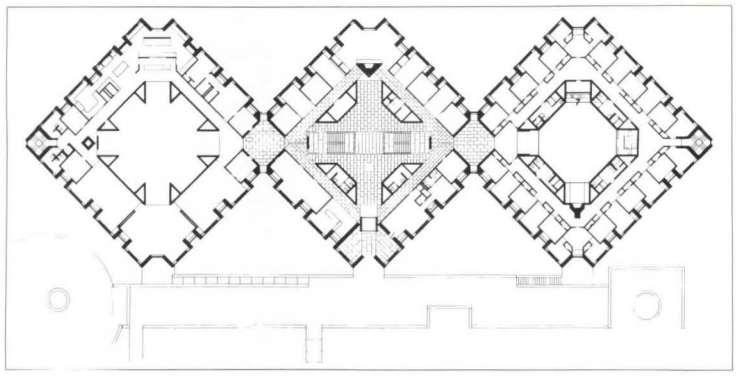
Far left, residential complex projected for Salk Institute, La Jolla, Calif.; left, laboratory buildings at Salk; below, Assembly building, Dacca, Bangladesh.

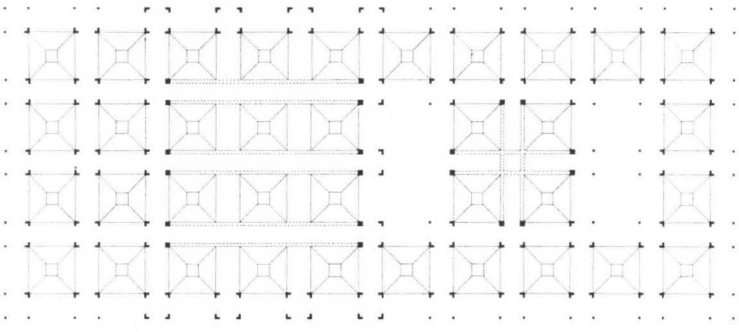


The three most important formal contributions to architectural language made by Louis Kahn are centered upon the volumetric aspect of a building and the configuration of its plan. The first consists in the duplication of the peripheral enclosure of a building. His interest in the potential ties of this enclosure for the expression of external sun-control elements appeared as early as his design for the Psychiatric Hospital in Philadelphia of 1944-1946, where deep horizontal slabs with terra-cotta tubes produce a pattern of shading on the slate-clad surfaces of the building elevations. Later, in the project for the U.S. consular office in Luanda, Angola (1959-1961), screen walls perforated by arched openings support a roof trellis that extends beyond the glass enclosure of the building. It is in the project for the residences at the Salk Institute at La Jolla, Calif., of 1959-1965 that circular walls wrap around square rooms, developing a dialectic between the geometry of the openings and that of the volumes. In the National Assembly Building for Bangladesh, this method assumes emphatic proportions, giving an exceptionally monumental configuration to the building. In fact, this



Plans of three Kahn designs, top to bottom: Goldenberg house, Rydal, Pa.; Erdman Hall dormitory, Bryn Mawr; and the Trenton Jewish Community Center project (only the bath house section of which was built). Across page, library, Phillips Exeter Academy, Exeter, N.H.





A new vitality as a compositional principle.

method allows retention of simple, synthetic forms for the external volumes, while the inner rooms may assume varied configurations with multiple exposures to daylight. This relationship with daylight was the determining element behind this solution, rather than the formal desire to "create ruins," as some critics have suggested.

His second contribution has to do with the release of the corner of a building from being an intrinsic structural component. Emphasis on the corner's strength is inherent in the masonry technology of the past. With the employment of reinforced concrete and steel, the structural importance of the corner is greatly reduced. Kahn sometimes perceived a building as enclosed by "plate-walls," and to give emphasis to this structural form, he interrupted the plates at the corner, leaving a gap between them. The library at Phillips Exeter Academy in Exeter, N.H., (1967-1972) is a classic example of such an attitude. This concept is also embodied in such projects as the design for the Altgar Enterprises office building in Kansas City, Kan., (1966-1973) and in the residential complex at the Salk Institute. Once again, Kahn appears to intend to place an emphasis on the major elements constituting volume, while at the same time revealing the ambiguity of the structural system with respect to that volume.

A third formal contribution represents a decisive step in the conception of a building plan. This concept is developed in the plan for the Goldenberg house in Rydal, Pa., of 1959, and especially in a series of sketches for the house in which Kahn identifies "served" and "servant" areas. The sequence of perimetric rooms is interrupted by the formation in plan of a deep opening leading directly to the core of the house. This decision produces an immediate "reading," a comprehensive awareness of all parts of the architectural organism. The same concept is evident in his plans for larger groups of spaces such as the Erdman Hall dormitories at Bryn Mawr College, Bryn Mawr, Pa., (1960-1965) and in the buildings for the National Assembly of Bangladesh. This gesture is in radical apposition to the notion of a contained, discrete volume that characterized the architecture of previous periods. Kahn, however, through the fragmentation and reassembly of the parts, made possible an immediate existential unfolding of the building's organization to the visitor. A new vitality was thus projected in the architectural composition, a vitality whose potential as a compositional principle became a source of inspiration for the following generation of architects.

No great work of art is possible without the assertion of some original concept, and meaningful forms are the inevitable consequence of clear concepts, rather than of esthetic reactions. These forms are made through the joy of discovery rather than in the rhetoric of citations; an architect cannot demonstrate coherence in his work by repeating formal motives. Of far greater importance is the appearance of certain constants in an architect's work, which, by representing the concept of an idea, are confirmed and clarified in every new design. Two factors generate these constants: a sense of reality of the particular times in which an architect works and a knowledge of the past. We may perceive five constants in the work of Louis Kahn: (1) the sense of composition and integrity of the buildings; (2) the attempt to reveal the character of the building material; (3) the sense of the "room" as the essence of architecture; (4) daylight carefully employed as the "maker" of architecture; and (5) an architecture of connections.

With respect to the first constant, the sense of composition and integrity of the building, Kahn's bath house in Trenton, N.J., is especially important. Part of the master plan for the Jewish Community Center in Trenton (1954-1959), the bath house (1955-1956) was the only construction completed from that plan. It is one of the smallest structures that Kahn ever built, yet it is one of the most significant. It is made of four elements, square in plan, and shaded by pitched roofs. The support of the roof is made by articulating the piers, thus forming small rooms which serve both as entrances and services. With a simple statement, the counterpoint of served and servant spaces is announced, a simplicity, however, that relies on the perfect calibration of the single compositional elements. Palladian classicism comes to mind, but also Mies' concern for the exact definition of roles for building elements. In this small structure, Kahn makes no concession to descriptive phrases: It directly realizes an architectural composition that demonstrates the esthetic potentials of his design philosophy.

Kahn's composite methodology is evident whether embodied in the most simple arrangement of rooms or the most complex system of buildings. It is not a methodology based on axis, spatial sequences, and perspective views according to the recipes of the Beaux-Arts school. Rather than relying on preconceived positions, his methodology involves experience and the reality of building: His plans invite reflection on both natural and human forces shaping a place.

The second constant in Kahn's work, as noted above, is his search to reveal the character of the building material. His respect for the material is different from the exalting of such material characteristics as color and texture in other periods. Rather, it belongs to the appreciation which the pioneers of the modern movement had for such characteristics, which together with the celebration of function was the main vehicle of their reaction to the ornamentalism and deceptions of the Beaux-Arts period. In

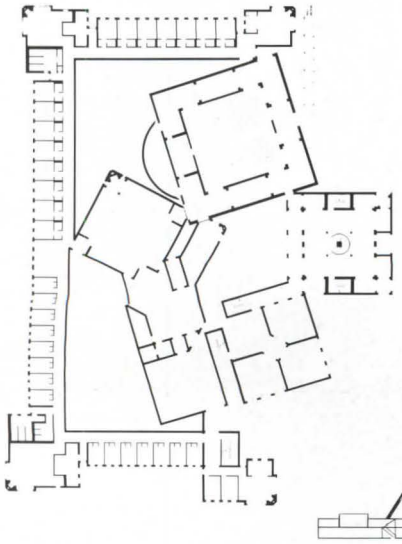
Connections related to structure.

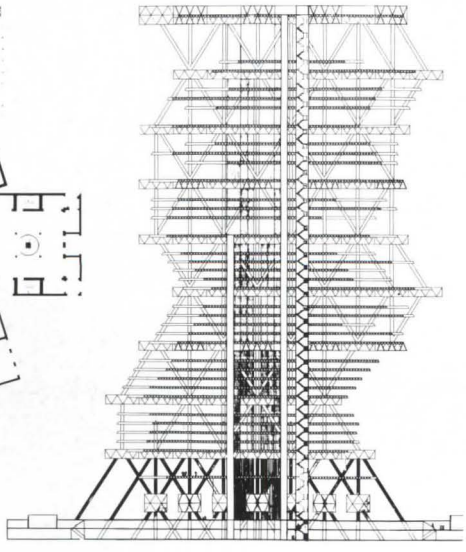
Kahn's work, the attitude toward the characteristics of the material is one of esthetic refinement, yet it is primarily conditioned by the contribution of these materials to the development of architectural space. Concrete surfaces are generally treated smoothly to exalt the precision of formwork, and wood is often juxtaposed to the finished concrete, developing a continuous rigid surface. It is as if values of texture and contrast are purposely played down so as not to interfere with the volume of the space.

Two buildings which Kahn designed for Yale University face each other across a street in New Haven. They were built nearly 25 years apart, and are instructive about Kahn's use of materials. The Yale Art Gallery, completed in 1953, gave Kahn a sudden renown. The floor structure, made of reinforced concrete tetrahedrons, contains the air distribution system. The northern wall facing the garden is a carefully proportioned mullioned glass wall. The south wall facing the street and the noise generated by it is of continuous masonry. The Center for British Art and Studies (1969-1974) was constructed with a frame structure of reinforced concrete enclosed by sandblasted stainless steel panels on the exterior and by interior wood panels. In both buildings, the materials used perform an explanatory role: a strength and precise clarity in relation to structural function, orientation, light, and atmosphere. In each case, these materials assume the unique role of transforming spaces from being abstract to being human.

The third constant, space, remains the most important in Kahn's work. In seeing the "beginning" of space in the concept of a room, Kahn revealed the special sense in which he learned from the past. He frequently said to his students, "The room is the place of the mind. In a small room one does not say what one would in a large room." Space changes as the perception of the nature of a place changes throughout history, and it is not to be dominated by the tyrannical individuality of the architect. For Kahn, the structure of the space was always more important than the existence of the building; we must remember his phrase, "the plan—a society of rooms in a place good to live, work, learn."

Clockwise below: Institute of Management, Ahmedabad; City Tower project, Philadelphia; plan of Dominican Sisters Convent project, Media, Pa. Opposite, Center for British Art, Yale.





The Erdman Hall dormitories at Bryn Mawr College are just such a society of rooms, one which grows from the single residential room into the collective space of the halls, gradually making that transition through a series of rooms for group activities. As is often the case in Kahn's major spaces, light penetrates at the edges of the rooms via monitors, so that the peripheral walls become strongly illuminated. This tends to enlarge the space while the structure of the ceiling remains in darkness, appearing heavier. It is a singular approach repeated in several of his works. It produces a different feeling from that conveyed by a Renaissance dome with its opening at the center. Light for Kahn is more physical than luminescent or all-pervasive.

One beautiful exception exists in his linear vaults at the Kimbell Museum [see following article—*Ed.*], where light penetrates from the top of the vault, and is distributed along its internal surfaces. But in the Mikveh Israel Synagogue it is the peripheral distribution of light through light chambers that defines the central space. Similar concerns are evident in external spaces carefully built with surfaces facing each other, as in the external "room" of the Roosevelt Memorial project for Roosevelt Island in New York (1973-1974), or the project for the Jewish Martyrs' Memorial in Battery Park, New York City (1964-1972), where its space is formed by a symbolic arrangement of glass cubes. It is again in the Institute of Management at Ahmedabad that the external volumes subtly link the entire complex, alternating with the internal voids in a masterful sequence creating a real "treasury of spaces," as Kahn called them.

The fourth constant, the particular and intentional use of daylight with respect to architecture, has already been mentioned frequently in describing the other constants. Like space, it is one of the primary components in the architecture of Louis Kahn. One may define architecture throughout history simply by the degree of subtlety with which daylight defines, reinforces, molds, articulates, and fuses its elements. For example, it is the subtle perception of light that makes the row of columns for a Greek temple become a rhythmically shaded surface that changes color and texture throughout the course of the day; it is the light filtered through the small windows of an early Christian basilica that gives value to the extended wall surfaces transforming the nave into a looming light chamber; and it is the light in a Gothic church that suffuses the atmosphere with an unforgettable glow. It is also the precise juxtaposition of the sources of light that gives the spaces of the Renaissance their classic sense of the infinite. However, the Beaux-Arts preoccupation with composition and ornament caused those uses of light almost to vanish from the vocabulary of architecture. By contrast, light had a profound structural significance for Kahn, besides being the source of poetic inspiration toward form.

Perhaps more than any of his other buildings, the Kimbell Art Museum (1966-1972) in Fort Worth, a building that has been called a contemporary classic, reveals this concern for the use of daylight in a variety of forms. In Texas, the source of light always appears to be vertical, as if the sun were always at its zenith. In response, the museum building is linear in form, a parallel system of cycloidal vaults supported by columns spaced at intervals of about 100 feet. There are two major sources of light, the long fenestration facing the park, which allows a reverberation of "green light" reflected off the park's plantings into the interior, and a slit placed at the center of the vault, which releases "silver light" to the interior. Together they achieve a

George Cserna

unique, highly refined human environment in counterpoint to the simplicity of the structure. Buildings of great simplicity have been made before in contemporary architecture, but here there is something decisively new. Here are combined not only the stringent conceptual attitudes of Mies and the poetical imagination of Aalto, but also the subtle integration of architectural elements together with a clear process of explanation. Thus, a classical strength is produced, isolating this building as a true masterpiece. The Kimbell comes as close as some of the great architecture in history to make an ambitious gesture compatible with great economy of means.

The fifth constant, an architecture of connections, is an extension of the first, the sense of composition. Connections in architecture become important when the concept of a complexity is substituted for a single object or building. Buildings today are bound to the demands of a complex society, which requires that they perform and provide a variety of functions. Modern architecture developed a rather simplistic vocabulary of connections made of corridors, bridges, ramps, and so on. Louis Kahn was aware that a serious compositional problem lay in connections. He approached it by assigning himself the task of producing connections related to structure. In the centrifugal arrangement of the Richards Laboratories, connections depend on the location of the columns, while in the Bryn Mawr College dormitory, the connection is made at the corner of the square element in such a way as to maintain the unity of the entire complex. A true case of connection is the project for the Dominican Sisters Convent in Media, Pa., (1965-1968) where single buildings perform this function, as at Hadrian's Villa at Tivoli. Even in three-dimensional terms, the connection reveals the nature of the structure, as in Kahn's project with Anne Tyng for the City Tower Municipal Building in Philadelphia (1952-1957). In this tower of reinforced concrete, the triangulated strut frame is crowned at the intersections by capitals containing mechanical services, which were called the "knuckles" of the structure. Remembering once more the connective columns, vaults, and beams in the

Searching in the present as well as in the past.

Kimbell Museum, each of which is a perfectly calibrated element in its role, one comes to realize how much importance Kahn gave to such transitions in architecture.

Any assessment of Louis Kahn's work, however brief, must include his ideas on the city, a place of "assembled institutions." For him, the solution to the complexities of a modern city was to recapture the directness of thought exhibited by the city's founders, who made the original gesture by giving a place to man's institutions: a place for a church, a town hall, a school, and so on. All of Kahn's mature plans for cities are based on this principle.

Many of his early plans for Philadelphia, as in the Midtown-Penn Center project (1952-1953), reflect the attempt to resolve in an image the crucial problem of separating the car and the realm of the pedestrian. Because the street was for Kahn the essence of urban life, he approached several projects by means of this theme. The street was a "meeting place" in the project for the Independence Mall Area Development in Philadelphia (1972-1974), as well as in the design for the 1976 Bicentennial Exposition in Philadelphia (1971-1974). But all of the images that Kahn made for cities evolve around the city as a building, as a continuum of structures and places of well-being.

These constants, after appearing in Kahn's first works, seem to be confirmed and clarified with each of his subsequent designs, as they represent the concepts of ideas. In Kahn's designs, concepts are never deformed by the existence of nonessential elements; rather, they evolve and become more precise while remaining at the foundation of his work. As already noted, two factors generated those constants: the reality of Kahn's time, and his profound knowledge of the past. As a consequence, his work seems to possess two distinguishable characteristics: a sense of permanency and an unmistakable style. To revisit his buildings after a few years is an experience not dissimilar from the one sensed while visiting the ancient structures of history. In both cases, those buildings seem always to have existed, and yet a unique newness transpires within them.

On March 17, 1974, Louis Kahn died of a heart attack in Pennsylvania Station in New York City. Much has happened in architecture since Kahn's death, but his work continues to succeed in a time of incredibly fleeting values because he gave us forms with a sense of permanency, forms that consciously reflect those fundamental values for which mankind is forever searching in different ways, generation after generation. His concern was to anchor architectural concepts to human values, and this most effectively produced the sense both of permanency and of newness in his buildings.

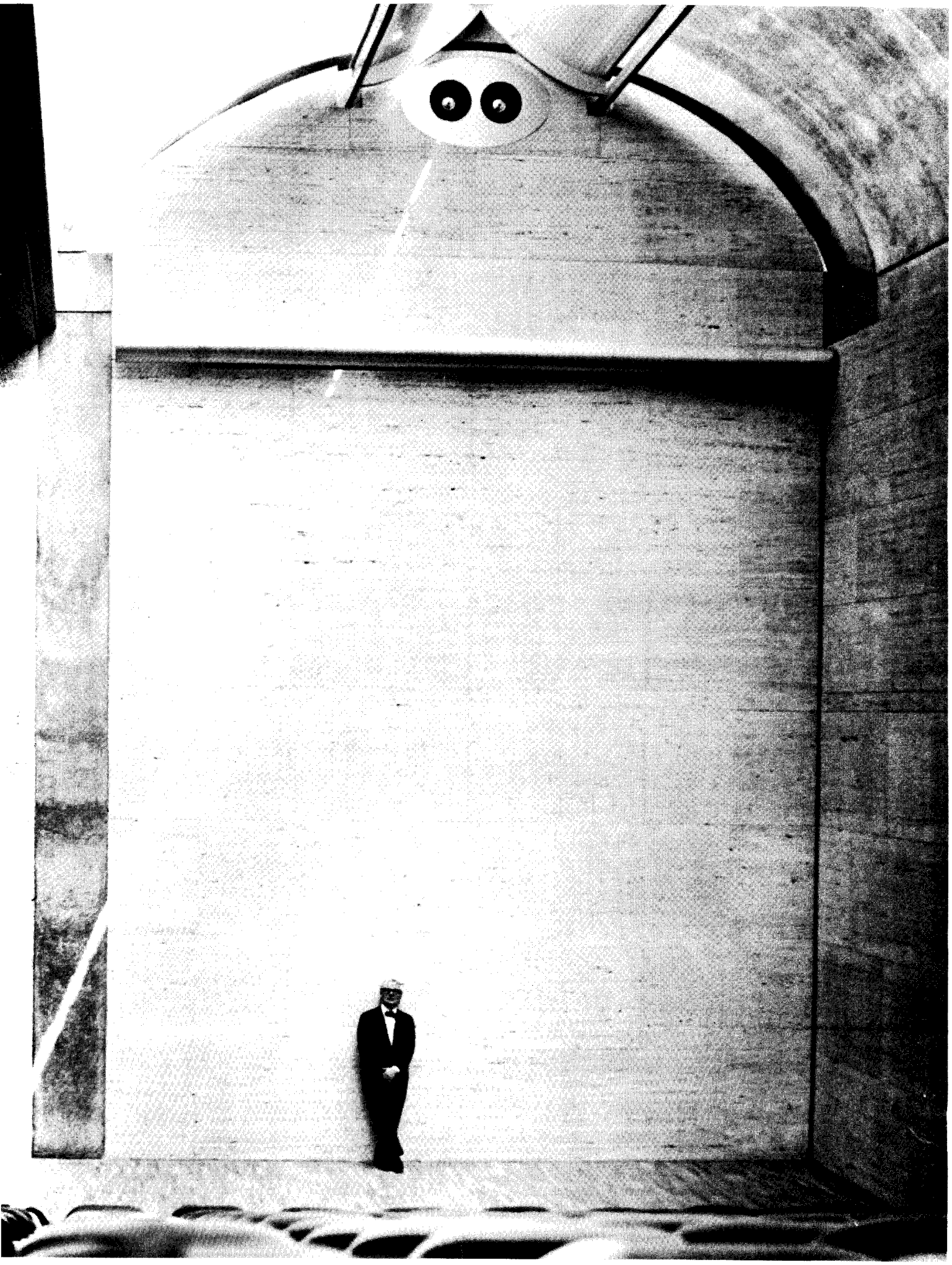
Above, an urban vision for the future of Philadelphia. Opposite, Kahn in the auditorium of the Kimbell Art Museum, Fort Worth.

We have already noted how the spaces of his buildings unfold with great simplicity and clarity, being almost a process of explanation of their "reason-to-be." Yet, those spaces retain the enigma without which a work of art is impossible. No explanation for those spaces is possible, nor is one required. In fact, we cannot "read" the architecture of Louis Kahn with our intelligence alone; it would not significantly add to our understanding of his buildings. At best, we would know about servant and served spaces, possibly about derivative traits, and, for some critics, about Beaux-Arts connections. But all that would be insignificant, for the reading of Kahn's buildings must be done with something of ourselves, with our "thinking body."

Louis Kahn's architecture is the manifestation of knowledge achieved only through much difficulty and effort. It is the same love of knowledge that is behind Heraclitus' utterances, which respond to his painful sense of his very lack of knowledge. In analogy to Heraclitus, those enigmas produced by contrasting architectural forms find an answer in the unity of Kahn's buildings. Permanency, so improbable today, so vigorously condemned by modernists, and made so ironic by postmodernists with their indulgence in memories, is what distinguishes the architecture of Louis Kahn from that of his contemporaries. It is also what caused his buildings to be linked from the beginning with historicism.

Not unlike great architects before him, Kahn found great inspiration in the forms of Roman structures in their state of ruin. Roman architecture, viewed in such conditions, is significantly different from the original and from the fanciful Beaux-Arts interpretation of it. Indeed, the glory of Roman architecture is in its ruins, in its sense of place, in its spatial dimension. It appeared in this way to Kahn, free from nonessential elements, its conceptual strength undeformed by ephemeral comments. From this particular attitude to the past, a singular stylistic expression emerges, a style bent to clarify a concept in truly classic terms. As in a Greek temple, where the form of a capital belongs to a sequence of explanatory steps that unfold the nature of the building and the beauty of the whole, in Louis Kahn's work a detail is the conclusion of a process of explanations. Details assume a specific role in the formulation of a stylistic language; thus, his style is unambiguous. To each material is assigned a role, often in contrast; and to each space, an evocative strength. It is a style that evolved from the tenets of the modern movement and enhanced by the eternal experience of the past; a style that gave to modern architecture a sense of maturity and a newfound richness. For such a style no education nor exclusive initiation is necessary, because it basically relies upon the validity of the space: space either accepts or rejects. An education to space is superfluous, just as education to a language that speaks to people about their most vital interests is unnecessary.

It is with such a perception of style that it is possible to understand the fundamental humanism of Kahn's architecture. It is not founded on a view of the universe centered on the valor and dignity of man, for Kahn was an idealist without illusions. Rather, it is based on the value of man's primordial act of realization: In Kahn's words, "I love beginnings; . . . two posts and a lintel, there is the beginning of architecture." For Louis Kahn, those were the signs of human institutions. His contribution to architecture was to rekindle the generating forces of this art in a time in which much of the ideology of modern architecture appears to have failed. He did so by searching in the present as well as in the past. His architecture does not need justifying arguments; it is, as he said, an "offering," beyond events and time. □



Robert Wharton

Evaluation: The Kimbell Museum

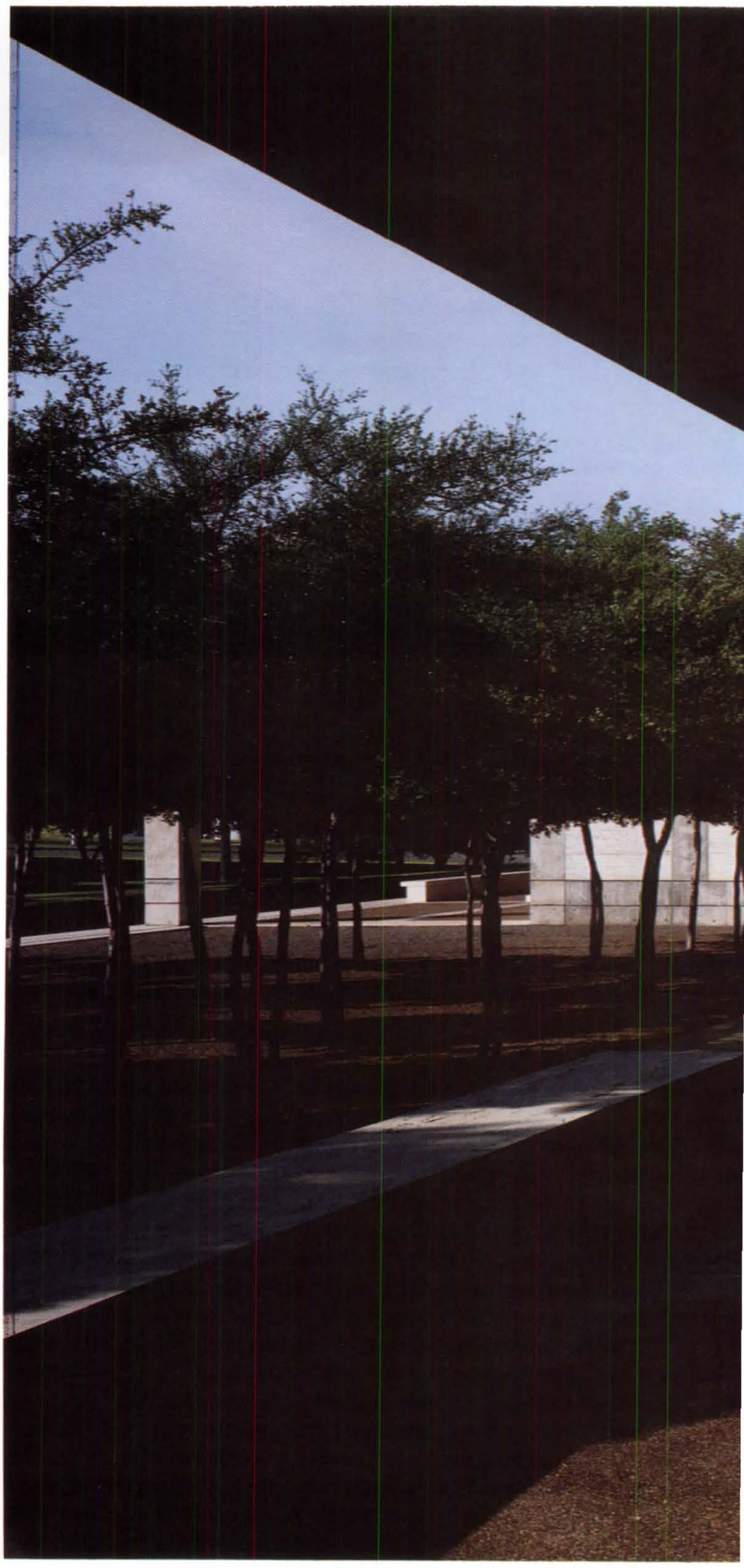
Its standing, like that of its author, has steadily risen in the course of a decade. By Lawrence W. Speck

A turbulent decade in the development of 20th century architecture has passed since the Kimbell Art Museum in Fort Worth first opened its doors in October 1972. It has been 10 long years of what Ada Louise Huxtable has termed the "architectural Punic Wars"—pitting the reigning monarchy of modernism against a ragtag band of counter-revolutionaries we have come to call postmodernists. The Kimbell Museum, along with the standing of its author, the late Louis I. Kahn, seems to have survived the battle admirably—withstanding the verbal fusillades and cloying alliances of both sides to emerge, at this point, remarkably strong and poised, even strengthened by the fray.

It is difficult to ascertain whether this striking durability has come from nonpartisanship in the battle or from a sort of "double agent" complicity with both camps. The Kimbell Museum's candid materiality, its tectonic clarity, and its scrupulous absence of applied ornamentation have won it high esteem in modernist quarters. It safely eschews the irony, juxtapositions, and overt humor of the postmodernists in favor of a convincing cohesiveness and unity that the modernists admire.

And yet, across the battlefield, the Kimbell Museum has also been welcomed in the postmodern camp. Its historical allusions that conjure images of Ostia, Pompeii, Hadrian's villa, and Egyptian tombs endear the building to the rebel warriors. They revel in its eclecticism. They laud its Beaux-Arts composition, its theatrical displays of light and color, and its profound emotional potency. It has won high regard in their camp as well.

Reporters in the field have been somewhat confounded by the elusive dexterity of the building over the decade. It seems to defy classification. This ambiguity has been convincing enough to merit the Kimbell Museum the rare distinction among major post-1945 buildings of having escaped inclusion in all of Charles Jencks' books, from *Modern Movements* to *Post-Modern Architecture* to *Late-Modern Architecture*. The building scorns labels.



But if the Kimbell Museum is hard to label, it is not difficult to describe. It is a work of great beauty and charm. It is powerful, awesome, and inspiring. It is sincere, warm, and humane. It is truly one of the great buildings of our time.

The story of the success of the Kimbell Art Museum begins, not with the hiring of its esteemed architect in 1967, but two years earlier when the trustees of the Kimbell Foundation appointed Dr. Richard Fargo Brown as director of the budding museum. Industrialist Kay Kimbell had bequeathed his personal collection of more than 350 art objects, largely 18th and 19th century

Mr. Speck is an associate professor of architecture at the University of Texas at Austin and practices in Austin.

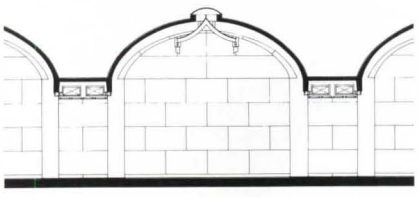
Photographs courtesy of Kimbell Art Museum

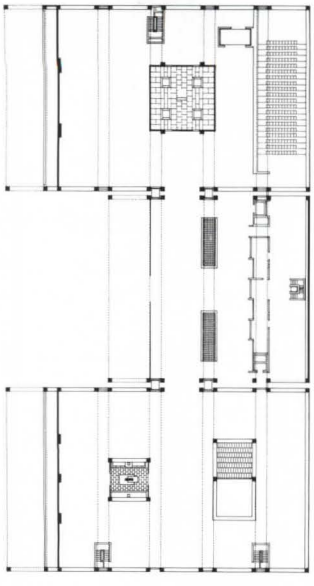
European works, as the embryo from which the museum's holdings would grow. He had also provided the capital funds necessary for a strong acquisitions program as well as for a home for the museum. Brown's challenge from the trustees was to build both a collection and a building that would distinguish the Kimbell Art Museum as one of the finest institutions of its size in the country.

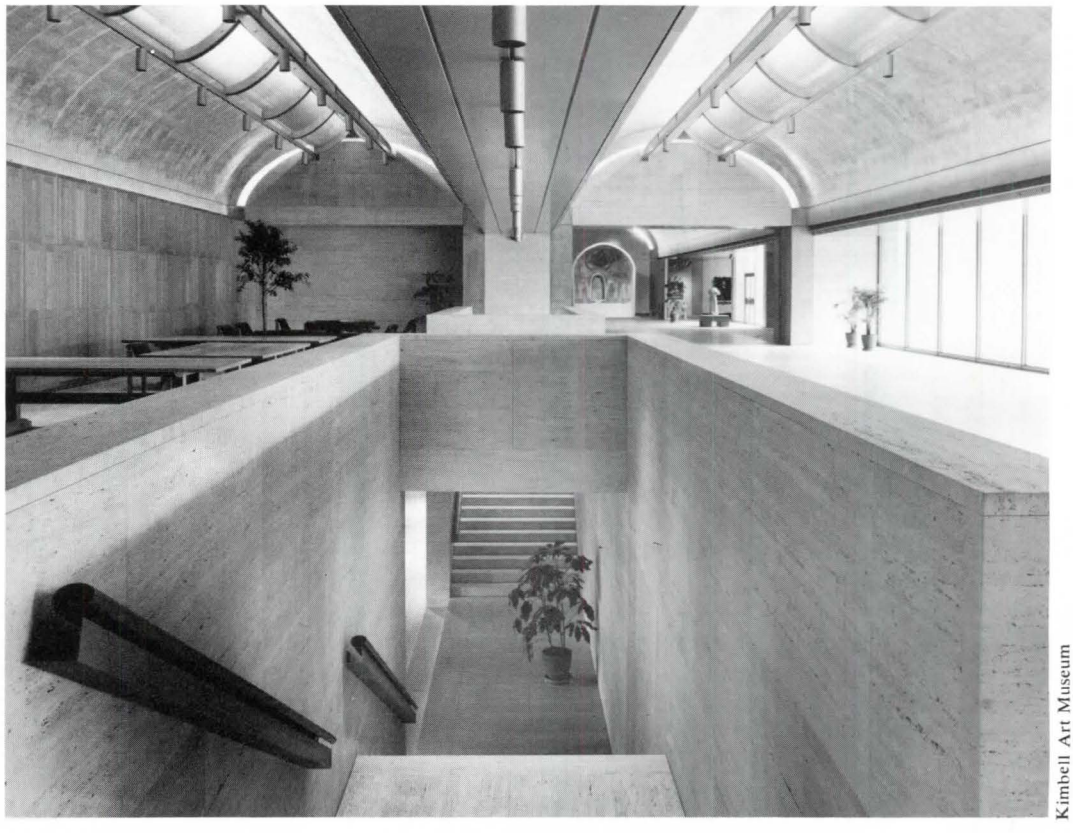
Richard Brown, it seems, was the ideal person to meet this challenge. As director of the Los Angeles County Museum of Art he had watched politics and a headstrong board of trustees create William Pereira's lavish angel food cake on Wilshire Boulevard. Brown's personal choice of Mies van der Rohe as architect had been pre-empted, as had many of his requirements for the function of the new building. Brown had also served as an adviser to the Amon Carter Museum in Fort Worth during the period when that museum built Philip Johnson's craftsmanlike pavilion just up the hill from where the Kimbell was later to be located. In the case of the Amon Carter, the building had been built before a museum director was hired and then had required significant alterations and additions shortly after its opening. The success of the Kimbell Museum was to be founded in part on the flaws of the L.A. County Museum and the Amon Carter.

Brown had stipulated, before accepting the post of director, that he should have full control of architect selection and client input in the Kimbell building program, and the foundation trustees had agreed. Brown had a clear vision of the emergent museum. He had established priorities for the collection's acquisitions program that emphasized old masters and non-Western art

Kimbell Art Museum







Kimbell Art Museum

This page, the vaults as seen from a pedestrian approach and from inside at the main entrance. Right, a Fort Worth stockyard, and, facing page, Kimbell's lecture hall in a corner vault, at upper right in the plan above.

Lawrence Speck

Drawing on previously untapped sources of form.

—partly in response to the existing Kimbell collection and partly to complement the holdings of neighboring institutions—the Fort Worth Art Center, which handled contemporary works, and the Amon Carter, which emphasized American art. Brown sought "works of art of definitive quality"—masterworks that could maintain their strength as isolated objects rather than in relation to other works or movements. His early background at the Frick Museum in New York City had given him a love for intimate communion with art objects and an understanding of the profound effect of the environment in staging the confrontation of object and observer.

Brown assembled a lengthy and detailed pre-architectural program that described specific qualities of the place he envisioned. He understood his Fort Worth clientele well. He realized that a well built, beautiful building that was, in itself, a work of art could be a drawing card—a powerful entree into the Texas art world. He knew that the most basic and potent appreciation of art is through appeal to people's senses. He observed, "The overwhelming percentage of people whom this building is intended to serve will not be art historians, other architects, or progressive artists with a sophisticated background in architectural form. Their total experience of a visit to the museum should be one of warmth, mellowness, and even elegance. . . . A visitor to an art museum ought to be *charmed;* otherwise, why should we expect him to come?"

Brown drew a verbal picture that described an atypical museum for the times. He had rejected the bland box interiors of the recent Whitney Museum, the L.A. County Museum, and the Museum of Modern Art additions. He said, "Museum people have been after closed dark rooms so they can paint the walls white, light them with artificial light, and control the situation. But by having control of the situation, they don't realize their system has control of them." He was adamant about the vital role of natural light, observing that, "We are not after a measurable physical quantity, or a physiological reaction; we are after a psychological effect through which the museum visitor feels that both he and the art he came to see are still a part of the real, rotating, changeable world."

In the summer of 1966, pre-architectural program in hand, Richard Brown began to contact a distinguished list of architects including Paul Rudolph, Gordon Bunshaft, Mies van der Rohe, I. M. Pei, Edward L. Barnes, and Louis Kahn. Brown chose Kahn, he said, because, "I felt Louis Kahn would approach this problem like Adam, for the first time. . . . He's willing to let the specific situation posed by the creation of a building guide him and tell him what the structure, engineering, and esthetic ought to be." At least in this instance, it seems Brown was right. The building pays startling allegiance not only to the director's well defined program, but also to particulars of site, climate, and regional character. Its ruggedness, flatness, tawny naturalness of surface and color, and especially the way it copes with the sometimes brutal sun make it part and parcel of where it is.

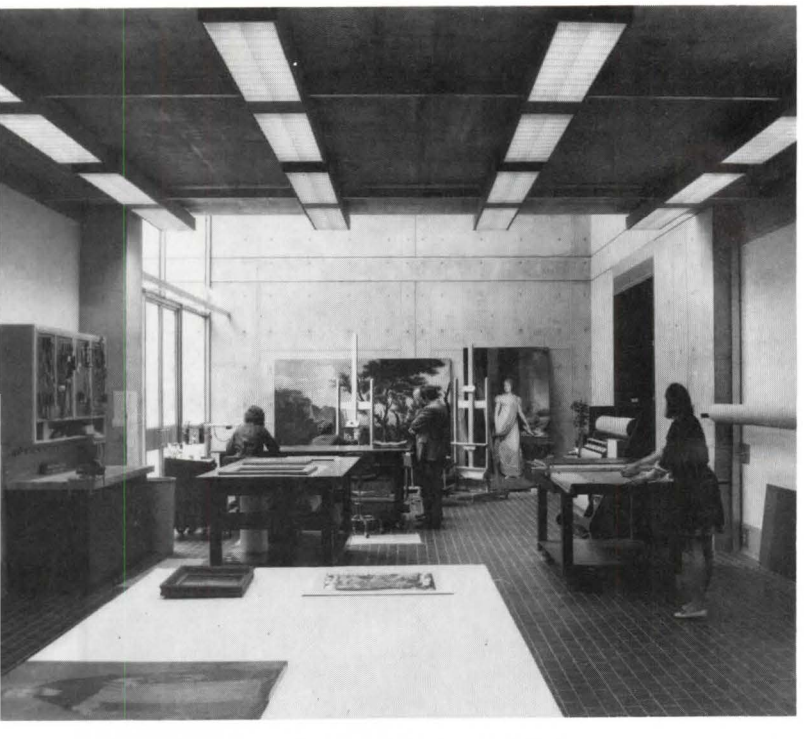
In so responding to this specific situation, Kahn created a building that is something of an enigma relative to his other works, both before and after the Kimbell commission. It was observed, while the building was still in late developmental stages, that its design was "not what one would expect" of Louis Kahn. Shortly after the building's completion historian William Jordy noted that the building was not "in any sense 'monumental' in the grand manner of the elaborate layouts of the Salk center, the capitol at Dacca, and the Institute of Management at Ahmedabad. . . . Nor does it boast the complex skylines of the Richards building and the vivid imagery of clustered towers that followed in its wake." There were, further, no great monumental spaces inside as Kahn had created in the otherwise more restrained volumes of the Exeter library and the Center for British Art and Studies at Yale University.

The program's imposition of a 40-foot height limit on the building in order to preserve the view from the neighboring Amon Carter Museum had suggested a low, flat profile for the building, which was not the sort of massing Kahn had been accustomed to using in important institutional buildings. From his earliest conceptual sketches the scheme seemed to draw on previously untapped sources of form in Kahn. The repetitive series of linear vaults emerged quite early in what was to be a long design process.

The origin of the vaults is a point of considerable conjecture among Kimbell aficionados. Some Fort Worth locals, when they first got a sense of the building's form during construction, swore that the museum was building a grain elevator turned on its side. Fort Worth, being a center of grain production, is dotted with massive cyclindrical tower groups. Kay Kimbell had, in fact, made his initial fortune in the grain business.

Other natives dispute the "grain elevator" source and are convinced that Kahn took one look at the Fort Worth stockyards, only a block from his site, and fell in love with their clean, repetitive barrel forms. They say the continuous light monitor at the apex of the stockyard vaults is the dead giveaway. Where else could Kahn have gotten the atectonic notion of interrupting the vault's continuity to create a light source at the top?

Director Richard Brown did not take the local theories too seriously. Although these forms may have sparked a remembrance in Kahn, Brown believed that the barrel series laid together "was already in Lou Kahn's mind and had been for a long time" when he got the commission. As Kahn began to under-



Library, top, brings one close to the surface of an inner vault. Above, conservation studio on lower level receives natural light from a two-story court. Facing page, a gallery as first installed.

The vaults give the building its essence—and limits.

stand the project, he reached for the vault forms as ideal for it.

The source for the forms' presence in Kahn's mind may well have been Le Corbusier, whom Kahn repeatedly referred to as his "teacher." Corbusier had been fascinated by the space-making potential of vaults in series as early as the 1930s and as late as his project for the Venice Hospital, which he was working on at the time of his death in 1965. His unrealized Farming Cooperative Village of 1934 had proposed a horizontal series of vaults alongside vertical grain elevators of similar form and proportion. Corbusier had even suggested the odd structural device of supporting the vaults on columns at their ends, making the vaults act as great curved beams rather than as an extension of walls.

One of Le Corbusier's few realized projects using the vault forms was the Villa Sarabhai in Ahmedabad, India, which was built in the mid-'50s. Vicram Sarabhai was one of Kahn's clients for the Indian Institute of Management, also in Ahmedabad—a project that was in design stages when the commission came for the Kimbell Museum.

Wherever the vaults originated, it seems clear by their great success and sophistication that their selection was not meretricious. They are the essence of the building—the inspiration for the design as well as its taskmaster. It is the vaults that give the building its loftiness as well as its intimacy; the vaults that light the space with their silvery, luminiscent glow; the vaults that make the "rooms" of the building while at the same time providing the flexibility of uninterrupted clear spans. It is the non-hierarchical vaults that give the building its order and its rhythm, injecting character into an otherwise undistinguished massing and solving the problem of the fifth facade, the roof, which is visible from the hill above.

It is the vaults that lock the building onto its site, paralleling a double row of former street trees that frame the museum park to the west. And it is the vaults, again, that open graciously to make a triple porch on the park facade, intimating the arcade of the trees a few yards away. The vaults, executed as they are in smooth, lustrous concrete, create a mystic presence in the building, generating a feeling of timelessness and peace. They are a magical device.

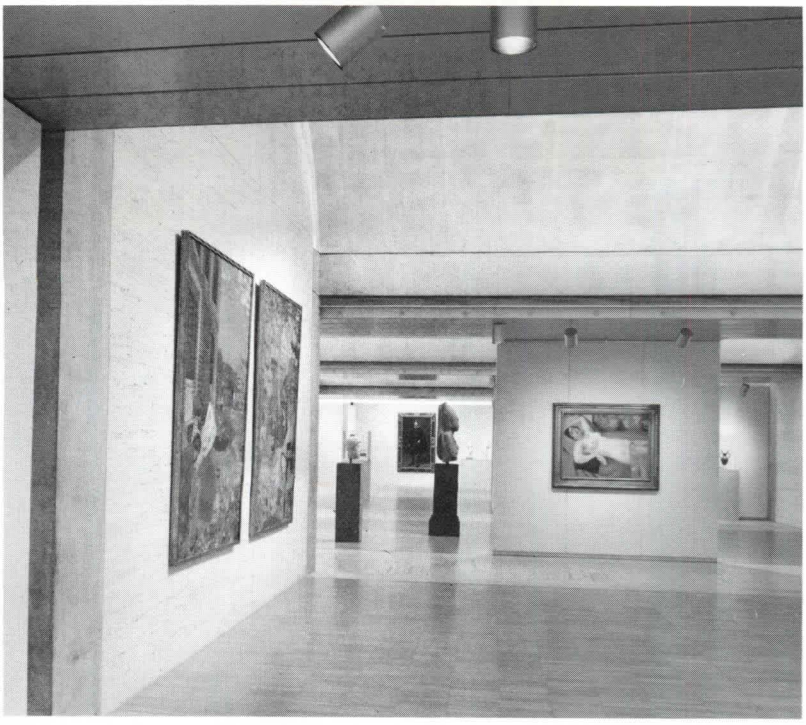
But it is also the vaults that stiffen the museum's plan, forcing a number of building functions into spaces that are ill-suited for them. The lecture hall, for example, is jammed into a single tunnel-like vault space, creating an uncomfortable relationship between speaker and audience and denying the design freedom to deal sensibly with projection and acoustics. The library reading room is shoved up under a vault, creating an awkward closeness to the concrete curve and forcing a notably inelegant lighting solution. The inappropriateness of the vault as a space-making device for administration offices forced those functions into the "servant" podium below the main floor of the building. The regrettable dearth of light and view on the lower floor contrasts sadly with the exquisite attention to the glories of natural light on the upper floor. One occupant noted his office to be like nothing so much as a prison. There is little sense of the time of day or what the weather is like outside.

Such complaints about the building, however, must be coerced from those who work there, who, in general, exude an impressive respect and affection for their building. David Robb, chief curator since the museum's opening, considers the building "an architectural joy. Exhibition installation, research, conservation, lectures, administration, etc.—all these curatorial activities are facilitated enormously by the humane character of Kahn's sensitive design. Esthetically and functionally, the building works."

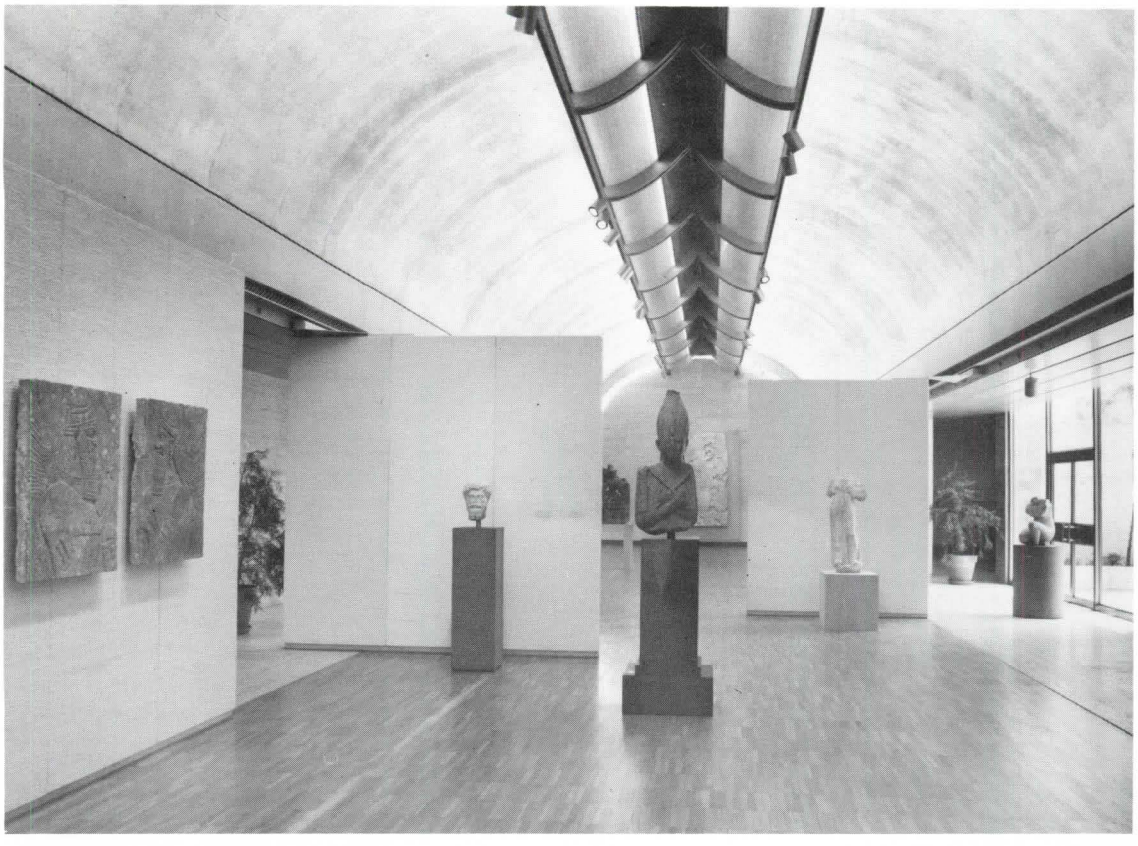
Dr. Edmund Pillsbury, who became director after Richard

Photographs courtesy of Kimbell Art Museum

Photographs courtesy of Kimbell Art Museum



Right and below, galleries as they are currently installed. At far right, the largest of the three open courts is dominated by Maillol's 'L'Air' and glazed on four sides to light the north gallery.



'Speaking the language of human experience.'

Brown's death in 1979, is equally impressed. Pillsbury's background, which includes positions both at the Kahn-designed Yale Art Museum and at the Yale Center for British Art and Studies, prepared him to expect a great deal from a Kahn building. He considers the Kimbell Museum "far more exciting and dramatic than the Yale buildings. As a pure piece of architecture the building is a classic—a great building." He sees a sense of perfection in the Kimbell that is akin to Brunelleschi's nave of S. Spirito or the Pazzi Chapel. Pillsbury credits the Kimbell's classic quality to the freedom Kahn had in design. Because the collection was not fleshed out and the museum as an institution had no history, Kahn was creating an ideal from scratch.

In many ways, the building has been a point of departure and inspiration for the growing museum. Pillsbury notes that in this first decade the architecture has been "a great draw—probably more than the collection. The building sells the art because it is such a quality piece of architecture." He also comments that it is "very challenging to find works of art on a par with the work of architecture." The building's intimacy and charm make it ideal for a certain kind of art. It is a shrine for the small masterpiece—the Reubens sketch, the Corot landscape. The space and the light are ideal for ceramics and pre-Columbian objects that must be viewed "in the round." Pillsbury admits that the building's ambiance has influenced acquisitions. Collection and build-

ing are becoming, more and more, a single art experience.

Pillsbury is consciously attempting to fine-tune that confluence of experience. In March 1981, after a major temporary exhibition had required the clearing of the large south gallery, he chose to test the building's flexibility by reinstalling the permanent collection in a strikingly different way than it had been arranged originally. He laid aside some of the axial and theatrical qualities of the initial installation in favor of a more chronological and didactic organization of the collection. Most of the original furniture was removed, extracting some of the domestic, sitting-room atmosphere of the gallery. The experiment has drawn out a range in the building's ambiance that had not been evident before. That range has also been tested by the variety of cultural events that have come to occur regularly in the building. The Kimbell Museum has become a sort of salon for the city, inviting lectures, films, concerts, and recitals into its halls. Music in the gallery space is a particularly special event.

It is perhaps in a concert at the Kimbell Museum that one can best sense the art and poetry of Louis Kahn—Kahn the pianist, Kahn the philosopher, Kahn the mystic, Kahn the connoisseur, Kahn the architect. His was a sensual art, full of emotion and sentiment. He was a modern romantic. His Kimbell Art Museum speaks the language of human experience. It is a building to touch and feel—pocked satin of travertine alongside the mottled "liquid stone" of concrete, honey-colored oak against cool blue stainless steel—and everywhere a magic glow of light from the sun. □

Photographs by Richard Guy Wilson

Willem Dudok: Modernist But Not Mainstream

'Consigned to the dustbins of history too soon.' By Richard Guy Wilson

Three of Dudok's Hilversum works, clockwise from left: council housing of 1918; a 1930 nursery school; and the preparatory school tower, Juliana School and Preliminary School, 1926.

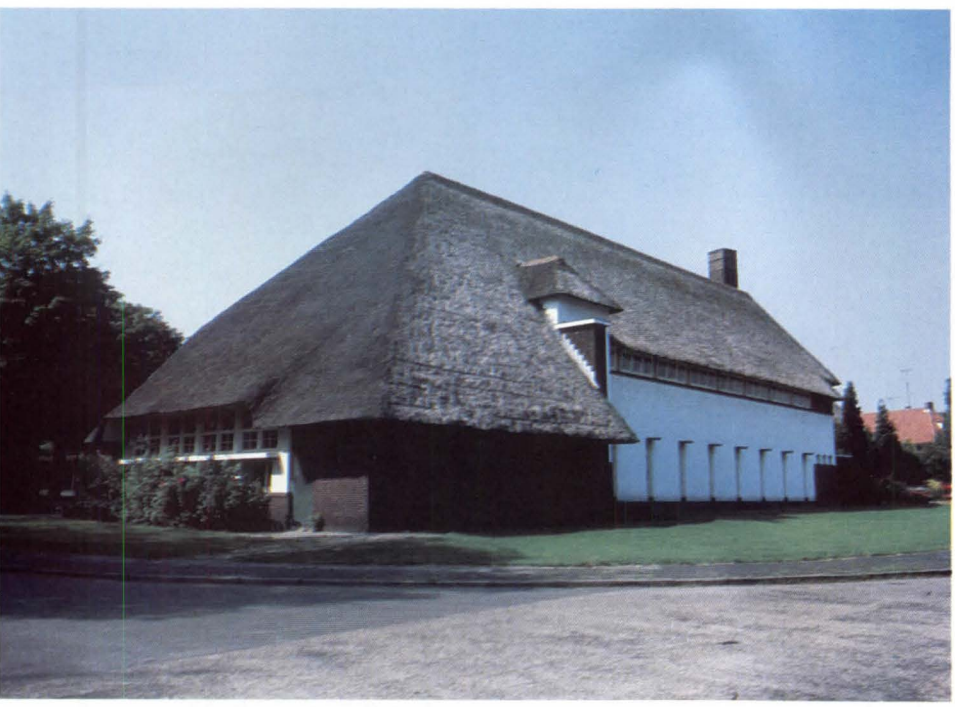
Willem Marius Dudok, the Dutch architect, represented a special brand of modernism. He stood aside from the general rush to the *zeitgeist* of the machine and bare-bones functionalism and instead asserted the value of simplified traditional form, ornament, texture, and plastic modeling. Dudok believed in advanced materials and techniques, yet as late as 1954, he would argue: "Why only visible construction should be considered as honest work has never become clear to me. . . . I fully appreciate reinforced concrete but I don't like the color and I don't see why I should not be allowed to cover a good concrete construction with a material of finer color and texture."

The height of Dudok's fame came in the 1920s and 1930s at Hilversum in The Netherlands. There he built extensively, and pilgrims in search of the holy grail of modernism would come to pay homage. His importance was acknowledged in virtually every architectural periodical, and he received the gold medal of the Royal Institute of British Architects in 1935 and the gold medal of the American Institute of Architects in 1955. In 1953 Dudok made an AIA sponsored tour of American architecture schools and was warmly received. Subsequently, though, he disappeared from view, and Reyner Banham, in his 1975 book, *Age of the Masters,* summed up the accepted critical view: "Dudok . . . represents a strain of Dutch architecture slightly more traditionalist . . . hence his spring from thatched romanticism to square brick modern was the more spectacular. Hilversum Town Hall . . . will stand re-examination, [but] the rest has been lost in the dust as the rest of the modern movement went galloping past and left him so far behind that when he died in 1974 many supposed he had been dead for years."

Recent visits to The Netherlands and Hilversum, in particular, indicate that Dudok has been consigned to the dustbins of history too soon. Not simply the town hall, but much of his other work of the 1920s and 1930s stands up quite well, and he is a figure of considerable interest in this new period of re-examining and reassessing the origins of modernism. Last summer a small exhibit of Dudok's work was shown in Holland, and 1984 will mark the centenary of his birth.

Mr. Wilson chairs the architectural history division in the University of Virginia's school of architecture.

Three more Hilversum buildings by Dudok—Dr. H. Bavinck School, 1921 (bottom); Fabritius & Ruysdale Double Schools, 1926-28 (below); and Snellisschool, 1931 (facing page)—and flats in Amsterdam, 1917 (right), by Michael de Klerk.



Hilversum is full of his early buildings.

Dudok's principal achievement came in Hilversum where, between 1915 and 1949, he served as director of municipal works and then as municipal architect. The town, originally founded in the 14th century, became in the later 19th and early 20th centuries a garden suburb of Amsterdam, which is 18 miles distant. In its own right Hilversum became an important "clean industrial" town serving as the headquarters for the Dutch national radio. In 1901 The Netherlands passed a comprehensive housing law requiring all municipalities to provide decent housing. The Dutch had a long history of planning—their terrain required it—and all cities with populations above 10,000 had to have comprehensive plans. The results, especially in economically prosperous cities, were of the most extensive and progressive building programs in the Western world. Dudok originally gained a reputation as a housing expert—and he retained it throughout his life—but ultimately he became responsible for all of Hilversum's schools, baths, municipal buildings, houses, slaughterhouse, bridges, landscaping, and much else. Hilversum today lists 75 Dudok designs within its corporate limits. These include private houses, including his own, but the total number of individual buildings he was responsible for as municipal architect in Hilversum probably numbers at least several hundred. Elsewhere Dudok designed buildings in Turkey, Germany, Iraq, and France, and many structures throughout The Netherlands. The actual number is uncertain, but his career total is certainly in excess of 400 executed structures.

Dudok's best work, that of the 1920s and 1930s, does not fall into any of the usual stylistic categories of the period, though some critics and historians have labeled it Wrightian. Frank Lloyd Wright had a considerable impact in Europe beginning in 1910 with the publication of his work in folio and book form. In the 1920s seven issues of the Amsterdam architectural periodical, *Wendingen,* were devoted to him. Subsequently they

Photographs by Richard Guy Wilson

were collected as a book, *Frank Lloyd Wright: The Lifework of an American Architect* (1925). Dudok also was extensively published by *Wendingen,* and that plus the undeniable Wrightian features of his work have made him a disciple in many critics' minds. But he represents more.

He was originally trained not as an architect but as a military engineer. By 1913 he had left the army and was doing housing. The earliest influences observable upon Dudok are the images and motifs reminiscent of English arts and crafts designers Morris, Voysey, and Baille-Scott, and the native Dutch art nouveau of Hendrikus Petrus Berlage. Berlage's esthetic glorification of good Dutch brick and vernacular building forms, easily seen in his Amsterdam Stock Exchange of 1898-1903, has an obvious link with the concerns of the English arts and crafts. Council housing and a library Dudok designed for Hilversum in 1918 have finely detailed, crisp, gray-red brickwork and contrasting-shaped tiled roofs that come directly from Berlage. The sources are in the Dutch vernacular, and the buildings are intensely nationalistic, as all Dudok's work would be.

The Rembrandt School in Hilversum of 1920 shows Dudok working in the stripped Gothic mode common to the period. The blocky tower has corner notches or setbacks similar to those of Eliel Saarinen in Finland and shortly to appear in the work of Bertram Goodhue and skyscrapers in America. Dudok shows a preference for extensive plain brick surfaces and grouped or banked fenestration patterns. Ornamental detail is sparse and confined to the edge. The plan is long and spread out; Dudok likes single loaded corridor configurations and one-room thick wings.

The Rembrandt School also indicates Dudok's alliance with another phase of Dutch architecture, the so-called Amsterdam expressionist school of Michael de Klerk, Pieter L. Kramer, and Hendrikus Theodorus Wijdeveld. *Wendingen,* edited by Wijdeveld, acted as the mouthpiece of these Amsterdam brick expressionists. De Klerk's workers' flats in the Zaandammerplein, Amsterdam, 1917, can be taken as representative of these expressionist currents, with its odd eccentric forms, exploitation of brick and tile work, and intense texture. Dudok always acknowledged his debt to the Amsterdam group, but his work is, in a sense, a rationalization, a calming, a straightening of its willful excesses. This orthogonalization of the Amsterdam expressionists reflects the powerful impact of the concurrent Dutch art movement, *de Stijl. De Stijl* centered in Rotterdam, and Utrecht was in total opposition to the Amsterdam group. Under the leadership of Theo Van Doesburg and, to a lesser degree, Gerrit Reitveld, J. J. P. Oud and Piet Mondrian, *de Stijl* sought a universal, anonymous, and machine-like expression, suitable for painting, sculpture, and architecture. Clearly this non-national, non-Dutch idiom would be unacceptable to Dudok, but *de Stijl*'s overall grid structure and the volumetric-plastic relationship of parts would make an impact.

By 1921 and the Dr. H. Bavinck School, Dudok reached his full stride, and the typical Dudokian building, with a certain "Wrightian" character, emerged. The building was conceived as a three-dimensional entity and always in perspective, never in flat head-on elevation. The repetition of the same unit, square windows separated by piers on the horizontal plane and then abruptly terminated by a powerful vertical was repeated with variation throughout. The focal point and the hinge of the composition was the entrance corner, the blocks that emerged from one another and coalesced into a tower.

From Wright's designs such as the Robie house, Dudok took and transformed certain elements to make them his own. Wright's forms come from structural elaboration; the pier and lintel become paraphrased at different scales and in different usages. Dudok's forms came not from a statement of structure, but from elaboration of volumes. Volume or mass was played one against another. Wright broke out of the Chicago frame or box; the frame is extended beyond the juncture. Dudok broke out of classical mass and arranged volumes as interrelated and extended units.

In the mid-1920s Dudok designed a number of schools that

Photographs by Wendigen

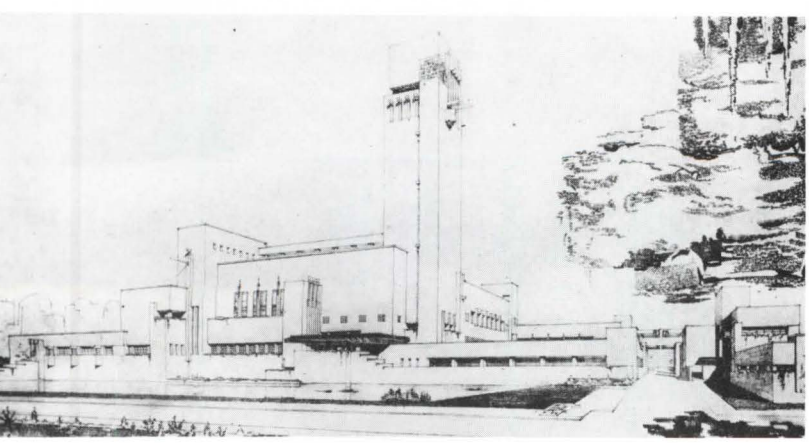
His Rotterdam masterpiece was divebombed.

The De Bijenkorf Department Store in Rotterdam, 1929, shown here, destroyed by German divebomber attacks in 1940, must rank with his Hilversum Town Hall as one of the consummate masterpieces of the interwar years. The large building was extensively glazed and intended to reverse itself between a glistening crystalline shape during the day and a brilliant and glowing light chamber at night. Walls were a series of layers, plastic volumes arranged around a core. A tall Dudokian tower was crowned by a multifaceted rotating glass crystal.

Dudok continued to build throughout the 1930s; however, World War II marked an interruption from which he never fully recovered. The pressure of rebuilding at any cost after the war and the triumph of the functionalist synthesis of the International Style was not in sympathy with Dudok's essentially romantic and intuitive approach. He tried to conform, but his postwar buildings have nowhere the earlier power, wit, and charm; he simply couldn't find his place again. His work was plentiful without distinction. He never wrote much and didn't care for public speaking; his speeches given in the U.S. are of interest but not memorable. He was in fact critical of the designer-publicist who could get four books out of each building. And finally he was forgotten, considered a has-been of minor interest, whose death was either ignored or briefly noted in the same journals that used to fight to publish his work.

investigated abstractions of traditional imagery. Typically Dudok liked large, long, basic horizontal forms that were then pierced and elaborated by windows and doors. The Juliana School is a connected double school, each grade portion having its own character. The section for children under 5 has a pitched blue tile roof over a red brick base and a whimsical "maypole" tower. The upper school is more austere: flat roofs and narrow slits of windows cut into the magnificent brick forms. Fabritius and Ruysdael are also connected double schools, whose arresting "rural" character indicates why the more rigid and serious modernists of the International Style persuasion found Dudok so difficult to take seriously. A magnificent "Goois" or Dutch thatched roof spreads over the long, strung-out wings of the building. Dudok observed: "The beauty of the slanted roof consists of the fact that it forms a quiet and safe cover and it shows to full advantage when it rests like a pillow on the building, devoid of complicated shapes and in a most simple manner." The lower brick walls have varying fenestration patterns, though all have windows pushed up to the eave line to create a continuous void over which the extended eaves hang. At one corner the roof dramatically sweeps out in a cantilever which creates a dark cavity and acts as the passage for the entrance.

Hilversum Town Hall in three recent views, and a drawing, dated 1924, by the Dudok office.



Hilversum town hall is his monument.

Easily, Dudok's most famous work is the Hilversum Town Hall, initially designed in 1917, redesigned in 1924, and constructed during 1928-1931. Dudok controlled every design feature and reportedly suggested, as it was about to be opened, that it should never be occupied, but simply become a monument. Located in a verdant park, the building is intended to be seen in contrast to nature. The yellow brick—longer and thinner than standard Dutch bricks and analogous to Wright's "Roman" bricks—refers to buckwheat fields that used to occupy the site. The horizontal mortar joints are deeply raked. Providing contrast against the yellow brick are piers of buff brick, a base of gray-red brick, and sheltered cavities covered in blue tile.

The plan is pinwheel in form. Linear single loaded corridor

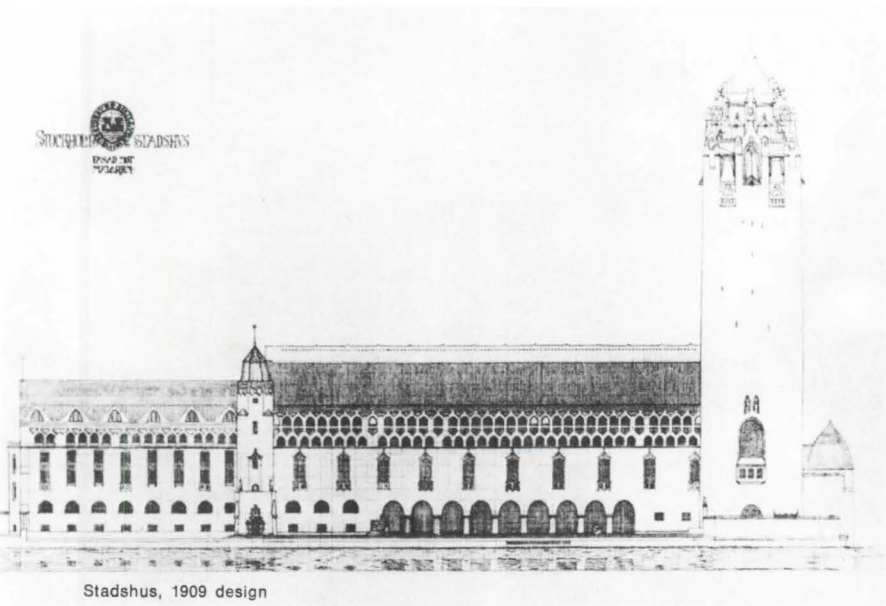
Photographs by Richard Guy Wilson

units enclose an inner courtyard and an auto court. The entire composition is conceived in rotation, with the focal point, the tower, at one edge marking the major entrance. The approach is around the building on a series of short, right-angled paths that skirt the lake and fountain and ultimately bring the visitor parallel along the facade to the entrance. Volumetric forms re-reveal inner spaces and create a staccato rhythm.

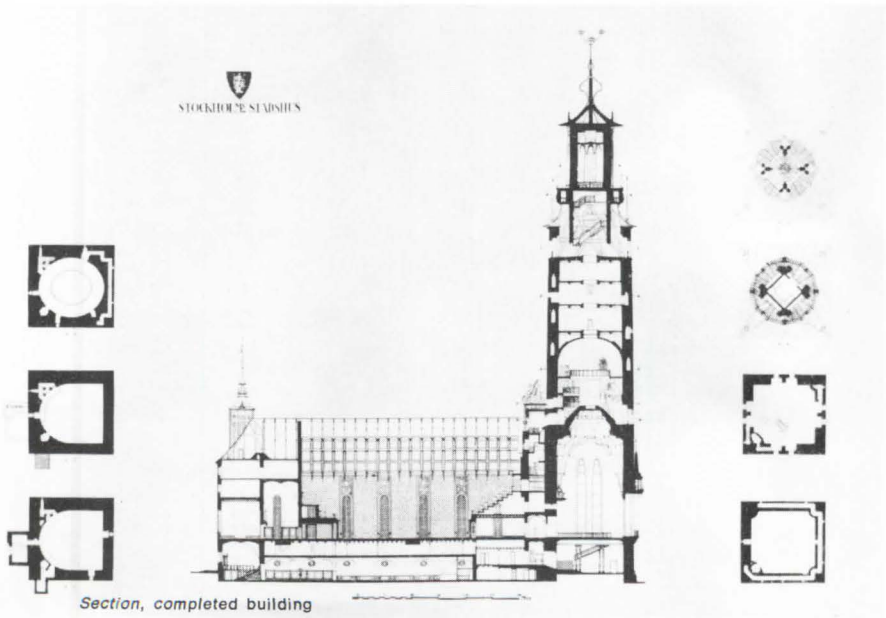
On the interior, spaces and ceiling heights are varied. A large vestibule and stair hall give access to the upper floor that contains the major public spaces of a council chamber and reception room. Large sheets of white marble—somewhat incongruous and cold—cover the walls of the circulation spaces. The council chamber is more colorful; gold tile, light oak, and a green fabric with gold geometric patterns cover the walls. High-backed chairs of ebony, upholstered in a gray and black material, recall the furniture of both Mackintosh and Wright. The floor is white marble covered by a silver and gray patterned carpet. Elsewhere, the interior is more austere, though colorful.

Beginning in the later 1920s Dudok employed more glazing in his designs, opening the facades. Yet his interest in plasticity never allowed him to treat glass as a perceptually inert material, as a simple blank in the wall, as did so many of the International Style designers. Instead, Dudok tended to use extensive mullions to create pattern, texture, and density and to create volumetric glazed forms. Several of his buildings show the influence of Erich Mendelsohn, who was an acquaintance.

At his best—in the 1920s and 1930s—Dudok was very good. His work equals and in general outshines anything else on either side of the Atlantic. He is certainly worth another long and sustained examination. □



Stadshus, 1909 design



Section, completed building

Ragnar Östberg: Evolving Out Of Eclecticism

'He never could make the leap' to modernism. By Richard Guy Wilson

Richard Guy Wilson

Seen from across Stockholm Bay, the Stadshus or Town Hall emerges like an apparition from the water, a modern castle in color, form, and towers. The plum red bricks, the soft green copper roofs, and the sparkle of gold and glass contrast with the blue bay and the chromatic blue sky. A massive, long form, differentiated into sections and pierced by arcades and various sized windows, the huge tower pushes out and up, indicating the civic nature of the building and emphasizing the confidence of those who imagined and built the structure.

So did the Stadshus appear to architects and critics of the 1920s and 1930s who made their pilgrimages to Stockholm to inspect, criticize, and praise this building, which was widely regarded as one of the few genuine architectural masterpieces of the period. Today, the Stadshus and its architect, Ragnar Östberg, have largely disappeared from the non-Swedish architectural consciousness; however, a recent visit to Stockholm reveals the building still exerts considerable power, and, along with Östberg, is worth further consideration.

During the interwar years, the Stockholm Stadshus and Ragnar Östberg's other work received considerable attention in the architectural press and made a significant impact abroad. In England the Stadshus influenced numerous public buildings, and among architectural students Östberg was the hero of the hour. The Royal Institute of British Architects gave him the royal gold medal in 1926 in a ceremony still remembered for pomp and elegance. In the U.S., the president of AIA, Milton B. Medary, addressed the annual convention in 1927 on the state of contemporary architecture and cited the Stockholm Stadshus as exemplary of "the so-called 'modern' movement." AIA's board of directors voted in 1932 to give the Institute gold medal to Östberg; next year, President Franklin D. Roosevelt presented the medal to Östberg at the White House. A 1932 poll of American architects placed the Stockholm Town Hall 13th among most admired buildings. Even as late as 1948, the Stadshus was rated 25th in a poll of AIA members.

Östberg's architecture is difficult to categorize since he exhibits two generally contradictory tendencies that typify much of early 20th century architecture: historical *eclecticism* and, alternatively, a search for a new and modern expression. He was born in a suburb of Stockholm in 1866; his contemporaries were Frank Lloyd Wright, born in 1867; Peter Behrens and Charles Rennie Mackintosh, born in 1868; Edwin Landseer Lutyens and Bertram Goodhue, born in 1869; Lars Sonck, born in 1870; and Eliel Saarinen, born in 1873. Along with his contemporaries, Östberg sought an emotional—hence romantic—expression, one that evidenced a respect for national and often regional practices, traditions, and concerns, but escaped the trap of historical revivalism.

In Scandinavia Östberg is frequently classed as a romantic nationalist in company with Saarinen and Sonck of Finland and

The blue hall, right, is so named, although Östberg's original design calling for marble facing was changed to brick. Facing page, an antechamber leading to the prince's gallery.

Photographs by Richard Guy Wilson

Scanning the past for a national style.

Martin Nyrop of Denmark. The origin of their architectural philosophy, and that of Wright, Goodhue, and Lutyens, for that matter, is more complex but ultimately lies in the arts and crafts movement initiated by John Ruskin and William Morris in the mid-19th century.

The belief in reviving the crafts, in creating an architecture based upon and respectful of its immediate locality and nature, and yet of its own time, was the message preached by Ruskin, Morris, and their followers. The arts and crafts ultimately inspired a series of national and regional art movements of the turn-of-the-century period: art nouveau, modernismo, the free style, the Glasgow style, the secessionstil, the jugendstil, the Prairie School, the mission style, and in Scandinavia, what is called, for lack of a better term, romantic nationalism.

Östberg's education in Stockholm at the Institute of Technology and the Royal Academy of Arts followed the usual Beaux-Arts model, a heavy emphasis upon composition, plan, and knowledge of the styles, especially classicism. He graduated with a gold medal for his design of a new Stockholm Academy building, reminiscent in its overly ornate character of the Paris Opera. A nascent interest in Swedish vernacular building received reinforcement through his employment on I. G. Clason's design team for the Nordiska Museum, a national museum of the Swedish arts. A large masonry pile combining Gothic, Renaissance, and several other foreign idioms, the Nordiska influenced Östberg not in specific styles, which he would disown, but in the question of a Swedish image. Clason can be seen as the Swedish equivalent to America's H. H. Richardson, and he influenced Östberg much in the same way as Frank Lloyd Wright drew upon and also rejected Richardson.

Östberg also traveled extensively in the 1890s. He came to the U.S. in 1893 and saw the World's Columbian Exposition in Chicago, where he admired in particular the designs of Louis Sullivan. He attempted, unsuccessfully, to find work in Chicago; whether he ever met Sullivan is doubtful. Elias Cornell, author of the only study of Östberg's work *(Ragnar Östberg, Svensk Arkitekt,* Stockholm, 1965), feels Östberg was the first Swedish —and possibly the first Scandinavian—architect to know firsthand and to praise Sullivan's work. In 1896 Östberg began a three-year tour of England, France, Germany, Italy, Spain, and Greece.

Returning to Stockholm in 1899, Östberg acquired a reputation as a suburban and country house architect. Drawing on the native Swedish wooden house tradition, Östberg created villas such as Ekarne (1905), in a suburb of Stockholm, a localized art nouveau expression. The walls of most of his early houses are either logs, clapboards, vertical boards, or shingles. Ornament is generally a stylized geometric pattern based upon Nordic rune characters and emblems. Extensive terraces and porches open and tie the houses to the site. In plan, Östberg showed a preference for asymmetrical compositions, and, while rooms (because of the harsh winters) remained particulated spaces, he attempted to open the center of the houses through stair halls and windows.

The building that occupies most of Östberg's middle career began with the announcement of a competition in 1902 for a new municipal building for Stockholm. Intended to serve both the city administration and law courts, subsequent competitions were held in 1903 and 1904. Finally in 1908 came the decision to separate the functions; Carl Westman, a close friend, received the law courts commission, and Östberg the town hall commission. Redesigns took place in 1909, construction began in 1911, and, with many changes, the Stadshus opened in 1923.

Östberg's concern with the site, the end of an island in Stockholm Bay on Lake Mälar, is evident with the earliest drawings. He experimented with several forms but inevitably returned to a long horizontal mass terminated by a huge tower. Certainly the models uppermost in his mind were Martin Nyrop's Copenhagen Radhus (1892-1905) and Hendrik Petrus Berlage's Amsterdam Beurs (1898-1903), both huge, blocky brick buildings with towers and double courts. While this is the *parti* of Östberg's design, he sought to create an image that would be quintessentially Swedish. His evident concern is apparent in an article he wrote in 1908: "In our country, as in many other lands, the excessive amount of foreign material has prevented the development of a uniform national type of architecture. . . . The problem of the day with Swedish architecture is to develop a national architecture based upon the study of national edifices." This meant looking at the past of Sweden: cathedrals, churches, castles, and houses. Also, Östberg recognized the special cosmopolitan character of Stockholm, a city on the sea, the "Venice of the North." Fragments of images seen on his trip abroad made their way into the design over the years, and yet the Stadshus is conceived of as Swedish—a large civic castle—strong, independent, and solid. Swedish castles are perhaps the most evident source of the Stadshus, and the awkward proportions and composition of the building are self-consciously related back to this source.

The earliest drawings, and even those up to 1909, contain distinct art nouveau mannerisms, especially in the tower. The tower in the 1909 design has a complicated, set-back crest reminded of the towers in Eliel Saarinen's Helsinki Railroad Station of 1904-1915, Lars Sonck's Kallio Church of 1907-1912, also in Helsinki, Joseph Hoffman's Palais Stoclet of 1905-11, and Bertram Goodhue's Nebraska State Capitol of 1920-1932.

Courtesy of Elias Cornell

Embodying the virtues and vices of historicism.

With redesign, Östberg's evident art nouveau stylisms drop away, and he uses forms drawn from the towers and belfries of Swedish medieval and Renaissance churches and castles. The final tower becomes more emphatic. It is moved forward and nearly detached from the building. The top is an open belfry lantern, topped by a golden orb and "three crowns," the arms of Sweden. Elsewhere in the design, such as the smaller towers, the art nouveau style disappears; however, Östberg's treatment of historical sources is art nouveau in freedom, exaggeration, and distortion.

The 1909 design called for granite as the material. This was replaced by a large 11x4-inch plum colored brick. Treated in a northern medieval manner, the brick is laid up with deeply raked horizontal joints. It gives the primary texture and plane to the exterior; walls are broad, thick surfaces with window reveals of different depths to emphasize thickness and function. Ornament is confined to the important openings and the skyline.

The plan indicates Östberg's attempt to avoid the symmetries of academic planning and yet retain the power of linked particulated spaces. The larger court is open and called the citizen's court, the other is enclosed and named the blue hall. Arranged on the *piano nobile* and enclosing on three sides the citizen's court are the major ceremonial spaces: the council chamber, the banqueting hall, and the prince's gallery. Two major staircases, one from the blue hall and the other, the "arch of the 100," a 60-foot-tall space under the greater tower, provide access to the second level. Administrative offices are arranged in the remaining spaces of the ground and upper levels and in the office wing that surrounds the blue hall on three sides.

The approach through the north facade is unassuming. Östberg intended for an annex he designed to be built across from the entrance so as to create a *place* or forecourt; it has never been built. Entering through a deep arch in the north wall, one emerges into the open court and is drawn directly ahead through the open arcade to the green grass of the terrace and the blue of the bay. The arcade is carried on semi-Doric columns with carved capitals containing Nordic emblems. The blue hall is entered through a low dark vestibule, and one emerges into a space lit on three sides by high clerestory windows. The term blue is derived from Östberg's original design for a hall sheathed in marble, but it was redesigned to be constructed primarily of a red brick. He attempted unsuccessfully to rechristen it the Red Hall. The brick here is of the same size as the exterior and is chiseled and carved *in situ* into low relief panels, again following a Nordic medieval tradition. The walls have a crispness of line and fanciful character distinctly art nouveau. At the top of the staircase and leading to the banqueting hall, a violently exaggerated semi-classical pediment—Spanish in feeling—pushes upward a series of emblems, symbolic of the city.

Östberg intended the Stadshus to display the revival of Swedish arts and crafts, and hence the building was to be embellished with metalwork, frescoes, mosaics, wood carving, and furniture,

Above, Östberg's crescent-shaped Naval Museum, Stockholm, of 1931-34. Right, the Stadshus arcade and Stockholm Bay.

Richard Guy Wilson

designed and made by the best craftsmen and artists of the day. In the banqueting hall, also known as the gold hall, Einen Forseth provided a glistening chamber of marble and mosaic displaying mythical and historical Swedish heroes. For the prince's gallery and its circular antechambers, J.A.G. Acke provided low relief plaster frescoes depicting nude classical figures. A colonnade of paired black marble columns with white capitals screens the inner wall, which is decorated with a brilliantly colored fresco by Prince Eugene, the artist brother of the king. Portrayed in a symbolist-whiplash line are reflections of the panorama visible from the windows on the opposite wall. The final major public space, the council chamber, has a heavy hammer beam roof recalling the meeting rooms of earlier Swedish meeting houses.

While the redesigning and construction of the Stadshus preoccupied Östberg almost completely from 1909 through the early 1920s, a few other designs were produced. Several plans for central Stockholm were, in general, ignored by the authorities. Östermalm's Secondary School for Boys in Stockholm (1910) uses large, plastic—almost cubistic—brick masses with granite bases and floating, continuous red tile roofs. Voids for entrances and fenestration vary according to function, from deep cavities to extensions of the wall plane. A design of tremendous power almost completely unknown outside of Sweden, the school bears a strong resemblance to the contemporary work of Hans Poelzig, the German expressionist architect.

This expressionist-art nouveau urge in Östberg that we have seen tempered in the redesign of the Stadshus was completely disowned in the 1920s and 1930s in favor of neoclassicism. The 1921 Royal Patent Office in Stockholm is of brick and large, but the primary effect is of careful adjustment of proportions and classical stasis. Stockholm's Naval Museum of 1931-34, with a cylindrical central pavilion and curving wings, hearkens back to the primary forms of the French visionary architects, Boulée and Ledoux. In this movement toward classicism, Östberg is part of the general Scandinavian neoclassical trend of the 1920s, as can be seen in the works of Alvar Aalto and Gunnar Asplund. However, they were younger than Östberg, and he never could make the leap as they did from neoclassicism to radical modernism of the International Style or what the Scandinavians came to call functionalism. Ironically, his naval museum was built on the site of the Stockholm Exposition of 1930 where Asplund introduced functionalism to Sweden. He did try one functionalist building in Stockholm, but it is undistinguished. So Östberg lived out his life until his death in 1945, the most distinguished and honored Swedish architect of the 20th century, but at odds with the increasingly dominant trend.

With the new interest in architectural history and the new permissiveness, Ragnar Östberg may once again return to center stage. His work illustrates both the virtues and the vices, the success and problem of using historical images and ornament to convey meaning. The Stadshus has great moments, but it is also flawed. Too much is attempted; the proportions become exaggerated in the rush to include all. The intended message is muted as a result of the great wealth of ideas and images. Yet it is a great building and a moving experience—a building that should be known and admired, for it still has a voice and a presence. □

BOOKS

Research Reveals Gothic 'Structural Rationalism'

Experiments in Gothic Structure. Robert Mark. (MIT Press, $15.)

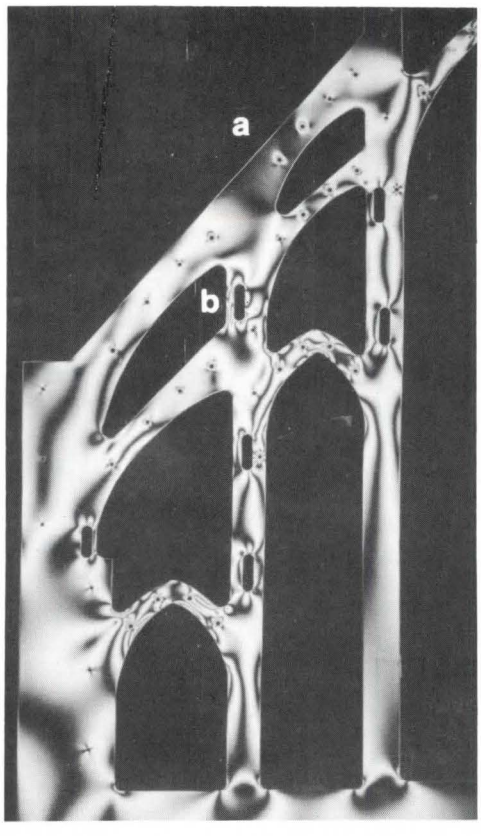
This work stands squarely in the structural rationalist tradition of medieval architectural studies. Robert Mark has used a variety of modern techniques for testing the technical performance of buildings to produce what is, in effect, a long, appreciative meditation on the work of Eugene Emmanuel Viollet-le-Duc and Pol Abraham that will intrigue architects, engineers, preservationists, and architectural historians alike. The nature of Mark's enterprise will be familiar to readers who encountered some of the dozen-plus articles that he and his associates have published over the past 20 years. The diversity of the architectural, scientific, and art historical journals that published the articles, and of the collaborators with whom Mark wrote them, is an indication of the complex, interdisciplinary nature of the research involved.

The core of this analysis of Gothic structure depends on photoelastic and numerical modeling of (mostly French) Gothic buildings. In the former, a two- or three-dimensional epoxy model of the structure is loaded with weights scaled to represent the dead-weight and wind loadings on the actual structures. The loaded model is heated and then cooled. When it is subsequently photographed through special filters, color patterns that Mark likens to "contour maps of strains" reveal critical areas of tension and compression within the building. Numerical modeling involves the similar assessment of strains in three-dimensional structures such as vault webbing, but relies on computer simulation rather than on the physical reproduction of structures. In addition, Mark turns to more traditional forms of stress analysis, on-site observation, and the building history research of architectural historians to flesh out the laboratory experiments.

Though the author's methods are scientific, his concerns are historical. He wishes to know about three major issues. First, how did Gothic structure evolve in the absence of the precise knowledge of structures that has only recently become available? Second, what light does this shed on the long-standing debate between those like Viollet-le-Duc, who would interpret Gothic architecture as the product of an intentional search for rational structure, and those who see it as "artistic illusionism," that is, as a visual art? Finally, Mark asks, what relevance does this information have for an understanding of the structural behavior of modern buildings?

The substance of the book consists of a series of "experiments" with the structure of key Gothic buildings, each test aimed at lucidating a particular question about their structure raised by modern students. The initial inquiry concerns the flying buttresses at the cathedrals at Chartres and Bourges, particularly the upper tiers of flyers often thought to be structurally unnecessary. Mark's research convinced him that the upper flyers at Chartres do perform a service in resisting high wind loading on the upper piers, although they are not ideally designed for that function. The more innovative, steeply angled buttresses of the Bourges choir reduced costs and performed more effectively, although this was not appreciated by contemporary masons, even those who built the nave at Bourges. An analysis of Amiens Cathedral likewise confirms Viollet-le-Duc's theory about the structural utility of pinnacles, although he apparently misconstrued their action. Investigation of the Beauvais Cathedral showed that the famous collapse of the high vaults in 1284 resulted from poor design of the intermediate pier buttresses, and that the failure probably occurred, ironically, just at the point that Viollet-le-Duc had singled out as an outstanding example of rational construction.

Below, Robert Mark's model of the structure of Bourges Cathedral, showing photoelastic interference patterns that reveal areas of tension and compression.



More conventional analytical techniques are called upon in the discussion of the large inverted arches at Wells Cathedral, which were installed to offset structural damage created by the introduction of a crossing tower. While these arches are normally thought to have relieved that stress, it is in fact the less conspicious wall buttresses that do most of the work. Indeed, structural movement had probably ended before any of the reinforcement was undertaken.

Most historians of Gothic architecture have asserted that the collapse of the high vaults at Beauvais ended structural experimentation in Gothic building. Henceforth, architectural modesty and reliance on the tried and true structural solutions was the rule. Mark sees the cathedral at Palma and the Church of St. Ouen at Rouen as refutations of that argument. The former utilized piers far more slender than had ever been attempted. In the latter, the flying buttresses were disposed of in a novel manner to achieve a light structure.

Finally, Mark tackles the problem of Gothic vaulting. How does it work? What is the function of the ribs? He disproves Pol Abraham's assertion that a vault acts as a series of arches, with forces traveling the shortest route to the groins. Instead, Mark says, the direction of forces is down the web toward the springing. The ribs, therefore, have little structural function and, indeed, they add unnecessary weight to the structure.

Each of the chapters illuminates an important issue in the action of Gothic

continued on page 60

Project: The Drury Lane Theatre at Water Tower Place
Carpet Mill: Wunda Weve®
Fabric: Wall Street
Color: Burgundy Red

When your eye says beauty, but logic demands performance...

Anso IV makes a carpet more beautiful... and keeps it fresh and newer looking far longer. Anso IV dyes deeper than other nylons so colors are sharp and clear. And they stay that way with no spray-on protective coating to dull them. Styling is rich and beautiful, patterns crisply defined; in all lusters, deniers and finishes.

Anso IV actually resists soil, spills and stains others try to hide. Only Anso IV offers built-in, 4th generation protection to make routine care faster and more effective, improve appearance retention, postpone cleaning and reduce maintenance problems and costs. No other contract nylon can match its effectiveness. **Don't settle for less than the best!**

Anso® IV ALLIED CORP. NYLON

The 4th generation nylon that made all other carpet fibers obsolete.

ALLIED Corporation
1411 Broadway, New York, NY 10018

Circle 67 on information card

Books *from page 58*
structures. Whether they justify the conclusions that Mark derives from them, however, is open to question. In answer to the first of his three inquiries, about the evolution of Gothic structural knowledge, he suggests that master builders in the middle ages were able to learn from their predecessors, in part because of the "forgiving" nature of masonry construction. A degree of latitude is possible in vault geometry and in other aspects of stone building that allow the adaptation of features from one building to another without the precise recalculation of shapes and dimensions. Furthermore, he suggests, in working bay by bay, the Gothic builder was able to use his structure as an experimental model of itself, correcting flaws in design along the way. Both of these points are sound, although no design modifications in the course of routine construction are cited from observation.

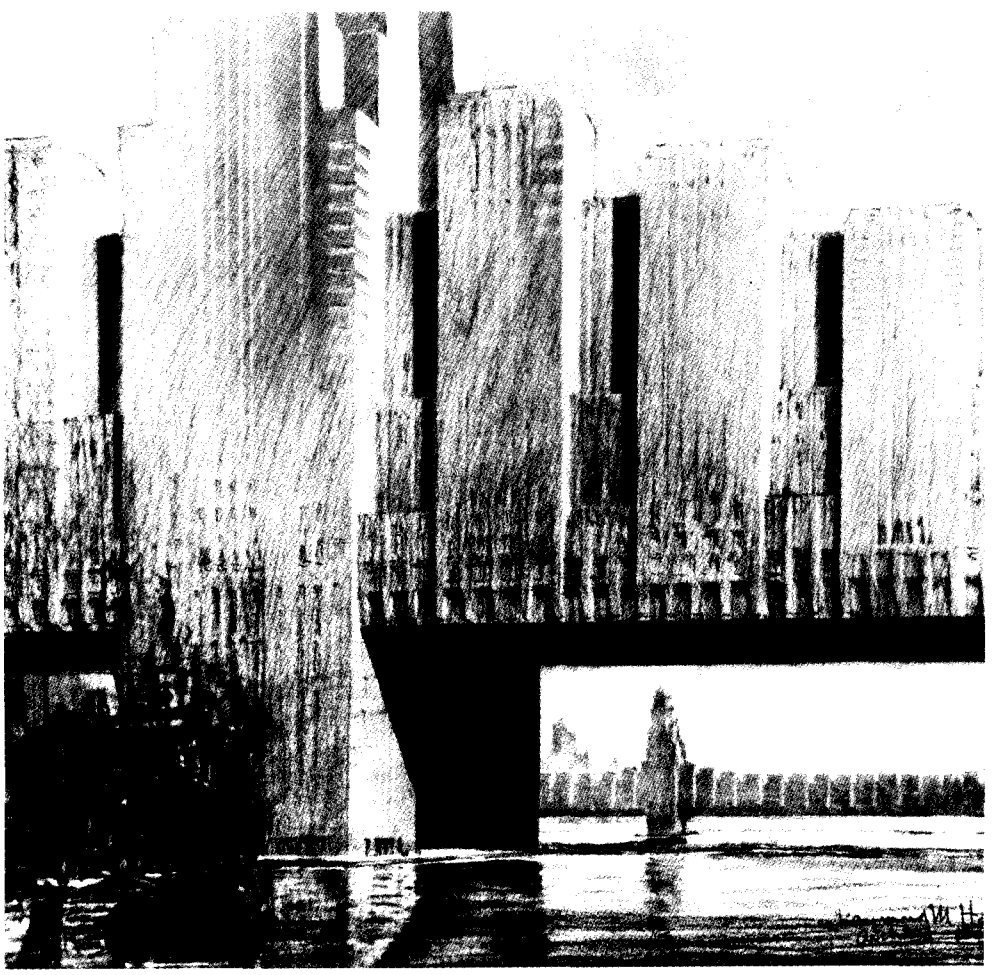
Mark then goes on to answer his second question, about structural rationalism, in the affirmative. Viollet-le-Duc was correct, in his judgment, in assuming that the medieval mason strove for efficiency of structure, and that he perceived the consequences of the decisions that he made during the building process. Gothic architecture was structurally rationalist, in other words, since the "elegance" of Gothic structural solutions convinces Mark that medieval masters possessed a pragmatic experimental method that allowed them to make and alter their decisions during the course of construction. Yet it seems to me that this answer begs the important historical question of intention and understanding, which can be answered only incompletely from the buildings alone. To show that Gothic buildings work, and to show how they work, is not necessarily to demonstrate that this understanding was available to the builder. Indeed, Mark says that it was not, and shows that even sophisticated observers like Viollet-le-Duc and Abraham often misunderstood the function or lack of function of certain key elements of structure. Even assuming the intent, the content of the builder's understanding is not specified. It is conceivable that many structural solutions worked in spite of their builders' intentions, as some of Mark's evidence suggests—the failure to perceive the structural merit of the Bourges choir; the relatively useless, if visually exciting, inverted arches at Wells; most spectacularly the collapse of the Beauvais vaults.

Mark asserts that Gothic builders sought economy. "It is sometimes argued," he writes, "that the concept of efficiency, which leads architects to minimize costs by more effective design and by reducing the amount of material needed for a building project, is only a relatively recent manifestation of modern, technological society. It seems more probable, however, that economy of structure was indeed an important consideration during the building of High Gothic churches." No doubt this is true, but this definition of economy is still a historical one. Assessment of costs and building requirements changes drastically over time, and economy, anthropologists have shown, must consequently be thought of as a matching of all means to all ends as judged appropriate in the terms of a historical culture. A definition of economy that is based primarily on monetary concerns, and which posits in addition that there is a single best way to accomplish a given task, is indeed a modern one, despite the disclaimer. While one is willing to admit Mark's claim that Gothic buildings work very well, and that Gothic builders strove for some sort of optimum structure, the relationship between their enterprise and Mark's data has to be judged, not proved.

Mark's third line of inquiry, about the application of the understanding of Gothic structure to modern architecture, also misses the mark a little. Except for a few general precepts about the principle of structural honesty, its usefulness lies primarily in the technical method, rather than in the subject matter, as he shows in his brief discussions of Nervi's Small Sports Palace and of Yamasaki, Hellmuth and Leinweber's St. Louis Airport terminal.

To have reservations about Mark's claims to have settled important questions in the historiography of Gothic architecture is not to deny that this fine book is a major contribution to the literature. The debate among the advocates of structural

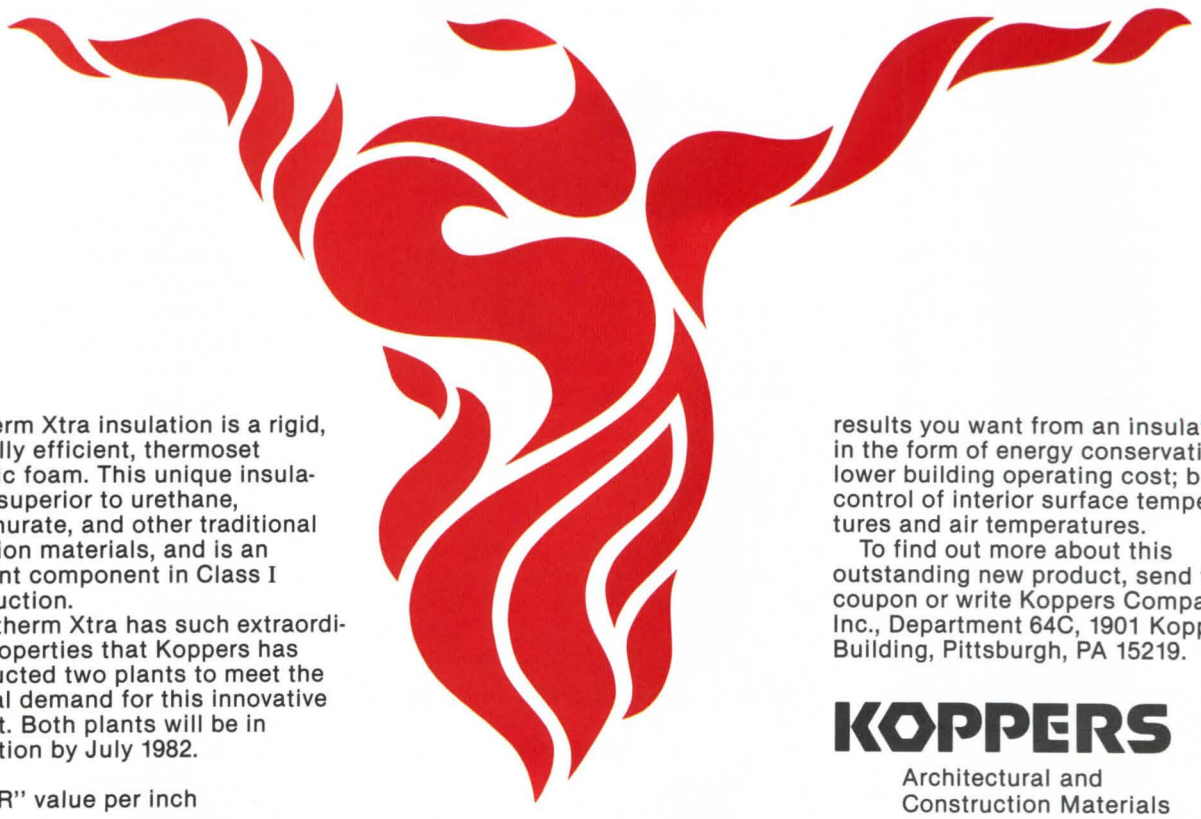
continued on page 62



Raymond Hood. Essay by Robert A.M. Stern, with Thomas P. Catalano. (Institute for Architecture and Urban Studies and Rizzoli, $18.50.) In this catalog of the work of Raymond Hood (1881-1934), winner of the competition for the design of the Chicago Tribune tower competition in 1922, Robert A.M. Stern provides an introductory essay on Hood's contributions. The remainder of the volume is given over to captioned photographs of Hood's works and projects and to a bibliography compiled by Thomas P. Catalano. Called "our greatest skyscraper architect," Hood "excelled at monumentalizing the inherently nonmonumental, leaving a legacy of ironic landmarks . . . whose value as working environments and whose esteem as corporate symbols not only endure but increase," Stern says. Depicted above is a detail perspective of a housing/bridge scheme for "Manhattan 1950" (New York City, 1929).

IT'S HERE! EXELTHERM Xtra®

...the superior insulation with extraordinary fire resistance and thermal retention properties



Exeltherm Xtra insulation is a rigid, thermally efficient, thermoset phenolic foam. This unique insulation is superior to urethane, isocyanurate, and other traditional insulation materials, and is an excellent component in Class I Construction.

Exeltherm Xtra has such extraordinary properties that Koppers has constructed two plants to meet the national demand for this innovative product. Both plants will be in production by July 1982.

Xtra: "R" value per inch

Xtra: fire resistance properties ASTM E 84
- Flame spread—20
- Smoke development—5

Xtra: dimensional stability... more stable than other foam insulations

Xtra: safety... the potential fire hazard of many other insulations is virtually eliminated

Xtra: high thermal-resistance/ thickness ratio

Xtra: good water vapor permeability

With its extra-valuable combination of properties and characteristics, Exeltherm Xtra will maximize the results you want from an insulation in the form of energy conservation; lower building operating cost; better control of interior surface temperatures and air temperatures.

To find out more about this outstanding new product, send the coupon or write Koppers Company, Inc., Department 64C, 1901 Koppers Building, Pittsburgh, PA 15219.

KOPPERS

Architectural and Construction Materials

T26-8202

☐ Please send literature on Exeltherm Xtra

☐ Please have a representative call

Name

Title

Company

Address

City State Zip

Phone

Circle 68 on information card

Books *from page 60*
rationalism and artistic illusionism will continue, but no one will be able to participate intelligently without taking careful account of Mark's work. His analysis of the action of Gothic structures seems definitive, and it is presented in a remarkably clear and concise style that makes it immediately accessible to the general reader. Not only will *Experiments in Gothic Structure* be of use to architectural historians, but it will undoubtedly be suggestive to designers and engineers, and the precise descriptions of the actions of these astounding buildings may inspire in their keepers more effective and more subtle conservation procedures than have been possible in the past. *Dell Upton, Winterthur Museum, Winterthur, Del.*

Daylight in Architecture. Benjamin H. Evans, AIA. (McGraw-Hill, $29.95.)

Discussions in daylighting today focus on computer analysis versus graphic techniques versus model building. In this book, Benjamin Evans suggests "that the architect and lighting designer not be overly concerned with all the research reports, technical articles, and computer data which espouse finely tuned lighting systems and lighting levels that must meet someone's laboratory-developed criteria. The good architect has a finely tuned sense of intuition, which, ideally, allows the total design to be seen in the proper perspective." But, he goes on to say, "Intuition can only be effective if it is based on a thorough understanding of the fundamentals of good lighting (as well as other design parameters)." In a handful of sentences, he dismisses daylighting computer programs, etc., and, after a discussion of the fundamentals, goes straight to model building.

This book is a good introduction for students, but it can also be useful to all the persons involved in a potential daylighting design—from the architect, to the lighting and HVAC engineers, to the building owner. With an understanding of the basics from the very beginning of a design job, the parties understand their individual roles and those of other team members. If daylighting is a primary goal from the start, "allowing daylight to influence spatial relationships, form, and detail . . . the first-cost investments specifically attributed to daylight may be small, and probably difficult to delineate."

Evans knows from his *experience* that a good building design must be a compromise of many design issues. He explores the relationship of daylighting with electric lighting (although all too briefly), acoustics, natural ventilation, structural elements, thermal loads, spatial quality, and esthetics.

The strongest chapters are about the biological and psychological needs for light and the major factors in the seeing process. How many designers realize that a "good" view actually has three requirements: a view of the sky—for information on the time of day and weather conditions, and the varying light exposure that breaks monotony; a view of the horizon—for a sense of stabilization; and a view of the ground—to tie us with worldly activities?

The book includes two excellent tables for those wanting to know adequate minimum lighting levels for different tasks. The tables were adopted by the Illuminating Engineering Society in 1979, and take into account task and ambient lighting, the reflectance of the task background, the type of task involved and the speed or accuracy desired, and the workers' ages. Weighting factors are determined to choose the high, middle, or low figure given in the range of illuminations for each particular task.

By introducing the basic principles, Evans lays the groundwork for a chapter on the goals of daylighting and the factors that affect the shape of a space. Clear descriptions and good graphics describe the effect of lighting levels due to changes in window width and height, window height above the task, directions of light (unilateral or bilateral), room depth, overhangs, and surface reflectance.

But the major value of the book is the chapter on designing with models. Light behaves the same in a model as it does in the full-scale space. Therefore, models can provide an opportunity to compare lighting levels and the esthetic qualities of an original design, and the designer's modifications to that design.

Evans describes exactly what does and does not have to be duplicated in detail from the full-scale to the model. A brief discussion of materials and scales is presented, with more careful attention given to instrumentation. The pros and cons of generic photometers are explained so that the consumer will know what to look for, and a survey comparison of different manufacturers' products is given. Evans goes on to describe the actual routine of model testing, what readings to take, as well as how and where to take them. Tips are given also for model photography. Models enable the designer to measure actual light levels, but they also give both the designer and the client a chance to get a feel for the space and its lighting. According to Evans, who has built models from ⅛-inch to full-scale, "Quality of light is more significant than quantity."

To supplement the principles, the book includes a chapter of "case studies" of buildings by such well-known designers as Kahn, Saarinen, Pei, among others. These case studies might be more aptly described as "briefs," because they just barely accent successful or unsuccessful parts of the designs. Many of the photographs in this chapter, as well as in other parts of the book, suffer from poor contrast, or slight over or under exposure —something easy to sympathize with if you have had experience in interior photography and have tried to find the middle exposure between interior surfaces and window glare. But their use is questionable in a book dealing with that very subject on a broader scale.

Evans includes one chapter about cost-effectiveness and an appendix on life cycle costing. Each could have been made shorter or even eliminated—not just because the figure/table cross-reference in the former is confusing and three figures are omitted from an example in the latter. The major point of the discussions is to explain what first and annual costs need to be taken into account when working out cost-effectiveness. These could have been outlined in a table, with a minimal amount of text. After all, as Evans says earlier in the text, "The lack of data on daylight availability puts economic and energy comparisons on rather shaky ground and increases the need for designers to be persuasive if they want to use daylight."

Daylight in Architecture will supply the beginner with the principles for persuasion and the methodology for applying the fundamentals to experimenting with models. But don't think that any architect armed with fundamentals—good or bad —can rely immediately on intuition for good daylighting solutions. Intuition is based on *experience. Jennifer A. Adams, Associate Editor of Building,* Solar Age Magazine

Structural Concepts and Systems for Architects and Engineers. T.Y. Lin and S.D. Stotesbury. (Wiley, $31.95.)

Without any doubt, the toughest job in teaching students about structures is that of explaining how to choose the best system for a specific project. Not only are the choices many, but the reasons for choosing one system over another are also many. The authors of this text have attempted this most difficult task by establishing a "three-cycle learning strategy."

The first cycle, presented in chapters one through five, involves an understanding of the basic forces and conditions of equilibrium on a variety of building forms as viewed holistically. The second cycle, chapters six through nine, breaks the forms down into components or subsystems as beams, columns, floors, walls, frames, and the like. Explanations of how these components work are given in logical fashion through words, drawings, and mathematics. Representing the third cycle, chapters 10-14 encompass certain special building types as tall and long span structures,

along with the subjects of foundations, construction, and cost. The sections on construction and cost are particularly gratifying to see as both aspects can greatly influence a design, yet are often downplayed in architectural schools. Throughout, approximating analysis and design methods are used for simplicity. Have no fear of encountering number-numbing computer printouts or obscure matrix calculations.

The entire book is absolutely packed with good solid information, much of which is derived from T. Y. Lin's own considerable experience. Many of his own projects are illustrated as examples. Of special interest are his hyperbolic parabolical roof in Puerto Rico and his curved suspension bridge proposed for California, both of which are covered in some detail in the appendix. One regrets that Lin did not take the occasion to philosophize at a personal level on the evolution and development of these structures since students are generally unaware of all the preliminary thinking and skirmishing that takes place before a final solution is found.

The only significant omission noted in this well-stuffed volume is the exclusion of pneumatic structures, a typology of growing importance. Paradoxically, because the text is so packed, it is not for everyone. The mathematics are kept simple, but the topics are dealt with in a professionally demanding manner. Consequently, beginning students will find it heavy going. Advanced architectural or engineering students, along with young practicing architects or engineers will find the book's contents rewarding. Good structural decision making draws from an extensive background in theory and experience that few students possess; thus, trying to communicate such important knowledge comprehensively is a challenging if not impossible task. (I make this comment as one having written a book on structural concepts myself.)

No book can do it all, but this text by Professors Lin and Stotesbury takes the job seriously and does it well. *William Zuk, Professor of Architecture Technology, University of Virginia*

Energy Conservation and Thermal Insulation. Edited by R. Derricott and S. S. Chissick. (Wiley, $89.50.)

Another in the vast array of expensive books on the various aspects of energy conservation and its impact on design and construction (many now in second and third editions), this book is a compilation of articles by experts (mostly British) on energy sources, energy demand, and supply and thermal insulation techniques. The first essays in the book are broad in approach, with specialists discussing such topics as international energy management, the rational use of gas energy, energy recovery from refuse, and the influence of energy conservation on future building design. Most of the articles, however, concentrate on insulation techniques and their application, and there are discussions, among others, on thermal insulation of roofs, insulation and condensation problems, thermal insulation and fire, and thermal insulating blockwork. There are also case studies provided. Of limited interest to the American reader is the book's index of manufacturers and suppliers of heating, cooling and thermal insulation products in the United Kingdom.

Architectural Draftsman's Reference Handbook. Jack R. Lewis. (McGraw-Hill, $25.)

This volume hopes to be a useful reference tool for the student or working drafter. A comparison with *Architectural Graphic Standards'* cornucopia, however, reveals the difference between first effort and polished experience. Whether measured by length, density of information, or clarity of presentation, the winner is impressively clear. Any beginner would be well advised to put aside his pennies until *Graphic Standards* is affordable. *James E. Mitchell, AIA* □

Furnishings

As resources for design and objects of design.
By Stanley Abercrombie, AIA

1

As the splendid *de Stijl* exhibition organized by the Walker Art Center, Minneapolis, begins touring (see February, 1982), interest in the Dutch art and architecture movement of the '20s grows. One result is this new reproduction (1) of Gerrit Rietveld's side table design for his 1924 Schroeder house in Utrecht; available through a.i. (Atelier International).

Almost 60 years later in design but still showing a vestige of *de Stijl* influence is the new Zama table lamp (2) by Gary Payne and Stan Magnan. It has an acrylic base and diffusor and holds a 60 watt tubular lamp within its aluminum support. One of a series available from Sointu, 20 East 69th St., New York City, 10021.

Similarly straight-edged, but with construction sites and skyscrapers as its more immediate precedents, is the furniture custom made from steel structural members, such as the imposing chest-on-chest (3), by Daniel Pigeon, 27 Rue Drouot, 75009 Paris.

Part of the Raftery Executive Seating group from Vecta is the executive high back chair (4). Designed by William Raftery, Vecta's manager of design, with ergonomic principles in mind, the chairs have two height adjustment mechanism options, come with polished aluminum or black thermoset bases, in fabric or leather upholstery, and in eight different models.

Slightly underscaled in size and therefore useful for many commercial and residential applications is the Sculptural Banquet modular seating collection for Cy Mann Designs Ltd. (5). Its 32-inch-deep components include an armless chair, a corner chair, one- and two-arm chairs, an ottoman, and an armless sleeper unit.

2

3

4

5

1

2

3

4

From Saporiti Italia and available in this country through Campaniello Imports of New York City and Miami is the Pluto seating group (1) designed by architect Giovanni Offredi, its arm cushions as floppy as Pluto's ears. Its steel feet, however, are more duck-like than dog-like and are encased in rubberized polyurethane sleeves. The cushion cover is reversible, and there is, as shown, a matching stool.

From Johnny Grey, an English designer recently called "the *bête noire* of the design world" by *Connoisseur* magazine, come wood furniture designs of considerable charm and idiosyncrasy. Shown here are a four-drawer chest (2) and an elaborately canopied bed (3) topped—just like the AT&T building—with a broken pediment motif. For information, write Johnny Grey Designs, 9 Abingdon Road, London W8 6AH.

Other recent bed designs include the Locanda (4) by Franco Poli for Bernini of Milan and available through Linea Plus Ltd., New York City. The bed is available with or without canopy, and there are complementary chests and wardrobe units. Still another, with nightstands as integral parts of the headrest, is the Alanda bed (5) designed by Paolo Piva for B&B America. Hinged nightstand tops rotate to become over-the-bed eating or working surfaces and are finished in black, white, or red glossy polyester; headrest and frame can be covered in fabric or leather. Both single and double bed versions are available. □

5

Practice *from page 20*
legislative guidelines addressing the types of buildings designed by nonregistered persons that can be approved by building code officials to include single- and two-family dwellings and sheds, storage buildings, and garages for these structures; farm buildings to be occupied by no more than 10 persons; alteration, renovation, or remodeling of a building when such activity does not affect structural or other safety features and when the work does not require the issuance of a permit under "applicable" building codes; and one-story structures to be occupied by no more than 10 persons. The guideline also states that "a developer of any improvement to real estate must engage a registered architect or engineer to provide periodic on-site observation of the construction of all structures" not included in the above list.

AIA Roundtable Explores Designing for the Elderly

The 1980 census recorded 25.5 million Americans aged 65 or older; by the year 2000 the number is expected to reach at least 32 million. And the life expectancy at birth in 1980 for American males was 70 years, for females 78 years. As a consequence of these changing demographics, more architects will be designing housing and other facilities for the elderly. What type of designs will facilitate the needs of this growing sector of the population? How can design professionals and gerontological specialists work together to create a better environment for the elderly?

These and other questions were confronted, if not answered, at a roundtable discussion on designing for the elderly sponsored in June at AIA headquarters. The 31 participants included architects, representatives from federal agencies that deal with the elderly, staff members of the Senate and House select committees on aging, and leaders of independent gerontological groups.

The participants agreed that there is a current dichotomy between what designers perceive to be the needs of the elderly and their actual needs. Martin H. Cohen, FAIA, said that the average age of nursing home residents is 83 and of nursing home designers 43. "The designer has yet to experience the physical and psychological changes of the older population," he noted.

Marie McGuire Thompson, housing director for the International Center for Social Gerontology, agreed: "Errors are being made that will defeat independence, because architects don't understand the aging process and neither does the client. The design goal should be to extend the independence of the elderly."

James N. Broder, chairman of the housing committee of the Federal Council on Aging, suggested that designers need to determine the necessities versus the amenities in housing accommodations.

E. Bentley Lipscomb, minority staff director of the Senate special committee on aging, noted that the major focus has been on long-term care and, since fewer than 10 percent of the elderly are in this category, in effect 90 percent of the elderly are being overlooked.

The participants also agreed that the tremendous amount of research being generated on the characteristics and needs of the elderly is not being adequately translated and disseminated to design professionals.

As for what type of facilities best accommodate the elderly, the participants' views were mixed. Albin Yokie, executive vice president of the American College of Nursing Home Administrators, suggested that in the future long-term care facilities will pay an expanded role.

Others proposed that congregate housing should be examined as an alternative to institutionalization, questioned whether the elderly want to be isolated into communities, and suggested that there will be more residential communities using the concept of the campus. In the end the conferees came to the consensus that since the elderly are indeed a culturally, physically, and psychologically diverse group, a variety of housing types is necessary.

In setting the agenda for future meetings, the participants determined that the newly formed "coalition" should work on three things: a housing policy for the elderly, dissemination of available research, and guidelines for the design of housing for the elderly that should ultimately be used by state, local, and federal codes and standards groups.

ACEC's Antitrust Settlement

The American Consulting Engineers Council has received and distributed the "final judgment" concerning the 1980 Justice Department antitrust suit involving three guidelines in ACEC's former professional conduct code. The guidelines concerned members' acceptance of contingency contracts that might compromise their professional judgment, participation in uncompensated design competitions, and prohibition of free services except to civic or charitable institutions.

Under the final judgment, as in the terms of the consent degree issued Jan. 6 (see Feb., page 16), ACEC must annually certify that neither the council nor its member organizations have ethical codes, guidelines, or statements containing any of these three provisions. In addition, ACEC was ordered to distribute the final judgment to all its members and to any new members during the next 10 years.

The final judgment does not "prohibit an individual engineer or individual engineering firm, acting alone, from refusing to enter into design competitions, provide free services, or provide services on a contingent basis, or from otherwise expressing an opinion concerning the propriety of design competitions, free services, contingent arrangements." Also, the council and members may advocate legislation, rules, regulations, or governmental policies concerning the former provisions, "provided that such advocacy or discussion makes clear that [ACEC] and its members are not thereby suppressing, restraining, or discouraging the members . . . from entering into design competitions, providing free services, or providing services on a contingent basis."

News continued on page 70

Letters *from page 6*
"fitness" of these buildings. I sense that the reviews would be very different.

I admire the judgment of the JOURNAL and AIA in their consideration of significant buildings with the seriousness and appropriateness (fit) of the San Francisco elementary school and Russian Hill housing. I look forward to seeing more examples of that same "fit" in future journals.

Terrence G. Heinlein, AIA
Cambridge, Mass.

Editor's response: Clearly our answers to most of the rhetorical questions would be affirmative, but just as clearly fit is at least partly in the eye of the beholder. *D.C.*

The Wainwright: I was pleased that the Wainwright State Office Complex was featured in your mid-May issue (page 162), but was distressed by the implication in the article's headline and elsewhere throughout the text that the project was solely a Mitchell/Giurgola project. While you properly state that the competition was won by Mitchell/Giurgola of New York and Hastings & Chivetta of St. Louis, the rest of the article ignores the contributions of Hastings & Chivetta, which had the primary responsibility for the restoration of the Wainwright building itself.

The three lower buildings, designed by Mitchell/Giurgola, are a handsome foil for Louis Sullivan's masterpiece; however, without the Wainwright itself, they would be very mundane structures. Restoration of the older building is the key to the entire complex, and this was handled by the St. Louis firm.

My firm, Construction Managers, Inc., was construction manager for the project, and we, along with most St. Louisans, are extremely proud of the contributions made by St. Louis firms to this St. Louis project and would like to see credit given where credit is due. *James T. Biehle, AIA*
Chesterfield, Mo.

Question

What is this year's ideal gift for that special client, colleague, student or friend with most-favored status

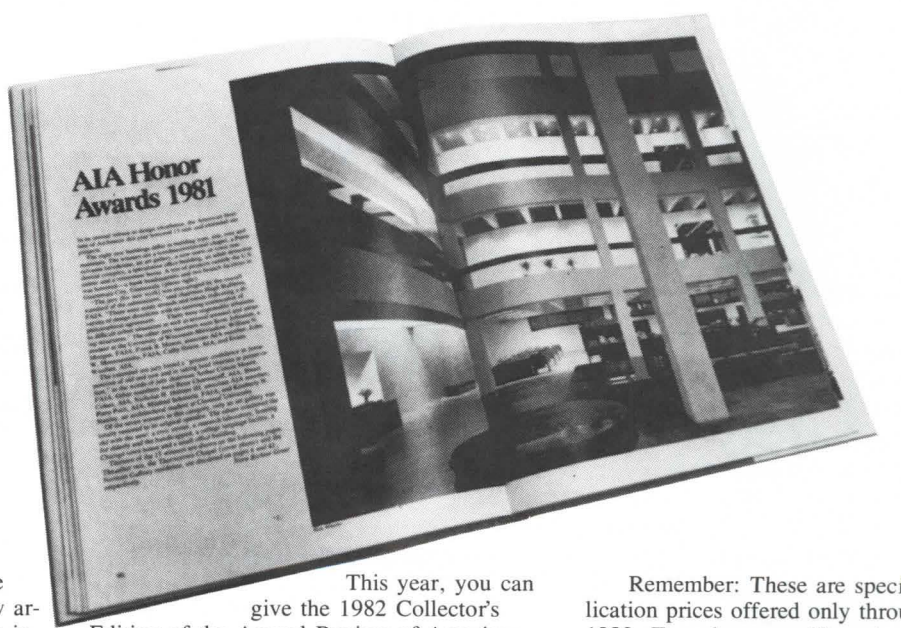
Answer

☐ (a) A handsomely hardbound Collector's Edition copy of the AIA Journal's Annual Review of American Architecture 1982

☐ (b) An elegantly hardbound Collector's Edition copy of the AIA Journal's Annual Review of American Architecture 1981

☐ (c) A beautifully hardbound Collector's Edition copy of the AIA Journal's Annual Review of American Architecture 1980

☑ All of the above



Every year since 1978, the editors of the AIA Journal have selected the finest new architectural work of the year for inclusion in the Annual Review of American Architecture—the prestigious and comprehensive publication that, in the Collector's Edition, wraps between hard covers beautiful, full-color coverage of the year's regional, national and international award winners, all the seminal works that set the trends—and break them—plus commentary and criticism from the leading designers and critics of our time.

This year, you can give the 1982 Collector's Edition of the Annual Review of American Architecture for the special, pre-publication price of only $22 for AIA members, $27.50 to non-members.

And only this year, you can get a jump on the '80s by giving the decade's first three volumes—the Collector's Editions for 1980, 1981 and 1982—gathered together in their own elegant, limited-edition slipcase, for only $60 for AIA members and $72.50 for non-members.

Remember: These are special, pre-publication prices offered only through Nov. 30, 1982. To order your gift copies of the 1982 Collector's Edition of the Annual Review of American Architecture or the limited edition, slipcased set for 1980, 1981 and 1982, send your check to:

AIA Publication Sales
1735 New York Avenue, N.W.
Washington, D.C. 20006.

DEATHS

Early B. Crudupt, Los Angeles
William V. Flynn, Pittsburgh
James S. Frankel, Lexington, Ky.
Harry Bramhall Gilbert, Norfolk, Va.
Kenneth E. Justenson, Totowa Boro, N.J.
Clifford A. Lake, Pittsburgh
William L. Murray, Enola, Pa.
William J. Petchler Jr., New Haven, Conn.
John K. Redderson, Potomac, Md.
Donald Reiff, Miami
Florence Stiles, Meriden, Conn.
James Sudler, FAIA, Denver
H. Leo Tucker, Brownwood, Tex.
Richard F. von Dorn, Monroe, N.C.

BRIEFS

Furniture Design Competition.
An international competition for the design of office furniture that "reflects the changing working conditions in the age of office electronics" has been announced. Ten finalists will be selected to share $60,000 and develop prototypes. Contracts for the production of the five winning designs are expected to be in excess of $8 million. The competition is sponsored by the International Union of Architects, the International Federation of Interior Designers, and the International Council of Interior Design and is open to architects and interior, industrial, and other designers. The deadline for submissions is Dec. 29. For more information, contact Cultural Services of the French Embassy, International Furniture Competition, 972 Fifth Ave., New York, N.Y. 10021.

Call for Papers on Narcissism.
Papers focusing on the issue of narcissism in the fine arts and literature are being sought for a conference entitled "The World as Mirror" to be held at Miami University, Oxford, Ohio, June 4-6, 1983. Abstracts of approximately 500 words are due by Jan. 1. Contact Donald W. Fritz, Department of English, Miami University, Oxford, Ohio 45056.

Vincent Scully Honored.
The Thomas Jefferson Memorial Foundation medal in architecture was awarded to Vincent Scully, professor of architectural history at Yale University. The foundation owns and operates Monticello, Jefferson's home, in Charlottesville, Va.

***Call* for Technical Papers.**
The Institute of Environmental Sciences is seeking papers for their 29th annual technical meeting. Topics include environmental stress impact; contamination control; energy and the environment; and environmental engineering methods. Abstracts of less than 300 words should be submitted by Sept. 19 to ATM 83 Technical Program Committee, Institute of Environmental Sciences, 940 E. Northwest Highway, Mount Prospect, Ill. 60056.

Store to Cite I. M. Pei.
Lord & Taylor will give I. M. Pei, FAIA, its "rose award" Nov. 17 for his "worldwide architectural contribution to the esthetic evolution of man's environment."

Bibliographies Sought.
The American Society of Civil Engineers is collecting and publishing references on cold-formed structures. A list of available publications (in standard ASCE format, if possible) should be sent by Oct. 31 to Professor S. Sridharan, Department of Civil Engineering, Washington University, Campus Box 1130, St. Louis, Mo. 63130.

Serge I. Chermayeff Honored.
The State University of New York at Buffalo school of architecture and environmental design has awarded the dean's gold medal to Serge I. Chermayeff for "his long and distinguished career."

Call for Earthquake Engineering Papers.
Abstracts for the eighth world conference on earthquake engineering to be held July 21-28, 1984, in San Francisco, are due Oct. 15. Contact: Steering Committee, EERI 8WCEE, 2620 Telegraph Ave., Berkeley, Calif. 94704.

Jova/Daniels/Busby Honored.
The Atlanta Urban Design Commission selected Jova/Daniels/Busby to receive an award for architectural excellence for the design of the Metropolitan Atlanta Rapid Transit Authority North Avenue station, completed last December.

Philip Trammell Schutze Honored.
Classical America has named Atlanta architect Philip Trammell Schutze as one of the recipients of the first Arthur Ross awards for major contributions to the classical traditions. Schutze is the only architect in this year's group of four cited by Classical America, headquartered in New York City.

Collection Donated.
Montreal architect Phyllis Lambert is giving her collection of architectural photographs and books to the Canadian Centre for Architecture. The collection includes 25,000 photographs and 35,000 books.

Technical Report on Concrete.
"Connections for Precast Prestressed Concrete Buildings" is a 300-page report by L. D. Martin and W. J. Korkosz, based on a state-of-the-art study proposed by Prestressed Concrete Institute. Copies are available for $30 from the PCI, 201 N. Wells St., Chicago, Ill. 60606.

Juan O'Gorman Exhibition.
A exhibit of the work of Mexican architect and muralist Juan O'Gorman at the Schindler House in Los Angeles will continue through Sept. 29. The show was curated by architectural historian Esther McCoy.

Traveling Fellowships Announced.
Skidmore, Owings & Merrill Foundation has awarded three fellowships to graduate architectural students. Grace Kobayaski, Cornell University, won the first prize of $10,000 for nine months of travel and study. The second prize of $7,500 was given to Marion Weiss of Yale University. Richard Metsky, also of Cornell, won the third place award of $5,000.

Cloethiel Woodard Smith Honored.
The University of Oregon presented a "distinguished service award" to Cloethiel W. Smith, FAIA, of Washington, D.C.

Scholarship Awarded.
Gensler & Associates has awarded a $1,000 scholarship to Grey Chiselko of the Rice University school of architecture.

PRODUCTS

Bath series.
Permanent decal process simulates the look of marble on vitreous china for toilet, pedestal lavatory, and countertop lavatory. (Kohler, Co. Kohler, Wis. Circle 182 on information card.)

Skylight.
Pre-assembled balanced hinged roof window is constructed of a solid hardwood frame, insulated glass, and an aluminum clad exterior. (APC Corporation, Hawthorne, N.J. Circle 181 on information card.)

Fiberglass Wall Covering.
Lightweight wall covering is designed to be applied over concrete, brick, plaster, gypsum, or previously painted wall surface with minimal preparation. The covering can be used with any latex paint and is fire and mildew resistant. (Johns-Manville, Denver. Circle 180 on information card.)

Upholstered Wall Paneling.
Custom sized panels are made of sound absorbing polyurethane foam covered with suede or other custom materials. Widths range from eight to 48 inches, and heights up to 96 inches are available. (Brejtfus Environmental Concepts, Inc., Tempe, Ariz. Circle 184 on information card.)

Decorative Banners.
Ceiling hung banners made of a flame retardant cotton are available in 30 standard colors and 24 standard sizes ranging from 10x24 inches to 40x96 inches. The

banners hang from an aluminum tube with chrome end caps and are designed for attachment to all standard ceilings. (Integrated Ceilings, Inc., Los Angeles. Circle 173 on information card.)

Drafting Furniture.
Collection of solid oak architectural furniture includes plan files, four-post drafting table, and taborets in a variety of sizes and combinations. (Mayline, Sheboygan, Wis. Circle 179 on information card.)

Storage Tubes.
Expandable round and square tubes are designed for storage and transport of illustrations, blueprints, and tools. Five styles of water resistant tubes are available in a number of colors and sizes. (ARCH, San Francisco. Circle 178 on information card.)

Office Chair.
The rotary chair consists of a single acrylic sheet with an upholstered seat and back and is mounted on a stainless steel base finished in chrome or brass. (Vivid, Los Angeles. Circle 177 on information card.)

Heat Exchanger.
Glass tube heat exchanger features separate cross flow air streams and modular construction with no moving parts. Corrosion resistant surfaces may be cleaned with water or steam. (Energy Enterprises, Inc. Oconomowoc, Wis. Circle 176 on information card.)

Drafting Plotter.
Large format plotter features automatic setting of pen force and writing speed; programmed selection of up to eight different pens for combinations of color, line width, and pen type on a single plot; and automatic capping of pens not in use to prevent ink dryout. It can produce drawings from 8x10.5 inches up to 36.5x46.8 inches. (Hewlett-Packard Co., Palo Alto, Calif. Circle 192 on information card.)

Vertical Light Fixture.
Six-inch-wide double aperture fluorescent wall fixture, in lengths of 64 or 76 inches, is available in gloss white, gloss red, polished chrome, and brass. (Habitat, Inc., New York City. Circle 191 on information card.)

Heavy Duty Vinyl Runner.
Embossed steel deck matting is designed for heavy traffic uses such as ramps and walkways in commercial and institutional buildings. Available in widths of 36 and 48 inches with a roll length of approximately 25 yards. (American Biltrite Inc., Boston. Circle 186 on information card.)

Area Rug.
Area rug with a sculptured floral motif is available in four textures, 42 colors, and five sizes. (Custom-weave Carpets, Fountain Valley, Calif. Circle 183 on information card.)

Alarm Protector.
Tamper-proof fire alarm pull station protector features a clear Lexan shield covering with a metal frame. It can be adapted to both flush or surface mounted units. (Ademco, Syosset, N.Y. Circle 175 on information card.)

Window Insulating Film.
Insulux film consists of multiple layers of coatings bonded to plastics to reduce solar gain in summer and heat loss in winter without restricting natural lighting. (Van Leer Plastics, Woburn, Mass. Circle 174 on information card.)

Computerized Management System.
The system features standard hardware and software modules and is designed to manage energy consumption and to monitor and control industrial production processes. Additional management functions, such as maintenance dispatch, security, and access control, are available. (SRL Controls, Dayton, Ohio. Circle 190 on information card.) □

ADVERTISERS

Michael J. Hanley
Publisher
Michael M. Wood
Director of Marketing
George T. Broskey
National Sales Manager
James A. Anderson
Western Manager
Jesse Sims
Manager, Production and Business
1735 New York Ave. N.W.
Washington, D.C. 20006
(202) 626-7484
Lisa Hoke
Director of Operations
Suzanne Maggi
Assistant to the Publisher
Renie H. Plimpton
Advertising Assistant

ADVERTISING SALES OFFICES
Washington, D.C. (202) 626-7471
1735 New York Ave. N.W.
Washington, D.C. 20006
Philadelphia (215) 639-3731
George T. Broskey
3 Neshaminy Interplex, #301
Trevose, Pa. 19047
New York City (212) 736-2131
Jeanne S. Cohen
390 Fifth Ave., Suite #407
New York, N.Y. 10018
Pittsburgh (215) 639-3731
George T. Broskey
3 Neshaminy Interplex, #301
Trevose, Pa. 19047
Ohio (201) 729-4937
Thomas R. Crow
46 Main Street
Sparta, N.J. 07871
New England/New York State
(617) 632-8185
Robert L. Tagen
87 State Road West
Westminster, Mass. 01473
Chicago (312) 663-4116
James A. Anderson, Western Manager
53 West Jackson Boulevard, #356
Chicago, Ill. 60604
Atlanta (214) 352-9273
J. Thomas Dorsey
3840 Valley Lawn
Dallas, Tex. 75229
St. Louis (314) 569-3210
Richard D. Grater
1466 Summerhaven
St. Louis, Mo. 63141
San Francisco (415) 348-8222
Jules E. Thompson
1290 Howard Ave., #303
Burlingame, Calif. 94010

All drinking fountains are not created equal.

It holds its own weight and more!

When your application requires more than "moral" support...When you have a heavyweight problem that requires more than a lightweight solution... Look to Haws!

Haws exclusive Model 1175 Drinking Fountain and Support System installs behind rough wall during construction to support the entire fountain weight **PLUS** an additional 400 pounds! A fountain that holds its own weight... and more!

Eliminate costly "after installation" repairs due to accident or vandalism by "supporting" your investment with the Drinking Fountain and Support System from Haws! This unit is suitable for wheelchair access and conventional use and features feather touch, front mounted bubbler activation and a polished stainless steel receptor.

"Fountains you design with, not around!"

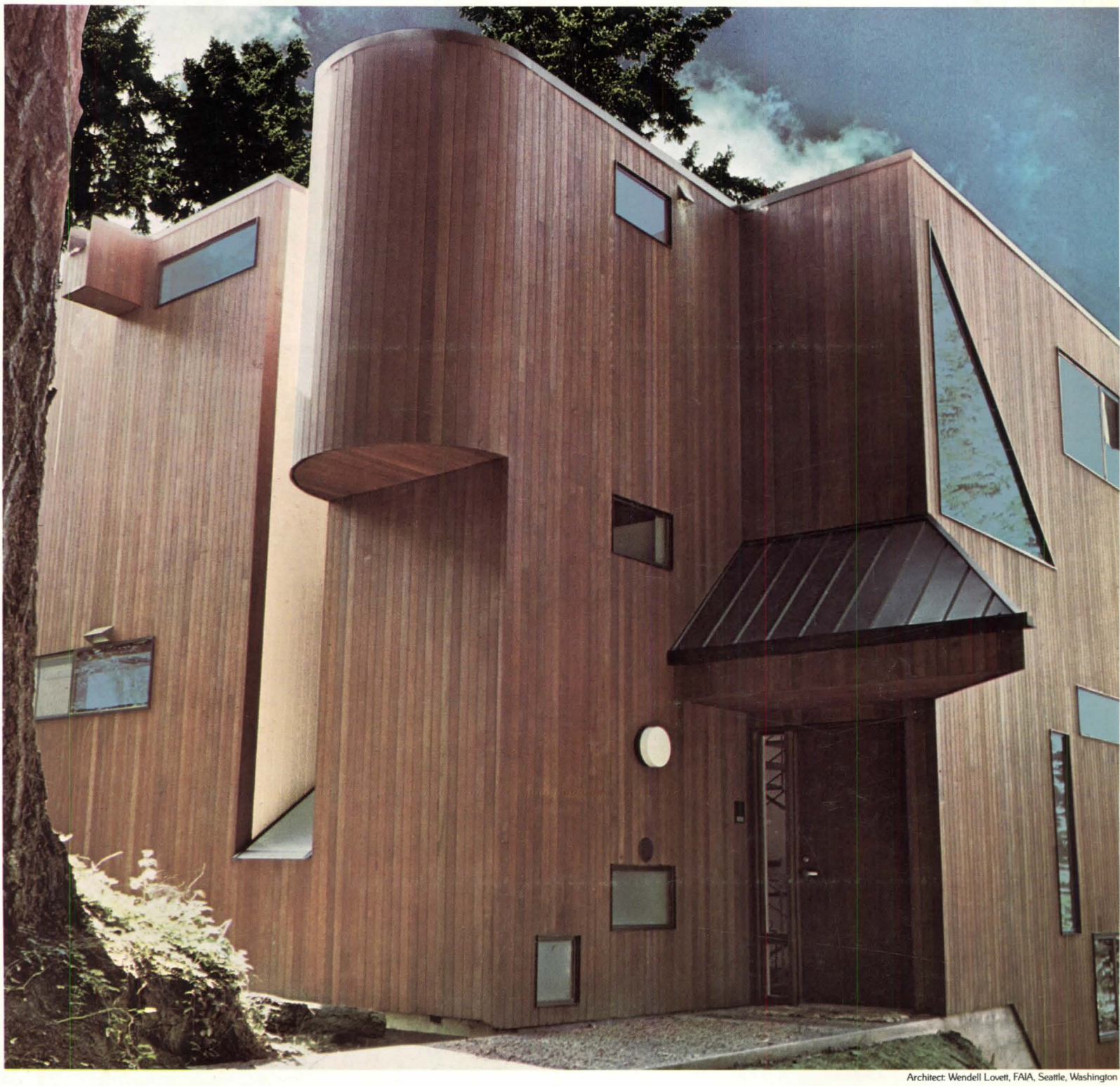
For more information concerning this and other Haws drinking fountains and emergency equipment, call or write for our free catalog.

Haws®

Haws Drinking Faucet Company
P.O. Box 1999, Berkeley, CA 94701
Phone 415-525-5801 Telex 33-6358

Circle 73 on information card

Beauty that's more than skin deep.



Architect: Wendell Lovett, FAIA, Seattle, Washington

Enhance and protect the natural beauty of wood with Olympic Oil Stain. Olympic *penetrates* wood to protect from within. Rich linseed oil and micro-milled pigments soak down into the fibers, giving wood a deep, uniform finish that stays beautiful no matter how wet or how dry the weather gets.

For additional information, consult your Sweet's Catalog. Or write Olympic: Dept. P, 2233 112th Avenue N.E., Bellevue, WA 98004.

Penetrates to protect wood beautifully.

Circle 74 on information card