AIA JOURNAL

Highlights of American Architecture, 1776-1976

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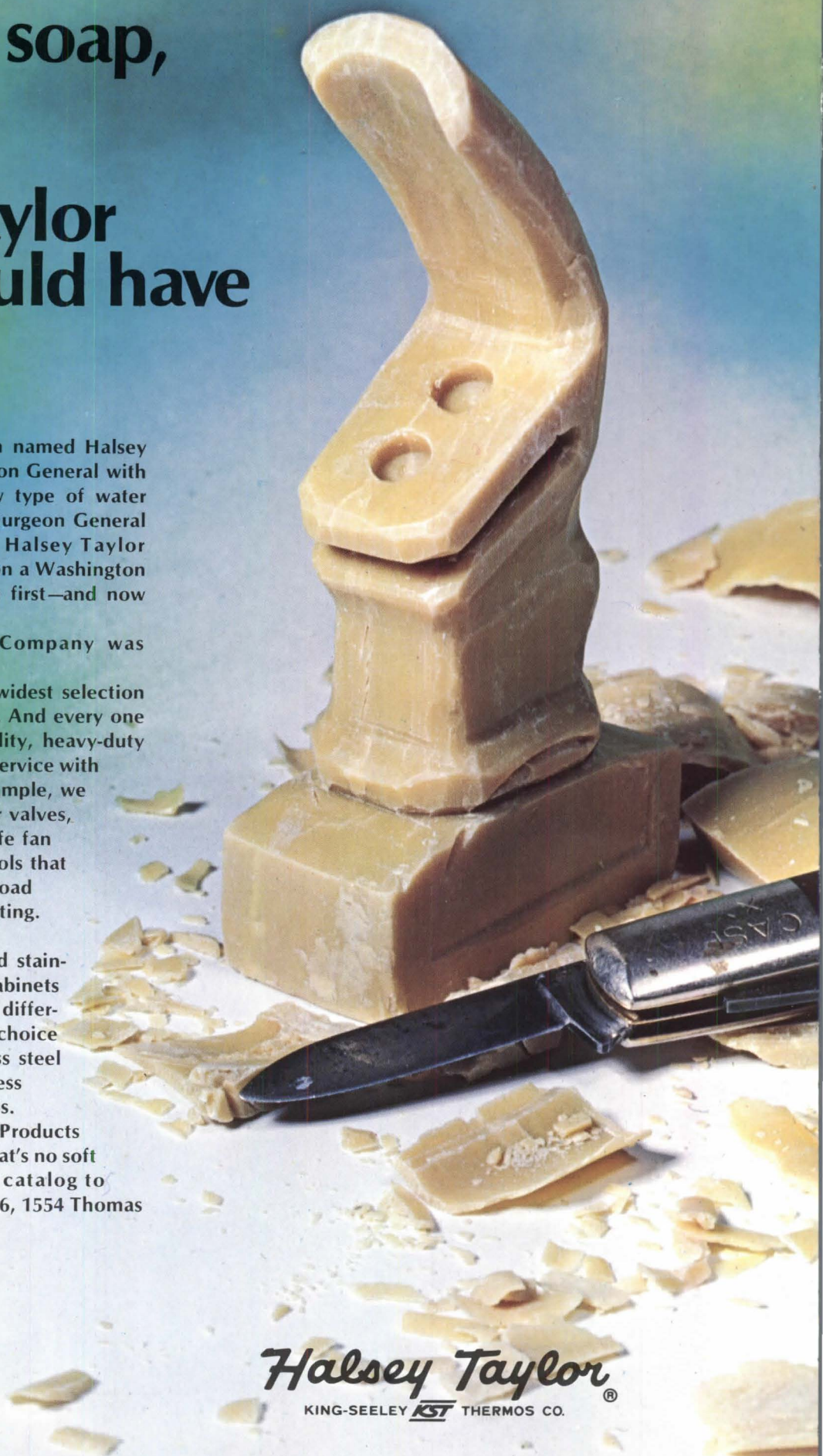

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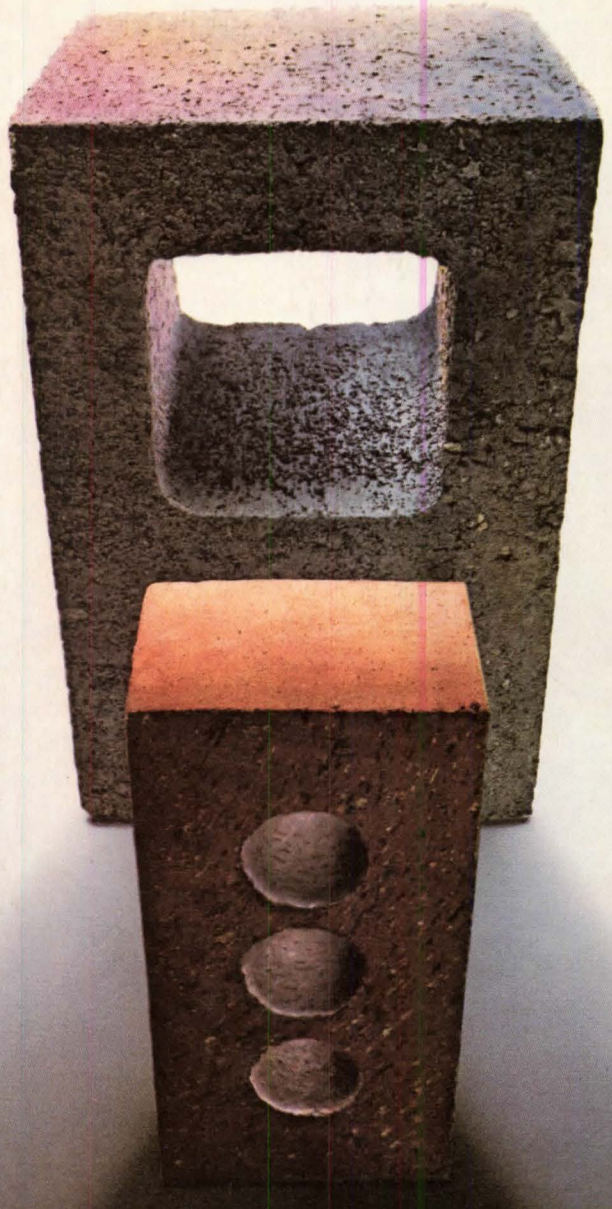

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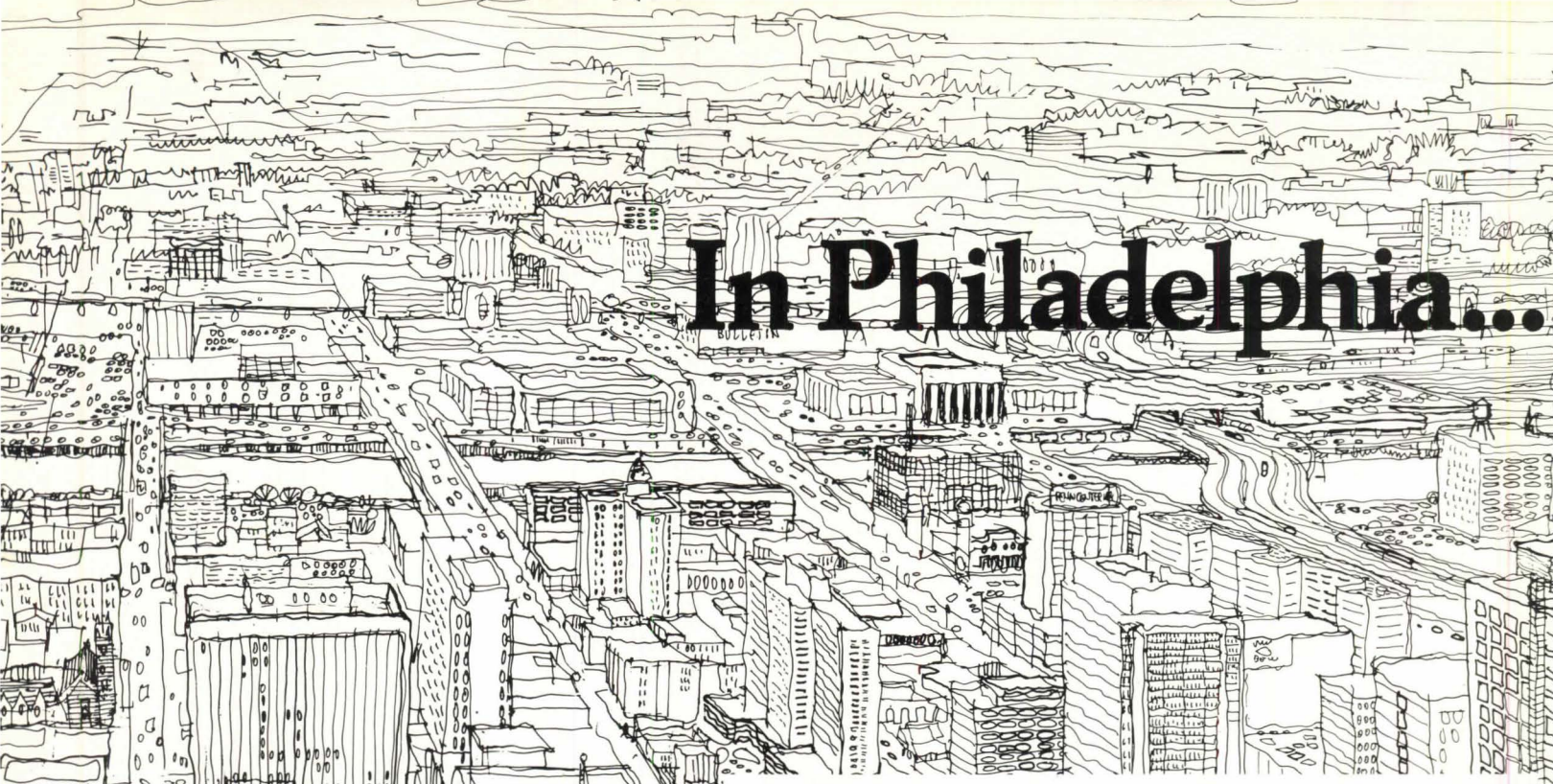

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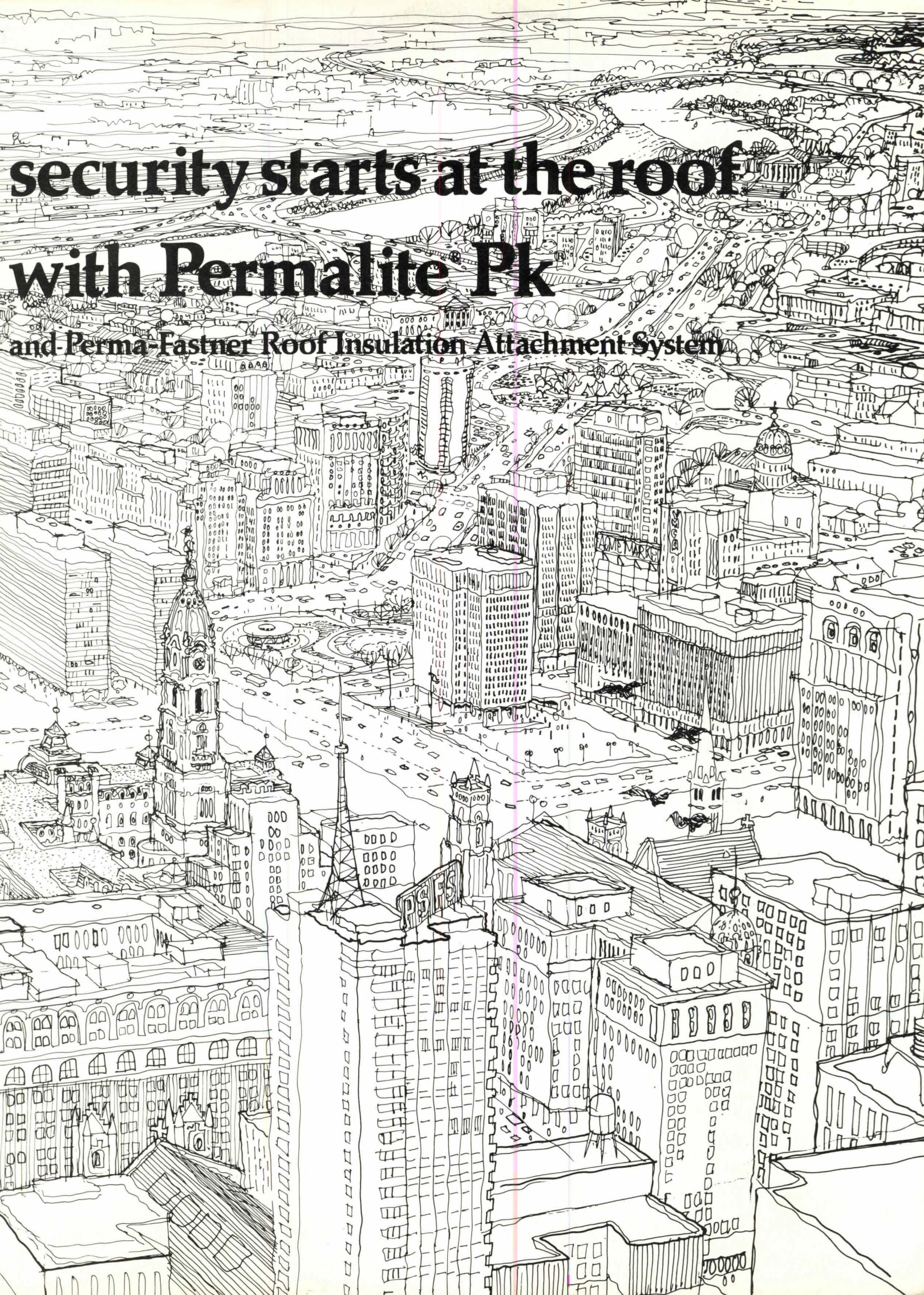

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For the past 14 years it has been the American Iron & Steel Institute's privilege, on behalf of the steel industry, to recognize outstanding designs in steel. Through the biennial Design In Steel Award program, many of the leading designers, architects and engineers of the Western Hemisphere have had their creations judged to be deserving of a DISA (Design In Steel Award)...the steel industry's award for design and engineering excellence.

In this special Bicentennial issue of the AMERICAN INSTITUTE OF ARCHITECTS JOURNAL, we feel it fitting that we look back at those men and women who strove for excellence in building design and were awarded a DISA.

In any awards competition it is the professional calibre of the judges which makes the award precious. The following is a list, by title, of the professionals who have helped to make the DISA so coveted.

THE JUDGES:

INDUSTRIAL DESIGNERS SOCIETY OF AMERICA: 5 chairmen of the board, 9 presidents, 4 vice presidents, 4 chairmen, education committee.

AMERICAN INSTITUTE OF ARCHITECTS: 10 presidents, 5 vice presidents.

AMERICAN SOCIETY OF CIVIL ENGINEERS: 7 presidents, 1 vice president.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS: 7 presidents.

AMERICAN SOCIETY FOR METALS: 1 president.

AMERICAN SOCIETY FOR ENGINEERING EDUCATION: 5 presidents.

ASSOCIATION OF COLLEGIATE SCHOOLS OF ARCHITECTURE: 5 presidents.

The buildings and the people who created them:

Alcoa Building, San Francisco, Ca./Skidmore, Owings & Merrill; San Francisco, California

Allentown, Pa. Shopping Mall—(steel canopies)/Cope-Linder-Walmsley; Philadelphia, Pa.

Alza Corporation Headquarters; Palo Alto, Calif./McCue-Boone-Tomsick Architects, San Francisco, California

American Zinc office building; St. Louis, Mo./Hellmuth, Obata & Kassabaum, Inc; St. Louis, Mo.

Atrium,Regency Hyatt House, San Francisco/John Portman & Associates, Architects and Engineers; Atlanta, Georgia

Bank of America World Headquarters Building; San Francisco, California/Wurster, Bernardi and Emmons, Inc., Skidmore, Owings & Merrill, Pietro Belluschi, and H. J. Brunnier Associates

Birmingham Bloomfield Bank; Michigan/Ziegelman and Ziegelman, Architects; Birmingham, Michigan

Blaustein Building, Baltimore, Md./Vincent G. Kling and Associates, Architects; Philadelphia, Pa.

Blossom Music Center; Cleveland, Ohio/Schafer, Flynn, van Dijk, Architects; R. M. Gensert & Associates, Structural Engineers; Cleveland, Ohio

Bon Marché covered-mall shopping center, Baton Rouge, La./The Austin Company; Cleveland, Ohio

Broadway Terrace Apartments; Oakland, California/Gene W. Lam; Oakland, Calif. Engineers: Huntington & Associates

Bundy Corporation Office Building; Warren, Michigan/William Kessler and Associates; Grosse Pointe, Michigan

Calibrating Station, Division of Weights and Measures, Department of Public Works, Fresno, Calif./James J. Nargis and Edwin S. Darden, Architects; Fresno, California

Carillon Tower, General Motors Institute; Flint, Michigan/Tarapata-MacMahon-Paulsen Associates, Inc; Bloomfield Hills, Michigan

Central Control Building, Gordon Shrum Generating Station, British Columbia/Rhone & Iredale Architects; Bogue Babicki & Associates, Structural Engineers and International Power & Engineering, Consultants; Vancouver, British Columbia

Central utilities plant, IBM, Endicott, N.Y./Harry Weese & Associates, Chicago, Illinois. Structural and Mechanical: Burns & McDonnel

Coliseum; Clemson University, South Carolina/J. E. Sirrine Company, Architects-Engineers; Greenville, South Carolina

Commerce Court, Toronto/I.M. Pei & Partners; Design Architects; New York, N.Y. Page & Steele; Executive Architects; Toronto, Ontario, Canada

Concert stage, Central Park, New York City/Richard G. Stein and Associates, Architects; New York, N.Y. Fraioli-Blum-Yesselman, Structural Engineers; New York, N.Y.

Connecticut Mutual Life Insurance Building, Chicago/Skidmore, Owings and Merrill; Chicago, Illinois

Currigan Exhibition Hall, Denver, Colorado/Joint venture of Muchow Associates, Denver, Colorado; Haller & Larson, Denver, and James Ream & Associates, Architects, San Francisco, Calif.

Dining commons, Davis Campus, University of California/Kitchen and Hunt—John Funk Architects Associated, San Francisco, California

Executive Offices, Burlington Industries, Greensboro, N.C./Odell Associates, Inc.; Charlotte, North Carolina

Federal Reserve Bank, Minneapolis/Gunnar Birkerts & Associates, Architects; Birmingham, Mich. Skilling, Helle, Christiansen, Structural Engineers; New York, N.Y.

First Federal Building, Detroit/Smith, Hinchman & Grylls Associates, Inc.; Detroit, Michigan

First Presbyterian Church, Berkeley, Calif./James Ream & Associates; San Francisco, Calif. Ketchum Barrett Nickel Austin/Besier Associates; New York, N.Y.

Five exhibit halls, Ontario Place, Toronto/Craig Zeidler Strong Architects; Toronto, Ontario, Canada. Gordon Dowdell & Associates; Toronto, Ontario, Canada

Fodrea Elementary School, Columbus, Indiana/Caudill Rowlett Scott; Los Angeles, Calif., in conjunction with A. Dean Taylor, AIA; Columbus, Indiana

Ford Auto parts warehouse, Buffalo, N.Y./Albert Kahn Associates, Inc., Architects and Engineers, Detroit, Michigan

George Gund Hall; Harvard's Graduate School of Design/John Andrews/Anderson/Baldwin, Architects; Toronto, Ontario, Canada. Le Messurier Associates, Inc., Structural Engineers; Cambridge, Massachusetts

Great Flight Cage, National Zoo, Washington, D.C./Daniel, Mann, Johnson & Mendenhall, Architects and Engineers; Los Angeles, Calif. and Washington, D.C.

Hazel Hotchkiss Wightman Tennis Center; Watertown, Mass./Sasaki, Dawson, DeMay Associates, Inc; Watertown, Mass. Consulting Engineers: Le Messurier Associates and Greenlea Engineers Building Contractor: Charles A. Logue Building Company

Health Sciences Instruction and Research Building, University of California's San Francisco Medical Center/Reid, Rockwell, Banwell & Tarics San Francisco, California

Homestead Federal Savings & Loan Association, Dayton, Ohio/Richard Levin Associates, Inc Architects, Dayton, Ohio, in conjunction with Overly Manufacturing Co.; Greensburg, Pa.

Huron Apartments/Ronald Goodfellow, Architects and Planners; Michigan City, Indiana

IBM Building, Pittsburgh/Curtis and Davis, Architects; New Orleans, La.

IBM Building, Seattle/Naramore, Bain, Brady and Johanson; Seattle, Washington. Minoru Yamasaki & Associates; Birmingham, Michigan; Associated Architects. Worthington, Skilling, Helle & Jackson; Seattle Washington; Structural Engineers

Isabella County Jail, Mt. Pleasant, Michigan/Cuthbert and Cuthbert, Architect—Engineer; Dearborn, Michigan

Jefferson National Expansion Memorial Arch St. Louis, Mo./Severud-Perrone-Fischer-Sturm Conlin-Bandel; New York, N.Y.

John Deere Company Warehouse and Display Center; Baltimore, Md./Severud-Perrone-Fischer Sturm-Conlin-Bandel, Consulting Engineers, New York, N.Y.

Landside/Airside Terminal, Tampa International Airport/Reynolds, Smith and Hills, Architects-Engineers-Planners, Inc.; Jacksonville, Fla

Lighthouse/Howard C. Wickes, U.S. Coast Guard, San Francisco, California

Lynchburg, Va. City Hall/Courthouse Elevator Tower/Wiley & Wilson, Inc.; Lynchburg, Va.

Maintenance Hangars, American Airlines, L.A. and S.F./Lev Zetlin Associates, Engineers; New York, N.Y. Conklin and Rossant, Architects New York, N.Y.

McCormick Place On-The-Lake. Chicago/C. F Murphy Associates; Chicago, Illinois

Miller Outdoor Theatre; Houston, Texas/Eugene Werlin & Associates; Houston, Texas

New Greenwich High School; Greenwich, Conn./John Lyon Reid, Architect, and Dr. Alexander G. Tarics, Structural Engineer; San Francisco, Calif. Project Designer: Robert F. Olwell. Resident Architect: Charles F. Schrader

New Jersey Tercentenary Pavilion, New York World's Fair/Philip Sheridan Collins, Architect; Princeton, N.J. Norman J. Sollenberger, Structural Engineer; Princeton, N.J.

Norfolk City Hall; Norfolk, Va./Vincent G. Kling and Associates; Philadelphia,Pa. Oliver and Smith, Associated Architects; Norfolk, Va.

Oakland-Alameda County Coliseum/Skidmore, Owings & Merrill; San Francisco, California

Office building, South Pasadena/Smith and Williams, Architects/Engineers; So. Pasadena, Ca.

Ohio University Convocation Center/Fling & Leeman, Inc; Columbus, Ohio

One IBM Plaza, Chicago/The Office of Mies van der Rohe and C. F. Murphy Associates, Architects and Engineers; Chicago, Illinois

Pierce Street apartments; Gilroy, Calif./Baltan Tournier, Vergun & Yanaga; Pacific Palisades, Ca.

Republic National Bank, Dallas/Harrell & Hamilton Architects; Dallas, Texas

Research Laboratories, University of California Medical School/Marquis and Stoller; San Francisco, California

Residence halls, Central Washington State College, Ellensburg, Washington/Ralph H. Burkhard, Architect; Seattle, Washington. Anderson, Birkeland, Anderson & Mast, Structural Engineers; Tacoma, Washington

Saints Peter and Paul Catholic Church/Murray Jones Murray, Architects; Tulsa, Oklahoma

Sears Tower, Chicago/Jaros, Baum & Bolles; New York, N.Y. Skidmore, Owings & Merrill; Chicago, Illinois. Diesel Construction; Chicago, Illinois

Seattle Center Coliseum/Paul Thiry, Architect; Seattle, Wash. Peter H. Hostmark, Consulting Engineer; Seattle, Washington

St. Louis Priory Church, Creve Coeur, Mo./Hellmuth, Obata and Kassabaum, Inc., Architects; St. Louis, Mo.

Standard Oil Building, Chicago, Ill./Engineers: The Perkins & Will Corporation, Engineering Division; Washington, D.C. Architect: Edward Durell Stone & Associates and The Perkins & Will Corporation

Steward Observatory, University of Arizona/William Wilde & Associates, Inc.; Tucson, Arizona

Student Apartments—State University College, Brockport, N.Y./Caudill Rowlett Scott; New York, N.Y., M. Paul Friedberg Associates; New York, N.Y. The Engineers Collaborative; Chicago, Illinois. Component Building Systems, Ltd.; Chicago, Ill. W.E. O'Neil Construction Co.; Chicago, Illinois

Student Union housing complex, University of Alberta, Edmonton/Diamond and Myers; Toronto, Ontario, Canada. R. L. Wilkin, Architect; Edmonton, Alberta, Canada

The Republic, Columbus, Ind. (newspaper building)/Skidmore, Owings & Merrill; Chicago, Ill.

Tower, State University of New York, Albany/Edward Durell Stone & Associates; New York, N.Y.

Two-story shopping mall, Columbia, Md./Cope-Linder-Walmsley; Philadelphia, Pa.

University of Southern California Ecumenical Religious Center, Los Angeles/Killingsworth-Brady and Associate, Architects, Long Beach, Ca.

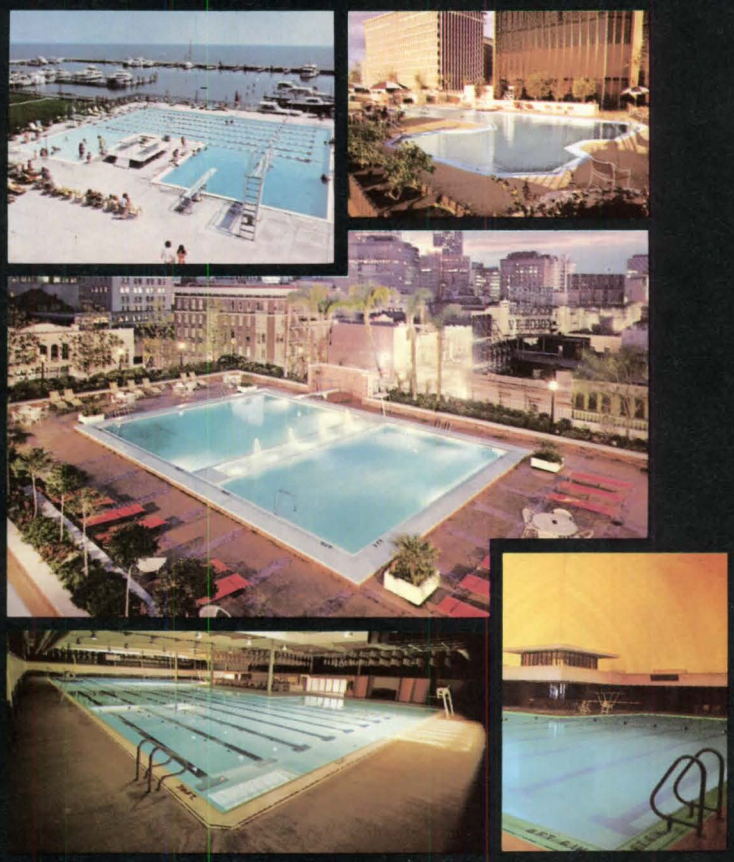
U.S. Courthouse and Federal Office Building, Chicago/Schmidt, Garden & Erikson, Mies van der Rohe, C. F. Murphy Associates and A. Epstein & Sons, Inc.; Chicago, Illinois

Vacation Village, Mission Bay, San Diego, Ca./Spencer and Lee Architects, San Francisco, Ca.

Western Savings and Loan Association/Dailey Associates/Planning/Architecture; Phoenix, Arizona. William F. Cody, Architect; Palm Springs, Ca.

Yard Office Tower; Winslow, Arizona/The Atchison, Topeka and Santa Fe Railway Company; Los Angeles, California.

Chester Pools do more than hold water beautifully



The pool is part of a system. And the system provides the utmost in structural strength, hydraulics, water treatment, competitive swimming, and beauty. **BUILT-IN CIRCULATION SYSTEM.** All perimeter piping is built into the side-wall. It greatly simplifies and speeds construction, and eliminates potential maintenance and repair problems. **SELF-SUPPORTING.** The pool side-wall is self-supporting. Structural vertical braces and A-frame buttresses provide complete side-wall rigidity. The all-aluminum floor is designed to compensate for contraction, expansion and shear movement without cracking. **PRE-FABRICATED.** Tested pre-fabricated all-aluminum pool wall sections are delivered to the construction site ready for assembly. Chester's own technicians position, MIG arc weld, and field test each completed assembly. **POOL-MATCHED FILTRATION.** The Chester vacuum diatomaceous earth filter is designed for the pool. Delivers pure water of perfect clarity at the least cost. **COMPETITION.** The water-level roll-out ledge reduces backwash and turbulence. The Chester pool is a fast pool. **SINGLE-SOURCE RESPONSIBILITY.** Pool tank, filtration system, pool-to-filter piping — Chester takes on the system responsibility. **WARRANTED.** Over twenty years experience has proven Chester performance. Chester Pool Systems are warranted for five years not to crack, leak, or corrode. Call or write us today. We'll send you some figures beautiful to see.

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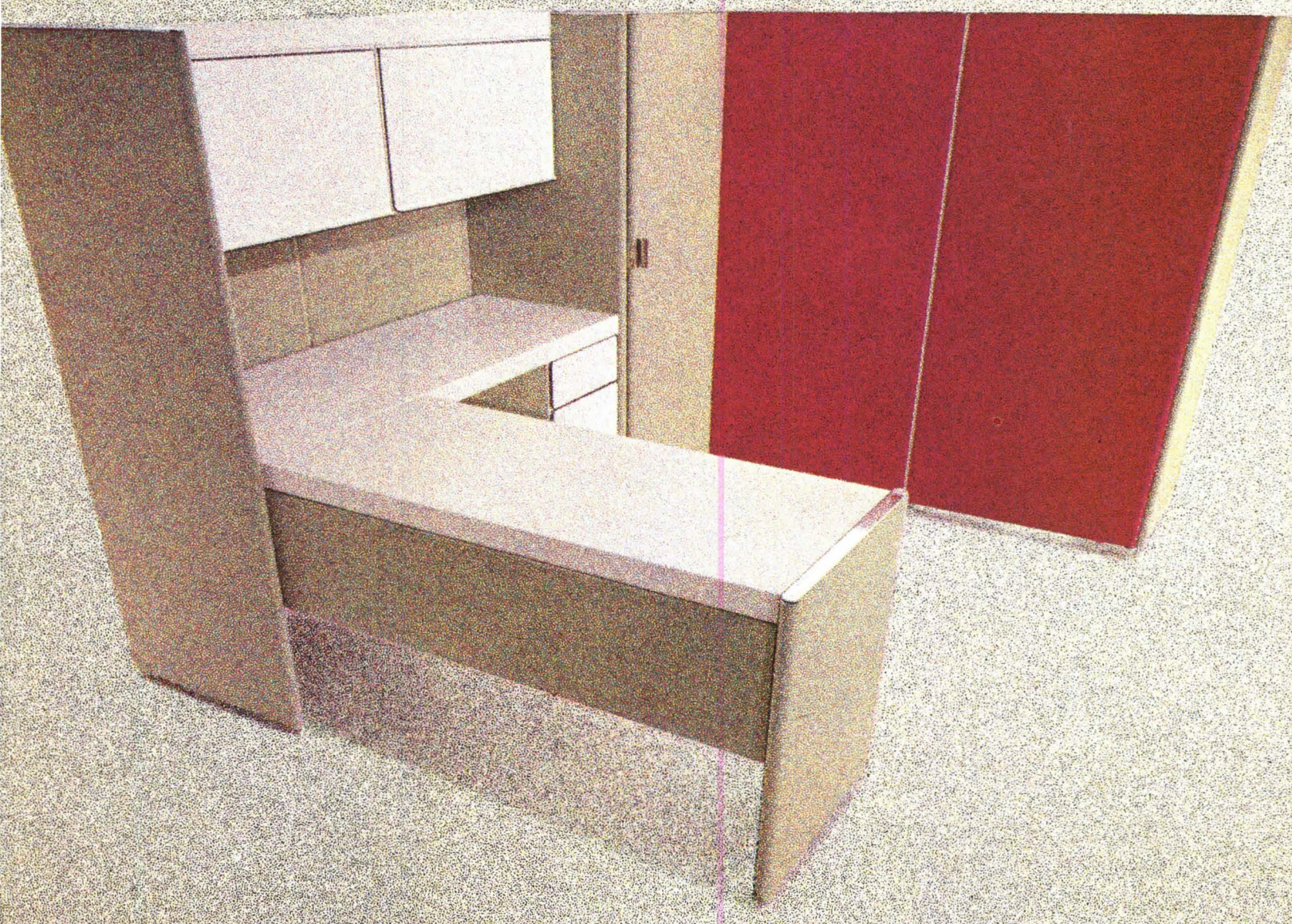

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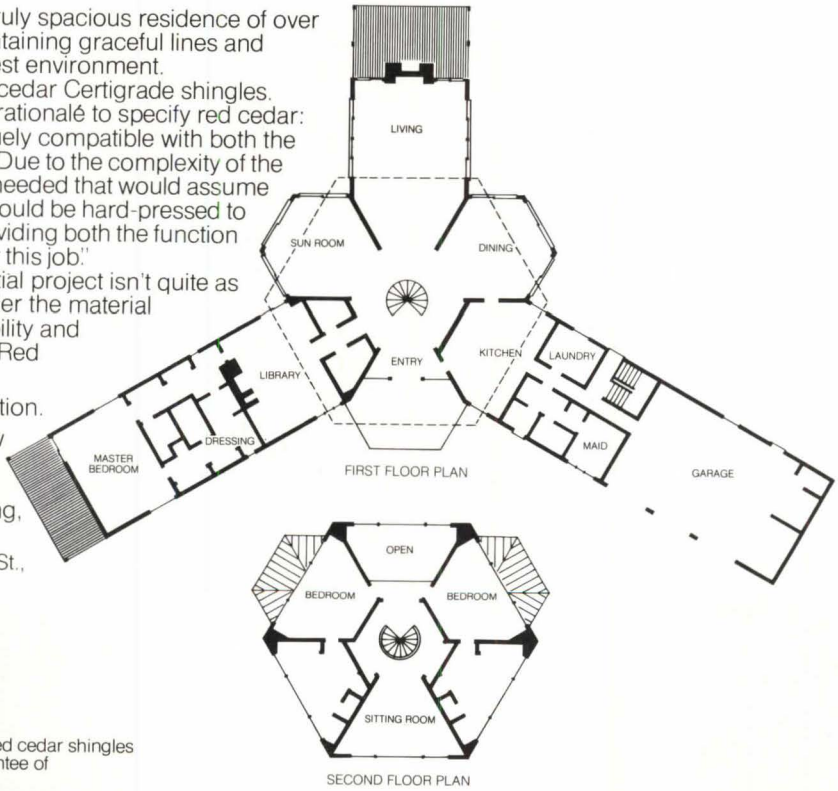

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AIA JOURNAL

Highlights of American Architecture, 1776-1976

Cover: Photo by Robert C. Lautman. Thomas Jefferson cast in bronze by Sir Moses Ezekiel silhouetted before the rotunda, University of Virginia

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AIA JOURNAL, official magazine of The American Institute of Architects, published monthly at 1735 New York Ave. N.W., Washington, D.C. 20006. Telephone: (202) 785-7300. Subscriptions: for those who are, by title, architects, architectural employees, and to those in architectural education (faculty and schools), and to libraries, building construction trade associations and building product manufacturers: basic rate $12 a year; $20 two years; $8 to architectural students in the U.S., its possessions and Canada. For all others: $18 a year in the U.S., its possessions and Canada; other countries to those who are by title, architects: $18 a year. All others outside the U.S., its possessions and Canada: $30 a year. Single copy: $5, payable in advance. 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 six weeks. Second class postage paid at Washington, D.C. 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.* VOL. 65 NO. 7

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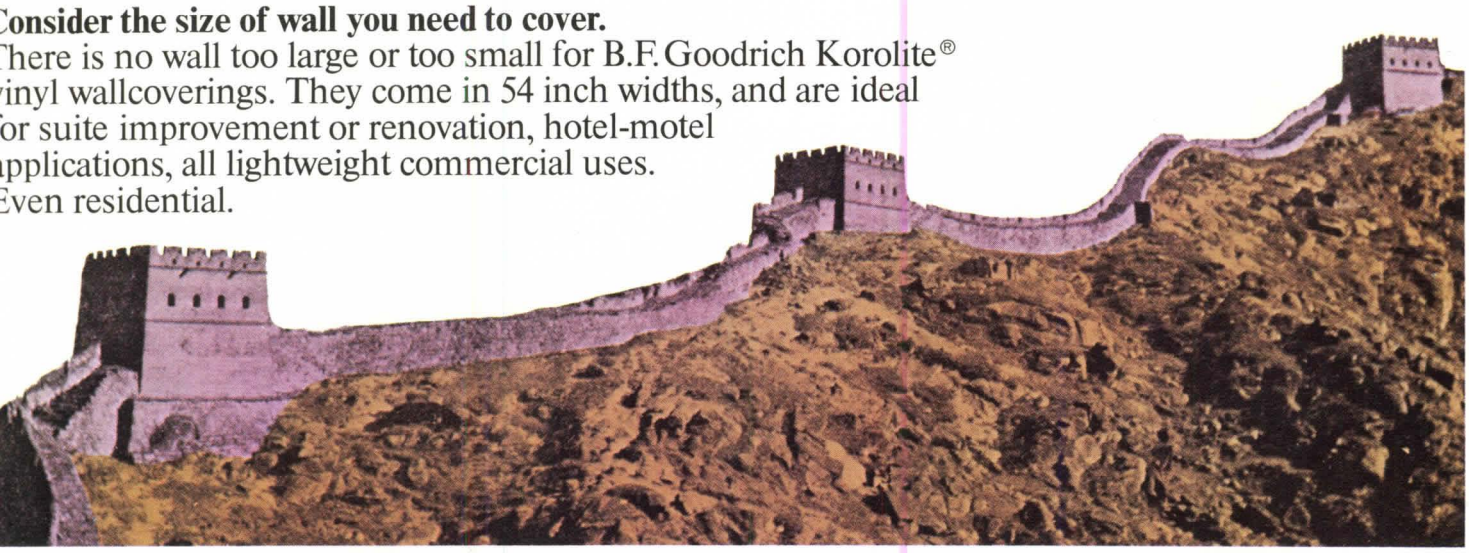

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Circle 9 on information card

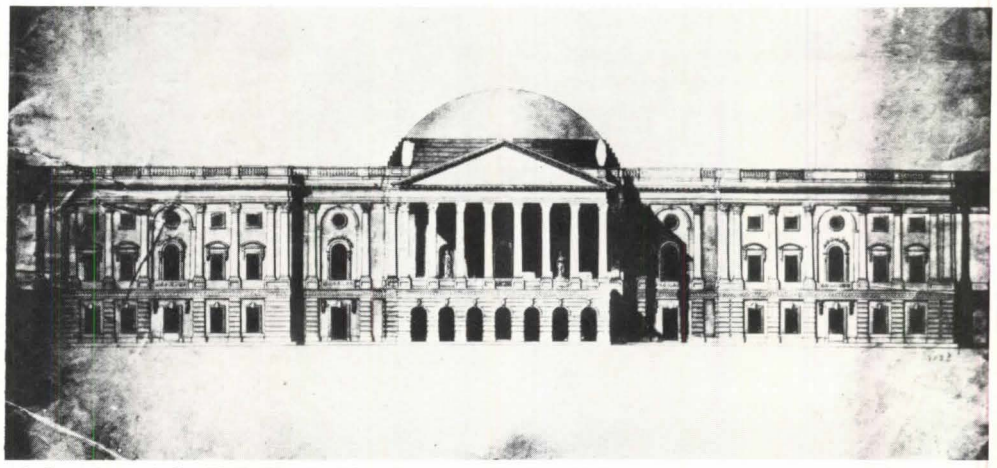
Master Plan for Capitol Assigned; Completion Expected in Two Years

The architect of the capitol has been authorized by law "to prepare studies and develop a master plan for future developments within the United States Capitol grounds . . . in order to provide . . . for future expansion, growth and requirements" of Congress and the Supreme Court. George M. White, FAIA, the architect of the capitol, has selected the Philadelphia-based firm of Wallace, McHarg, Roberts & Todd (WMRT) to assist him in the preparation of the master plan.

White is in the process of forming the U.S. Capitol Planning Group, of which he will be chairman, in order to prepare the master plan. WMRT has assigned David A. Wallace, FAIA, as director of the group and Thomas A. Todd, AIA, as partner in charge. Project coordinator is Elliott Carroll, FAIA, executive assistant to the architect of the capitol. Remaining members of the interdisciplinary planning group will be selected by White in consultation with WMRT.

The plan, which is expected to be completed in 18 to 24 months, will be developed in consultation with appropriate congressional bodies before submission to Congress for final consideration. During the first three months, WMRT and the staff of the architect of the capitol will review past and current plans and projects related to the capitol, conduct interviews with key persons and "define problems, constraints and opportunities for rational and esthetic development of the capitol grounds." Working against this background, an interdisciplinary team in the ensuing months will then "prepare, develop and evaluate alternative concepts and . . . produce the final product: the master plan."

White and Wallace say that policy choices "must remain flexible" and that the master plan "must postulate a broad spectrum of possible future situations and needs and must recommend alternative decisions or solutions for each." They are agreed that the planning process "must be conducted in full public view, with ample opportunity for all interested parties to fully understand, step-by-step, the alternatives studied, the results of data analysis and the available and recommended choices."



A drawing of the U.S. Capitol by the versatile Dr. William Thornton (see *p. 16*).

White says that the master plan will result in "systematic growth management, as opposed to reflexive responses to pressures of the moment" and will give the federal government "an opportunity to build collaboratively with the local government to the ultimate benefit of both."

Space requirements on Capitol Hill are also being studied under separate Senate and House actions. A resolution (S.Res. 227) was passed by the Senate in July 1975 which established a commission to study the Senate's internal operations. Called the Culver Commission, for Sen. John Culver (D-Iowa) who made the original proposal, this commission has a number of charges, among them a study of Senate office space requirements. The commission, chaired by former Sen. Harold E. Hughes, is to prepare a report which is due on Sept. 30. The commission will expire 60 days after submission of its report.

The House, as part of the committee reform amendments of 1974 (H.Res.988, 93rd Congress), has established a commission on information and facilities. The commission's task force on facilities and space, chaired by Rep. Elizabeth Holtzman (D-N.Y.), is to make a thorough study of space requirements, space use and parking facilities for the House. Recommendations are due on Jan. 2, 1977.

AIA has long supported and testified in favor of long-range, comprehensive planning of Capitol Hill. The Institute's concern about the capitol itself goes back as far as 1937 when a resolution was passed at the convention in opposition to "any material alteration" to the capitol and in favor of a "judicious study of capitol needs."

This position was reinforced in further resolutions and testimony throughout the years. In 1958, John Noble Richards, FAIA, the Institute's newly elected president, issued a statement, almost his first act as president, in which he said that a "space-use survey of capitol facilities should be undertaken immediately."

A special issue of the AIA JOURNAL in January 1963 entitled "Washington in Transition," prepared in cooperation with the AIA committee on the national capital and under the guest editorship of its chairman Paul Thiry, FAIA, again set forth the Institute's opposition to "piecemeal growth" of the capitol area, urging a return by the architect of the capitol and other agencies to "L'Enfant's spirit of total design" by means of coordinated planning.

In October 1963, AIA issued a public statement calling for a "comprehensive master plan for the future development of the capitol, including the Capitol Hill area." AIA stated that "any piecemeal

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construction should be delayed until such a comprehensive plan has been prepared and approved." The Institute held that "if a comprehensive master plan is prepared and adopted . . . problems of site selection, land use and design . . . will be greatly simplified . . . and a more orderly and efficient development of the Capitol Hill area will be possible."

Octagon Exhibit Details Capitol Designer's Works

The multifaceted life of Dr. William Thornton, designer of the U.S. Capitol, is the subject of an Octagon exhibit, "William Thornton: A Renaissance Man in the Federal City," on view from July 20 through Dec. 31.

In addition to Thornton's close involvement with the early development of Washington as a city commissioner in 1794, he authored several books, painted, contributed to the development of the steamship, raised merino sheep and took part in the speculative fever of the early 19th century by organizing a gold mine company in North Carolina. Although trained in Scotland as a physician, Thornton is probably best remembered for his architectural work in the District of Columbia, including the design of the U.S. Capitol, the Octagon and Tudor Place in Georgetown.

The exhibit has been compiled from a variety of sources and includes items on loan from the New York Historical Society, the Department of State, the University of Virginia, the American Philosophical Society and the Library of Congress.

Featured in the exhibit are several of Thornton's own books, letters, diaries and architectural drawings. Other objects and items of correspondence illustrate Thornton's acquaintance with such figures as Robert Fulton, Thomas Jefferson and James Madison.

Employer Immunity Asked For Design Professionals

Increasingly, liability insurance carried by design professionals is being used to make up for the shortcomings of workers' compensation, said AIA Vice President Carl Bradley, FAIA, in testimony on the National Workers' Compensation Act of 1975 (H.R. 9431).

Speaking before the subcommittee on manpower, compensation and health and safety of the House committee on education and labor, Bradley called for changes in proposed legislation that would strengthen the "exclusive remedy" nature of workers' compensation systems by extending to the design profession the immunity now enjoyed by contractors.

He made clear the Institute's support of uniform national standards for workers' compensation programs and benefits, "provided that the employer's immunity is extended to those acting with the immediate employer at the same location."

Bradley said that under present laws workers injured in construction accidents are suing architects for losses in excess of compensation benefits. Contractors, whose legal responsibility it is to assure job safety, are liable only for workers' compensation and are immune from suit, as is the owner whose status is that of a principal behind an independent contractor. This often leaves the architect as the only available defendant.

The situation, according to Bradley, has contributed heavily to the huge increases in the cost of liability insurance to design professionals. "Liability premiums," he said, "are currently running between 3 percent and 8 percent of architects' gross revenue. Often this means the difference between making a profit and going out of business. This is working an especially great hardship on smaller offices of 10 people or less."

Accessibility for the Arts

Lack of information about the arts and the inaccessibility of some arts facilities can effectively lock out many young, elderly and handicapped people from participating in this country's cultural benefits. For this reason a nationwide information campaign to improve accessibility to the arts has been launched by the National Endowment for the Arts and the Educational Facilities Laboratories. It will include a series of three public service commercials to awaken public awareness, a free state-of-the-arts pamphlet about the latest advances in the field, a model survey of accessible arts facilities in one state and a free consumer-oriented information service that will continuously supply enrolled members with the materials they need to improve accessibility to the arts.

The pamphlet, entitled "We're pleased that you are interested in making the arts accessible to everyone," reports new arts programs and facilities that overcome barriers, contains a list of resource organizations and materials, an order form for EFL/National Endowment publications and an enrollment card. It can be obtained free of charge from ARTS, Box 2040, Grand Central Station, New York, N.Y. 10017.

Energy Act Endorsed

Speaking for the Institute, AIA Vice President Carl Bradley, FAIA, strongly endorsed the Energy Conservation Act of 1976 (S. 3424) because, he said, it would stimulate the depressed construc-

continued on page 23

Going On from page 16

tion industry and promote energy conservation in existing buildings. The bill would provide incentives such as loan guarantees and interest subsidies for homeowners, small businesses and commercial and industrial consumers, and would result in substantially lowered energy costs for those taking advantage of the loans, he testified before a Senate committee.

Bradley stressed the importance of dealing with the nation's existing 70 million residential and commercial buildings. "Many building owners and operators," he said, "are aware of the potential for saving energy. But they are simply unable, in the current market, to acquire the capital to make the necessary modifications. It is precisely this problem that is addressed by S. 3424."

Bradley also expressed the Institute's support for a provision of the bill calling upon the Federal Energy Administration to develop a model state energy conservation implementation program, and recommended that it include provisions for state public education efforts that stress proper operation and maintenance of energy conservation measures.

Energy Budgets Considered

Energy budgets for several types of buildings in various climates will be developed in a four-month project initiated by the Institute's board of directors' energy committee.

The project's two main goals are to evolve a concept and framework for developing budgets and to propose budget figures for specific building types.

AIA supports the energy budget approach as an alternative to prescriptive standards of energy use in buildings. It would leave the design professional free to determine the methods for achieving the desired level of energy use.

Project director will be David Bullen, AIA, formerly a vice president of Caudill Rowlett Scott in Houston. On leave from CRS, he managed an energy conservation project for the AIA Research Corporation.

Loans for Historic Homes

HUD has proposed regulations to make property improvement loans of up to $15,000 from private lenders available to owners of historic residential structures. The loans are to be insured by HUD's Federal Housing Administration.

The regulations would implement a section of the Emergency Home Purchase Assistance Act of 1974.

Eligible for loans would be owners of structures on the National Register of Historic Places or those determined by the secretary of the Interior to be eligible for the register. Structures must be used as dwellings and all proposed improvements must be approved by the state historic preservation officer in the state where the structure is located.

$92,000 in Scholarships Shared by 146 Students

Scholarships totaling $92,000 under the 1976 AIA/AIA Foundation scholarship program have been awarded to 146 architectural students from the U.S. and Canada. The recipients were selected from among 319 applicants from accredited schools of architecture by the AIA scholarship committee, chaired by Leon Bridges, AIA, of Baltimore.

The scholarship program annually recognizes and assists students from accredited architectural schools in this country and in Canada. The awards are made in varying amounts based on the committee's evaluation of an applicant's academic record, financial need and recommendations of a school's dean or department head. The program is made possible through endowments to the AIA scholarship fund and annual donations to the AIA Foundation. Several scholarships, administered by AIA through the AIA Foundation, are funded by annual gifts from private corporations and associations in the design and construction fields.

continued on page 36

ONLY 43 DAYS AFTER WEAVER GAVE THE ORDER, VULCRAFT RODE INTO GRAND PRAIRIE, TEXAS.

Weaver and Vulcraft had teamed up many times before.

That's why it came as no surprise to anyone when Weaver Iron Works, a large steel fabricator, called on Vulcraft to help them take on a big job they were doing for the Vantage Companies.

The job was the Parkway Distribution Center. It was located in Grand Prairie, Texas, midway between Dallas and Fort Worth. The complex itself was to be composed of five separate buildings covering a spread of 34.9 acres. To be used for offices, distribution and manufacturing facilities.

So Vulcraft acted fast to get steel joists and joist girders to Weaver. So fast that only 43 days after they got the order, they rode into town with hard, cold steel.

The first shipment of this 746,852 square foot job had arrived right on time. Everyone had a lot to smile about.

The Vantage Companies above all.

Delivery was quick as lightning. That meant more money in their pocket, less money paid out for rising construction costs.

The joists themselves were specially designed by the experts at Vulcraft to meet the load requirements of this specific job. So Vantage saved again.

And with lightweight joist girders on the job, Vantage could even sit back and enjoy the wide open spaces. Since supporting columns could be placed farther apart, allowing for larger bay areas.

That's what happened *when Vulcraft* and Weaver got together in a Texas town.

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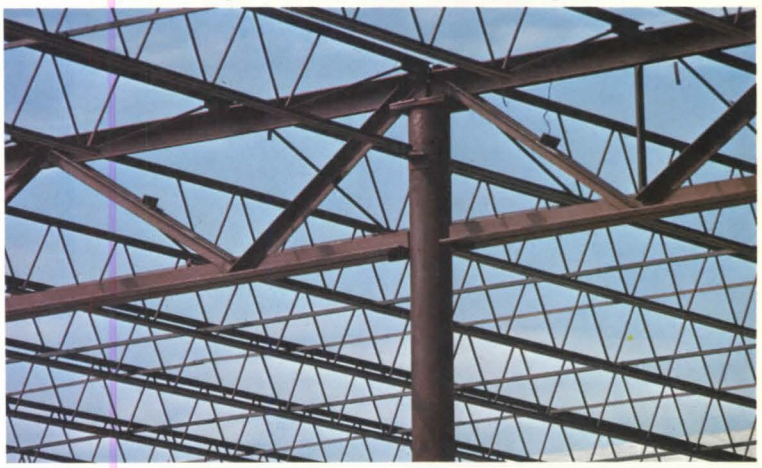
Because the faster you give us the business, the faster we deliver the goods.

Open web design allows ducts, pipes and wiring to pass directly through the steel members.

Increased spans and larger bays result from computer design of joists and joist girders.

The simplicity and light weight of Vulcraft joists and joist girders make erection fast and easy.



Lighter weight columns can oftentimes be used with joist girders. And that's a big advantage.

Ease and speed of erection with Vulcraft products enabled the first building to be under roof in 19 days.

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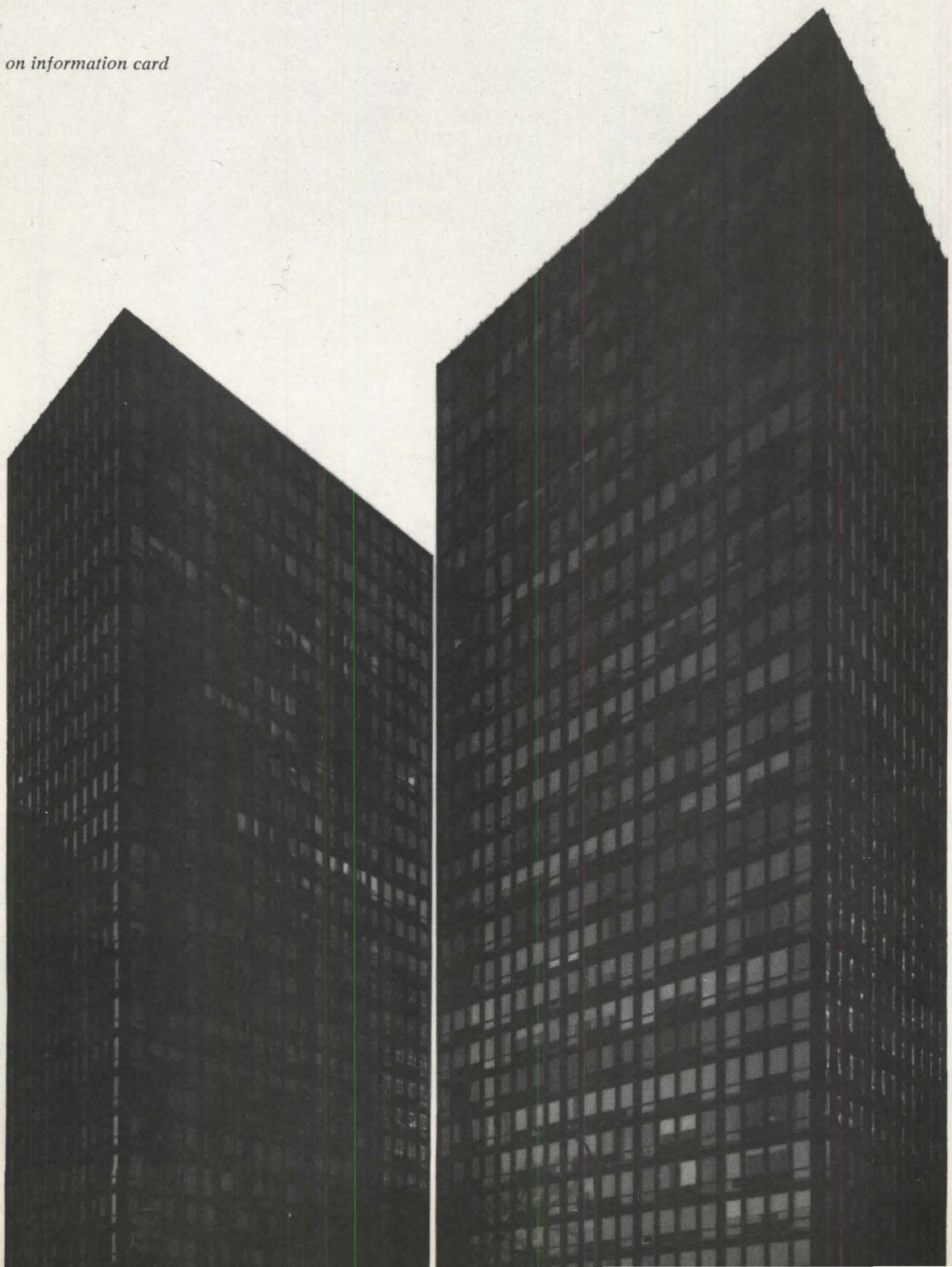
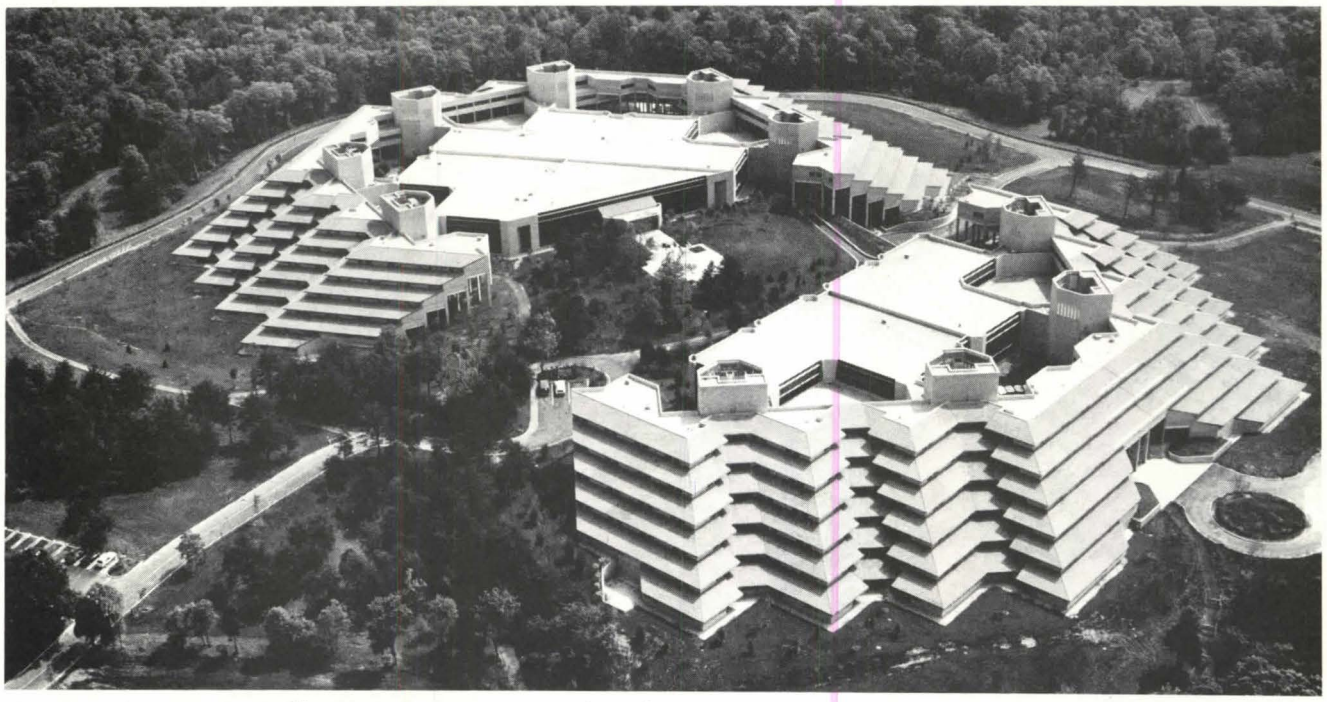


Case Study No. 16*

Xerox Runs Off Five Campus Originals: Living/Learning Modules That Save Students' Time and HVAC Energy



Air view of two main buildings of Xerox center. Students live in terraced perimeter surrounding flat-roofed learning areas.

With innovations such as octagonal classrooms and electric heat recovery, this new industrial training facility features a cohesive layout that encourages employees to learn from one another as well as from their teachers.

Leesburg, Virginia. Along with a number of other brilliantly run U.S. firms, Xerox Corporation is studied and analyzed as a classical model of good management in the classrooms of Ivy League business schools. When it decided to build its own campus back in 1971, however, Xerox did not return the compliment by emulating traditional college architecture. Instead it came up with a totally unique approach that is as inventive in its own way as the company's famed copying process.

A standard vision of the American college scene is one of large numbers of students hurrying across the grassy expanses between dormitory and classroom buildings set here and there at random. The physical exercise involved certainly does the students no harm, especially when there are four leisurely years to spend and time is not of the essence. In industrial training, however, where courses range only from a day or two to a few weeks, time is very much a factor and campus walkabouts could be considered dispensable items in tight schoolday schedules. Xerox and its architects thought so, at least, and invented their own solution: the "living/learning module."

Free Association. The module is a physical structure containing classrooms, laboratories, residence rooms, recreational areas and other needed support facilities. Two or more modules can be freely combined in one building. Each module serves about 200 people, a number large enough for efficient application of physical plant and teaching facilities—yet small enough for a stabilizing, congenial sense of community among the members and for attention to the individual needs and progress of each student.

When the architects elected to couple the living and learning spaces, an intriguing opportunity was presented to the team of design engineers. The classrooms and laboratories were to be highly loaded with electronic teaching aids, test equipment and working models of the company's own machines. The engineers were given the challenge of recovering the energy dissipated by this equipment and using it to provide space heating for the living spaces.

River View. The Xerox International Center for Training and Management Development sits on a wooded hillside overlooking the Potomac River, near the historic village of Leesburg and about 30 miles from the nation's capital. Overall, the site comprises 2265 acres, but the facility uses only about 40 acres of the available land. Two terraced buildings are the essence of a complex totaling more than one million square feet and accommodating over a thousand students at a time plus a staff of 500. These buildings contain five of the living/learning modules (three in one building, two in the other).

**One of a series of reports giving recognition to the efforts of architects and engineers on behalf of resource conservation.*

The unique architectural approach opened for the engineers the intriguing possibility of transferring excess heat from spaces where students would work during the day to where they would sleep at night.

Entering any one of the modules from its courtyard, the visitor finds himself in a dramatic three-story-high carpeted mall known as the "commons" area. Each commons contains a different variety of facilities which are used by all of the students. A service desk, newsstand and game lounge are housed in module 1; a snack bar/cocktail lounge in module 2; a large dining room in module 3; barber shop, health services area and game lounge in module 4; and a library in module 5.

The service desks accommodate the registration of newcomers as well as the distribution of mail, check cashing and valet services. Game lounges are well planned for student relaxation, furnished with amenities such as grand pianos, billiards and table tennis equipment, card tables and softly cushioned seating arrangements. These lounges and the pub area are where students gather during evenings and weekends.

Tiered Suites. Ringing each high-bay mall or commons are six levels of glassed-in space where the students reside. The living quarters on these tiers are divided into suites for six people. The focal point of a suite is its generously proportioned lounge. Upholstered butcher block sofas, swivel armchairs, television consoles and indoor plants give these lounges a living room atmosphere that reflects the wooded environment of the site.

Six private bedrooms open directly onto each lounge. Carpeting and brightly colored blinds and bedspreads make these small but efficient rooms pleasant retreats for sleeping or studying. Between each pair of rooms is a full-sized bathroom shared by the two occupants. All bedrooms are outside rooms with unobstructed views of the lush Virginia countryside.

One of the two major items of furniture in a sleeping room is a single bed with a custom designed headboard containing a lockable storage compartment for the student's use. The second item is a large, well-lighted desk that runs the full length of one wall. In a sense, the desk could be considered as part of the HVAC system. One side of the desktop is supported by the customary drawer case. The opposite side, however, rests on the cabinet of a free-standing, floor-mounted heat pump unit that supplies the room's heating and cooling. The louvered outlet grille for the unit is flush-mounted directly into the laminated plastic work surface.

Architect Peter Gerridge isn't particularly upset when, now and then, a casual visitor leaves with the wrong impression.

Don't Stop Now. The visitor who stops his tour at this point might come away with the impression that he had just seen one of the newer hotels built around soaring lobbies designed to spellbind guests with architecture as drama. Or, perhaps, a fine resort motel. "We certainly wouldn't be displeased if people did get that impression," says lead architect Peter Gerridge of the Kling Partnership. Kling's several divisions handled the entire design. "We wanted the modules to be interesting and comfortable places in which to stay. For several reasons.

"First, the training that goes on here is rather intensive, and after an eight-hour day in class, the students need some relaxation. The center is far away from any type of downtown entertainment, so we had to help them provide their own. Second, we aimed to provide a structural environment that would help relieve any sense of boredom. The average employee may return here many times during his career, and we hoped to make him want to come back. But our most important design objective was to provide structures that encourage employee interaction. Xerox feels strongly about this. A lounge where, for example, a sales representative and a service engineer converse informally about their particular approaches to the company's objectives can be just as important as the classroom in promoting on-the-job performance and harmony."

Learning-in-the-Round. To get to class each day, the students leave their rooms, cross the commons and enter the "learning area." This is a three-story space that contains sales and service classrooms and labs.

The Leesburg classrooms are unusual —octagonal in shape rather than rectangular. Because it has no identifiable "front," the octagon dispels the traditional image of the instructor standing at the head of the class as the dominant figure. The effect is a learning-in-the-round atmosphere that encourages student involvement. Instructors guide the work, but there is also plenty of crosstalk among the students as the lesson proceeds.

Another reason for embracing the octagon is simply that it has more sides and all of them are put to work. One wall and the space behind it are occupied by audiovisual aids, including a rear screen projector, a television receiver and videotape cassette unit and storage racks for tapes and slides. Others are lined with tackboards and chalk slates.

Some small classrooms have adjoining studio/like rooms for taping the role-playing exercises used in sales training. Here a pair of students can act out a customer sales situation and later participate in a group critique as the tape is played back on the audiovisual equipment. Larger classrooms for technical instruction have adjoining labs where students receive hands-on training on current Xerox machines.

Engineering Helps. The design of the electrical and mechanical systems was carefully coordinated with the overall objectives for the living/learning modules. Lighting, for example, is a blend of various types of equipment, each chosen only after some consideration

Electrical engineer Peter Knuppel sees a place for mood lighting even in a down-to-business educational center.

of psychological effect. "We lighted learning areas to 130 footcandles with fluorescent fixtures," reports Kling/Lindquist electrical engineer Peter Knuppel. "We did this, of course, to provide the conditions needed for efficient work in the classrooms and labs. But we wanted the students to experience a change in mood, an uplift, when they left the learning areas for the day. So we went to the softer tones of lighting afforded by incandescent fixtures in the living spaces. The multistory commons areas presented a special problem which was solved nicely through the installation of a low-brightness system using 250-watt quartz floodlamps."

Space conditioning for the two-module building and for the three-module building is supplied by two separate closed-loop water-to-air electric heat pump systems. The total of 1700 individual units in the two buildings makes the Leesburg installation one of the largest based on the closed-loop principle. Unit sizes range from ¾ to 20 tons. The smallest of these are of the cabinet type with integral thermostats and are located in the students' bedrooms. Larger areas, such as the lounges and classrooms, are served by ducted units installed above ceilings or in equipment closets.

All of the heat pump units in a building are coupled into a common closed loop of circulating water. In the cooling mode, the heat pumps reject heat to the circulating water; in the heating mode, they extract heat from it. It is the closed loop that makes possible the heat recovery capability of this system. The highly loaded learning areas are almost continually on cooling even in cold weather. Heat rejected to the water by the equipment in the learning spaces is then available when required for the commons or residence spaces. Supplementary heating is provided by two 1500-kw electric boilers in the three-module complex and by two 1020-kw boilers in the two-module building.

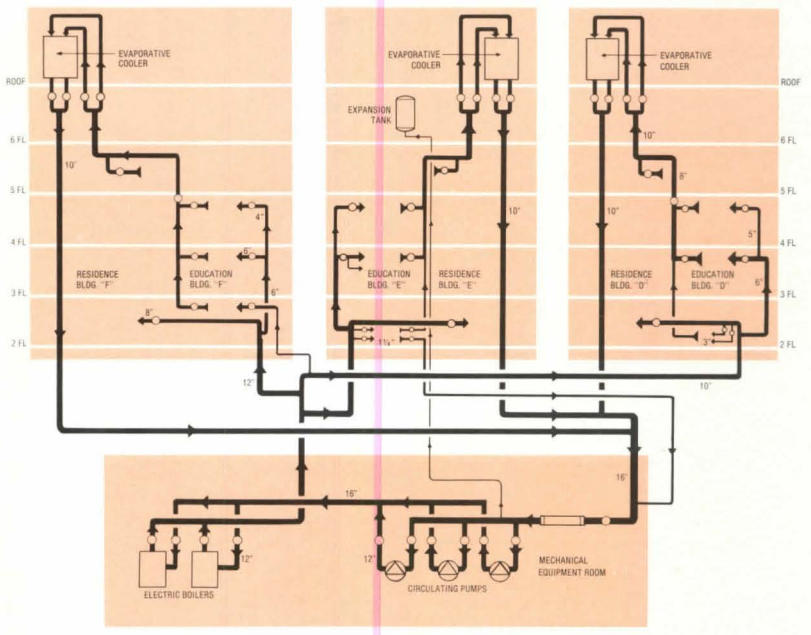
HVAC engineers Howard Shaner and Rodger Halterman are still probing for the upper limits on closed loops for heat pumps.

No Limits on Loops. The efficient operation of water-to-air heat pumps entails some very specific flow requirements in terms of gallons per minute. So the success of any installation hinges on the design of the hydronic circuits with emphasis on adequate pipe diameters. As a general rule, pipe size in the main loop is directly proportional to the total tons of heat pumps served. Over the past several years, main loops four, six and eight inches in diameter and serving a hundred or more units have become commonplace.

From a statistical standpoint, it would appear that the greater the number of units in a single loop, the more often balanced conditions would obtain in the random mix of units on heating and cooling. But large numbers of units need great volumes of circulating water, and one wonders just what are the practical limits on system size.

Manager of plant engineering Henry Spector salvages energy for use long after the crowds have left the meeting hall.

"We haven't seen the maximum limit on loop size," says HVAC engineer Howard Shaner, associate with Kling/Lindquist, Inc. "Not yet at least. We have more than 1000 units in the system for the larger of the two living/learning complexes at Leesburg. We



PIPING LAYOUT FOR THREE-MODULE SYSTEM

Schematic diagram shows the interconnection of the hydronic piping network in the three-module complex. The smaller pipe sizes installed in individual zones feed into progressively larger branches which terminate in the 16-inch-diameter welded steel main trunk. Water circulation throughout the entire network is maintained by two continuously operating pumps and one standby machine located in the mechanical room.

Situated near the circulating pumps are two electric boilers whose function is to provide supplementary heating whenever recoverable heat is insufficient to offset the cumulative heat losses of the structure. The boiler resistance elements are energized in sequence as water in the main trunk approaches 65F, which is the lower limit of the recommended range of operating temperatures. The upper limit is 90F, and whenever water temperature approaches that maximum, the roof-mounted evaporative coolers are phased into operation. For faster response to temperature fluctuations, each cooler is controlled independently by a sensor in a feeder pipe in the branches nearest it. The original plan to operate the coolers in response to temperature in the main trunk was shelved when it was determined that there was a lag of several minutes before a change occurring in a branch was reflected in the water temperature in the 16-inch main.

Innovations in the center include high-bay recreational lounge in commons (left); desk partially supported by heat pump cabinet (top right); octagonal classroom (bottom right).

could have treated this three-module complex as six separate buildings (see box). However, our early studies proved that one large system would be more economical and we didn't hesitate to design it that way. We're looking forward to applying this same heat recovery concept to even larger structures."

Orderly Approach. Kling/Lindquist engineers designed the hydronic network as an orderly progression of increasing pipe sizes. Starting with branches as small as 1¼-inch diameter in certain zones, the network feeders expand gradually and culminate in a massive welded-steel main trunk 16 inches in diameter.

An added benefit of loops of this magnitude is that the volume of contained water is great enough to offer considerable thermal inertia. This tends to stabilize the system despite hour-to-hour shifts in the operating modes of various zones. Also, heat stored in the water provides a flywheel effect that helps meet heating needs at night and during weekends when there is less recoverable heat available or none at all.

"The sheer magnitude of the loop did oblige us to make a couple of design compromises," remembers engineer Rodger Halterman. "We might have chosen a single evaporative cooler for the three-module complex but we couldn't obtain one large enough. So we had to divide the cooling job among three identical units, one for each residential structure."

The original intention was to control the three evaporative coolers in unison by means of a single sensor immersed in the 16-inch-diameter main trunk. During shakedown trials of the system, however, it was determined that a three-minute lag occurred before a temperature rise in the water flowing in the branches of any one of the modules was reflected by a rise in the water temperature in the main trunk. Accordingly, the system was retrofitted for independent control of each evaporative cooler from a sensor installed in a branch pipe close by.

Crowded Room. Several hundred yards away from the module complex is a separate recreational building. Space conditioning for this structure is also provided by a closed-loop system. "You might consider this an unusual application for the heat recovery concept," says Xerox manager of plant engineering Henry Spector. "Most of the volume of the building is taken up by two college-size gymnasiums. Ordinarily there is only a modest amount of heat exchange among the four large packaged heat pump units in each gym as they operate to equalize temperature conditions throughout the building.

"However one gym is designed to double as an auditorium and is equipped with demountable seating for 500 people. When this room has a capacity crowd, we strike it rich. We can recover enough heat to take care of the remainder of the building for hours."

DESIGN SUMMARY*

GENERAL DESCRIPTION:

Area: 1,020,000 sq ft
Volume: 11,150,000 cu ft
Number of floors: six
Number of occupants: 1000 resident students, 500 nonresident staff
Types of rooms: classrooms, laboratories, private and general offices, bedrooms, lounges, kitchen, dining room, TV studios, mechanical rooms, storage

CONSTRUCTION DETAILS:

Glass: single
Exterior walls: ribbed-face concrete block or mahogany siding over steel frame, 1″ urethane insulation (R-7), gypsum board; U-factor: 0.1
Roof and ceilings: clay tile over built-up roof, 2″ rigid insulation (R-7), suspended acoustical tile ceilings; U-factor: 0.1
Floors: concrete slab on grade
Gross exposed wall area: 150,000 sq ft
Glass area: 20,000 sq ft

ENVIRONMENTAL DESIGN CONDITIONS:

Heating:
- Heat loss Btuh: 35,940,000
- Normal degree days: 4300
- Ventilation requirements: 100,000 cfm
- Design conditions: 10F outdoors; 75F indoors

Cooling:
- Heat gain Btuh: 30,080,000
- Ventilation requirements: 100,000 cfm
- Design conditions: 95F dbt, 79F wbt outdoors; 75F, 50% rh indoors

LIGHTING:

Levels in footcandles: 25-130
Levels in watts/sq ft: 1-5
Type: fluorescent, incandescent, quartz

CONNECTED LOADS:

Heating and Cooling (3340 tons)	12,000 kw
Lighting	3,000 kw
Pumps and Fans	500 kw
Water Heating	1,000 kw
Cooking	300 kw
Machines and Misc.	11,700 kw
TOTAL	28,500 kw

PERSONNEL:

Owner: Xerox Corporation
Architects: Vincent G. Kling & Partners
Consulting Engineers: Kling/Lindquist, Inc.
General Contractor: Frank Briscoe Co.
Electrical Contractor: Beach/Fischbach & Moore, Inc.
Mechanical Contractor: Courter-Poole & Kent, Inc.
Utility: Virginia Electric and Power Company

*For all five modules.

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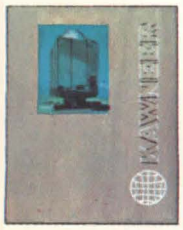

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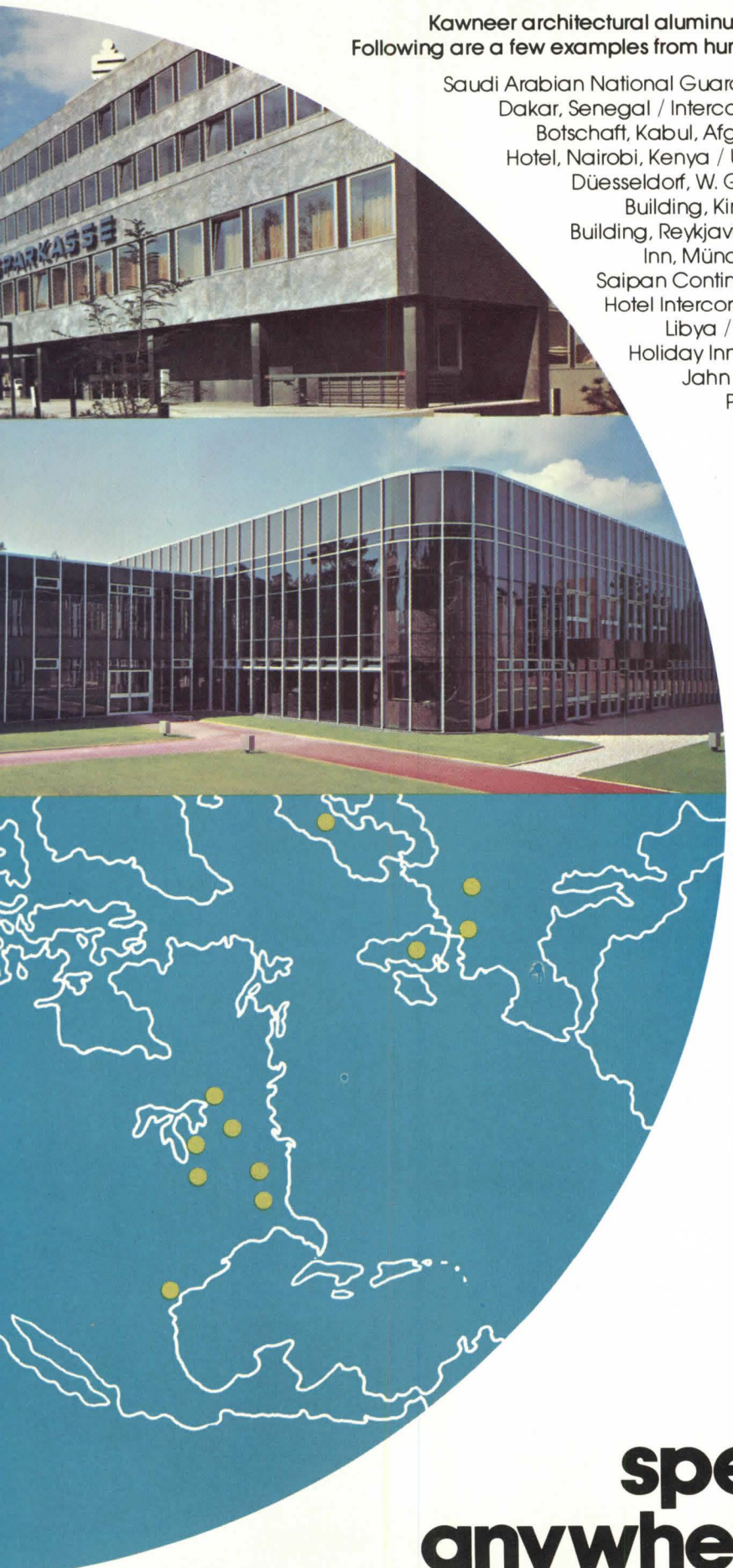

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Going On from page 23

National Gallery Traces Jefferson's Contributions

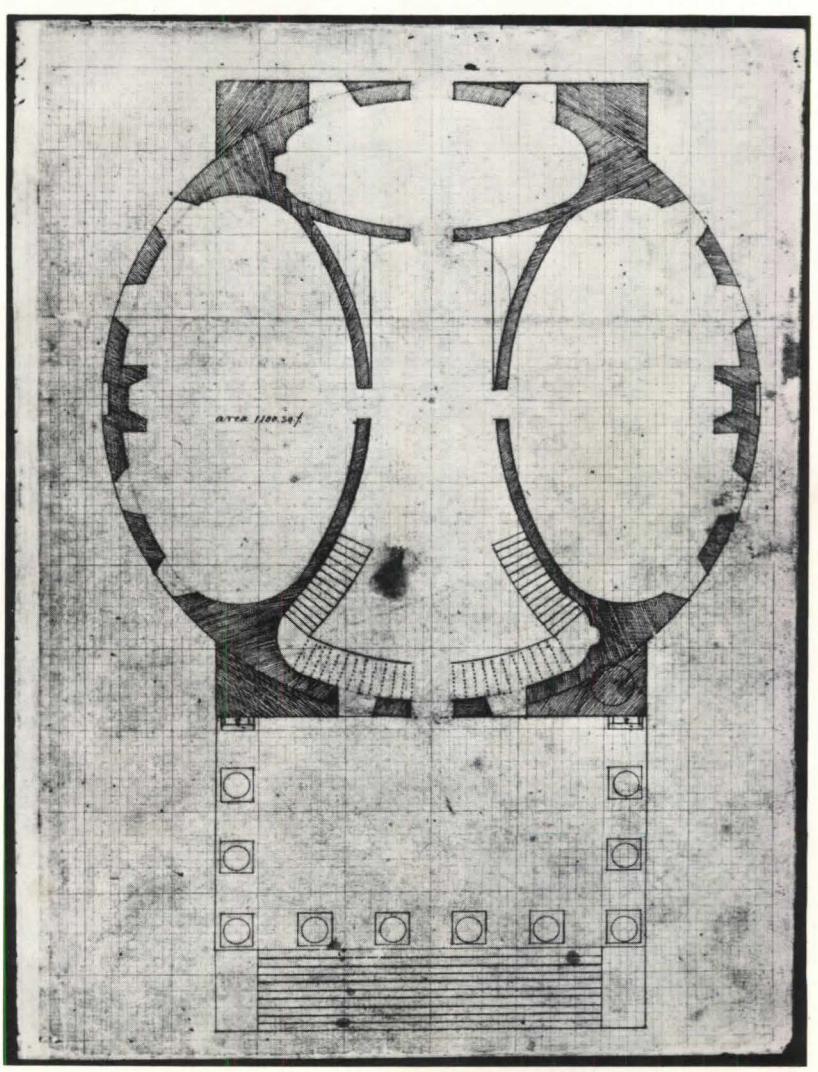
"The Eye of Jefferson," a bicentennial exhibition on view at the National Gallery of Art in Washington, D.C., through Sept. 6, is the largest, most complex and ambitious display ever undertaken by our nation's closest approximation of a national museum.

A full five years ago, the administrators of the National Gallery, together with a few select consultants, began to worry over the bone of a bicentennial display. After considering several ideas which seemed promising enough at first but proved unsuitable when exposed to closer scrutiny, they kept returning, in their discussions, to the subject of Thomas Jefferson.

"And then everything came clear," writes National Gallery Director J. Carter Brown in the foreword to the meticulously researched, handsomely illustrated catalog for the exhibition (containing over 411 large pages with small print). "Who was there more central to the fourth of July 1776 than the author of the Declaration of Independence himself?" asks Brown. He continues: "And yet Jefferson's reach, through his reading, looking, travels, and own artistic output, could encompass the whole visual context we wanted to present, most particularly so by putting it into the perspective of antiquity so that our visitors, by arching back into their own heritage, might learn by the example of the value placed by our founding fathers on theirs."

Jefferson was unique among the founding fathers in sustaining a lifelong commitment to the visual arts. He drew his earliest plans for Monticello while still in his 20s, soaked up the art and culture of Europe in travels to England, France and Italy, and became, in his later years, an innovative architect, a designer of interiors and the decorative arts, as well as a forward-looking planner. In the words of W. Howard Adams, the curator who planned and organized this exhibit (with help from an international steering committee of experts), Jefferson's is "a biography of an eye that still sets, by its example, a course for the human spirit to follow."

The exhibit focuses on the architecture Jefferson saw while in Europe and the buildings he designed in his native land. For it was mainly in his architecture that Jefferson expressed his preoccupation with the European tradition which he encountered as he moved, "a savage of the mountains of America," as he put it, "to the vaunted scene of Europe." He called architecture his delight, "and putting up and pulling down one of my favorite amusements."



Jefferson's bookplate (top), a pencil sketch attributed to Benjamin Latrobe (center) and plan of the first floor rotunda at the University of Virginia.

The exhibit attempts to show that Jefferson was a revolutionary in architecture as well as politics. It identifies his contribution primarily as rejecting the cautious Georgian architecture of his day in favor of a neoclassical approach marked by simpler, more forceful and harmonious forms, typical of Andrea Palladio's work.

More than a simple change in taste, this neoclassicism implied a new, idealistic way of thinking about the interrelationships between architecture and society, of which Jefferson was the first proponent in America.

The National Gallery's display includes the largest collection of Jefferson's architectural drawings ever assembled, including designs for such public buildings as the capitols in Richmond, Va., and Washington, D.C., and his design for the White House competition of 1792. There are also models of several buildings he created, full scale versions of two rooms he designed, examples of his work in the decorative arts and a Jeffersonian garden, complete with the small plant, Jeffersonian diphylla, named for the third U.S. President and forced to bloom out of season for the opening of this exhibit.

Altogether there are 600 works of art from 150 collections in Europe and North America. The Venus de Medici, dating from the first century B.C., was loaned to the National Gallery by the Italian government. Considered the ideal human form by Jefferson and his contemporaries, it stands behind transparent plastic in a replica of a Greek pavilion designed by Jefferson for a park. Among other treasures on view here is the Townley Vase, from the 1st century A.D., which was celebrated by Keats in his *Ode to a Grecian Urn,* paintings by Jacques-Louis David, Rembrandt Peale and many others and portrait busts of Washington, Franklin, Jefferson and John Paul Jones by Jean-Louis Houdon.

To assemble this treasure trove, curator Adams traveled to Paris, Lode (a small town near Milan) and Hoboken, N.J., among other places. And to display it, a museum-within-a-museum was created on the first floor of the National Gallery, designed by architects John Bedenkapp of New York and Elroy Quenroe of Virginia.

The exhibit is divided into three main sections: Jefferson's American background, his European experience and his artistic accomplishments in architecture, planning, landscaping and the decorative arts.

Dominating the first gallery is a scale model of Rosewell, considered the most distinguished house in colonial Virginia. It represented the culture of the landed English gentry transplanted to America, and, as such, made a lasting imprint on

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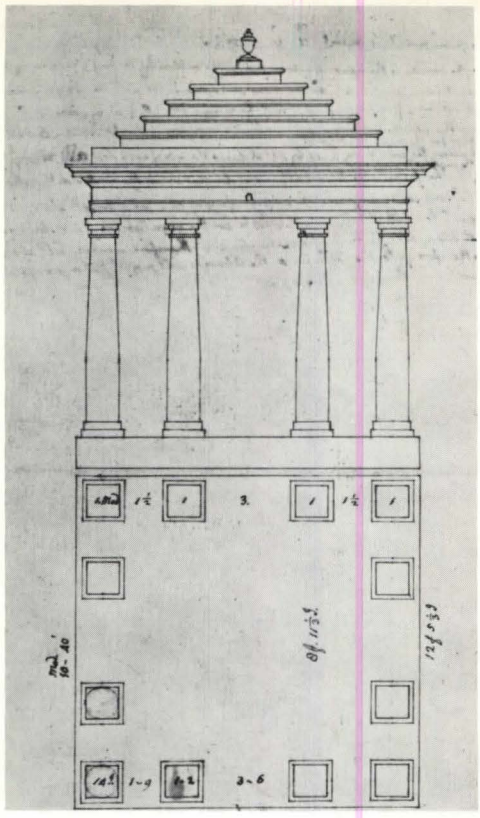
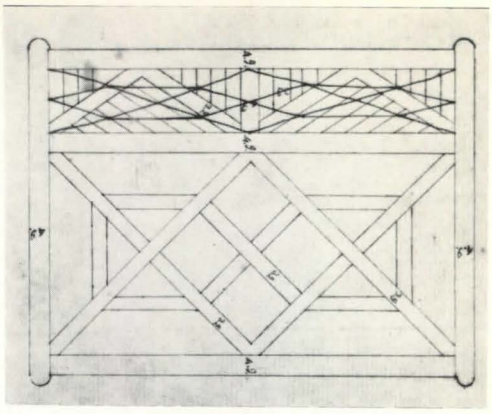
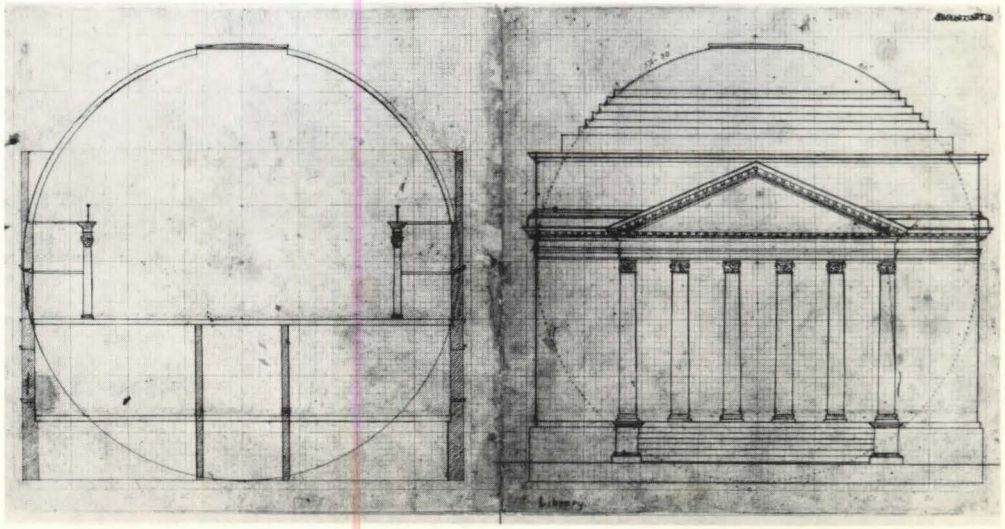




Design for a garden temple and dovecote (left), drawing for a gate in Chinese lattice at Monticello (above), Jefferson's competition drawing for the President's House (below) and a section of the rotunda, University of Virginia (bottom).



Building: First International Building, Dallas, Texas, completed and occupied late 1974. Architects: Helmuth-Obata & Kassabaum, Inc., Harwood K. Smith & Partners, Inc., Dallas; Consulting Engineers: Ellisor & Tanner, Dallas; General Contractor: Henry C. Beck Co., Dallas; Fireproofing Contractor: Carpenter Plastering Co., Dallas.

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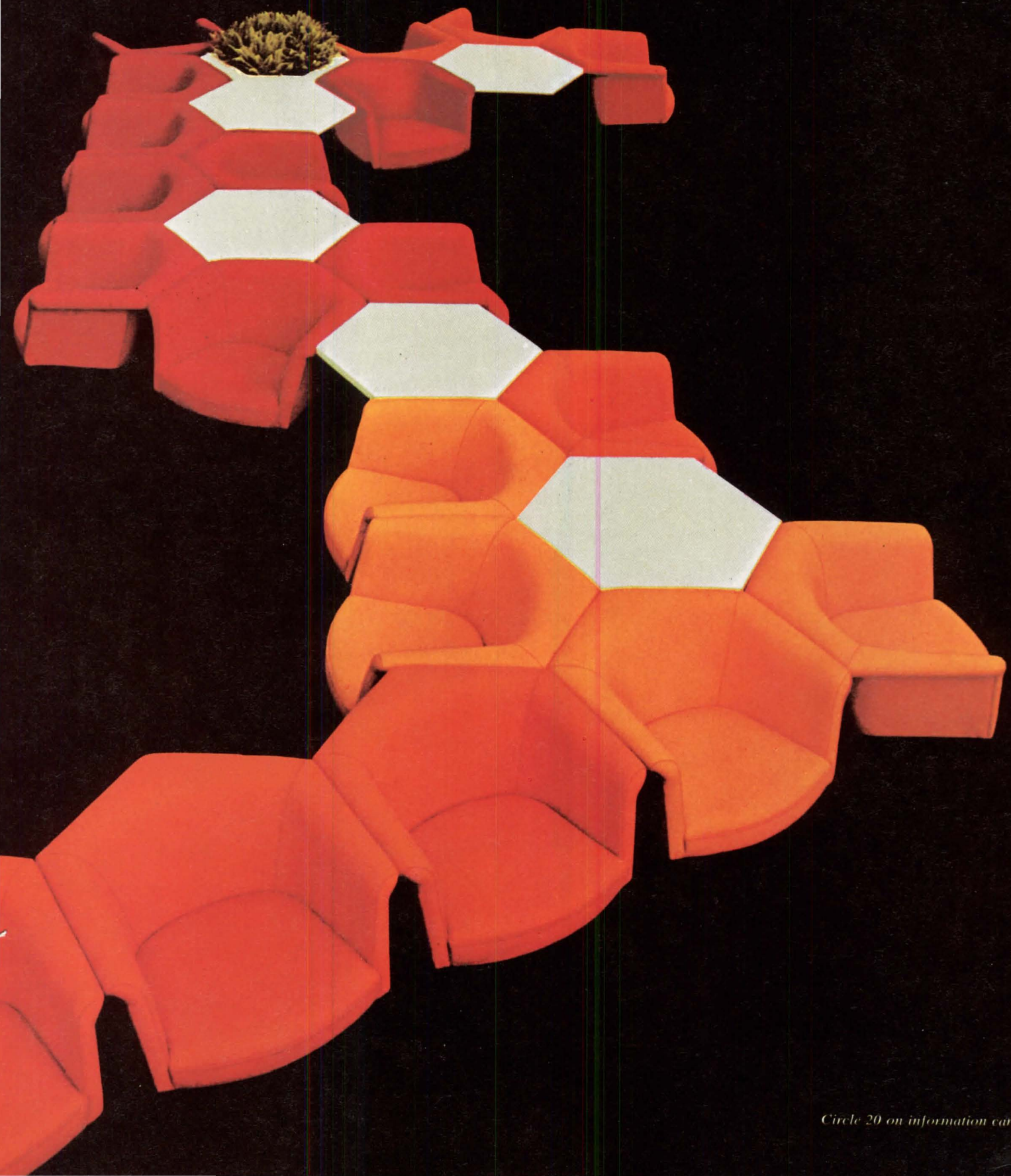

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Inryco/wall 2 PS 30 sandwich panel

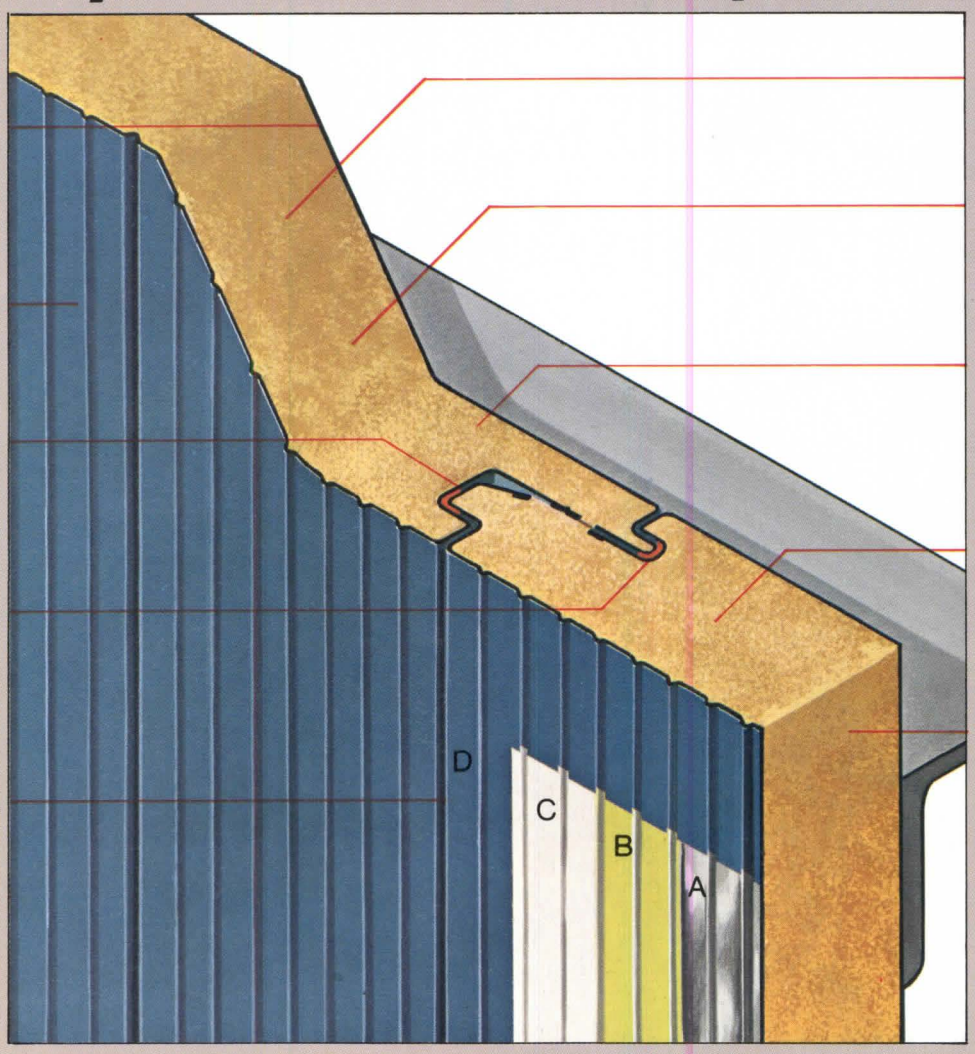
INTERIOR PANEL PROTECTION with Inryco Duofinish 100™: G-60 galvanized steel, chromated, coated with an epoxy primer and a polyester finish coat, both oven-cured. No field painting necessary.

ATTRACTIVE SURFACE looks flush, monolithic on the finished building. Available slightly rippled (shown) or flat with shallow v-ribs on 6" centers.

STRONG, SIMPLE JOINT of double tongue-and-groove design makes the erection of Inryco/wall easy, and it resists damage in field handling.

FACTORY-INSTALLED SEALS keep out moisture—even wind-driven rain. No need for field caulking or other weather-proofing procedures.

NEAT, UNOBTRUSIVE JOINTS, and few of them. Panel's 30" coverage is the reason. And the design of the joint completely conceals fasteners.



ONE PIECE CONSTRUCTION reduces erection time. Fewer parts to handle on the job than in masonry or ordinary metal wall construction.

FACTORY APPLIED INSULATION foamed-in-place under precision conditions. Eliminates need for vapor barriers or the handling of rolls and batts.

THIN WALL, WIDE COVERAGE Sandwich panel is only 2" thick, but it's 30" wide. Light, easy to handle, yet covers a large area in one operation.

COMPOSITE STRENGTH of steel skins bonded to the foam core permits the use of lighter gages of steel, fewer girts for the same span conditions.

SUPERIOR ISOCYANURATE FOAM insulation is a 93% closed cell material with exceptional performance in thermal properties, dimensional stability and low smoke emission. Gives the sandwich panel a U-value of .064.

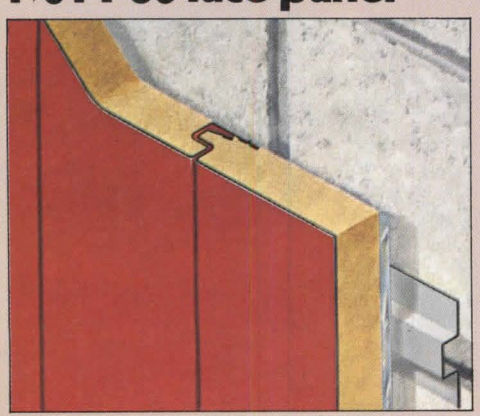
PERFORMANCE TESTED by independent laboratories for structural strength, thermal properties, flame spread, smoke generation, air and water infiltration. Specific results from Underwriters Laboratories and Factory Mutual (Class I) available through Inryco Sales Engineers.

EXTERIOR PANEL PROTECTION with Inryco Duofinish 500™:

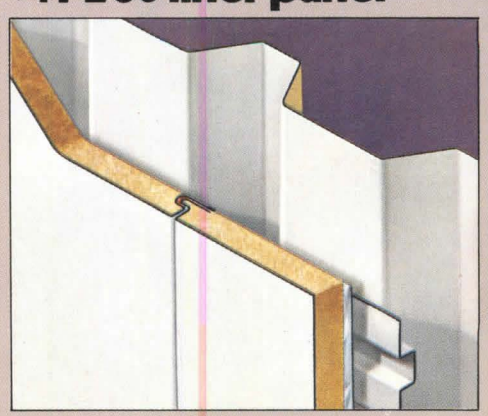
A. G-90 Galvanizing over steel (1¼ oz. hot-dipped)
B. Zinc Chromate for bond with primer coating.
C. Epoxy prime coat, oven cured.
D. Finish coat of 70% Kynar, polyvinylidene fluoride, oven cured. Available in 8 standard colors.

1⅛ PF 30 face panel

Designed primarily for the remodeling of existing buildings to improve their appearance, and at the same time greatly improve their heat retention capabilities. Panel's foamed-in-place isocyanurate insulation gives it a U-value of 0.12. Can be used either as exterior or interior panel. Low maintenance costs.



¾ PL 30 liner panel



For use as an interior liner in conventional field-assembled metal walls. Eliminates the need for separate field insulation, cutting labor costs. Excellent U-value of 0.15 despite its ¾" thickness, results from the liner's isocyanurate foam insulation. Interior surface is oven cured Duofinish—easy to maintain, enhances lighting levels.

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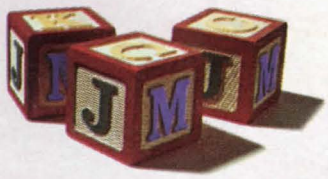

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Going On from page 37

the eye and mind of the young Jefferson, who visited it often.

The second gallery, containing furnishings from Jefferson's parental home and portraits of Virginia governors, reminds the viewer that this was a youth of many opportunities and a frequent guest at the Williamsburg palace. His early interest in architecture is indicated by the presence of books about buildings.

The exhibit continues to follow Jefferson's travels and journey through life. In 1760, he entered the College of William and Mary in Williamsburg, and—at the age of 16—he proposed redesigning the main buildings of Virginia's colonial capital, which he considered old-fashioned.

Jefferson's disdain of the English Georgian structures among which he grew to manhood is fully apparent in his 1781 indictment of Virginia architecture, *Notes on the State of Virginia*. Here he wrote that as far as architecture in the former colony was concerned, "the first principles of the art are unknown and there is scarcely a model among us sufficiently chaste to give an idea of them. . . . The private buildings are very rarely constructed of stone or brick, much the greatest portion being of scantling and boards, plasted with lime. . . . It is impossible to devise things more ugly, uncomfortable and happily more perishable."

He had begun Monticello as early as 1769, and there he assembled the first art collection in America.

Thomas Jefferson first visited Europe in 1784, when he was appointed as a U.S. commissioner to draw up treaties of commerce with France. In 1785 he was appointed to succeed Benjamin Franklin as minister to France. The following year he visited England, and in 1787 toured Italy and France and sent to Richmond an architectural model based on the Maison Carrée in Nimes for a new Virginia state capitol.

It was a time when the Enlightenment, with its belief in reason and progress, held sway in Europe, as did an almost obsessive interest in the classical cultures of ancient Greece and Rome. "It was the rediscovery of the ancient world through its literature, its philosophy and its art that Jefferson could most easily respond to when he arrived in Europe," writes curator Adams. For, as American historian Henry Steele Commager noted: "The founding fathers knew the ancient world better, perhaps, than they knew the European or even the British world, better, in all likelihood, than they knew the America outside their own section."

The neoclassical painter, Jacque-Louis David, completed his germinal work, The Oath of the Horatii, the year Jefferson arrived on the European continent, and the then U.S. commissioner immediately went

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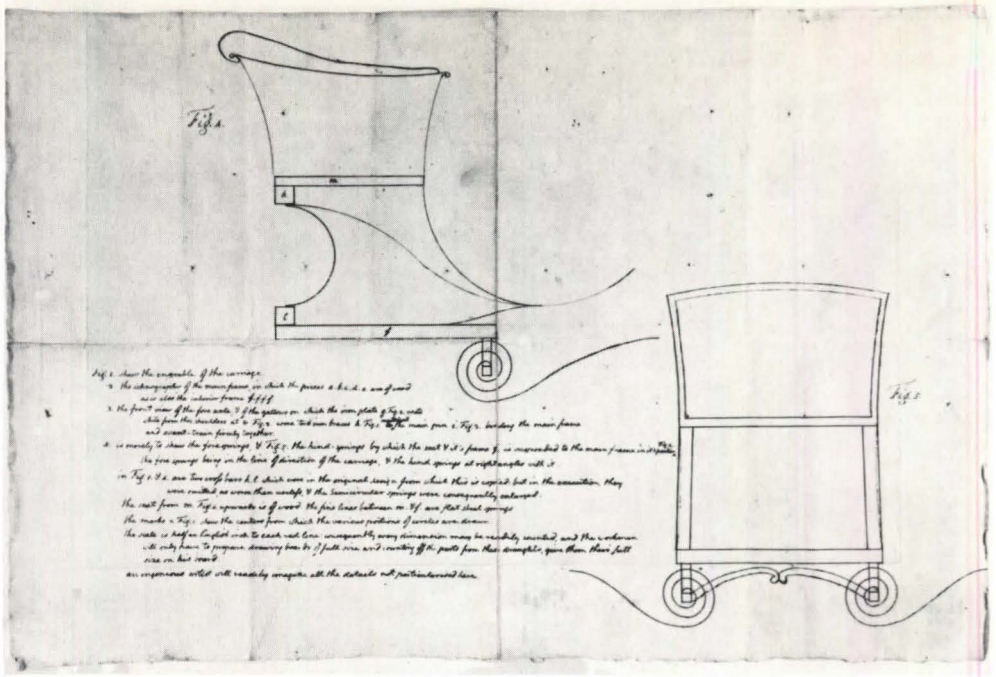
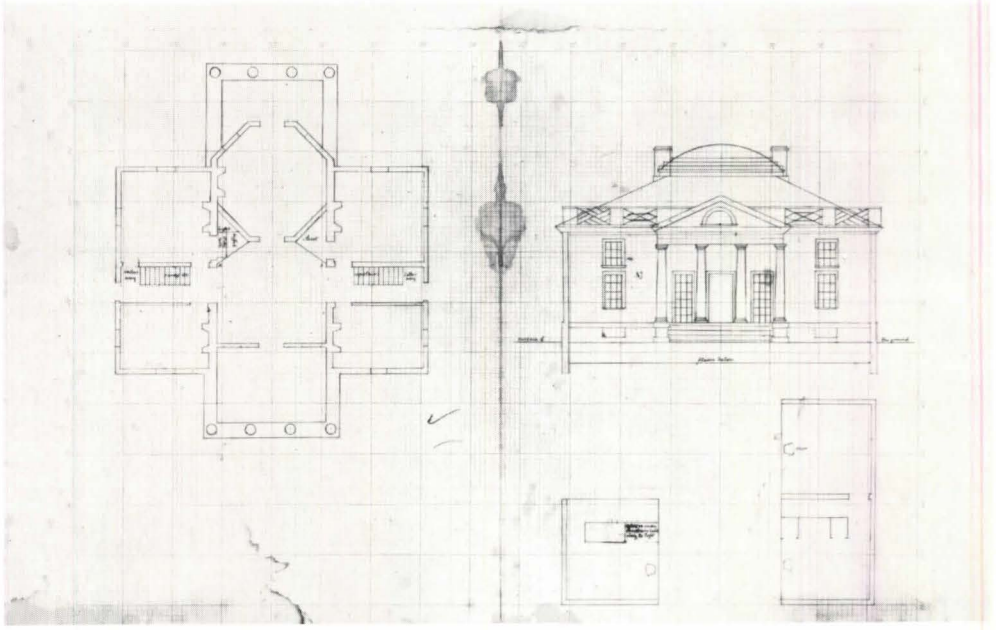
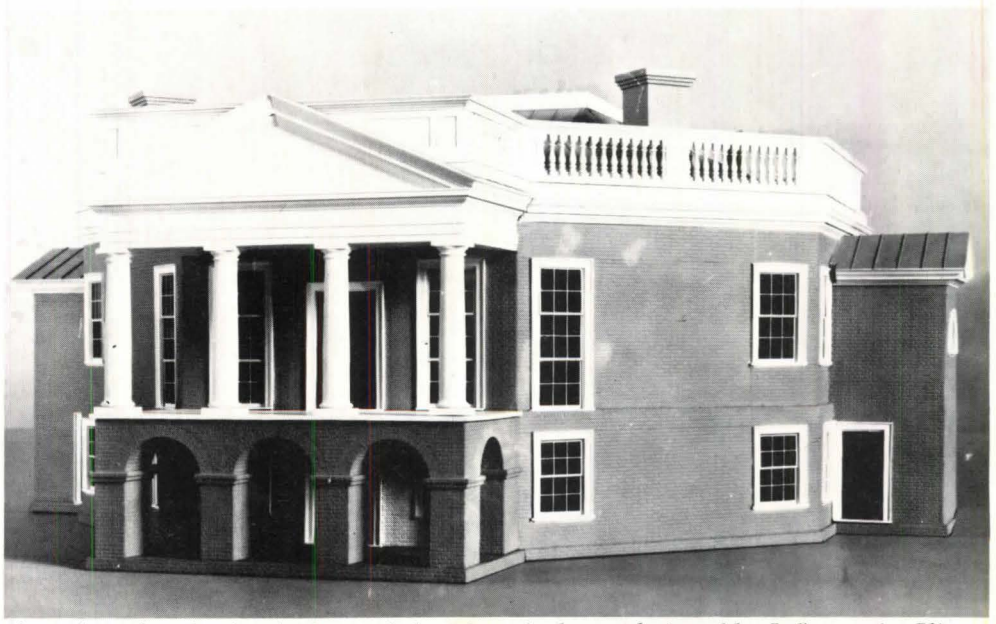
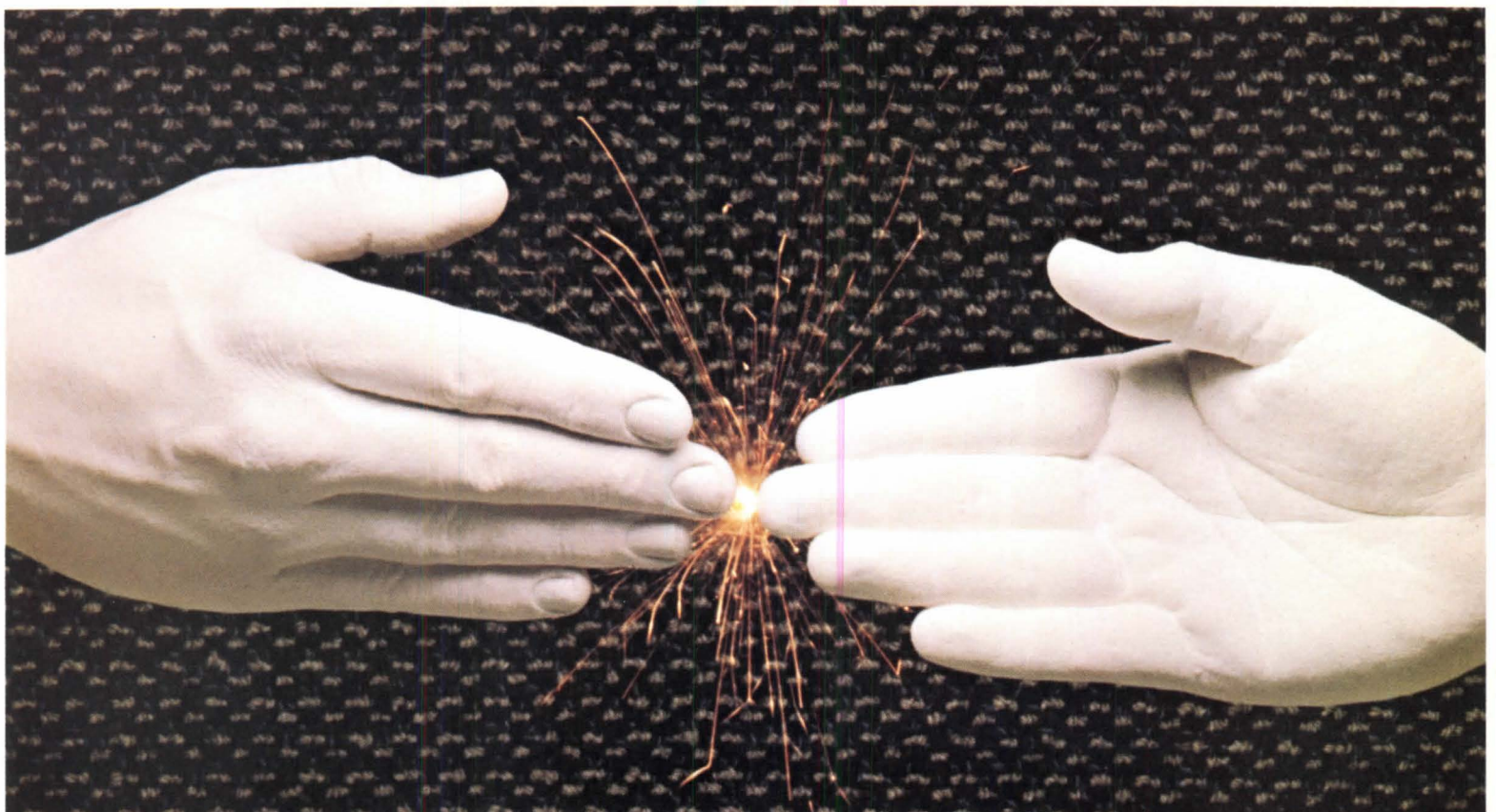






A carriage drawing (top); plan and elevation of a house designed by Jefferson for Virginia Governor James Barbour (center); model of Poplar Forest, Jefferson's country retreat near Lynchburg, Va. (bottom).



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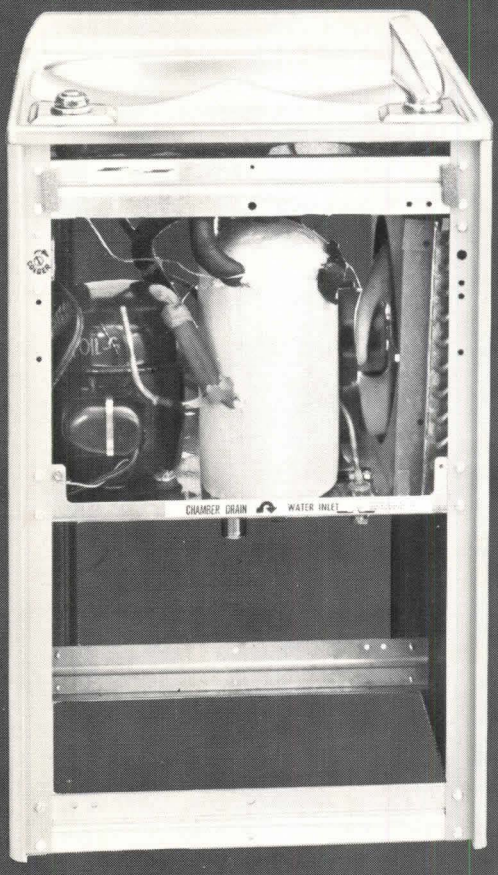

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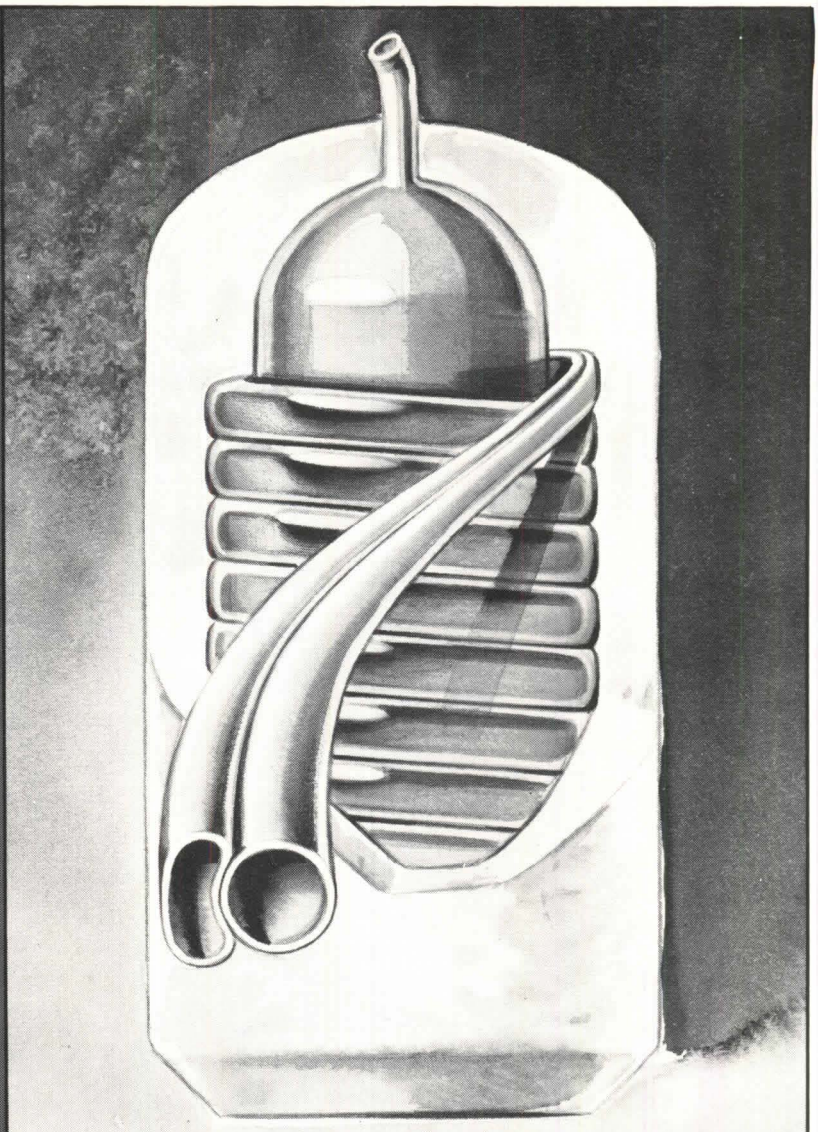

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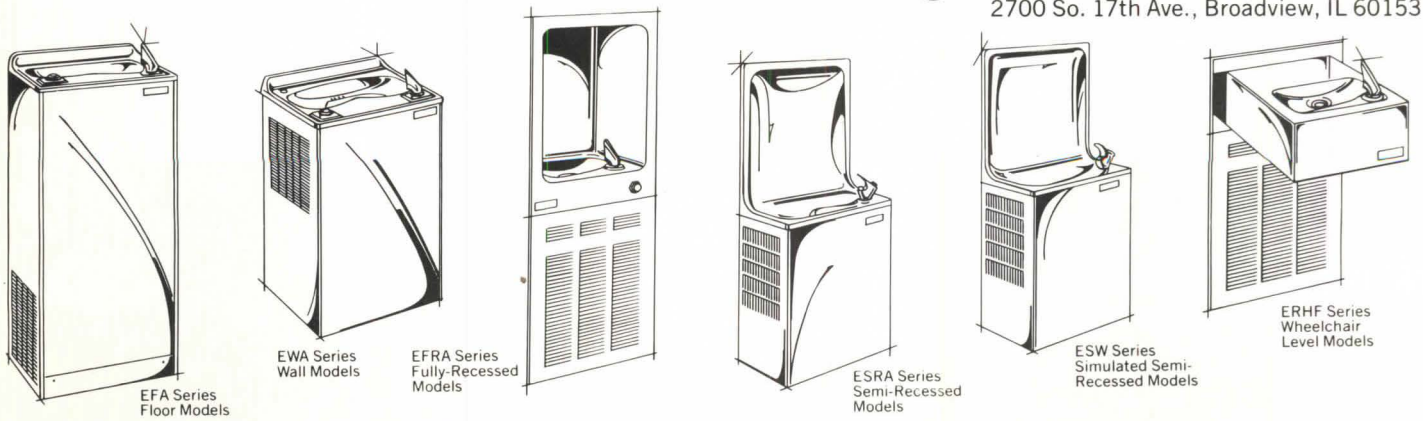


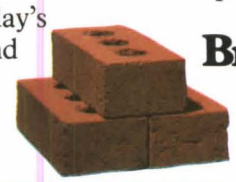
Elkay offers a complete line of water cooler models for every requirement

America's oldest building for higher learning has a lesson in it for us.

The Christopher Wren Building of the College of William and Mary. America's oldest academic building in continuous use. And a testament to the permanence, the practicality and the beauty of brick in architecture.

Executed after the design of renowned English architect Christopher Wren in 1699, the structure stands today as a fitting monument to America's educational history. Solid, functional and simplistically handsome, it serves as a reminder of man's persistent appreciation of the material and suggests the wisdom of its continued use.

All that brick was to the architects of the past, it remains for those of the present and the future. Today's new shapes, new colors, and new concepts for the use of brick assure its place in building history.

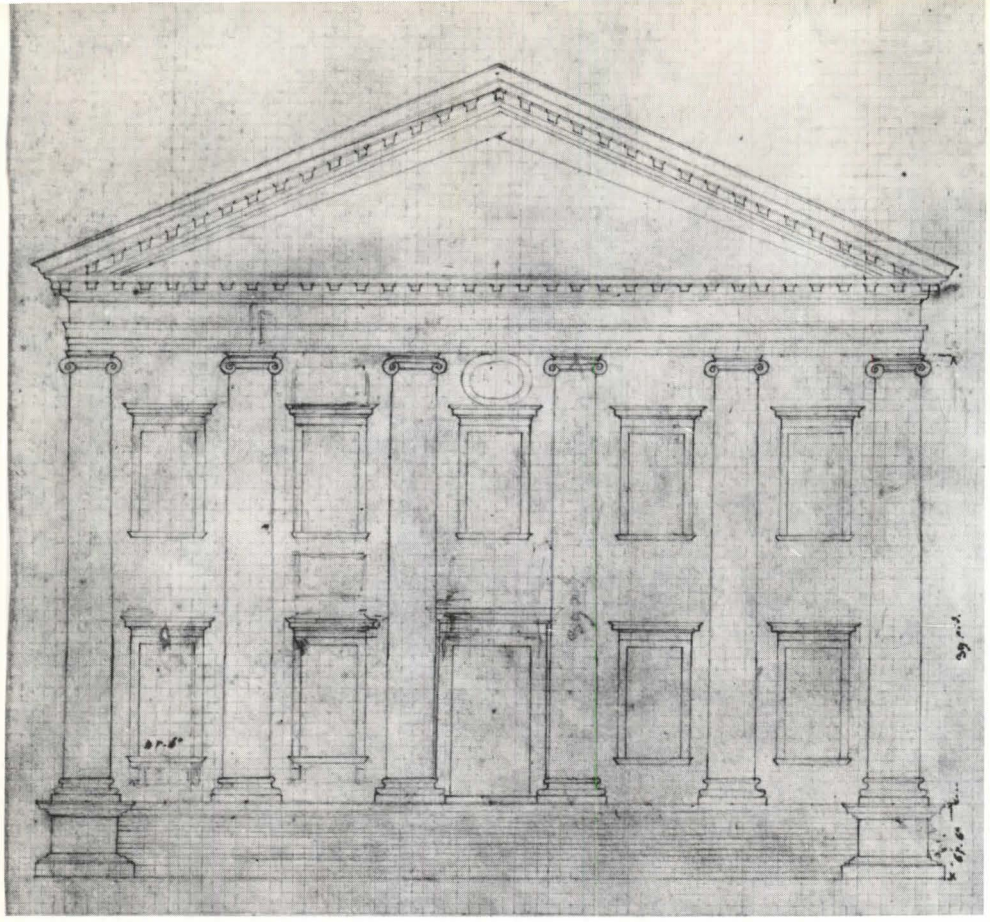


To celebrate the nation's bicentennial, BIA has produced a timely film—*Th. Jefferson: Man from Monticello,* a look at Jefferson the architect, the planner. Write us to arrange a special presentation.

Brick Institute of America

1750 Old Meadow Rd., McClean, Va. 22101

Circle 26 on information card



Front elevation of the Virginia Capitol (above), a Palladian villa (right).

Going On from page 44

to admire it. Just a year before, architect Claude-Nicolas Ledoux had undertaken his radically new designs, using antique models for inspiration, for the king's toll-houses in the new wall constructed around Paris. Its influence on Jefferson's Pavilion IX at the University of Virginia is evident as is that of so many of the sights and ideas he encountered while abroad.

Writes curator Adams: "Jefferson's freedom from tradition, combined with his frontiersman's bold imagination, allowed him to roam, with an innocence that we can admire, through the studios and galleries, picking and choosing with confident abandon, not as an academic connoisseur but as an 'enthusiast on the subject of the arts.' "

When Jefferson returned to the United States and became secretary of state in 1788, his enthusiasm for Europe and his experiences there proved to be invaluable assets for his nation's government. He helped L'Enfant in creating his plan for the federal city by assembling the best plans of European cities. He proposed the idea of an architectural competition for the President's house and anonymously submitted a plan himself based on Palladio's Villa Rotonda. Later, as President of the United States, he created the post of surveyor of public buildings to recruit professional architects for government service. His first appointment to fill the office was Benjamin Latrobe.

Jefferson's final and greatest achievement was the University of Virginia. His mentor here again was Andrea Palladio. Jefferson's intention in designing this complex of buildings was, in his own words, to embody "the important truths that knowledge is power, that knowledge is safety, and that knowledge is happiness."

He wrote: "The plan of the building is not to erect one single magnificent building to contain everybody and everything, but to make of it an academical village in which every professor would have his separate house (or 'pavilion'), containing his lecture room with two or three or four rooms for his own accommodation according as he may have a family or no family, with kitchen, garden, etc.; distinct dormitories for the students, not more than two in a room; and separate boarding houses for dieting them by private housekeepers." This was a new concept in a country where colleges were more typically composed of "a barn for a college and log huts for accommodations," in the words of Jefferson.

W. Howard Adams' conclusions about the University of Virginia also serve to sum up the achievements of its architect and the importance of this exhibition: "One could spend a good part of a lifetime sorting out and cataloging all of the details of the university and following them to their source—from Louis XIV's garden at Marly to the Theater of Marcellus and the Pantheon in Rome. In the capitals, facades, railings and pediments, each carries a part of its creator's history and experience—his books, his plans, his love affairs of the heart as well as the head, his dreams, above all, for a new nation—into a biography of an eye that still sets, by its example, a course for the human spirit to follow."

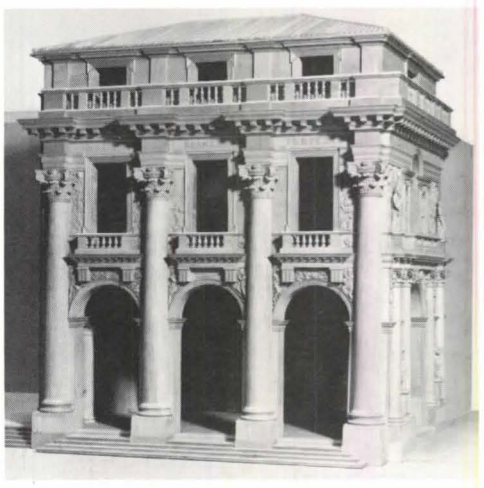
Sixteen Palladio Models In Touring Exhibition

"Palladio in America," a display at the Corcoran Gallery of Art in Washington, D.C., through Aug. 15, is being circulated in America by the Italian government.

Andrea Palladio and Thomas Jefferson, although separated by two centuries, were influenced by the same classical sources—most notably the Pantheon—and for Jefferson, Palladio's writings and designs were the most influential guide to "the noble architecture of antiquity." Palladio's well-known rotunda was the model used by Jefferson for Monticello. And the Italian's country villas, almost all located in Vicenza and characterized by a central living area flanked by two symmetrical structures for servants and services, served as prototypes for Jefferson's University of Virginia.

Moreover, the influence of Palladio's architecture on America has been so pervasive and far reaching that buildings with Palladian elements, such as pediments topping pilasters or columns, as are seen on commercial buildings on most American main streets and on suburban houses from coast to coast, have become as American as apple pie.

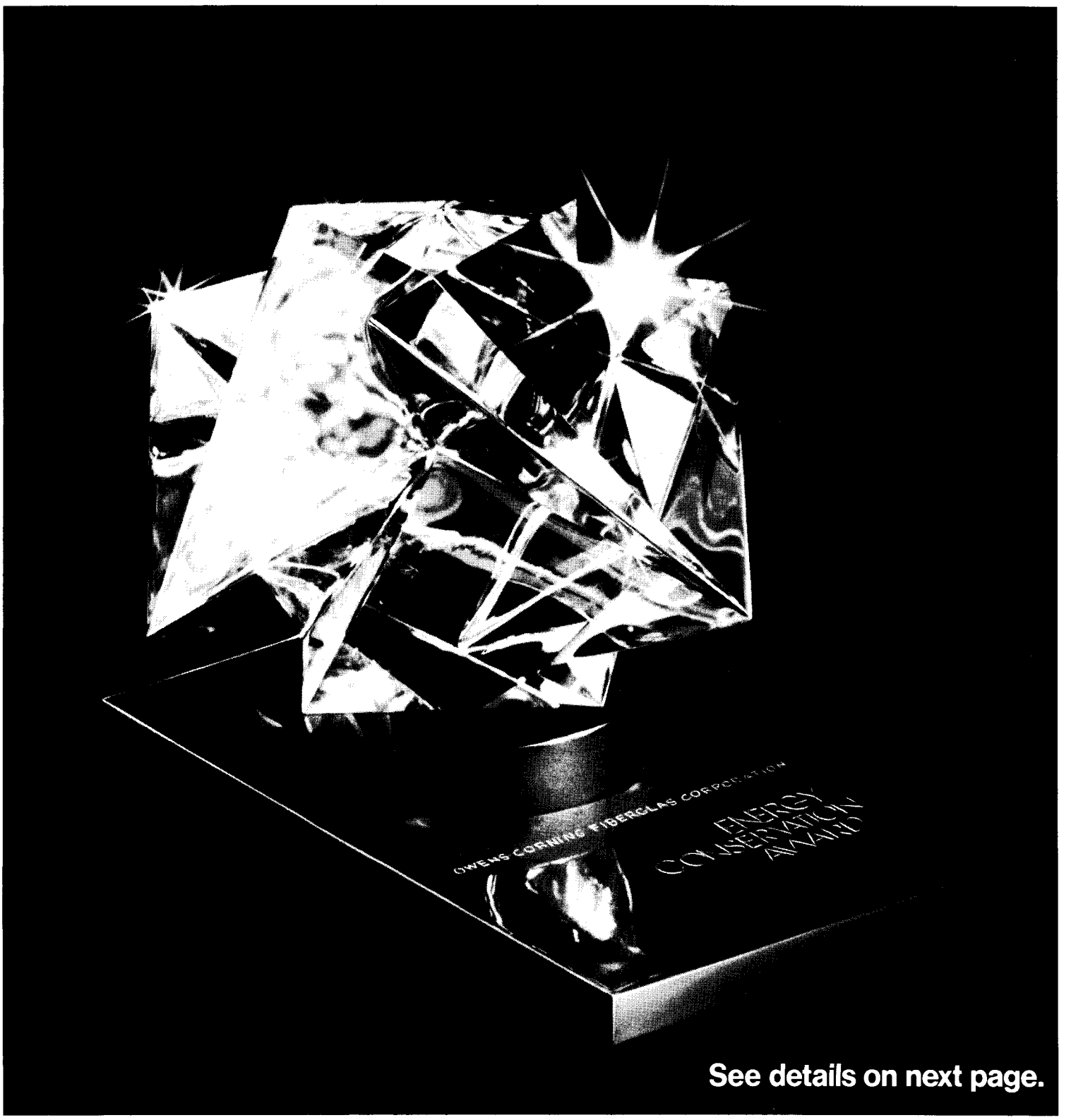
The heart of this exhibition is composed of 16 wooden models of Palladio's building projects. They were constructed by Italian cabinetmakers, from specifications by a group of Italian scholars, to mark the 400th anniversary of the architect's birth. Several of the models are of projects that Palladio did not build or were not completed.



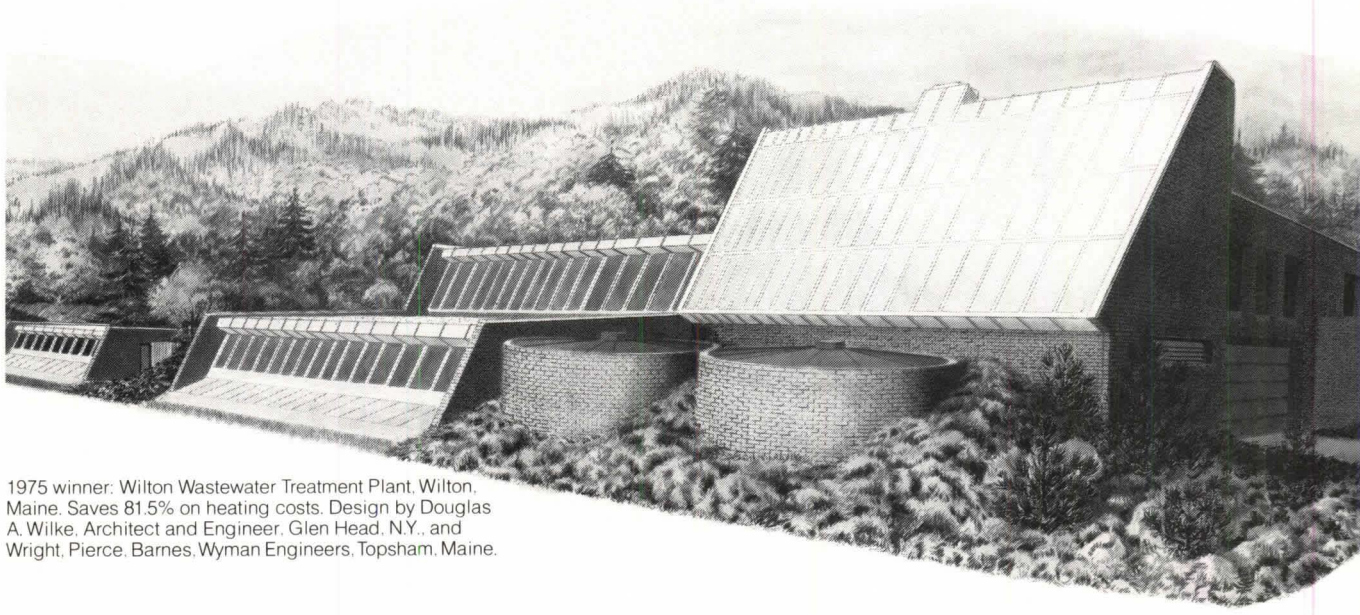
Accompanying the models, and filling a separate room at the Corcoran, are 36 explanatory panels, containing text, drawings and photographs showing the broad range of Palladio's designs—for country villas, urban palaces, public buildings and churches—as well as the influence he exerted in America and England. The materials were prepared by University of Virginia architecture students under the guidance of Mario de Valmarana.

continued on page 58

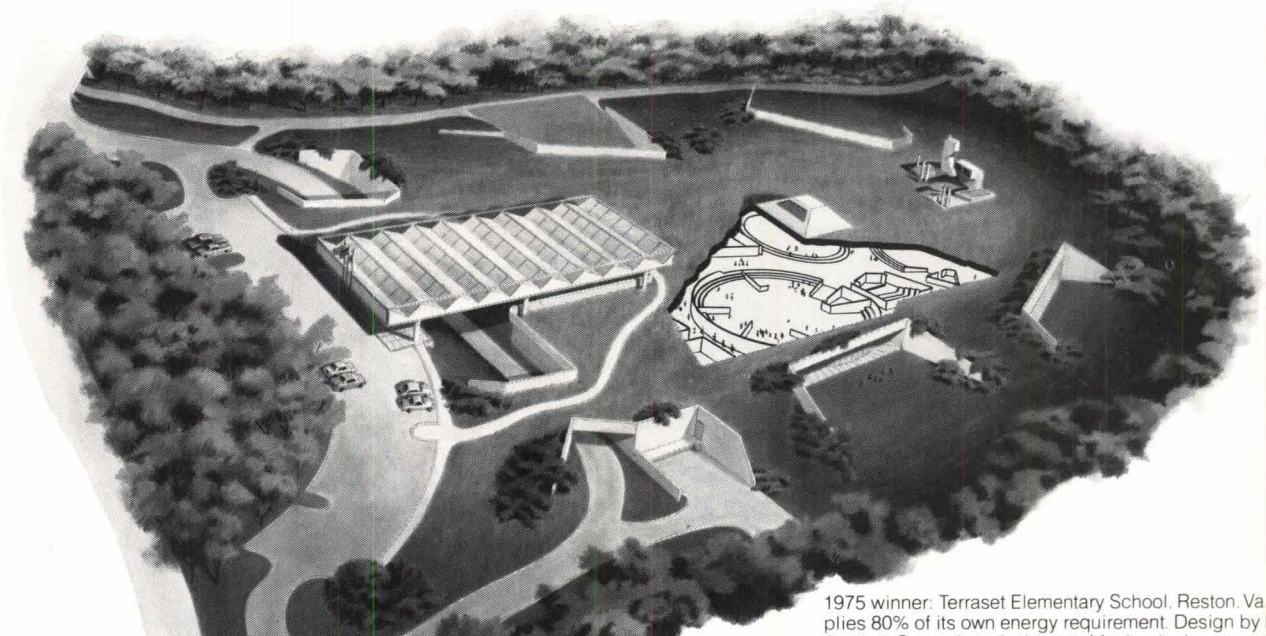
Could your building design earn this distinguished award?



See details on next page.



1975 winner: Wilton Wastewater Treatment Plant, Wilton, Maine. Saves 81.5% on heating costs. Design by Douglas A. Wilke, Architect and Engineer, Glen Head, N.Y., and Wright, Pierce, Barnes, Wyman Engineers, Topsham, Maine.

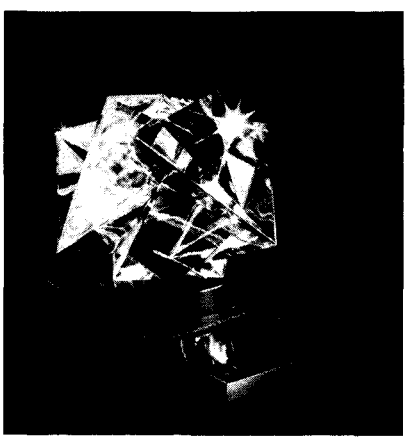


1975 winner: Terraset Elementary School, Reston, Va. Supplies 80% of its own energy requirement. Design by Davis Smith & Carter, Inc., Architects. Mechanical system design by Vinzant Associates. Both of Reston, Va. Hankins and Anderson, Inc., Richmond, designed the solar energy syste

These designs earned our 1975 award.
Read how you can enter our 1976 program.

*T.M. Reg. O.-C.F. Corp.

Announcing the 5th annual Owens-Corning Energy Conservation Awards Program



The Owens-Corning Energy Conservation Award "Triangles" a Steuben Crystal sculpture that captures and reflects light from multiple triangular planes.

Show our Awards Jury a building design that doesn't waste energy—and you could receive one of the Energy Conservation Awards Owens-Corning will present in 1976.

The Awards Jury will be looking for design excellence and significant energy conservation features and/or systems. Too many of our buildings waste fuel.

By continuing the Energy Conservation Awards Program we began in 1972, Owens-Corning hopes to stimulate even more ways to conserve energy. It also lets us recognize—and honor—those who do the best job of designing buildings and mechanical systems that help conserve our nation's energy.

Who can enter

Any registered architect or professional engineer practicing in the U.S. is eligible. As an individual. Or in a team. But to qualify, your entry must be a commissioned building project—in the design process, under construction, or a completed structure.

Although Fiberglas* products are an excellent way to conserve energy, their use is not an entry requirement.

Four entry categories

Winners will be selected from four design categories:

Institutional—schools and hospitals, for example.

Commercial—office buildings, shopping centers, retail stores, and similar structures.

Industrial—including manufacturing plants, research centers, and warehouses.

Governmental—post offices, administrative buildings, and military structures, to name a few.

The Awards

Winning architects and/or engineers will receive the handsome Steuben Crystal sculpture. Owners or clients will receive other Steuben Crystal awards.

The Awards Jury for 1976

Outstanding professionals in architecture and engineering will serve as the Awards Jury to select the winners.

Send for entry details now

Completed entries must be submitted by August 31, 1976. Winners will be selected and notified in early October.

For a brochure with details on how to enter, write: G.S. Meeks, Owens-Corning Fiberglas Corp., Building Products Operating Division, Fiberglas Tower, Toledo, Ohio 43659.

This program has been approved by the American Institute of Architects and is patterned after its Honor Awards program.

Owens-Corning is Fiberglas OWENS/CORNING FIBERGLAS

Owens-Corning tells why you this unusual picture next time

The concept of open offices is gaining acceptance *quickly*. No wonder.
Both owners and architects are drawn to their airy, sweeping good looks. To the improved communications and increased efficiency they promote for workers. And to their astonishing economy of 50 cents vs. roughly 15 *dollars* per square foot for inevitable alterations to meet shifting work patterns.

But here's a word of caution. Plant our outlandish basketball "office" firmly in your mind. Because unless you base your design on *acoustics,* as well as aesthetics, you may never hear the end of it.

More than one open office has had to be modified—embarrassingly and *expensively* torn apart, baffled, receilinged, or refurnished—in order to achieve *workable* sound levels.

Owens-Corning has helped pioneer the development, testing, and matching of open-office components. Look over these highlights of what our experts have learned. Then call on us for *all* the details and *all* the components of a *successful* open-office system.

The ceiling. Handsome is as handsome does.

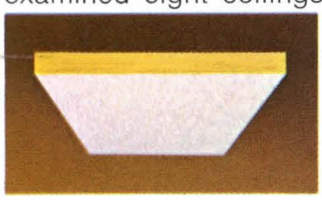
The ceiling is the single most important acoustical component in an open office. It should absorb, not reflect, sound. A perfect ceiling would have the same

*T.M. Reg. O.-C.F.

should remember you design an open office

sound attenuation as the open sky—a Noise Isolation Class (NIC) rating of 23.

An independent acoustical testing laboratory examined eight ceilings, including costly coffered and baffled systems. Their verdict: Owens-Corning's Nubby II Fiberglas* Ceiling Board, in any standard exposed grid suspension system, is *best* for achieving speech privacy at economical installed cost. In these tests, Nubby II was the *only* ceiling board with an NIC' as high as 20 in a flat configuration.

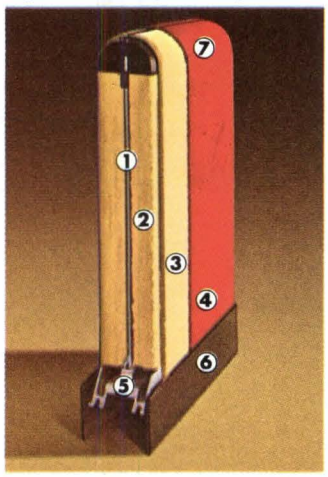


Some architects prefer the look of ceilings with *concealed* grids. Caution: As yet, *no* such ceiling provides the minimum NIC performance necessary to achieve satisfactory acoustical privacy in an open office.

In this league, handsome is as handsome *does.*

Acoustical screens. "Don't just stand there. Do something."

The sound screen, visual symbol of the open office, offers flexibility, economy, personal privacy, and acoustical control. It has *two* acoustical *functions.* First, to block direct sound transmission from one work zone to another. Second, to absorb sound, reducing flanking reflections into adjacent zones. Owens-Corning's sound screen is the *most* effective screen available. Its engineering features include:



1. A metal septum—to block sound transmission.

2. One-inch Fiberglas core on each side of septum—to absorb sound.

3. Sturdy special Fiberglas sound diffuser (Glastrate)—for abuse resistance.

4. Stain-resistant Dacron® Polyester fabrics. These fabrics are washable, colorfast, and fire-retardant (Class 25).

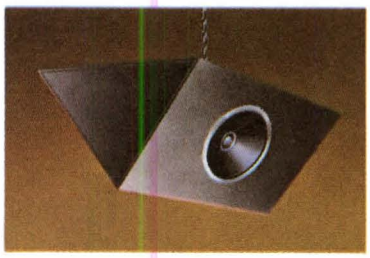
5. Extruded aluminum frame, fastened to septum—for strength and stability.

6. Painted anodized aluminum kickplates—for additional abuse resistance.

7. Top and side radii designed to minimize sound defraction over edges.

Masking sounds. The sounds of silence.

Even the finest acoustical ceilings and screens cannot do the whole job of providing speech privacy. An electronic sound masking system of speakers, installed in the plenum, is necessary.

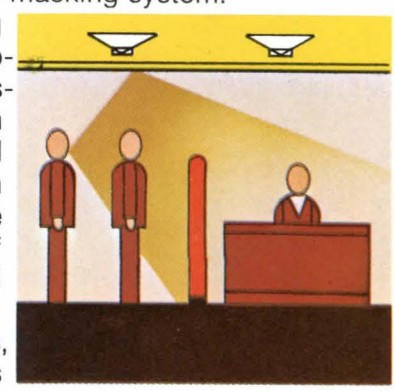


This sound must be unobtrusive—and *uniform.* Even at a few decibels above the desired $NC_{40} = 40$ rating, the masking sound causes people who are working in the office to begin raising their voices, defeating the whole purpose of the masking.

Owens-Corning's experts can recommend a background masking system that meets these requirements.

Owens-Corning system gets it all together.

For the open-office concept to be successful, the ceilings and screens must be tuned carefully to work *together,* and *with* the masking system.



Owens-Corning will be happy to provide you with all necessary information on achieving acoustical control in your open office. Or to guide the development of the whole acoustical system for you.

Write E. W. Meeks, Building Products Operating Division, Owens-Corning Fiberglas Corporation, Fiberglas Tower, Toledo, Ohio 43659.

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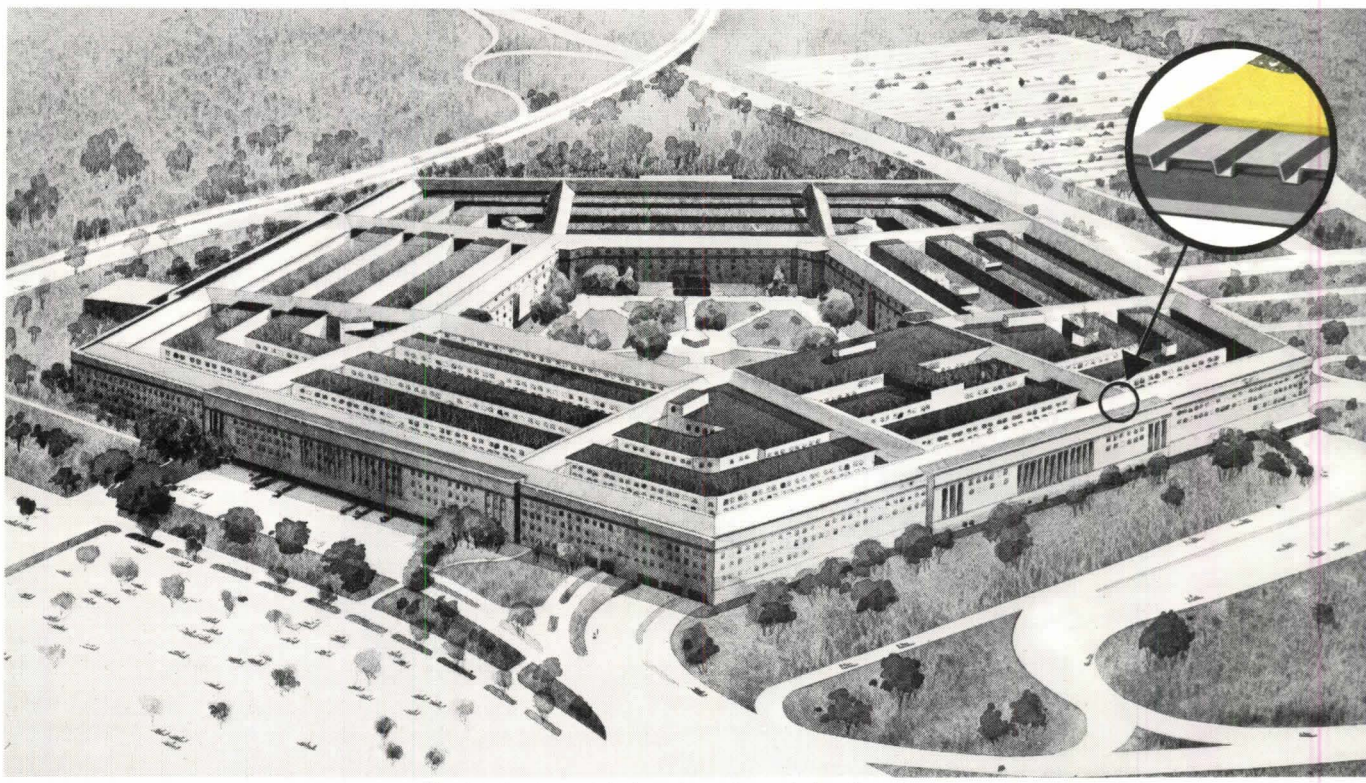
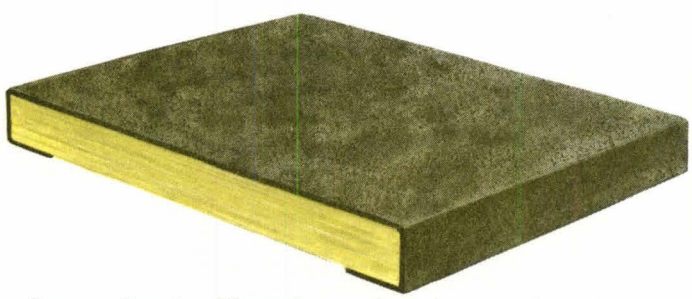


Projected cost to heat and cool the Pentagon
for the next 20 years, if it were built today using only 15/16-inch Fiberglas roof insulation:

$2,541,454



Owens-Corning Fiberglas roof insulation—the only glass fiber roof insulation on the market. Dimensionally stable. Retains thermal value. Easier to apply than organic/mineral boards. For over 30 years, the *best* base for built-up roof decks.

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If it were being designed b
today's architects for *today's* soar
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trust it would have the specifica
tions of the version on the right.

This version has a full 2¼-inch
layer of roof insulation, instead o
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commercial buildings for the pas
20 or 30 years.

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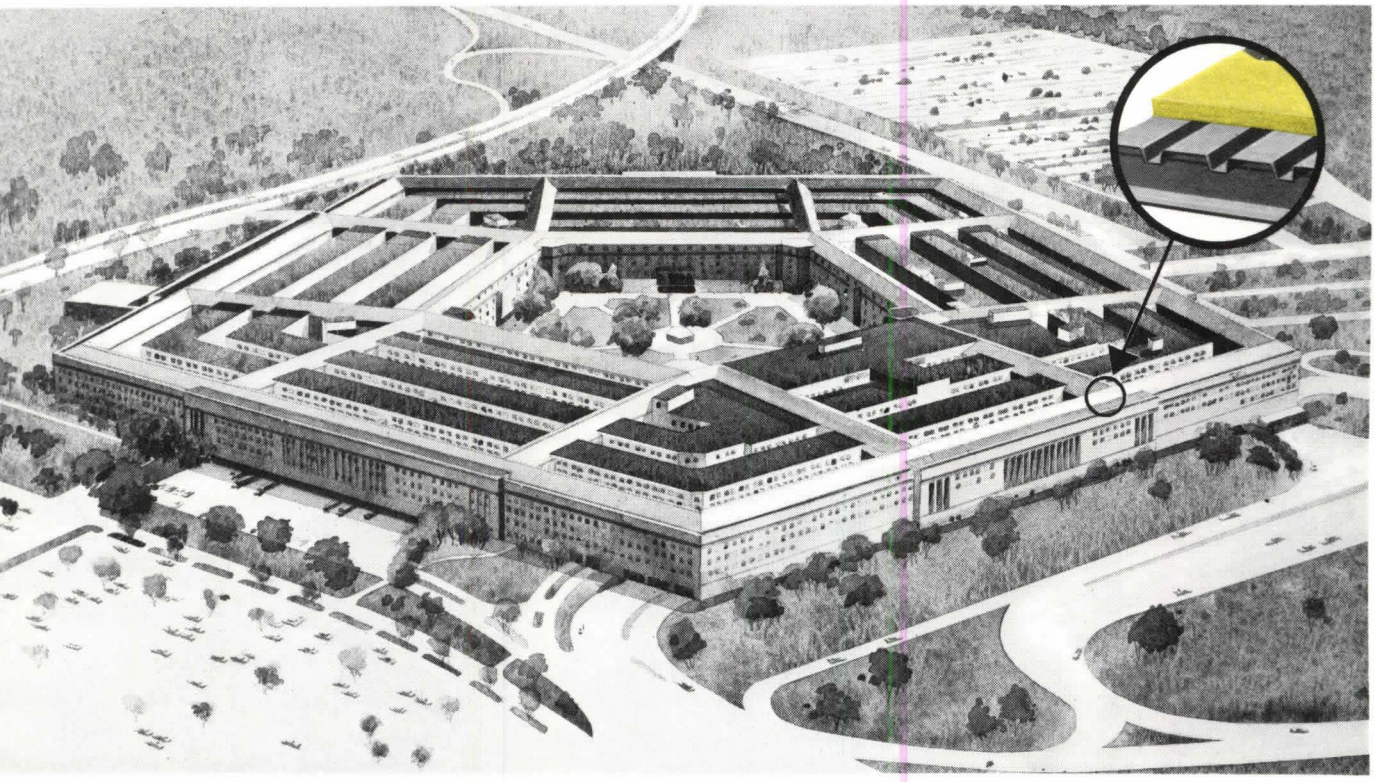
cheaper than oil



Projected cost to heat and cool the Pentagon for the next 20 years, if it were built today using thicker 2¼-inch Fiberglas roof insulation (*after* allowing for the cost of thicker insulation!):

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oof insulation saves money two ifferent ways:

A saving of $1,333,954

1. It saves on energy costs. Esti- nated savings per year, based on as heat and electric cooling in the Vashington area, with a projected ncrease in energy costs at 7% per ear and estimated future savings iscounted at 10% per year: $66,697 - or $1,333,954 every 20 years.

2. It saves on construction costs. he estimated first cost of this energy-tight Pentagon would be *lower* than if the less efficient version were built! Reason: the improved thermal performance of the roof would permit use of smaller-capacity, *less costly* heating and cooling equipment. Amazingly, the estimated savings would be large enough to cover the added cost of the thicker roof insulation *twice* over.

Important: Thicker Fiberglas roof insulation also makes sense when it's time to re-roof *existing* buildings. It should pay for itself in a few years, then go on saving thousands in fuel bills for years to come.

Ask our "talking" computer

Our EMS II (Energy Management System) computer can give you savings figures on your next roofing job – by phone! You'll get projected energy *and* equipment savings, plus *payback* period. (Actual savings may vary.) For details, call your local O.-C.F. rep, or write: I.B. Meeks, Owens-Corning Fiberglas Corp., Fiberglas Tower, Toledo, Ohio 43659.

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Going On from page 50

What most immediately impresses about this display is the large degree of variety. Palladio's creations do not by any means all look alike or follow a formula, as is the commonly held view. His architecture is, however, marked by a consistency of approach, which is characterized by an attempt to make buildings "utile" and "dulce" (useful and pleasant)—an early equivalent of form following function. Other hallmarks of Palladio's architecture are symmetry, both on the outside and inside of buildings, and a clarity of forms, which is achieved by a logical and subtle adjustment of part to part and part to whole to create an overall harmony of design.

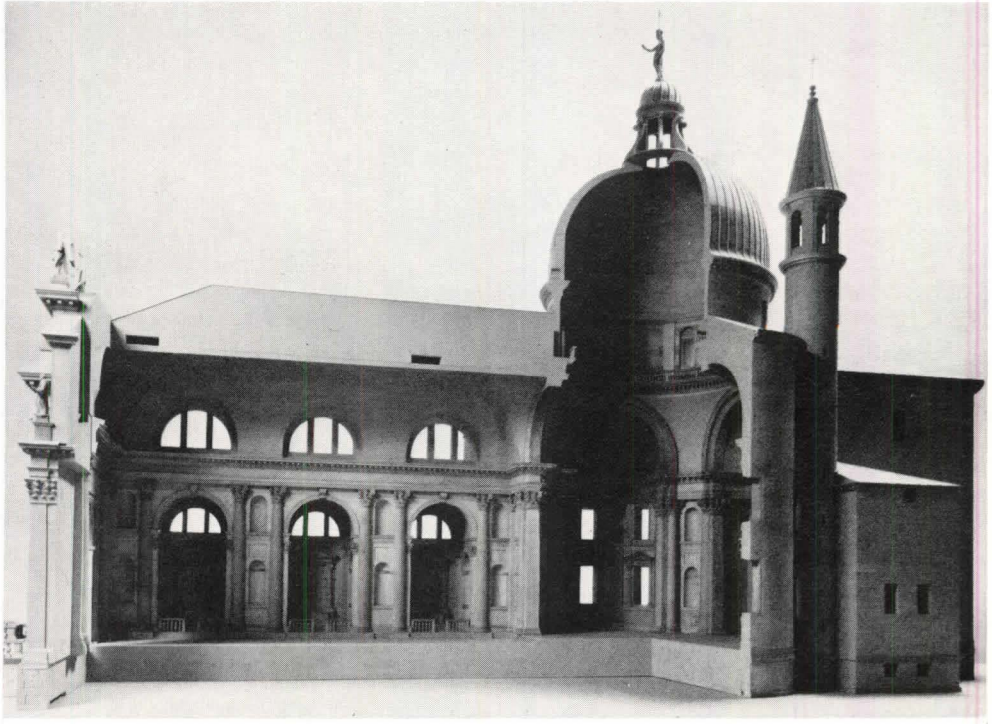
Palladio's rise to fame is a tale in the tradition of Horatio Alger. Unlike most of his Renaissance contemporaries who made their mark and are still remembered today, Palladio's origins were undistinguished. He was the son of a miller from Padua, Pietro della Gondola, and even his name was bestowed upon him by a noble patron without whose backing he would most likely have remained an obscure craftsman.

At age 13 he was apprenticed to a stonemason and at 15 taken to Vicenza by his father, where he was apprenticed to the best carver of architectural sculpture in the city. Although a small city, Vicenza was a rich and cultivated one, with an educated and industrious nobility. And there Andrea di Pietro, as the young stonemason was called, attracted the attention of Count Giangiorgio Trissino, a poet, dramatist, antiquarian and philologist. It was Trissino who provided him with an education, with opportunities for travel and with an elevated name with esoteric origins in Roman literature—Palladio. Through Trissino, Palladio also met the foremost architects of his time and obtained commissions for villas and palaces in Vicenza. Palladio had the good fortune of having influential patrons all his life.

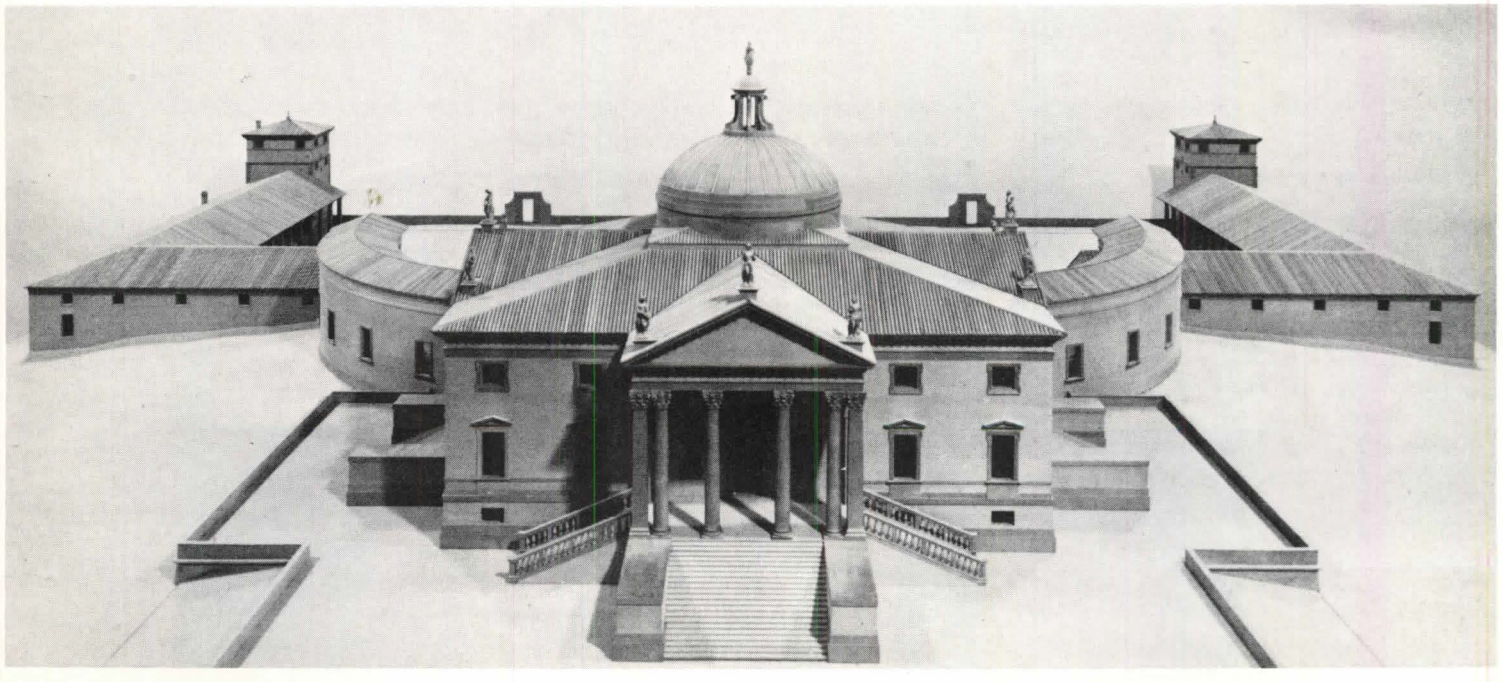
Andrea Palladio's reputation rests on his written work as well as his architecture. His famous *I quattro libri dell' architettura (The Four Books of Architecture),* which documents his architectural principles, designs and practices, is probably the most widely used handbook in architectural history. According to Walter Muir Whitehead, who wrote the introduction for the catalog, it was translated into yet another language (Polish) as late as 1955.

After leaving the Corcoran Gallery, the Palladio exhibit will travel to the Second U.S. Bank in Philadelphia, the Boston Museum and other parts of the country.

Going On continued on page 66



Palladio's Chiesa del Redentore in Venice (above), his Villa Trissino per Meledo in Vicenza (below).

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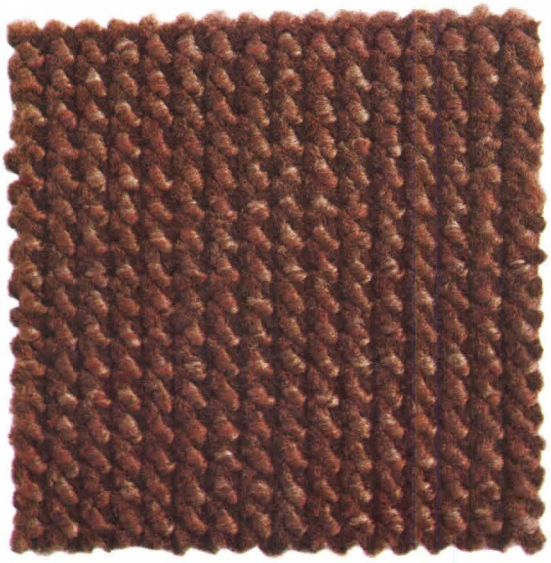
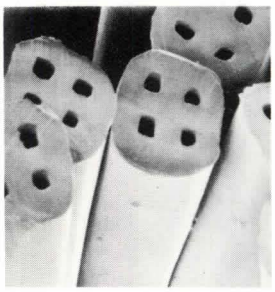


Why "Antron" II? "Antron" II nylon is designed to mask the presence of soil. And, because it is a nylon, it's the most abrasion-resistant of all carpet fibers. In addition, "Antron" II has a pleasant, subdued luster, unlike bright or sparkle-luster fibers that can dull rapidly in contained high-traffic areas. Cleanability and texture retention are excellent.

These are the properties most specifiers expect from "Antron" II, the fiber known for its lasting good looks. And they are among the reasons why it is the leading contract carpet fiber brand.

How "Antron" II masks soil. Here in this 250X electron micrograph, you can see the remarkable four-hole fibers of "Antron" II. The four microscopic voids scatter light to mask soil and help blend soil concentrations into the overall carpet look. The smooth exterior shape minimizes soil entrapments, making cleaning more effective than irregularly shaped fibers.



"Antron" III nylon for durable, effective static control is available in most styles in "Antron" II.

Specifier's Information Kit. For more information—a carpet manufacturers' resource list, a specification guide for commercial office buildings, and a maintenance manual—write: Du Pont Contract Carpet Fibers, Centre Road Building, Room A1, Wilmington, DE 19898.

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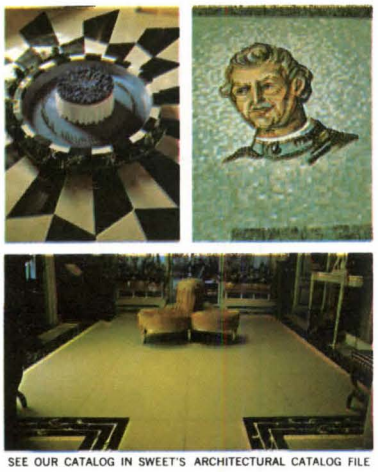

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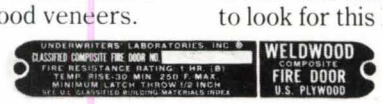

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LETTERS

Women in Architecture: I was pleased to note that AIA has finally come up with an affirmative action program for women (Apr., p. 10).

Lest we be deluded into thinking that the 98.8 percent of registered architects who happen to be male really care about our welfare, consider this: The law of our land says that equal pay shall be given for equal work regardless of the sex of the worker. This is the law *now*. Yet, AIA says we should get 60 percent of men's salaries this year, rising to 90 percent in 1979 and equality thereafter. Besides being ungentlemanly and immoral, that's downright illegal.

And if approximately half of the people in the world are women, why will only 10 percent of women be admitted to schools of architecture this year and 23 percent by 1980? How long must we wait for 50 percent?

Assuming that the 10 percent admitted this year will be graduated and 9 percent get as far as the registration exam by 1983, this will still preserve architecture as the most male dominated profession in the country for many years.

AIA is headed in the right direction and things really have been improving for women in architecture. But if the Institute moved this fast in other areas of professional concern, we'd still be designing thatch-roofed cottages.

Cynthia Richardson
Graduate Student in Architecture
University of Washington
Seattle

As one of the 1.2 percent of all registered architects who is female, I am pleased to see AIA recognize our existence. Although I am unsympathetic, I think it is commendable of the Institute to fund the two-year study and to give the study coverage in the JOURNAL. It appears that AIA has a long way to go to rid itself of the "traditional views of the role of women" in the profession, as is evidenced by the repulsive advertisement on page 16 of the April issue.

M. Susan Condon, AIA
Juneau, Alaska

Information Wanted: I am in the process of designing a comprehensive package which optimizes heating/cooling loads and utility/construction costs.

The intent is to allow architects to test various strategies in the early design stages and to evaluate final solutions. The package will be implemented on a DEC-10 interactive computer and will focus at first on small-scale residential type construction.

I would like to hear from anyone who has pursued or is pursuing similar directions or has pertinent information on the subject.

Robert W. Dvorak
Assistant Professor of Architecture
College of Architecture
University of Arizona
Tucson, Ariz. 85721

Philadelphia: A few notes on the March issue containing articles on Philadelphia:

- During the mid-1960s, the Redevelopment Agency, Old Philadelphia Development Corp. and the Planning Commission worked together to produce a renewal plan as the first step toward implementing Bacon's Market Street East concept. Skidmore, Owings & Merrill was retained as planning and design consultant.
- The voices of Philadelphia professionals quoted in Beth Dunlop's article have the same timbre they had then, and they carry the same message (approximately). The design community is frequently more pro- and anti-Bacon than pro- or anti- any substantive issue. The controversy will pass; and what he did, as he says in the article, will remain.
- The facts about Market Street East remain clear. It is part of the transit and transportation hub of center city Philadelphia, vital to all economic strata. It represents a long-term investment in diverse human activities, mercantile, civic and even educational, with the introduction of the community college into the building just up from the John Wanamaker Department Store. Proof of the area's vitality is Gimbels' decision to build a new store in MSE as the first increment of the so-called Transportation Mall Center. Not bad for an old CBD!
- The problem with Bacon's design of center city has always been economic. It somehow required spreading a reasonably limited market over too many sites—Penn Center, MSE, Penn's Landing—and that each project thus had an air of unreality. High land costs and shaky markets demanded a phenomenal public investment in infrastructure and land write-downs to attract risk capital and private development. That's why MSE is slow in coming.
- The animosity that strong voices, like Bacon's and Rafsky's, have drawn from the design community have been exacerbated by the senseless debate over renewing center city versus renewing North Philadelphia, West Philadelphia and South Philadelphia. That's a red herring. The city's rehousing strategy has worked in some areas and failed in others. It has suffered from on-again, off-again, federal programs, as has MSE. Philadelphia's support for neighborhood development activities has been quite good. The whole city is to some extent a creature of social and economic inequities which can't be cured by city plans, model cities programs or housing rehabilitation.
- Similarly, the scale problems in the Bacon plan alluded to by the quoted architects are an effect, not a cause. Small business has been obsolescent in most American cities not because of *formal* concepts which are powerful from the air and dismal on the ground plane, but because its prices and goods are not favorably discerned by the middle class buying public. Our studies of the small businesses in MSE demonstrated that they were losing ground steadily, had few defenses against inroads by discount houses and, generally, no plans to relocate and reestablish themselves. They were interested in unloading their assets and retiring, if they could.
- I agree with the optimists about Philadephia. Some of its bleak recent history has produced a rich body of experience and a few extremely tough, well-seasoned leaders in urban design and development. There are some involved in providing housing and jobs in the neighborhoods, some engaged in center city development and some attracting industry and jobs. Their activities over the past three decades provide a record of success and near success which leaves many American cities behind.

Jerry Goldberg
Skidmore, Owings & Merrill
San Francisco

We encourage expressions of the reader's opinions and comments on matters of interest to the architectural profession. In some cases letters are edited for length and for style. Ed.

EVENTS

Aug. 2-4: Seminar on Building Maintenance: A Total Systems Approach, Prince Hotel, Don Mills (Toronto area), Canada. Contact: American Management Association, 135 W. 50th St., New York, N.Y. 10020.

Aug. 4-20: Protective Design Workshops, University of Wisconsin, Madison, Wis.

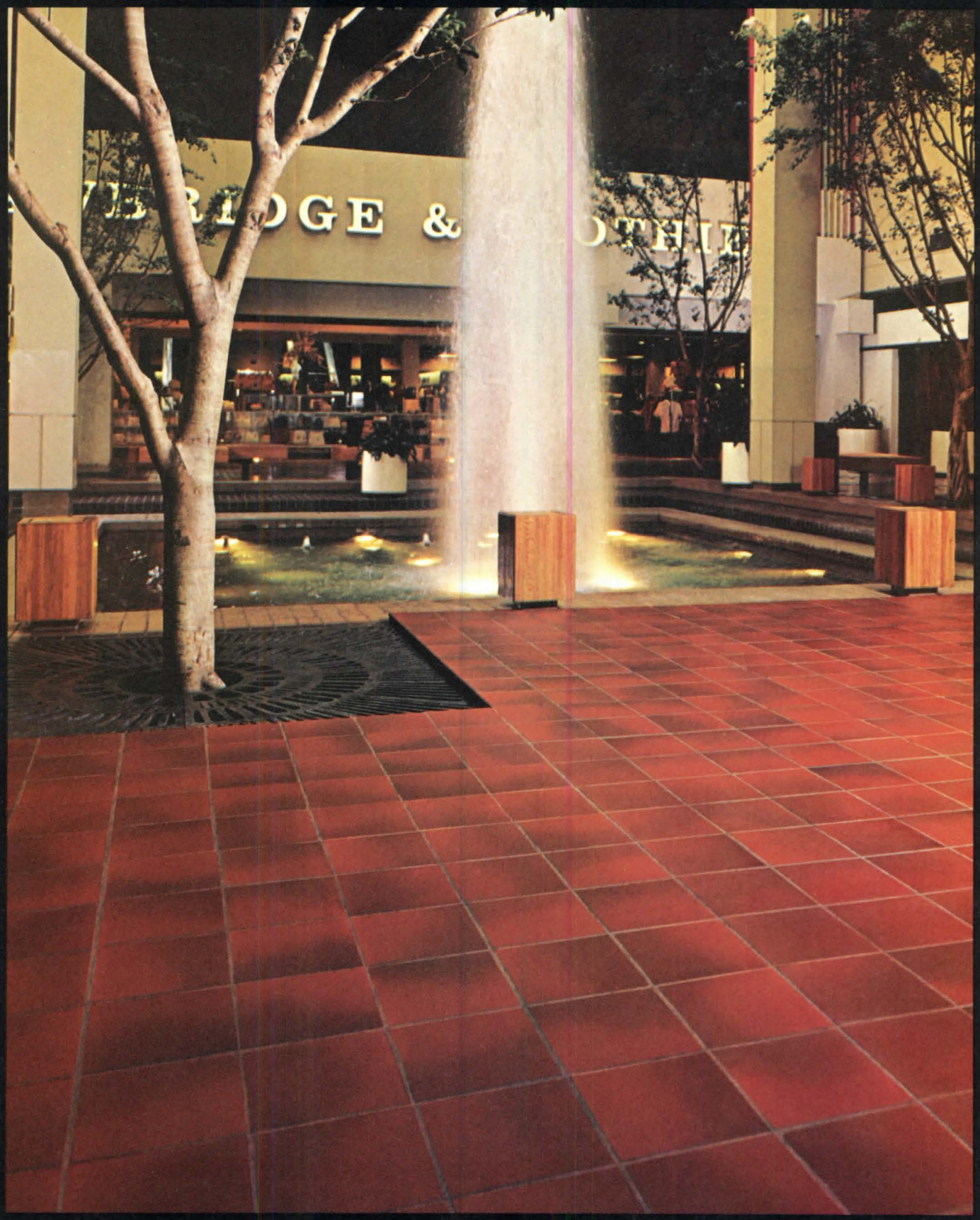
Aug. 5-7: Mid-summer conference, Michigan Society of Architects, Mackinac Island, Mich.

Aug. 8-21: Women's School of Planning and Architecture, Santa Cruz, Calif. Contact: WSPA, Spring Lane, Farmington, Conn. 06032.

Aug. 15-20: Conference on the Design and Performance of Structures Exposed to Fire, Franklin Pierce College, Rindge, N.H. Contact: Engineering Foundation, 345 E. 47th St., New York, N.Y. 10017.

Aug. 16-18: Seminar on Office Space Planning Layout and Design, American Management Association Headquarters, New York City. Contact: AMA, 135 W. 50th St., New York, N.Y. 10020.

continued on page 72



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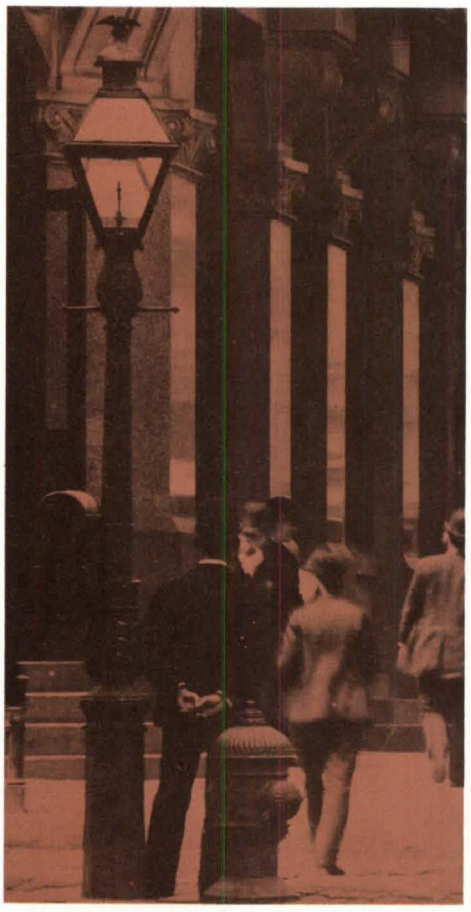

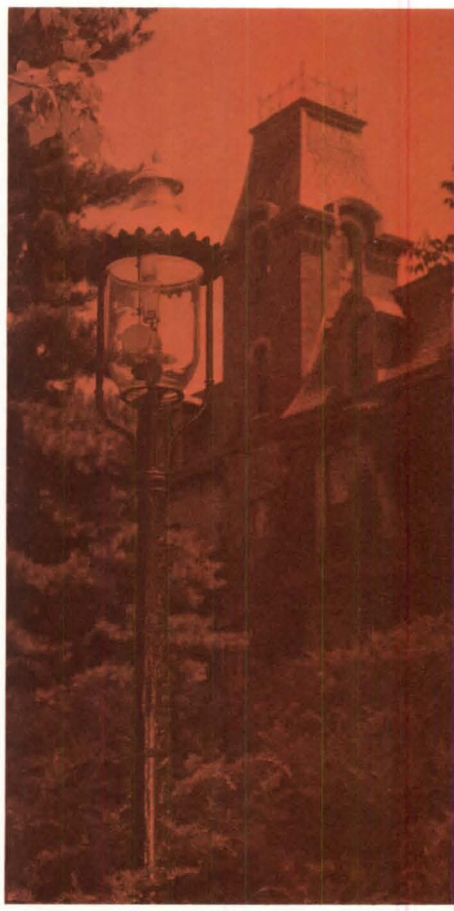

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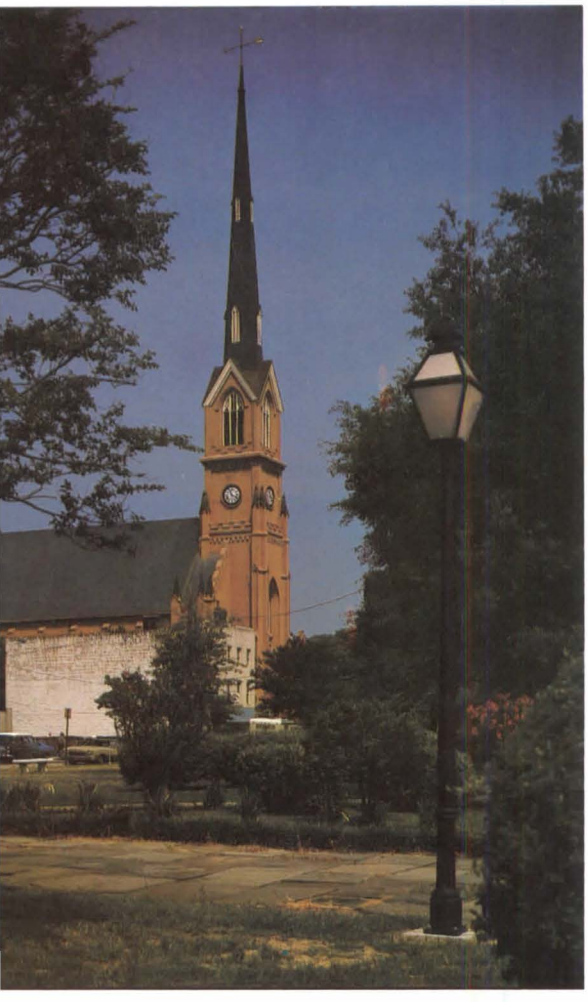

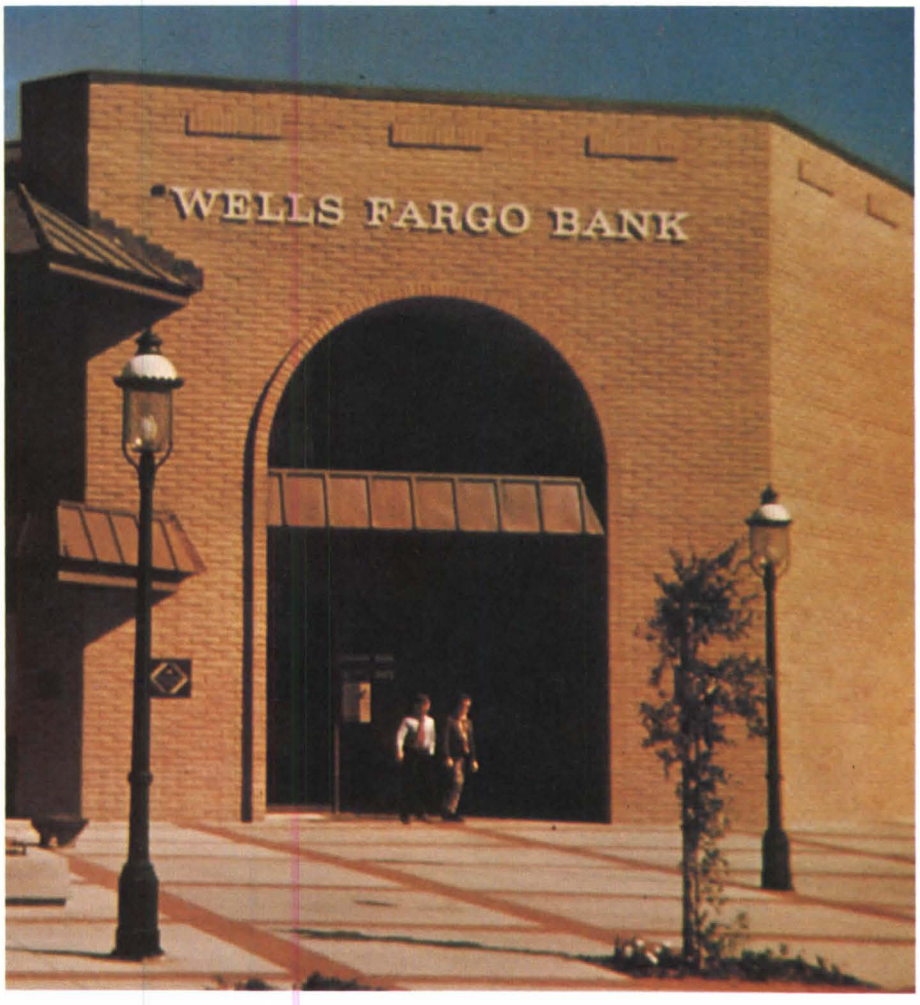

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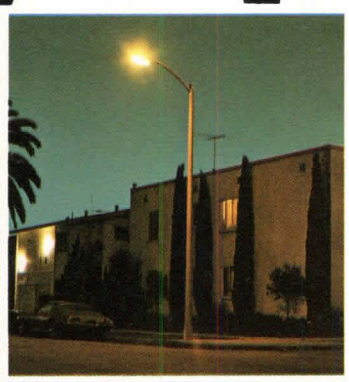

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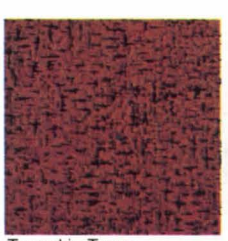
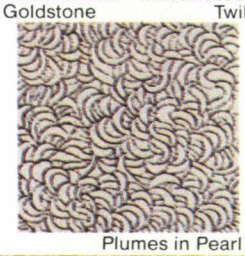


Tweed in Topaz

Tapa in Pearl

Solitaire in Goldstone

Twill in Sapphire



Native Plumes in Pearl

Events from page 66

Aug. 23-24: Conference on Airport Design and Construction (AIA a sponsor), Las Vegas. Contact: Bruce Schafer, AIA Headquarters.

Aug. 24-25: Joint U.S.-Japan Symposium on Industrialized Production and International Technical Cooperation of the Housing Industry (AIA among the sponsors), Hyatt Regency Hotel, Los Angeles. Contact: Kazuo Moro, IIP of America, Inc., Broadway Plaza Office Building, Suite 918, 700 S. Flower St., Los Angeles, Calif. 90017.

Aug. 26-28: Alabama Council/AIA annual state convention, Grand Hotel, Point Clear, Ala.

Aug. 29-Sept. 2: Annual technical conference and international lighting exposition, Illuminating Engineering Society of North America, Cleveland, Ohio. Contact: Linda Madden, IES Headquarters, 345 E. 47th St., New York, N.Y. 10017.

Aug. 31: Postmark deadline, Owens-Corning Fiberglas Energy Conservation Awards Program. Contact: G. S. Meeks, Building Products Operating Division, Owings-Corning Fiberglas Corp., Fiberglas Tower, Toledo, Ohio 43659.

Sept. 6-9: International Federation of Landscape Architects annual congress, Istanbul, Turkey. Contact: Secretariat of the 1976 IFLA Congress, Arco Velho, Sintra, Portugal.

Sept. 6-11: International Association for Bridge and Structural Engineering congress, Tokyo. Contact: Secretariat of IABSE, Swiss Federal Institute of Technology, Haldeneggsteig 4, CH-8006, Zurich, Switzerland.

Sept. 8-26: Northwest Region/AIA convention, Seattle and Helsinki, Finland.

Sept. 9-12: South Atlantic Region/AIA conference, Mills Hyatt House, Charleston, S.C.

Sept. 15-19: Western Mountain Region and Arizona Society/AIA conference, Phoenix.

Sept. 30-Oct. 2: New Jersey Society of Architects annual convention, Hyatt House, Cherry Hill, N.J.

Deaths

George J. Davidson, Kansas City, Mo.
E. Vance Florence, Canton, Ohio
Walter S. Frazier, FAIA, Geneva, Ill.
Thomas Mackesey, FAIA, Ithaca, N.Y.
Herbert C. Millkey, FAIA, Atlanta
Julius Nielsen, Richmond, Va.
Stephen C. A. Paraskevopoulos, Ann Arbor, Mich.
Robert W. Royer, Kansas City, Mo.
Gilbert Switzer, New Haven
James E. Thompson, Somerset, N.J.
Julian von der Lancken, Somerset, N.J.
John B. Walther, Pleasantville, N.Y.
Henry P. Whitworth, Orlando, Fla.
Thomas O. Williams, Walla Walla, Wash.
Frank J. Woerner Sr., Dallas

Newslines

Minoru Yamasaki, FAIA, of Troy, Mich., received an honorary doctor of fine arts degree at Franklin and Marshall's 189th commencement. The citation reads in part: "He has humanized his structures, welding them to the heartbeat of the century, balancing them to man's needs and honing them to the high plane of individual enjoyment."

The 1976 "Directory of Engineers in Private Practice" is now available from Professional Engineers in Private Practice, 2029 K St. N.W., Washington, D.C. 20006. The directory, in two volumes, lists names, firms and specialities of more than 5,000 consulting engineers. For price and other information, write: PEPP.

John C. Portman Jr., FAIA, of Atlanta is the first recipient of the Elsie de Wolfe award, given as the "highest honor" of the New York chapter/American Society of Interior Decorators for "outstanding contributions in the field of design since 1958."

A 36.4 percent drop in employees in New York City architects' offices since 1969 was referred to by New York State Commerce Commissioner John S. Dyson recently as "another sign of the economic troubles facing the city and state" in need of "immediate remedial action." He quoted from a survey conducted by the New York chapter/AIA which showed architectural employment to drop from 3,255 in 1969 to 2,070 in 1975. Dyson said that construction activity in the state in the same period dropped by approximately 42.5 percent.

Three architectural historians and critics received honorary degrees in a recent special bicentennial convocation at the University of Pennsylvania. Honorary doctor of fine arts degrees were awarded to Henry Russell Hitchcock, adjunct professor of fine arts, New York University; Ada Louise Huxtable, Hon. AIA, member of the editorial board of the *New York Times,* and Sir Nikolaus Pevsner, emeritus professor of the history of art, Birbeck College, University of London.

Vincent G. Kling, FAIA, managing partner of the Kling Partnership, Philadelphia, is the recipient of the 1976 Tau Sigma Delta gold medal award for "distinguished design in the field of architecture, landscape or the allied arts." Tau Sigma Delta is a national honor society in architecture and the allied arts.

AIA contributed to a special bicentennial exhibition celebrating the creation of the Statue of Liberty which opened in May. The Institute lent architectural renderings for the statue's pedestal by Richard Morris Hunt. Sponsored by the National Park Service, the exhibition, which will be on view until Sept. 15 in the statue's exhibition hall, is entitled "The Lady in the Harbor."

Louis de Moll, FAIA, president of the Institute, will be the featured speaker at an educational session during the annual convention of the American Hospital Association to be held on Sept. 20-23 in Dallas. The subject of his address will be "Health Facility Construction."

The National Association of Building Manufacturers has elected L. Paul Saylor of Valparaiso, Ind., as its president for the coming year.

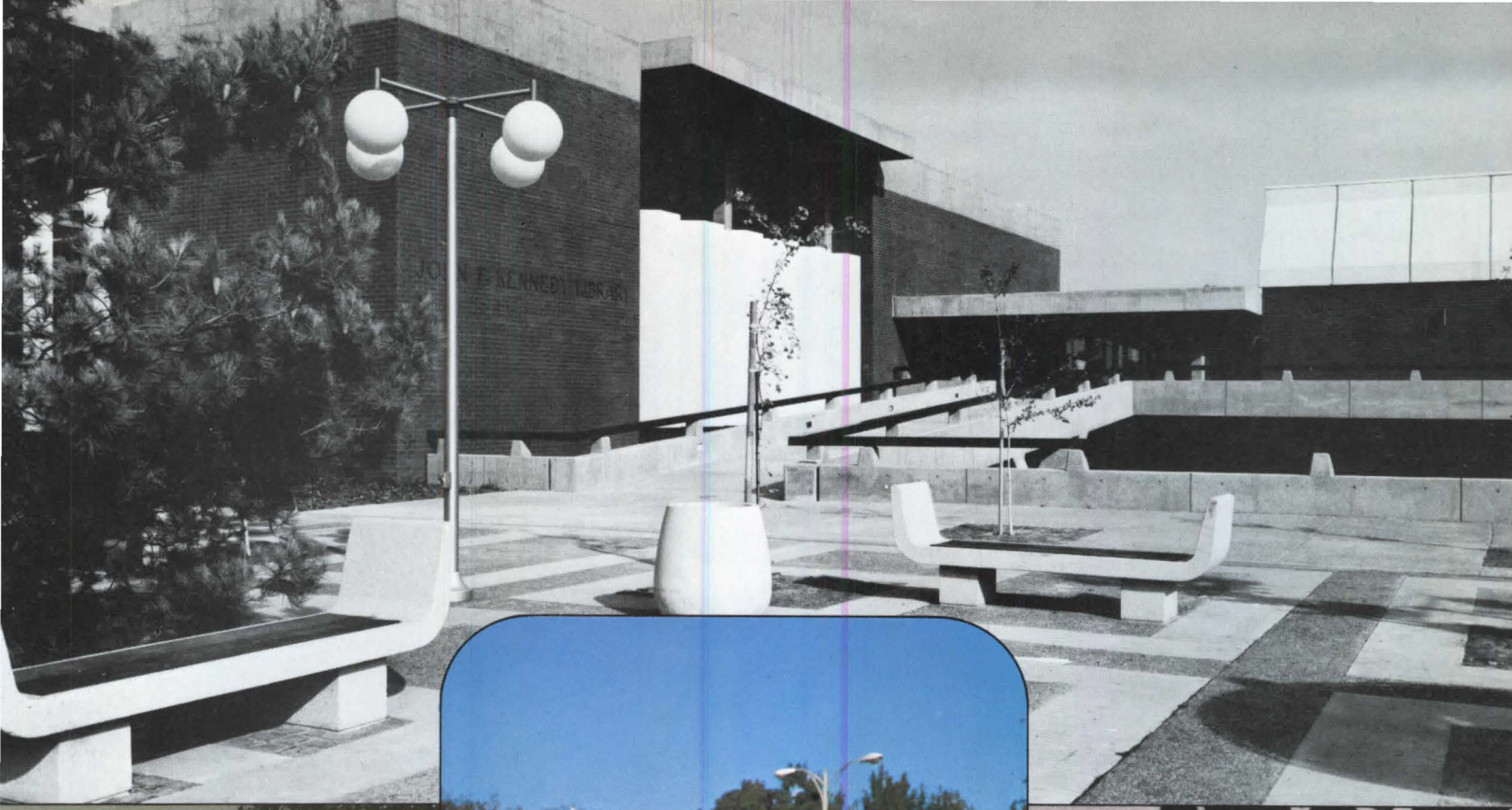
"The most distinguished work of scholarship in the history of architecture published in the two preceding years by a North American scholar," says the Society of Architectural Historians, is Rudolf Wittkower's *Gothic vs. Classic Architectural Projects in Seventeenth Century Italy* (Braziller, 1974). SAH's Alice Davis Hitchcock book award was given posthumously and accepted by Wittkower's widow Margot Wittkower, who with George Collins of Columbia University, edited the book.

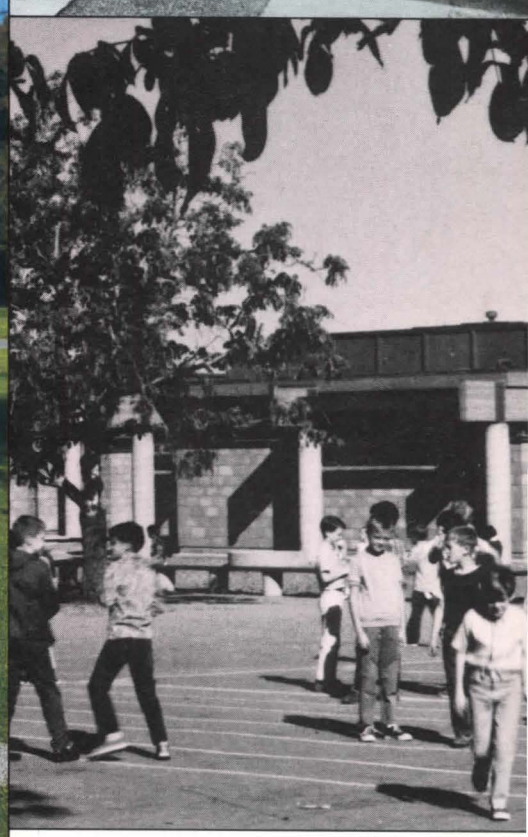
The Rotch Travelling Scholarship for 1976 has been won by Duane Kell, who earned a bachelor of architecture degree from the University of Minnesota in 1969 and a master's in architecture from the Massachusetts Institute of Technology in 1972. The scholarship committee's permanent secretary is Hugh Stubbins, FAIA.

"The outstanding structural engineering achievement of 1976," according to the American Society of Civil Engineers, is the barrel arch roof for the University of Idaho stadium, a four-acre clean-span construction of wood and steel trusses. The roof, says ASCE, is the "first of its kind in the world," providing the university "with the largest indoor college facility in the nation."

The Southern Building Code Congress International now has ready for distribution revised editions of its "Standard Building Code," as well as its mechanical, gas and fire prevention codes. Information is available from SBCCI, 3617 Eighth Ave. S., Birmingham, Ala. 35222.

"The Center for Building Technology: A Perspective" is a recent National Bureau of Standards publication which summarizes the center's research activities and special purpose programs, giving an insight into NBS building technology efforts. A free copy may be requested from the U.S. Goverment Printing Office, Washington, D.C. 20402. (Order by SD Catalog No. C13.10:439.) □





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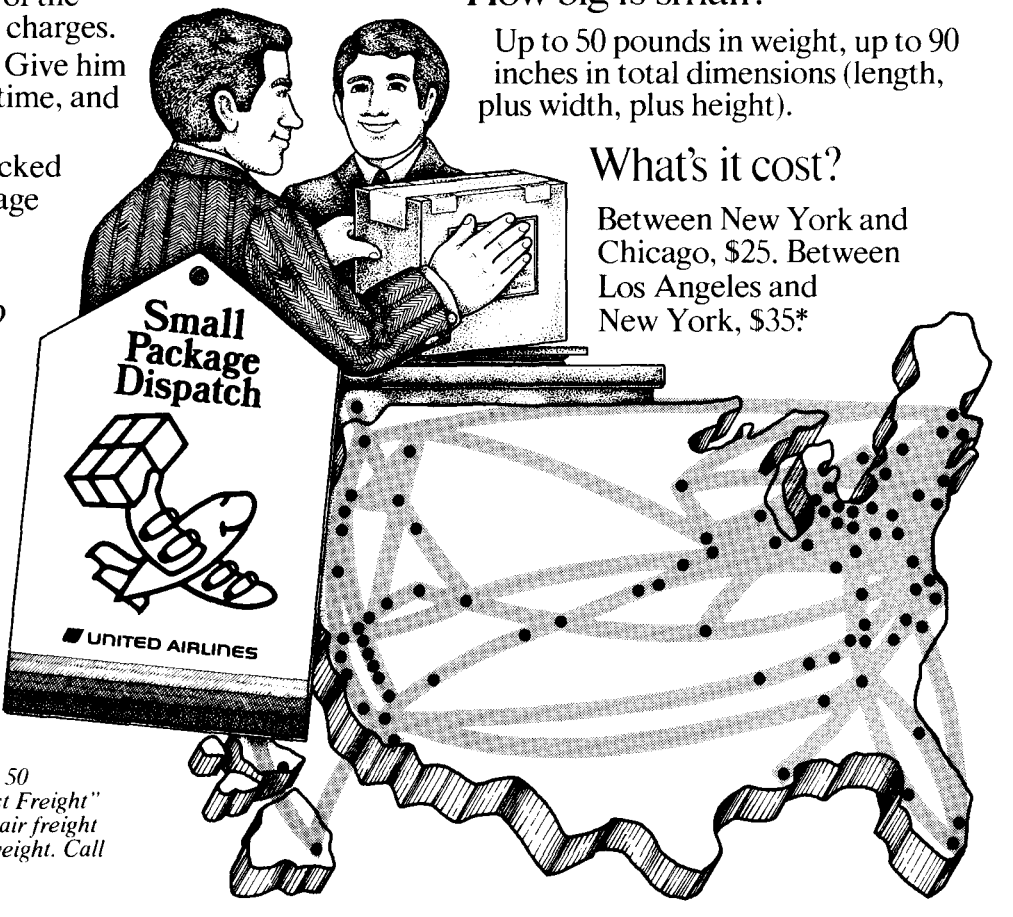

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Rixson-Firemark salutes the American Institute of Architects, the architectural profession and, above all, these magnificent works – past and present – which their art has given us. We are proud that Rixson-Firemark door control hardware is a small part of so many of these noble structures.

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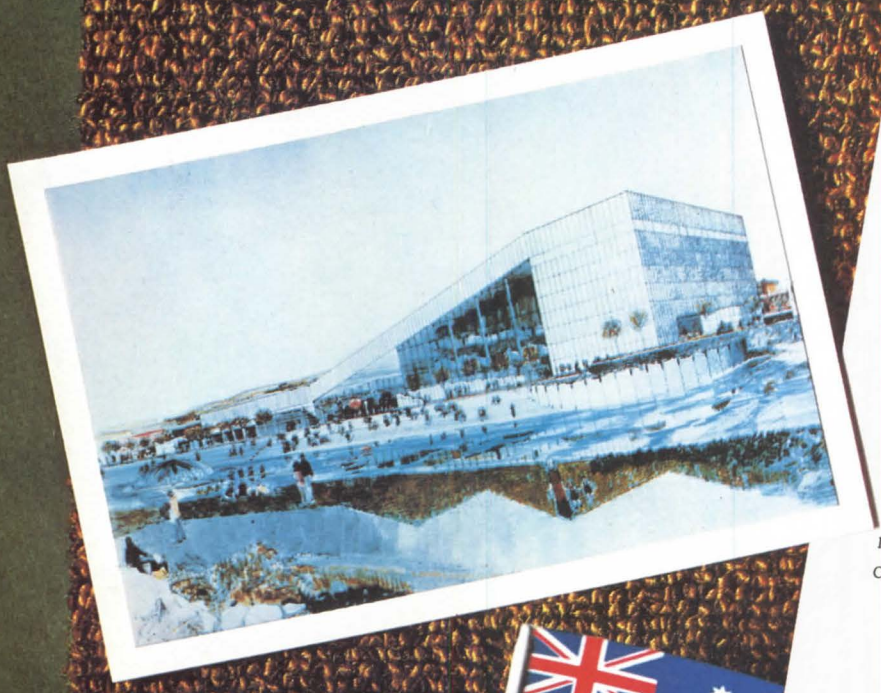

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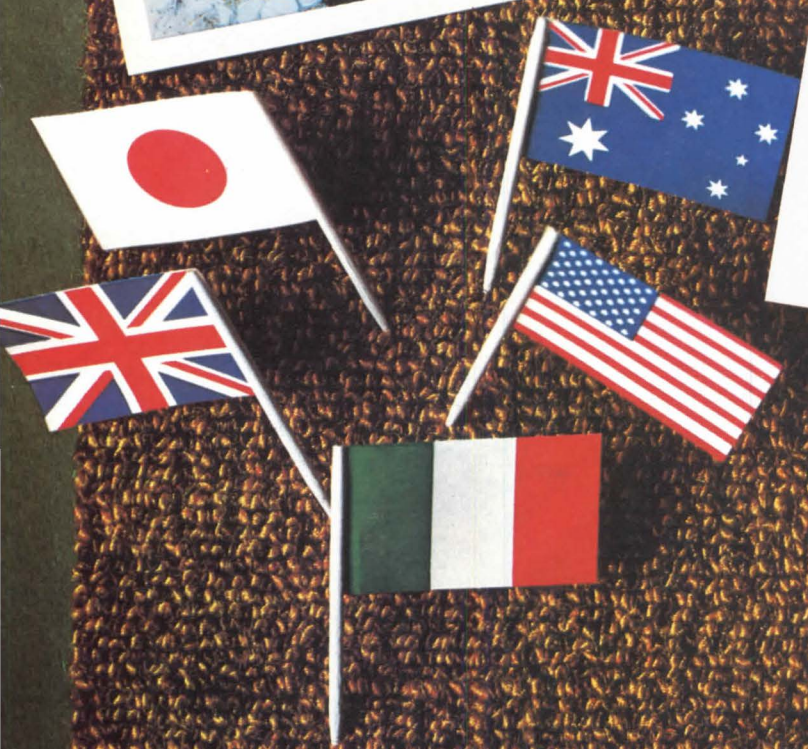

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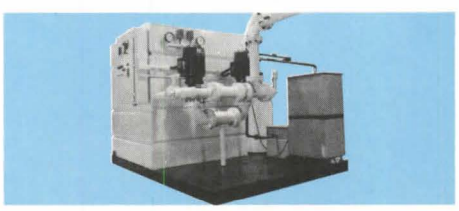

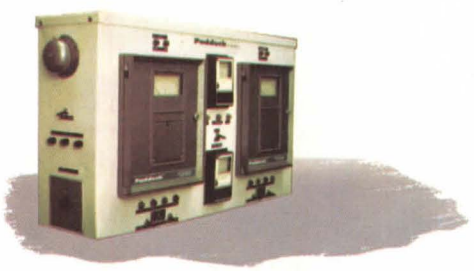

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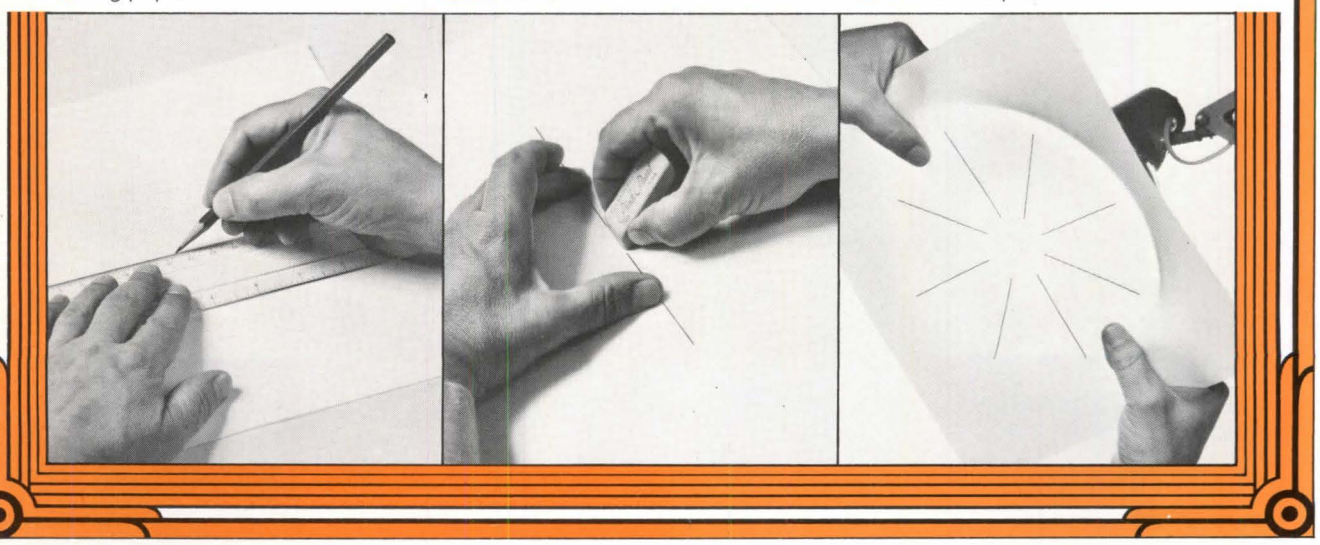

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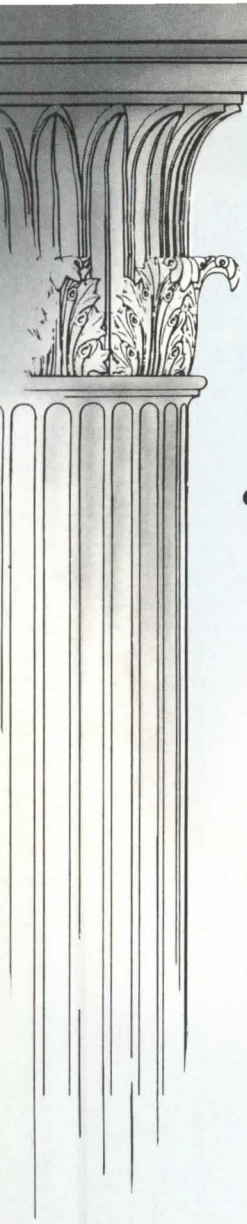

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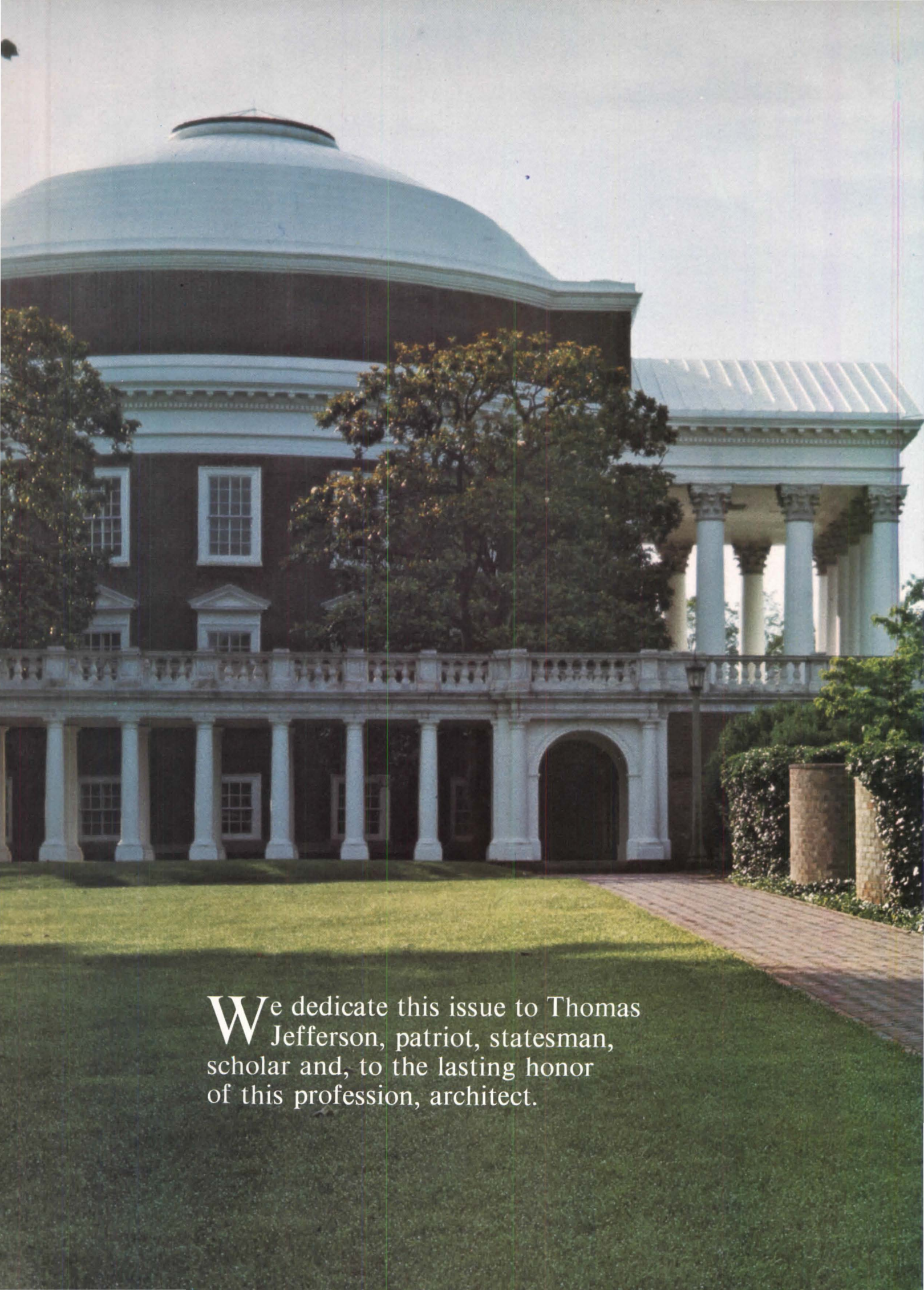


We dedicate this issue to Thomas Jefferson, patriot, statesman, scholar and, to the lasting honor of this profession, architect.

SEVERAL months ago, we asked a group of practitioners, historians and critics to nominate up to 20 of what they considered the proudest achievements of American architecture over the past 200 years, and to comment on their choices if they wished. This issue presents the results of that informal poll.

Far and away in first place, with 29 mentions, was Mr. Jefferson's University of Virginia campus, shown on the cover and on the preceding two pages. His residence, Monticello (left) received 9 nominations.

Text of the 46 responses to the poll begins on the next page. Alongside the text are large photos of the 30 leading nominees in addition to Mr. Jefferson's buildings, with captions indicating how many mentions each received. Turning each page reveals another of the leaders.

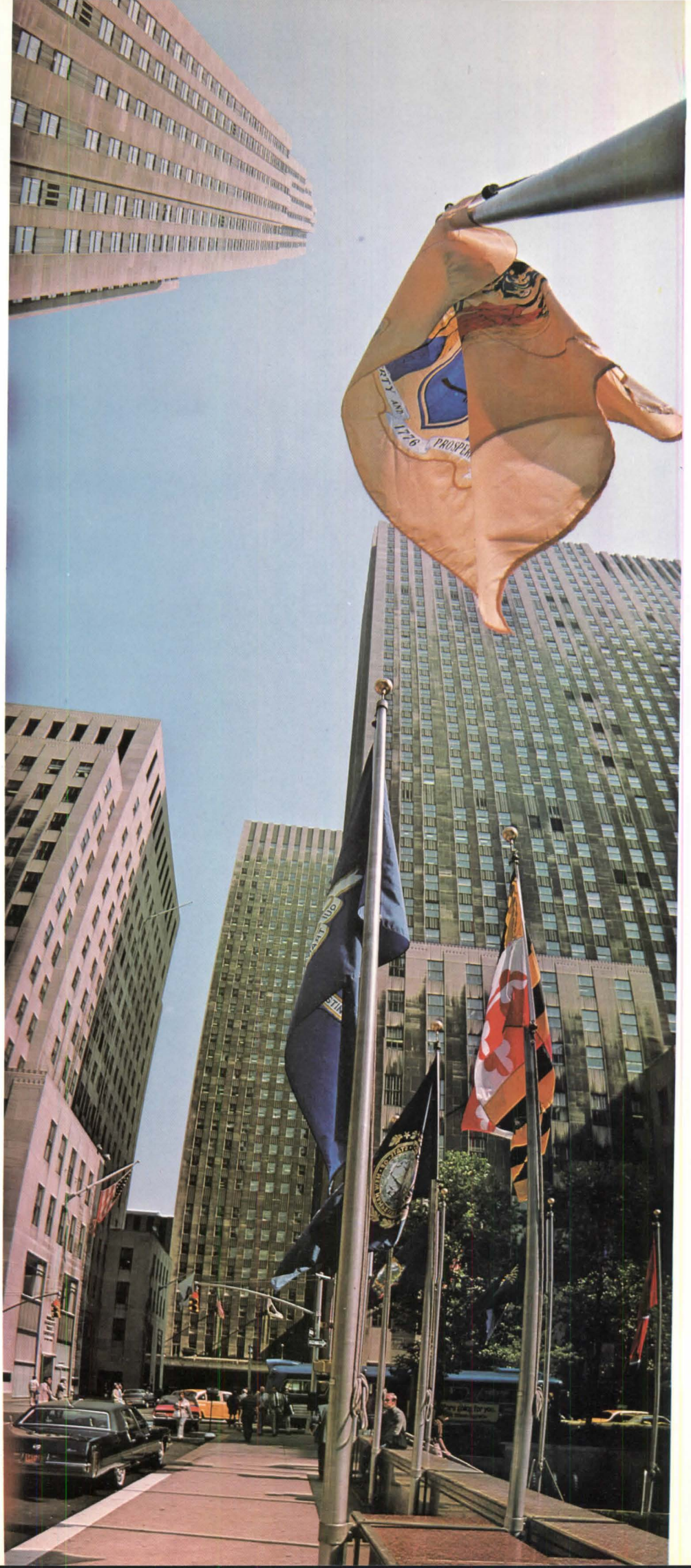
Following this section, on page 150, are identifications of the respondents and architectural credits for works nominated. The credits also indicate the number of nominations received by those beyond the 32 leaders.

As one respondent reminded us, this is not the first time that American architects have been asked to name the nation's most significant buildings. Probably the first such poll took place in 1885, when the *American Architect and Building News* asked its readers to nominate the 10 "most beautiful buildings now existing in the United States."

At that time, the 75 respondents named 175 buildings. First place went to Henry Hobson Richardson's Trinity Church in Boston, also a leader in our poll. Those in sixth through 10th place also were by Richardson, then 48 years old. Only five of the 10 leading buildings in the 1885 survey showed up in our canvass.

The JOURNAL had last done such a poll in 1948 when Edwin Bateman Morris, FAIA, asked his colleagues to name buildings anywhere that "give you a thrill." Leading all the rest was the Folger Shakespeare Library in Washington, D.C., by Paul P. Cret and Alexander B. Trowbridge, consulting architect. The Folger also was omitted by the current respondents.

All of these respondents have our gratitude for their contributions to the issue. Beyond that, there is nothing left for us to say but happy birthday—to the American architectural profession and to the nation that it serves. *Mary E. Osman*



Rockefeller Center (22). Its 'variety and unity, stunning scale and varied daylight-hour activities' make it Manhattan's core.

G. E. Kidder Smith, FAIA

Chloethiel Woodard Smith, FAIA

I have been brooding over dictionary definitions of "significant" and "proud," and I believe that a responsible response would involve review of our cultural and social life as well as a history of the buildings and places and spaces that responded to this life and evaluations of their significance.

The best I can come up with is a disorderly list of built places and spaces that seem to me to be important—but for many different reasons. There are so many examples, and each time I made a list, and then cut it down, I found I had left out many, many of our greatest architects. (Richardson is a shocking omission on my list.) It was a deeply worrisome task, and will remain a haunting question for me forever.

Early New England towns and villages: Some of the finest compositions of groups of buildings in America, deeply expressive of the strong design force of a shared cultural base. Inherent design restraint of limited building materials and methods and love of the land. Only the spires rose high above the trees, and there were no competitors for their dominance. (Later codes, laws and design boards cannot create cultural cohesion where none exists.)

Georgetown, Washington, D.C.: Fine examples of predominantly residential building over more than two centuries. A fine site sloping up from the river; shops, warehouses, churches, parks, a canal and many other elements fit pleasantly into this geography. A good place to experience the scale and mood of many past styles. Because people have adapted the houses for living in the 20th century without destroying their original character, this is a viable town scale. Only the *new* "old" houses are alien.

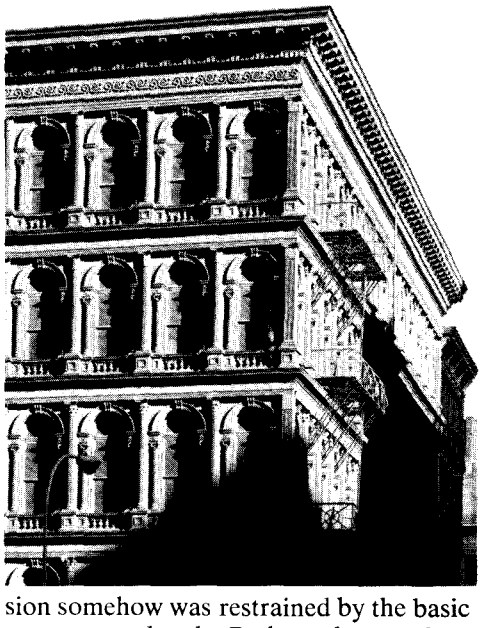
Savannah, Ga.: An old gridiron town planned with green squares that are defined by structures and also define them. Strong, human scale, common squares shared and enjoyed by neighbors—a kind of democratic model for "everyday" living. Fortunately, many of the buildings survive and visitors can experience past scale. (This is in great contrast with "large-scale" plans for 20th century communities.)

University of Virginia, Charlottesville: One of the finest groups of buildings from the past. Intent and expression are one. It is in scale with man and dignifies his search for knowledge. A great composition with a dominant theme and many contributing minor variations. Site and structure become a single composition. In contrast with America's early towns, a single "designer" with a strong philosophy and program created a great work of architecture, in the broadest sense.

Stratford, Va.: An appealing 18th century house. Derivative, but with a strong "Americanization," forecasting later self-confident U.S. buildings. Simple, almost plain, but its two bold clusters of chimneys are exciting and make a clear statement. Even with its curious main stair, it has great dignity and sits proudly, somewhat aloof, from one of the loveliest sites on the river.

Fairmount Water Works, Philadelphia: A bold and almost playful composition of "public works"—derivative forms but clearly an American expression. Speaks with dignity and pride on the importance of a public facility. (Many other government projects following this one in the 19th century express similar feelings, and today remind of a past tradition that is forgotten for all too many of our public projects.)

Cast-iron buildings: Almost any of these variations on a theme. Perhaps the best use of a national industrial product. All too few examples remain—St. Louis destroyed blocks of them. Graceful, light and light-filled. Individual expression somehow was restrained by the basic structure and scale. Perhaps these early "glass boxes" are great because they were not so huge as the boxes people fight today, but collectively they are as glassy as any done since.



Central Park, New York City: A great "designed" natural park—romantic, derivative, yet strongly American, expressing a new respect and love for the land and the landscape. It is still a city park and invites people—lots of people. It is not a "nature" reservation—it is designed, contrived, manipulated. Pavilions, benches, shelters, footbridges and hundreds of small-scale structures and nonstructures invite and delight people, although all too many have been demolished now. The park anticipated the continuing growth of the great city, and responds to it today.

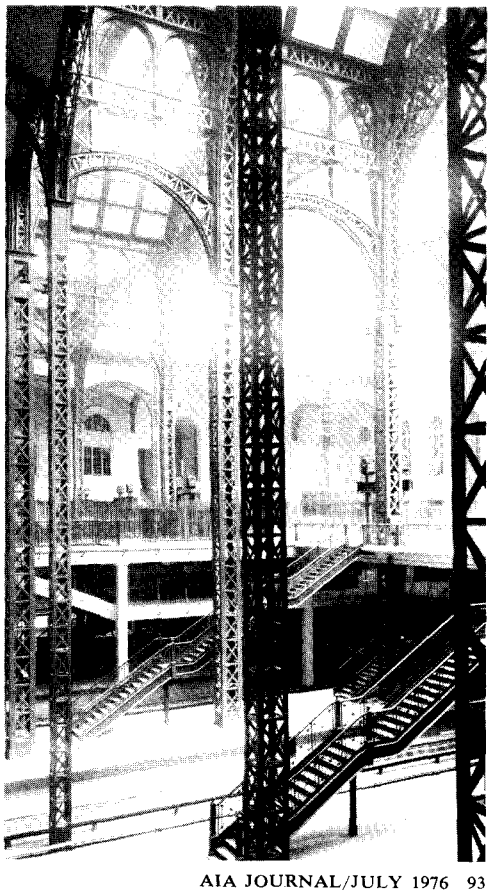
Pennsylvania Academy of Fine Arts, Philadelphia: A great, rich expression of America's cultural ambitions. Splendid interiors, bold, yet rich and playful in detail. Americanization of European vocabularies. Creative expression—not seeking the safe and correct styles.

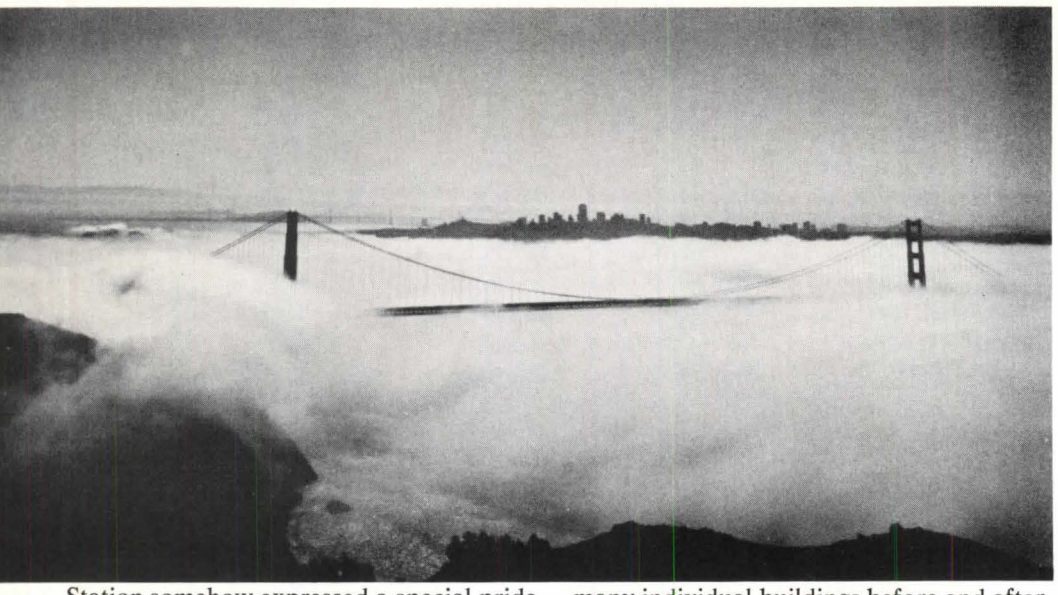
Wainwright Building, St. Louis: Perhaps of all those architects who made the last decades of the 19th century one of America's most creative and individually expressive periods, Sullivan stands out. It is difficult to select a single building. Office buildings have become a dominant type of city structure and the Wainwright Building, which is a strong and complete design, is among the best. It is not a section of an endless glazed tube that can be cut for 10- or 30- or a 100-story building; it is a complete design.

Brooklyn Bridge, New York City: Americans were rightly proud of this great bridge when it was built. In the broadest sense, it is one of our greatest works of architecture. It brought the new scale of transportation to the city, and the structural expression remains today as exciting as any we have built. The drama of suspension is dramatically expressed.

Larkin Building, Buffalo: One of the cleanest, clearest expressions of a structure and space that Wright did for a large building. Unfortunately, he did not do many projects of this scale in the early part of the century. It spoke strongly to a new American confidence in its industrial growth, and Wright confidently expressed his interpretation of a new direction for American buildings. Bold yet human, with a kind of splendid sense of purpose. A great creative work.

Pennsylvania Station, New York City: Although Grand Central was a more sophisticated transportation solution, Penn





Station somehow expressed a special pride and civic consciousness of the period. Its great interior spaces, including the dining room, made the experience of arriving and departing from the great city a special experience—an always important one. It was grand and self-conscious, but dignified and orderly. Its "super scale" was human—appealing to aspiration, not reality alone. A non-Puritan expression.

New York City brownstones: Perhaps the most appealing of all the great rows of city houses built in the 19th century. A real sense of the scale of a large and growing city. A great wealth of varied expressions, individually strong and collectively declarative. Somehow more confident than earlier townhouses. Strong fenestration—often fanciful in a bold and gutsy way.

Falling Water, Bear Run, Pa.: One of America's finest designs—and one of Wright's best structures to enclose fluid interior space and structure, while defining and enhancing outdoor spaces. Masterfully handled.

Radburn, N.J.: The expression of a search for a better setting for daily life than the U.S. had offered. Suburban, yet directed toward the scale of a new town, with cars confined to cul-de-sacs and spaces and private gardens on broad green park areas free from traffic. (Sunnyside and Chatham Village are also fine examples of in-city groupings.) The strong philosophy of living and total design plans tend to make one forget that the individual buildings are generally undistinguished and make little contribution to the development of domestic architecture. (Few, if any, housing projects since the '30s have followed the clear and satisfying group design lead of these earlier examples.)

Rockefeller Center, New York City: One of the few group designs responding to a new scale for U.S. building. A composition of skycrapers, complementing one another and focused on a plaza that gives life to the entire group. Although many individual buildings before and after were better individual designs, were more expressive of structure and made much stronger statements, this group pointed a direction for urban design that hasn't been followed up.

Seagram Building, New York City: An elegant skyscraper that is a complete design. A kind of culmination of office building design that began in the last century. The structural expression and enclosure are forthright and the whole is restrained, having great dignity. It will not become outdated, and may well become an enduring symbol of the period.

Deere & Co. Administrative Center, Moline, Ill.: Fine total design—setting and structure are one. Somehow it recalls the cast-iron period. It has elegant strength in the expression of steel and glass; a restrained and orderly composition with great inherent variety.

Ford Foundation Building, New York City: A single building that isn't just another office, and one of the few examples of corporate symbolism that justifies the cost. The great glazed garden is not only a fine place to walk through, but also an exciting daily experience for those who work there. It is a total design, carefully detailed and furnished.

Nathaniel A. Owings, FAIA

I've grouped structures and ideas, because in a 200-year sweep of architectural history, we have to think of broad impressions. If we were naming nature's wonders, for example, we would name the Grand Canyon and not a detail like Bright Angle Trail. My nominations:

Mr. Jefferson's University of Virginia.

New towns: Washington, D.C., was a new town; so was Greenbelt, Md., and there are other honeys like Savannah and Charleston.

Washington, D.C.: The L'Enfant plan, the federal enclave, the historic building triangle, with the Capitol, the White House, the Treasury, Jefferson Memorial, the Washington Monument, etc.

New York City: Downtown Manhattan is one of the wonders of the world. Grand Central Terminal and Park Avenue, with the underground trackage, etc., emphasize mass transportation. And what could have become a blighted slum became the greatest avenue in America.

San Francisco: Not for the city plan itself so much, but for the view experience. The Golden Gate Bridge, with the city in the background, improves on nature.

Boston: Boston has something for everyone—the Commons and the whole gamut of great buildings by great architects. There are not many equals to Trinity Church or the Boston Public Library. And Harvard is our Oxford, built with help from many of the best foreign architects. Harvard's buildings hold together and somehow become indigenous architecture—perhaps we do have an architectural melting pot after all. The new City Hall is a great solution, and the surrounding buildings help make an environmental whole. All of Boston's architectural achievements combine to span America's architectural history from before 1776 to the present.

Chicago: Its complex of great buildings on Michigan Avenue and Wacker Drive—the Wrigley Building, the Tribune Tower, the river and the lake—all meet and meld.

Prairie school: Here I group all the surviving buildings by Sullivan and Wright into one great statement of indigenous American architecture.

Pueblos in Taos, N.M.: Probably pre-1776, but they are still there and working better than most American towns—they *are* American. Ask Vincent Scully. They are our best examples of high density/lowrise housing.

The Air Force Academy, West Point and the Naval Academy: The buildings of these three institutions taken together show an important trend: Gothic, classic, contemporary.

John Hancock Center, Chicago: This "cradle to the grave" building complex is

Dulles International Airport (17). 'No airport in the world comes close to the elegant clarity of this great concept.'

Patrick J. Quinn, AIA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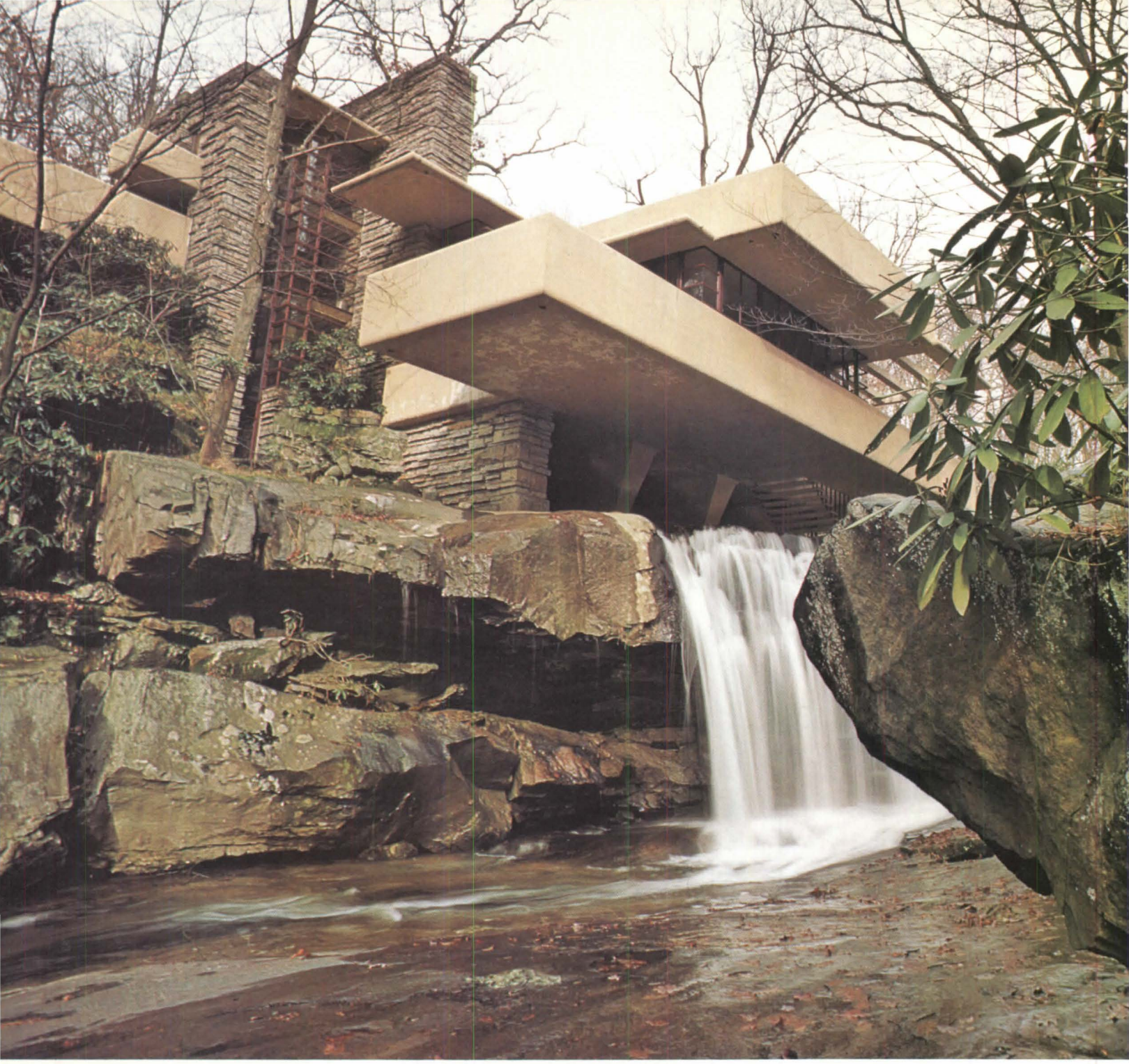


for total living. It nails down Chicago and the lake.

Dulles International Airport, Chantilly, Va.: An innovation in airport design. The corridor-less, tent-like structure by Saarinen has a mobile quality and beauty. Here the emphasis is upon aircraft transportation, and not upon buildings.

Nebraska State Capitol, Lincoln: Goodhue's non-dome capitol is also part of America's indigenous architecture.

Essex, Mass., and environs.

America's massive structures: Here, for example, are the Brooklyn Bridge and the Sears Tower in Chicago. The Sears Tower is the best single building complex ever created, but it has a very bad environmental base. There should have been a mile-square park around the structure, but the building itself is an engineering and esthetic triumph.

George E. Hartman Jr., FAIA

Opportunities similar to the invitation to nominate "America's proudest architectural achievements" have been extended to architects at least seven times in the last 100 years (specifically, in 1885, 1930, 1932, 1948, 1949, 1957 and 1958).

Almost without exception the achievements selected for these lists have been single-purpose buildings. They are typically remarkably independent of their sites and almost never include an important exterior communal space.

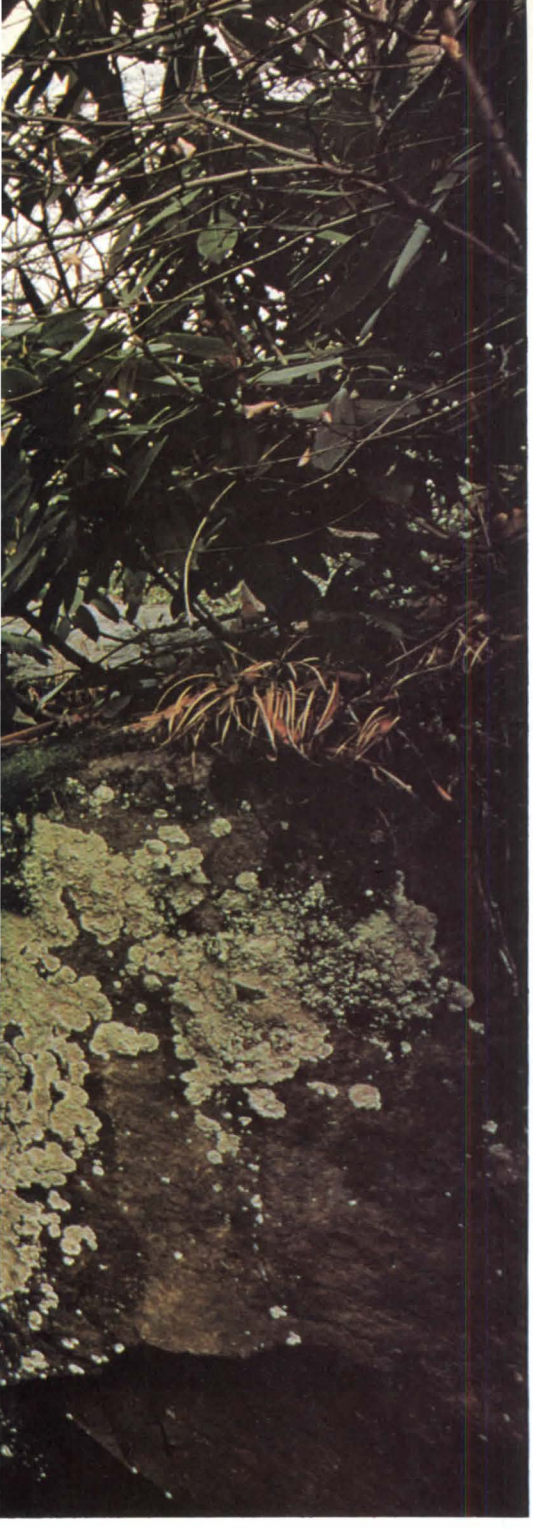
In the 1885 poll, five of the 10 most popular buildings were designed by Henry Hobson Richardson. By the 1950s, the lists were equally dominated by Frank Lloyd Wright. Although these men are among the all-time greats of American architecture, they have had incredibly little influence on architecture in general.

I think there is a fascinating article dealing with what the different buildings tell us about the people who selected them, but I'll leave that to the AIA JOURNAL.

If I must commit myself, I'll select the **University of Virginia campus,** the **Cranbrook Institutions** in Bloomfield Hills, Mich., **Taliesin West** and **Rockefeller Center.** Each is selected for its appropriateness, its honest richness and, above all, for having created a pleasant place to be.

John F. Hartray, AIA

The past 200 years have not provided a very hospitable environment for the slow work of making a national architecture. Rapid economic, technological and cultural changes have rendered many of our best buildings obsolete shortly after their



Falling Water (17). 'The finest effort of Frank Lloyd Wright; one of the most influential houses of this century.'

Hugh Newell Jacobsen, FAIA

completion. Those projects whose utility has outlived their mortgage payments are rare exceptions. There have been, however, some brave attempts to give form to our national experience, and I have concentrated on these rather than on individual achievements. The order is chronological—while I personally prefer our earlier history, I have no reason to blame architects for what we became.

The New World was an ideal laboratory in which to test the economic, political and artistic theories of 18th century Europe. The colonies could declare their independence from the king without the embarrassment of having to physically dispose of him. It was also relatively easy to establish country estates on the Palladian model. The real estate was easy to assemble and no demolition was required. The plantation program was not much different from the Venetian and English original, but here it was adapted to the reduced scale appropriate to a democracy. **Mount Vernon** and **Monticello** are the best-known examples of what was a common building type through our first 100 years.

Jefferson's plan for the **University of Virginia** was more original in concept and represents a kind of breakthrough in utilizing a Palladian farm for the cultivation of students.

A more egalitarian distribution of wealth in the North put more emphasis on the public sector in interpreting the economic theory of the Enlightenment. The town square at **Norwich, Vt.,** illustrates the idea, but there are many other examples.

Although the **Boston Common** was planned before the Revolution, it should be credited to this same spirit of egalitarian cooperation. The **plans of Philadelphia** and **Savannah** exemplify the foresight of a colonial people who had already ceased to depend on their king for important decisions. Both of these plans provided a framework for orderly growth within the context of a static governmental system. In this sense the plans were revolutionary.

Our postrevolutionary Westward expansion created the need to construct new cities almost overnight. Architects, as well as masons and carpenters practicing architecture, invented a wide variety of dwellings in response to the regional differences in topography, climate, materials and available skills. Today, these anonymous structures often provide the simple unifying element which gives a city its unique character. They also appear to offer sound prototypes for new development in a world of shrinking resources.

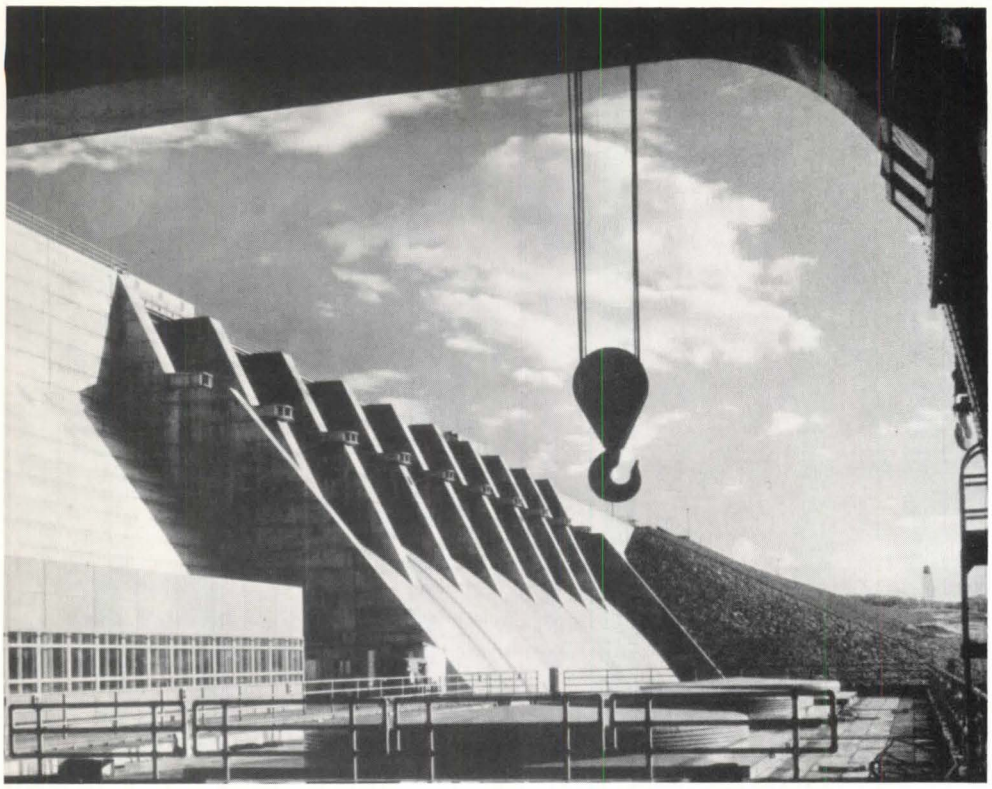
The small **New England cottage** framed around its central chimney, the **rowhouses of Baltimore** and **Philadelphia,** the narrow **brick dwellings** with their wrong-way roofs which climb the hills of **Cincinnati** so gracefully, the **balloon frame houses of the Midwest** and their Gothic cousins in **San Francisco** provided the basic elements with which our cities could be built. Older cities like **New Orleans** have developed several prototypical dwelling types to meet the needs of successive generations. One of the great ironies of our egocentric profession is that our most important contributions are, or become, anonymous due to their general acceptance.

Our entry into the age of mass production was completed with our true revolution: the Civil War. The unsurpassed brutality of this era seems to have been combined with a genuine optimism about the potential benefits of technology. So, as the monopolies formed, architects talked of expressing the spirit of democracy and built some remarkable monuments to their personal visions of society's goals. The **Monadnock,** the **Rookery,** the **Auditorium,** the **Reliance Building** and **Carson Pirie Scott & Co's store,** all in Chicago, are surviving examples of this nationwide technological exuberance.

Our **Prairie School houses** are also a product of the 19th century's optimism. The individualistic philosophy supporting this optimism was never thought through and our attempt to broaden the distribution of its promised benefits has converted Broadacre City into suburban sprawl. Yet, the movement did produce our only fully developed, formal, home-grown architectural style in which a large number of architects, planners and landscape designers worked with a high order of consistency and quality.

During the 19th century, the idea of national unity came to be accepted and was probably endorsed by a sizable majority of Americans. The railroad system was both an armature and a symbol of this unity; its terminals were a tangible expression of nationalism at a time when our laissez-faire government was trying to remain remote from our daily lives. If union was the religion and the railroad stations were its churches, **Grand Central Terminal** in New York City was its Vatican. Others might rival its architecture or exceed its volume of traffic or freight, but Grand Central combined with Park Avenue to form a great processional climax to a continental transportation system. By comparison, Versailles was only the headhouse of a provincial line.

The age of mass consumption, from Henry through Gerald Ford, has not produced an environment about which we can feel very optimistic, but it hasn't been all bad. **Rockefeller Center** in New York City seems to have been designed with people in mind and has remained useful for over 40 years. Mies clarified the postwar state of building technology, which included some universally shared misconceptions about utility rates. The **Seagram Building** and **860-880 Lake Shore Drive** seem to stand out as examples of a consistent and dedicated career. Skidmore,



Owings & Merrill and The Architects Collaborative have also been able to express the staying power of some corporate clients in a benign way. The **Weyerhauser** and **Johns-Mansville** headquarters buildings come to mind.

There have also been a few instances of public efforts on a modest scale which have made the best of a previously unnoticed asset. The development of the river in **San Antonio, Tex.,** is evidence of the continuation of our colonial resourcefulness.

Eero Saarinen was able to convert a corporate office building into a strong, personal, sculptural statement at the **CBS Building** in New York City, but most of the individualistic posturing on behalf of our collective enterprises has been pretty unconvincing. In some cases, it has accurately expressed a truth that the client would probably rather have kept secret, as in the FBI Building in Washington, D.C., and the Albany Mall, both monuments to bureaucratic insolence.

There may be a beautiful arrangement of mobile homes reminiscent of the Greek Islands, but I haven't seen it. California is without doubt the place to look. Our other recent houses are not the kind that fit into communities, except for the townhouses we have borrowed from the past.

If capitalism has produced a cathedral, it is **Manhattan Island.** Like Venice, obsolete and bankrupt, she is protected from the destructive, automotive hordes by the surrounding waters. Her spires express not only the greed of the system she was designed to serve, but also the unprecedented opportunity which that system provided to the energetic, the talented and the lucky. We shall never see the likes of her again.

Our national government is centered in an idealized French city set in what was a centrally located swamp. Yet, the initial idea was strong enough to keep the architects who later worked there headed in the same direction. The **Capitol,** altered in almost every generation of our history, is still evidence of a strong sense of purpose. And where in the world is there another pure physical symbol as strong as the **Washington Monument**?

The **Lincoln Memorial** is also a profoundly moving arrangement of very simple elements. It may also be the most carefully detailed building in America. I'm not sure that it has much to do with Lincoln, except for the Carl Sandburg version, but it is an excellent place for architects to contemplate the power and responsibility that attends our profession.

Douglas Haskell, FAIA

Perhaps just one commentator on American architectural achievements of the past 200 years may be allowed to hold himself to a short list with an attempt to understand; for we lose the ones we do not understand—perhaps we understand better by looking again.

May I start with Jefferson? The **University of Virginia** is my favorite of his, not only because it puts teachers and students in a well-organized, spacious, open quadrangle that closely associates living and studying and direct student-faculty talk, a space opened also at its lower end to a then-magnificent landscape (no longer now, and closed), but because—as Buford Pickens, FAIA, has recently written—Jefferson's whole architecture was conceived not as a "Revival"—as Fiske Kimball made it out—but as a fresh start on democratic simplicity and directness, basing itself on the Greek. But at Charlottesville the experts will tell you that the university's uncomprehending *maintenance* department has stepwise been shifting its character toward the "Federal" style which is essentially a Roman derivation, as is the redo of the library at the head by McKim, Mead & White. We need to reexamine this matter further and get back closer to Jefferson's real roots.

Oglethorpe's Savannah, with its happy accident that squares as drill grounds could be worked into such a later happy result—this can be left to others, and I shall take a big skip. **The Tennessee Valley Authority** of the 1930s embodied a vision as American in scope and generosity as any we have had. That was when its project was guided by Arthur Morgan, the engineer, and Roland Wank, the architect, and numerous fine planners, sociologists and conservationists—not omitting that genius earthist Benton MacKaye of recent departure—and by the ideas of the tight, immensely able, little Regional Planning Association whose central figure was Clarence S. Stein in New York.

As reviewed by me in *The Nation* of May 17, 1941, *architecture* there "took hold of an area of 40,000 square miles, inhabited [then] by 2 million people, based on 650 miles of the all-important river"—such was its vast regional scope. And the purposes served were simultaneously habitational, communal, agricultural, industrial, transportational, along with achieving flood control and rehabitation of the soil—in short, handling the surroundings in all their effects on life. And so "multiple-minded" was the fashion in which the most varied means were shaped to these several sets of ends, and so homogeneously were they treated, that "there could be no reason for confining the term 'architecture' to the one part that used concrete or steel instead of soil, trees, water, the shaping of earth and rock." Here, said I, was "a glimpse of man working upon the *whole* of his environment to put it into habitable, workable, agreeable and friendly shape. As a concept, architecture can today be no less."

This was, I assert, the first straight-out, full "environmental" manifesto, picked up nationally five years later at Princeton's bicentennial conference, and started on becoming the long-term policy of the profession itself. But the TVA was taken to hell later by "temporary" war and atomic policies which still left major beauties of it standing but with its idea aborted, soiled, denied; meanwhile, "architectural" leaders diminished the insight it brought and retired to dealing with the "built environment" only, for some 30 or 40 years. We are now coming back to the idea in full. Let's reexamine the *early* TVA and readopt its aims.

Why does it take us so long to see?

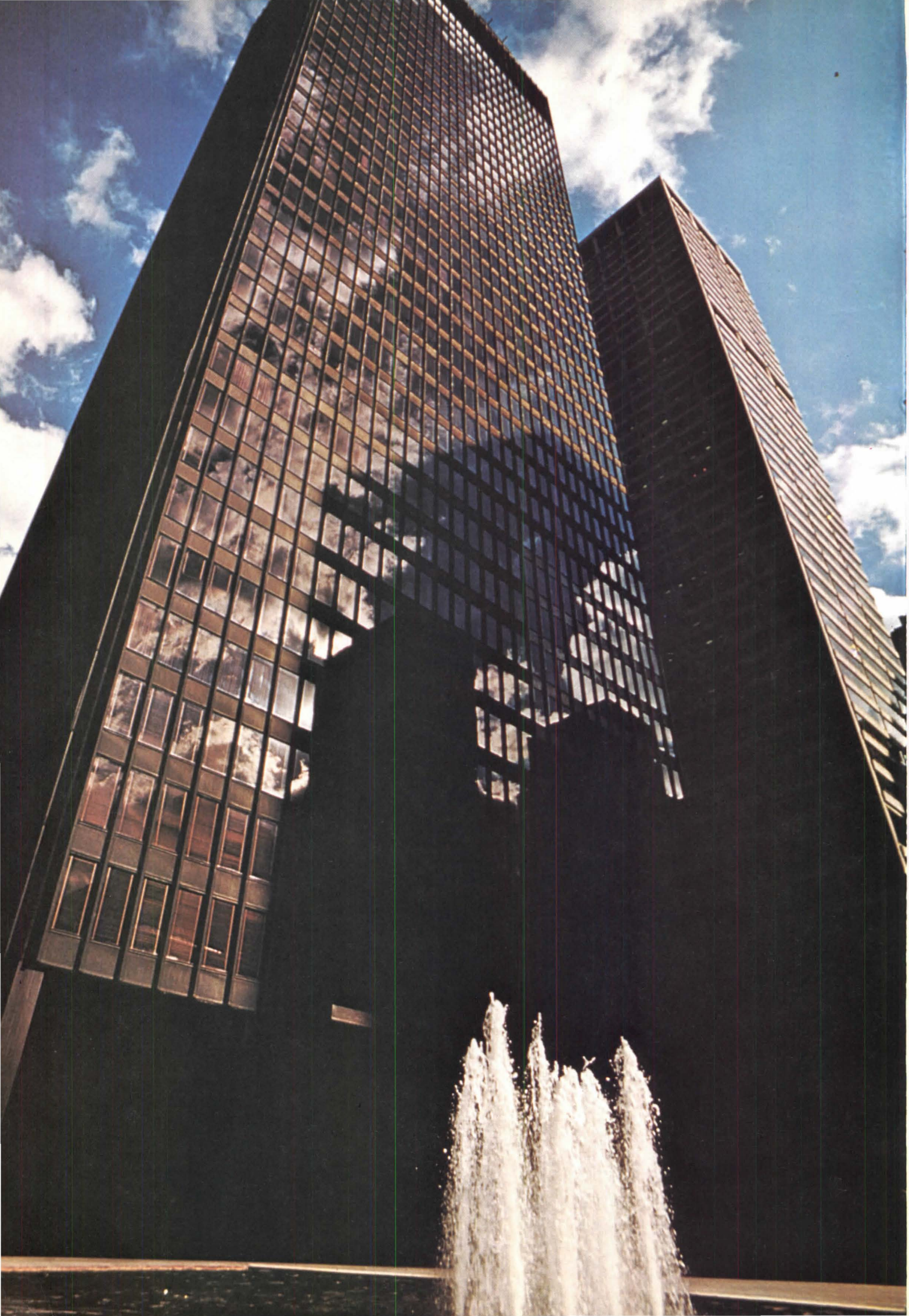
Aristotle has said that like a bat bedazzled by sunlight, the human reason can miss what is closest and concerns it most. At smaller scale than TVA, take the 1883-opened **Brooklyn Bridge.** Already then, the latterly vaunted critic Montgomery Schuyler led architectural seeing of it off on the wrong track. He treated it as an *object* that you might buy, and although he made astute observations in looking at it "as an object"—and younger men have recently done so again—he somehow failed to sense that its main purport, message, impact and experimental offer was a *kinetic* one. What the Roeblings as bridge designers really set out to do was to let mankind experience riding or walking across a wide bay of water, high up in midair some 150 feet above the glittering waters, with just a few sticks of steel for support under him and wires for suspension underneath the endless sky above. As a chapter head by James M. Fitch suggests, the significance was a "Golden Leap." It lept. So unfamiliar was the experience of traversal *then* that on one of the first days, a crowd panic —deadly and utterly unnecessary—was a result. And yet the new experience, designed for with consummate art in every significant detail to provide and underline beautiful safety, was what cleared the soul for the subsequent adventure with skyscrapers, planes, jets and even interplanetary capsules of a next later age.

Let me note one special feature which made the "leap" vivid—as if you were riding a monster live animal with rippling muscles under control. It happens that the roadway truss of this bridge—not an unimportant feature though seldom mentioned—is composed of just two lengths which are "hinged" or spliced not, as usual, at the tower, but considered as the floor's static supports. A very elastic condition results from the connections being slip-joints permitting come-and-go with every major moving heavy traffic weight.

In the '20s and '30s, the poet Hart Crane fittingly celebrated the great curving cables, and alone the painter John Marin caught the kinetic quality of the bridge. But any young man "who was there, Sharlie," actually walking the bridge almost daily, could discover there that esthetic joy inheres not just in the way a thing looks but in the way an experience lives itself. In the major remodeling that followed World War II, an insensate archi-

Carson Pirie Scott Building (16). 'Spare, clean, exquisitely detailed.'

John J. Desmond, FAIA



tecture reduced many of the finest features of the bridge to an incredible mess.

Radburn, N.J., furnished modern America in the late '20s with a generic diagram for urban living which threatens to fade here while it blossoms all around the world. Radburn was an invention of the group in New York clustered around Clarence S. Stein and Henry Wright. The idea can actually be easiest described in nautical terms. Imagine a town-sized flat island cut by canals that divide it into islets, each with some inlets cut into it where the boats can be docked. Any structures (usually houses) can back on the canal, or more frequently on an inlet, while they will *face* toward the *islet* on which they stand. All the interior space of each islet thus becomes the "front yard" for all people on it, usable for gardening or recreation or park-like use, all on foot. The footways will cross the canals by bridges. Some islets will be devoted to commercial or civic or even industrial purposes. All traffic being by boat, no pedestrian can be knocked down.

Now change the canals to through roads and the boats to cars and the bridges to overpasses or underpasses, crossing these roads between islet-like "superblocks," each superbly suited to community use, instead of being cut up into tiny "backyards." And the children able to roam the whole town without crossing moving traffic, and a compounding freedom from traffic hazard accruing to—trees. Pretty nice as experience, yes? Really "new towns."

But although Radburn plans involving housing units by the hundred thousand have been built around the world, we have only a few prime examples here; perhaps the best, most urban one, is the one formerly known as Baldwin Hills Village in Los Angeles. And plans imagined by Jane Jacobs with quite different ideas, specifically aimed at *community* use in tight old cities, have not yet been possible to build as planned.

Another type of architecture to be judged by experience offered and not just by clever visual arrangements is today's much discussed "strip." Its antecedent was many a road-lining colonial village, just as an antecedent from simpler times for Radburn virtues might be found in commons-oriented towns, such as Shirley Center, Mass., in which Benton MacKaye chose to live. For we always have to qualify our judgment of smart dispositions by inquiry into the esthetic quality of the *total experience* sought. Thus, those who obtain architectural "ideas" from places like "Las Vegas" have to hold in mind the experience sought in such places, and the corresponding use of architecture, as a drug, bereaving the prospective sucker of much of his good sense.

Mr. Editor, disobeying the rule to pick out buildings, I have tried to speak here a little about architecture, not as object, but as *event* projecting a total joyful *experience* and considered thus.

Robert A. Burley, AIA

The open community: We all take Hometown USA for granted, with front lawns that stretch from one property to the next with no walls or fences in between. It is a particularly American, and certainly democratic, kind of expression which comes as a shock to any visiting European. It is the opposite of fortifications, insecurity and the police state. It is hoped that we will not have to give it up. Best example: the New England village.

Hallidie Building, San Francisco [**above**]: Imaginative and daring, by Willis Polk. In the 60 years since, there has hardly been a more exciting use of glass.

Rockefeller Center: Multiuse districts—MXDs—are the latest thing. But Rockefeller Center did it all back in the 1930s. Radio City and Radio City Music Hall. Only in America.

MIT Chapel, Cambridge, Mass.: A rare combination of modern architecture and sculpture by Eero Saarinen.

Grand Central Terminal: A terminal combined with commercial space, underground shopping mall, direct connections with local subways, commuter rail, long-distance rail and a hotel. Transportation in several layers. Park Avenue elevated and carried across the top. Exterior facade and interior space of tremendous symbolic importance to the whole city and to every New York visitor.

Manhattan Island: Not the island, of

Seagram Building (15). 'The summation of refinement in the use of steel and glass.'

Paul A. Thiry, FAIA

course—but that staggering collection of *high* density architecture that is trying to sink it! Free enterprise incentives and competition, combined with a deep water port and some fairly solid rock, made it all happen. A real monument. It also required a certain lack of planning. Its operation is a miracle. It's in the red. But you cannot deny its impact.

Brooklyn Bridge: An engineering feat, I suppose, but of great significance to American architecture. As an expression of structure, as an element of design, it was overwhelming; it could hardly help but influence every engineer and architect who saw it. Like many rudimentary examples, it may still be the best of all the suspension bridges.

Prudential (Guaranty) Building, Buffalo, N.Y.: Louis Sullivan's frame forerunner, plus tremendous decoration.

Carson Pirie Scott & Co., Chicago: Louis Sullivan's expression of structural frame with glass infill. Still great.

Taliesin East, Spring Green, Wis. (and similar prairie style houses): Greatest of all influences on residential architecture (by FLW). Ranch style, glass doors, endless list.

Falling Water, Bear Run, Pa.: A generation later, greatest influence on modern residential architecture (by FLW). Totally different concept.

Johnson Wax Co., Racine, Wis.: FLW, architect as engineer. Innovation vs. building codes.

Richard Saul Wurman, FAIA

This represents an unscholarly, perhaps corny, attempt to list those imageable and symbolic man-made physical landmarks that first come to my mind.

My first selection is **Philadelphia's City Hall** [**right**] and **Boston's new City Hall.** Although set apart in time, they both have become buildings symbolic of their respective cities. Both have managed to have the public gather within and around their confines and both have the possibility to become urban observatories. Also, **Independence Hall.**

The **Capitol** and the **White House,** like many other selections of mine, are unavoidable postcard images which, particularly in the case of the Capitol, rivet my eyes every time I visit Washington, D.C.

Many of the big buildings and big constructions are on my list: the **Empire State Building** and the **World Trade Center** in New York City, the **Hancock** and **Sears towers** in Chicago. Each of these buildings has been used to represent its city at one time or another.

There are a few linear architectural swatches—the **Las Vegas strip;** the wall of apartments, the **Chicago water edge; Wall Street; Bourbon Street** in New Orleans, and the most modest among them, **Elfreth's Alley** in Philadelphia. Each of these is a specialized street, worshipping either money, music or living.

A couple of places come next—**Rockefeller Center** in New York City and the square that keeps getting better all the time, **Rittenhouse Square** in Philadelphia.

The next four are building extravaganzas, here for qualities, not quality, and mostly for quantity and spirit. There are the **Hyatt Regency Hotels** in Atlanta and in San Francisco and the **Astrodome** and **Superdome** in Houston and New Orleans.

For quality, there is the **Salk Institute** in La Jolla, Calif., the **Kimbell Art Museum** in Fort Worth, the **Richards Laboratory for Research in Medicine** in Philadelphia and the **Ford Foundation** in New York City.

There are four exclamation points which are memorable: **Coit Tower** in San Francisco, the **Washington Monument,** the **Seattle Space Needle** and the **Watts Towers** complex in Los Angeles.

Next on my list are **Mesa Verde** in Colorado, which has a unique handshake with the landscape, and **Williamsburg, Va.,** our time-tunnel town.

Last are five constructions—two bridges on either side of the country, the **Golden Gate** and the **Verrazano-Narrows;** two forms of concrete spaghetti, the **New York City subway system** and the **California freeways;** and last, the **Hoover Dam,** a building that makes a lake and power.

Philadelphia Saving Fund Society (15). 'As seminal as any building in the skyscraper's evolution.'

Stanley Tigerman, FAIA

Morris Ketchum Jr., FAIA

In attempting an overall view of bicentennial architecture, it adds flavor and interest to trace the 17th century ancestry of the early 18th century buildings which either stood in Philadelphia on the morning of July 4, 1776, or developed throughout our nation within the next 200 years.

The 17th century **Westover Plantation** house in Virginia plainly inspired the design of the 18th century **Independence Hall** in Philadelphia. General Oglethorpe's 17th century **urban park system in Savannah,** still preserved like a fly in amber, is what William Penn's green squares were like in the **18th century Philadelphia,** before they became the foundation for **Edmund Bacon's grand plan** of today.

After 1776, the new republic spawned a vast wave of public and private building. Up in Boston, Charles Bulfinch moved the state government from the Old State House, scene of Boston's "massacre," to the new **State House on Beacon Hill.** In Charlottesville, Va., Thomas Jefferson, that master of many arts, designed **the University of Virginia.** In the District of Columbia, **the nation's capitol** was abuilding; in New York City, a Frenchman (Mangin) and a Scot (McComb) won a competition for the design of the **City Hall.**

Great names in American architecture blossomed in the 19th century: Richard Upjohn with **New York City's Trinity Church;** Henry Hobson Richardson with **Trinity Church** in Boston, **the Allegheny County Courthouse and Jail** in Pittsburgh and **Marshall Field Wholesale Warehouse** in Chicago; Louis Sullivan with the **Wainwright Building** in St. Louis and **Carson Pirie Scott & Co.** in Chicago; McKim, Mead & White with **Boston's Public Library** *and New York's* **University Club.** The happy marrige of engineering and architecture was celebrated in New York with the Roeblings' **Brooklyn Bridge.** Finally, D. H. Burnham & Co. of Chicago authored New York's **Flatiron Building.**

Architecture and architects in today's 20th century have inherited 200 years of progressive fulfillment. Structures which have opened up new architectural horizons, ripe for exploration in the next 200


1816

years, include: Philip Johnson's **glass house** in New Canaan, Conn., and Yale University's **Kline Science Tower;** Mies and Johnson's **Seagram Building,** in New York City; Eero Saarinen's **Dulles International Airport,** Chantilly, Va., and the **Ford Foundation Building** in New York City by Saarinen's successors Kevin Roche and John Dinkeloo; Paul Rudolph's **Art and Architecture Building** for Yale; Louis I. Kahn's **Salk Institute of Biological Studies** in La Jolla, Calif., and his work in Philadelphia; Frank Lloyd Wright's **Falling Water** house in Bear Run, Pa., the **Johnson Wax Co.'s Administration Building and Laboratory Tower** in Racine, Wis., and the **Guggenheim** in New York.

Charles A. Blessing, FAIA

I have placed emphasis on great designs executed at broad scale which are identified as the architecture of the city. The design of the city represents the greatest challenge to the architect; the present confusion and disarray of the urban environment is the real enemy of great architecture. If this be so, then we may look back with longing to a quieter time in the life of the American city, say, to the last half of the 19th century—before the automobile, the freeway and the explosion of mass industry. But to look back will not solve present or future problems.

Today, as in the past, an individual building, overwhelmed by sordid and ugly surroundings in a deteriorating and neglected city, is like a flower struggling to survive in a smouldering refuse dump. Surely, the magnificent setting of the Parthenon as it dominates the Acropolis is an essential element of the greatness of this masterpiece.

It is essential, then, that my list of American architectural masterpieces begin with no less than the design of a city and extend beyond to the vast scale of the Grand Coulee Dam and its natural valley setting, and even further to the regional scale of the Tennessee Valley Authority, and ultimately to the national parks system and the total regional scope of the

Bureau of Reclamation in the arid West and Southwest which made cities like Denver and Phoenix possible.

This is not to say that no single building can qualify as an architectural masterpiece, even if it lacks harmony with its surroundings, but rather to emphasize that urban visual chaos and ugliness can only be overcome by a level of thought and activity beyond the scale of a single building.

Washington, D.C., heads my list. With all of its problems of freeways, huge public building additions, controversial government office structures, transit impact, etc., Washington was never more beautiful than it is today in this bicentennial year. There is so much grandeur and beauty in the total city and its setting—the green landscape and waterscape, the long parks, the vistas along great axes. Tragic as is the loss of many fine old buildings, this basically traditional city is still textured, warm and colorful, Washington itself—the formal monumental core—becomes a city ever more unique and beautiful among the capital cities of the world. It is unique because of the vision of the L'Enfant plan, the wisdom of the McMillan Commission and the respect of the American people for the grandeur of their nation's capital.

My second choice, in the same spirit, is the beautiful city of the Golden Gate, **San Francisco**—the city and the glorious peninsula and bay and the ring of hills. The only word for San Francisco is—magnificent! Its fragile fabric is vulnerable, its view of the bay is always endangered by the freeways and the war of the towers—the massive explosion of the skyline, obscuring the natural beauty. But in an overall sense of civic design at city scale, San Francisco still remains America's treasure of urban landscape. San Francisco should officially be declared a national art treasure, a national monument of supreme beauty.

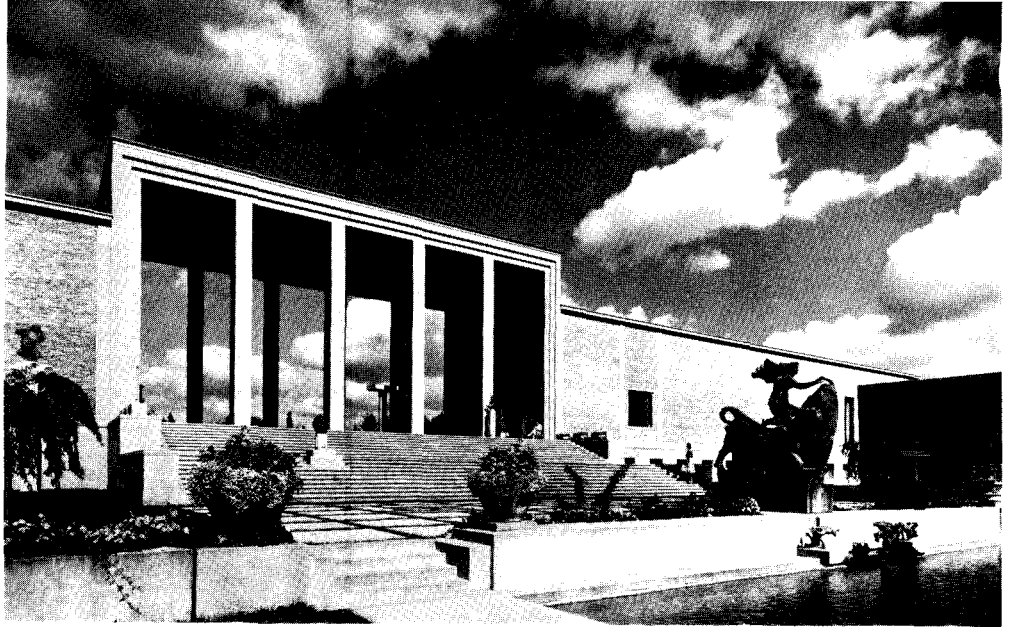
My third choice is **Boston.** It is a place which should be savored as a whole by walking along Commonwealth Avenue, the Charles River, Beacon Street, the Fenway. Boston to a remarkable degree is man-shaped. It is indeed "the city of art," perhaps foremost among American cities as such. It may not have the beautiful setting of San Francisco, but somehow Boston does present a more immediate, more intimate loveliness.

My fourth choice—difficult but firm—is **Chicago** for its magnificent scale, the drama and dynamics of powerful verticals, piercing sky and visible for miles, contrasting with the lovely soft green blanket of parks along Lake Michigan. Chicago is the city of the skyscraper—its invention, its means of development to maturity. Chicago—the city of architectural (and industrial) giants: Frank Lloyd Wright, Louis Sullivan, Daniel Burnham, John Root, Mies van der Rohe. And today the disciples of Mies are a great school of architecture, perhaps the best in the land, with a special vein of indigenous prairie talent, rich and sophisticated.

My fifth, more modest, choice is the original campus of the **University of Virginia** as conceived by Jefferson. It is experienced at its best on a warm, soft autumn afternoon when the leaves are falling on the beautiful central campus mall—a perfect grouping of related buildings, with a uniform colonnade tying the entire composition together into a rich expression of human environment.

My sixth choice and some following ones—quite different from those before—is an acknowledgment of the profound and prophetic vision of a pioneer generation of conservation-minded Americans who established and protected for all time the natural treasures of the land through the creation of the wonderful **national parks system.** Such national glories as Grand Canyon and Yosemite Valley are not only preserved, but developed carefully to accommodate us, the people, who come to see and to experience them as a re-creation of spirit.

My next choice is **New York City,** with its beautiful harbor and approaches by both water and land. Perhaps New York is at its best in macrocosm—when viewed as a whole from a distance—a vision of a magic city. It is worst when examined at close range, when the tortured texture of its blighted districts, its abandoned buildings, its unkempt streets and places are revealed.



Boston City Hall (12). 'A compelling tour-de-force of interpenetrating forms and spaces.'

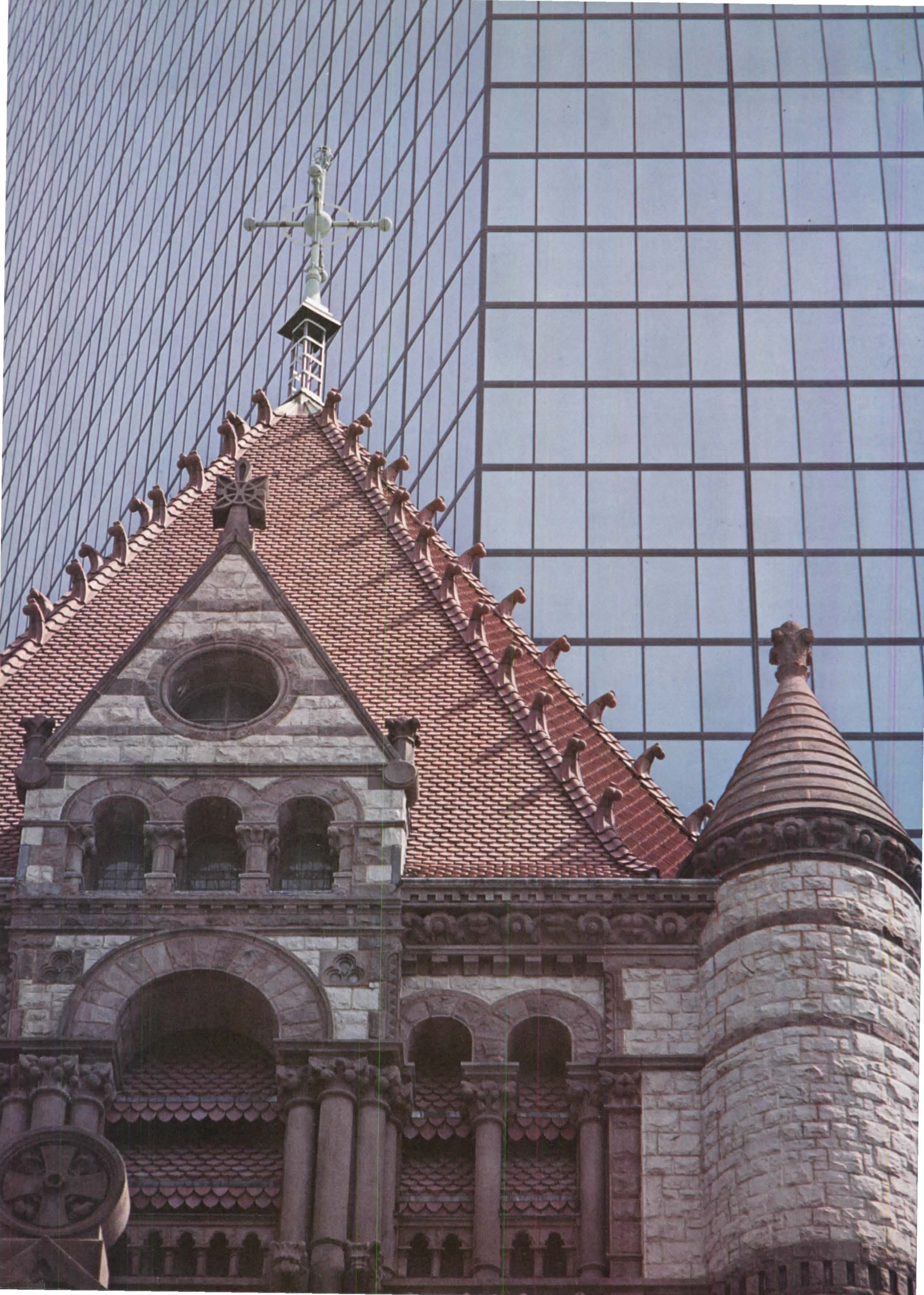
Charles F. Murphy, FAIA

My eighth choice is the ever-lovely campus of the **Cranbrook Institutes** [**top**] in Bloomfield Hills, Mich., designed by Eliel Saarinen—his masterwork. It is a lovely elegantly designed and scaled place—a garden delight, with its gracious and richly textured buildings, its fountains and trees.

My ninth choice is **Williamsburg, Va.,** [**above**] not as distinguished as the University of Virginia, but a town which is certainly the most complete historic reconstruction on old foundations, if not absolutely authenticated, that exists in America.

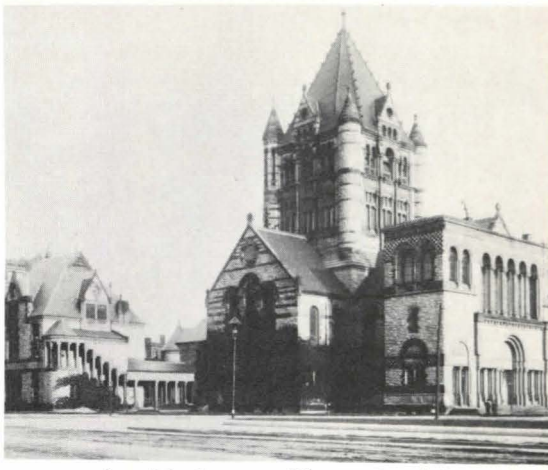
My tenth choice is a composite of examples of excellence in campus architecture. I include **Harvard Yard** for its ambience, its harmonizing of a variety of styles and periods of architecture. I also include the west campus of **Princeton University** for its unified Gothic architecture and sense of completeness. And I include quite a different campus from a much later period: **the University of Colorado at Boulder,** with its main quadrangle, its walks under arching elms, its ever-present views.

I shift scale once more and change directions to include what may be the most significant project of the entire list: **the Tennessee Valley Authority**—the largest



Trinity Church, Boston (12). 'Richardson at his neo-Romanesque best. Old world character, subtle natural light and dramatic space.'

Vincent G. Kling, FAIA



scaled, most massive, most effective turning around of an economically depressed region by comprehensive planning, design and development of a whole series of power dams, recreation parks and lakes, new towns. The architecture of Roland Wank represents a notable contribution to the architectural history of America.

My next choice is Eero Saarinen's **General Motors Technical Center** in Warren, Mich., the most beautifully symbolic planned industrial research campus I have seen. A vast public space with lake and fountains surrounded by some of the most beautiful industrial structures ever built, with their bold, brilliant ceramic brick end walls, primary colors and glass side walls.

I have given expression to my deep convictions as an urban design architect about a sense of place and of history and of man's union with nature. Now I turn to a very few to acknowledge the entire worth of man. Here I would place first **Frank Lloyd Wright.** Who has contributed more richly to America? With an almost equal enthusiasm, I choose the complete American work of **Mies van der Rohe,** for the pristine elegance of his architecture.

I would include the life work and thought of **Henry Wright,** pioneer architect-planner whose Chatham Village in Pittsburgh is still one of the finest after 40 years. I commend the vast vision of Henry Wright in his 1926 report to the governor of New York on a state plan—as fresh and compelling today as when it was completed 50 years ago.

I include **Louis Sullivan** and his life work. He was truly an American original, and he spoke as one when he insisted that the classical architecture of the Chicago Exposition of 1893 had set American architecture back 100 years. His disciple Frank Lloyd Wright hastened the breaking away from copybook columns and capitals.

Another true American original loved and respected by a generation of architects and students is my next choice—**Louis I. Kahn** who described himself as a "premise" architect, explaining that he found it essential to first establish his premise about a building—its function, form and expression as architecture—before he tackled its design.

Finally, I must identify some of my personal, all-time, favorite buildings. I include Henry Hobson Richardson's **Trinity Church in Boston.** Another beautiful structure on Copley Square is the **Boston Public Library** by McKim, Mead & White. Next I choose as the greatest memorial building in America's history the **Lincoln Memorial** in Washington by Henry Bacon. How it touches the heart of man!

I must include Eero Saarinen's **Dulles International Airport,** the **Harvard Graduate Center** by Walter Gropius and I. M. Pei's **John Hancock Tower** in Boston for its almost ethereal beauty as it captures the nuances of sun and storm from sunrise to sunset, a jewel-like building. A wonderful building and a delightful experience to approach from afar is the **Coliseum in Portland, Ore.,** by Skidmore, Owings & Merrill. I would delight to walk through it daily. I include other distinguished work by this firm: **Lever House** in New York City; the campus of the **University of Illinois in Chicago,** and the **John Hancock Center** and the **Sears Tower.** These buildings seem to express the hope of the future in that a single firm has achieved consistently such a high standard for more than a generation of performance. In this age, no list should omit such an exciting parallel as Persepolis and the **Air Force Academy campus** in Colorado Springs.

We must never forget that the most important problem for the architects of America in the next 200 years is the understanding, perceptive and humane design of the city as a whole. I am certain that the real history of architecture to the year 2176 will be written large in these terms. I hope so.

Forrest Wilson, AIA

I have, as usual, managed to work around the question of what the most important buildings are in this nation's history. In my opinion, architecture as part of an economic, political and social system is created as much by the influence of outside innovation as it is by building technology and esthetic egocentricity. Therefore, rather than listing 20 most memorable structures built since 1776, I address myself to some of the ideas that made significant buildings possible.

The importance of architectural developments has been arrived at as much by personal taste and preference as the esthetics of architectural monuments. Since my approach is equally subjective and based on no rational judgment, I hope that it is acceptable.

My first plaudits go to King George III whose truculence sparked the American Revolution and whose eventual insanity cost him his throne. As a patron of the arts, during his lucid moments, George encouraged late Renaissance architecture in England.

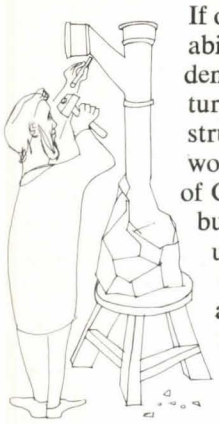
The American whole-hearted acceptance of the Georgian style was the result of our practical realization that culture is the commodity that sells all others. Georgian architecture gave Americans a ready-made cultural identity. Georgian trim has been clipped onto all types of buildings for two centuries, providing the unifying architectural element for slaughter houses, supermarkets, funeral homes, apartment buildings and Mercedes-Benz showrooms. Americans used the principle of clip-on culture, employing Georgian decoration, well over a century before the idea was plagiarized by the Archigram Group.

My plaudits, therefore, go to King George III on the bicentennial anniversary of the American Revolution. Georgian architecture was the crazy king's secret weapon. Although we claimed military victory, architecturally the war was won by George.

The second salute is given to a bent pipe, the vented plumbing trap. This anonymous innovation that prevents sewer gases from entering living spaces brought the outhouse in house, drastically changed architectural form and made the most American of building forms—the skyscraper—possible. Without the plumbing trap, the work of Jenney, of Burnham & Root and the creations of Alder & Sullivan would not have occurred.

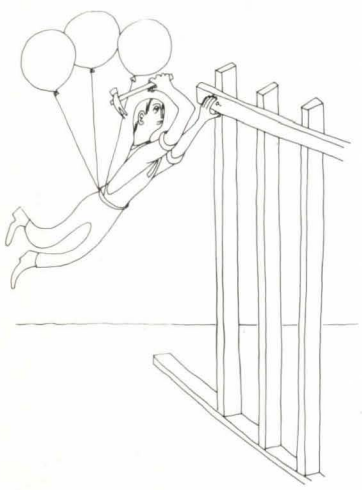
Lest this claim seem inflated, imagine —if you will—what would transpire if skyscraper users had to descend to the streets to use the conveniences at the corner service station. Such a condition would make the current oil shortage seem trivial in comparison. Consider the implications of the major oil companies holding a monopoly on bodily functions as well as the combustion engine. The change in our economy, democracy, social insti-

tutions and architecture is staggering to contemplate. The New York City plumbing contractor who discovered the beneficial uses of a 2-inch vented bent pipe in 1874 struck a memorable blow for architecture and freedom.



If one were to extoll the ability of architects to demonstrate that architecture is more than "mere structure," the plaudits would go to the architects of Chicago. Cast-iron building fronts were popular prior to the great Chicago fire, designed and painted to replicate stone. After the fire of 1871, stone was reintroduced into building to take the place of the iron facades which had buckled and melted so readily in the heat. These stone facades were carved and painted to imitate the iron building facades which had been cast to imitate stone.

Of course, one cannot forget a piece of wire pointed on one end and flattened on the other. The wire nail, combined with small dimension lumber, gave us the balloon frame building which helped fuel the



great Chicago fire and provided a wealth of employment for architects. Designers exercised their talents by converting balloon frame houses to Swiss chalets, Chinese pagodas, Gothic revivals and Romanesque marvels. The virtue of wire nail and scantling technology was that houses were simple to build, rotted easily, burned quickly and were conveniently destroyed by methane gas explosions. The balloon frame was undoubtedly the inspiration for Walter Gropius's concept of "Total Architecture," because houses were totaled so easily.

Yet, "Total Architecture" would never have been possible without Frederick W. Taylor who introduced "Scientific Management" to America. The system had two guiding principles. The first was that management gather unto itself all of the traditional knowledge possessed by the workmen. Craft skills were tabulated into rules, laws and management formulae. The second principle was that all possible brain work be removed from the workshop and centered in the planning and layout departments. The system had little to do with the advance of technology, and nothing to do with science. It standardized work and established total management control. Taylorism eliminated the craftsmanship upon which architects of the past depended to design and build their buildings.

"Total Architecture," like Taylorism, rests upon the assumption that all brain work will be done by the designer and management. This elimination of craftsmanship explains why we are not plagued with prefabricated cathedrals listed in Sweet's catalog.

The architect of the modern movement reacted to Taylorism as the architect of the Renaissance reacted to the advances of the Medici. The Renaissance architect provided the merchant prince with the trappings of nobility to help him wrest social, political and economic control from the blooded medieval aristocracy in much the same way as the designers of the modern movement helped pave the way for the ascendent curtain wall manufacturer.

Without the inspired innovation of Frederick W. Taylor, we would not now enjoy the elimination of craftmanship which has made modern architecture possible, given us the "International Style" and the awe-inspiring miles of yard-goods

facades of Park Avenues all over the world. This is to say nothing of the rich variety of the same thing of Sweet's catalog and the inspired research of building manufacturers devoted to upgrading trivia. If Taylor had not been born, Kawneer would have had to invent him.

But my major admiration is reserved for Richard Neutra who sensed the professional construct that would save architecture and restore it once more to the status of a serious profession. Neutra followed in the footsteps of Adolph Loos and Le Corbusier. Loos proposed the idea in his famous essay which linked "crime and decoration." Le Corbusier elaborated on the theme by threatening either "architecture or revolution." But Neutra went all the way. He claimed that the very survival of the human race depends upon design. It was his genius to sense the absolute necessity of introducing that one essential element into the occupation of architecture that would transform it into a profession.

Neutra proposed cruciality. He sought to place design on the same level as medicine, law and the priesthood. For an occupation to become a profession, it must possess two characteristics which lead to one essential attribute of professionalism. A profession must have mysticism. (One does not argue with his doctor, lawyer or priest.) It must have cruciality, which was the element that Neutra sought to introduce. By combining mysticism and cruciality, the professional is able to introduce the elemental basis of all professional client relationships: *intimidation*. Neutra, like the Medici, sought to restore the position of the architect to that of divinity, as Lorenzo had proclaimed Michelangelo to be. Incidentally, Michelangelo had no difficulty in agreeing with Lorenzo.

If Neutra's inspired insights had been developed, it would now be against the law to build without architects; it might even be a capital offense. Those who did not attain at least a first professional degree in architecture would be assured a season in hell. The AIA might have discovered a connection between turnkey building and cancer, and good architecture would be advertised as a cure for the common cold.

Lever House (11). 'A pacesetter which showed us that it was not necessary to adhere tightly to street lines and conventional form.'

Louis de Moll, FAIA

Louis de Moll, FAIA

My selections are projects which, in my view, have had or will have a lasting impact not only on design, but particularly on the public. A good building should be appreciated by the public, not just the architectural profession. I like buildings that do nice things for people and the community. My selections are in no order of importance:

Lever House, New York City: A pacesetter in new forms, which showed us that it was not necessary to adhere tightly to street lines and conventional form.

Prairie houses by Frank Lloyd Wright: Although Falling Water was the best house ever by Wright, his prairie houses introduced a new form representing probably the first break from the traditional.

L'Enfant plan, Washington, D.C.: Although imported from France, the plan gave the nation's capital a form and grandeur unique among American cities.

Philadelphia Saving Fund Society Building: Completed in 1932, its contemporary style and innovation was not matched for another 20 years. It remains an excellent building even today.

University of Virginia, Charlottesville: It set a style and character for American campuses never surpassed.

The John Whipple house, Ipswich, Mass., and **houses in Salem:** Although it is difficult to rate these early achievements, the stone Pennsylvania farmhouse, the Georgian manor house of Virginia and Maryland, the early townhouses of Boston [**above**] Philadelphia and Georgetown are probably equal in achievement. All have been poorly copied ever since.

Rockefeller Center, New York City: Not because the architecture itself is that great, but it did break somewhat from tradition and showed us that office buildings can also be good places for people. Like the United Nations building in New York City and Penn Center in Philadelphia, the introduction of plazas, walkways and pedestrian comforts makes contributions greater than the design of the buildings.

Dulles International Airport, Chantilly, Va.: A fine building, with high public impact.

Wainwright Building, St. Louis: The first expression of the steel frame building by Sullivan; the ultimate expression is almost any building by Mies.

Hyatt Regency Hotel, Atlanta: Not as a great piece of architecture, but, I feel, as a significant contribution to public understanding of how exciting space can be.

Ghirardelli Square, San Francisco: Perhaps a strange selection to some, but a significant example of adaptive reuse and a new retailing concept, and again a place to be enjoyed by people.

Gateway arch, St. Louis: Innovative, bold, superior even to the Washington Monument.

Hugh Newell Jacobsen, FAIA

I have taken the lead of the "proudest achievements of American architecture over the past 200 years" and have excluded all structures built prior to 1776. My nominations:

Philadelphia City Hall: This flamboyant early example of second empire French neoclassicism, with Calder statuary, is not only thrilling monumental architecture, but was extremely influential in American buildings for decades after its completion.

Pennsylvania Academy of Arts, Philadelphia: Perhaps the finest building in America erected during the Victorian age, and without a doubt the finest effort from the rich repertoire of Frank Furness.

Trinity Church, Boston: The exterior of this highly influential Romanesque building is nearly as good as the spaces within. Particular note should be made of the rich interiors by John La Farge.

Allegheny Courthouse and Jail, Pittsburgh: Another Richardson triumph in Romanesque.

Monticello, near Charlottesville, Va.: The finest example of Jefferson's skill as an architect. His scale and the irrational qualities have made it both priceless and memorable.

St. Patrick's Cathedral, New York City: James Renwick's grand piece of Gothic revival has raised the quality of design on Fifth Avenue for over a century because of its own statement of excellence.

Falling Water, Bear Run, Pa.: I believe this to be the finest effort of Frank Lloyd Wright; perhaps one of the most influential houses built in this century.

Farnsworth house, Plano, Ill.: The complete visual translation on any scale in one complete building by the mind of a master.

Seagram Building, New York City: The philosophy, scale and skill evident in the small Farnsworth house by Mies van der Rohe leads to the logical conclusion evident in this office building which has influenced more commercial structures in the world for good or bad than any other ever designed.

Grand Central Terminal, New York City: One of the finest examples of the teachings of the Ecole des Beaux-Arts, housing within it one of the greatest rooms in all of Christendom.

Ford Foundation Building, New York City: Regardless of the apt quip that "charity begins at home," this superbly detailed building is nearly profound in the restraint of its exciting spaces within.

Salk Institute of Biological Studies, La Jolla, Calif.: A series of structures and inherent complexities made simple and proud by one of America's great architects, Lou Kahn.

Pennsylvania Station, New York City: Now destroyed, this greatest of all efforts by McKim, Mead & White was without question the finest railroad station built anywhere in its day. To catch a train in that building was an experience to be cherished by all who remember doing so and impossible to explain to those who missed it.

CBS Building, New York City: This highrise designed as a true tower clad with but two materials and politely facing the street with its inverted podium, still remains, in my mind, as the best office building to date anywhere.

Dulles International Airport, Chantilly, Va.: For cheery convenience, efficiency and architectural excitement, the best airport ever built in the world.

Philadelphia Saving Fund Society Building: The first skyscraper to be called modern, still fresh and inevitable as when it was completed, primarily because of the care and complete consistency in detailing.

Ford Motor Co., Willow Run, Mich.: Here is architectural design as machine, powerful and beautiful, by Albert Kahn.

Rockefeller Center, New York City: This collection of buildings will always be a landmark of urban design.

Boston City Hall: Monumental in the contemporary vernacular. Designed with a sure knowledge of materials and truly exciting relationships both within the building and its relationship with its older neighbors.

860-880 Lake Shore Drive, Chicago: An elegant massing with twin towers, steel and glass, addressing the lakefront and the city with the same crisp elegance that is typical of Mies' architecture.

Brooklyn Bridge (11). 'An urban ornament of fundamental function and timeless expression.'

Jeffrey Cook, AIA

Gyo Obata, FAIA

Architecture has been defined as the art of building used to fulfill the practical and expressive needs of civilized people. In such endeavors that have this aim, I see exemplified the forward thrust that the architectural profession has made and continues to make in America. Many of the architectural achievements I will note were the first manifestations of new design theories or of technological advances: the geodesic dome and the Eads Bridge.

Mies van der Rohe's philosophy of simplicity in building is clearly evidenced at the Illinois Institute of Technology. In the Salk Institute of Biological Studies, Louis I. Kahn went beyond the simple desire for self-expression, responding to the needs of the users, thereby achieving significance. In the Deere Co. Administrative Center in Moline, Ill., Eero Saarinen also combined creative genius with his consideration of user needs.

The examples of American architecture that follow have fulfilled the ideal of combining function and form:

University of Virginia campus, Charlottesville (Thomas Jefferson).

Salk Institute of Biological Studies, La Jolla, Calif. (Louis I. Kahn).

Rockefeller Center, New York City (Reinhard & Hofmeister, Corbett, Harrison & MacMurray, Hood & Fouilhoux).

Robie house, Chicago (Frank Lloyd Wright).

Wainwright Building, St. Louis (Adler & Sullivan).

Deere Co. Administrative Center, Moline, Ill. (Eero Saarinen & Associates).

Johnson Wax Co., Racine, Wis. (Frank Lloyd Wright).

Carson Pirie Scott & Co., Chicago (Louis Sullivan; Daniel H. Burnham & Co.).

Tennessee Valley Authority, Storage Dam and Powerhouse, Norris, Tenn. (TVA and Bureau of Reclamation).

Seagram Building, New York City (Mies van der Rohe and Philip Johnson; Kahn & Jacobs).

Illinois Institute of Technology campus, Chicago (Mies van der Rohe; Friedman, Alschuler & Sincere; Holabird & Root; Pace Associates).

Monadnock Building, Chicago (Burnham & Root; Holabird & Roche).

Reliance Building, Chicago (Daniel H. Burnham & Co.).

Marshall Field Wholesale Warehouse, Chicago (Henry H. Richardson).

Eads Bridge, St. Louis (James Buchanan Eads).

Crow Island School, Winnetka, Ill. (Eliel and Eero Saarinen; Perkins, Wheeler & Will).

Pennsylvania Academy of Fine Arts, Philadelphia (Furness & Hewitt).

Geodesic dome (R. Buckminster Fuller) [**right**].

Watzek house, Portland, Ore. (John Yeon, designer; A. E. Doyle & Associates, architects).

Pennzoil Place, Houston (Philip Johnson and John Burgee and S. I. Morris Associates).

R. Randall Vosbeck, AIA

I asked the architects at Vosbeck Vosbeck Kendrick Redinger if they would be interested in participating in the compilation of a list of 20 of America's proudest architectural achievements. A poll was conducted and 25 architects of the firm responded. The list I am submitting is the result of the balloting. Actually, there

were 22 projects due to ties in balloting, but I have exercised my prerogative and eliminated the U.S. Capitol and the Empire State Building to cut the list to 20. Needless to say, I am pleased that three of the 20 are in Virginia. There may have been some bias in our voting, but I feel confident that these three will also be on the lists of other respondents.

Dulles International Airport, Chantilly, Va.: Bold statement; very impressionistic, clean, simple, elegant lines; a unique solution to a difficult planning problem.

Monticello, near Charlottesville, Va.: The genius of Jefferson is expressed at Monticello in his thoroughness in detail, his completeness of thought and his ingenuity and creativity.

Falling Water, Bear Run, Pa.: A blending of Wright's philosophy into a contemporary statement; strong, bold forms; excellent example of siting; a display of Wright's ability to use concrete; a pacesetter for subsequent periods.

Ford Foundation Building, New York City: Readily identifiable "concept," complete in detail; landscaping as an integral part of architecture; a new environment for urban office workers.

Johnson Wax Co., Racine, Wis.: Unique structural design; masterful handling of materials; inventive and creative.

Seagram Building, New York City: A clean urban statement, simple in design and thorough in detail.

Alfred Newton Richards Laboratory for Research in Medicine, University of Pennsylvania, Philadelphia: Interplay of materials; expression of structural forms and geometric shapes.

Boston City Hall: One of the strongest contemporary statements, bold and personal; interplay of spatial relationships, creating movement both inside and out; a large "jewel" in a pleasant plaza.

Lever House, New York City: A prime example of proper curtain wall and an early example of "full block" treatment, returning street level to the public by opening up lower level spaces.

Solomon R. Guggenheim Museum, New York City: An inventive solution to the museum problem; exciting interior spaces, with a "mystical" exterior character; a "fantasy world," serving as a relief to the urban situation that is New York City.

University of Virginia, Charlottesville: An early example of architecture and planning; a three-dimensional expression of Jefferson's views on university organization; an excellent adaptation of classical proportions.

Robie house, Chicago: The ultimate of the prairie houses that serves as an example of Wright's earliest major contributions to modern architecture.

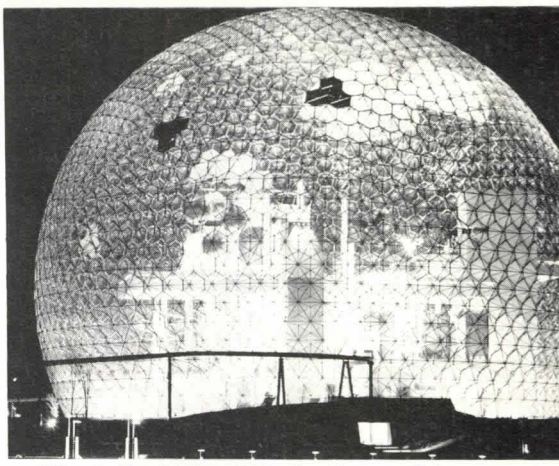
John Hancock Center, Chicago: A strong statement of structural system as an integral part of the architectural solution.

Wainwright Building, St. Louis: An excellent example of one of the earliest breaks from traditional masonry construction through the use of steel frames.

Carson Pirie Scott & Co., Chicago: A "lightweight" solution to a previously "heavy" building type; Chicago window at its finest; horizontal expression and motion.

Brooklyn Bridge, New York City: A blend of architecture and engineering, with unique cable structure; a pacesetter.

Salk Institute of Biological Studies, La Jolla, Calif.: Successful handling of concrete; thoroughness and completeness of details; masterful play of shapes, forms and materials.



Illinois Institute of Technology, Chicago: One of Mies van der Rohe's works that best expresses his philosophy.

Rockefeller Center: New York City: Interplay of solids and voids to create a highly successful urban space.

Gateway arch, St. Louis: Striking and shining; elegant and graceful—the female counterpart to the Washington Monument.

G. E. Kidder Smith, FAIA

In the past seven years—with 130,000 miles of road behind me—I have seen probably 3,000 notable buildings, and have written critiques of some 1,200 of them. It would thus be difficult, and certainly arbitrary, to winnow these down to "20 significant works." However, it is not so difficult and may, indeed, be more rewarding if I select groups and types of related structures, with occasional specific references. In chronological order (more or less) the following works impressed me most:

Pueblo Bonito and the cliff dwellings (11th-13th centuries): In the Four Corners area where Arizona, New Mexico, Colorado and Utah meet, the Indians produced a series of remarkable dwellings that even in semiruins command respect. Although the structures at Mesa Verde, Colo., and Aztec, N.M., are—along with others—ingenious testaments to a stone age culture, the ruins at Pueblo Bonito in Chaco Canyon of New Mexico are most startling. For here stand the remains of a four- and five-story minicity, which once housed approximately 1,000 souls in 800 rooms. It is the nation's earliest megastructure, most of it made of exemplary stonework.

Robie house (11). 'The finest example of Frank Lloyd Wright's prairie house, with a marvelous flow of space and open, wide overhangs.'

David R. Dibner, FAIA

San Xavier del Bac [right] and our Spanish inheritance: In limning the considerable contribution of Spain to U.S. architecture, one should properly begin with the doughty, but superb Castillo de San Marcos (1696) in St. Augustine. However, the missions of the Southwest represent the peak of Iberia's enrichment of these shores. Of these San Xavier, just south of Tucson, is a glorious example, both because of its exterior and its interior.

The New England meeting houses (17th-18th centuries): This is perhaps the only distinct architectural building type which the colonies produced. Most of our other early buildings, including the log cabin, were based on European prototypes and design handbooks, and adapted to local climate and materials. Readily available wood, for instance, had largely disappeared in England by the 17th century, having been consumed by the Royal Navy and unroyal fireplaces. But in New England, trees were a ready resource when not a ruddy nuisance. The nonconformist Pilgrim-Congregationalist fathers erected a series of clapboard religio-secular structures, which still herald public architecture in the New England village, and give these oft-picturesque hamlets their unique cachet. Chief among them, though comparisons are invidious, are Old Ship at Hingham and Rocky Hill at Amesbury, in Massachusetts, Sandown in New Hampshire and Farmington in Connecticut.

The James River plantations (18th century) and in the Deep South (1835-55): The great houses along the James brought an elegance of living to the Virginia colony which was never approached elsewhere. Berkeley, Shirley, Westover, Carter's Grove and their ilk are without equal as delights in bucolic living. Roughly a century later, the plantation of the deep South changed a rigidly intractable style, the Greek revival, into an eminently functional, supremely comfortable setting for domestic life. With the house surrounded by a deep peristyle of classic columns, the family could have sun or shade, or, when it was pouring rain, it could leave most of the windows open to catch the breeze. Form follows, etc. A brief listing of such plantations would include Oak Alley and Rosedown in Louisiana, D'Evereux and Stanton in Natchez, Miss., Sturdivant Hall in Selma, Ala., Bellevue in La Grange, Ga., and the Lumpkin and Taylor-Grady Houses in Athens, Ga.

Mr. Jefferson at Charlottesville: Together the lawn and rotunda of the University of Virginia form the finest public space in the U.S. It is probably the greatest piazza since Bernini's court at St. Peter's in Rome. Jefferson's original plan of two parallel ranks of pavilions was saved by Latrobe's suggestion of closing the upper end with the rotunda library (now restored for the bicentennial), but the basic layout was the third President's. Monticello, though perhaps more of an experimental house than an architectural masterpiece (it took some 40 years to build and rebuild it), was among the first to recognize the microclimatic advantages of a hilltop site. Its plan was ingenious for separating spaces for the servants and those served in a novel way. All services are in semi-underground wings on either side of the hill, with their roofs forming terraces to tie house to grounds. Palladio himself could not have done it better.

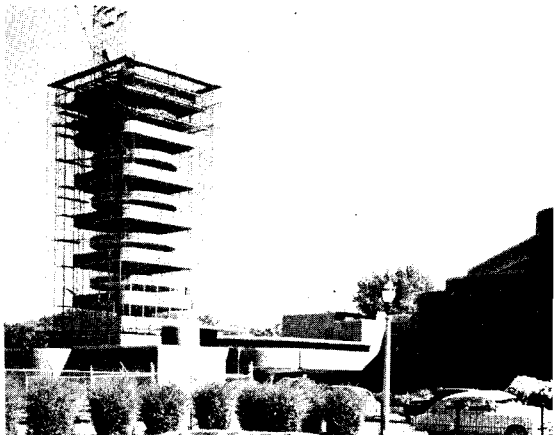
The reconstruction of Colonial Williamsburg and Tryon Palace and the restoration of Savannah, Ga., and Portsmouth, N.H.: Mr. Rockefeller's generosity in rebuilding much of Williamsburg as it was in the early 18th century has not only given us our largest lived-in museum of architecture, but has also awakened the country to a keener sense of heritage and the need for its preservation. The beautiful Tryon Palace reconstruction in New Bern, N.C., is second only to Williamsburg in importance and, like it, was made possible by the discovery in England of 18th century drawings of the originals, plus copious inventories. Portsmouth, N.H., with its Strawbery Banke restoration and Savannah, Ga., have both embarked on extraordinary efforts of rehabilitating their 18th and 19th century national inheritance. The citizens of Savannah got together and purchased hundreds of once-handsome old houses that were in danger of falling apart; these they have totally rehabilitated and now sell under strict controls. The Davenport House, for instance, was sheltering eight slum families when purchased in 1958; it is now the delightful headquarters of the Historic Savannah Foundation. Charleston, too, has done extensive renovation.

The bridges of the U.S.: Ultimately, architecture and engineering are concerned with space, and our nation's bridges are chief among conquests of space. The first notable victory over a river was the Eads Bridge at St. Louis, a triple arch, 1,524-

foot span, named (for once) for its daring and neglected designer, James Buchanan Eads, late of Lawrenceburg, Ind. Eads pioneered both heavy steel bridge construction and pneumatic caissons. Moreover he *walked* across the bottom of the Mississippi (in diving bell) to feel out the strength of its fast flowing waters. The German-born John Augustus Roebling was responsible for that great achievement, the Brooklyn Bridge. The Swiss-born Othmar H. Ammann was either designer or consultant for the George Washington, Bronx-Whitestone, Golden Gate and Verrazano spans. The brilliant work of these men epitomized, it might be said, the boldness of concept for which this country is renowned. It is unfortunate that the architects of the 19th century did not pick up this engineering audacity. However, near the west end of the Eads rises what many consider our most impressive single statement of the 20th century: Eero Saarinen's stainless steel gateway arch in St. Louis.

The skyscraper: From the Chicago school of the 1880s and '90s to Rockefeller Center of the 1930s and the World Trade twins of today, the skyscraper changed American cities from horizontal to vertical. Whether a curse or a blessing, it rose through the skill and resoluteness of our architects and engineers, the latter being too often insufficiently credited. Yet sad and puzzling as it may be, the design and financial advantages of our greatest group of highrise buildings—Rockefeller Center—has been almost consistently ignored by subsequent urban development (including the center's own expansion westward). Rockefeller Center's architectural unity plus diversity, its stunning scale and varied daylight-hour activities make it the spontaneous core of New York City. There is no finer grouping in the world.

The Tennessee Valley Authority: During the '30s, the TVA set out to rescue a



Johnson Wax Co. (11). Exhibits 'the fantastic scope of Wright's creativity in structural systems, materials and forms.'

David R. Dibner, FAIA

large chunk of a half dozen depressed states and succeeded so brilliantly that much of the developing world has looked to it for guidance. Hydropower was the first concern (later—and sometimes controversially—supplemented by coal and atomic energy), but TVA also wanted to restore to health an abused natural environment and a deeply distressed populace. In designing dams, powerhouses and even gantries, TVA's architecture department, particularly when under the late Roland Wank, set the highest standards. It is our finest industrial/social effort.

FLW, Mies, SOM: Frank Lloyd Wright, through talent and tongue, put architecture in America into the vernacular. He was probably the only architect produced by this nation whose name was known to millions. His wonderful works speak for themselves. Mies van der Rohe influenced the design of more buildings in more parts of the world, especially the U.S., than any architect since Palladio. He not only purified architecture, but took steel to an ultimate achievement. Skidmore, Owings & Merrill showed Big Money—very likely for the first time—that good architecture could also be good business. SOM transformed the architectural image of banks (Manufacturers Hanover Trust in New York City), revealed the possibilities of suburban corporate headquarters (Connecticut General, Reynolds Metals, Emhart, etc.) and designed a wide array of buildings of distinctive architectural quality and at times of pioneering freshness.

In summarizing today's activity in architecture, it is fair to say that there is more good contemporary architecture in the U.S. than in any other country. (It also has more bad.) Encouraging as this may seem, it falls far short of what we should be producing. Our cities have been turned over to the automobile, our coastlines raped by developers, our public housing—what there is of it—is inexcusable. Most of northern Europe can surpass us in these areas. In addition, a creeping urge for novelty for novelty's sake and even monumentality are evident among too many architects. But cheers: Let us regard our past with justifiable pride and our future with determination to design a finer tomorrow. This, indeed, is our mandate.

Wolf Von Eckardt, Hon. AIA

A newly crowned beauty queen, inevitably asked about the man in her life, inevitably answers: "I like my daddy best." You ask me about architecture. Well, I like my house best. It's a **Victorian brick rowhouse** in the Dupont Circle area of Washington, D.C., built in 1886 by an unknown speculative builder, and similar to thousands of other Victorian rowhouses all along the country's Eastern seaboard. While the house itself does not, of course, represent America's proudest architectural achievement, it does represent, I think, the apogee of the city in Western civilization.

Despite the shame of its tenements, the Victorian city, with its streetcars, home deliveries, pneumatic mail distribution and countless other amenities, functioned pleasantly and well. Its middle-class rowhouse, with its kitchen and dining room in the semibasement, leading out into a shaded back yard, its high ceilings and commodious vertical arrangement, affords a livability that even more expensive modern houses cannot match. Its animated and ever-varied facade gives each house identity within a harmonious setting.

I like **Brooklyn Bridge**—a world milestone in the history of engineering, as well as an inspired work of architecture. This is where heroic, modern New York City, where modern America began. There has been more poetry written about Brooklyn Bridge than about any other structure.

I like **Central Park** in New York City. Olmsted's great creation was perhaps even more influential than the work of father and son Roebling. It is not strictly architecture. But, then, what is architecture without the spaces in-between?

I like **Grand Central Terminal,** a triumph of American Beaux-Arts, sound urban design and brilliant traffic engineering. It still functions superbly well. And we have again become fond of what Vincent Scully called "that blessed sense of civic excess."

I like **Rockefeller Center**—a sort of vertical Brooklyn Bridge. It has that same Promethean power. It also displays a remarkable sense of civic responsibility in the way it treats people and gives people a treat. Watch the faces of the people who watch the skaters.

I like **Lake Anne Center** in the new town of Reston, Va. It shows that we can have a humanist architecture, that we can recreate the romantic atmosphere of the medieval small town with all the modern conveniences and without mawkish esthetic compromise.

I like **Dulles International Airport** terminal. As Eero Saarinen said the last time he saw it, "Boy, we've really got something this time."

In the Midwest, just about everything **Louis Sullivan** has done; **Saarinen's arch** and Chloethiel Woodard Smith's **LaClede Town** in St. Louis.

Out West, **Ghirardelli Square** [**above**]—the sheer genius of converting an old chocolate factory into an urban delight! The inspiration helped more than anything else to advance the cause of "urban conservation," rather than cataclysmic "urban renewal."

Ford Foundation Building (11). 'The glazed garden is not only a fine place to walk through, but also an exciting daily experience for those who work there.'

Chloethiel Woodard Smith, FAIA


Moments to Remember...in Snapshots

Grand Central Terminal (10). 'It combined with Park Avenue to form a great processional climax to a continental transportation system.'

John F. Hartray, AIA

Joseph Esherick, FAIA

The phrase "America's proudest architectural achievements" has a tendency to floor me and stop all thought processes, but I'll pause briefly, take a deep breath and see if I can fire up. My suggestions are highly personal, limited to buildings I have seen.

Wharton Esherick's studio and house near Paoli, Pa., is the best house I have ever seen. It is small, but it is one of the most sensitive and beautiful structures imaginable despite the fact that it is wholly unpretentious. A finger was never lifted for the sake of appearances. Everything about it is real and useful and intimately related to its setting. It could be argued that I am biased, and I *am* deeply influenced by recollections of many pleasant days spent there.

In the late '30s, I worked for Wharton as an apprentice. After I had moved away from Philadelphia, I saw him in the studio on my relatively rare return visits. My memories are of great evenings with Wharton and Lou Kahn and Jean Francksen and others in that wonderful warm room off the kitchen where everything seemed to happen. Now Wharton is gone and there are too many things in the studio, but it is still a marvelously alive and beautiful place.

The Philadelphia Saving Fund Society Building is still an unbelievably good structure, although the banking floor has been ruined by an insensitive management. Much of the building remains as it was; the stair off the banking floor up to the safety deposit boxes is one of the most beautifully detailed pieces of work I've ever seen.

While I am on Philadelphia, I should mention the many **quiet, small houses** that were done by people like Edmund B. Gilchrist and Robert McGoodwin—and some of Mellor, Meigs & Howe's smaller works ought to be recognized. Most houses I am familiar with are in Chestnut Hill, many of them built by developer (he would hate the term) George Woodward. I could lead you to the houses, but I can't remember the names of the streets, except for a fine, small brick rowhouse my family owned at 8726 Germantown Ave., one of a row designed by George Howe. I went to Germantown High School and walked down Germantown Ave. from Chestnut Hill every day through an extraordinarily beautiful collection of old buildings. **Cliveden** is well-known; less well-known is the **Green Tree Tavern** and across the street and a little further is **Wyck,** one of the best.

Bill Wurster's **Yerba Buena Club** at the Golden Gate International Exposition of 1939, a building now destroyed, was a beautifully clear and simple structure. I will never forget it, and somebody ought to dig up all the facts about it someday and republish it.

There are **two areas in San Francisco** which contain beautifully simple collections of buildings, in both cases all residential—one mostly houses and the other houses and apartment buildings. The better known collection is on Pacific Avenue on either side of Presidio. There are buildings by both well-known and less well-known architects. The other collection is on Russian Hill, with a beautiful group of apartments along the east side of Jones and a remarkable collection of fine buildings on Vallejo between Jones and Taylor. One of these is Willis Polk's own apartment, the best set of living spaces I have seen in the Bay area.

In Berkeley, Maybeck's **First Church of Christ Scientist** [**below**] is a magnificent structure which shows how to work with natural light in a definitive way. Unfortunately the message got through to only a few people. The **Hearst Women's Gymnasium** by Maybeck and Julia Morgan is another wonderful building full of the bazaar idiosyncracies for which Maybeck should be better known. Also on the Berkeley campus of the University of California (as the Hearst gym is) are two very fine, simple buildings of John Galen Howard: **Northgate Hall** (the old "ark") and the adjoining **Naval Architecture Building,** both disciplined wood structures. Berkeley is full of fine, small buildings, many by such people as Walter T. Steilberg who deserve more recognition.

Finally, let me argue for some anonymous buildings. The great **grain elevators** built wherever wheat and other grain field crops dominated are often superb and majestic. The **American barn** is consistently a beautiful thing, largely because it was built with local materials and the skills available for clearly understood purposes. If we are to celebrate the ordinary, I propose that we look carefully at the American barn and think through how it came to be what it is. Now for the really final, final achievement I propose the **California bungalow.** An anonymous form built by innumerable builders, but not uninfluenced by architects.

The common strain that runs through the Philadelphia and San Francisco buildings I have mentioned is that the work was highly regional. Although some of the architects were reasonably well-known in their own communities, they weren't real celebrities. One of the regrettable things in American architecture is the personalization and hero-making, often to the extent that the "form givers" become more important than the form.

I have emphasized Philadelphia and San Francisco, but in every American city people were working to solve real and serious problems without massaging their own egos. I will never forget one day I spent with L. Morgan Yost in the out-

skirts of Chicago. He showed me a tremendous number of very beautiful things done by an essentially anonymous group of contemporaries of Wright. Yost argued, quite correctly I believe, that our perception of these fine works was obscured by the persistence of hero-making myths and ideas surrounding Wright. What is really interesting in all these cases is the enormous richness and high quality of work of a great many people—not just a single practitioner. There is a lesson here we seem to resist learning. I hope it isn't so firmly built into the system that we will be forever blinded.

Carl Feiss, FAIA

Monticello sits awkardly on the reverse of the Jefferson nickel; Henry Bacon's Lincoln Memorial does better on the $5 bill. Robert Mills' and Thomas U. Walter's dull facade of the U.S. Treasury validates the $10 bill. The higher denominations are unfamiliar to me but possibly they also memorialize our proudest architectural symbols. I have not checked at the bank where such an inquiry, considering the state of my account, might be open to question.

But choosing some of our best-known architecture to embellish cash and postage stamps and to reproduce as bronzed toy banks to sell in Washington, D.C., and Philadelphia souvenir shops obviously amounts to a firm accolade to selected structures. Henry Ford went a little further by memorializing Independence Hall in full scale at his museum at Dearborn, and the Lord knows how many Mount Vernons there are in how many contemporary manifestations.

Who is to decide on the proudest architecture in this country? The academically trained architect? The historian? The specialized journalist? The teacher? Uncle Sam or Joe Zilch? I opt for Joe.

What Joe knows about our proudest architecture is not affected by comparison with foreign competition. He has seen plenty of pictures in magazine ads for travel and perfume of the Taj Mahal, Chartres, the Parthenon and St. Peter's. He may have noticed Angkor in recent war news photos, and he knows the pyramids behind the camel, despite the surgeon-general's warning to look the other way.

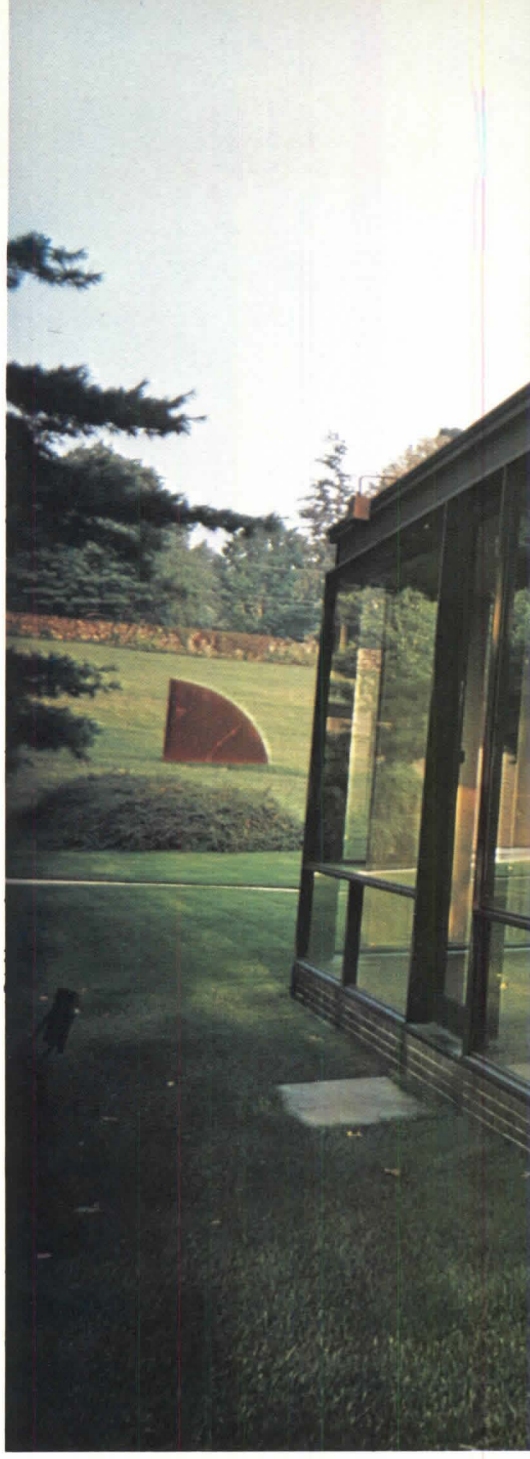
But none of these things is American. Someday he may take a bet to walk up the Washington Monument. The same will be true, after a while, with the younger Saarinen's super arch in St. Louis. But the unquestioned greatest symbol, the apogee of Joe's knowledge and reverence, if he has either or both, is Walter's dome of the U.S. Capitol, exteriorly a better revealed architectural feature than Houston's Astrodome and any of its contemporaries, including Nervi's at Norfolk, Va.

Some will prefer Brunelleschi, Michelangelo or Christopher Wren, but what Walter did with cast iron on interior and exterior architecture is best suited to the programmed grand symbol design. No one mistakes it for anything else, even its lesser adaptations on dozens of state capitols. The great Capitol dome may press too heavily on the building forming the base, but it does not destroy it. It must be considered the architectural truism so obviously the nation's one architectural symbol above all others, known for what it is throughout the country by every generation, and overseas as well. If there could be criteria for the most successful and therefore presumably the proudest U.S. building of the past 200 years, then this one is it.

William Marlin, a discerning critic, deals carefully with our architecture from the beginning of the Chicago school until today in *The Saturday Review* for Dec. 13, 1975. He places the skyscraper and our other personalized innovative architecture of the past century (Wright, Mies, et al.) in very humble perspective and perceptively says in essence that the last 100 years have produced fine architects and fine buildings but together or apart they do not "secure a strong natural grip on what constitutes the human soul." This is much like Daniel Burnham's "magic to stir men's souls." You don't need the full moon to feel this in the Piazza San Marco or the Alhambra. But you need it badly all over this country as you wander, dwarfed among the biggest boxes in history. Boxes they are, all beautifully gift-wrapped in glitter, fouled by the human and physical decay around them.

Very fine architecture has never had to be big to be loved or admired. Nor does it have to be used for practical purposes always or pay its own way. A great symbol is enough in itself, although one puzzles: Would the Lincoln Memorial be as beautiful if it had been dedicated to Hitler? Angkor and Machu Picchu are beautiful, stirring, anonymous. So, in a sense, is the pure abstract symbolism of the St. Louis arch of glittering steel. It compares with the dome of the U.S. Capitol, superbly architectural, stirring, beautiful and of no practical or social value.

Despite our architectural pyrotechnics of the first 200 years, we did not succeed in combining and harmonizing humanism and technical competence in our buildings or our cities or the entire man-built environment. This failure is so obvious that I beat here the cowardly retreat to abstract symbolism in search for a positive but unhappy answer. Long before the next 200 years are up, the happy answer must be found. The recent Philadelphia meeting of the Club of Rome warned of the danger to the world of technocratic oriental despotism with Stalinism and Nazism as prototypes. Technocratic answers come easily to the moon walkers but quelling comprehendible riots in central cities does not.



Johnson glass house (10). 'This transparent cube by Philip Johnson, with its jewel-like precision, acts as a foil to nature.'

Stanley Tigerman, FAIA

No, the last 200 years did not produce proud architecture. That can only be the architecture which provides man with the environment within which he may independently pursue happiness. If we were to search for the precursors of what should be the things to come, they may lie in the realms of ideas and not in comprehensive architecture, the design of the total environment. This we have neither designed nor invented. But the ideas have been expressed over and over again. However, neither the methodology, the systems nor the management has been clarified, let alone the design. Hidden within the great mass of 200 years of creativity may well be bits and pieces of the specifications for our search for a national and world comprehensive architecture.

But we cannot glue together bits and pieces and create the new design. The specifications are partly written, estimates are partly cataloged, construction systems, energy systems and materials are partly considered. The design itself remains a vaguely identified purpose and there is little conceptualizing of the essential enduring structure to be built. We need a true architectural congress to consider our social irresponsibility; to challenge our ability to meet the common necessities, dangers and hopes of our fellow world citizens. Whatever we are to build as the architecture of the future cannot be what we have just finished building. It is not enough and never was, for all of 200 years.

"Knowing them shipwrecked who
were launched for islands,
We honour founders of these
starving cities,
Whose honour is the image of our
sorrow. . . .
And we rebuild our cities, not
dream of islands."

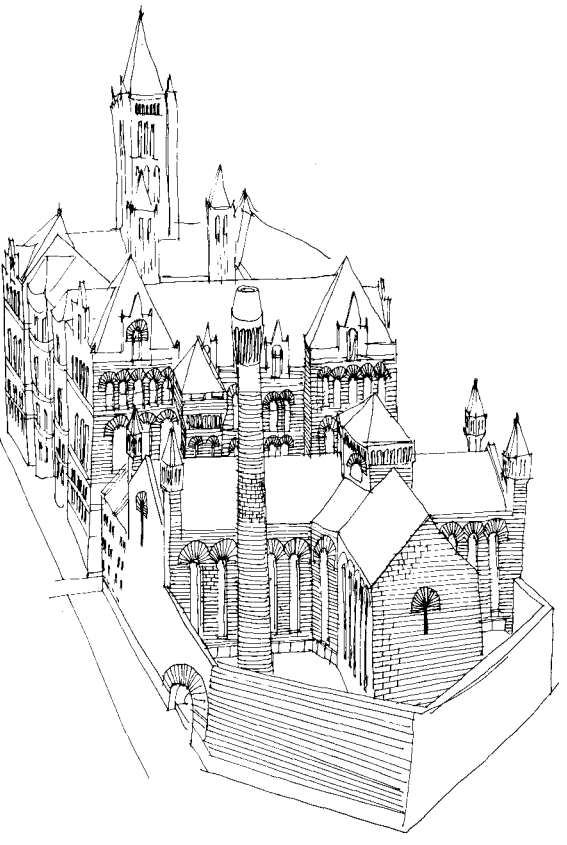
—W. H. Auden
Hearing of Harvest

John J. Desmond, FAIA

L'Enfant plan, Washington, D.C.: The baroque plan of Washington's governmental section relates to a series of hills on the Potomac and to the city's open spaces, mature plantings and monuments. In spite of needed adjustments, the plan serves as an inspiring and workable core for contemporary Washington, which can become the great city of tomorrow.

University of Virginia, Charlottesville: Jefferson's original and complete synthesis of inventive program, plan organization and inspired siting. These are combined into a superbly expressive architectural composition which heralded unmistakably the value given to education by the new republic.

Washington Monument, Washington, D.C.: The result of a national competition, the structure by Robert Mills was adjusted later to the simple monolith which now so



ALLEGHENY COURTHOUSE
BY JOHN DESMOND

thrillingly and convincingly memorializes its subject.

Allegheny Courthouse and Jail, Pittsburgh: A huge complex by H. H. Richardson, conceived in the best spirit of a confident age. It marks the turn from eclecticism to a search for expressive forms (energetic, massive) reflecting a new age.

Reliance Building, Chicago: A rhythmic tower of light, expressing the new techniques of fireproofed steel construction. The search for light and its organic expression through structure has given this building its own beauty.

Carson Pirie Scott & Co., Chicago: The culmination of Sullivan's esthetic expression of the Chicago frame. A spare, clean building, it retains as the architect's signature a skirt of exquisitely detailed and executed metal castings.

Unity Temple, Oak Park, Ill.: A dynamic, fiercely original work by Wright, alive with multiple meanings—the central anchor of hearth as home, the soaring thrusts and counter-thrusts toward the prairie horizon, the rhythmic march of mullions, stone sills, terraces and piers, all forming a consummate work of art.

Radburn, N.J.: America's finest example of residential site planning, by Clarence Stein and Henry Wright. It stemmed from the British garden cities but advanced from there in its separation of automobile and pedestrian spaces and private and community outdoor spaces.

Rockefeller Center, New York City: Conceived during our country's worst depression, Rockefeller Center stands as a monument to hope and creativity; its economic success is second to its success as an urbane focal place for people.

Falling Water, Bear Run, Pa.: A restatement by Wright, 27 years later, of the Robie house principles, this time in a dramatic response to a picturesque rural site. The structural techniques are more advanced and more clearly expressed; the contradictions of structural freedom and dependence on gravity are more dramatically expressed.

Jefferson Memorial, Washington, D.C.: John Russell Pope's distillation of classical forms to embody the memory of one who himself distilled classical ideals to formulate the principles of our new country's constitution.

Seagram Building, New York City: A culmination of 60 years of searching out and expressing the beauties inherent in modern technology. It is a cool, sure statement which stands as our finest lesson in urban design.

Dulles International Airport, Chantilly, Va.: Standing proudly on a rolling knoll in Virginia, this building suggests both the ideal of flight and our inevitable return to the ground. Saarinen poetically accomplished this with a building which is a masterpiece in its ability to simplify complex traffic patterns through sophisticated technology.

Boston City Hall: This ruggedly mannered building and its centripetal terraces served as a catalyst to revitalize an entire area in much the same way as did its ruggedly vital crosstown neighbor, Trinity Church, in the previous century.

Peabody Terrace, Harvard University, married students housing, Cambridge, Mass.: In this sophisticated building, the architects have restated the immortal fact that cities and buildings can be of an infinite quality rather than a series of finite unrelated elements—a principle which has been returned to our concepts of urban design.

Ritter house, Atherton, Calif.: A quiet, refreshing and inspiring example of the simple, sensitive touch in architecture. As in most of his work, Wurster here simply adjusted the going vernacular enough to make it sing its own song—the best of the Bay Region school.

American Republic Insurance Co. Building, Des Moines, Iowa: The corporate office building as a symbol is here expressed in a confident, handsome frame of precast concrete by SOM. It is perfectly detailed and has attained a level of finish and furnishing which stands as a tribute to professional competence in this century.

Kimbell Art Museum, Fort Worth: A consummation of architecture by Kahn, in which a classically organized composition deals uncompromisingly with natural light, sophisticated modern structure, automobile access, service, gallery and park to form a vital and seemingly timeless building and experience.

Douglas house, Harbor Spring, Mich.: The promise of the international school achieved; this house by Richard Meier is a multidimenional work of art superbly complementary to its site.

John Blanton, AIA

This is a revised list. It is almost identical to my first one which had several buildings I thought I *should* include, but omitted some of my special favorites. All of the buildings on this list, after many years, still produce a strong response from me either in photographs or memories.

My list is heavy on the home, which has been the proud product of our country and the most important building type in the development of our free, rational (modern) architecture. The list is also heavy on the developmental period when our building culture was taken seriously by people of other countries but, best of all, by ourselves.

Parson Capen house, Topsfield, Mass.: This 1683 house is a functional building of its time with *integral* style. Who could ask for anything more?

The University of Virginia, Charlottesville: This would have been an outstanding accomplishment for anyone. The fact that Jefferson was the architect contributes another nonarchitectural dimension.

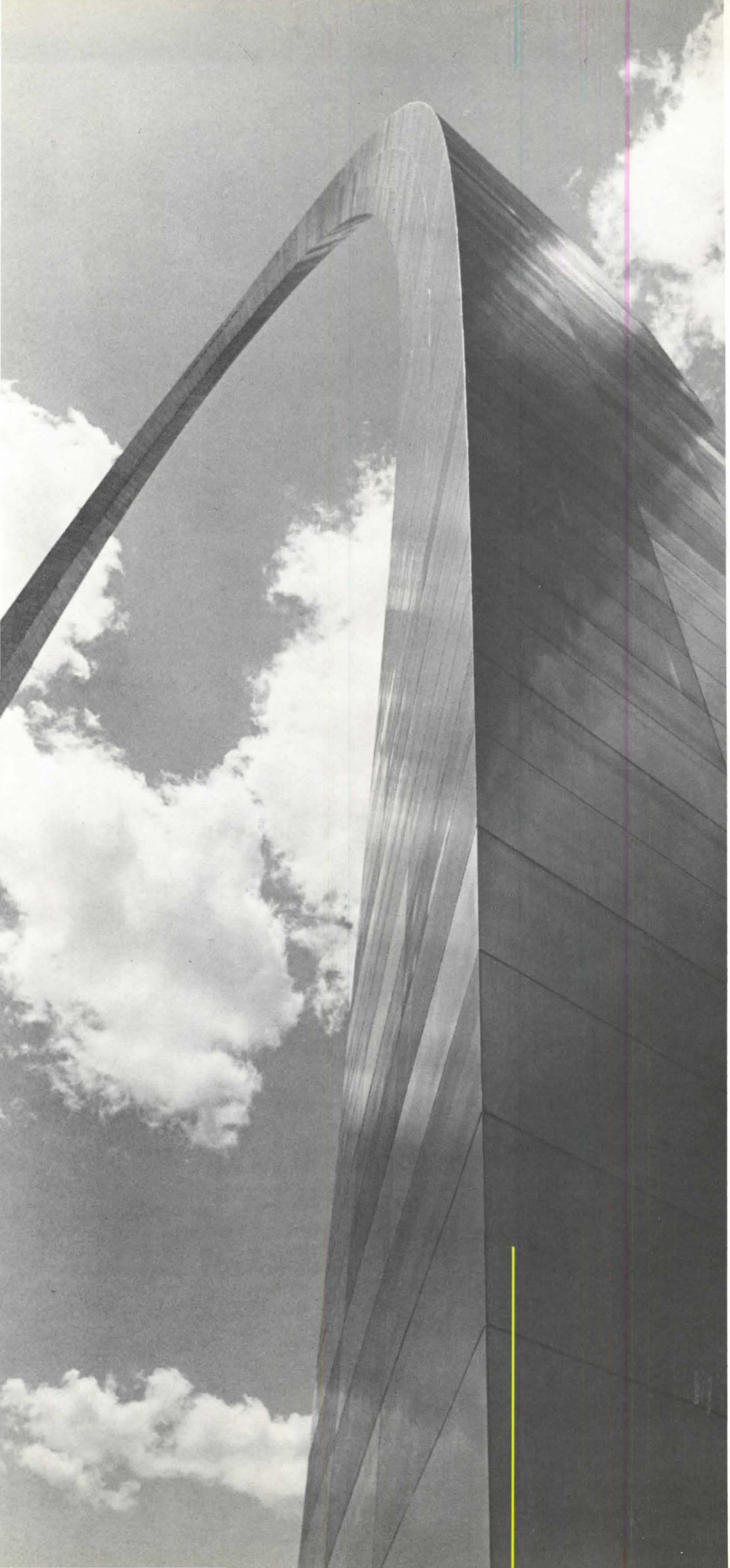
Temple Emanu-El, New York City: Leopold Eidlitz, the architect, was breaking down traditionalism by producing a *horizontal* Gothic building with Saracenic ornament. As with any good synthesis, the result was an instant turn-on, judging from photographs.

Crane Library, Quincy, Mass.: Without losing his robust quality, Richardson supplied more finesse here as well. His romantic overlapping of elements was handled exceptionally well. I think I am somewhat conditioned to the esthetic of this building by later compositions of Wright, but this is an unavoidable phenomenon. The design still stands on its own.

Freer house, Detroit: I only know Wilson Eyre's work from photographs of facades. I love to run my eyes over them. What seems at first very simple is really

Gateway arch (9). 'Innovative, bold, superior even to the Washington Monument.'

Louis de Moll, FAIA



alive with movement from interesting relationships, without becoming strange.

Carson Pirie Scott & Co., Chicago: Sure I respond to the simple exposed frame because it is so modern. But that would not of itself sustain its delight. It was designed by Sullivan to be a visual object from the ground floor ornament to the cornice which was removed.

Robie house, Chicago: The Ernest Hemingway of architecture asserted his cantilevers into space. More importantly, Wright made the result a calming one, rather than a threat, by his ability to integrate a building into a body of wholeness.

Rice Institute (now University), Houston, by Cram, Goodhue & Ferguson: Cram has written about his creative eclecticism on this job way out in the cultural sticks. The results are truly lovable and were a contribution to my educational process when I attended the university.

Schindler house, Los Angeles: There was nothing quite like it before. But it was not just a concept; it was a complete building. Even today it is fascinating. In my opinon, it was the first explicit example of what was to become the main modern esthetic of complete articulation of parts. It had much more integral style and less stylistics than all of Schindler's later buildings.

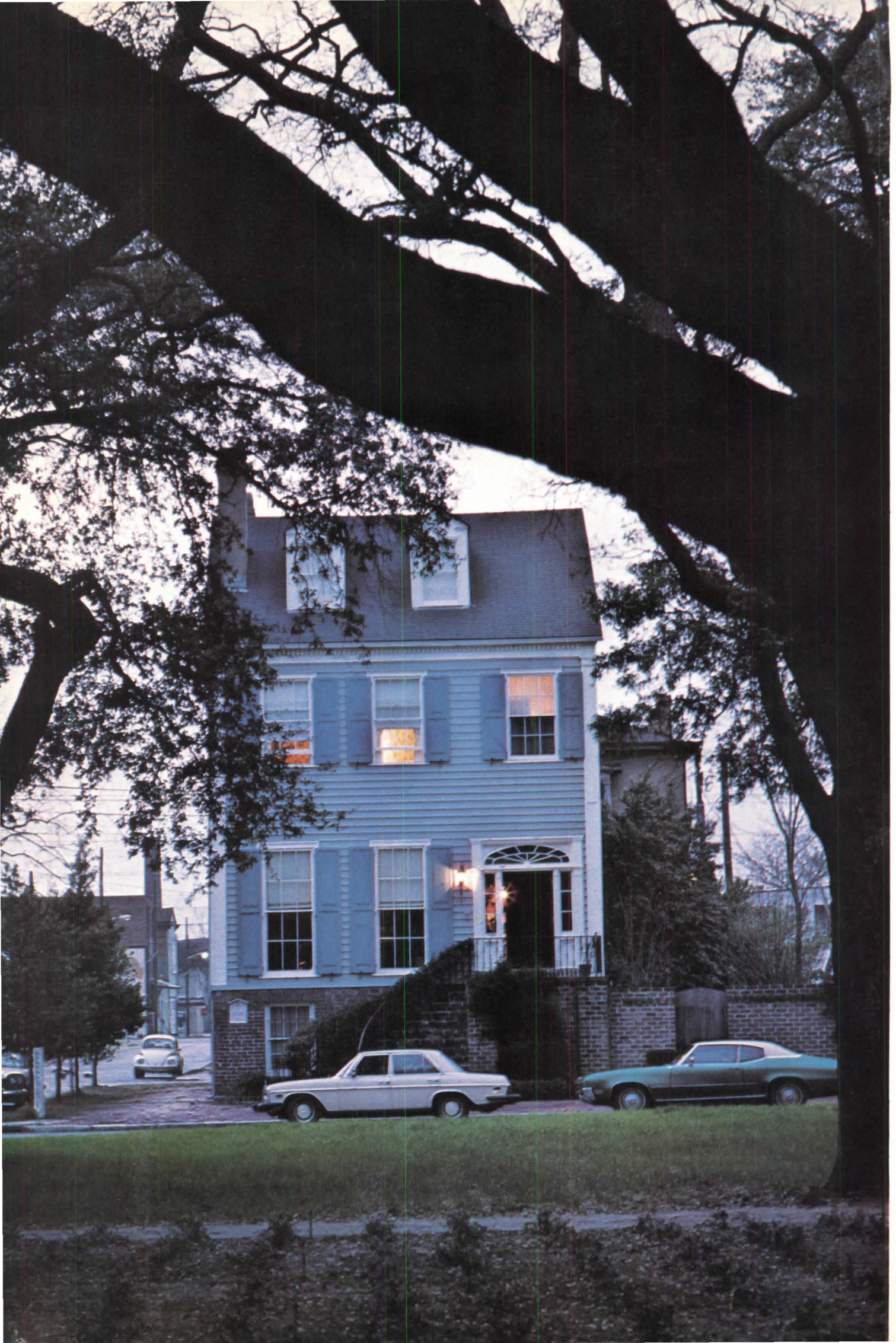
Lincoln Memorial, Washington, D.C.: It is dignified as a monument and truly exciting to experience. I'll never forget leaving the long, hot steps for the cool, larger-than-life presence of Lincoln.

Tribune Tower, Chicago: So sue me; I like it better than Eliel Saarinen's much publicized design that won second place in the competition. This building by Hood & Howells was not designed for one of our more admirable institutions, in my opinion, but the structure has an esthetic life of its own aside from other meanings we read into it (including its nonrational Gothicism).

Lovell house, Los Angeles: Neutra's building followed the articulated effect of Schindler's own home and was in the developing tradition of the International Style. However, it was also quite like nothing before. The windows in the steel framework were the background on which the bits of wall were composed; the negative became the positive. After this building, it became almost a necessity to design the negative shapes and spaces in order to be taken seriously—until recently.

Philadelphia Saving Fund Society Building: Lescaze's early buildings have always been among my favorites. Here the collaboration with Howe was one of those where the result magically surpassed either of the partners. It *may* have been influenced by Neutra's Rush City design and the street level *did* bow to fashion, but it was constructed and it was sensational.

Dow home, Midland, Mich.: This



building by Alden B. Dow is one of the buildings for which I revised my list. Any architect that creative can't be all Wright.

Falling Water, Bear Run, Pa.: It may have been Wright's gesture to the critics who only wanted to see the International Style. It may have leaned heavily on Neutra's Lovell house. It may have had inappropriate Art Deco touches on the fireplaces. Its short horizontals at the corner windows may have been unconvincing, set between banks of vertical fenestration. But if I believed any building could be an absolute ultimate, it would be this one.

Dodge Half-Ton Factory, Detroit: I have doubts: I don't know how the sun heat was handled, for example. I suppose I love this Albert Kahn factory mainly for being a symbol of a pleasant working environment. Very American.

Havens house, Berkeley, Calif.: You know the one: the wooden hillside house with inverted gables. Maybe it was too sensational at the time for many tastes and too tame for many today. It transcends both points of view, however, by its architectural mastery. Designed by Harwell Hamilton Harris.

Breuer house I, New Canaan, Conn.: Breuer at his best. Who could ask for anything more?

Hurschler house, Pasadena, Calif.: The spectacular may or may not be good, but Gregory Ain always shows (even today) that anything thoroughly good is always sensational.

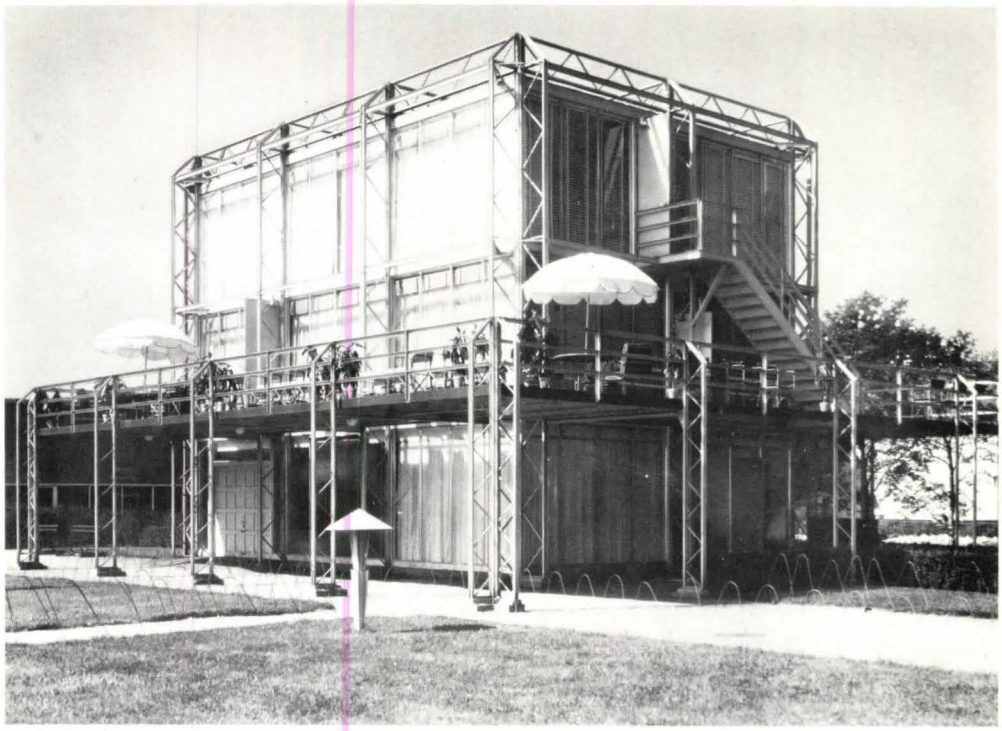
Healy guest house (cocoon house), Sarasota, Fla.: Here we see the same mastery as from Paul Rudolph today, but before his productions became almost as macho as Norman Mailer's.

Stanley Tigerman, FAIA

University of Virginia, Charlottesville: Reminiscent of French gardens, Thomas Jefferson's classical, colonnaded open space is a beautiful juxtaposition of man and nature.

Provident Life and Trust Co., Philadelphia: As an urban infill prescient of so much to come, this muscular study in masonry by Frank Furness added as much power as it did respect for its environment.

Marshall Field Warehouse, Chicago: The Romanesque Richardsonian forms of this building, while recalling British precedents, became in so many ways a precedent of modern American architecture.



The Rookery, Chicago: John Wellborn Root's genius is most clearly reflected here in the spatial arrangements, structure and decoration of his greatest "tour de force."

Low house, Bristol, R.I.: Of all the shingle style adventures just before the turn of the 20th century, McKim, Mead & White's Low house was the strongest influence on future generations of architects.

Carson Pirie Scott & Co., Chicago: Although Louis Sullivan felt deeply about the tall building, it was his 12-story, massive, decorated frame with its Chicago-window infill that was to establish his place in history.

Hearst Hall, University of California at Berkeley: With influence from Gaudi and the Gothic, this strange surreal stage-set by Bernard Maybeck was to establish a California genre.

Flatiron Building, New York City: With this Sullivanesque tower, Daniel Burnham developed a powerful anchor for the development of the tall building.

Robie house, Chicago: In his 1909 Robie house, Frank Lloyd Wright cogently expressed all of the early developments of his multifaceted career—the cantilever, the open plan, the corner window, and, most of all, the openness of what came to be known as the prairie school.

Lovell beach house, Newport Beach, Calif.: Unfortunately overlooked in the race for America's place in the modern movement, Rudolph Schindler's beach house was as powerful an expression of the brute force of raw structure as any building of its time.

Lovell house, Los Angeles: By 1929, Richard Neutra had achieved the first wholly American effort reflecting post-constructivist energies.

Rockefeller Center, New York City: As a study in urban spaces and events, Rockefeller Center by Reinhard & Hofmeister; Corbett, Harrison & MacMurray, and Hood & Fouilhoux was as successful as any other American effort before or since.

Philadelphia Saving Fund Society Building: Because it separated structure from other elements of the tall building, Howe & Lescaze's PSFS was as seminal as any building in the evolution of the skyscraper.

Crystal house, "house of tomorrow," Century of Progress Exposition [**above**]: Long overlooked because it didn't fit the Pevsner-Giedion theory of Chicago's place in the modern movement, this incredible study in raw technology is at least as important as Pierre Charreau's Maison de Verre, and must rank high in the 20th century's "architectural revolution."

Falling Water, Bear Run, Pa.: Falling Water marked the second apogee of Frank Lloyd Wright's career and symbolized a joining of his earlier, open American principles with popular, modern European efforts.

860-880 Lakeshore Drive, Chicago: By far Mies van der Rohe's most important work; 25 years after their completion

The plan of Savannah, Ga. (9). 'Strong, human scale, common squares shared and enjoyed by neighbors. A kind of democratic model for living.'

Chloethiel Woodard Smith, FAIA

these apartment towers are still stunning and startling. Freed from the ground plan, their taut structure, with transparent infill, influenced an entire epoch.

Johnson house, New Canaan, Conn.: This transparent cube by Philip Johnson, with its jewel-like precision, acts as a foil to nature and is as evocative as any post-World War II residence.

Venturi house, Chestnut Hill, Pa.: Robert Venturi's house for his mother was influential in the re-emergence of "symbolic content" in architecture after all the years of formal and structural excesses.

Art and Architecture Building, Yale University, New Haven: A building as complex as its architect, Paul Rudolph, this was one of the more important and necessary adventures of the 1960s.

First Unitarian Church, Rochester: One of Louis Kahn's most simple and poetic statements, the Unitarian Church reflects its author's gentleness.

Jane Holtz Kay

I'm afraid that I'm not up to a conscientious presentation of Serious Significant Work. (I'm feeling a very unhistorical hostility to such things as thin-skinned, upright, skybound buildings; to manifestations of ruthless gridism or, as the Museum of Modern Art's book titles them, to the "Great Addresses" that made America Great.) If staple choices are in order—from Jefferson to Bucky Fuller's "freebooting on the frontiers of architecture," as Reyner Banham puts it—I could amplify. I paid my first visit to Racine, Wis., to see Wright's Johnson plan and house, for instance, and was moved to recall what architecture was once supposed—ever able—to be. By and large, however, I renege on my duty to comprehensiveness via the history books, with a la mode inserts of historic updating (a neglected Art Deco building) or Venturiism (a down-and-out motel).

Here, then, are some *Places Where I've Done Time,* in William Saroyan's words, to which I feel a living connection—a bit provincial but, it is hoped, not too

bicentenially pompous or pedantic:

Boston's Back Bay: An urban organism, if you will. Never mind that it's sumptuous and hard-edge, where else have architects created such an awesome *entourage* in the U.S.? If architecture is the "application of reflection to building," then this vast "application," done over time, ruled to order and still livable, remains, as the Boston Museum called it a few years ago, "The City as a Work of Art." A context for endless monuments, too (Richardson's Trinity Church, McKim, Mead & White's Boston Public Library, not to mention the Public Garden, Commonwealth Mall [**top**], churches and recent "name" additions), this area slots the most aristocratic and recessive buildings into an urban environment, with—dare one say it?—a sense of place.

Cottage City, Oak Bluffs, Martha's Vineyard: I pick this as a New England stand-in for vernacular, nonarchitected architecture—all manner of anonymous structures, barns, silos, houses, churches, too numerous to mention; of fences, stone walls, Main Street enclaves. A bit ratty, red-colored, torn-down. Still, here it is that Downing dreams and Carpenter Gothic imagination fancified a free-for-all to adhere to one turf (the Methodist Meeting Ground) with a vigor and flair that, though raveled, demonstrates individual and communal talents.

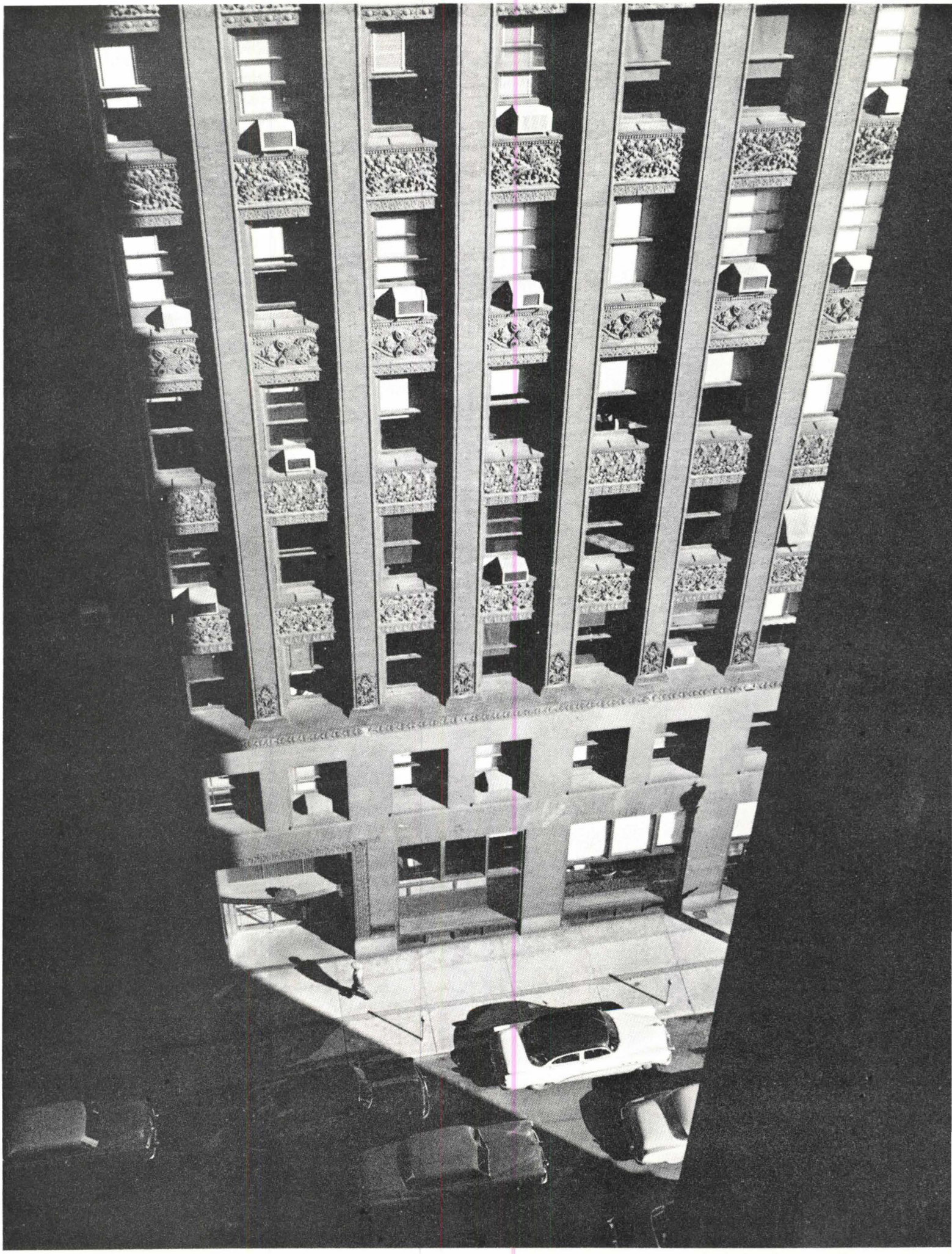
The "emerald necklace": Frederick Law Olmsted played Pan to Boston, though we needed Lewis Mumford to remind us. Olmsted did similarly elsewhere, of course, though in more isolated locales. Here you can follow his often uncredited work of landscape architecture through Fen and marsh: a disciplined landscape which even casual urban and municipal vandalism can't un-do.

Boston City Hall: The creation of Kallman, McKinnell & Knowles is irresistible. If the heartland of *The Last Hurrah* can produce memorable—even too flamboyant—city architecture, it is a proud moment in the recent past. Yes, it is monumental, intractable; yes, it sets itself too far back on a "fascistic" plaza, as others have said, but the uses of a dramatic billboard become apparent to anyone who has seen the large declarative ceremonial hall used for a police class graduation. Boston brick and concrete, 19th century structure and 20th century cubist reminiscences, *all* these aspects shadow its recesses and give even those dubious about grandeur a sense of its urban achievement.

The Statue of Liberty: Emotional, technological, what prouder achievement have we? At once ponderous and pop, a shell of past glories or an enduring token, it is the most symbolic and the most open to interpretation of any "achievement" in the U.S. built world. The essence of ambiguity, of conflict and contradiction reside in its outlines; of resolved classical certainty, too. Designed by a non-American (which makes it most American of all, of course); super-scale, super-evocative levels of meaning cling like the layers of

Wainright Building (8). 'An excellent example of one of the earliest breaks from traditional masonry construction through steel frames.'

R. Randall Vosbeck, AIA



grime in the wormy city it so fittingly surveys. Anticipation, welcome, disenchantment. Pick what it embodies for yourself. What other work of architecture (certainly not the endlessly repetitive highrises) has spoken—speaks—so resonantly to so many generations?

Vincent G. Kling, FAIA

My choices of America's most significant buildings are:

Taliesin East, Spring Green, Wis., and **Taliesin West,** Paradise Valley, near Phoenix: Definitive examples of America's master architect. They embody everything Wright preached.

Dulles International Airport, Chantilly, Va.: Handles a complicated mode of travel with imagination, a minimum of pedestrian movement and of building area and of confusion, using only the essentials.

Cranbrook Academy of Arts, Bloomfield Hills, Mich.: An artists' community, reflecting charm, warmth and elegance in both interior and exterior spaces.

Monsanto Cafeteria, St. Louis: Unique in that it is a completely successful underground building, employing a single material: concrete. A sculptural people place accomplished by an exciting interplay of overlapping volumes and spaces.

Trinity Church, Boston: Richardson at his neo-Romanesque best. Old world character, subtle natural light and dramatic space. The building achieves excellence through a bold use of materials and forms.

University of Virginia campus, Charlottesville: Jefferson's best in concept, as well as in design development. Refined detailing, color, form and proportion. He not only designed the buildings, but he also designed a university.

Everson Museum of Art, Syracuse: A neatly understated structure. Pei has expertly exploited concrete material. Here is a pleasant, interesting assemblage of interior spaces, with a variety of volumes appropriate for such a museum.

Christian Science Church Center, Boston: Pei makes a maximum urban statement with a minimum of effort. This group of buildings around a reflecting pool is handsomely detailed.

Lever House, New York City: Its design presaged later changes in zoning setback ordinances across the country. It became a significant postwar model for highrise building design.

Boston Public Library: A superb example of the classic revival and an altogether appropriate building for its time, place and use.

Independence Hall, Philadelphia: Charming, delightfully proportioned in the Georgian manner, and all accomplished by relatively unknown architects.

Pennsylvania Academy of Fine Arts, Philadelphia: A rediscovered example of Victorian Gothic revival. Done with rich flamboyance and charm.

Carson Pirie Scott & Co., Chicago: Sullivan introduced expressed craftsmanship into the marketplace. This is a structure with handsome proportions—a forerunner of the contemporary skyscraper.

Farnsworth house, Plano, Ill.: Mies was a master of understatement. This house expresses his philosophy with great refinement and simplicity.

Lincoln Memorial, Washington, D.C.: A superb example of the Greek revival.

Philadelphia Saving Fund Society Building: This was the most significant skyscraper design of the Great Depression and the pre-World War II period.

Vieux Carré, New Orleans: A wholly homogeneous group of buildings.

Plantation homes of the Deep South: Significant in their elegance and accommodation for gracious living.

Monadnock (9) and Reliance (8) buildings. The surviving structures of the Chicago school comprise 'one great statement of indigenous American architecture.'

Nathaniel A. Owings, FAIA


LEFOLT & COMPANY
KAROLIS
men's wear
KAROLIS
HOUSEHOLD FINANCE LOANS HFC

H. H. Waechter, AIA

In trying to find my choice examples, I realized that there are just too many buildings of great importance in which we can take pride. But not all of them are seminal in the historic sense, and I decided to narrow the number to a few which I think represent an archetype in an evolutionary process from which, generally speaking, all other types have developed or are related. I realize that many outstanding buildings, designed according to the taste of the time, became popular and will be named as proud achievements, but I prefer to look to those achievements that have something germane for the country's development.

Consequently I found developments after World War II difficult to assess—we are still too close to make a valid statement. Perhaps Louis I. Kahn's work belongs to the greatest achievements of our time, and he certainly influenced architecture internationally during the '50s and '60s. Most original, and thus American, were buildings of advanced technology, an example being the U.S. Pavilion at the Expo '67 in Montreal, with Buckminster Fuller's dome.

Some innovations in planning of certain building types, primarily schools and hospitals, could be mentioned as outstanding American contributions, as well as industrial buildings, particularly by Albert Kahn, and airports, especially Kennedy, Dulles and Tampa.

Achievements as a source of pride are not so much a matter of individual judgment. Public pride is fickle. More decisive than matters of form-giving and decoration in architecture is the social significance within the evolutionary process. Artistic virtues can become significant only if social characteristics are also significant. New and spectacular buildings always tend to arouse public approval, but the latest achievement may not be remembered in another 200 years.

I believe that we can safely identify and group into four sections the following buildings as belonging to this nation's proudest architectural achievements:

Monticello, near Charlottesville, Va.: American architectural tradition is rich, and endless numbers of sumptuous adaptations of the Georgian style come to mind, built before and after the Revolution. Jefferson gave the new federation a Roman appearance as most representative of an independent state. John Adams, of course, thought little of the display of expensive taste.

Looking at the early buildings of the Republic, however, one discovers the prevalence of disarmingly simple wooden structures, typical of a country with an expanding frontier. Yet, there were gifted architects on hand; Latrobe, for example, preferred the Greek architecture of ancient democracy as benefitting a new America, rather than the style of imperial Rome. He could have been a genuine New World architect if he had had a chance to do what he preached, that is, to build not for the sake of stylishness, but for use.

Under these circumstances, it is noteworthy that the most imaginative gentleman architect among the landed amateur designers, Thomas Jefferson, could exert the kind of influence that pointed beyond the matter of taste. He was most inventive in planning and in the application of his mechanical inventiveness. Despite his philosophical dualism that disallowed a proper position for his practical inventions in favor of an esthetic preconception, he nevertheless accomplished with Monticello the feat of adding a new dimension in his design to the inflexible formalism of the prototypes. The personal stamp of his genius is what makes Monticello one of the proudest achievements.

Carson Pirie Scott & Co., Chicago: No building type is so typically American as the highrise commercial structure, the skyscraper. In search for the most influential example, one must single out Sullivan's department store in Chicago, despite the fact that some of his other tall buildings, notably the Wainwright, or Burnham & Root's Monadnock Building and Jenney's Home Insurance Building [**left**] were earlier. Sullivan's great department store, with its clear expression of construction, has become a prototype, here and abroad. His flowery ornamentation is not spread over the facade but effectively limited to the two lower stories where it can be seen to advantage from the street level. Though I am most taken with this building, we must not forget that it is but part of the Chicago school, which was the most independent achievement that America has produced, together with the related prairie style of houses. This relative independence amid a built environment of foreign stylistic adaptations may not easily be accomplished again in view of the global architectural cross fertilization.

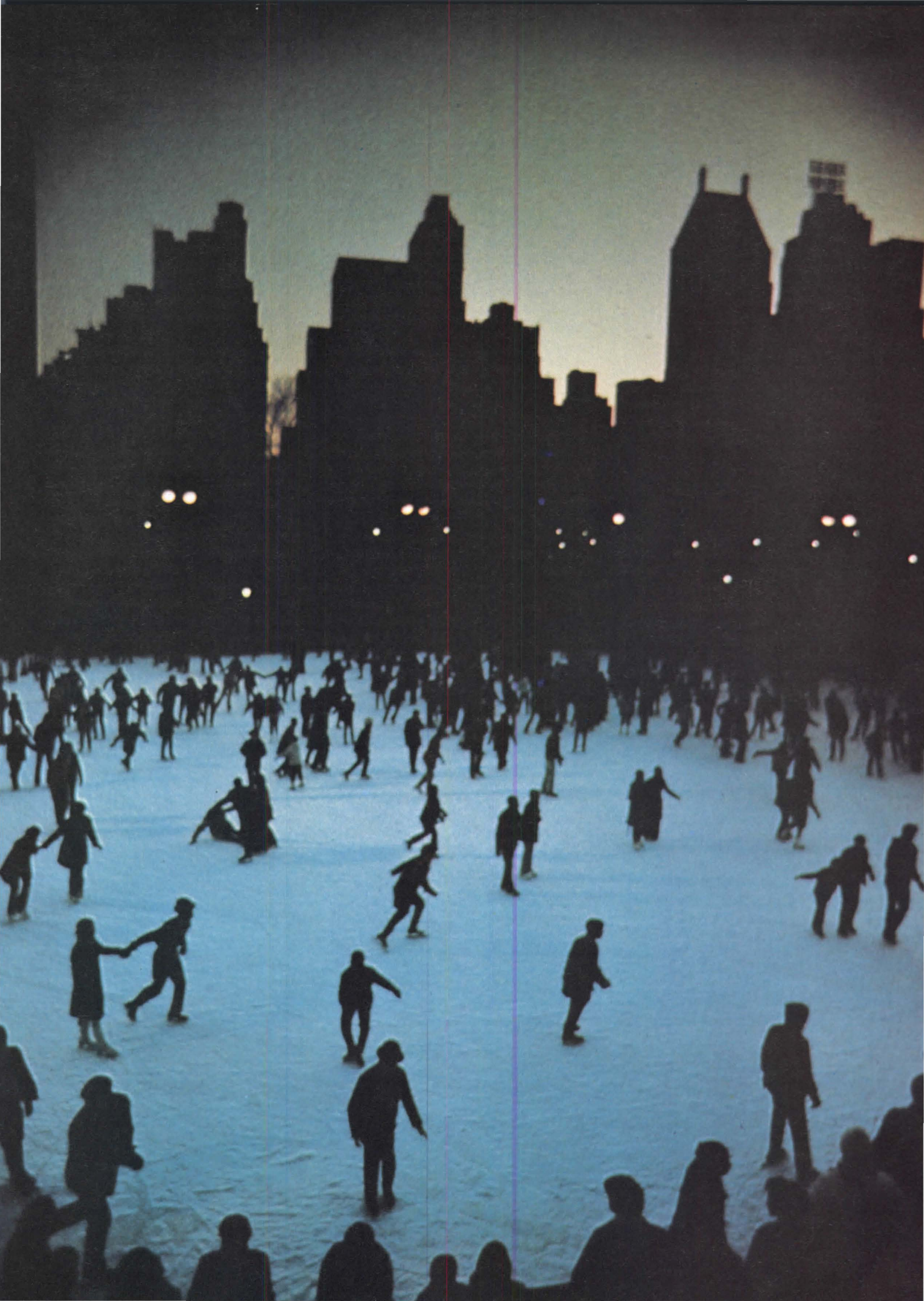
Rockefeller Center and other skyscrapers: Raymond Hood's RCA Building is the dominant element of the group, with a fountain and three acres of roof garden. While Hood's Beaux-Arts training accounts for symmetry and lack of emphasis on structural expression, he created otherwise out of his native milieu. Perhaps the most remarkable accomplishment at Rockefeller Center is the splendid way in which the whole group of buildings, designed by several architectural firms, became a harmonious composition that has worn extremely well. In retrospect, this achievement is outstanding not only in view of the developer's own cultural insecurity, but also because no building group built at a later time, including the United Nations complex, could assume Rockefeller Center's symbolic power as a crown of the city.

Hood's **McGraw-Hill Building** in New York City and particularly Howe & Lescaze's **Philadelphia Saving Fund Society Building** are certainly most remarkable achievements, but the new design trend that they represent is mainly the substitution of European modernism for Beaux-Arts tradition, although technically and socially they could have happened only in this country at that time. After World War II, the skyscraper became predominantly a glazed skeleton, setting the tune in all major cities of the world. The proud and leading examples are the **United Nations Secretariat Building,** primarily influenced by Le Corbusier; Mies van der Rohe's **Lakeshore apartments** in Chicago, and SOM's **Lever House.**

All these buildings were and still are prototypes. It is only now that we begin to sense that highrise buildings, no matter how meritorious their design, are products that exemplify not only near-sighted land use, congestion and social ills, but also wasteful use of energy, danger of fire and ecological misconceptions. Nevertheless,

Central Park (7). 'Olmsted's great creation is not strictly architecture. But then, what is architecture without the spaces in-between?'

Wolf Von Eckardt, Hon. AIA



they are enormous architectural monuments which made an indelible impression on our civilization and must be rated high in an assessment of this country's 200 years of architectural development.

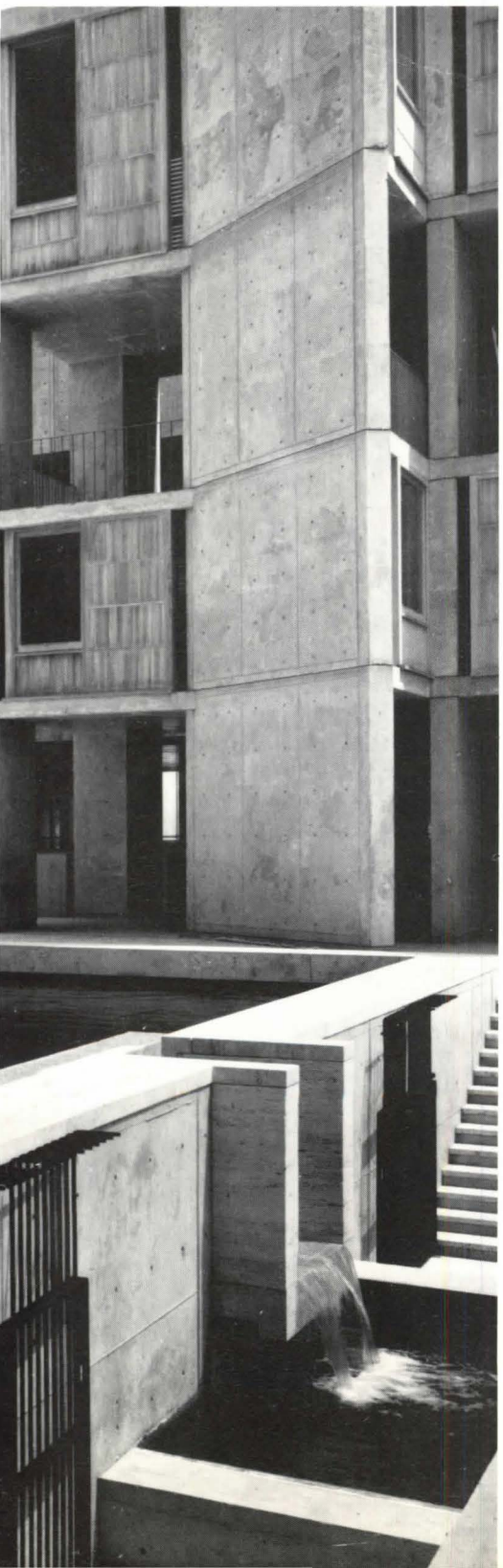
It must be remembered that metal and glass facades did not originate with the skyscraper. I could hardly describe my surprise and delight when I saw Willis Polk's **Hallidie Building** in San Francisco, built more than 55 years ago. It had such personality—an outstanding American achievement. A more recent example of a unique but small skyscraper that I must include is Frank Lloyd Wright's **H. C. Price Tower** in Bartlesville, Okla.

The one-family house: Taken as a whole, this building type is unique for America as an industrial nation, but it is also deeply rooted in the tradition of the country when our society was almost exclusively agricultural. In contrast with Europe, most people in the U.S. have lived or are living in one-family houses. To continue my selections according to the very achievements that made the examples part of the wellspring from which all other achievements more or less developed, I cannot point to a single school or style. Residential architecture, however, as a product of American design, came into its own only with the advent of the prairie style house during the nation's second century. The originator of this architecture was, of course, Frank Lloyd Wright. As the symbol of this style by Wright and others, I choose the wonderful **Robie house** in Chicago. The relationship to the outside, the flow of space, the accommodation for better living were handled in a superior manner and, most of all, were inventive, having a seminal effect on architecture to this day. This phenomenon had little to do with Wright's dislike of the classic style or his enchantment with the simplicity and craftsmanship of the Japanese house. His own contribution was original and could take place in this country only.

There are, of course, other proud and original achievements by architects of this century which were well noticed in their time and which historians are now rescuing from fading memory. I must think of

the **Dodge house** in Los Angeles by Irving Gill, another product of Sullivan's office, and other California houses by other architects which, with their inventive construction and layout, were prophetically American.

Richard Neutra demonstrated that Los Angeles was the right place for his beautiful **"health house" experiment for Dr. Lovell,** a steel and glass construction with many daring technical inventions and the application of his ideas that architecture can serve biological needs. The idiom of design was ahead of many other celebrated examples elsewhere. Neutra's understanding of site and openness in planning integrated his houses beautifully into the American landscape.



R. M. Schindler, another inventive contributor to American architecture, created the magnificent **Wolfe house** on Catalina Island, a great example of his "space" architecture. And, finally, a truly American building is the **Bavinger house** in Norman, Okla., designed by Bruce Goff, master of space.

Archibald C. Rogers, FAIA

Since probably few nominators will propose examples of urban design, I select, in no particular order of priority, **the city plans of Savannah, Philadelphia and Annapolis.** These are true works of architecture casting their influence over the entire 200-plus years of these cities' existence. They were planned cities in a time when Europe still was in its pre-Renaissance urban design stage. Indeed, the city of Annapolis seems clearly to have been the prototype for L'Enfant's design for Washington; 17th century Paris and London could hardly have been models for his plan. The two contiguous circles, which are the heart of the Annapolis plan, and the streets radiating from them at 45 degree angles are replicated in Washington, D.C. Of interest is the fact that the situation of the two circles, called State and Church, clearly indicates that the state dominated the state church, since the state house occupies the higher ground.

From this it follows that my second nomination is for **the L'Enfant plan** itself and for all later plans intended to help maintain the integrity of the original. Here again, I believe we are dealing with a native American tradition in design, despite the temptation to relate the boulevards of L'Enfant's 18th century Washington to those of 19th century Paris.

My third nomination is for the **American school of architecture,** starting with Bulfinch and—by way of H. H. Richardson, Stanford White, Louis Sullivan—ending with Frank Lloyd Wright. This was a rich and native lode which became an unfortunate casualty of our sudden importation of the European style professed by Walter Gropius and Le Corbusier. I sometimes feel that paying a little more attention to our native traditions and adulating imported European styles a little less would have served us well during the post-World War II years.

Robert B. Marquis, FAIA

My nominations are:

Golden Gate Bridge, San Francisco: More than an engineering marvel. Its magnificent color, railings, light standards, tower and abutment detailing were all the contribution of consulting architect Irving F. Morrow.

Preservation of Muir Woods and Yosemite National Park: Interpreting "architectural achievements" in the broadest sense.

Mount Rushmore National Memorial, Pennington County, S.D.: Would you believe Mount Rushmore? I believe it equals the Sphinx in awe-inspiring scale, monumentality and sheer naive ingeniousness.

Invention and development of the wood balloon frame, an achievement in architectural engineering.

Dulles International Airport, Chantilly, Va., and New York City's **Grand Central Terminal:** Two of the few great spaces to be built in this country in the last 200 years. Except for Tange's Olympic Sports Hall in Tokyo, one must go back to the cathedrals or the Pantheon to evoke great architectural spaces. I rule out all astrodomes and similar arenas as just big spans with no redeeming qualities.

Grain silos of the Midwest: Elegant and functional, they had a greater influence on contemporary architecture than most people realize.

Salk Institute of Biological Studies (8). 'Successful handling of concrete, completeness of details, masterful play of shapes, forms and materials.'

R. Randall Vosbeck, AIA

Ralph Rapson, FAIA

I put this list together last night—I'm off around the world tomorrow! My nominations:

The **early colonial houses** of America, such as Julius Deming's residence in Litchfield, Conn., and other homes in Salem and Marblehead, Mass., and the rowhouses in Georgetown in Washington, D.C., and in Alexandria, Va.

Next, **American barns** and complexes as exemplified by the grand Bucks County structures in Pennsylvania, the cantilevered Kentucky barns and the powerful Midwest long barns, as well as the truly marvelous round barns.

I vote for **America's village squares and public greens** of certain New England towns and small Midwest villages.

I would include religious structures, such as the early **New England meeting houses** and mid-Atlantic churches and the later buildings—Eliel Saarinen's **Christ Lutheran Church** in Minneapolis and H. H. Richardson's **Trinity Church** in Boston.

Typical of our buildings of commerce and the highrise development of elevator and skeleton structure are **Rockefeller Center** in New York City, the **Philadelphia Saving Fund Society Building,** the **Marshall Field Wholesale Warehouse** in Chicago, the **Wainwright** in St. Louis, the **Prudential** in Buffalo, **Carson Pirie Scott's** store in Chicago, the buildings for **Johnson Wax Co.** in Racine, Wis., as well as the **Lever House** in New York City, the **Hallidie Building** in San Francisco and Chicago's **Reliance Building.**

For recreational buildings, I suggest the **Ingalls Ice Rink** at Yale University by Eero Saarinen. For industrial structures, I vote for the **factories of Albert Kahn** [**across page,** the Dodge truck plant].

In choosing educational structures, I have considered the fact that a building is part of the larger organization of building systems and that exterior spaces are important. Here I include Jefferson's **University of Virginia,** the **Cranbrook School and Art Academy** in Bloomfield Hills, Mich., and the **Illinois Institute of Technology campus** in Chicago. And for research, **the General Motors Technical Center** in Warren, Mich.

For land planning for recreation and leisure, I note **Central Park** in New York City, the **Fenway** in Boston and the **parkways** around New York City.

Governmental structures should include the **State House in Boston** and the city's new **City Hall.**

For residential architecture, in addition to the old colonial houses mentioned earlier, I vote for **Philip Johnson's house** in Connecticut; the prairie houses of Frank Lloyd Wright, particularly the **Robie** and **Coonley houses** in Chicago, **Taliesin East** and **West** and **Falling Water**

in Bear Run, Pa.; **Walter Gropius' house** in Lincoln, Mass.; the **Farnsworth house** in Plano, Ill.; the **Gamble residence** in Pasadena, Calif.; Neutra's **Lovell house** in Los Angeles's Griffith Park area, and **Oak Alley** in Vacherie, La., built about 1830 and representative of many fine Southern mansions.

I would include as well large-scale housing: **Chatham Village** in Pittsburgh and **Peabody Terrace,** the married students' housing at Harvard University and **Cedar Square, West,** Minneapolis.

William W. Caudill, FAIA

Put on the list of America's proudest achievements in architecture the following:

The University of Virginia: Jefferson innovated a beauty. It still is beautiful.

Prairie houses: There are some proud ones, possessing an American spirit. Wright was the greatest we have had.

Louis Sullivan: His works obviously must be included. He taught us how to go up.

Henry Hobson Richardson: This architect's work must be included as well. He was a great influence; produced solid stuff.

Railroad stations: They must be listed, both large and small ones.

Seagram Building, New York City: This structure represents the climax of polished skyscrapers.

Foothill College, Los Gatos, Calif.: Ernie Kump designed a classic, probably the best of the 1960s flood of junior colleges.

San Angelo High School, San Angelo, Tex.: One of the best of the 1950s spurt of high schools. Frank Lawyer of Caudill Rowlett Scott designed it.

Philip Johnson house: The so-called glass house which Johnson designed for himself is a classic.

Solomon R. Guggenheim Museum, New York City: This may not fit the "universal space" notion of some museum curators, but it's still a great museum. It's a delight to those who experience its curvilinear forms as well as the art.

University of Akron Thomas Hall of Performing Arts, Akron, Ohio: According to Ada Louise Huxtable, this is the best of the lot. Charles Lawrence of CRS led the design effort.

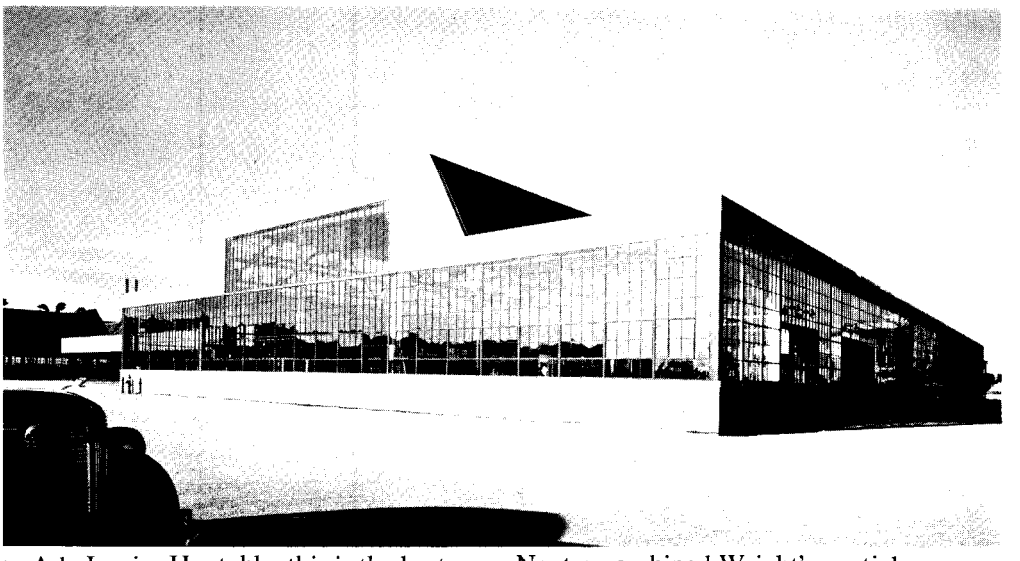
Johnson Wax Co., Racine, Wis.: Another classic that must be included.

Tenneco Building, Houston: Designed by SOM's Charles Bassett, it represents greatness in skyhigh architecture.

John Hancock Center, Chicago: For size alone.

Hyatt Regency Hotel, Atlanta: John Portman set the stage for more to come—the return to great interior spaces.

There are more worth considering, including the early houses of New England, the South and Texas. Were I a scholar, I'd spell them out. I'm not.



Plan of Radburn, N.J. (7). It 'furnished modern America in the late '20s with a generic diagram for urban living.'

Douglas Haskell, FAIA

David R. Dibner, FAIA

University of Virginia, Charlottesville: Neoclassical buildings arranged in a controlled relationship which to this day stands as a dignified, elegant campus.

L'Enfant plan, Washington, D.C.: The pattern of radiating avenues and building focal points still provides dynamic, changing vistas to the visitor.

Crane Library, Quincy, Mass.: Typical of H. H. Richardson's mastery of masonry construction.

Auditorium Building, Chicago: Adler & Sullivan's outstanding example of the Chicago school, responding to a unique program of combining an office building, hotel and auditorium.

Carson Pirie Scott & Co., Chicago: The skyscraper comes of age with Sullivan's steel framework expressed by large open windows between terra cotta covered columns. It still works.

Robie house, Chicago: The finest example of Frank Lloyd Wright's "prairie house," with a marvelous flow of space and open wide overhangs.

Philadelphia Saving Fund Society Building: Howe & Lescaze's cantilevered floors, massing and use of materials brought the International Style to the highrise office building.

Lovell house, Los Angeles: Richard Neutra combined Wright's spatial concepts in residential architecture with the technology of steel and glass.

Falling Water, Bear Run, Pa.: A dramatic combination of organic and geometric architecture.

Johnson Wax Co., Racine, Wis.: A complex of buildings exhibiting the fantastic scope of Wright's creativity in structural systems, materials and forms.

Lever House, New York City: SOM's prototype for the highrise steel and glass corporate office building.

Crown Hall, Illinois Institute of Technology, Chicago: Indeed, "Good is in the details" of this building by Mies.

Dulles International Airport, Chantilly, Va.: Saarinen's dramatic, graceful and beautiful structure—with a whole new concept of transporting passengers thrown in.

City Hall, Boston: A new departure in public architecture. A gutsy, concrete and brick building with interior spaces strongly defined on the exterior.

Ford Foundation Building, New York City: A new concept in office buildings, creating a public space inside through a beautiful interior garden. Truly an outstanding building.

Portland, Ore., Civic Auditorium Forecourt: A public space designed to involve people as viewers and as participants.

Geodesic dome (any installation): A technological breakthrough by R. Buckminster Fuller, with a broad range of applications. One of the principal architectural forms of the future.

St. Mary's Cathedral, San Francisco: A dramatic, simple and beautifully proportioned space with a magnificent interior bathed in multicolored light; by Pietro Belluschi.

Richards Laboratory for Research in Medicine, University of Pennsylvania, Philadelphia: A strong assemblage of forms expressing Kahn's clarity of thinking.

National Center for Atmospheric Research, Boulder, Colo.: Elemental forms of rough concrete by I. M. Pei, set on a magnificent site.

Paul Hayden Kirk, FAIA

My nominees are buildings that I have visited and that have always been an inspiration to me from the viewpoints of their historical significance and clarity of design.

Historical: **University of Virginia** in Charlottesville.

Chicago school: **Monadnock Building; the Reliance Building; Studebaker Building; Carson Pirie Scott & Co.**

Turn-of-the-century buildings, with interior open courts: **Brown Palace Hotel,** Denver; **Bradbury Building,** Los Angeles; **Sheraton Palace Hotel,** San Francisco.

Early glass facade: **Hallidie Building,** San Francisco.

Memorial buildings: **Lincoln Memorial,** Washington, D.C.

Frank Lloyd Wright: **Unity Temple,** Oak Park, Ill.; **Hollyhock house,** Pasadena, Calif.; **Falling Water,** Bear Run, Pa.; **Johnson Wax Co.,** Racine, Wis.

Bernard Maybeck: **First Church of Christ Scientist,** Berkeley, Calif.

Mies van der Rohe: **Illinois Institute of Technology, Crown Hall,** Chicago; **Seagram Building,** New York City.

Eero Saarinen: **Trans World Airlines Terminal,** New York City; **Dulles International Airport,** Chantilly, Va.; **Deere & Co. Administrative Center,** Moline, Ill.

Philip Johnson: **Philip Johnson residence,** New Canaan, Conn.; **IDS Center,** Minneapolis.

Kevin Roche/John Dinkeloo: **Ford Foundation Building,** New York City.

Paul Rudolph: **School of Art and Architecture Building,** Yale University.

Paul A. Thiry, FAIA

As I have thought over this assignment the past weeks, I have become amazed at how difficult it is to select 20 significant structures. Each decade seems to supply noteworthy edifices—style and type of construction notwithstanding. Anyway, here goes:

Buildings which dignify the importance of their purpose: **The University of Virginia** (Thomas Jefferson); **the National Gallery of Art,** Washington, D.C. (John Russell Pope); **the New York Public Library** (Carrère & Hastings).

Structures which reflect their setting and environment: ***Taliesen West*** in Arizona (Frank Lloyd Wright); **Wayfarers Chapel,** Palos Verdes, Calif. (Lloyd Wright); **Red Rocks Amphitheatre,** Morrison, Colo. (Burnham Hoyt); **Old Faithful Inn,** Yellowstone National Park (R. C. Reimer).

Structures of great dignity which memorialize noble and patriotic purposes: **Washington Monument,** Washington, D.C. (Robert Mills); **Liberty Memorial,** Kansas City, Mo. (H. Van Buren Magonigle); **Gateway Arch to the West,** St. Louis (Eero Saarinen & Associates).

Structures which contribute to the science of construction in the enclosure of vast spaces: **Transportation Building, World's Columbian Exposition,** Chicago (Louis Sullivan)—not the first of suspension roofs, but a forerunner for many cable-supported structures to follow, such as Matthew Nowicki's arena in Raleigh, N.C., Charles Luckman Associates' Madison Square Garden Center in New York City, and my own Seattle Center Coliseum which, going a step further, utilizes a tie-down cable system with light-weight roofing panels for cover.

The U.S. Pavilion, Expo '70, in Osaka, Japan (Davis, Brody, Chermayeff, Geismar & deHarak), which takes the subject of suspension into air pressure to support the roof.

The U.S. Pavilion, Expo '67, Montreal (R. Buckminster Fuller/Fuller & Sadao, Inc., Geometrics Inc., Cambridge Seven) which, in my opinion, is the greatest single structure of all time. [*Unfortunately destroyed by fire on May 20. Ed.*]

Grand Central Terminal Complex, New York City (Reed & Stem and Warren & Wetmore), which no doubt is the most comprehensive construction ever erected.

Dulles International Airport, Chantilly, Va. (Eero Saarinen & Associates), both architecturally and functionally a very successful work—yet to be surpassed.

Kennedy Space Center, Vehicle Assembly Building, Cape Kennedy, Fla. (Max Urbahn & Associates), which is structure as symbol of its purpose. Unbelievable!

Buildings of structural, functional and esthetic importance:

Contemporary Hotel, DisneyWorld, Fla. (Welton Becket & Associates), a new dimension in places for human gathering, conventions, etc., which lends real excitement to living with architecture.

The Hirshhorn Museum and Sculpture Garden, Washington, D.C. (Skidmore, Owings & Merrill), a new dimension in the display of art objects.

Seagram Building, New York City (Mies van der Rohe, Philip Johnson), the summation of refinement in use of steel and glass.

Johnson house, New Canaan, Conn. (Philip Johnson), probably the most elegant residence of the century—all achieved by a simple frame structure of steel and glass complemented by ceramics.

Stephen A. Kliment, AIA

Major impact (for better or worse) on American land- and cityscape: **St. Michael's Episcopal Church, Charleston, S.C.,** along with **Christ Church in Philadelphia,** a key determinant of church architecture in the U.S.; **rowhouses** in Society Hill, Philadelphia, which helped shape the American city of the 19th century; **houses in Salem, Mass.,** by builder

Taliesin West (6). With Taliesin East, 'the definitive works of America's master architect. They embody everything he preached.'

Vincent G. Kling, FAIA

Samuel McIntire, forerunners, fortunately, or unfortunately, of all that is good and bad in the wood frame and clapboard residential vocabulary of our suburbs; **Nassau Hall** at the College of New Jersey, Princeton, the granddaddy of Old Mairs from East to West Coasts.

Modern buildings with major impact on form: **Lever House,** New York City, the most influential of the sealed, glass and metal enclosed, repetitive module point towers; **Manufacturers Hanover Trust Co.,** New York City, one of the first meticulous jewels to attract the man on the street.

Masterpieces in their own right: The **Wainwright Building,** St. Louis, a building with a bottom, a middle and a top—beautifully proportioned and with fine ornament and added life through recent recycling; **New England mills,** the apogee in use of brick; **Holyoke Center,** Harvard University, Cambridge, Mass., an excellent combination of multiuses; **apartment towers** on the old Reingold Brewery site in New York City, a masterful creation of environment, interior and exterior, with limited means; the **TWA Terminal,** Kennedy Airport, New York City, which made arrival by plane an experience after years of terminals that seemed like third-class motel lobbies.

Significant buildings, with little further comment from me: **McDonald's,** anywhere; **speculative office buildings,** including **Park Avenue** in New York from 46th to 57th Streets; **Fontainebleau Hotel,** Miami Beach; **Levitt houses,** not all bad, give the buyer a great deal for his money; **Sam Rayburn House of Representatives Office Building,** Washington, D.C.; **Pruitt-Igoe** apartment development in St. Louis (R.I.P.); **route 22, New Jersey,** between Newark Airport and Somerville.

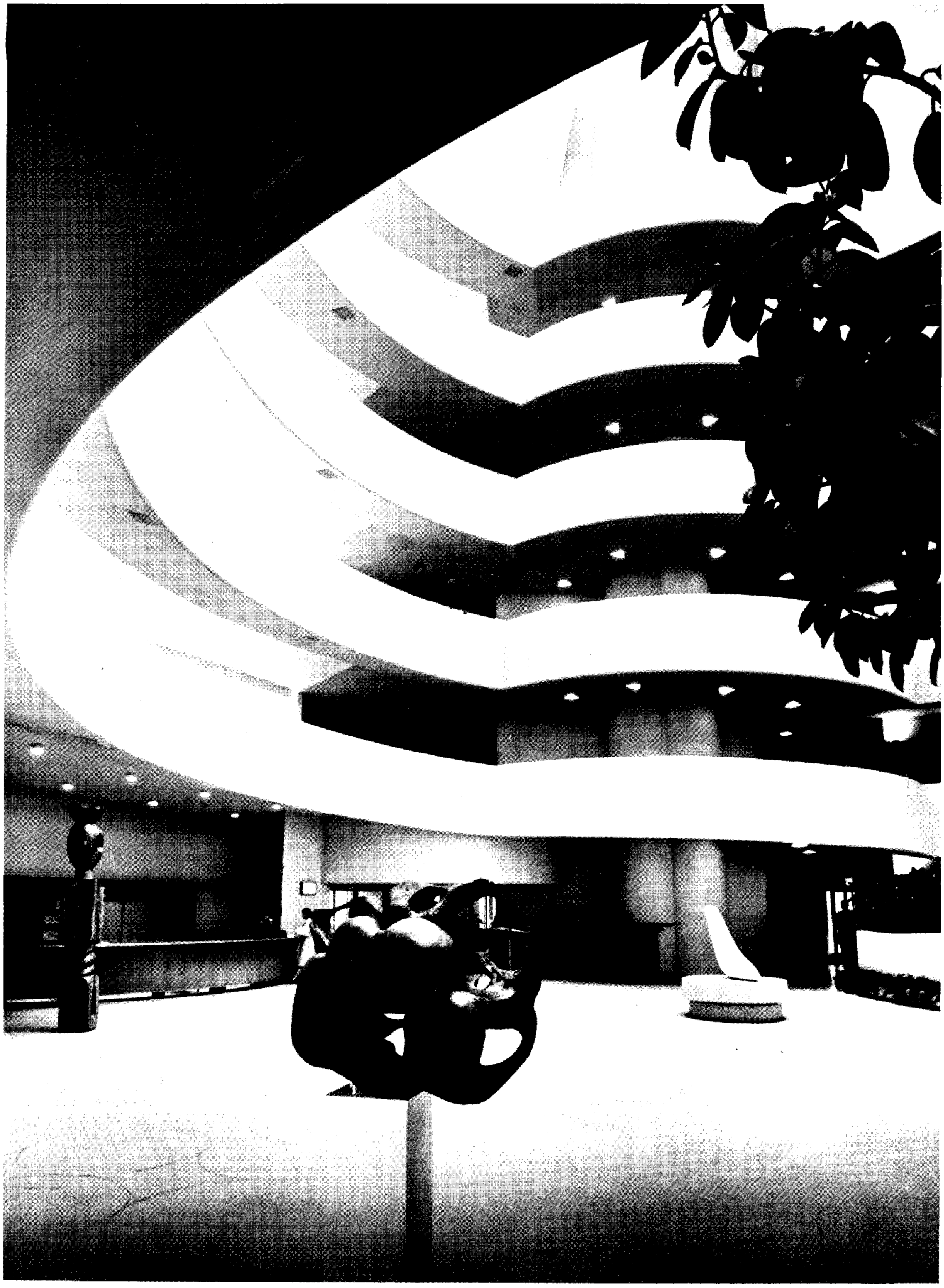
Recycling: **Pennsylvania Station,** New York City (what might have been!); **City Hall, Boston** (the old one), which is palatable new wine in the old bottle.

Charles F. Murphy, FAIA

Lincoln Memorial, Washington, D.C.: Henry Bacon's noble work wins out over Robert Mills' Washington Monument, Saarinen's St. Louis arch and Philip Johnson's roofless church at New Harmony, Ind. The Lincoln Memorial is my choice as our most perfect work and, with Daniel Chester French's sculpture of Lincoln, the one with the greatest emotional charge.

Auditorium Building, Chicago: Dankmar Adler and Louis Sullivan have given us one of the great theaters of all times which is enough, in my view, to gain its listings over Sullivan's outwardly better buildings: the Wainwright, the Guaranty and the Carson Pirie Scott & Co. store.

Marshall Field Wholesale Warehouse, Chicago: H. H. Richardson's masterpiece. A real blockbuster of a building wins out over his Glessner House and that beautiful little bridge in Boston's Fenway, which are also marvelous achievements.



Solomon R. Guggenheim Museum, New York City: It is difficult to single out the one best work of Frank Lloyd Wright. How can anyone exclude Johnson Wax, the two Taliesins, the Coonley, Roberts and Robie houses and so many others? Guggenheim wins with the twin virtues of a powerful original form and a marvelously exciting interior space.

Federal Center, Chicago: Again, with Mies van der Rohe the selection is difficult. Seagram, 860-880 apartments, Crown Hall, Farnsworth house and IBM Building all deserve to make the list, but Federal Center wins out in my judgment for the perfection of its three-building composition which gives us one of our best urban spaces.

Lake Point Tower, Chicago: Schipporeit-Heinrich admittedly have been inspired by one of Mies' early unrealized projects. This beautiful glass shaft, with its marvelous site, reflecting the changing mood of the sky, is like no other building I know.

Marina City, Chicago: Don't look at the crowded mishmash at the base, only the two towers in which Bertram Goldberg has created wonderfully beautiful forms.

Inland Steel Building, Chicago: Bruce Graham's little gem wins out over the two powerhouses, Hancock and Sears which, although they give us great new rationally conceived shapes for our unique American skyline, do not have quite the same perfection of detail.

Hyatt Regency Hotel, San Francisco: Portman's unabashedly exuberant work gives us a spatial experience that is hard to beat.

Gamble House, Pasadena, Calif.: The Greene brothers achieved a small scale masterpiece with the detailing of the interior woodwork.

Dulles International Airport, Chantilly, Va.: There is striving in all of Saarinen's work which I admire. At the end with John Deere and Dulles there is finally fulfillment. That great soaring roof of Dulles and its strong control tower are wonderfully sited in a beautiful landscape.

Beinecke Library, Yale University, New Haven, Conn.: Bunshaft's translucent marble walls give us another unique interior space.

Monadnock Building, Chicago: Burnham & Root's unadorned, undulating surfaces are one of the high points of American architecture.

Boston City Hall: A compelling tour-de-force of interpenetrating forms and spaces.

Civic Center, Chicago: Jacques Brownson has achieved the most powerful expression to date of American building art. The colossal freestanding columns at the base, the great spans, the rugged materials and bold, simple detailing make this my favorite building.

Brunswick Building, Chicago: Myron Goldsmith has given Chicago another powerhouse of a building. Emerging from the lobby from between those great columns in the Civic Center plaza provides an unmatched architectural experience.

Louisburg Square, Boston: The most appealing urban housing that I know.

Rockefeller Center, New York City: Still a remarkable urban assemblage that is uniquely American in character.

Climatron, St. Louis: A wonderful space enclosure. (Murphy & Mackey—no relative!)

A Bucks County barn: To stand for all of the unpretentious work across the country by nameless craftsmen who unknowingly have provided inspiration for us to build well.

Patrick J. Quinn, AIA

Johnson Wax Co. Administration Building and Research Tower, Racine, Wis.: This building is so rigorously and consistently put together that it gives evidence of the potential combination of systems design with a humane esthetic. It transforms a mundane urban environment without conflict. Truly a work of art.

Gateway arch, St. Louis: Now that it is built, used and we've had time to observe it, we have become aware of its extraordinary quiet and moving beauty. It has universal appeal and has become a symbol which transcends time, place and person. It is difficult to describe how something intended to be a monument can be so warm and welcoming and yet awe-inspiring.

First Unitarian Church, Rochester, and **Unity Temple,** Chicago: Both of these buildings, by Kahn and by Wright respectively, responded in their time and place to

Unity Temple (7) and Guggenheim Museum (6). 'Wright, through talent and tongue, put architecture in America into the vernacular.'

G. E. Kidder Smith, FAIA

the need for dramatic changes in church architecture. Each is decidedly *sans-serif,* avoiding contemporary love of stylistic inbreeding. Both stand with no allegiance to a particular symbolic order, yet both are so evocative in their social and sacred character that they become symbolic in their own right.

Gamble house, Pasadena, Calif.: Seldom has there been a demonstration of how built form and space and cultivated landscape can be integrated out of the simplest materials to make a home of rich complexity.

San Francisco de Taos, Ranchos de Taos, N.M.: Although built before 1776, this structure should be included because it is a landmark in the evolution of Southwest architecture. It was a superb recognition by the Franciscan missionaries of the innate creativity of native Americans in the use of indigenous materials to express architectural forms of simple profundity.

Monadnock Building, Chicago: The spare-boned elegance of this early skyscraper still stands as testimony to the innovative creativity of the entire Chicago school of architecture, of which this is probably the best of the early products.

Dulles International Airport, Chantilly, Va.: There is as yet no airport in the world that comes close to the elegant clarity of this great concept. Quite apart from its organizational efficiency, the lightsome splendor of the building ensures its unique contribution.

Grand Central Terminal, New York City: Despite the butchery to this great complex, it remains a landmark, a place of extraordinary richness and civic encounter. It's as much an entrance to Manhattan as the airport, and it surely stands among the things worth remembering.

Ford Foundation Building, New York City: The most sophisticated of all the office buildings of the last 50 years, particularly for its humane recognition of the need to make a garden of human scale in mid-city.

First Church of Christ Scientist, Berkeley, Calif.: Nowhere in the annals of American architecture can one find a building that uses mundane materials, normally rejected by high-style architects, so innovatively and beautifully. Maybeck's small church, built about the time of Wright's Unity Temple, has the complexity and excitement of a great cathedral and, yet, the quietness and simplicity of a small house of prayer.

University of Virginia, Charlottesville, Va.: So much has been written about the beauty of Jefferson's masterpiece that anything I might add would be superfluous.

Old Ship Meeting House, Hingham, Mass.: This landmark was first in line in America's contributions to church architecture. The New England meeting house was the starting point for a series of wonderful buildings uniquely American that are now being recognized by the rest of the world as significant in the evolution of architecture.

Lever House, New York City: Documented almost to death, this building contributed importantly and significantly to the transformation of the New York City scene. Its unpretentious, direct urbanity provides a continuing lesson for architects.

Chatham Village, Pittsburgh: Mainly for its site planning, its village scale and its original contribution to American concepts of habitat.

Jeffrey Cook, AIA

Sometime we should recognize architectural achievements before 1776, but for those after, I suggest:

Zomehouse, Corrales, N.M.: Designed by Steve Baer in 1972; imaginative and sensible—a solar house related both to high technology of the time and to the simple pleasures of family life.

Cranbrook Academy of Arts, Bloomfield, Hills, Mich.: Eliel Saarinen's mature realization of a sensitive total environment in which architecture and landscape are a continuum with the other arts.

Brooklyn Bridge, New York City: An urban ornament of fundamental function and timeless expression.

Lovell beach house, Newport Beach, Calif.: Probably the most accomplished building of the International Style, enhancing the needs of an exceptional client while synthesizing the most important avant-garde ideas of the time.

Taliesin West, Paradise Valley, near Phoenix: A complete desert environment.

Monticello, near Charlottesville, Va.: A triumph by Jefferson in remodeling.

United States Capitol, Washington, D.C.: Another triumph in remodeling, with at least a noble intent in the democracy of a competition.

My other suggestions, without comment:

Lever House, New York City.

Reliance Building, Chicago.

Philip Johnson residence, New Cannan, Conn.

The new Boston City Hall.

Rockefeller Center, New York City.

Seagram Building, New York City.

Ford Foundation Building, New York City.

Gateway arch, St. Louis.

Bavinger house, Norman, Okla.

First Church of Christ Scientist, Berkeley, Calif.

Trinity Church, Boston.

Alfred Newton Richards Laboratory, University of Pennsylvania.

Disneyland, Anaheim, Calif. [**left**].

Mary E. Osman

[*Ed. note:* Mrs. Osman, editor in charge of this issue, did not count her nominations in tabulation of the leading works.]

Mr. Jefferson's **University of Virginia:** a "bicentennial bias," perhaps, but a design that had great impact upon both architecture and education. Jefferson's **Virginia State Capitol** in Richmond (completed in 1796, with the aid of Benjamin Latrobe): it set a standard for all subsequent official architecture. Latrobe's **Bank of Pennsylvania** in Philadelphia (1798): Greek revival architecture in America started here.

In Chicago—the **Auditorium Building:** the first major design in that city of great architecture; Sullivan's interiors pointed the way to Art Nouveau. **Carson Pirie Scott & Co.:** probably the most characteristic of designs by the Chicago school. **Robie house** by Sullivan's pupil, Frank Lloyd Wright: the best expression of his famed prairie houses. And in Buffalo, Wright's **Larkin Building:** countless innovations, such as overhead lighting; the first fully airconditioned office complex.

Trinity Church in Boston: a key monument which established Richardson's repu-

The Capitol (6), the Lincoln Memorial (6) and the L'Enfant plan for Washington (6). 'So much grandeur and beauty.'

Charles A. Blessing, FAIA

tation. His **Stoughton house** in Cambridge, Mass.: its shingle style greatly influenced residential architecture; its interiors "foreshadowed the 'free plan' to be developed later by Wright."

First Church of Christ Scientist in Berkeley, Calif.: Maybeck helped save California architecture from "an epidemic of Old Spanish Mission revivalism" with this building's simple sophistication.

In New York City—the **Woolworth Building:** a "cathedral" to American business and for long the world's tallest structure. **Rockefeller Center:** Sigfried Giedion equated this complex in significance with the Gothic cathedral and the Egyptian obelisk. **Lever House:** designed for the people as well as for Lever Brothers. **CBS Building:** Saarinen's only highrise; urbane elegance. **Seagram Building:** a tribute to urban man; called the "most refined metal curtain wall structure yet built."

Dulles International Airport, Chantilly, Va.: Saarinen said that it might just express what he meant about architecture. It *is* architecture. The **Pre-Columbian Museum,** Washington, D.C.: Philip Johnson's "beautiful bubbles of space"; museum architecture at its intimate best. The **chapel at MIT:** Saarinen's design is architecture in sculptural form. The **Richards Laboratory for Research in Medicine,** Philadelphia: "form follows function" in this design by Kahn, one of America's greatest architects.

And on a patriotic note, the **Lincoln Memorial,** Washington, D.C.: for its attainment of a "nobility which transcends its eclectic heritage."

Columbus, Ind.: an unparalleled ensemble of civic architecture by many of the nation's most influential designers; noteworthy also because it provides an example of what an enlightened industrial organization can do for a community—and America.

Frederick Gutheim, Hon. AIA

We are asked to name 20 favorite buildings: Some criteria are implied. I have tried to think of buildings that were not simply masterpieces of great architects, or historical buildings that marked climaxes or turning points, but of buildings that were taken to the nation's heart, incorporated into our culture, became part of our architectural history, giving it shape and resonance and influencing its development. I have tried thus to think of buildings of many types, extending throughout our architectural heritage, and as a group illustrating its variety and not to seek some more restrictive definition, as valuable as that might be on some other occasion.

University of Virginia, Charlottesville.

United States Capitol, Washington.

Gardiner-White-Pingree house, Salem, Mass.

Smithsonian Institution's "Castle," Washington, D.C.
Central Park, New York City.
Trinity Church, Boston.
Home Insurance Building, Chicago.
Reliance Building, Chicago.
World's Columbian Exposition, Chicago.
Carson Pirie Scott & Co., Chicago.
Nebraska State Capitol, Lincoln.
Radburn, N.J.
Philadelphia Saving Fund Society Building.
Carl Mackley houses, Philadelphia.
Fellowship house, Los Angeles.
Falling Water, Bear Run, Pa.
Dodge Half-Ton Truck Factory, Detroit.
Tennessee Valley Authority, Fontana Dam.
Lever House, New York City.
Northland Regional Shopping Center, Wayne County, Mich.

James Marston Fitch

My nominations for 20 significant works of architecture:

Madame John's Legacy, New Orleans.
Monticello, near Charlottesville, Va.
Fairmount Water Works, Philadelphia.
Tremont House, Boston.
Quincy Market complex, Boston.
Haughwout Building, New York City.
Brooklyn Bridge, New York City.
Central Park, New York City.
Trinity Church, Boston.
Carson Pirie Scott & Co., Chicago.
World's Columbian Exposition, Court of Honor, Chicago.
Pennsylvania Academy of Arts, Philadelphia.
Robie house, Chicago.
Radburn, N.J.
Restoration of colonial **Williamsburg, Va.**
Rockefeller Center, New York City.
Philadelphia Saving Fund Society Building.
Tremaine residence, Montecito, Calif.
Ford Foundation Building, New York City.
Gallo residence, Modesto, Calif.

Gunnar Birkerts, FAIA

Please allow me to make only one nomination: the **General Motors Technical Center,** Warren, Mich. (Saarinen, Saarinen & Associates; Smith, Hinchman & Grylls, Inc.). This complex should be recognized as the most profound contributor to the development of new building materials, systems and technology—never before attempted. These developments have now become part of everyday building vocabulary and practices, although the origin has not been clearly identified.

Harley B. Fisk, AIA

My first thought was that I am incapable of judging this nation's significant architecture. I do not consider myself to be either a design critic or a historian. On second thought, however, I am an American and an architect and may well contribute thoughts that would otherwise be overlooked.

In the perspective of 200 years, I would suggest that a complex should be at least 30 years old before it is judged as "significant," "revered" or "cherished" by the using public. I know of only one more recent example that can be called by these adjectives, and it is **Saarinen's arch** in St. Louis. As such, it must be nominated.

Others are:

Transylvania College, Old Morrison, in Lexington, Ky., designed by Gideon Shryock, which is said by some to be the finest example in the country of Greek revival architecture.

The State House, Frankfort, Ky., noted for its free-standing circular stone staircase, also the design of Gideon Shryock.

The **federal building enclave** in Washington, D.C.—those structures erected between the years 1880 and 1920.

Springer Music Hall in Cincinnati, which is nearly perfect acoustically; designed by Hannaford & Procter.

Sarah P. Harkness, AIA

I opened up the question to The Architects Collaborative staff, and 11 staff members responded. My own suggestions are: **Trinity Church,** Boston; **Faneuil Hall,** Boston; the new **Boston City Hall,** and the **Madeira School** in Greenway, Va., by Arthur Cotton Moore Associates, which is a handsome building designed for energy conservation and the use of solar energy.

TAC staff members were asked not to name any TAC design. The members of the staff who responded voted for a total of 59 complexes.

[Although some structures received more than one vote from the TAC staff respondents, we have credited each complex with one vote. *Ed.*]

Stratford, Westmoreland County, Va.
Central Park, New York City.
The new **Boston City Hall.**
Larkin Building, Buffalo.
Alfred Newton Richards Laboratory for Research in Medicine, University of Pennsylvania.
Palace of Fine Arts, San Francisco.
Santa Barbara (Calif.) County Court House.
Carpenter Center for the Visual Arts, Harvard University.
Harvard Yard.
Falling Water, Bear Run, Pa.
Ghirardelli Square, San Francisco.
Wayfarers' Chapel, Palos Verdes, Calif.
Brooklyn Bridge, New York City.
Old Ship Meeting House, Hingham, Mass.
U.S. Pavilion, Expo '67, Montreal.
Phillips Exeter Academy Library, Exeter, N.H.

Illinois Institute of Technology (6). 'Mies' philosophy of simplicity in building is clearly evidenced.'

Gyo Obata, FAIA

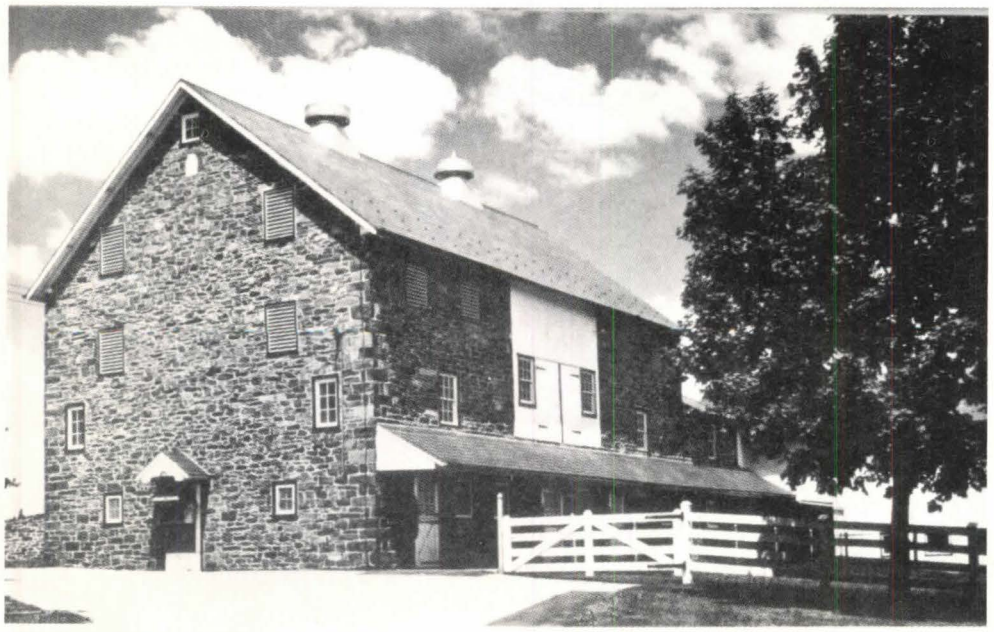
Boston Back Bay.
Salk Institute of Biological Studies, La Jolla, Calif.
Charles Eames house, Pacific Palisades, Los Angeles.
Portland, Ore., Civic Auditorium Forecourt.
Allegheny County Courthouse and Jail, Pittsburgh.
Grand Central Terminal, New York City.
Philadelphia Saving Fund Society Building.
Pennsylvania Academy of Fine Arts, Philadelphia.
Dulles International Airport, Chantilly, Va.
Trans World Airlines Terminal, New York City.
John Hancock Center, Chicago.
Yale University Art Gallery.
Interstate highway system.
Chrysler Building, New York City.
Philip Johnson residence, New Canaan, Conn.
Monadnock Building, Chicago.
Farnsworth house, Plano, Ill.
Johnson Wax Co., Racine, Wis.
Monticello, near Charlottesville, Va.
Unity Temple, Oak Park, Ill.
University of Virginia, Charlottesville.
Wainwright Building, St. Louis.
Marshall Field Wholesale Warehouse, Chicago.
Seagram Building, New York City.
Solomon R. Guggenheim Museum, New York City.
Old West Church, Beacon Hill, Boston.
Christian Science Church Center, Boston.
Crane Memorial Library, Quincy, Mass.
Robie house, Chicago.
Mount Vernon, Va.
Restoration of colonial **Williamsburg, Va.**
Illinois Institute of Technology campus, Chicago.
Willitts house, Oak Park, Ill.
Cincinnati Union Station.
Boston's "emerald necklace."
Gateway arch, St. Louis.
Radburn, N.J.
Dymaxion house.
Hancock Shaker Village, Berkshire County, Mass.
Peabody Terrace, married students' housing, Harvard University.
Columbia, Md.
Fairbanks house, Dedham, Mass.
Kennedy Space Center, **Vehicle Assembly Building,** Cape Kennedy, Fla.
Tabernacle Church of Christ, Columbus, Ind.

Ivan Chermayeff

Here is a listing of what I think are the most significant works of architecture in the nation's history:
The Mesa Verde Pueblo **Indian cave dwellings** in Colorado.
American **barns** [**below**]—Belle Meade in Tennessee, if a special one need be singled out.
Hancock Shaker Village, Berkshire County, Mass.
The **mill buildings of New England,** and Fall River, Mass., particularly.
Thomas Jefferson's **University of Virginia campus** in Charlottesville.
The **U.S. Capitol,** Washington, D.C., and also the **Old Executive Office Building.**
Richardson's **New York State Capitol** in Albany.

Pennsylvania Academy of Arts (6). 'Perhaps the finest building in America erected during the Victorian age.'

Hugh Newell Jacobsen, FAIA



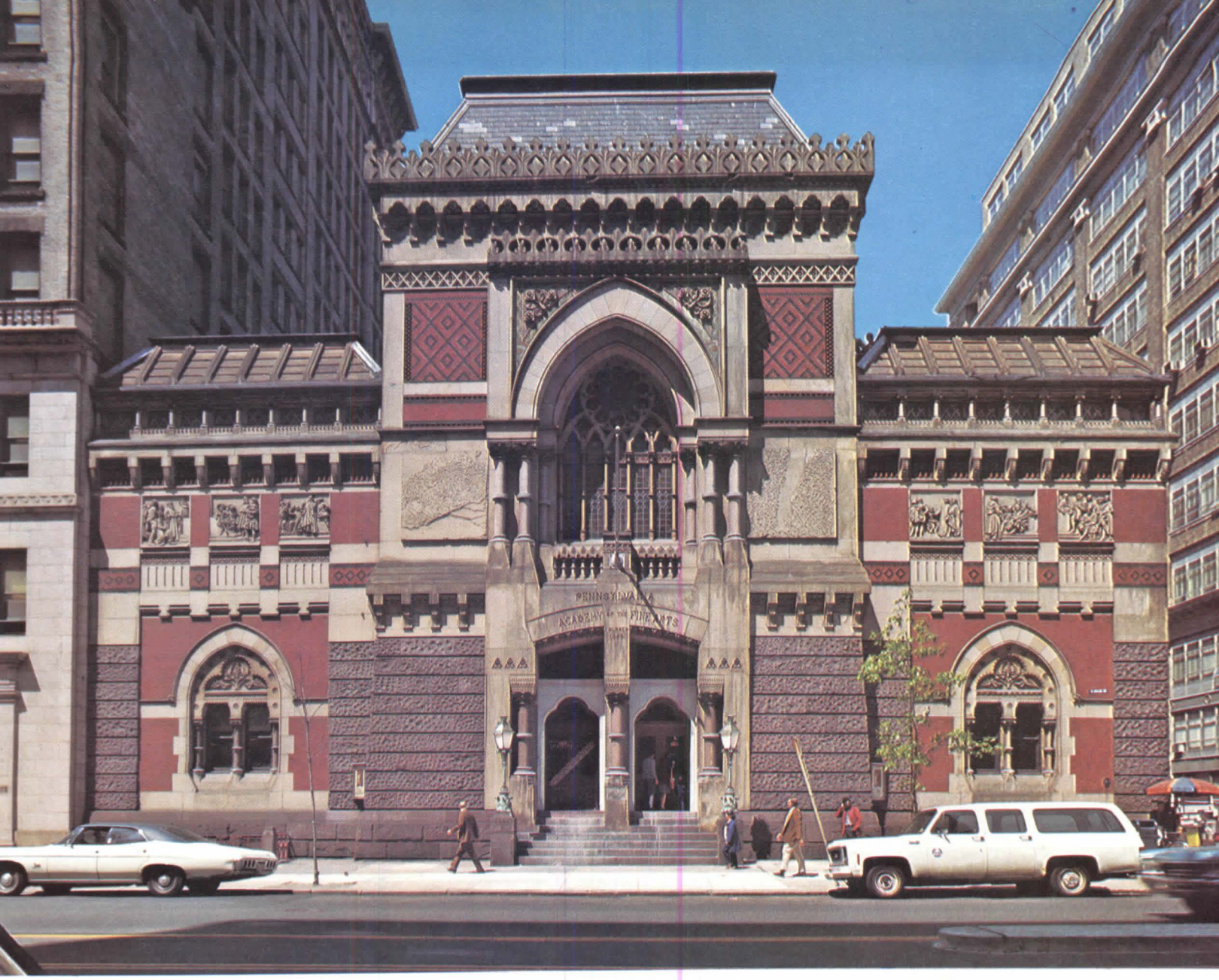
In the recent past, I cast my vote for:
Falling Water, Bear Run, Pa.; Neutra's **Kaufmann desert house** in Palm Springs, Calif.
The new is even tougher, but I would nominate: **St. Francis de Sales Church,** Muskegon, Mich.; **Peabody Terrace,** married students' housing at Harvard University; **Deere & Co. Administrative Center,** Moline, Ill.; the **Weyerhauser Headquarters Building,** Tacoma, Wash.; the **Seagram Building,** New York City; the **Oakland Museum,** Oakland, Calif.; the **Ford Foundation Building,** New York City, and the **Kimbell Museum,** Fort Worth.
For space, I suggest the as yet unfinished **National Gallery of Art extension,** Washington, D.C.; for pure poetry, the **Yale University Art Gallery and Design Center;** for notoriety, the **John Hancock Tower** in Boston.

I. M. Pei, FAIA

I am sure my list is far from complete, but here are my suggestions for America's most significant works of architecture:
The city of **Savannah, Ga.**
The **University of Virginia campus** quadrangle.
Monadnock Building, Chicago.
Unity Temple, Oak Park, Ill.
Reliance Building, Chicago.
Larkin Building, Buffalo.
Rockefeller Center, New York City.
Falling Water, Bear Run, Pa.
Gropius house, Lincoln, Mass.
860-880 Lake Shore Drive apartments, Chicago.
Johnson residence, New Canaan, Conn.
Dulles International Airport, Chantilly, Va.
Salk Institute of Biological Studies, La Jolla, Calif.

Michael Schwarting

There are 22 significant "buildings" on my list, arranged in chronological order:
Cliff Palace, Mesa Verde National Park, Colo.
Stratford, Westmoreland County, Va.
Savannah, Ga., early plan by Oglethorpe.
University of Virginia, Charlottesville.
Central Park, New York City.
Sturtevant house, Middletown, R.I.
Watts Sherman house, Newport, R.I.
Casino, Newport, R.I.
Crane Memorial Library, Quincy, Mass.



Low house, Bristol, R.I.
Monadnock Building, Chicago.
Carson Pirie Scott & Co., Chicago.
Martin house, Buffalo.
Unity Temple, Oak Park, Ill.
Lovell house, Los Angeles.
Dymaxion house of Buckminster Fuller.
Lovell beach house, Newport Beach, Calif.
Rockefeller Center, New York City.
Philadelphia Saving Fund Society Building.
Falling Water, Bear Run, Pa.
Taliesin West, Paradise Valley, near Phoenix.
Seagram Building, New York City.

Adolf K. Placzek

My suggestions for 20 great American buildings:
University of Virginia, Charlottesville.
United States Capitol, Washington.
Jackson Square complex, New Orleans.
Monadnock Building, Chicago.
Prudential (Guaranty) Building, Buffalo.
National Farmers' Bank, Owatonna, Minn.
Larkin Building, Buffalo.
Falling Water, Bear Run, Pa.
Robie house, Chicago.
Trinity Church, Boston.
Nebraska State Capitol, Lincoln.
Pennsylvania Station, New York City.
Empire State Building, New York City.
Woolworth Building, New York City.
Haughwout Building, New York City.
Gamble house, Pasadena, Calif.
School of Art and Architecture Building, Yale University.
Alfred Newton Richards Laboratory for Research in Medicine, University of Pennsylvania.
Philadelphia Saving Fund Society Building.
Allegheny County Courthouse and Jail, Pittsburgh.

Robert A. M. Stern, AIA

My suggestions are:
Monticello, near Charlottesville, Va.
University of Virginia, Charlottesville.
Stoughton house, Cambridge, Mass.
Trinity Church, Boston.
Gate lodge (Ames residence) North Easton, Mass.
Philip Johnson residence, New Canaan, Conn.
Dakota apartments, New York City.
Prudential (Guaranty) Building, Buffalo.
Larkin Building, Buffalo.
Radburn, N.J.
Robie house, Chicago.
Unity Temple, Oak Park, Ill.
Solomon R. Guggenheim Museum, New York City.
Farnsworth house, Plano, Ill.
Seagram Building, New York City.
Grand Central Terminal, New York City.
Rockefeller Center, New York City.
Philadelphia Saving Fund Society Building.
Salk Institute of Biological Studies, La Jolla, Calif.
Venturi house, Chestnut Hill, Philadelphia.

John Hejduk, AIA

The first building that comes to my mind is H. H. Richardson's **Sever Hall** at Harvard University in Cambridge, Mass. I will stick with that first image.

Also receiving six nominations: John Hancock Center, Marshall Field wholesale warehouse, the Lovell 'health' house and (following pages) the Richards Laboratory.

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Adolf K. Placzek, author, editor, professor and librarian of the Avery Memorial Architectural Library, Columbia University.

Patrick J. Quinn, AIA, dean of the school of architecture, Rensselaer Polytechnic Institute.

Ralph Rapson, FAIA, head of the Minneapolis firm of Ralph Rapson & Associates, Inc.

Archibald C. Rogers, FAIA, partner in the Baltimore firm of RTKL Associates Inc., and president of the Institute in 1974.

Michael Schwarting, professor, graduate school of architecture and planning, Columbia University.

Chloethiel Woodard Smith, FAIA, head of the Washington, D.C., firm of Chloethiel Woodard Smith & Associated Architects, and a member of the AIA committee on design.

G. E. Kidder Smith, FAIA, architect, critic and writer based in New York City and author of the forthcoming book entitled *A Pictorial History of Architecture in America.*

Robert A. M. Stern, AIA, partner in the New York City firm of Robert A. M. Stern & John Hagmann; assistant professor, graduate school of architecture and planning, Columbia University, and author of *New Directions in American Architecture.*

Paul A. Thiry, FAIA, head of the Seattle firm of Thiry Architects, Inc., and author of *Churches & Temples.*

Stanley Tigerman, FAIA, head of the Chicago firm of Stanley Tigerman Associates and chairman of the AIA design committee.

Wolf Von Eckardt, Hon. AIA, author and architectural critic of *The Washington Post.*

R. Randall Vosbeck, AIA, partner in the the firm of Vosbeck Vosbeck Kendrick Redinger headquartered in Alexandria, Va., and a director of the Institute.

H. H. Waechter, AIA, architect, author and professor, currently residing in Creswell, Ore.

Forrest Wilson, AIA, former editor of *Progressive Architecture;* author of many books and articles, and chairman of the department of architecture and planning at The Catholic University of America.

Richard Saul Wurman, FAIA, partner in the Philadelphia firm of Murphy Levy Wurman; author of *Man-Made Philadelphia* and other books, and editor of *The Notebooks and Drawings of Louis I. Kahn.*

CBS Building, New York City.

Nominated Works

Ed. Note: In checking for the architectural credits which follow, we found that published sources often differ on the date of a specific structure. Perhaps this is because some critics note the date of a project's first design plan, while others cite the date of its completion—and frequently no date is given at all. We have attempted insofar as possible (and feasible) to cite here the date of a building's completion.

Nominations by respondents for such anonymous structures as American barns and silos are not listed, nor have we included such complexes as Manhattan Island and Philadelphia's Elfreth's Alley which are, of course, the products of many minds over many years.

The italicized figure at the end of each citation denotes the number of times the structure was nominated by respondents as representative of America's proudest architectural achievements.

Deere & Co. Administrative Center, Moline, Ill.

Allegheny County Courthouse and Jail, Pittsburgh (Henry Hobson Richardson, 1887). *Five.*

American Republic Insurance Co. Building, Des Moines, Iowa (Skidmore, Owings & Merrill, 1965). *One.*

Annapolis, Md., early plan (Sir Francis Nicholson, 1695). *One.*

Astrodome, Houston (Wilson, Morris, Crain & Anderson, 1965). *One.*

Auditorium Building, Chicago (now Roosevelt University; Adler & Sullivan, 1889; restoration; Harry Weese & Associates; Crombie Taylor, consulting architect, 1967). *Three.*

Baldwin Hills Village, Los Angeles (Reginald D. Johnson and Wilson, Merrill & Alexander; Clarence S. Stein, consulting architect, 1942). *One.*

Bavinger house, Norman, Okla. (Bruce Goff, 1955). *Two.*

Beinecke Rare Book and Manuscript Library, Yale University, New Haven (Skidmore, Owings & Merrill, 1963). *One.*

Boston Back Bay (original plan by Arthur Gilman, accepted in 1856). *Two.*

Boston park system (often called the city's "emerald necklace," Frederick Law Olmsted Sr., 1879). *Three.*

Boston New City Hall (Kallman, McKinnell & Knowles, Campbell Aldrich & Nulty, Le Messurier & Associates, 1968). *Twelve.*

Boston Old City Hall (Gridley J. Fox Bryant and Arthur Gilman, 1865; restoration, Anderson Notter Associates Inc.). *One.*

Boston Public Library (McKim, Mead & White, 1887; addition, Philip Johnson, 1971). *Four.*

Boston State House (Charles Bulfinch, 1798; rear extension, Charles E. Brigham, 1895; wings, R. Clipston Sturgis, 1916). *Two.*

Bradbury Building, Los Angeles (George H. Wyman, 1893). *One.*

Breuer house I, New Canaan, Conn. (Marcel Breuer, 1947). *One.*

Brooklyn Bridge, New York City-Brooklyn (John A. and Washington Roebling, engineers, 1883). *Eleven.*

Brown Palace Hotel, Denver (Frank E. Edbrooke & Co., 1892; additions, W. B. Tabler Associates, 1959). *One.*

Brunswick Building, Chicago (Skidmore, Owings & Merrill, 1964). *One.*

Carl Mackley houses, Philadelphia (Kastner & Stonorov, with W. Barney, 1935). *One.*

Carpenter Center for the Visual Arts, Harvard University, Cambridge, Mass. (Le Corbusier, with Sert, Jackson & Gourley, 1963). *One.*

Carson Pirie Scott & Co., Chicago (formerly Schlesinger-Mayer Department Store; Louis H. Sullivan, 1899, 1904; Daniel H. Burnham & Co., 1906; Holabird & Root, 1960). *Sixteen.*

CBS Building, New York City (Eero Saarinen & Associates, 1965). *Two.*

Cedar Square West, Minneapolis (Ralph Rapson & Associates, 1973). *One.*

Central Park, New York City (Frederick Law Olmsted Sr. and Calvert Vaux, 1859-76). *Seven.*

Chatham Village, Pittsburgh (Ingham & Boyd, architects; Clarence S. Stein and Henry Wright, site planners, 1930). *Three.*

Christ Church, Philadelphia (1744; steeple, Robert Smith, 1755). *One.*

Christ Lutheran Church, Minneapolis (Eliel Saarinen, 1949). *One.*

Christian Science Church Center, Boston (I. M. Pei & Partners, 1971). *Two.*

Chrysler Building, New York City (William Van Alen, 1930). *One.*

City Hall, New York City (Mangin & McComb, 1811; interiors restored under Grosvenor Atterbury, 1902-20 and exteriors under Shreve, Lamb & Harmon, 1959). *One.*

Civic Center, Chicago (C. F. Murphy Associates; Loebl, Schlossman & Bennett and Skidmore, Owings & Merrill, 1965). *One.*

Cincinnati Union Station (Fellheimer & Wagner, 1933. Partly demolished). *One*

Climatron, Botanical Gardens, St. Louis (Murphy & Mackey; dome, R. Buckminster Fuller, FAIA, 1960). *One.*

Cliveden, Germantown, Pa. (Benjamin Chew, owner, 1761). *One.*

Coit Tower, San Francisco (Arthur Brown Jr., 1934). *One.*

Coliseum, Portland, Ore. (Skidmore, Owings & Merrill, 1960). *One.*

Columbia, Md. (The Rouse Co., Morton Hoppenfeld, chief planner, 1962-). *One.*

Contemporary Hotel, DisneyWorld, Fla. (Welton Becket & Associates, 1970). *One.*

Coonley house, Chicago (Frank Lloyd Wright, 1908). *One.*

Cranbrook Institutions, Bloomfield Hills, Mich. (Eliel Saarinen, 1927-43). *Four.*

Crane Memorial Library, Quincy, Mass. (Henry Hobson Richardson, 1883). *Four.*

Crow Island School, Winnetka, Ill. (Eliel and Eero Saarinen; Perkins, Wheeler & Will, 1940). *One.*

Crystal house, "The House of Tomorrow," Century of Progress Exposition, Chicago (George Fred Keck, 1933). *One.*

Dakota apartments, New York City (Henry J. Hardenbergh, 1884). *One.*

Deere & Co. Administrative Center, Moline, Ill. (Eero Saarinen & Associates, 1965). *Three.*

Disneyland, Anaheim, Calif. (1955). *One.*

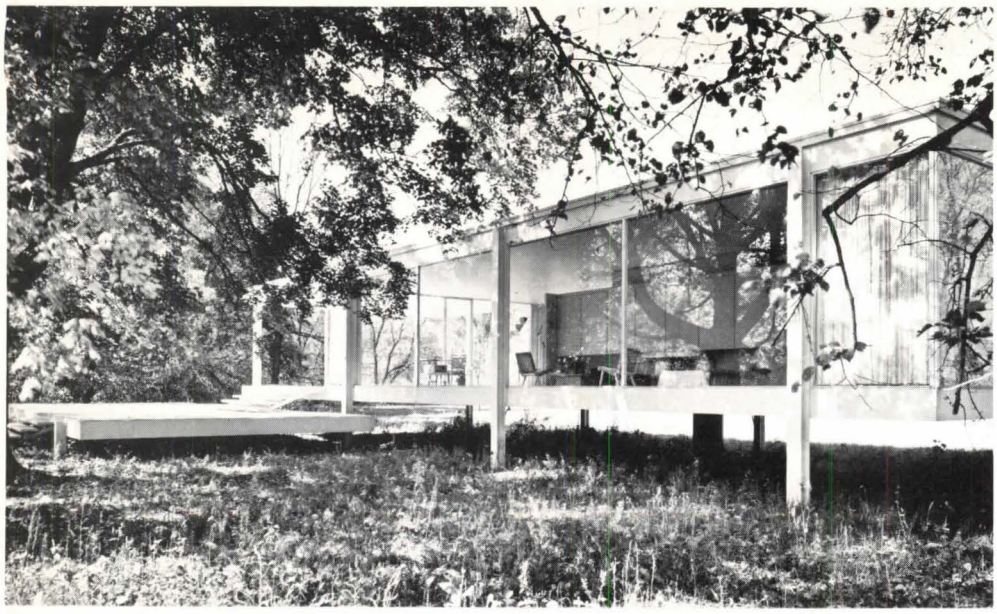
Dodge house, Los Angeles (Irving Gill, 1916. Demolished). *One.*

Dodge Half-Ton Truck Factory, Detroit (Albert Kahn Associated Architects & Engineers, Inc., 1938). *Three.*

Douglas house, Harbor Springs, Mich. (Richard Meier & Associates, 1975). *One.*

Dow home, Midland, Mich. (Alden B. Dow, 1935). *One.*

Dulles International Airport, Chantilly, Va. (Eero Saarinen & Associates; asso-



Farnsworth house, on the Fox River, Plano, Ill.

ciated architect and consultant, Ellery Husted, 1962). *Seventeen.*

Eads Bridge, St. Louis (James Buchanan Eads, 1874). *Two.*

Eames house, Pacific Palisades, Los Angeles (Charles Eames, 1949). *One.*

Empire State Building, New York City (Shreve, Lamb & Harmon, 1931). *Two.*

Esherick house and studio, Paoli, Pa. (Wharton Esherick, 1926). *One.*

Everson Museum of Art, Syracuse (I. M. Pei & Partners; associated architects: Pederson, Hueber, Hares & Glavin, 1968). *One.*

Fairbanks house, Dedham, Mass. (c1636). *One.*

Fairmount Water Works, Philadelphia (Frederick Graff, 1822). *Two.*

Falling Water, Edgar Kaufmann house, Bear Run, Pa. (Frank Lloyd Wright, 1937). *Seventeen.*

Faneuil Hall, Boston (John Smibert, 1740-42; reconstruction, 1762-63; enlargement, Charles Bulfinch, 1805-06; restoration of market area, the Rouse Co. and Benjamin Thompson & Associates, 1975). *One.*

Farnsworth house, Plano, Ill. (Ludwig Mies van der Rohe, 1950). *Five.*

Federal Government Center, Chicago (Ludwig Mies van der Rohe; Schmidt, Garden & Erikson; C. F. Murphy Associates; A. Epstein & Sons, 1964). *One.*

Fellowship house, Los Angeles (Harwell Hamilton Harris, 1935). *One.*

First Church of Christ Scientist, Berkeley, Calif. (Bernard Maybeck, 1910). *Four.*

First Unitarian Church, Rochester (Louis I. Kahn, 1964). *Two.*

Flatiron Building, New York City (Daniel H. Burnham & Co., 1902). *Two.*

Foothill College, Los Gatos, Calif. (Ernest J. Kump and Masten & Hurd, 1962). *One.*

Ford Foundation Building, New York City (Kevin Roche, John Dinkeloo Associates, 1967). *Eleven.*

Ford Motor Co., Willow Run Bomber Plant, Ypsilanti, Mich. (Albert Kahn Associated Architects and Engineers, Inc., 1943). *One.*

Freer house, Detroit (Wilson Eyre Jr., 1890). *One.*

Gallo residence, Modesto, Calif. (Wurster, Bernardi & Emmons, Inc., 1969). *One.*

Gamble house, Pasadena, Calif. (Charles and Henry Greene, 1908). *Four.*

Gardiner-White-Pingree house, Salem, Mass. (Samuel McIntire, 1805). *One.*

Gate lodge, Ames residence, North Easton, Mass. (Henry Hobson Richardson, 1881). *One.*

Gateway arch, St. Louis (formally named the Jefferson Westward Expansion Memorial, Eero Saarinen & Associates, 1967). *Nine.*

General Motors Technical Center, Warren, Mich. (Saarinen, Saarinen & Associates; Smith, Hinchman & Grylls, Inc., 1956). *Three.*

Geodesic dome and Dymaxion house (R. Buckminster Fuller). *Five.*

Ghiardelli Square, San Francisco (Wurster, Bernardi & Emmons, architects; Lawrence Halprin & Associates, urban design, 1965). *Three.*

Golden Gate Bridge, San Francisco (Irving Morrow, consulting architect; Joseph Strauss, chief engineer, 1937). *Three.*

Grand Central Terminal, New York City (Reed & Stem and Warren & Wetmore, 1903-13). *Ten.*

Green Tree Tavern, Germantown, Pa. (Daniel Pastorius, owner, 1748). *One.*

Gropius house, Lincoln, Mass. (Walter Gropius, 1938). *Two.*

Hallidie Building, San Francisco (Willis Polk, 1917; restoration by Connor/McLaughlin). *Four.*

Hancock Shaker Village, Berkshire County, Mass. (1790-1960). *Two.*

Harvard Graduate Center, Cambridge, Mass. (The Architects Collaborative, 1950). *One.*

Haughwout Building, New York City (J. P. Gaynor, 1857). *Two.*

Havens house, Berkeley, Calif. (Harwell Hamilton Harris, 1941). *One.*

Healy guest house, Sarasota, Fla. (the "cocoon house"; Twitchell & Rudolph, 1949). *One.*

Hearst Hall, University of California, Berkeley (Bernard Maybeck, 1899). *One.*

Hearst Memorial Gymnasium for Women, University of California, Berkeley (Bernard Maybeck and Julia Morgan, 1925). *One.*

Hirshhorn Museum and Sculpture Garden, Washington, D.C. (Skidmore, Owings & Merrill, 1974). *One.*

Hollyhock house, Pasadena, Calif. (Frank Lloyd Wright, 1917). *One.*

Holyoke Center, Harvard University, Cambridge, Mass. (Sert, Jackson & Gourley, 1965). *Two.*

Home Life Insurance Building, Chicago (William Le Baron Jenney, 1883. Demolished.) *One.*

Hoover Dam, Colorado River, Arizona-Nevada boundary (Bureau of Reclamation; John Lucian Savage, chief engineer, 1936). *One.*

General Motors Technical Center, Warren, Mich.

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Hurschler house, Pasadena, Calif. (Gregory Ain, 1949). *One.*

Hyatt Regency Hotel, Atlanta (John C. Portman & Associates, 1967). *Three.*

Hyatt Regency Hotel, San Francisco (John C. Portman & Associates, 1972). *Two.*

IDS Center, Minneapolis (Philip Johnson/John Burgee, in association with Edward F. Baker Associates, 1972). *One.*

Illinois Institute of Technology, Chicago (Ludwig Mies van der Rohe and Ludwig Hilberseimer; Friedman, Alschuler & Sincere; Holabird & Root; Pace Associates, 1949-52; Skidmore, Owings & Merrill, 1963). *Six.*

Independence Hall, Philadelphia (Edmund Wooley and Andrew Hamilton, 1756; removal of old wings, Robert Mills, 1811; new spire, William Strickland, 1829; reconstruction, T. Mellon Rogers, 1897; restoration by city under auspices of Philadelphia chapter/AIA, 1912-13; restoration, National Park Service). *Three.*

Ingalls Ice Rink, Yale University, New Haven (Eero Saarinen & Associates, 1958). *One.*

Inland Steel Building, Chicago (Skidmore, Owings & Merrill, 1957). *One.*

Jefferson Memorial, Washington, D.C. (John Russell Pope; sculptor, Rudolph Evans, 1943). *One.*

John Hancock Center, Chicago (Skidmore, Owings & Merrill, 1969). *Six.*

John Hancock Tower, Boston (I. M. Pei & Partners, 1975). *Two.*

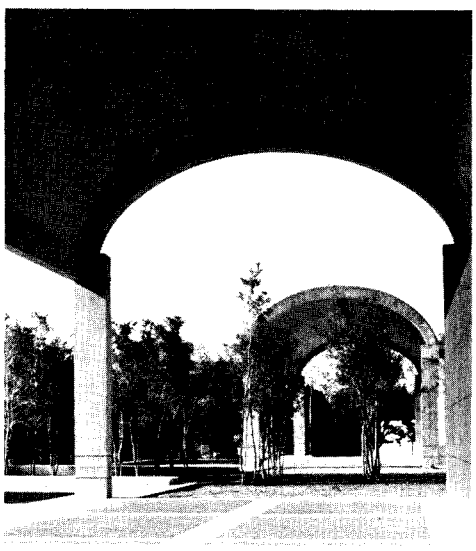
Johns-Manville Headquarters Building, near Denver, Colo. (The Architects Collaborative, 1976). *One.*

Johnson residence (the "glass house," Philip Johnson, FAIA, 1949). *Ten.*

Johnson Wax Co. Administration Building and Laboratory Tower, Racine, Wis. (Frank Lloyd Wright, 1939, 1949). *Eleven.*

Kaufmann desert house, Palm Springs, Calif. (Richard Neutra, 1947). *One.*

Kimbell Art Museum, Fort Worth (Louis I. Kahn, 1972). *Three.*



Kimbell Art Museum, Fort Worth.

Kline Science Tower, Yale University, New Haven (Philip Johnson & Richard Foster, 1964). *One.*

LaClede Town, St. Louis (Chloethiel Woodard Smith & Associated Architects, 1966). *One.*

Lake Point Tower, Chicago (Schipporeit-Heinrich Associates; Graham, Anderson, Probst & White, 1968). *One.*

Lake Shore Drive, 860-880 Lake Shore Drive, Chicago (Ludwig Mies van der Rohe; Pace Associates; Holsman, Holsman, Klekamp & Taylor, 1951). *Five.*

Larkin Building, Buffalo (Frank Lloyd Wright, 1905. Demolished). *Five.*

Lever House, New York City (Skidmore, Owings & Merrill, 1952). *Eleven.*

Liberty Memorial, Kansas City, Mo. (Harold Van Buren Magonigle, 1926). *One.*

Lincoln Memorial, Washington, D.C. (Henry Bacon, architect; Daniel Chester French, sculptor, 1922). *Six.*

Louisburg Square, Boston (plan by S. P. Fuller, 1826; constructed, 1834-47). *One.*

Lovell beach house, Newport Beach, Calif. (Rudolph M. Schindler, 1926). *Three.*

Lovell house, Los Angeles (demonstration health house, Richard Neutra, 1929). *Six.*

Low house, Bristol, R.I. (McKim, Mead & White, 1887). *Two.*

Madame John's Legacy, New Orleans (c1728). *One.*

Madeira School, Greenway, Va. (Arthur Cotton Moore Associates, 1976). *One.*

Manufacturers Hanover Trust Co., New York City (Skidmore, Owings & Merrill, 1954). *One.*

Marina City, Chicago. (Bertrand Goldberg Associates, 1964, 1967). *One.*

Marshall Field Wholesale Warehouse, Chicago (Henry Hobson Richardson, 1887. Demolished). *Six.*

Martin house, Buffalo (Frank Lloyd Wright, 1904). *One.*

Massachusetts Institute of Technology Chapel, Cambridge, Mass. (Eero Saarinen & Associates, 1955). *One.*

McGraw-Hill Building, New York City (Raymond M. Hood, with Godley & Fouilhoux, 1931). *One.*

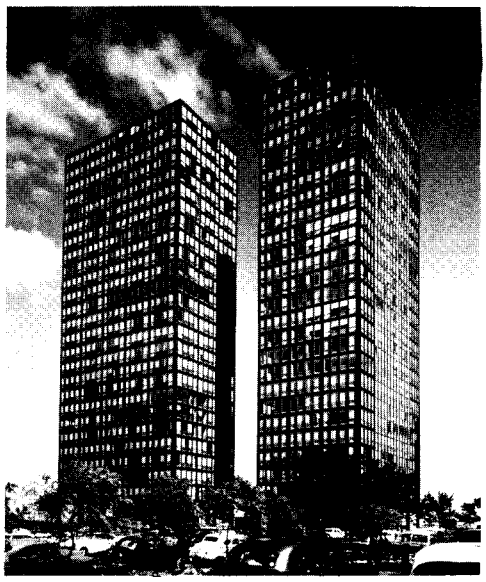
Monadnock Building, Chicago (Burnham & Root; Holabird & Roche, 1891, 1893). *Nine.*

Monsanto Cafeteria, St. Louis (The Kling Partnership, 1967). *One.*

Monticello, near Charlottesville, Va. (Thomas Jefferson, 1769-70; remodeled by Jefferson, 1796-1809; restoration, Milton L. Grigg, 1936-38). *Nine.*

Mount Rushmore National Memorial, Pennington County, S.D. (sculptor, Gutzon Borglum, 1941). *One.*

Mount Vernon, Va. (Augustine Washington, original owner, 1743; alterations, 1757-58, 1773-79; numerous and ongoing restorations; major changes in the late 19th and early 20th centuries, with 1799, date of George Washington's death, the restoration focus). *Two.*



860-880 Lake Shore Drive, Chicago.

National Center for Atmospheric Research, Boulder, Colo. (I. M. Pei & Partners, 1967). *One.*

National Farmers' Bank, Owatonna, Minn. (Louis Sullivan 1908). *One.*

National Gallery of Art, Washington, D.C. (John Russell Pope, 1941). *One.*

National Gallery of Art extension, Washington, D.C. (I. M. Pei & Partners, under contruction). *One.*

Naval Architecture Building, University of California, Berkeley (John Galen Howard, 1906). *One.*

Nebraska State Capitol, Lincoln (Bertram Grosvenor Goodhue, 1932). *Three.*

New York Public Library (Carrère & Hastings, 1911). *One.*

New York State Capitol, Albany (competition winner, Augustus Laver and Thomas W. Fuller; architects, Leopold Eidlitz and Henry Hobson Richardson, 1881). *One.*

Newport Casino, Newport, R.I. (McKim, Mead & White, 1881). *One.*

Northgate, University of California, Berkeley (the "Ark," John Galen Howard, 1906). *One.*

Northland Regional Shopping Center, Wayne County, Mich. (Victor Gruen Associates 1954). *One.*

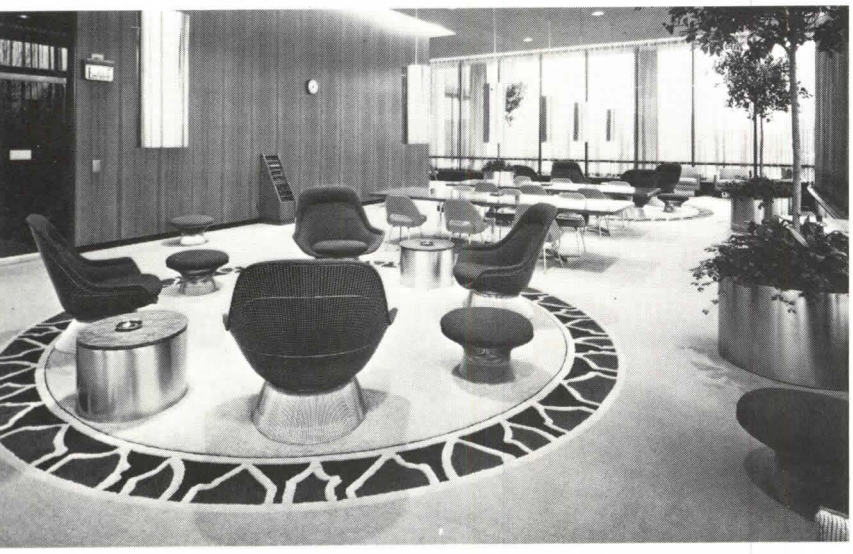
Oak Alley, Vacherie, La. (George Swaney, 1830; restored, Koch & Wilson, 1925). *One.*

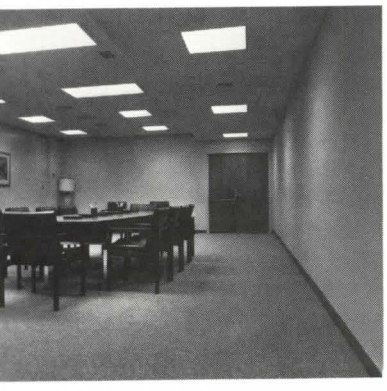
Oakland Museum, Oakland, Calif. (Kevin Roche, John Dinkeloo & Associates, 1969). *One.*

Old Executive Office Building, Washington, D.C. (A. B. Mullett, 1888). *One.*

Old Faithful Inn, Yellowstone National Park, Wyo. (central portion built in 1903, Robert C. Reamer, architect; wings added in 1913 and 1927). *One.*

Old Ship Meeting House, Hingham, Mass. (c1681, widened 1731 and 1755; restored 1930). *Two.*





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Peabody Terrace, Harvard University, Cambridge, Mass.

Old West Church, Boston. (Asher Benjamin, 1806). *One.*

Palace Hotel, San Francisco (Trowbridge & Livingston, 1909). *One.*

Palace of Fine Arts, San Francisco (part of Pan Pacific International Exposition, Bernard Maybeck, 1915; rebuilt, Hans Gerson and Welton Becket, 1965). *One.*

Parson Capen house, Topsfield, Mass. (1683). *One.*

Peabody Terrace, Harvard University, Cambridge Mass. (married students' housing; Sert, Jackson & Gourley, 1964). *Four.*

Pennsylvania Academy of Fine Arts, Philadelphia (Furness & Hewitt, 1876; restored, 1976, Hyman Miller of Day & Zimmerman Associates). *Six.*

Pennsylvania Station, New York City (McKim, Mead & White, 1910. Demolished). *Four.*

Pennzoil Place, Houston (Philip Johnson and John Burgee; S. I. Morris Associates, 1976). *One.*

Philadelphia City Hall (John McArthur Jr. and Thomas U. Walter, 1881). *Two.*

Philadelphia, early plan (Thomas Holme, 1683). *Three.*

Philadelphia Saving Fund Society Building (George Howe & William Lescaze, 1932). *Fifteen.*

Phillips Exeter Academy Library, Exeter, N.H. (Louis I. Kahn, 1972). *One.*

Portland, Ore., Civic Auditorium Forecourt (Lawrence Halprin & Associates, 1966). *Two.*

Price Tower, Bartlesville, Okla. (Frank Lloyd Wright, 1952). *One.*

Princeton University, Nassau Hall (William Shippen & Robert Smith, 1756; restoration, John Notman 1810-65). *One.*

Provident Life and Trust Co., Philadelphia (Frank Furness, 1879). *One.*

Prudential (Guaranty) Building, Buffalo (Louis Sullivan, 1895). *Four.*

Quincy Market complex, Boston (Alexander Parris, 1824-26; *see* Faneuil Hall entry for restoration of market area). *One.*

Radburn, N.J. (Clarence Stein and Henry Wright, 1929-). *Seven.*

Red Rock Amphitheatre, Morrison, Colo. (Burnham Hoyt, 1941). *One.*

Reliance Building, Chicago (now the 32 North State Building, Daniel H. Burnham & Co., 1895). *Eight.*

Reston, Va., Lake Anne Center (Whittlesey, Conklin & Rossant, 1966). *One.*

Rice University, Houston (original campus, Cram, Goodhue & Ferguson, 1912). *One.*

Richards Laboratory for Research in Medicine, University of Pennsylvania, Philadelphia (Louis I. Kahn, 1960). *Six.*

Ritter house, Atherton, Calif. (Wurster, Bernardi & Emmons, Inc., 1957). *One.*

Robie house, Chicago (now Adlai Stevenson Institute of International Affairs; Frank Lloyd Wright, 1909; restoration, Frank Lloyd Wright Office and Skidmore, Owings & Merrill, 1967). *Eleven.*

Rockefeller Center, New York City (initial project: Reinhard & Hofmeister; Corbett, Harrison & MacMurray; Hood & Fouilhoux, 1940). *Twenty-two.*

Rookery, Chicago (Burnham & Root, 1886; remodeled ground story, Frank Lloyd Wright, 1905). *Two.*

St. Francis de Sales Church, Muskegon, Mich. (Marcel Breuer and Herbert Beckhard, 1967). *One.*

St. Mary's Cathedral, San Francisco (Pietro Belluschi, Pier Luigi Nervi and McSweeney, Ryan & Lee, 1971). *One.*

St. Michael's Episcopal Church, Charleston, S.C. (Samuel Cardy, probable architect, 1761). *One.*

St. Patrick's Cathedral, New York City (James Renwick, 1858-79). *One.*

Salk Institute of Biological Studies, La Jolla, Calif. (Louis I. Kahn, 1965). *Eight.*

San Angelo, Tex., High School (Caudill Rowlett Scott Inc., 1959). *One.*

San Francisco de Taos, Ranchos de Taos, N.M. (c1772). *One.*

San Xavier del Bac, Pima County, Ariz. (1797). *One.*

Santa Barbara, Calif., County Courthouse (William Mooser Co., 1929). *One.*

Savannah, Ga., early plan (James Oglethorpe, c1735). *Eight.*

Schindler house, Los Angeles (Rudolf M. Schindler, 1921). *One.*

Seagram Building, New York City (Mies van der Rohe and Philip Johnson; Kahn & Jacobs, 1958). *Fifteen.*

Sears Tower, Chicago (Skidmore, Owings & Merrill, 1974). *Three.*

Sever Hall, Harvard University, Cambridge, Mass. (Henry Hobson Richardson, 1880). *One.*

Smithsonian Institution, Washington, D.C. (the "Castle"; James Renwick, 1849). *One.*

Solomon R. Guggenheim Museum, New York City (Frank Lloyd Wright, 1959). *Six.*

Space Needle, Seattle (John Graham & Co., 1962). *One.*

Springer Music Hall, Cincinnati (Hannaford & Procter, 1878). *One.*

State House, Frankfort, Ky. (Gideon Shryock, 1830). *One.*

Statue of Liberty, New York City (Frederic Bartholdi, sculptor; Gustave Eiffel, engineer; Richard Morris Hunt, architect of the base, 1886). *One.*

Stoughton house, Cambridge, Mass. (Henry Hobson Richardson, 1883). *One.*

Stratford, Westmoreland County, Va. (1730). *Three.*

Studebaker Building, Chicago (now Fine Arts Building, S.S. Beman, 1884). *One.*

Sturtevant house, Middletown, R.I. (Dudley Newton, 1872). *One.*

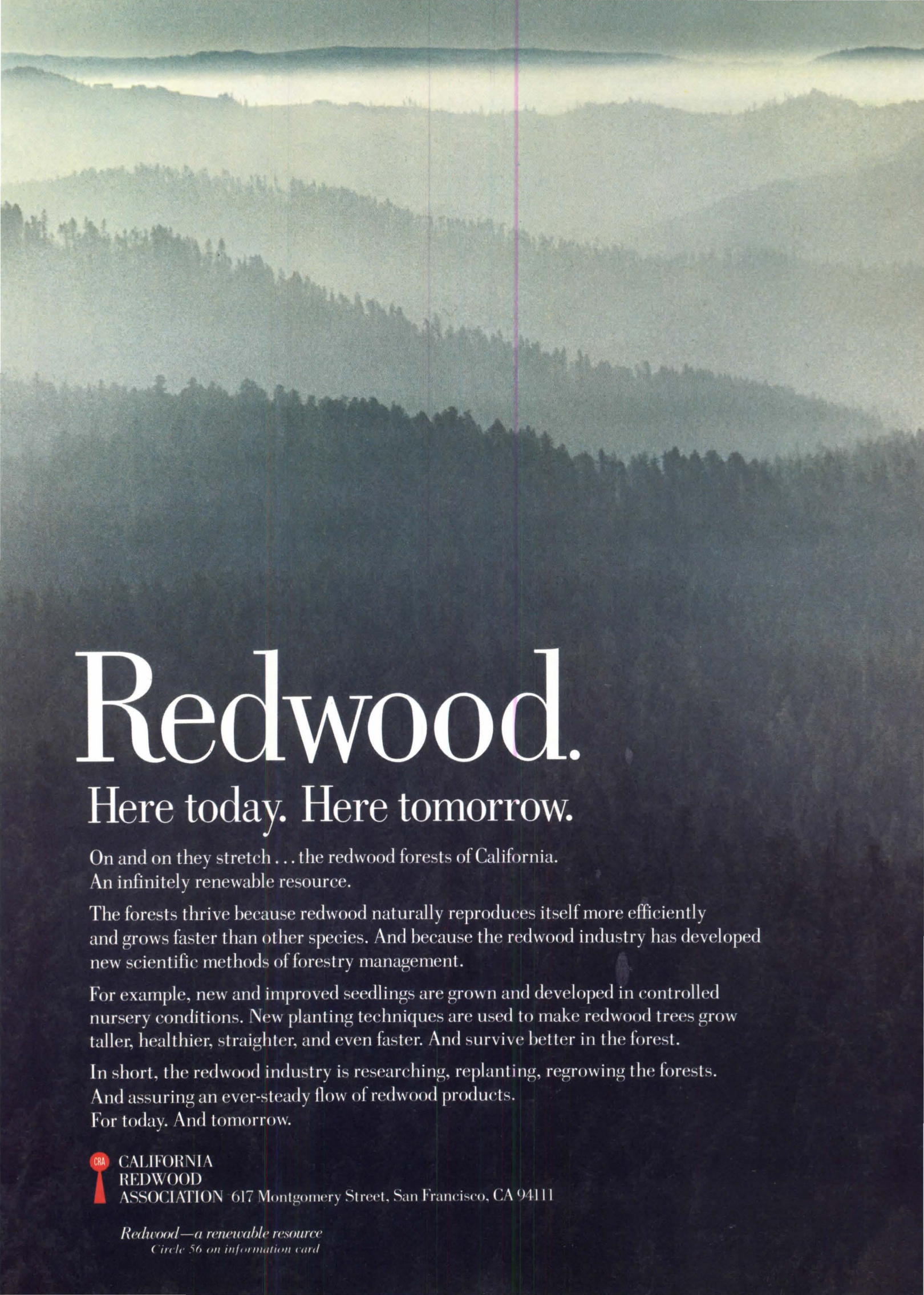
Superdome, New Orleans (Curtis & Davis 1975). *One.*

Tabernacle Church of Christ, Columbus, Ind. (Eliel Saarinen, 1942). *One.*

Taliesin East, Spring Green, Wis. (Frank Lloyd Wright, 1911). *Three.*

Taliesin West, Paradise Valley, near Phoenix (Frank Lloyd Wright, 1938). *Six.*

Temple Emanu-El, New York City (Leopold Eidlitz, 1868. Demolished). *One.*



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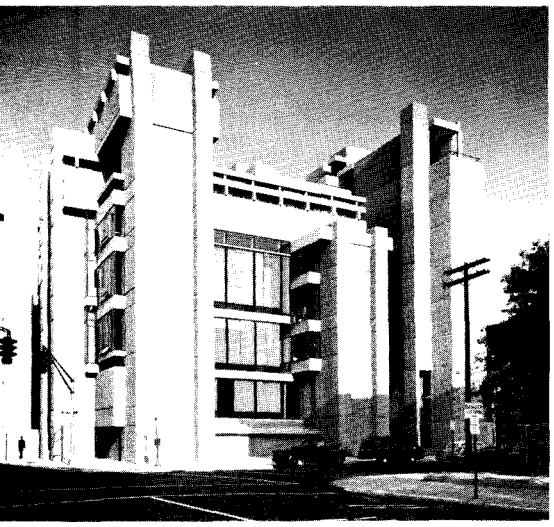

Yale University, School of Art and Architecture Building.

Tenneco Building, Houston (Skidmore, Owings & Merrill, 1963). *One.*

Tennessee Valley Authority (TVA and Bureau of Reclamation; Roland Wank, architect; Arthur Morgan, engineer, 1933-). *Five.*

Trans World Airlines Terminal, Kennedy Airport, New York City (Eero Saarinen & Associates, 1961). *Three.*

Transylvania College, Old Morrison, Lexington, Ky. (Gideon Shryock, 1833). *One.*

Tremaine residence, Montecito, Calif. (Richard J. Neutra, 1949). *One.*

Tremont House, Boston (Isaiah Rogers, 1829. Demolished). *One.*

Tribune Tower, Chicago. (Hood & Howells, 1925). *One.*

Trinity Church, Boston (Henry Hobson Richardson, 1877). *Twelve.*

Trinity Church, New York City (Richard Upjohn, 1846; bronze doors by Richard M. Hunt). *One.*

Tryon Palace, New Bern, N.C. (also called Governor's Palace; John Hawks, 1767; reconstructed, William Graves Perry of Perry, Shaw, Hepburn, 1952-59). *One.*

United Nations Secretariat Building, New York City (International Committee of Architects, Wallace K. Harrison, chairman, 1947-53). *One.*

U.S. Air Force Academy, Colorado Springs, Colo. (Skidmore, Owings & Merrill, 1956-62). *Two.*

U.S. Capitol, Washington, D.C. (William Thornton, 1793-1802; Benjamin Henry Latrobe, 1803-17; Charles Bulfinch, 1819-29; Robert Mills, 1836-51; Thomas Ustick Walter, 1851-65; West Terrace, Frederick L. Olmsted Sr., 1875). *Six.*

U.S. Military Academy, West Point, N.Y. (1778-). *One.*

U.S. Naval Academy, Annapolis, Md. (1845-). *One.*

U.S. Pavilion, Expo '67, Montreal (R. Buckminster Fuller/Fuller & Sadao, Inc.; architects for the pavilion: Geometrics Inc.; architects for the exhibition: Cambridge Seven Associates, 1967. Destroyed.) *Two.*

U.S. Pavilion, Expo '70, Osaka, Japan (Davis, Brody, Chermayeff, Geismar & deHarak, 1970). *One.*

Unity Temple, Chicago (Unitarian Universalist Church and Parish House; Frank Lloyd Wright, 1906). *Seven.*

University Club, New York City. (McKim, Mead & White, 1899). *One.*

University of Akron's Edwin J. Thomas Hall of Performing Arts (Caudill Rowlett Scott; Schaefer, Flynn & Van Dijk, 1973). *One.*

University of Colorado, Boulder (first building, Day & Klauder 1922). *One.*

University of Illinois, Chicago Campus (Skidmore, Owings & Merrill; C. F. Murphy Associates; A. Epstein & Sons, Inc., 1965, first units). *One.*

University of Virginia, Jeffersonian campus, Charlottesville (Thomas Jefferson, aided by William Thornton and Benjamin Latrobe, 1822-26; annex by Robert Mills, 1851; rotunda burned in 1895; rebuilt to design of Stanford White in 1900; restored by Ballou & Justice; consultant, Frederick D. Nichols, 1976). *Twenty-nine.*

Vehicle Assembly Building, Kennedy Space Center, Cape Kennedy, Fla. (Max Urbahn & Associates, architects; Roberts & Schaefer Co., engineers, 1966). *Two.*

Venturi house, Chestnut Hill, Philadelphia (Venturi & Rauch, 1964). *Two.*

Verrazano-Narrows Bridge, New York City (Ammann & Whitney, engineers; consulting architects: John B. Peterkin, Amar Embury II, Edward D. Stone, 1962). *One.*

Vieux Carré, New Orleans (Sieur Jean Baptiste Lemoyne de Bienville, founder, 1718). *Two.*

Wainwright Building, St. Louis (Adler & Sullivan, Charles K. Ramsey, 1891; competition for restoration and addition won in 1974 by Hastings & Chivetta and Mitchell/Giurgola Associates). *Eight.*

Washington, D.C., L'Enfant plan (Pierre L'Enfant, 1792). *Six.*

Washington Monument, Washington, D.C. (Robert Mills, 1885; original design greatly revised). *Four.*

Watts Sherman house, Newport, R.I. (Henry Hobson Richardson, 1876). *One.*

Watts Towers, Los Angeles (Simon Rodia, 1921-54). *One.*

Watzek house, Portland, Ore. (John Yeon, designer; A. E. Doyle & Associates, architects, 1937). *One.*

Wayfarers' Chapel, Palos Verdes, Calif. (Lloyd Wright, 1951). *Two.*

Westover plantation, Charles City County, Va. (c1730). *One.*

Weyerhauser Headquarters, Tacoma, Wash. (Skidmore, Owings & Merrill, 1971). *Two.*

Whipple house, Ipswich, Mass. (c1640). *One.*

White House, Washington, D.C. (James Hoban, Benjamin Latrobe and others, begun in 1792). *One.*

Williamsburg, Va., restoration (architectural development of the plan: Perry, Shaw & Hepburn; Colonial Williamsburg). *Five.*

Willitts house, Highland Park, Ill. (Frank Lloyd Wright, 1902). *One.*

Wolfe house, Catalina Island, Calif. (Rudolf M. Schindler, 1928). *One.*

Woolworth Building, New York City (Cass Gilbert, 1913). *One.*

World Trade Center, New York City (Minoru Yamasaki & Associates and Emery Roth & Sons; north tower topped out, 1970; south tower, 1971). *One.*

World's Columbian Exposition, Chicago (Burnham & Root; Richard M. Hunt; McKim, Mead & White; George B. Post; Peabody & Stearns; Van Brunt & Howe; Charles B. Atwood; Adler & Sullivan; Henry Ives Cobb; Frederick Law Olmsted Sr.; Transportation Building, by Adler & Sullivan, 1893; now remaining is the Midway Plaisance, once the formal entrance to the exposition). *Three.*

Wyck, Germantown, Pa. (Haines house, 1690; remodeled in 1824 by William Strickland). *One.*

Yale University Art Gallery and Design Center (extension of Gallery of Fine Arts opened in 1928, designed by Egerton Swartwout; Louis I. Kahn in association with Douglas Orr, 1953). *Two.*

Yale University's School of Art and Architecture Building, New Haven (Paul Rudolph, 1963). *Four.*

Yerba Buena Club, San Francisco (for Golden Gate Exposition; William Wurster, 1939. Demolished). *One.*

Zomehouse, Corrales, N.M. (Steve Baer 1972). *One.*

TWA Terminal, New York City.

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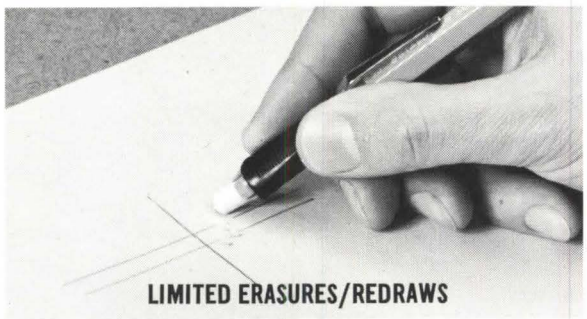
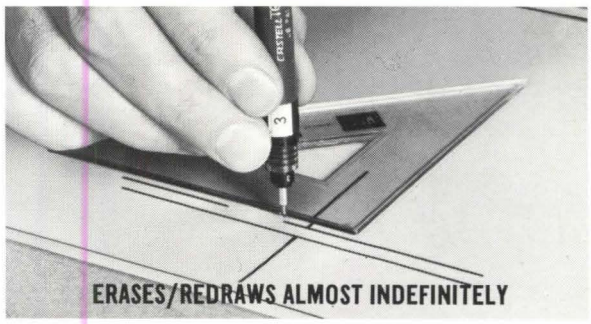
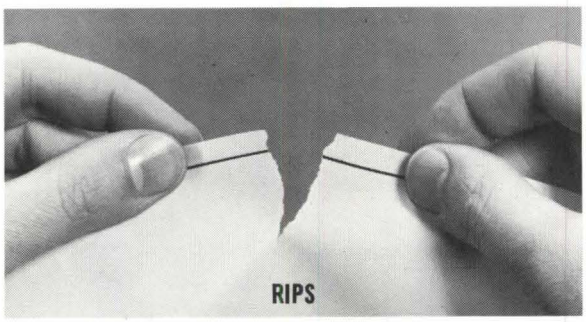
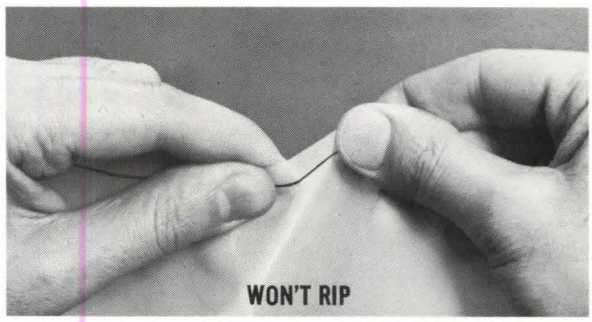
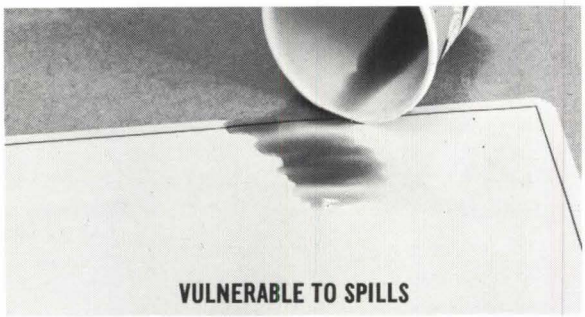
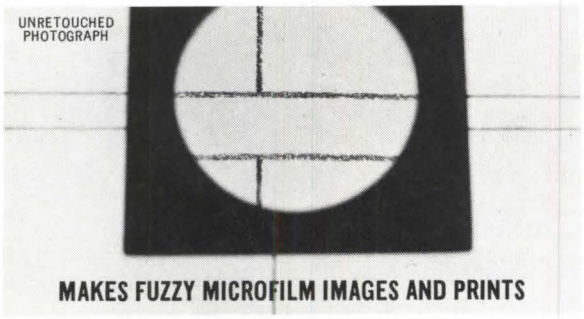
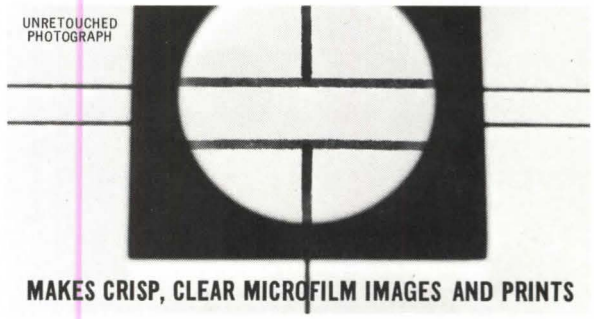
 LIMITED ERASURES/REDRAWS	 ERASES/REDRAWS ALMOST INDEFINITELY
 RIPS	 WON'T RIP
 VULNERABLE TO SPILLS	 SPILLS WIPE OFF
 UNRETOUCHED PHOTOGRAPH MAKES FUZZY MICROFILM IMAGES AND PRINTS	 UNRETOUCHED PHOTOGRAPH MAKES CRISP, CLEAR MICROFILM IMAGES AND PRINTS

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The steel-framed, long-span system: a natural choice for five new Florida parking garages.

Five new open-deck parking garages, accommodating up to 3,402 cars, are serving Florida's state employees in Capitol Center—a complex of government offices in Tallahassee.

The steel-framed, long-span concept was chosen over competitive systems for reasons combining economy, construction speed and aesthetics.

From the start, sites were selected and the respective structures designed with every intention of preserving visual harmony with the existing buildings and landscaping of Capitol Center. The happy result of this careful planning is that most of the trees are still there!

THE GREATEST ECONOMY

As many as eight different structural systems were used as models for evaluation. This in-depth study, which examined construction speed as well as material costs, showed that structural steel framing with composite cast-in-place concrete decks had the potential for the greatest economy.

The decision proved wise. Construction cost per car is figured at approximately $2,400—a unit cost substantially lower than comparable facilities in Florida.

NO FIRE PROTECTIVE MATERIALS NEEDED!

One of the decisive elements in establishing the low-cost estimate for the steel-framing system was the fact that the steel structures could be left exposed and unprotected—except for painting.

Changes in the regulations of a number of building codes (and fire insurance rates) have been effected through a research project carried out at Scranton, Pa., under the auspices of the American Iron and Steel Institute. The dramatic and fully documented Scranton Fire Test was an actual auto burnout in a normally occupied open-deck public parking garage. It confirmed the results of previous tests: *an automobile fire in these structures is a low-hazard fire.*

STANDARD MODULE

For all the five facilities (named Alpha, Beta, Gamma, Delta and Epsilon) the designers selected a standard bay module, which proved to be a major factor in cost-cutting.

Each bay measures 55-ft. wide with a 20-ft. distance between columns and a floor-to-floor height of 10-ft. These dimensions allow angle (58 degrees) parking for standard-size cars and perpendicular parking for compact cars.

Self-parking is, of course, made easier by this amount of long-span, column-free space.

3,446 tons of ASTM A36 steel went into the five facilities which, together, have a floor area of 1,074,909 sq. ft. Only two column sizes were used throughout: W10 x 49 and W10 x 72. All beams are W24's with the majority weighing 68 lbs. per linear foot. Design loads are 50 psf for roofs and floors.

United States Steel is ready to help you with your design of a long-span, open-deck garage. For a Structural Report on the Capitol Center Parking Garages, and for further information, write to U.S. Steel, P.O. Box 86 (C624), Pittsburgh, Pa. 15230. Or contact a USS Construction Representative through your nearest USS Sales office.

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Aesco Steel, Montgomery, Alabama.
Florida Steel Corp., Jacksonville, Fla.
Steel Erector: North Florida Erection Co., Inc., Jacksonville, Fla.

The Black Architectural Experience in America

Richard Dozier

The African slave brought only the products of his mind to the new world, including the skills of ironworking, woodcarving and proficiency in the use of earth and stone. His innovations in the application of these skills qualified him as an architect alongside many other early American craftsmen.

The colonial plantation system relied upon its slave craftsmen to produce all furniture and tools, and often buildings. In 1934, historian Leila Sellers wrote about the Charleston, S.C., area: "Slaves had become proficient in every craft, even that of jeweler . . . the white artisan was virtually eliminated by 1790." A narrative written by a slave, Louis Hughes, reports that "Master had a skilled [slave] blacksmith and slave carpenters and workers in wood who could turn their hands to most anything." He also informs us that "slaves made the brick for, and built Master McGee's mansion near Memphis."

It was slaves who built the 10-room, two-and-a-half story plantation called Magnolia in Plaquemines Parish, La., in 1795. Records and building technology reveal slave involvement in most early plantation construction throughout Louisiana. A few notable examples include Oakland in Bermuda, Cherokee in Natchez and Kate Chopin's house, now the Bayou Folk Museum, in Cloutierville.

When John Sims' house at Gippy Plantation in South Carolina was destroyed by fire, it was rebuilt in 1852 by slave artisans. Winsor Hall, the oldest landmark in Greenville, Ga., was designed and built in 1836 by Isaiah Wimbush, a slave artisan. Architectural characteristics such as steep, sloping hip roofs, central fireplaces, porches with wide overhanging roofs and the use of earth and moss to construct walls suggest that elements of African architecture may have been introduced by slave builders.

Mr. Dozier is a private consultant in the field of historic preservation and black landmarks. He received the master's in architecture degree from Yale University and was on the Yale faculty for five years. Now he is completing requirements for the doctorate in architecture from the University of Michigan.


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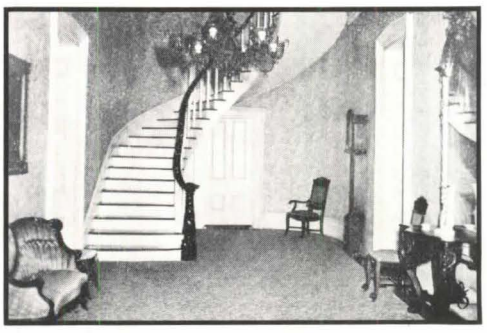


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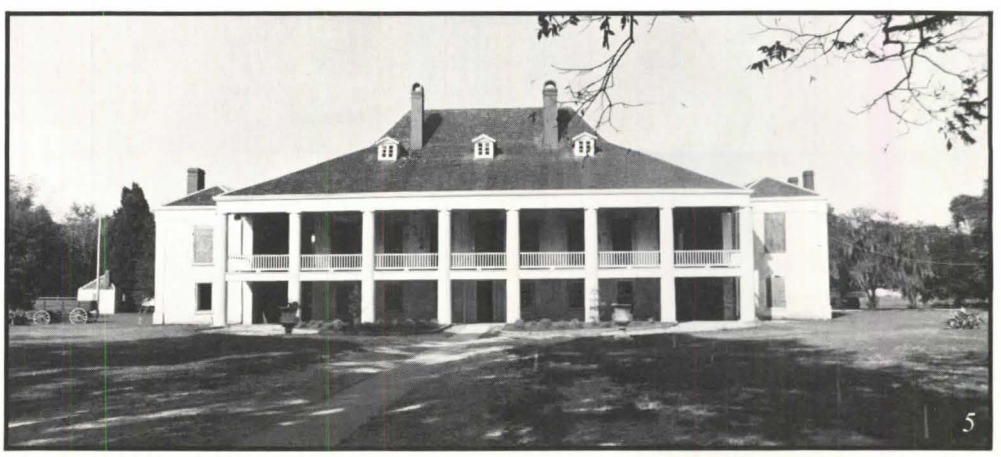
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Elements of a Cameroon chief's house (1) in Africa are echoed in the new world. The ample hip roofs at Melrose plantation's original main house (2), c1780, and "African House" (3) of about 1800 are obvious links to the old. The 1820 main house (4) at Melrose in Louisiana is believed to have been designed by a former slave's son, Louis Metroyer, who studied in Paris. The 1787 Destrehan plantation (5), also in Louisiana, was designed by a free black artisan named Charles. A spiral staircase (6) in the Watkins-Moore Grayson mansion, Huntsville, Ala., is one of three there by Virginia slave James Bell.

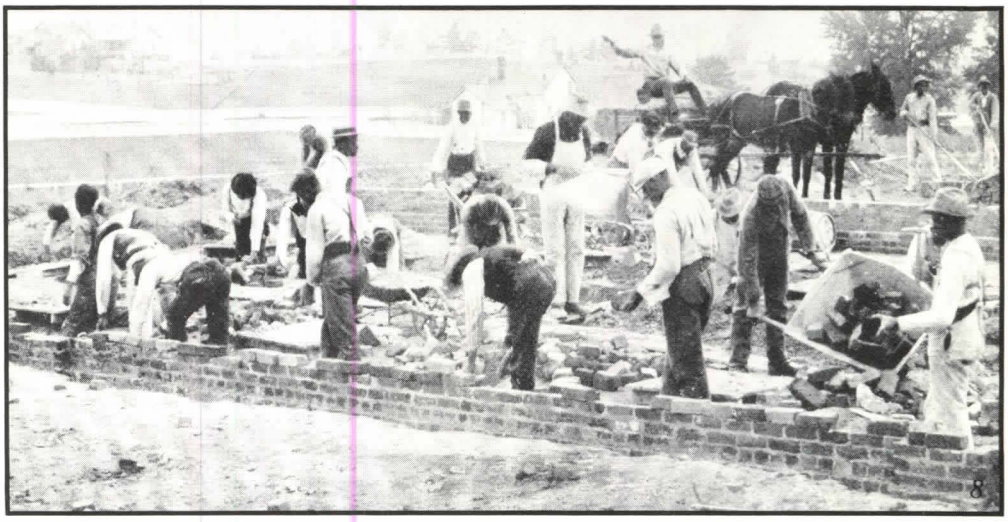
Plantation records show that these slave artisans were also "hired out" or lent to other plantations. One example was James Bell, a Virginia slave who was brought to Huntsville, Ala., to design and build three spiral staircases for the Watkins-Moore Grayson mansion. The practice of hiring out, however, seems to have been more widely practiced by urban slave owners.

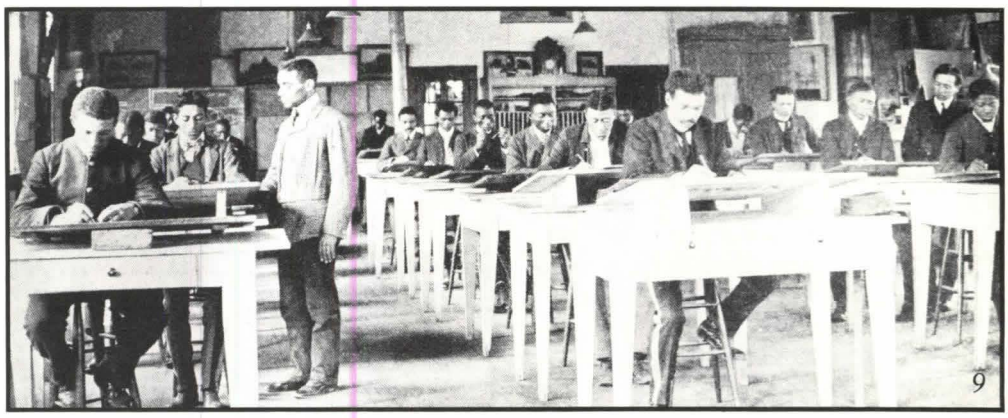
The papers of 19th century entrepreneur Robert Jemision Jr. of Alabama indicate he operated a school for slave artisans. His records of about 1830 show he had in his employ "two slave architects, Horace and Napoleon." Jemision, apparently pleased with Horace's work, introduced a bill in the 1845-46 session of the Alabama legislature to emancipate the slave architect. Horace King, as he became known, built some of Alabama's best-constructed covered bridges. His 614-foot bridge spanning the Chattahoochee River was the longest of its type in the U.S. when it was built in 1873.

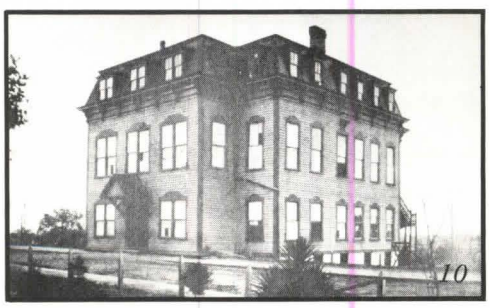
A contract drawn up in 1787 between Robin deLogny and Charles, a free black carpenter, woodworker and mason, indicates the existence of free black "architects" even before Horace King. The contract empowered Charles to construct Destrehan Plantation in St. Charles Parish, La., and specified that he be paid "one brute Negro, one cow and her calf, 50 quarts rice in chaff, 50 quarts corn husks, and upon completion, 100 peastros." Since the contract only specified "a home 60 feet in length by 35 feet in width," we can assume the design was also by the builder Charles.

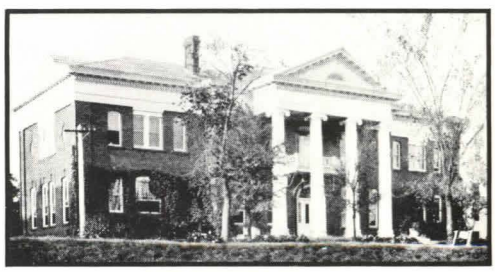
Besides free black artisans there were also free black planters who, often in efforts to emulate their white counterparts, built large plantation homes. In Louisiana there was Arlington (built in 1850 by Mignon Carlin), Cazelar house (built by Pierre Cazelar) and Parish plantation (built by Andrew Drumford). After traveling through the 19th century South, Frederick Law Olmsted wrote that the best houses and the most beautiful grounds that he had visited in Louisiana belonged to a nearly full-blooded Negro.

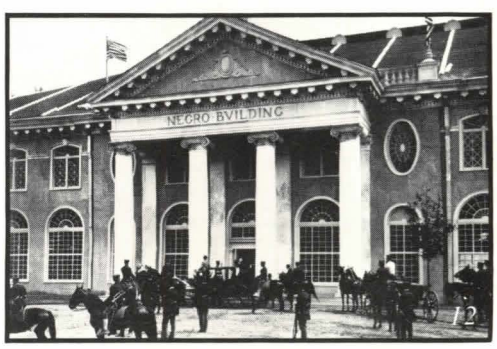
It is quite possible that the house Olmsted was referring to belonged to a son of











Bricks are loaded on wagons at Hampton Brickyards (7). Turn of the century Tuskegee students lay a building foundation (8). In a Tuskegee drafting class (9), students and faculty provide drawings for the buildings. Porter Hall (10) was the first building at Tuskegee, built by students in 1882 at a cost of $6,000. William S. Pittman was architect of Tuskegee's 1904 Carnegie Library (11) and of the "Negro Building" (12) at the 1907 Jamestown Exposition.

John A. Lankford (13) opened an office in Jacksonville, Fla., in 1899 to become this country's first known black professional architect. Workers in his office (14) numbered four by 1915. By this time he had moved to Washington, D.C., and designed the Knights of Pythias Temple (15) in Louisville, Ky.

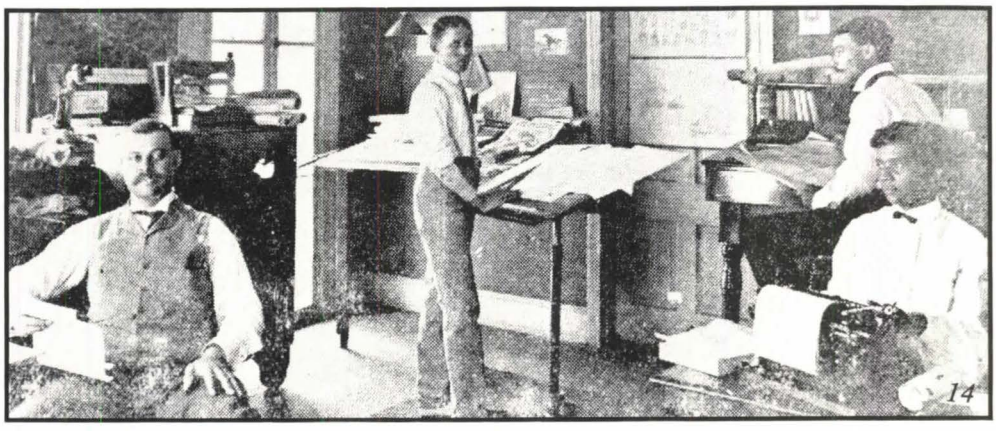
Marie Therese, an ex-slave who gained her freedom in 1778, received two land grants from the Spanish government and by 1803 had acquired at least 4,000 acres. Here she established Melrose plantation, which became the center of the Metoyer land holdings of 13,000 acres, which, in turn, became known as Isle Brevelle, a settlement of "free people of color."

Louis Metoyer, one of Marie's 14 children, studied architecture in Paris and is responsible for the design of the Melrose mansion and many of the later buildings in Isle Brevelle. The main buildings of Melrose and its church, also built by Louis Metoyer, remain standing today. The most unusual of these buildings is the African house, built around 1800. Of purely African design, it is the only structure of its type now standing in the U.S. and recently was designated a national landmark.

By the end of the reconstruction period, industrialization, trade unions, racism and economic depression had dethroned the free black planter class and with it the black craftsman from his domination of the building trades. With the establishment of America's first school of architecture at the Massachusetts Institute of Technology in 1860, architecture had begun to be professionalized. The distinction between builder and architect was further completed in 1897 when Illinois required architects to be licensed by the state.

By 1890, there were 8,090 architects in the U.S., 677 of whom were in the South. In 1910 there were 16,613 with 1,462 located in Southern states. Carter Woodson, using U.S. census figures, states in his book, *The Negro Professional and the Community,* that in 1890 there were 44 black architects, draftsmen and inventors and in 1910 there were 54. His list for 1930 contains 45 black architects, none of whom were in Southern states. Since research has clearly shown that there were black architects in the South prior to 1930, we can safely speculate that race played a role in determining who was classified as "architect."

It was in fact in the South, at Booker T. Washington's Tuskegee Institute in Alabama, that the first movement of black professional architecture was orchestrated.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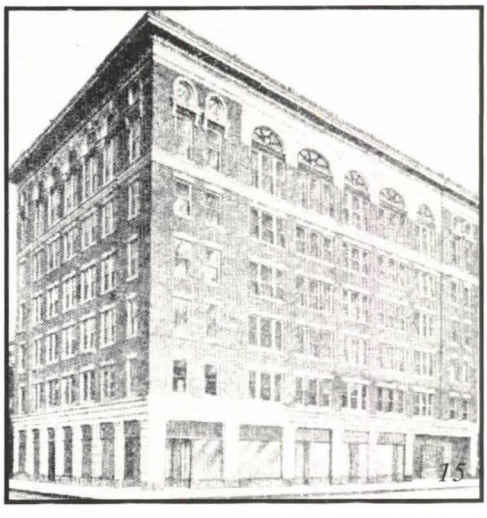
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A closer examination of Washington's "normal school," which had been established to train teachers, reveals a most complete school of architecture within the department of mechanical industries. Tuskegee's early buildings were designed by department faculty members and were built under their supervision by students with student-made bricks. School records indicate that the department was established to make a profit and that it took on design and construction jobs outside the school. Course work included freehand drawing, drafting and bookkeeping. The department head wrote of the school's objectives, "The student is taught a trade and the completed building [constructed by students] . . . is a constant inspiration to him and forms the strongest ties to his Alma Mater."

Almost without exception, early black architects began at Tuskegee, either as students or faculty members. Booker T. Washington recruited Robert R. Taylor in 1892 to develop the mechanical industries department. Taylor had been among the first blacks to graduate in architecture from MIT, and during his 41 years' tenure at Tuskegee Taylor designed many of its major buildings, supervised overall campus planning and later became vice president of the Institute. He died suddenly on December 13, 1942, in the institute's Butler Chapel, his favorite among his own early designs.

John A. Lankford, one of Taylor's earliest pupils, established the first known black professional architectural office in Jacksonville, Fla., in 1899. Prior to opening his office, Lankford had served as superintendent of Shaw University's mechanical industries department, where he

continued on page 166

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The 1938 Founders Library (16) at Howard University was designed by Louis E. Fry Sr., FAIA, of the Albert I. Cassell office. The tallest building in Birmingham, Ala., in 1926 was the just-completed Masonic Temple (17). Robert R. Taylor was the architect. St. Phillip's Episcopal Church (18) of 1910 by architect Vortnor Tandy was the first church building constructed in Harlem by blacks for blacks.

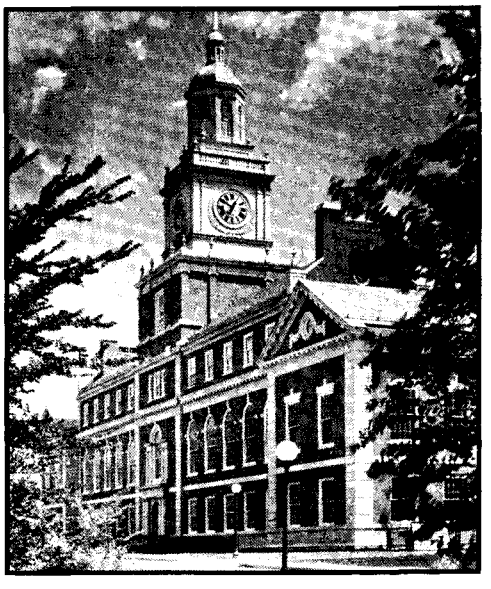
Blacks from page 164
was responsible for the design of several buildings. In 1898 he designed and supervised the construction of the $100,000 Coleman Cotton Mill in Concord, N.C. Moving to Washington, D.C., in about 1901, Lankford became one of the black race's leading architects. He served as the national supervising architect to the A.M.E. church, for which he designed Big Bethel, a landmark of Atlanta's Auburn Avenue, and a church in Capetown, South Africa.

At least three members of Robert Taylor's mechanical industries department faculty at Tuskegee made substantial architectural contributions. Wallace Rayfield, an 1899 graduate of the Pratt School of Architecture, established the first black architectural office in Birmingham, Ala. As with Lankford, much of his work was for churches. He later became the national architect for the A.M.E.Z. Church. His designs included Ebenezar Baptist in Chicago and Birmingham's 16th Street Church, the church in which four little girls were killed in mid-'60s bombing.

William Pittman, also a Tuskegee faculty member under Robert Taylor, moved to Washington, D.C., and worked with John Lankford before establishing his own office there in 1906. Architect Pittman gained the commission to design the Negro Building for the Jamestown Tricentennial in 1907. It was designed and built entirely by blacks and contained exhibits of "progress by the race."

A third Tuskegee faculty member and architect was Vertner A. Tandy. Graduating from Cornell University in 1909, he became the first black architect in New York State, and was a leading resident of Harlem's famed Striver's Row. His Harlem designs include St. Phillips Church and old rectory, Mother Zion A.M.E.Z. Church, Small's Paradise and the Abraham Lincoln housing complex, which was a joint venture undertaken with Skidmore, Owings & Merrill. During World War I, Tandy was commissioned as the first black officer of Harlem's 369th Regiment, where he advanced to the rank of major and commanded the regiment briefly.

In 1911, he received an architectural commission to design a $100,000 townhouse in Harlem for Madame C. J. Walker who, beginning as a scrub woman, rose to make millions in the cosmetics industry. Five years after commissioning Tandy to design her Harlem house, she had him design her 34-room mansion in Irvington on the Hudson. It cost $250,000 and was one of the largest houses designed for a black person by a black architect. Called Villa le Waro by the great singer Caruso, the Irvington mansion was described by Madame Walker as "a monument to my people to show what can be accomplished."



Beyond question Tuskegee had a great influence in the development of early black architects. But there were, of course, black architects who did not attend Tuskegee. Among these was Julian Abele who was graduated from the University of Pennsylvania in 1902 and became the chief designer for Horace Trumbauer & Associates in Philadelphia. He was responsible for most of the firm's later work, including the design for Duke University and the Duke family mansions in New York and New Jersey.

Paul Williams, a 1919 graduate of the University of Southern California school of architecture, was noted for his designs of houses for Hollywood film stars, and in 1926 alone had several million dollars of construction under his supervision. Among his designs were the homes of Tyrone Power, Betty Grable, Julie London and Frank Sinatra. More recently he designed the Los Angeles International Airport restaurant building.

In 1926, Williams became the first black member of AIA and in 1956 he was the first of his race elected to the Institute's college of fellows. He received numerous awards for housing designs, as well as honorary degrees from Atlanta University, Tuskegee and Howard University.

Williams was also the designer for Freedman's Hospital on the Howard University campus, where the first school of engineering for blacks was established in 1923.

World War II had a profound effect on the development of black architects in America. In 1941 the War Department

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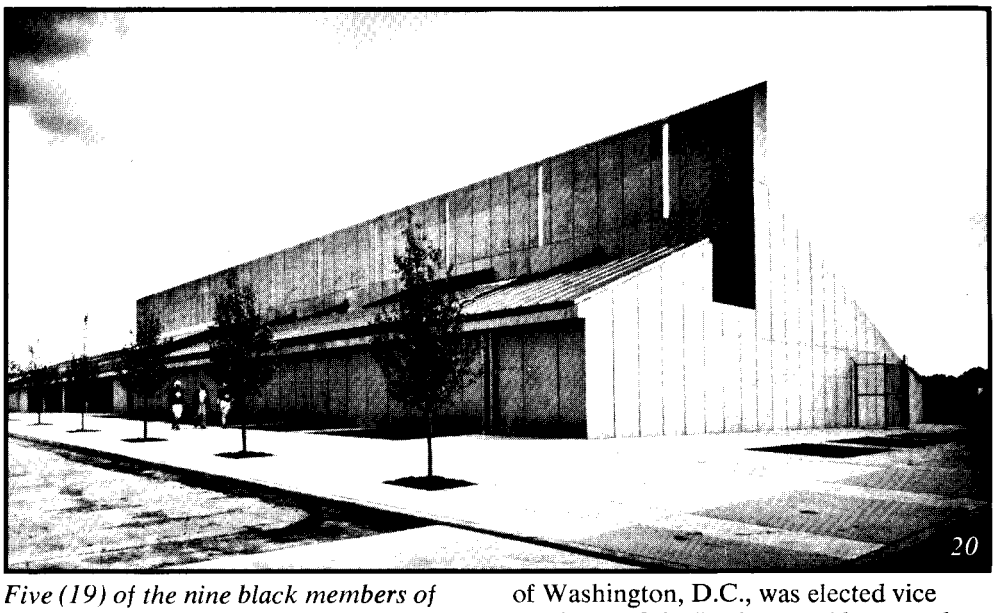
awarded a $4.2 million contract to the black architectural, engineering and construction firm of McKissack & McKissack for the construction of Tuskegee Air Base. Hilyard Robinson, a Washington, D.C., architect, was awarded the architectural design contract. The project is seen today by many senior black architects as a milestone, since it was the only architectural work available to some of them. America's first black fighter squadron trained at the Tuskegee base, and an organization of the Tuskegee airmen still exists today.

In 1943, Allied Engineers, Inc., a California-based joint venture organized by Paul Williams, received a $39 million contract for design and construction of the U.S. Navy fleet base in Long Beach, Calif. Williams also organized Standard Demountable Homes Co. of California to construct houses for war workers.

With funds available through the GI bill, the returned veterans received educational opportunities far exceeding those of previous generations. Racial segregation, however, limited the black veterans' choices, creating unprecedented high enrollments at such black schools as Howard, Hampton and Tuskegee, along with expansion of faculty size and programs.

Many veterans had first been exposed to these schools and their programs while in training as GIs. Thus, John Spencer, AIA (now dean of Hampton's school of architecture) returned to Hampton to study architecture after his U.S. Navy training there. David Byrd, AIA, president of the Huron Valley, Mich., chapter/AIA and John Chase, AIA, past president of the National Organization of Minority Architects, are also GI bill graduates of Hampton. Most significant, perhaps, was the growth of Howard's program in architecture, which resulted from GI bill enrollments.

The accreditation of Howard's school of architecture in 1950, taken together with Washington's large black population, no doubt contributed to making the city the capital of black architects. Although no accurate listing is available, the most recent AIA listing shows that the District of Columbia is the home of 32 black architects, 21 of whom are members of AIA.



Five (19) of the nine black members of the Institute's college of fellows, from left: Robert P. Madison of Cleveland; Howard H. Mackey, dean emeritus of Howard University; Granville W. Hurley of Columbia, Md.; Louis E. Fry Jr. of Washington, D.C., and John L. Wilson of New York City. The John F. Kennedy Recreational Center (20) in Cleveland is an award-winning design by Whitley & Whitley Inc. of that city.

New York State is next with 20, 10 of whom are AIA members. California has 19, 14 of whom are AIA. New Jersey has 16 black architects, of whom 10 are AIA members. Another listing completed in 1971 notes 385 "minority persons" in architecture located in 38 different states and a total of 92 minority-owned firms. This listing shows that 40 percent of black architects and 46 percent of black-owned firms are in California, New York and the District of Columbia. However, while this listing indicates that there are fewer black architects in the Southern states, there are more black-owned firms in the South.

Since 1967, there has been a considerable increase in the involvement of the black architect in AIA. At the 1968 Chicago convention, Taylor Culver was elected president of the Association of Student Chapters/AIA. At the 1970 Boston convention, Robert Nash, FAIA, of Washington, D.C., was elected vice president of the Institute and became the first black to hold national office.

The National Organization of Minority Architects was established in 1972 in Chicago, and Wendell Campbell, AIA, of Chicago was elected president of the new organization. Among the goals of NOMA are "to consolidate thinking, economics . . . and to join with other organized disciplines to address [environmental] problems besetting black communities." A forerunner of NOMA was the National Technical Association, which was established in 1925 to bring together various black professionals, including architects and engineers.

Although blacks are a long way from adequate representation in the profession, we are making significant strides toward full participation in America's architecture. There are now seven fully accredited predominantly black schools of architecture, and both black students and black faculty members can be seen at most schools of architecture.

Our number and involvement has grown to a significant level. This increased involvement is fostering a movement in black architecture which may prove significant in producing new designs and approaches. But a major point of pride for all Americans on this 200th birthday is the contribution of our pioneer black architects. □

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Howard University Beltsville Campus Feasibility Study, Beltsville, Maryland, *Perkins & Will, AIA*	1,000,000
Old Dominion University Student Union Addition, Norfolk, Va., *McGaughy, Marshall & McMillan, AIA*	1,412,000
West Friendship Elementary School, Additions & Alterations, Howard County, Md., *Warren G. Sargent, AIA*	1,600,000
Langley Park/McCormick Elementary School, Additions & Alterations, Langley Park, Md., *K/M Associates, AIA*	1,668,781
Poolesville Elementary School, Additions & Alterations, Poolesville, Maryland, *Chapman & Miller, AIA*	1,710,800
Elementary School #261, Baltimore, Maryland, *Fry & Welch, AIA*	1,980,000
Barrister Charles Carroll Elementary School #34, Baltimore, Maryland, *Ianniello & Hofmann, AIA*	2,403,000
Western Maryland College Center, Westminster, Maryland, *TAA, Inc., Architects*	2,449,830
Wicomico Junior High School, Additions & Alterations, Salisbury, Maryland, *Booth-Somers-Farlow, AIA*	2,945,366
Elementary School #55, Baltimore, Maryland, *J. Prentiss Browne, AIA*	3,000,000
Bethesda-Chevy Chase High School, Additions & Alterations, Phase II, Bethesda, Md., *Fahey & Samaika, AIA*	3,700,000
Howard University Addition to College of Medicine, Phase II, Washington, D.C., *Sulton & Campbell, AIA*	4,090,000
Poolesville Jr./Sr. High School, Poolesville, Maryland, *Eugene A. Delmar, FAIA*	4,467,000
Maryland School for the Deaf Intermediate School, Columbia, Maryland, *Perkins & Will, AIA*	7,100,000
Conner Tract High School, Manassas, Va., Prince Wm. County Board of Education, *Pentecost, Wade & McClellan, AIA*	9,100,000
Columbia Union College Relocation, Hagerstown, Maryland, *Forrest L. Bailey, AIA*	20,000,000
Washington Technical Institute, Phase II, Washington, D.C., *Bryant & Bryant/Ellerbe/Chase/Mariani, AIA*	45,000,000
Burrville Elementary School, Washington, D.C., *Gray, West & Wilson, Architects*	NFP
Culpeper Junior High School, Culpeper, Virginia, *D'Earcy P. Davis, AIA*	NFP
Westside High School, Crozet, Virginia, *D'Earcy P. Davis, AIA*	NFP
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Shaw Urban Renewal, Project R-026F-SHA-RLA, Washington, D.C., *Benjamin A. Skyles, Sr., AIA*	13 units
Montrose Woods Townhouses, Montgomery Cty, Md. Robt. Bowman Masonry, *Cohen Haft Holtz Kerxton Karabekir*	20 units
Crofton Townhouses, Crofton, Maryland, *Robert Bowman Masonry Company, Inc.*	49 units
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Quail Valley Apartments, Roanoke County, Virginia, *T.A. Carter, Jr. AIA*	108 units
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Barnside Townhouses, Columbia, Md., Robert Bowman Masonry Co., Inc., *Collins & Kronstadt, Leahy, Hogan, Collins, AIA*	NFP
Brick Retaining Wall, Williams Residence, Washington, D.C., *Jerome Morris, Esq.*	NFP
Custom Residence for Wild Harbour Estates Trust, North Falmouth, Massachusetts, *Barkley-Pierce, AIA*	NFP
Harford Square Site Development, Harford Cty, Md. Harford Survey Assoc., *Urban Systems Development Corp.*	NFP
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Residence for Ted & Peggy Lee Crolius, Liberty Township, Pennsylvania, *Linton Construction Company, Inc.*	NFP
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Whiskey Bottom Garden Condominiums V, Section 4, Area 2, Laurel, Md., *Allen Masonry Co., Inc./Holladay Corporation*	NFP
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U.S. Army Reserve Center, Expansion & Alterations, Galax, Va., Payne Construction Co., Inc., *Wells Meagher & McManama,*	500,000
USMC Headquarters/Henderson Hall/Painting Bldgs. & Window Repairs, Arlington, Va., *Horowitz-Seigel, AIA*	500,000
USN Alterations to Hangars, Patuxent River, Md. Chapman Development Co., *H. D. Nottingham & Assoc., Arch./Engr.*	500,000
Bolling AFB Credit Union Branch, Washington, D.C., *Sullivan-Almy, AIA*	600,000
Langley AFB Golf Facility, Langley Air Force Base, Virginia, *SCS Engineers/Michael F. LeMay, AIA*	615,000
U.S. Army Repairs to 17 Buildings, Ft. McNair, Washington, D.C. *Horowitz-Seigel, AIA*	674,000
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U.S. Armed Forces Reserve Center, Bolling AFB, Washington, D.C., Manhattan Constr. Co., *Hudgins, Thompson, Ball, AIA*	10,600,000
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Anacostia Pumping Station #2, Prince George's County, Md., Mechanical Constr., Inc., *Whitman, Requardt, Associates*	10,000,000
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Medical College of Virginia Supply and Distribution Center, Richmond, Virginia, *Ellerbe Architects*	2,600,000
Fairfax Hospital Ambulatory Services, Fairfax, Virginia, *Davis, Smith & Carter, AIA*	4,800,000
Georgetown University Concentrated Care Center, Phase II, Washington, D.C., *Perkins & Will, AIA*	6,800,000
Pitt County Memorial Hospital Changes, Greenville, N.C., *Holloway-Reeves, AIA (Consultants)/Freeman-White, AIA*	NFP

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Sixth Church of Christ, Scientist, Additions & Alterations, *Faulkner & Faulkner, AIA*	370,000
Seventh Day Adventists Church Education Bldg., Takoma Park, Md., Bowman Masonry Co., *Ronald S. Senseman, FAIA*	890,000
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AIA: American Institute of Architects
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Buildings of the Tall Grass Prairie

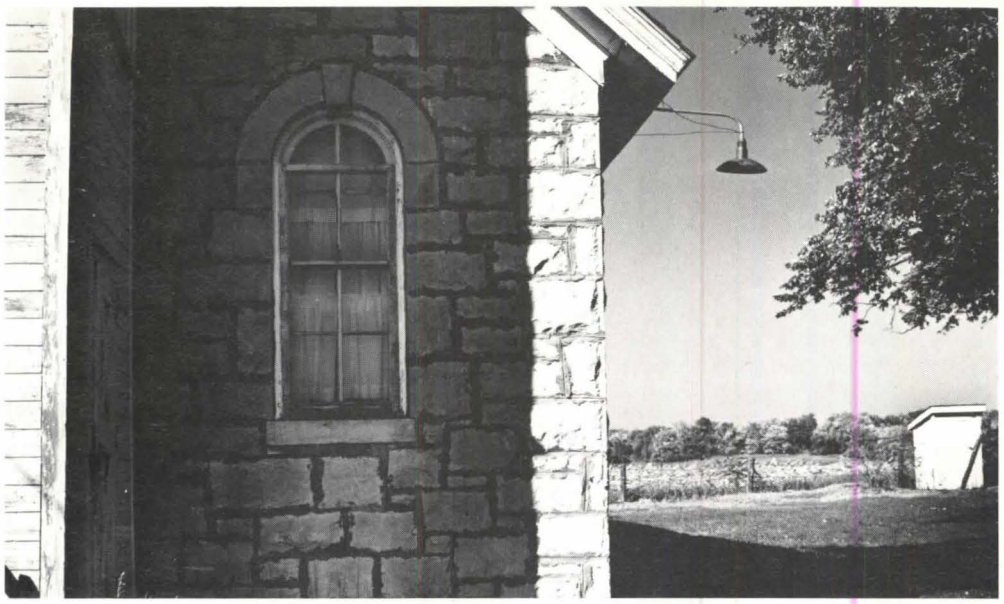
Photographs by Patricia Duncan
Text by Brian Miller

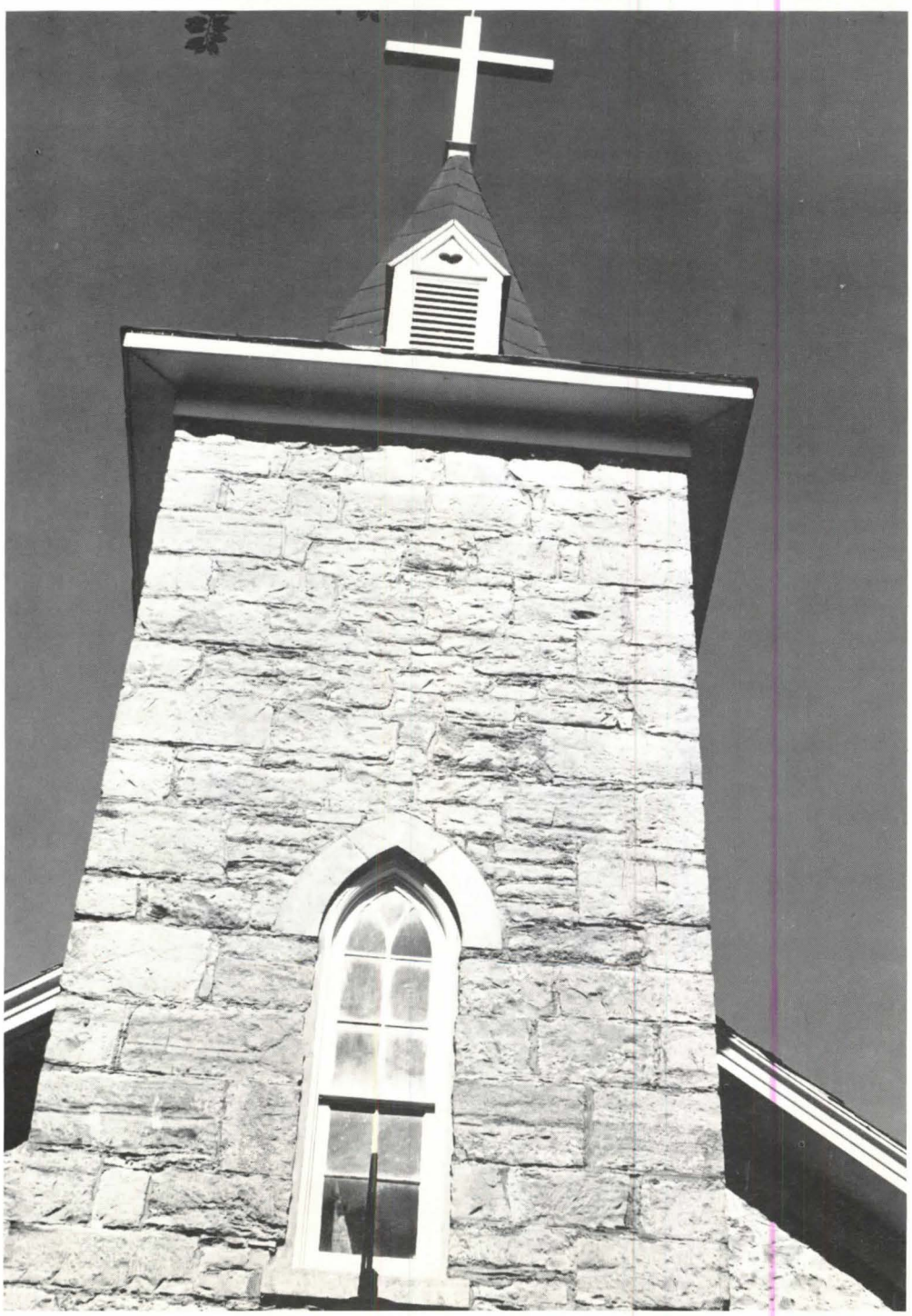
Midway across the continent, where miles hasten to infinity in all directions, the prairie empties itself proportionately into its expanse, and lies low. Eastern Kansas more than a century ago was Indian country, the province of the Pawnee, the Kansa and Osage. But they stood in the way of Old World cravings for property and power and were hurried aside, with scarcely a trace.

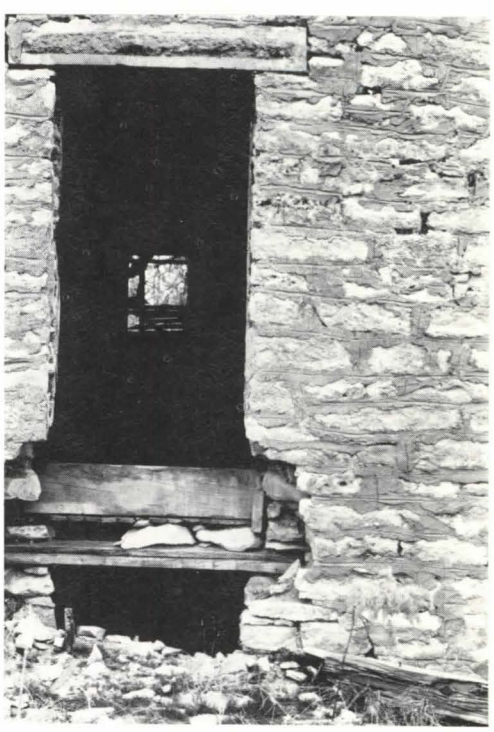
The land filled out with Baptists and Methodists, Lutherans and various other communicants. They platted their claims, their towns, wagered fortunes on God and good weather, and tried to fashion a life. The task was thoroughly hard going.

It augments the obvious daring in their emigration to say these were not extraordinary people. Vigilantly unadorned in all respects, they were uniformly humble and pious: Few of them might have failed to sense the religious cast to their exodus. The prairie, in the early days at least, was virtually trackless, utterly new; whatever native skills and talents they brought to it suddenly amounted to rather little. There was much learning to do. Yet a legendary will came to serve them better than knowledge. A community's collective desire, for instance, to settle in, stamp its mark on the land—to give the proximity a sturdy sense of place—must in many cases have been breathtaking. For in dozens of smaller towns here, period structures in rudely hewn native stone predominated. Gazing today on many of these exquisite homesteads and barns, churches and Main Street banks and hotels, you get the sense that by the painful and arduous laying up of stone, their unpracticed planners and masons and carpenters felt in some way less vulnerable to the mute uncer-

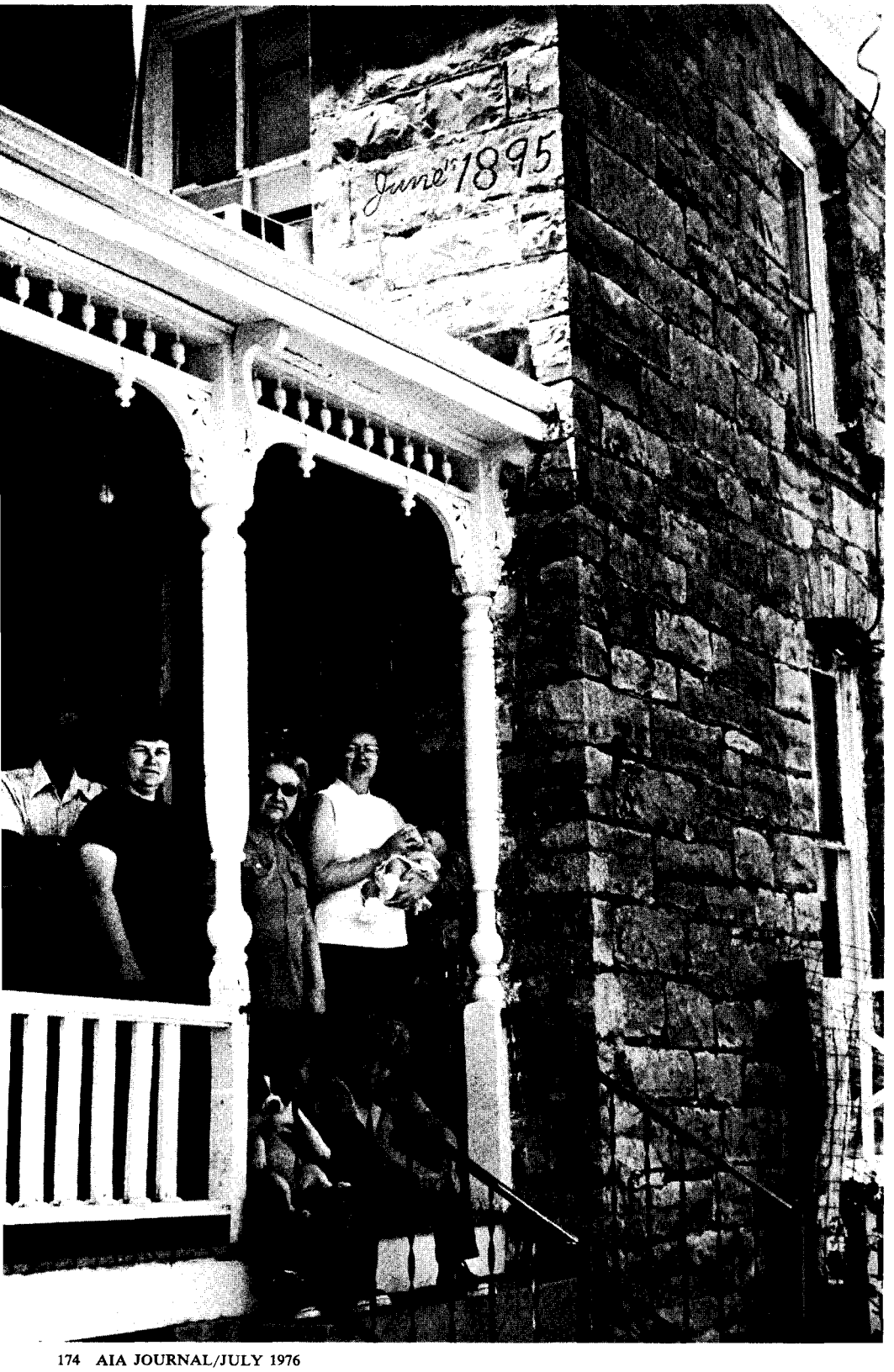
Mrs. Duncan is a photographer living at Lake Quivira, Kan., near Kansas City, Mo. A Smithsonian Museum traveling exhibition of her photographs entitled "The Tallgrass Prairie: An American Landscape" will open at the Octagon in Washington, D.C., in March 1977. She is married to former Institute board member Herbert E. Duncan Jr., FAIA. **Mr. Miller** is a graduate of the University of Kansas and a freelance writer living in Kansas City, Mo.



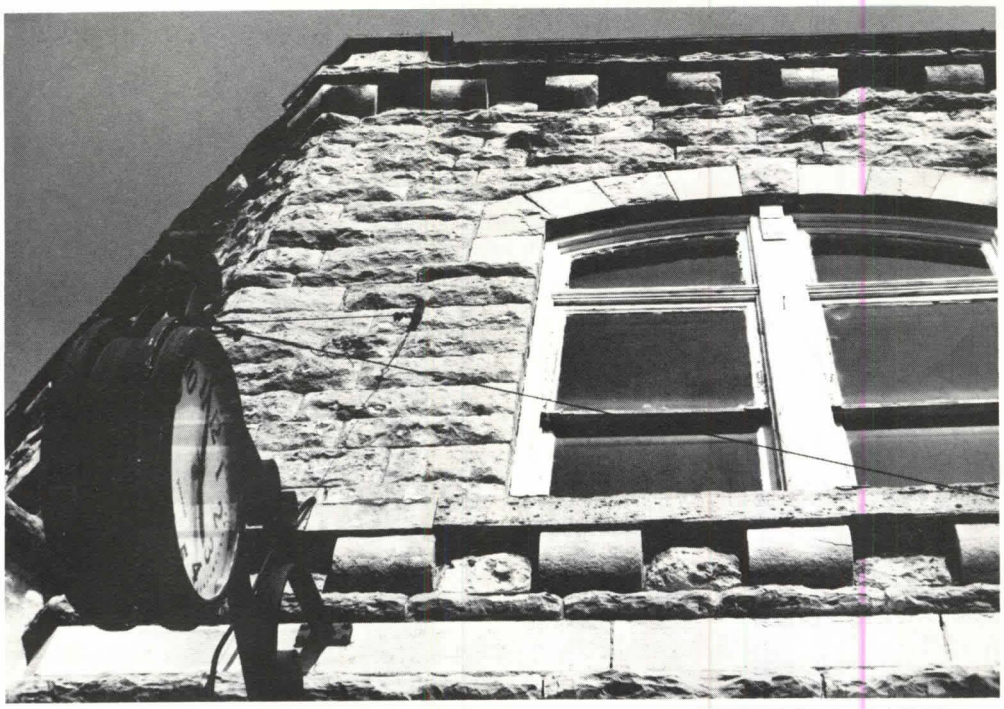


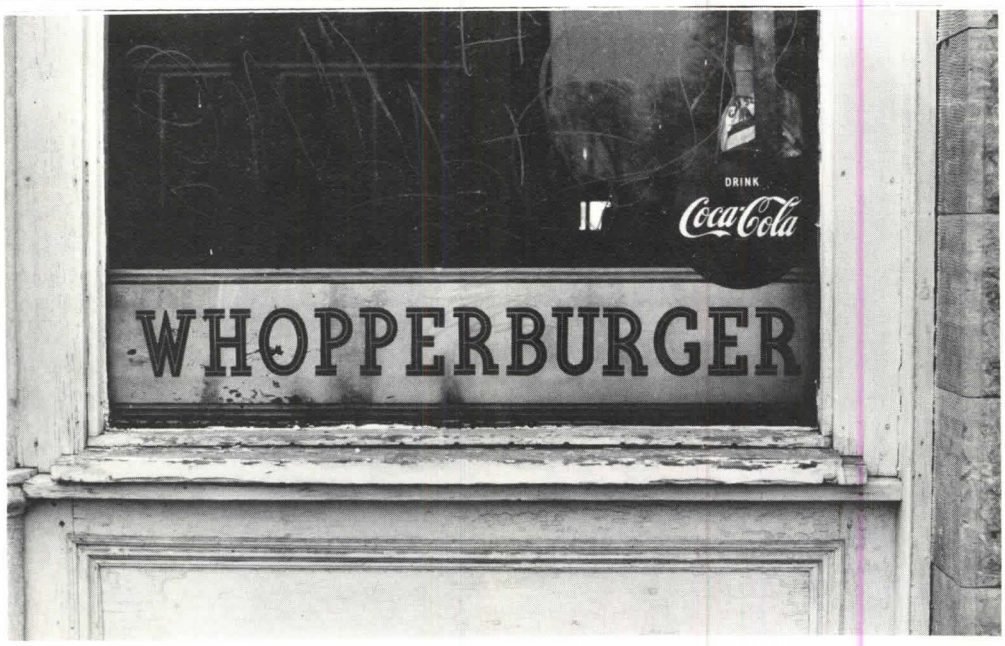


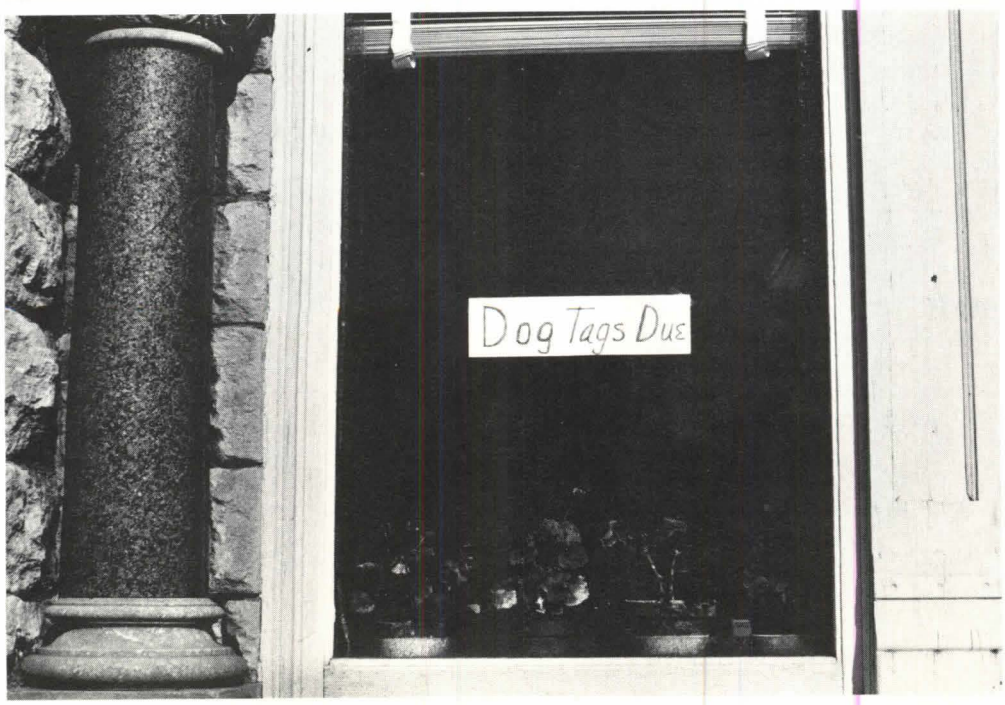
A door in Alma, Kan., c1885 (across-page); a schoolhouse near Topeka, c1885 (top left); St. Patrick's Church in Atchison County, c1866 (bottom left); Chase County Courthouse (top); detail of a house near Alma, c1875 (above).



The Watawa family of Atchison County (left); detail of the Watawa house, 1895 (top); the Alma Hotel, c1887 (above).







tainties of their future in such a time.

The stone was limestone, and there were quarries in numbers enough to make the severing and splitting and delivery often a local affair. Before the decades of Victorian extravagance and whimsy at least—the boom years late in the century—construction held fast to sure and simple lines. Few efforts in design were made to lift the stone above the pull of its weight. Lancet windows in a church wall were a bold departure from right angles. Not infrequently do vintage examples look rigidly squared and squat, unalterably fastened to their foundations.

Yet off a backroad deep in the country it is possible to see otherwise. On a parcel of land flush and supple in grass, with a graceful sweep to its lie, the appearance of a pioneer homestead has a way of affronting all reason. It's as if, appallingly, for all its weight in stone, the thing arrived whole and all at once, from parts unknown. But in recognizing the source of its material—the very limestone that bulges visibly in the earth just below its pilings—the house can acquire a look as rooted and at ease in its station as a bracing oak in its own. Few structures anywhere have so compelling a relation to the land they rest upon.

Americans love art, or say so, and they love to get sentimental about artlessness. These early efforts in period stone are patently artless, but there is an attraction to them not easily defined. If nothing else, the pull is strong to see them preserved, although going about it is quite another matter. Nearly all attempts at wholesale repair and reproduction look ridiculous; we know too much. Our skills are too uniform, our tools too precise. Yet alarmingly, by the vagaries of commerce, these structures continue to fall out of use, or worse, to uses for which they were not intended. Homesteads as hay sheds and swine barns, for instance. The pace of progress in this country has always cut us from our past, but here in Kansas, in one respect at least, we are unsure of just how to summon it back. □

Detail of a bank in Alma, c1890 (top); a beckoning window in Alma, c1890 (center); and a detail of the late 19th century bank in Alma (bottom).

BOOKS

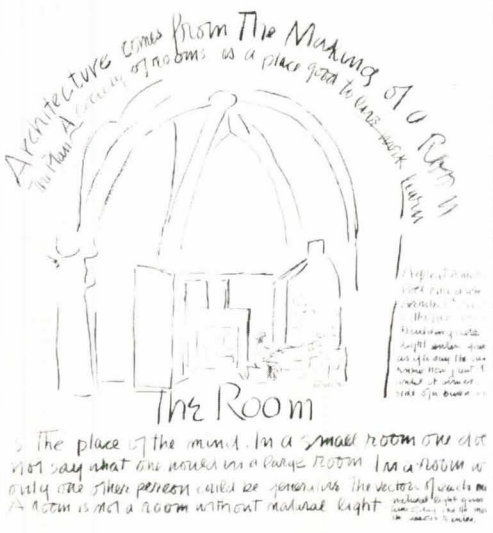
Louis I. Kahn, Architect. Romaldo Giurgola and Jaimini Mehta. Boulder, Colo.: Westview Press, 1975. 252 pp. $39.50. **18 Years with Architect Louis I. Kahn.** August E. Komendant. Englewood, N.J.: Aloray, 1975. 192 pp. $15. **Louis I. Kahn.** Edited by Ching-Yu Chang. Tokyo: A & U (Architecture and Urbanism) Publishing Co., 1975. $25.

Certainly, Louis I. Kahn, FAIA, is one of the most important architects of the 20th century. More than anything else, his *comprehensiveness* of thought brings him this distinction and ranks him alongside Frank Lloyd Wright and Le Corbusier. All three of these architects had a totality of concern that included technological innovation, social and cultural commitment and spiritual vision. The intensity of their investigations was such that they have transcended time, and we will be learning from their work as we do from the Greek temple, the Roman basilica and the Gothic cathedral for as long as there is architecture.

In the book *Louis I. Kahn, Architect,* Romaldo Giurgola, FAIA, and Jaimini Mehta have performed a difficult and important task by joining Kahn's poetry, or philosophy, and his architecture. Many commentators have regarded the two as separate: the poetry as expressive but, after all, only poetry, and the architecture as important or not, depending on how one feels about Kahn. In fact, the poetry and architecture are one; together they constitute one of the most profound and sustained investigations into the absolute nature of being ever undertaken by an individual mind.

Giurgola and Mehta have now provided us with an outline of that investigation. They show how Kahn looked for the beginning of all things and found it in silence and light which give rise to the material world. They describe his search for the order of things; his understanding of human beings as products of nature, and beyond nature; his bringing together of place and architecture, making place the beginning of architecture, and his investigation of the school, the street and the village green, re-establishing the importance of institutions to humanity.

Giurgola and Mehta alternate chapters on Kahn's philosophy with thematic chapters devoted to his work (the house, the place of worship, institutions, place of well-being). In a chapter titled "Architecture," they examine five constants in Kahn's work: the sense of composition, the integrity of building; reverence for material; sense of "room" as the essence of architecture-plan, a society of rooms; light as maker of structure, and architecture of connection. Carefully illustrated with historical examples and with Kahn's



work, this chapter is as much an essay on the elements of architecture as it is an essay on Kahn.

In the '50s and '60s, the Philadelphia school mounted a challenge to the rational functional limitations of the modern movement by reintroducing issues of history, the urban context and meaning. This book by Giurgola and Mehta closes the circle opened by that challenge, bringing the discussion of architecture to the fullest limits of human experience. As such, it is not only an excellent book on Kahn, but also one which could serve as a standard text on architecture over the next several decades.

There is an old saying that no man is a hero to his valet. August Komendant's book *18 Years with Architect Louis I. Kahn* suggests a variation: No architect is a hero to his engineer. (Komendant was Kahn's engineer for 18 years.)

The book is must reading for anyone interested in the realities of the world in which artistically inclined architects operate. First of all, we are reminded of the scope of Kahn's accomplishments. Not only are his buildings important for architectural reasons, but they also include some of the most advanced engineering concepts of our time. Komendant's accomplishments in post-tensioned concrete construction are fascinating to read about.

The book is interesting also for the intimate portrait it gives of Kahn. One may be suspicious of the self-serving tone in which Komendant describes himself as stepping in and saving projects at the last minute, but the descriptions of the inner workings of architect and engineer are invaluable. Where Giurgola and Mehta show us Kahn's highest poetic aspirations, Komendant shows us his failures and frustrations: the missed deadlines, the unscrupulous clients, the crushing financial debts and the depression and agony of artistic and business struggles, which in the end contributed to Kahn's death.

The third book under discussion here is a special issue of the Japanese magazine *Architecture and Urbanism (A & U),* edited by Ching-Yu Chang, an architect who works in New York City. The issue is a sumptuous, magnificent document, a compilation, on Kahn and his work, of articles by Stanford Anderson, B. V. Doshi, Fumihiko Maki, Peter Smithson, Uttam C. Jain and Kahn himself. It also contains drawings of 26 projects with commentary by Chang, Kahn's sketch studies of 16 projects, sketches done by Kahn in Egypt, Italy and Greece and photographs of study models for seven projects. The heart of the book, however, is a section of color photographs done by John Nicolais of 17 of Kahn's principal works. Much of Kahn's work, particularly in India and Bangladesh, but also in this country, has never been available in color. Furthermore, the black and white photographs that are published are often reprints of ones we've been seeing for years. This special issue remedies that problem with 147 solid oversized pages of color photographs which convey much of the richness of Kahn's work, lost in black and white.

In reviewing these books on Kahn, I must mention also Vincent Scully's slim

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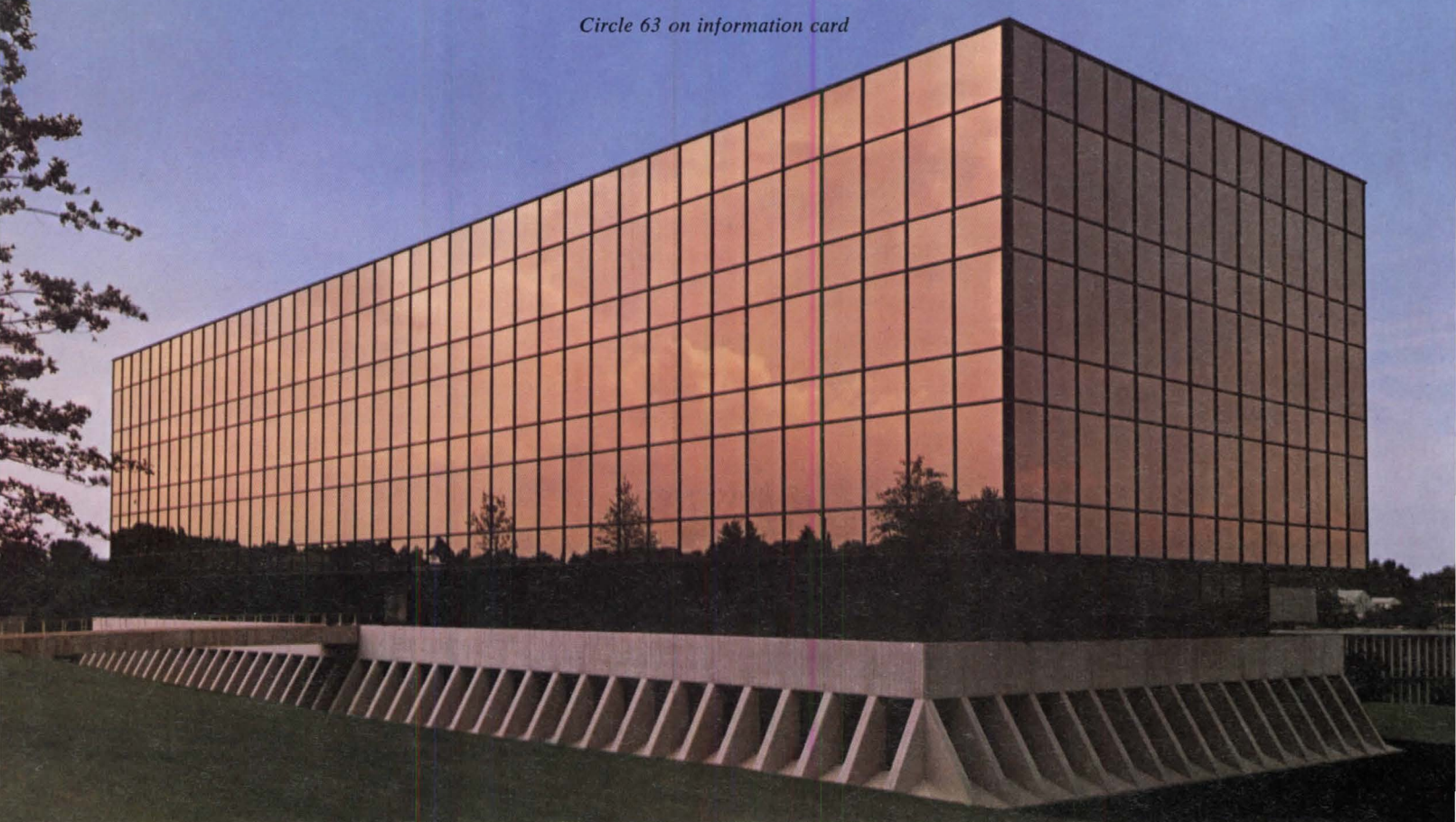

ELEVATORS BY DOVER

Braziller book of 1962 entitled *Louis I. Kahn,* which remains an excellent source on Kahn's development and his work to that date, and which has been the source of many published drawings of his work. Scully's exuberant style summarized Kahn's thinking well, and the illustrations give the basics of his projects. However, 14 years have passed and much has happened, both in Kahn's subsequent work and in our assessment of him. Although there have been special issues of various magazines devoted to Kahn's work over the years, a real gap existed in available material until publication of the three books discussed here.

Shortly after Kahn's death in 1974, I wrote an article that was never published. Here is a paragraph:

The greatness of an architect can be measured by his accurate and early recognition of changes in culture, and by his skill in designing forms which embody these changes. By this measure Kahn was a great architect. But there is another kind of measure, one which transcends a particular culture, for the architect who will recognize and design for his time must also be limited by that time. Kahn far transcended the lack of resolution in our own time and explored that which is universal in humanity and in architecture: order, light, structure and human institutions. He designed his buildings to respond to these universals as well as to—and beyond—the immediate uses of the client. A great building recognizes that uses change over the years and over the centuries, but that deep parts of people do not. Such a building tells the users the meaning of their own age and it tells the future stories of the past. It tells all people truths about humanity. It is in being in touch with these universal truths that Kahn achieved a greatness far beyond that which can be accorded to any given time. *John Lobell, Associate Professor, School of Architecture, Pratt Institute*

H. H. Richardson and His Office: Selected Drawings. James F. O'Gorman. Boston: David R. Godine, 1974. 220 pp. $25 hardbound, $12 paperbound (available from Harvard College library).

Henry Hobson Richardson transferred his office and home from Staten Island to Brookline, Mass., in 1874. The move was precipitated by his winning a national competition for the design of Trinity Church in Boston. This book, published in 1974, marks the centennial of his move to Brookline, where he stayed until his death in 1886. During the period from 1874 to 1886, his office executed 60 architectural commissions.

The thousands of drawings prepared for these commissions are now in the archives of the Harvard College library. It took a five-person committee, meeting periodically over a year, to select the drawings in this book, which was prepared as a catalog to accompany a traveling exhibition of Richardson's work. The drawings are supplemented by photographs assembled from a variety of sources.

James O'Gorman, a well-known Richardson scholar and editor of the *Journal of the Society of Architectural Historians,* has provided a perceptive introductory essay in which he appraises Richardson as an architect. O'Gorman also prepared the annotated entries for the 42 architectural commissions represented in the book.

Church Building in Boston, 1720-1970: With an Introduction to the Work of Ralph Adams Cram and the Boston Gothicists. Douglass Shand Tucci. Concord, Mass.: Rumford Press, 1975. 134 pp. $7.50.

It was the genius of H. H. Richardson that led America to look to Boston for a lead in matters of church art, says Tucci. And in this book, he shows how rich Boston is in religious architecture. He first presents a photographic essay on Boston area churches and then continues with a study of Ralph Adams Cram and the Boston Gothicists. It was Cram, he says, who "virtually revolutionized the visual image of American Christianity in the first four decades of this century."

Tucci had access to Cram's private papers and to the firm's archives in the preparation of this study, and he makes an important contribution to the history of American architecture in his assessment of Cram and his philosophy of architecture. In his own time, Cram "exercised . . . a more vital influence over the national culture" than did any other architect, Tucci concludes.

The Federal City: Plans & Realities. Washington, D.C.: Smithsonian Institution Press, 1976. 170 pp. No price given.

Prepared in connection with an exhibition about planning in Washington, D.C., and particularly the monumental core as designed by Pierre L'Enfant, this handsome book will delight all who have an interest in the nation's capital city. The exhibition, sponsored by the Smithsonian Institution, the National Capital Planning Commission and the Commission of Fine Arts, will be on display in the Smithsonian Institution Building for two years.

In a foreword by S. Dillon Ripley, secretary of the Smithsonian Institution, it is remarked that the hope is that the exhibition will inspire citizens everywhere to be concerned about Washington, "as well as their own cities wherever they may be," thus helping to prevent "neglect from becoming the heritage of the 21st century."

In the first section of the book, Frederick Gutheim, Hon. AIA, provides a splendid historical perspective of the planned capital city, moving from L'Enfant's noble vision to the plans of today. The second section is by Wilcomb E. Washburn of the Smithsonian Institution who makes detailed comments on the exhibition and its many aspects. The book is a jewel even for those who will not be fortunate enough to see the exhibition.

Palladio in America. Walter Muir Whitehill and Frederick D. Nichols. New York: Rizzoli International Publications, 1976. 128 pp. $9.50.

This book is part of the Italian government's official contribution to this nation's bicentennial, published in conjunction with a major exhibition of Palladian model buildings that opened at the University of Virginia in June and will travel this year to Washington, D.C., Philadelphia and Boston.

The book includes more than 100 reproductions of Palladio's masterpieces in Italy, as well as such national landmarks as the University of Virginia, designed by Thomas Jefferson, who admired Palladian architectural principles. Whitehill describes the buildings designed by Palladio in 16th century Italy; Nichols then turns his attention to the many structures built in America according to Palladian principles. The book makes a most rewarding gift to the U.S. on the occasion of its 200th birthday.

The Only Proper Style: Gothic Architecture in America. Calder Loth and Julius Trousdale Sadler Jr. Boston: New York Graphic Society, 1976. 184 pp. $19.95.

The authors of this copiously illustrated book have not attempted a definitive history of Gothic architecture in this country; rather, the intent is an "introduction to an astonishing variety of buildings loosely linked by a common stylistic vocabulary, with a side-glance at the decorative arts." The generous sampling includes such structures as the old state capitol in Milledgeville, Ga.; the Chicago Water Tower; Trinity Church in New York City, and Washington's tomb at Mount Vernon, Va. The book succeeds admirably in revealing our "legacy of medieval inspiration, in every conceivable variation of period, type and mode."

Alabama Ante-Bellum Architecture. E. Walter and Varian Burkhardt. Montgomery, Ala.: Alabama Historical Commission, 1976. 79 pp. $5.

This is an over-sized "scrapbook" in which are reproduced articles on Alabama architecture written by architect E. Walter Burkhardt and his wife and first published in the *Birmingham News—Age Herald.* The articles, published in the '30s, still make delightful reading, although the book's size will keep it from being in-bed reading. But there's much to stay up for in this book that is filled with information on Alabama's antebellum architecture.

continued on page 182

Nearly two decades have passed since the late Frank Lloyd Wright's comment on Follansbee Terne was first published. No comparable product has ever received such an endorsement from such a source, and we reprint his statement here in the belief that time has not lessened its fundamental impact or its relevance to contemporary design.

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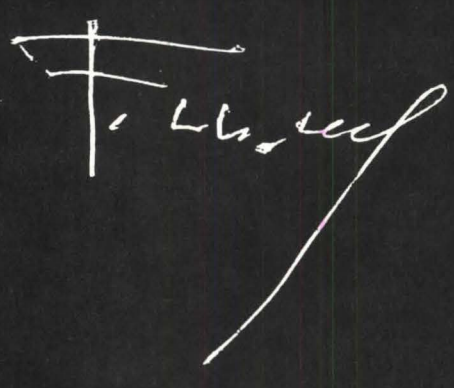

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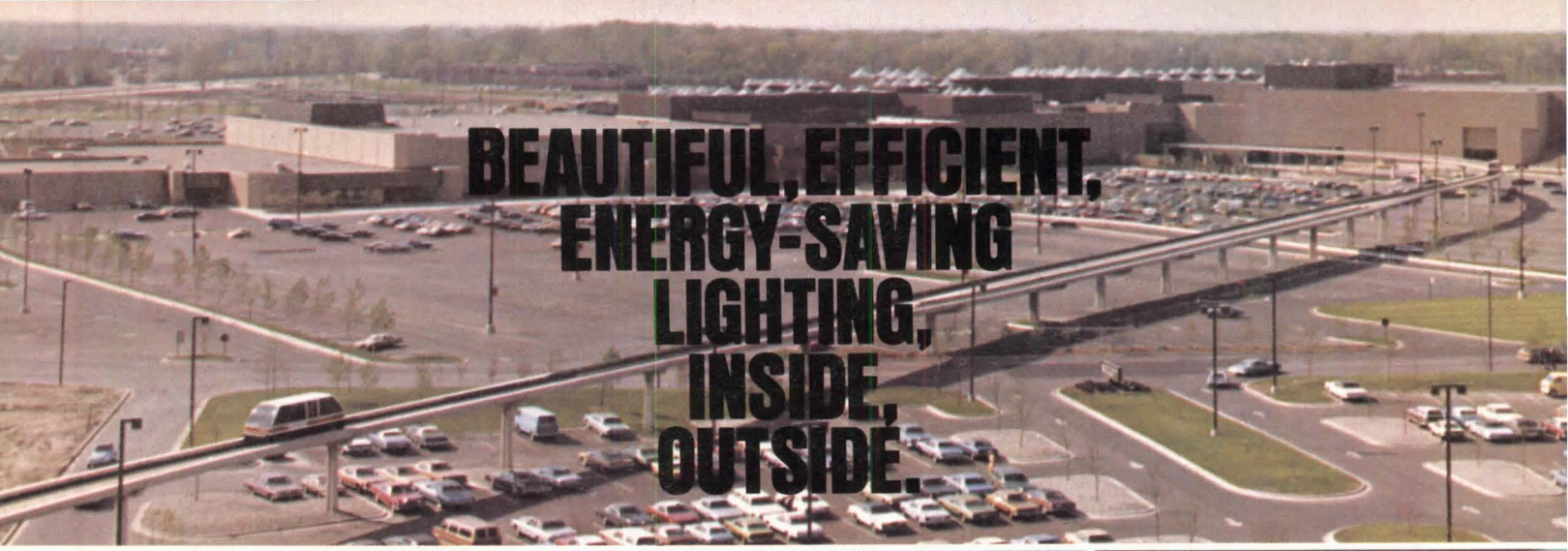

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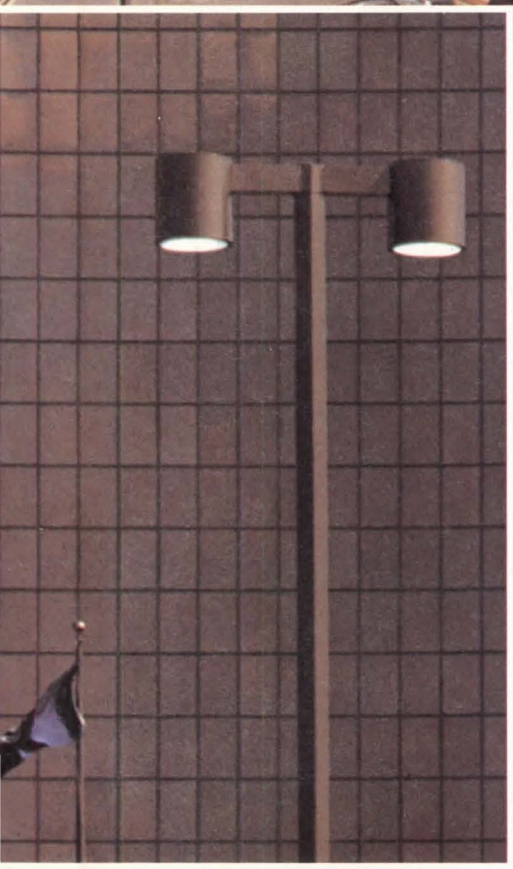

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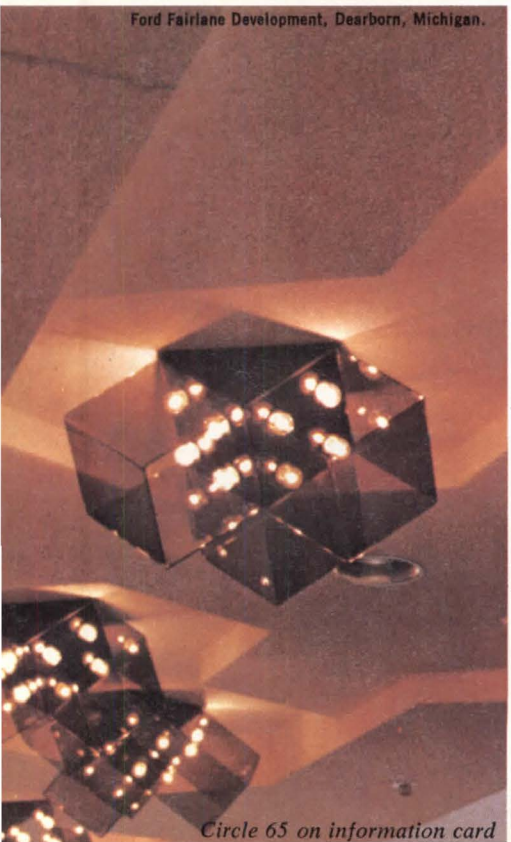

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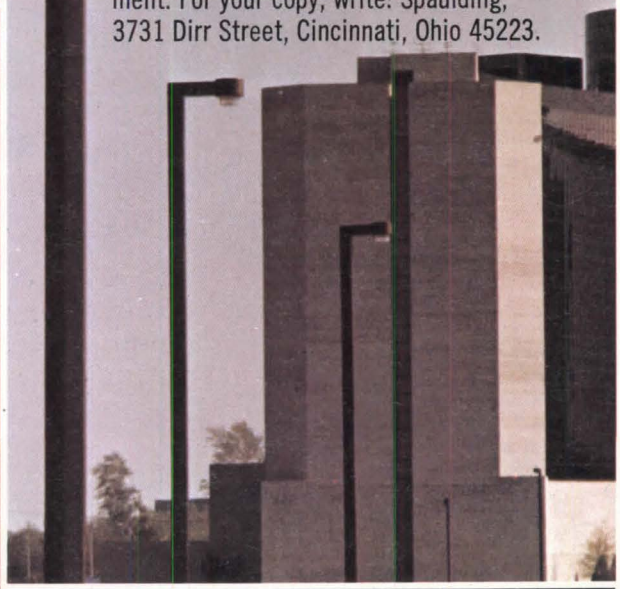

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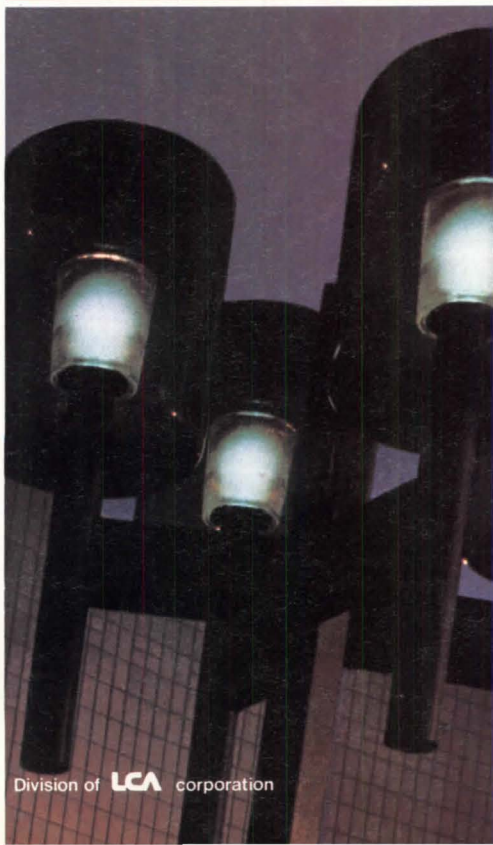

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Books from page 178

The Architecture of Maximilian Godefroy. Robert L. Alexander. Baltimore: Johns Hopkins University Press, 1974. 246 pp. $16.

Maximilian Godefroy was not an ordinary immigrant to the U.S. He was exiled by Napoleon in 1805 and brought letters of introduction to James Madison, then secretary of state, and to President Thomas Jefferson.

Within months after his arrival in Baltimore, his commissions widened. His circle of acquaintances included such eminent architects as Benjamin Henry Latrobe. His credentials as an architect are not distinguished—he claimed to be an engineer, engineer-geographer and hydraulic engineer. His works tend to be rather eclectic. Accordingly, he brought to this country late 18th and early 19th century French architecture, which he developed in many projects.

Godefroy's principal works described in this book are St. Mary's Chapel, the first Gothic revival church in the U.S.; the Unitarian Church, an example of French romantic classicism, and the Battle Monument—all in Baltimore. Two banks and the courthouse in Richmond, Va., are also reviewed at length, among other edifices.

Architects who are concerned with the past in this bicentennial era, or those who work or live in the communities where Godefroy's buildings abound, should find the book of interest. It is of little significance in a practitioner's daily work.
Jeffrey Ellis Aronin, AIA

Raymond Hood, Architect: Form Through Function in the American Skyscraper. Walter H. Kilham Jr., FAIA. New York: Architectural Book Publishing Co., 1973. 200 pp. $10. **The Architecture of John Wellborn Root.** Donald Hoffmann. Baltimore: Johns Hopkins University Press, 1973. 261 pp. $13.50.

These two books have one thing in common: They deal with prominent, epoch-making American architects who excelled in the design of modern commercial highrise buildings. But there the similarity ends, except to add that both books are profusely illustrated and well produced.

Kilham's book is primarily anecdotal, entertaining shoptalk, reflecting the happenings within the various offices of which Hood was a principal or collaborator. Kilham's reminiscences of his many years with Hood are the basis of interesting stories about Hood's building mighty skyscrapers in crowded cities. Hood liked to work on this building type and perhaps brought it to its ultimate conclusion at the pinnacle of industrial capitalism.

Four major jobs are emphasized: the Chicago Tribune building, the Daily News building, the RCA building of Rockefeller Center and the McGraw-Hill building. All are markstones of America's development, paralleling in time the blossoming of the modern movement in Europe. Except for his knowledge of Le Corbusier's work, Hood was consciously influenced very little by the European movement. And that influence pertained more to his interest in siting a tall structure in a way that only part of the land was taken up by the building. Although his buildings had much exposure to light, there was hardly any relationship to open spaces.

Rockefeller Center, however, does convey some feeling of spaciousness at ground level and has a compositional unity in its grouping of mighty buildings that is still outstanding. Its durability reveals the proud awareness of changing times and of the corporate era. This, of course, may have been the result of team design, making it difficult to discern the influence of individuals. In any case, Rockefeller Center is still the only domineering group of buildings on Manhattan Island that offers a focal point as the crown of the city.

Architecturally, there is a certain unassuredness in Hood's work as a whole, in contrast, for example, to Sullivan's. Yet, Hood obviously tried to steer things in a new direction, which was not easy for a man with such strong Beaux-Arts background. A comparison of his buildings reveals that Hood's modernism was not a new philosophy but a pragmatic struggle with an unfamiliar idiom. A combination of exuberant confidence in the American business system and his ability to serve it well is much in evidence. He also felt that weaving utility into design produces beauty, which shows that the word "utility" often needs more interpretation than the word "beauty."

Kilham, who wrote the book with the help of a Brunner scholarship, also assembled biographical information on Hood and data on other than commercial buildings. Among Hood's projects, the Dobbs Ferry proposal for highrise apartments in an open landscape represents perhaps his most advanced adaptation of modern concepts of urbanism. Kilham shows us with warm devotion Hood's energetic and outgoing personality, his untiring dedication to design and his gift for doing business.

Hoffmann's book on Root is essentially different. Dealing with a period we can observe with a perspective of almost 100 years, Hoffmann can assess the hero as an individual and as a member of the Chicago school. Despite the problem that many footnotes pose for the reader, we have here a presentation of good scholarship with detailed documentation. Root did an incredible amount of design work in the relatively short span of his life. Much of his experience came from designing for large corporations at the beginning of an era. He was stopped by fate, before his prime, when still better work could have been expected.

Hoffmann gives an account of Root's background, the struggle of early years and his enormous success after 1880 until his death in 1891 when more than 25 prominent buildings had been erected in downtown Chicago under the name of Burnham & Root. The relationship of Root to his partner Burnham is not given much space, but one has the impression that it was not based on a deep accord in design philosophies. Obviously, it was Burnham who had the business acumen needed to keep the clients coming, a fact that is borne out by Burnham's great success after Root's death.

Despite Hoffmann's obvious desire to give a balanced picture, he nevertheless has enthusiasm for his hero. His thesis of Root's importance is also a defense against Sullivan's somewhat jaundiced view of Root and Frank Lloyd Wright's invectives. Whether or not Root was the architect of the finest buildings of the Chicago school is hard to argue and really beside the point. As exuberant and idealistic as he may have been, his quoted writings indicate an awareness of his time but a lack of the critical and creative depth of Sullivan's philosophy and poetry. But again, he was still young when he died, and his promise was great.

Without going inside some of Root's buildings, one cannot see the magnificent daylighted interior courts. The destroyed Burlington Office Building and the Rookery, with its elegant winding stairway, had lighted interior courts of a splendor and spatial beauty that are not surpassed by recent revivals of this feature.

These are good books to read and to own as a matter of enjoying our architectural history and the remarkable achievements in truly American design.
H. H. Waechter, AIA

Philadelphia Georgian: The City House of Samuel Powel and Some of Its Eighteenth Century Neighbors. George B. Tatum, with photographs of Philadelphia architecture by Cortlandt Van Dyke Hubbard. Middletown, Conn.: Wesleyan University Press, 1976. 187 pp. $17.50 hardbound, $4.95 paperbound.

The city house of Samuel Powel, Philadelphia's first mayor under the Crown and under the Republic, was built in 1765 and still stands at 244 South Third Street. It is owned and operated today by the Philadelphia Society for the Preservation of Landmarks. As Tatum says, the beautiful house was one of those that made Philadelphia appear "handsomer" than London or Paris in the eyes of Thomas Jefferson.

In devoting his major attention to a scholarly and detailed study of one house, Tatum gives the reader not only an insight

continued on page 196

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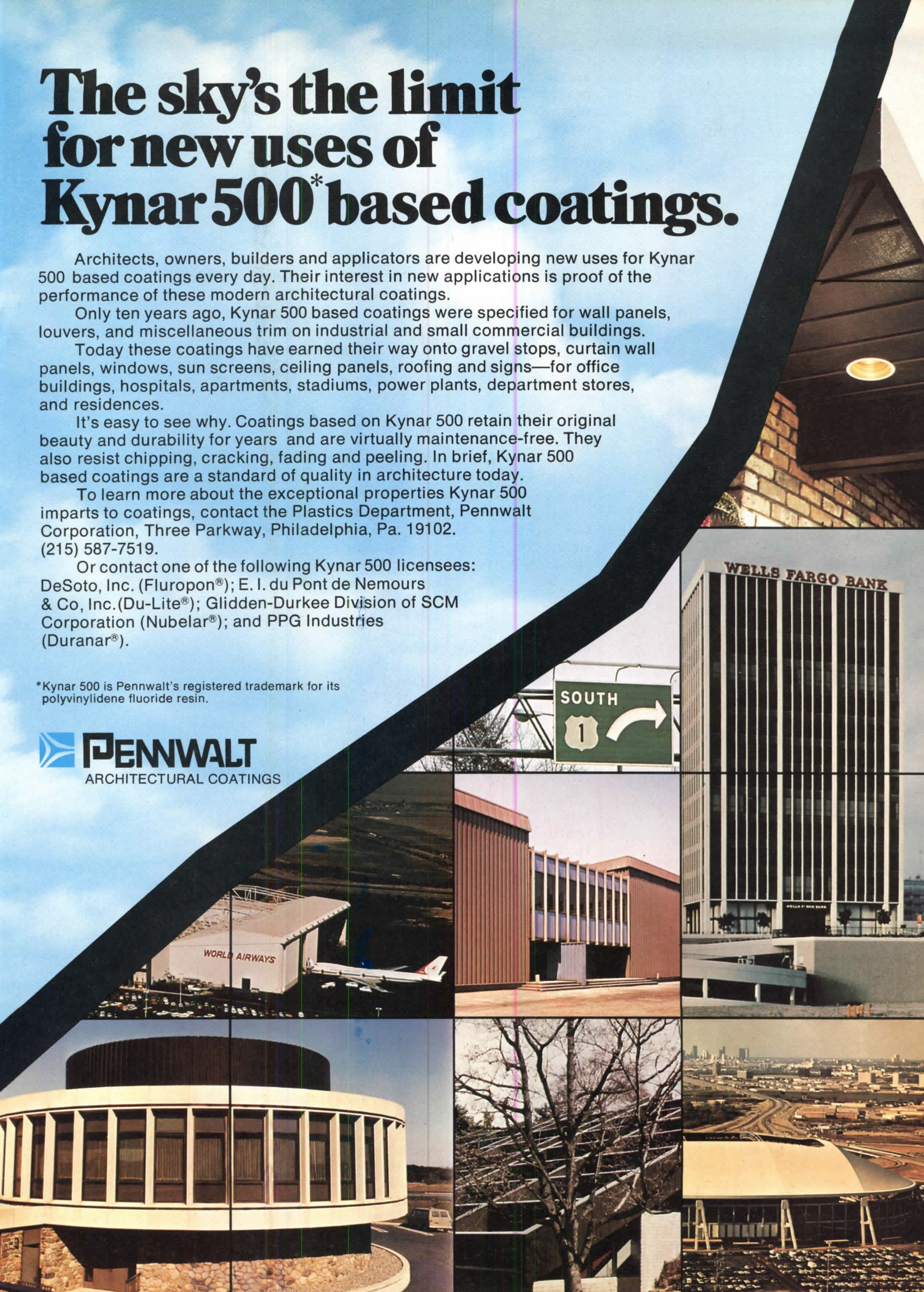
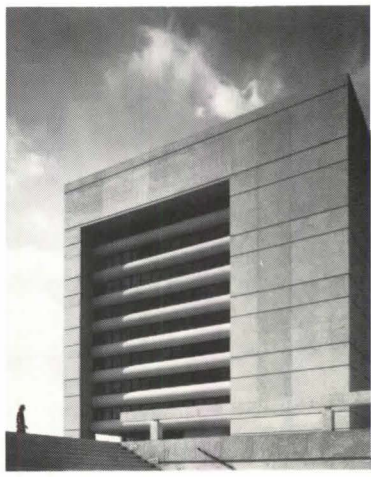
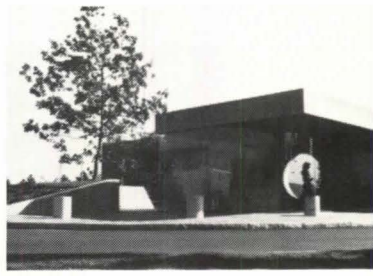


Third Annual CRSI design awards program 1976



Agricultural Sciences Building—South
Lexington, Kentucky

Arkansas Union
Fayetteville, Arkansas



Information Center
Rochester, New York

THE 1975 CRSI DESIGN AWARD WINNERS:

Arkansas Union, Fayetteville, Arkansas. Architect: Wittenberg, Delony & Davidson, Inc., Little Rock, Arkansas. Structural Engineer: Engineering Consultants, Inc., Little Rock, Arkansas. General Contractor: Manhattan Construction Co., Muskogee, Oklahoma.

Agricultural Sciences Building—South, University of Kentucky, Lexington, Kentucky. Architect: Bickel-Gibson Associates, Architects, Inc., Louisville, Kentucky. Structural Engineer: White, Walker and McReynolds, Lexington, Kentucky. General Contractor: John Wile Construction Company, Louisville, Kentucky.

Information Center, Rochester, New York. Architect: Robert Macon & Associates, Rochester, N.Y. Structural Engineer: Raymond DiPasquale & Associates, Ithaca, N.Y. General Contractor: The LeCesse Corp., Rochester, N.Y.

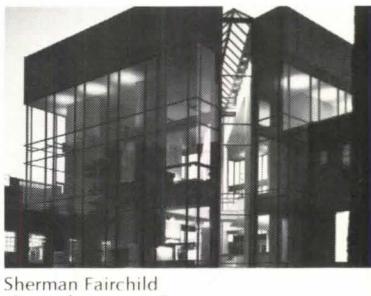
Sherman Fairchild Physical Sciences Center, Hanover, New Hampshire. Architect: Shepley Bulfinch Richardson and Abbott, Architects, Boston, Mass. Structural Engineer: Nichols, Norton and Zaldastani, Inc., Boston, Mass. General Contractor: Jackson Construction Co., Boston, Mass.

Dakota County Government Center, Hastings, Minnesota. Architect and Structural Engineer: Ellerbe, Inc., Bloomington, Minnesota. General Contractor: Sheehy Construction Co., St. Paul, Minn.

Housing For The Elderly, San Francisco, California. Architect: Marquis and Stoller, Architects & Planners, San Francisco, California. Structural Engineer: Forell/Elsesser Engineers, Inc., San Francisco, California. General Contractor: The Pacific Co., Engineers & Builders, Berkeley, Calif.

Edwin J. Thomas Performing Arts Hall, Akron, Ohio. Architects: Caudill Rowlett Scott, Houston, New York, Los Angeles; Dalton, Van Dijk, Johnson & Partners, Cleveland, Ohio. Structural Engineer: R. M. Gensert and Associates, Cleveland, Ohio. General Contractor: Mosser Construction, Inc., Fremont, Ohio.

Lyndon State College Library, Lyndonville, Vermont. Architect: The Perkins & Will Partnership, White Plains, N. Y. Structural Engineer: Sol Marenberg Associates, New York, N. Y. General Contractor: R. E. Bean Construction Co., Inc., Keene, New Hampshire.



Sherman Fairchild
Physical Sciences Center
Hanover, New Hampshire

Dakota County Government Center
Hastings, Minnesota

Architects and engineers your entries, please.

Concrete Reinforcing Steel Institute announces a Call for Entries in the 1976 CRSI Design Awards Program—our third annual Awards event for design professionals.

The Awards honor creative design achievements utilizing site-cast concrete in which conventional reinforcing bars are the predominant reinforcement.

Categories of Awards The program is open to site-cast reinforced concrete structures of all types.

Criteria of Awards Esthetic expression, engineering achievement, functional excellence, or economy (or any meritorious combination of these qualities).

Type of Award Several Awards will be presented, each equally acknowledging excellence of achievement. Each Award will consist of (1) engraved commemorative plaques for architect, engineer, and owner, (2) publication of the winner's story and structure in print advertising sponsored by CRSI, and (3) presentation of the Award at a special ceremony at the CRSI annual convention held at the Greenbrier, White Sulfur Springs, West Virginia, April, 1977. From each firm submitting a winning entry, one representative (and spouse) will be invited to attend the Award presentation ceremony as CRSI's guests. Appropriate local award ceremonies will be arranged for the remaining members of the winning design firms.

The Jurists A distinguished panel of recognized professional architects and engineers from throughout the United States will select the winners.

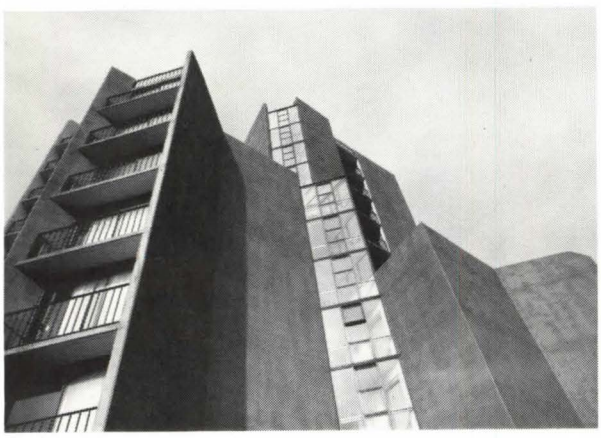
Who Is Eligible The 1976 CRSI Design Awards Program is open to all registered architects and engineers (entrants may be individuals or teams). Eligible structures must be located within the continental United States and have been completed since January 1, 1974, or essentially finished by November 15, 1976.

AIA Approval This program has been approved by the American Institute of Architects and is patterned after the AIA Honor Awards Program.

how to submit entries:

The following requirements correspond to those of the AIA Honor Awards Program. Entries prepared for the AIA Program may be submitted in duplicate to the CRSI Design Awards Program. *However, please also include the descriptive data sheet specified in item 4.* All other entries should be prepared as specified in items 1 through 5. No entry forms are required.

1. BINDER—All material must be contained in an 8½" x 11" binder.



Housing for the Elderly
San Francisco, California

Edwin J. Thomas Performing Arts Hall
Akron, Ohio

Lyndon State College Library
Lyndonville, Vermont

2. PHOTOGRAPHS AND SLIDES—For every project, submit sufficient photographs (either black and white or color), slides, and plans to properly illustrate the design solution. *All architect and project identification must be removed from all such submitted materials.* Minimum requirements are set forth below:

Exterior

- One 8" x 10" print showing each exposed side of the building;
- One additional 8" x 10" print showing the immediate environs of the building as these abut the selected side being shown (may be omitted if environs are included in above).

For a group of buildings or an urban project (or segment thereof), one 8" x 10" photograph of the project sufficient to illustrate the concept including relationship to its environs.

Interior

- One 8" x 10" print.

Slides

A minimum of five 2" x 2" 35mm color slides must be included for each entry—three exterior views and two interior views. They are to be of completed buildings and emphasis should be on adequate effective slides which show the merit of the project and each facade of the building.

3. PLANS—Site plan—at small scale, showing the project and its immediate environs. Floor plan or plans and one or more sections—sufficient to explain the solution. Plans must be at scale, but may be shown in any medium. Scale at discretion of entrant, as large as practicable. Scale must be shown graphically.

Plans must be on 8½" x 11" sheets placed in transparent window sleeves.

4. DESCRIPTIVE DATA—To preserve anonymity during judging, submit the following data typewritten on plain white 8½" x 11" paper.

a. Description of type of structure.
b. Size of structure in total square footage.
c. Brief description of structural framing system. Indicate which portions of system are conventionally reinforced, prestressed or precast concrete. (Remember structure must be predominantly site-cast and conventionally reinforced.)
d. Description of any unique design features that deserve special consideration during judging.
e. Date structure was completed or scheduled for completion.
f. The reasons for choosing reinforced concrete. (Please be specific.)

5. CONCEALED IDENTIFICATION—All information requested here *must* be included on a separate typed sheet. Please be certain that *all* spelling and *all* punctuation are absolutely accurate.

- Proper name of structure.
- Name, address, and phone numbers of:
  Architect
  Engineer
  Contractor
  Owner
- All titles or other designations such as consultant, associated architects, project architect, architect in charge, associate architect, etc.
- All city and state locations.

deadline

All entries must be received no later than November 15, 1976, at CRSI headquarters (address below).

Announcement of Winners To be made as soon after judging as practical.

Ownership and Publication of Entries All entries shall become sole property of CRSI. No materials will be returned. CRSI reserves the right to use or publish all entries and accompanying materials in CRSI advertising, CRSI publications or for any and all editorial purposes and by entering, entrant grants a royalty-free license to CRSI to use any copyrighted materials. Such right includes publication of photographs and names of Award winners without compensation to winners.

Judges' Decision Shall be Final Upon entering the 1976 CRSI Design Award Program, entrants waive their right to make a claim against the panel of judges (or any member thereof), or to make a claim against Concrete Reinforcing Steel Institute (or any member thereof).

mail entries to:

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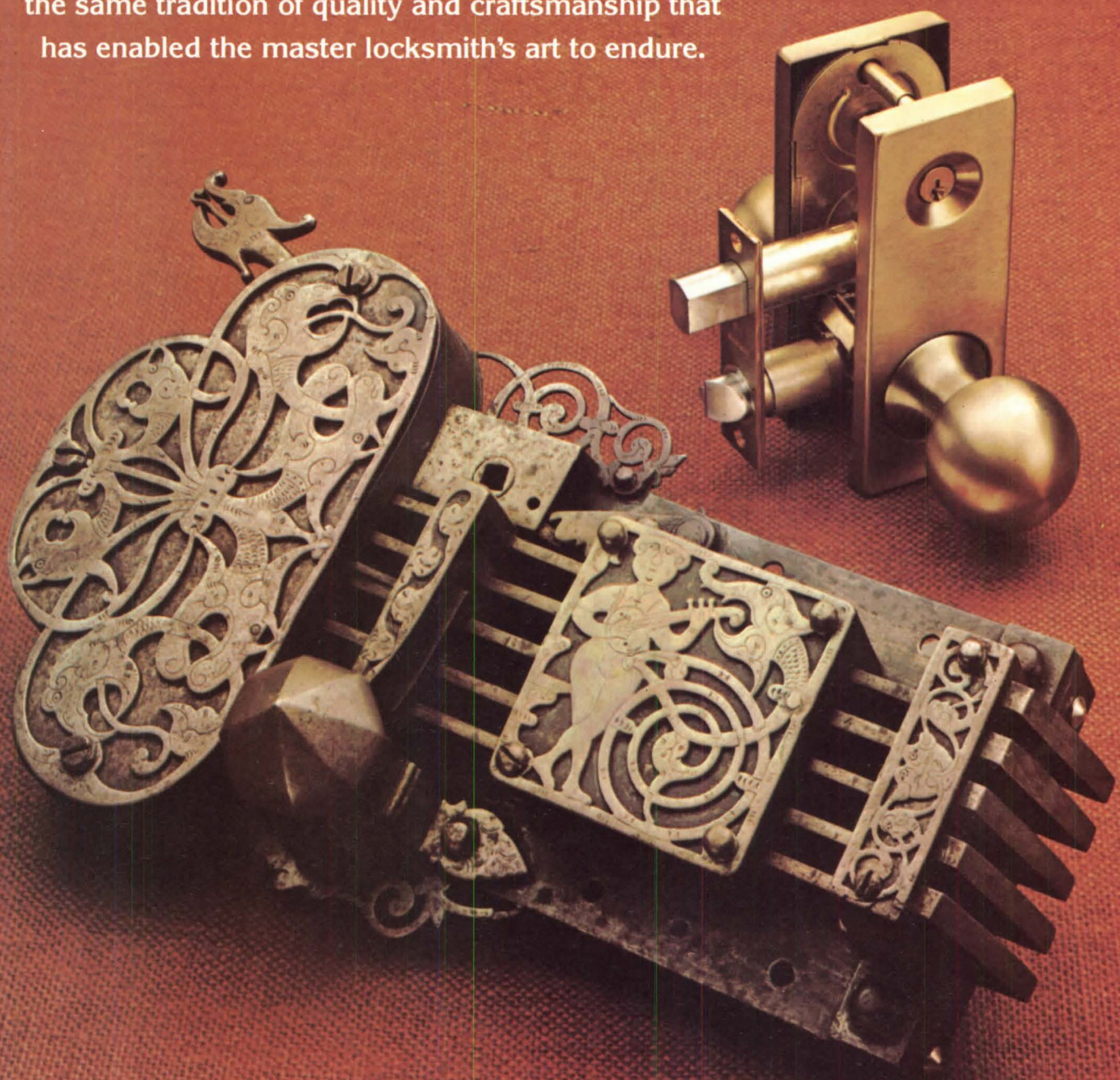

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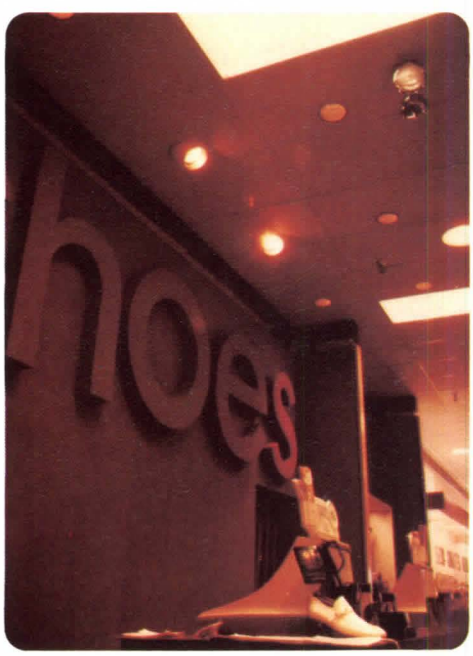

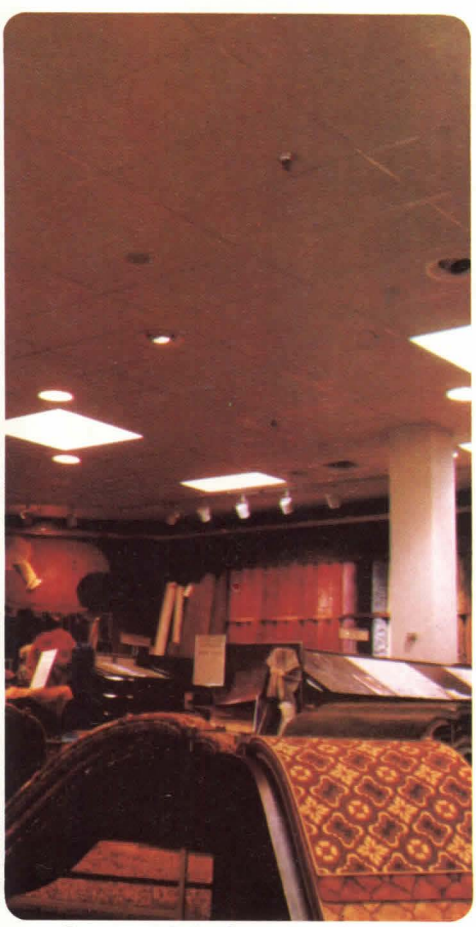

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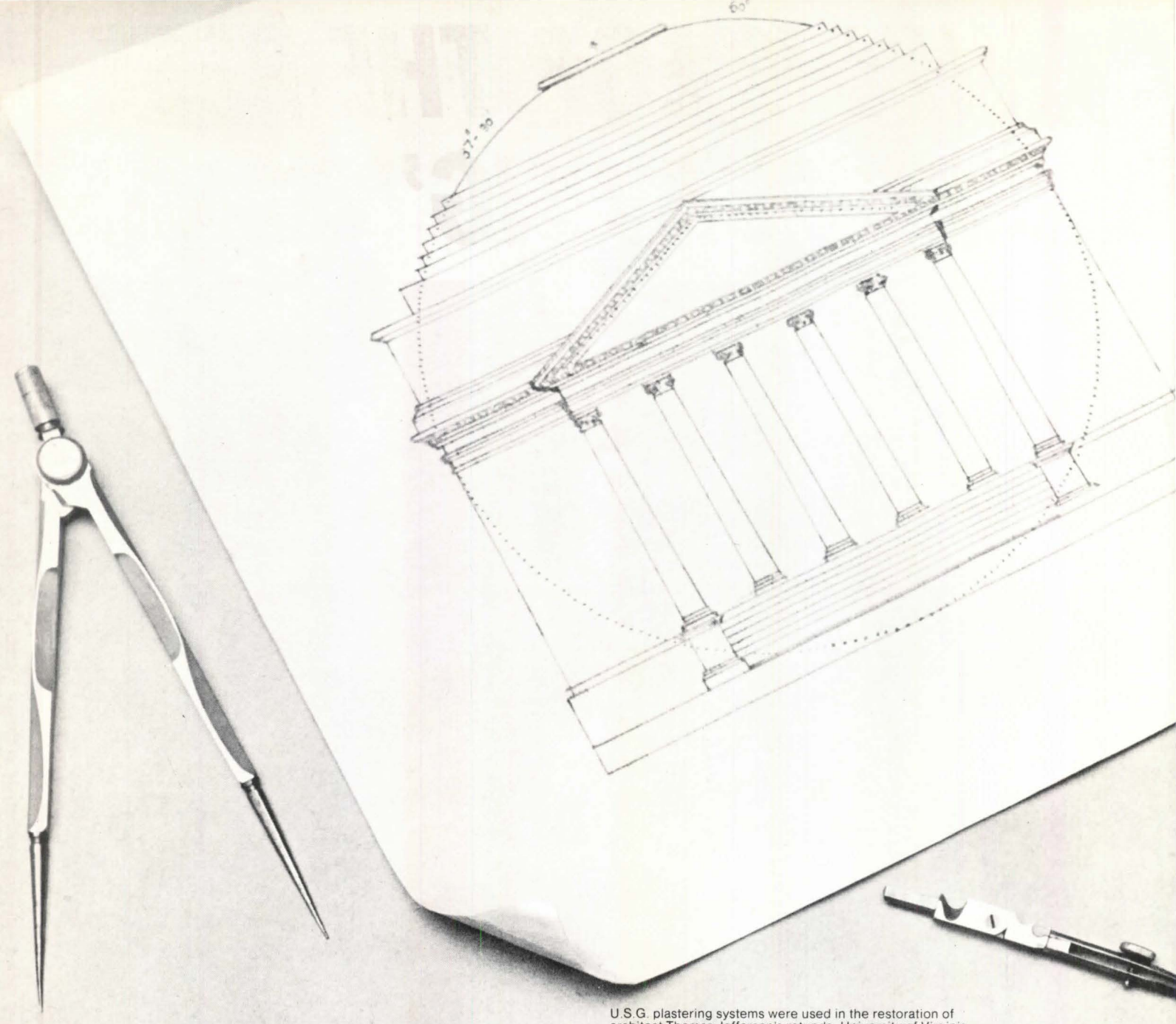

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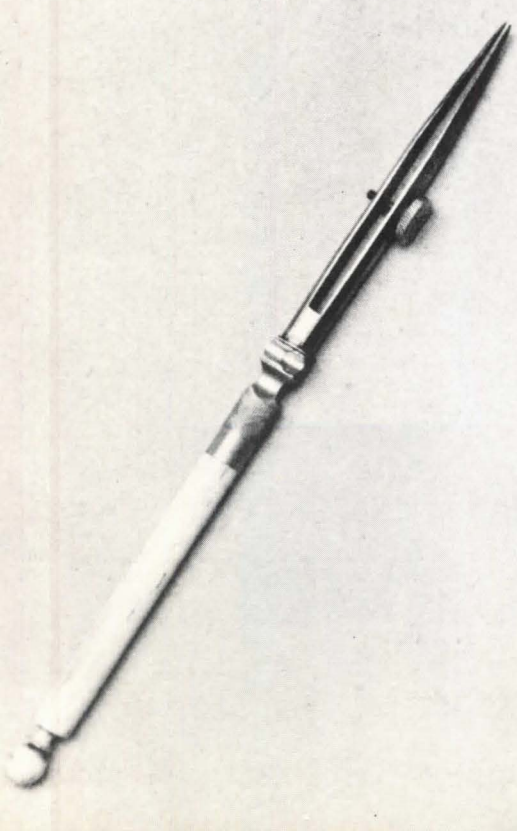

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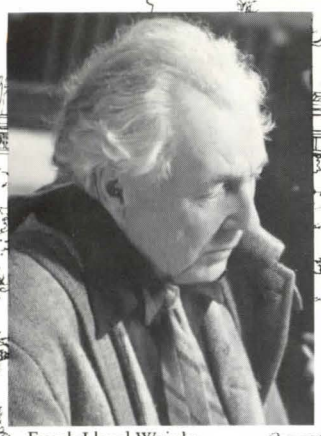

Frank Lloyd Wright

Louis Sullivan

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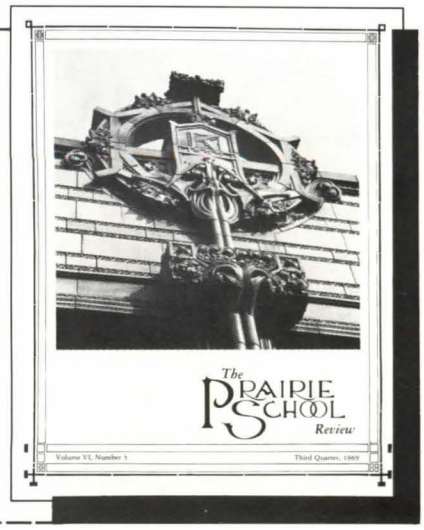

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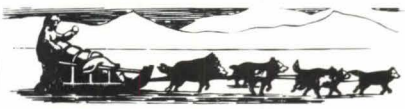

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Books from page 182
into the 18th century architectural forms, but also into the social life of the period. He discusses the families who first owned the house, the craftsmen, the interiors and furnishings, making the book of great appeal to the layman. The architect, however, may be more interested perhaps in the attention given to the insights Tatum affords into early Georgian architecture in this country. Many handsome photographs complement the text, making the book an outstanding one.

Prairie School Architecture: Studies from 'The Western Architect.' Edited and introduced by H. Allen Brooks. Toronto: University of Toronto Press, 1975. 333 pp. $30.

Editor Brooks, author of *The Prairie School: Frank Lloyd Wright and His Midwest Contemporaries,* which won the Society of Architectural Historians' award for the most distinguished work of scholarship in the history of architecture by a North American scholar in 1971-72, has performed another service for historians by collecting in one volume significant articles from the magazine *The Western Architect,* which was published in Minneapolis between 1902 and 1931. As he points out, this magazine "was the only journal extensively to document the architecture of the Prairie School," and only a few complete sets of the journal are now in existence.

The book contains articles about the work of Frank Lloyd Wright, Walter Burley Griffin, W. G. Purcell and G. G. Elmslie, George W. Maher, Spencer & Powers, Guenzel & Drummond, John S. Van Bergen, Tallmadge & Watson, Louis H. Sullivan and Barry Byrne.

In the June '75 issue of the AIA JOURNAL, George E. Pettengill traces the history of the publication of Louis Sullivan's *The Autobiography of an Idea.* In the article, he tells of how Frank Lloyd Wright was suggested to write the book's foreword but was rejected because "Wright had not read the text in serial form and . . . writing the foreword might be a hardship for him."

In this context, it is interesting to read Wright's obituary of Sullivan in the June 1924 issue of *The Western Architect,* reproduced in the book edited by Brooks. Wright lavishes praise upon his "beloved master." He says of *The Autobiography of an Idea* that the book "has come to convince an unwilling world, tainted with that hatred for superiority that characterizes a false democracy, of what it missed in leaving a man of such quality to turn from the rare work he could do, to give, in a book, proof of that quality in a medium his kindred had learned to understand—proof of his quality—too late. It is a characteristic triumph of genius such as his that he should lay this book upon the library table of the nation he loved, as he died! . . . He took literature, the literal medium by which the literal may most easily be reached and, perhaps, literally made to understand—grasped it and made himself known—the master still."

America's Historic Villages and Restorations. Irvin Haas. New York: Arco Publishing Co., 1974. 150 pp. $8.95.

The restored historic villages (50 of them) described in this book reveal the richness of this nation's past. Seafaring days are shown in the maritime restoration on the Mystic River in Connecticut; the 19th century rural life is sketched by Century Village in Burton, Ohio; the beginnings of America's iron and steel industry are presented in Hopewell Village, Elverson, Pa.; the adventures of gold-mining days are remembered in the ghost town in Brodie State National Park in Bridgeport, Calif., and the scene of early strivings for independence is marked by the restoration of Williamsburg, Va. The book gives information on directions about reaching these places, times each is open and admission charges. The many photographs add to the reader's enjoyment.

Lewis and Clark: Historic Places Associated with Their Transcontinental Exploration (1804-06). Robert G. Ferris, series editor. Washington, D.C.: National Park Service, 1975. 429 pp. $8.35.

"Lewis and Clark were heralds of national destiny. In their tracks trod the pioneers who fulfilled that destiny. Over

continued on page 200

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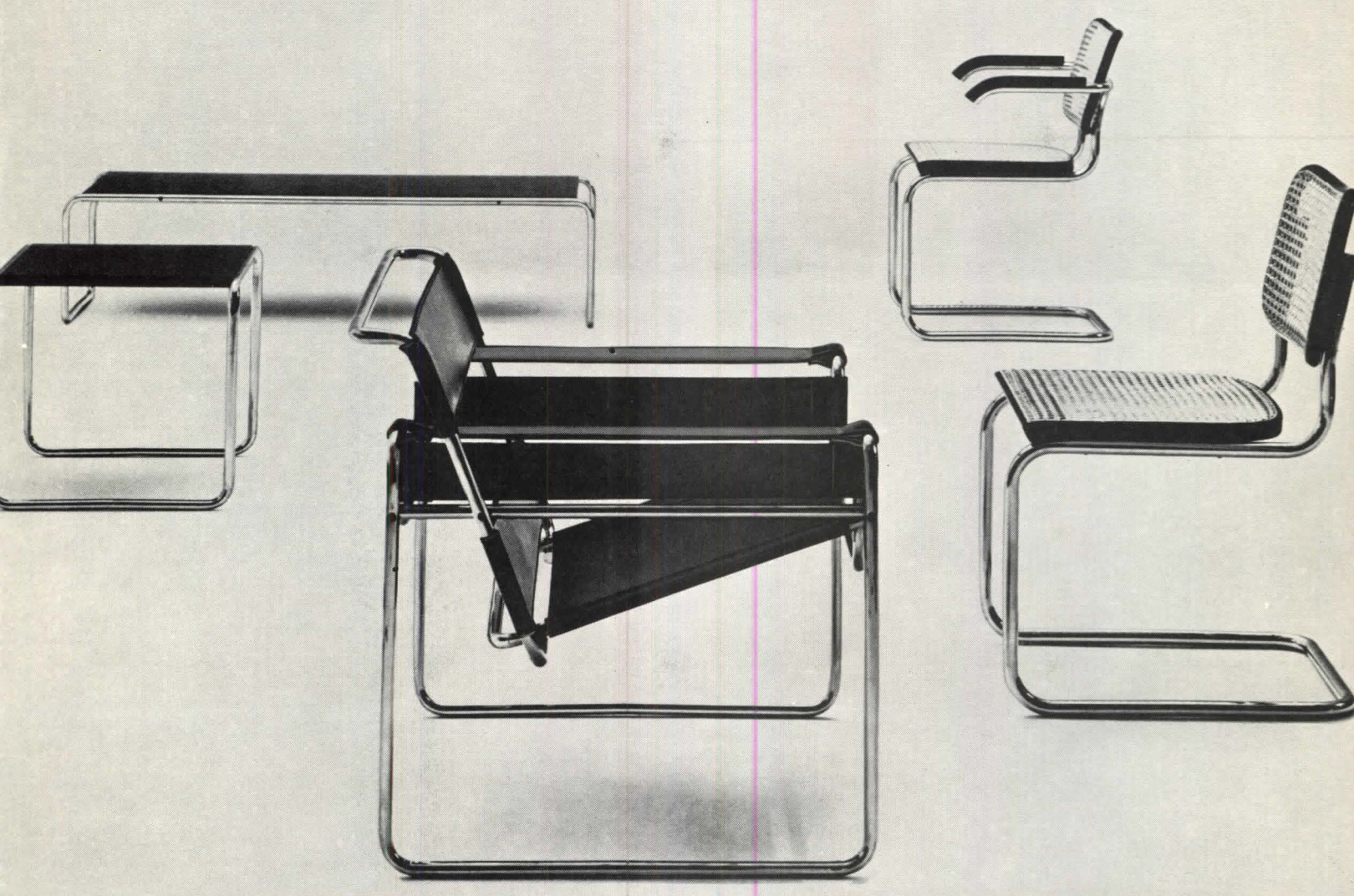

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Books from page 196

the course of time, they and their heirs drastically reshaped the face of the land." So wrote then Secretary of the Interior Rogers C. B. Morton in the foreword to this book, which is volume 13 in the continuing National Park Service series in the National Survey of Historic Sites and Buildings. The book follows the pattern of the 12 preceding volumes, combining history and a guide to historic sites. In the section on historic sites, there are descriptions of 43 major sites along the Lewis and Clark Trail in 10 states. Information is given about location, ownership and administration, historical significance and present appearance.

The book is enhanced by 168 photographs, reproductions of paintings by George Catlin and Karl Bodmer and 11 maps. Copies may be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, under the stock number 024-005-00559-5. A check for $8.35 per copy should accompany the order.

Frank Lloyd Wright Home and Studio, Oak Park, Ill. Donald G. Kalec and Thomas A. Heinz. Oak Park, Ill.: Restoration Committee, Frank Lloyd Wright Home and Studio Foundation, 1975. 25 pp. No price given.

The restoration committee of the Frank Lloyd Wright Home and Studio Foundation has been working over the past two years to collect historic documents and to conduct research in preparation for the restoration of Wright's home and studio in Oak Park, Ill. In order to share its research information, the committee has published this booklet. It gives a history of the home and studio and tells of the restoration plans. It also includes both historic and contemporary photographs and depicts, for the first time ever published, a series of floor plans that detail the major phases of construction. Proceeds from the sale of the booklet will go toward the restoration of the home and studio. For information, write William B. Dring, Chairman, Restoration Committee, Frank Lloyd Wright Home and Studio Foundation, Forest Ave. at Chicago Ave., Oak Park, Ill. 60302.

Bendiner's Philadelphia. Alfred Bendiner. Philadelphia: Franklin Publishing Co., 1976. 163 pp. $4.95.

Architects who delighted in this book by architect Al Bendiner, first published in 1964, will be glad to know that a paperback edition is now available. The drawings of Philadelphia's landmarks are great and his satirical comments are perceptive. For example, Bendiner said of the Girard Trust Building by McKim, Mead & White: "If you never were in Rome, Italy, and were taught never to correct your elders, you are supposed to believe that the building is an exact copy of the Pantheon in Rome. Well, this much is to be said: It has a portico (Ionic instead of Corinthian), a pediment, a dome (marble instead of concrete) and an oculus (covered instead of open). Inside, the place is full of bankers (instead of tourists)."

Nicholas Satterlee, FAIA, once wrote of Bendiner (June '68, p. 138): ". . . It's the man who can tell a story and who speaks and writes with humor who has the gift that is rare and wondrous." Indeed, Bendiner had this gift, which is evidenced in this book.

The Oregon Experiment. Christopher Alexander, Murray Silverstein and others. New York: Oxford University Press, 1975. 190 pp. $12.50.

This small volume contains the master plan for the further development of the campus of the University of Oregon and is an exemplification of Christopher Alexander's widely discussed theories. These theories were presented in two preceding volumes: *The Timeless Way of Building* and *A Pattern Language.*

Besides propagating principles of decision making by users, resulting in a process which allows the whole to emerge gradually from local actions, Alexander's most significant theory is perhaps the principle of patterns. Patterns are created when design and construction are guided by a collection of communally adopted planning principles. The best of the cited examples within the master plan seems to be the redevelopment of and additions to the music school.

The genesis of the University of Cambridge in England and of medieval towns in Europe exemplifies their charm, according to Alexander. This charm came from the piecemeal decision making, seemingly without an architect. This bias fails to recognize, however, the fact that the old master builders, though often not known by name, did exert traditionally a strong leadership.

Alexander and his coworkers are not the first critics of formalistic master plans nor of massive building complexes, of course. They offer no proof in their treatise that "pattern development" can necessarily prevent slums or unorganic growth. Imagination, ability and favorable political climate make for no easy combination to come by in the process of community action. To believe that town planning is a piecing together of user actions according to supposed historical and environmental needs, by natural act as it were, reveals a great deal of political innocence.

Despite the authors' many arguments of merit, this reviewer feels that their recommendations could have been accomplished by use of common sense and without a massive attempt at theorizing.
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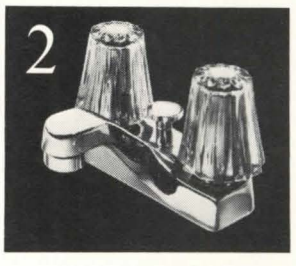

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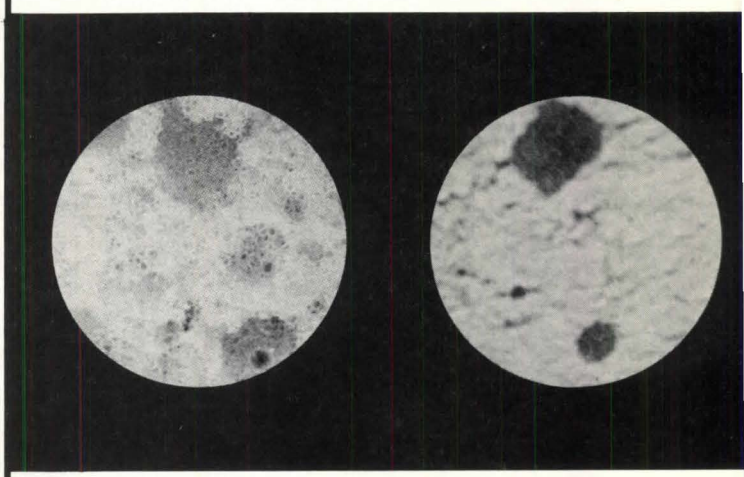

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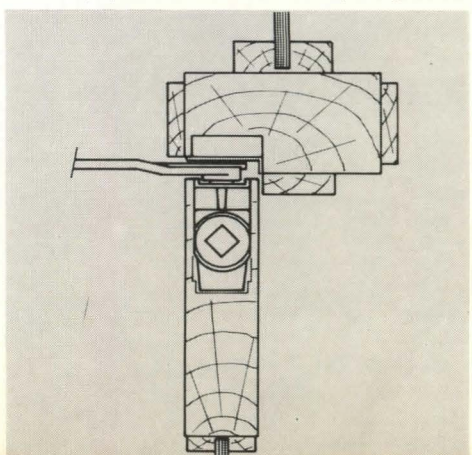

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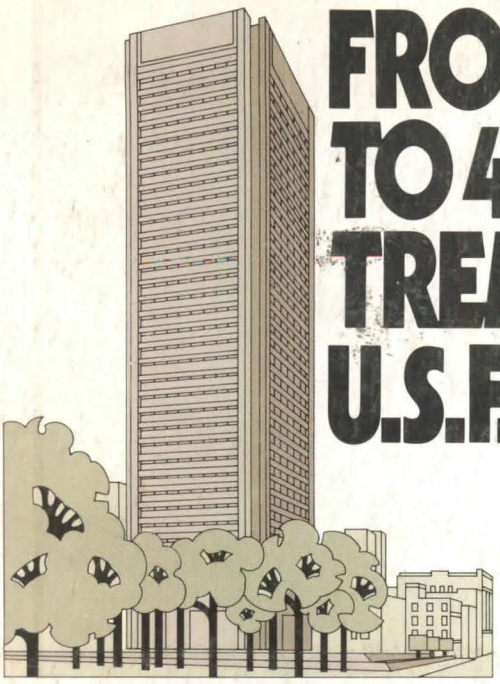

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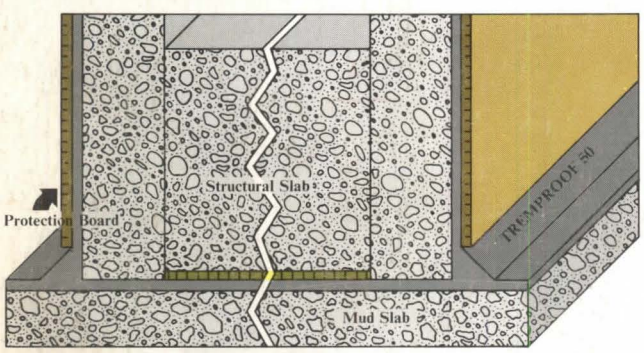

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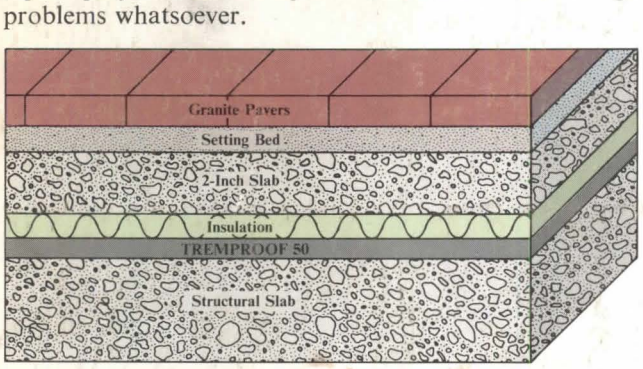

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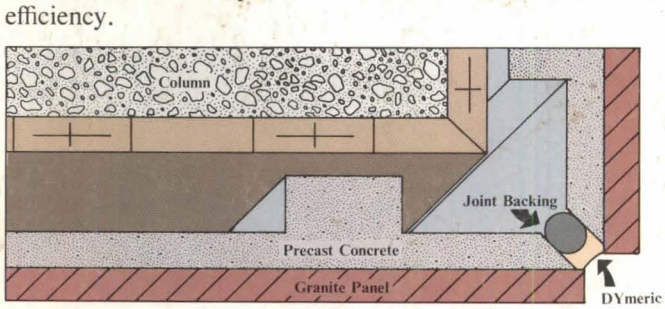

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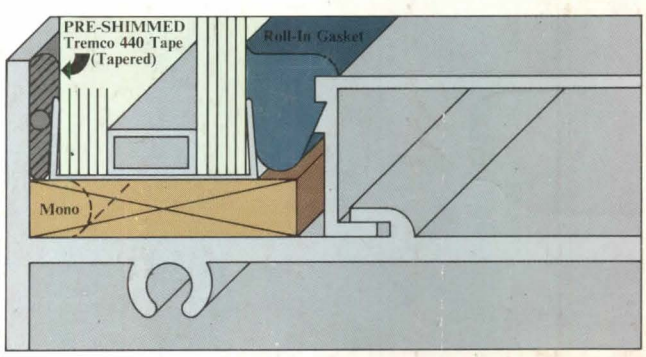

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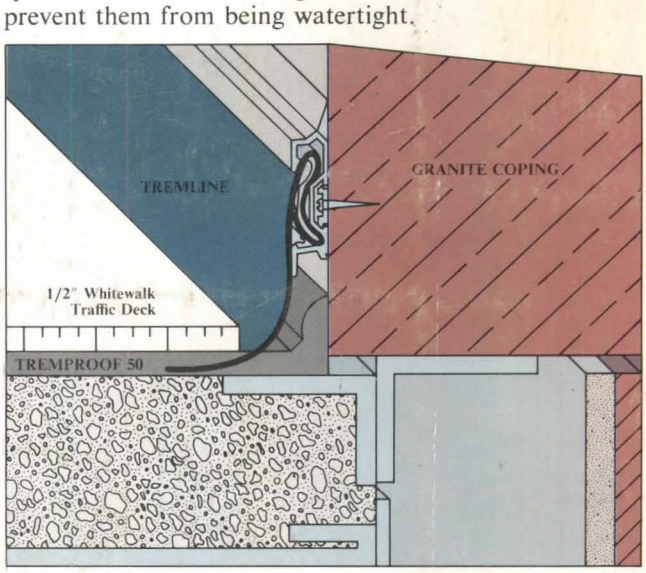

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