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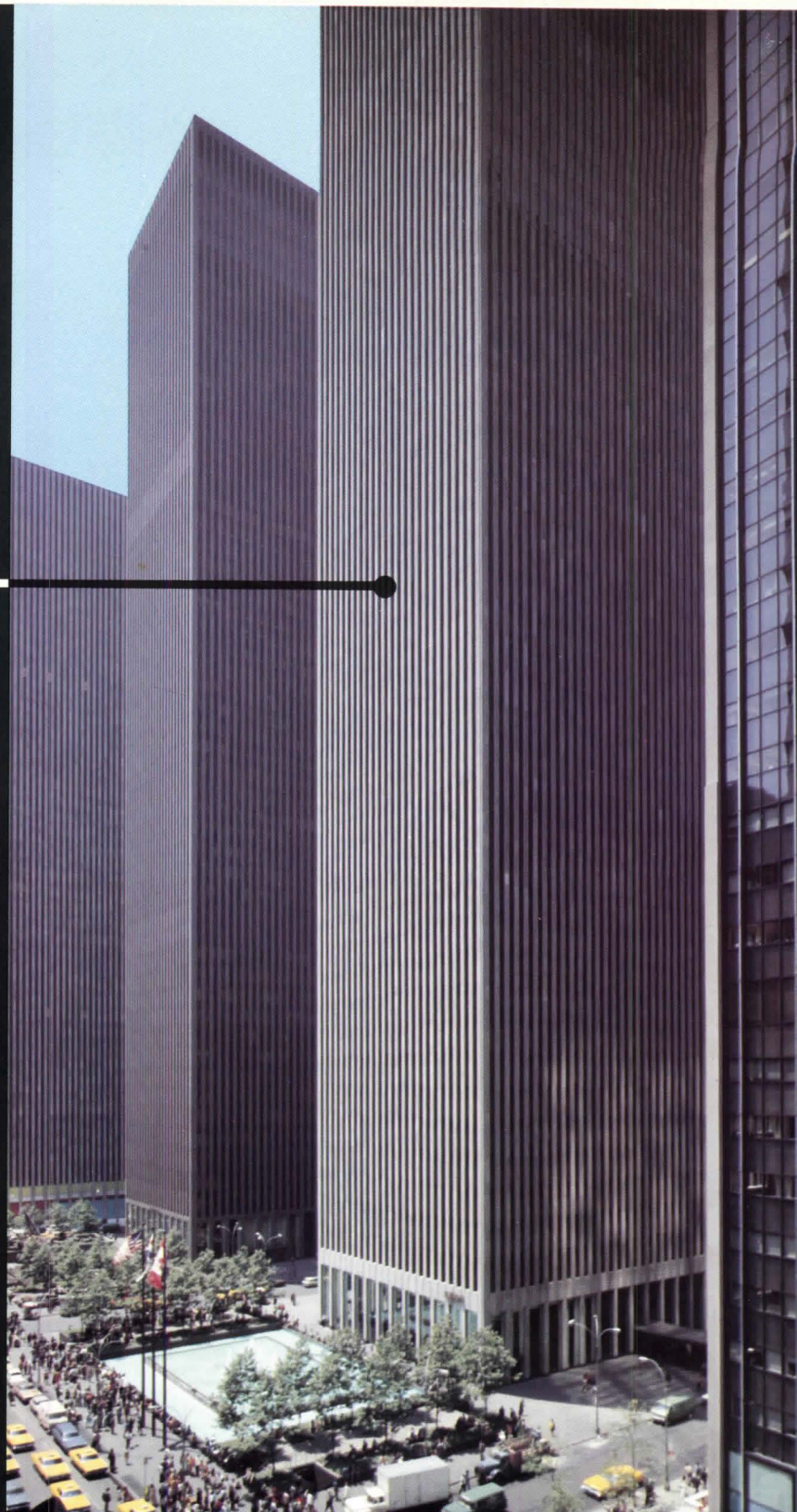

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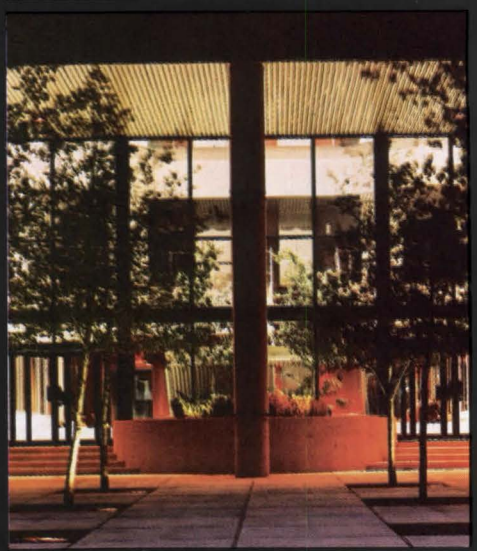

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EVENTS

Mar. 4: Solar Thermosyphon Air Panel Workshop, Comstock Park, Mich. (Repeat workshop Mar. 12, Comstock Park.) Contact: Linda Bouwkamp, Jordan Energy Institute, 155 Seven Mile Road, Comstock Park, Mich. 49321.
Mar. 9: Seminar on What is Construction Management, Dallas. (Repeat seminars Mar. 23, Los Angeles; Apr. 6, Philadelphia.) Contact: Director of Professional Development & Meetings, American Consulting Engineers Council, 1015 15th St. N.W., Washington, D.C. 20005.
Mar. 11-12: AIA Energy in Design, Process Workshops, Muncie, Ind., and Sacramento, Calif. (Repeat workshop Mar. 25-26, Austin, Tex.) Contact: Brenda Henderson at Institute headquarters, (202) 626-7353.
Mar. 14-15: Workshop on How to Use Desktop Computers in the Professional Design Firm, Atlanta. (Repeat workshops Apr. 4-5, Boston; May 19-20, Washington, D.C.) Contact: Management Associates, Inc., 1145 Gaskins Road, Richmond, Va. 23233.
Mar. 15-16: Contract Canada '83 Business Interiors Show, Atlanta. Contact: H. W. Guy, Canadian Consulate General, 400 S. Omni International, Atlanta, Ga. 30303.
Mar. 16-18: 11th Annual Conference of the Joint Committee on Federal Procurement of Architect/Engineer Services, Washington, D.C. Contact: Thomas J. Collier, American Consulting Engineers Council, 1015 15th St. N.W., Suite 802, Washington, D.C. 20005.
Mar. 16-20: Workshop on Masonry Maintenance and Restoration, Williamsburg, Va. Contact: Jan C. K. Anderson, Restore, 19 W. 44th St., 17th Floor, New York, N.Y. 10036.
Mar. 20-24: 1983 Joint Thermal Engineering Conference, Honolulu. Contact: Walter Mockert, Meetings Manager, American Society of Mechanical Engineers, 345 E. 47th St., New York, N.Y. 10017
Mar. 21-23: Training Course on Downtown Revitalization, Washington, D.C. Contact: National Main Street Center, National Trust for Historic Preservation, 1785 Massachusetts Ave. N.W., Washington, D.C. 20036.
Mar. 24-26: Symposium on American Architecture: In Search of Tradition, Columbia University, Graduate School of Architecture and Planning, New York.
Mar. 24-26: Conference and Exhibition on Photovoltaics: From Research to Reality, Cambridge, Mass. Contact: Alex Wilson, New England Solar Energy Association, P.O. Box 778, Brattleboro, Vt. 05301.
Mar. 25-27: California Council/AIA Design Conference, Monterey, Calif. Contact: CC/AIA, 1414 K St., Suite 320, Sacramento, Calif. 95814.
Mar. 28-31: National Design Engineering Conference, Chicago. Contact: Clapp & Poliak, 708 Third Ave., New York, N.Y. 10017
Mar. 29: Public Conference of the American National Standards Institute, Arlington, Va. Contact: Walter Gelles, ANSI, 1430 Broadway, New York, N.Y. 10018.
Apr. 12-14: Seminar on Health Facility Planning, Athens, Greece. Contact: A.J. Fifer Associates Ltd., Box 9104, Ottawa, Ontario K1G 3T8 Canada.
May 19-23: Star '83, 14th International Exhibition for Home Furnishing Textiles, Milan, Italy. Contact: AIM Expo, P.O. Box 387, Waterford, Conn. 06385.
May 22-25: AIA National Convention, New Orleans.
May 23-27: International Federation for Housing and Planning Congress, Lisbon, Portugal. Contact: IFHP, 43, Wassenaarseweg, 2596 CG The Hague, The Netherlands.

LETTERS

New Orleans: I was very pleased to read in your magazine the favorable review of Richard Baumbach Jr. and William Borah's *The Second Battle of New Orleans: A History of the Vieux Carre-Riverfront Expressway Controversy* (Oct. '82, page 90). As a native New Orleanian, I can appreciate what these two men have done for this city.

However, reviewer William Dudley Hunt Jr. has raised the banner of the mugwump in writing of the "lessons of those advocates of progress at any cost to the environment and the heritage, as well as for those advocates of perservation at any cost." I would like to challenge Mr. Hunt to come up with some hard examples where preservationists have hamstrung communities with their efforts—communities, not the vested interests that regrettably so many architects represent.

The French Quarter was saved in the 1920s and '30s by preservationists. The Quarter survived not by some miracle but by the hard work of a group of individuals intent on saving a neighborhood that many in business and commercial circles looked upon as a slum. The Quarter is now New Orleans' chief attraction in a town where tourism is the "second largest industry." I ask Mr. Hunt, was this a case of "preservation at any cost?"

George Schmidt
New Orleans

Atlantic City: Thomas Hine very gallantly attempts to answer his own penetrating questions, raised in the Atlantic City article (Nov. '82, page 34), with his questions (and Venturi's and Izenour's answers) that followed. My Atlantic City experience, gained in the design of Ramada's Tropicana Hotel/Casino, confirms that there can be no instant architectural "fix" to city problems that reflect longstanding economic and social ills. Furthermore, no boardwalk strip of (in-house) meretricious designs for fantasy-like casinos, so admired in Hine's articles, will bring the convention-goers and vacationers who can, in time, turn around Atlantic City.

What is needed is the described diversity of natural and created attractions—with amenities—and a new mix of both corporations and entrepreneurs to bring about a renaissance for the next generation. During this time, today's new and rebuilt complexes will have to endure and adapt. This will be the true test of our designs.

We at Becket/Puchall, the joint venture architect of the Tropicana, appreciate the three-photo spread and the backhanded compliment about our "downtown hotel" and "up-to-date corporate architecture." We trust that Ramada Inns' family image and the joint venture architects (omitted from Mr. Hine's description) will prove, in the long run, to have shaped something more than a corporate-made environment.

Carl Puchall, AIA, Principal
Becket/Puchall Joint Venture
New York City

NCARB Degree Requirement: It was with grand disappointment that I noted, some time back, that the NCARB was standing by its requirements for a degree in architecture as a requisite for registration (see Aug. '82, page 20). The NCARB seems remarkably elitist in this attitude, especially with the reinstatement of draft registration in this country.

It should be pointed out to NCARB and anyone else with the power to issue certification of architectural abilities that not every American is fortunate to be monied at college age. Some of us had (have) to work our way through school; some of us had (have) to take time away from fulltime attendance to earn the money for the next semester; some of us got (could get) drafted; some of us were never (may not be) able to finish the last year or two for whatever reason life has to offer; some of us work(ed) our way up

continued on page 8

Addenda: Among the seven first place winners of the second annual passive solar design awards (Dec. '82, page 78) was Einhorn Yafee Prescott Krouner, Albany, N.Y., for the Albany County Airport Terminal, Colonie, N.Y.

Winner of a design competition for a two-acre plaza in Fort Lauderdale was Aragon Associated Architects of Coral Gables (Nov. '82, page 12); the complete design team consisted of John Ames Steffian, AIA, and Armando Montero, in conjunction with Luis Trelles, George Trelles, Ralph Portuondo, Rolando Llanes.

Letters *from page 6*

through the ranks to become registered architects. Thank God the NCARB can't take that away from us; they can only act as an irritant for our loftier national and international goals.

If an architect has the ability to work his way through experience and study on his own enough to pass the equivalency exam, he should be applauded, not punished.

For me, each correspondence with NCARB is a painful reminder that this country went to war and that I was the right age to go along. Very few in America who stayed home welcomed us back, least of all the NCARB.

Keith White, AIA
Fullerton, Calif.

Samuel T. Balen, FAIA, executive director of NCARB, responds: The examinations one takes before a state registration board do not cover the full extent of all knowledge, skill, and ability required to provide competent architectural services to owners and users and protect public health, safety, and welfare. The examinations can only sample a reasonable number of the skills, abilities, and the knowledge required to provide these services. The examinations are the last check on a person's qualifications to be licensed. The other two qualifications are possession of the appropriate architectural and general knowledge and proper architectural practical training. Satisfactory practical training can be codified by applying the criteria of the Intern-Architect Development Program to one's practical training exposures. Adequate and appropriate architectural and general education is best documented by the accredited degree.

The majority of delegates from member boards present at the last three NCARB annual meetings voted to sustain the requirement that applicants for NCARB certification registered after July 1, 1984, must hold an NAAB accredited degree in architecture. The member boards have also indicated that an alternative to the traditional academic degree route should be studied, and if a satisfactory alternative can be developed, this should be accepted in lieu of the accredited degree. The NCARB education committee, comprised of members from NCARB, AIA, the Association of Collegiate Schools of Architecture, and the National Architectural Accrediting Board, has considered several concepts and is exploring one that has potential. This concept could satisfy the need to demonstrate satisfactory architectural education while providing an avenue for those who are unable, for some reason, to attend a university or had to curtail their efforts in the traditional academic setting yet still acquire the requisite general, technical, and design education. ☐

Government

House Maneuver on Memorial Fails but Controversy Continues

A vocal minority, refusing to accept a compromise unanimously voted by the District of Columbia Fine Arts Commission, is still attempting to impose a statue grouping and a flagpole in close proximity to the built and dedicated Vietnam Veterans Memorial on the National Mall.

Apparently yielding to political pressures, the Interior Department has twice delayed presentation to the commission of a new proposal for the added elements, and a lame duck congressman succeeded in passing a resolution in the closing hours of the 97th Congress that would have overridden the commission's authority. That measure was blocked in the Senate.

The resolution, sponsored by Representative Donald Bailey (D.-Pa.), alluded to a "final design agreed upon and recommended by the Vietnam Veterans Memorial Fund" in October 1982. That "agreement," which would place a 50-foot flagpole above the walls 40 feet from their apex and the statue on the low ground 150 feet from the apex, was subsequently rejected by the Fine Arts Commission (see Nov. '82, page 17). The arts panel, comprised of seven presidentially appointed members, empowered by Congress to rule on design proposals for the Mall, recommended placing the statue, flagpole, and a directory for locating the names of the dead and missing away from the granite walls as an entrance grouping.

Bailey's bill also stated: "Resolved ... that the Secretary of the Interior, the Commission of Fine Arts, the National Capital Planning Commission, and other pertinent parties shall follow the clear wishes of the Vietnam-era veterans of the United States, veterans service organizations, the Vietnam Veterans Memorial Fund...." In fact, the resolution was made without the knowledge or sanction of the memorial fund, according to Robert Doubek, project director. "We oppose such legislation," he says. "Bailey's proposal misrepresented the facts, saying that everybody agreed that the statue would be located where he describes it, but that is not the case. Apparently he sold it to [his fellow congressmen], giving them the impression this was motherhood and apple pie, and that he was helping us out."

A statement issued by VVMF says, "The American Legion and the Veterans of Foreign Wars join VVMF in opposing political moves to dictate design matters. ... The Commission of Fine Arts and the National Capital Planning Commission have been created by Congress to consider questions of design, planning, esthetics, and appropriateness. These two, together with the Department of the Interior, are committed to completing a memorial that is both a magnificent tribute to all who served in Vietnam as well as a fitting addition to the sacred ground of the National Mall. Congress has never before interfered with the resolution of design matters in the hands of these agencies. To make the process subject to politics sets an unacceptable precedent."

In statements prepared for delivery to the Fine Arts Commission, two other large groups, the Vietnam Veterans of America and AMVETS (American Veterans of World War II, Korea, and Vietnam) support VVMF's position.

Bailey's resolution was passed by the House without opposition during the hectic final hours of the lame duck session, but it was blocked in the Senate by Senators Charles Mathias of Maryland and John Warner of Virginia. Warner, a self-proclaimed "ombudsman" in a series of meetings that led to the compromise on the statue and flagpole presented to the Fine Arts Commission in October, told the JOURNAL that he supports the approval process of the arts and planning bodies, and that Congress should not attempt to override their decisions. He also said that the Bailey resolution reached the Senate at 2 A.M. during the filibuster on the gasoline tax and that there was insufficient time for proper consideration of the bill. In an amicable but strongly worded letter to Bailey, Mathias wrote: "It would be highly inconsistent with [legislation establishing the review process for the memorial] and in violation of the principle of separation of powers for the Congress, as a body, to interfere with this process."

Any similar attempt in Congress must start as a new proposal. Bailey is no longer a congressman, but like-minded legislators are still in office, and one of the self-appointed leaders of the effort to impose the additions to the memorial remains intransigent. "It ain't over.... They ain't seen nothing yet," Milton Copulos told the *Washington Post* last month. (Copulos, a Vietnam veteran, works as an energy expert for the Heritage Foundation, a politically conservative, tax-exempt, public policy organization. An outspoken critic of the competition winning design by Yale undergraduate Maya Lin, he was one of four people named by VVMF to select a sculptor for the statue. Their choice was Frederick Hart of Washington.)

continued on page 13

Allen Freeman

Visitors to the Vietnam Veterans Memorial and 'personal additions' to it.

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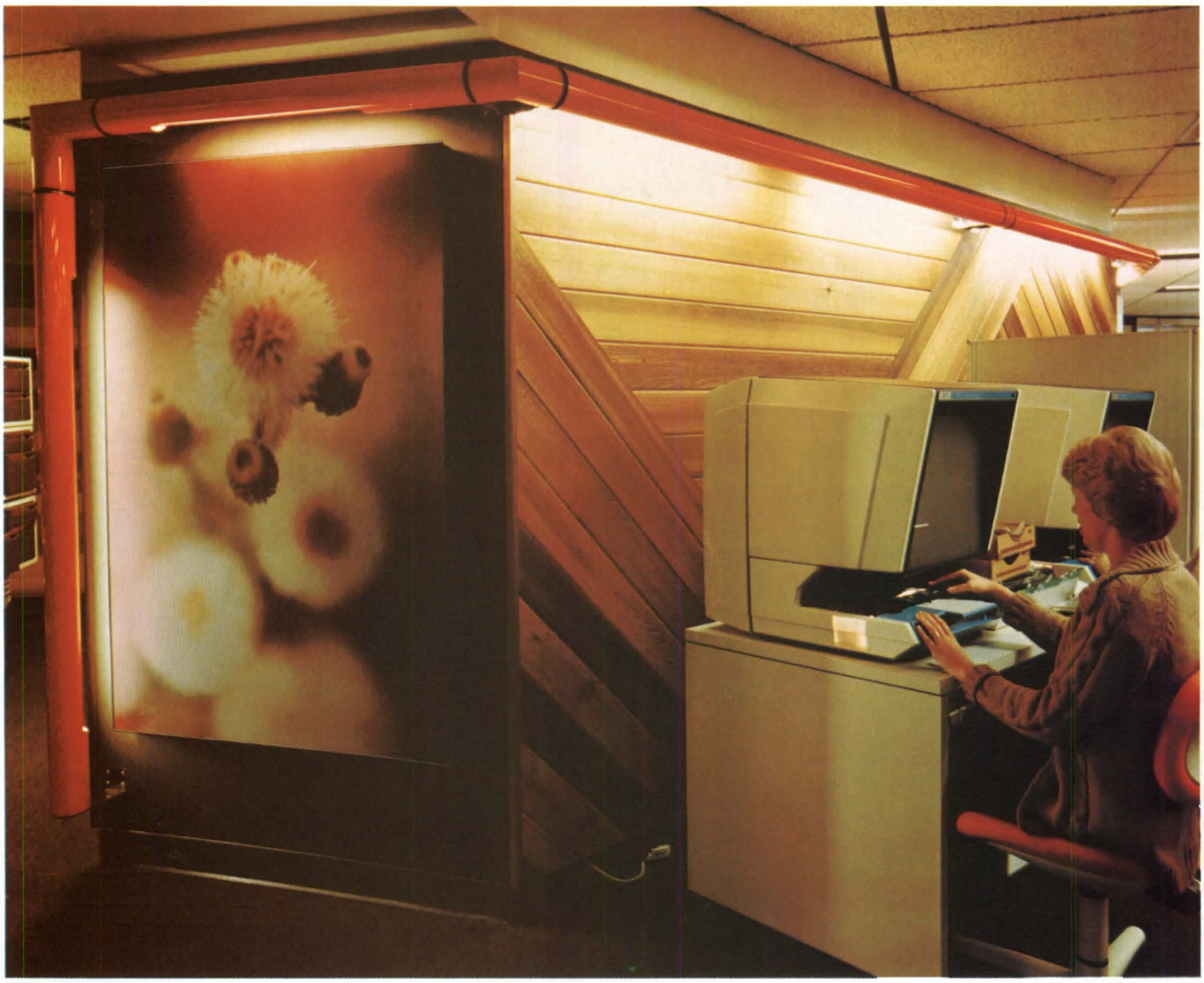

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Government *from page 11*

Meanwhile, the new memorial has attracted several hundred thousand visitors since completion last autumn. Attendance has exceeded expectations, says Robert Miller of the National Park Service, but reliable figures are not available because staffing and maintenance of the memorial (except for daily sanitation) temporarily remain the responsibility of the VVMF, which utilizes volunteers. The Park Service does estimate that the November dedication ceremonies drew 150,000, and reports that visitations to the nearby Lincoln Memorial are significantly higher than for corresponding months a year earlier.

NEWS CONTENTS

Unless otherwise indicated, the news is gathered and written by Allen Freeman, Nora Richter Greer, and Michael J. Crosbie.

Popularity combined with abundant rainfall and insufficiently porous topsoil destroyed much of the new sod in front of the walls during the four-day dedication ceremonies in November. A large section of turf has been removed for remedial ground work, and VVMF has laid temporary plank walkways at the approaches to the walls. Doubek of VVMF says the walkways will remain in place until April or May when the new sod has taken hold. The fund has also erected a flagpole behind the west wall, and Doubek says it is to remain in place until the permanent flagstaff is raised.

Other additions to the memorial are more personal. These are the flowers, wreaths, photographs, handwritten notes, candles, and small flags left at the walls by the families and friends of the dead and missing. A grounds maintenance foreman for the Park Service says flowers are removed when they begin to wilt, and the nonperishables are left for two or three days and then placed in storage. The Park Service foreman says all the veterans who attend to the memorial are "treating it with utmost respect and reverence."

The same attitude is evident in those who see the memorial for the first time. All are solemn; many are obviously moved.

Congressional Efforts to Alter Federal Housing Programs Fail

Congressional efforts to alter federally subsidized housing programs failed during the 1982 lame-duck session as Congress simply voted to continue funding the existing programs. These funds—$11.15 billion for fiscal year '83—were approved as part of the $379 billion continuing appropriations resolution.

Disagreements over what to do with the housing programs surfaced earlier as Congress considered the HUD fiscal year '83 appropriations. The Reagan Administration had requested that $5.4 billion be rescinded from the current subsidized housing programs and proposed a system of cash vouchers to help poor tenants pay their rents.

A bill introduced in the Senate went along with the President's proposal, and it also proposed converting funds for rural housing programs into block grants to states. A House bill called for the existing programs to remain. However, the House measure proposed a new multifamily rental housing production program, which would have provided grants to cities to help developers build or renovate units in areas with severe

continued on page 15

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Government *from page 13*
shortages of affordable rental housing. Developers would have been required to reserve a portion of those units for low-income families. In the end, Congress passed a HUD appropriations bill for FY '83 in September that excluded all funding for the new program.

The $11.15 billion appropriated for subsidized housing will provide $8.65 billion for Section 8 low-income housing programs, funds for 2,000 units of Indian housing and 14,000 units for elderly and handicapped housing, and $2.5 billion in new budget authority for public housing modernization.

Meanwhile, new HUD regulations governing the community development block grant program may have an effect on low-income housing availability. The regulations, issued in October, removed the requirement that HUD review a grantee's program to determine if it principally benefited lower-income persons. However, in response to congressional criticism, HUD revised these rules to add a provision permitting the secretary to impose sanctions against a community whose use of funds is determined to be "plainly inappropriate to furthering the objective of benefiting" lower income persons.

At a House housing subcommittee on the revisions to the rules, subcommittee chairman Henry B. Gonzalez (D.-Tex.) said that the regulations still undercut the basis of the statute and "threaten the whole purpose of the program." The subcommittee did not grant a waiver of the congressional review process, so the rules were not to become effective until this month. And if HUD refuses to make further changes, the subcommittee can vote to delay the regulations another three months.

Another provision of the new rule considered the rehabilitation of multifamily housing as meeting the objective of benefiting lower-income persons if the majority of the units in the structure are "affordable" to lower-income persons. Representative John J. LaFalace (D.-N.Y.) complained that HUD should require the units to be "affordable, available, and occupied by lower-income persons."

The Institute

Component Successfully Sues State Over Selection Law

The superior court of Massachusetts has ruled in favor of the Massachusetts State Association of Architects/AIA in a case involving illegal designer selection practices for state projects. MSA/AIA brought a suit against the designer selection board (DSB) of the state's division of capital planning and operations (DCPO), charging that it was not ranking finalists in order of qualification, that DCPO's deputy commissioner was illegally requiring finalists to submit sealed bids, and that the deputy did not negotiate first and exclusively with the first ranked designer for 30 days. All of these procedures are explicitly stated in the state's law on designer selection.

The court issued an injunction directing that DSB is prohibited from transmitting lists of finalists for design contracts to the DCPO deputy commissioner unless they have been ranked in order of qualification. The ruling also directs that the deputy is prohibited from according contracts for designer services for any future project where DSB did not rank finalists in order of qualification. Both of these directives are prospective and thus do not apply to any actions taken by DCPO prior to the ruling.

Massachusetts' designer selection process has had a checkered past. DSB was created in 1966 as part of state legislation enacted in response to irregularities in the selection of architects for public construction projects. It consists of architects, engineers, contractors, and public members appointed by the governor, who review applications and recommend at least three qualified architects for each project to the state's administration and finance commissioner. Its recommendations are only advisory.

In accordance with the 1966 statute dictating the designer selection process, after reviewing DSB's recommendations the commissioner is free to appoint any architect and to enter into a contractual agreement, according to a standard fee schedule.

According to an article in the Boston Society of Architects/AIA newsletter, in 1979 the administration and finance secretary began to require sealed bids from DSB recommended designers. This practice was protested by DSB but it was continued on the grounds that the statute did not explicitly prohibit bid requests.

Over the following year a special commission, the Ward commission, began investigating reports of corruption and misadministration of public building contracts. After hearing testimony on irregularities in selecting designers the commission explicitly rejected the use of bids, and in reaction the state enacted Chapter 579 of the Acts of 1980, modeled on the Brooks Act (see Feb. '81, page 84).

Lowell Erickson, Hon. AIA, executive director of MSA/AIA, said that the association was pleased with the ruling. "With the reaffirmation that designers must be ranked in order of their qualifications, we've realigned the selection process to the point where fees can be equitably negotiated."

Convention Speakers to Explore Architecture's 'Living Heritage'

The Institute's annual convention in New Orleans (May 22-25) will center around the theme "American Architecture: A Living Heritage." The three speakers will explore current and future conditions and trends in our society and environment and will discuss what challenges and opportunities lie ahead for "building upon the living heritage of architecture."

Addressing global and national issues will be John Naisbitt, publisher of *The Trend Report* and author of the current best selling book, *Megatrends,* which articulates 10 new directions transforming our lives. Naisbitt is the public director of AIA and a director of the CRS Group in Houston.

George Sternlieb, founder and director of the Rutgers University Center for Urban Policy Research, will discuss city/neighborhood issues, especially the changing dynamics of local decision-making, financing, development, and social structure. He will look at small-town and city concerns as well as those of large, urban centers. Sternlieb has written books and articles on urban affairs and has served on state, federal, and presidential committees on housing and urban affairs.

The third speaker, William "Holly" Whyte, will address individual/interpersonal needs. He will look at the critical interaction of people and environments—public buildings, small town streets and places, and urban spaces. He is best known for his books *Is Anybody Listening?, The Organization Man,* and *The Social Life of Small Urban Spaces.* His studies of urban street life—how people use streets and urban spaces—have been shown nationally on PBS's "Nova" series.

The program will also include follow-up panel discussions with the speakers and professional development seminars and consultation sessions, all aimed at providing architects with practical insights and skills that will allow them to build upon the heritage of architecture as well as to maintain a competitive edge in the future. Among the offerings are four seminars and a number of consultation sessions dealing with computers in architecture and three seminars looking at preservation and conservation issues and techniques.

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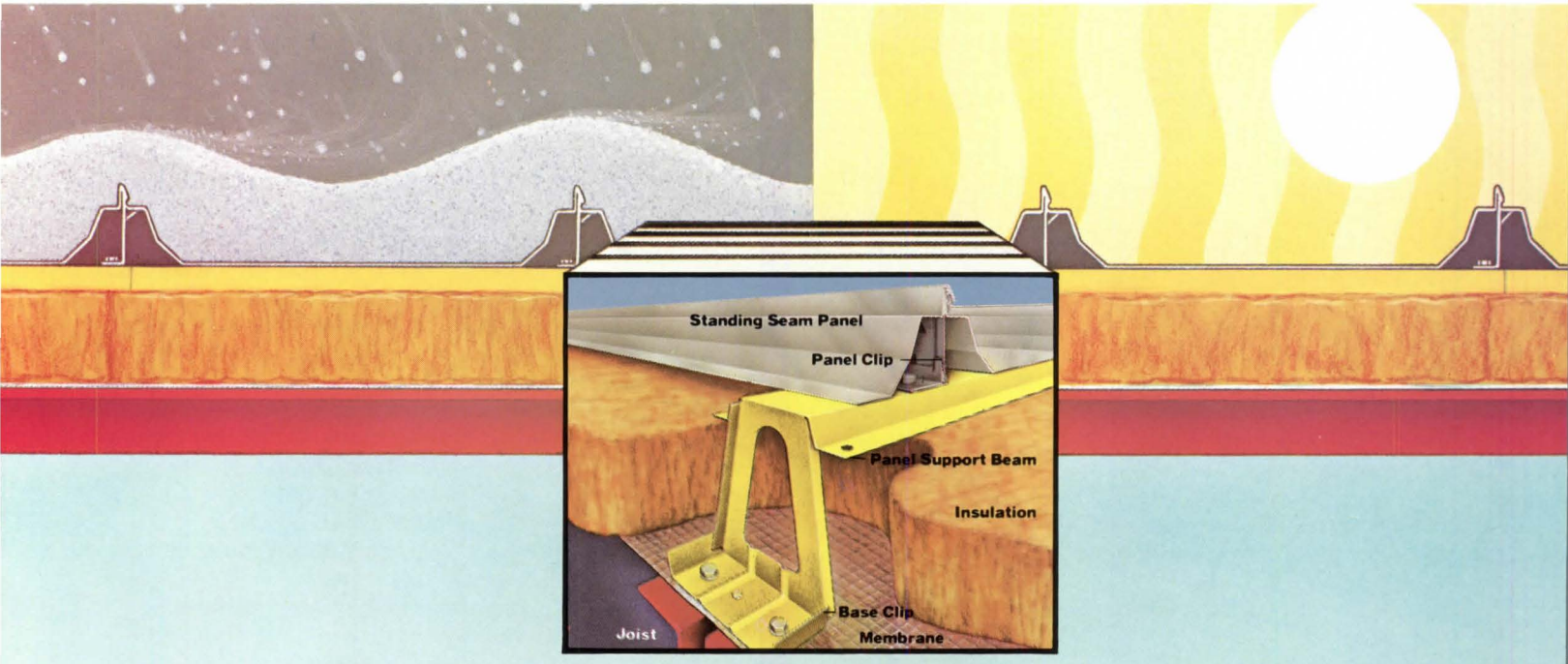

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San Francisco Chapter/AIA is seeking a home for five large wood models of local landmarks. The representations, including a cutaway of city hall dome shown here in an exhibit marking the chapter's centennial, were designed by Don Potts. Others depict a Victorian house, the Hallidie Building, and a Golden Gate bridge pylon.

The Institute *from page 15*

Two features of this year's building products exhibition will be an exhibit exploring the state-of-the-art in computers for architectural practice and a preservation/conservation information center.

Fourteen to Receive Honorary AIA Membership at Convention

Fourteen men and women have been selected to receive honorary AIA membership during the Institute's annual convention in May. The individuals, chosen for their "distinguished contributions to the architectural profession or its allied arts and sciences," are:

- Muriel Campaglia, administrator of AIA's public relations department since 1970.
- Norman Copland, legal counsel to the New York State Association of Architects/AIA, whose "negotiations with governmental agencies and building code committees in New York have led to greater balance and fairness in contractual and certification requirements for architects."
- Lowell Erickson, executive director of the Boston Society of Architects/AIA and the Massachusetts State Association of Architects/AIA and chairman of the AIA Council of Architectural Component Executives.
- Alan M. Fern, newly named director of the Smithsonian Institution's National Portrait Gallery, whose "contributions during his 20 years at the Library of Congress helped protect and expand its architectural prints and photographs."
- Charles E. Fraser, developer, consultant, entrepreneur, whose Sea Pines Plantation on Hilton Head Island, as well as other projects, "set early standards for the combination of good design, careful zoning, use of natural materials, and protection of the natural environment."
- Cecil and Ida Green, members of the founding group of Texas Instruments Inc., who "through their philanthropic endeavors recognize the symbolic value of creating structures of beauty to house the most advanced scientific research facilities."
- Philip A. Hutchinson Jr., attorney, former administrator of AIA public affairs, and legal counsel to the Committee on Federal Procurement of Architectural and Engineering Services.
- U.S. Representative Elliot H. Levitas (D.-Ga.), who was cited for his knowledge of and interest in architecture and his "exceptional leadership and effectiveness as chairman of the oversight and investigations subcommittee of the House Public Works and Transportation Committee to draft legislation involving the nation's public buildings program, federal design excellence, and government procurement."
- William E. Maritz, St. Louis businessman and community leader, whose "chairmanship of the nonprofit Laclede's Landing Redevelopment Corporation helped transform an abandoned warehouse district along St. Louis's riverfront into a balanced-use community."
- Richard B. Miller, group vice-president for product information of McGraw-Hill Information Systems Co., whose work with AIA lead to the development of such programs as the Uniform Construction Index and Sweet's Selection Data.
- Dorothy Spence, executive director of the Atlanta Chapter/AIA and the Georgia Association/AIA since 1972.
- Des M. Taylor, attorney, executive vice president of the Texas Society of Architects/AIA since 1972, and former chairman of the AIA Council of Architectural Component Executives.
- Major General Clifton D. Wright Jr., architect and director of engineering and services, U.S. Air Force, for his "outspoken advocacy of quality design in Air Force facilities."

The jurors were Leslie N. Boney Jr., FAIA (chairman); Rex L. Becker, FAIA; and Preston M. Bolton, FAIA.

Practice

Toxicity Codes and Tests Are Inadequate, NIBS Report States

The combustion of toxic materials greatly contributes to the high fire death rate in the U.S., there are no adequate toxicity requirements in building fire codes, and existing toxicity test methods have not been validated. These were among the conclusions of the final draft of the National Institute of Building Sciences' "State-of-the-Art Report on Toxicity in Building Fires."

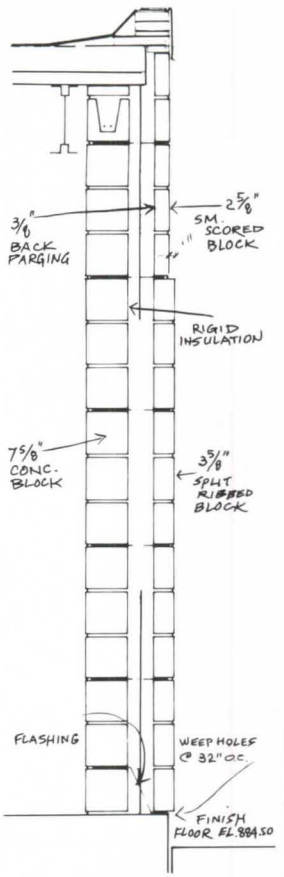
The report was prepared by a NIBS ad hoc committee on the subject, formed in "recognition of the widespread public concern for the potential life threatening effects of smoke emitted when materials and furnishings in houses and other buildings burn."

While there are no data reporting the number of deaths and injuries due to toxicity emitted in fires in this country, the U.S. Fire Administration estimates that approximately 8,000 fire fatalities and 3,000 injuries occur annually in the U.S. Most fire deaths occur in residential buildings, and about 80 percent of such deaths are due to the inhalation of smoke, which includes toxic gases.

As for building codes, the committee stressed that the existing codes are "accomplishing a great deal in the area of fire and smoke protection. Most building codes contain provisions for fire alarm systems (including detection and signal-

continued on page 24

The complete building showing the split ribbed and scored concrete masonry units used for the exterior.



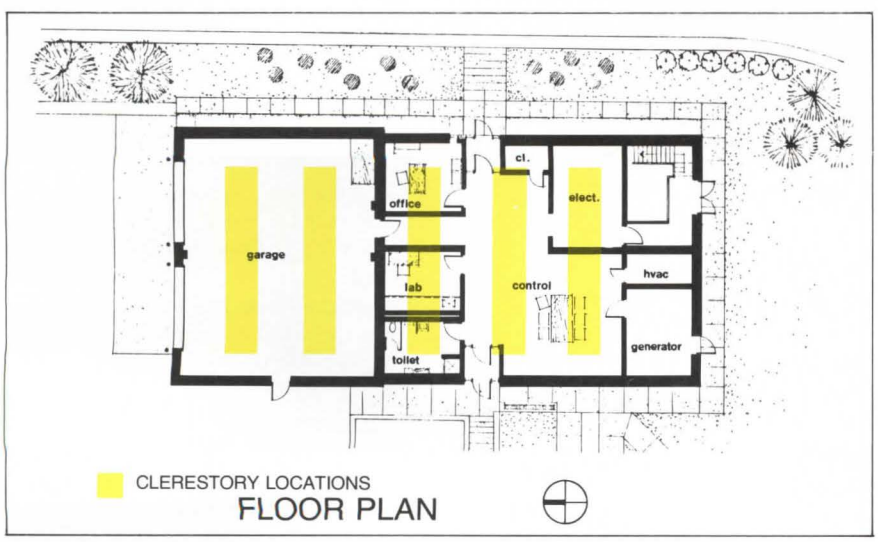
TYPICAL WALL SECTION

Concrete masonry passive solar architecture delivers 53% of heating required in laboratory/office structure.

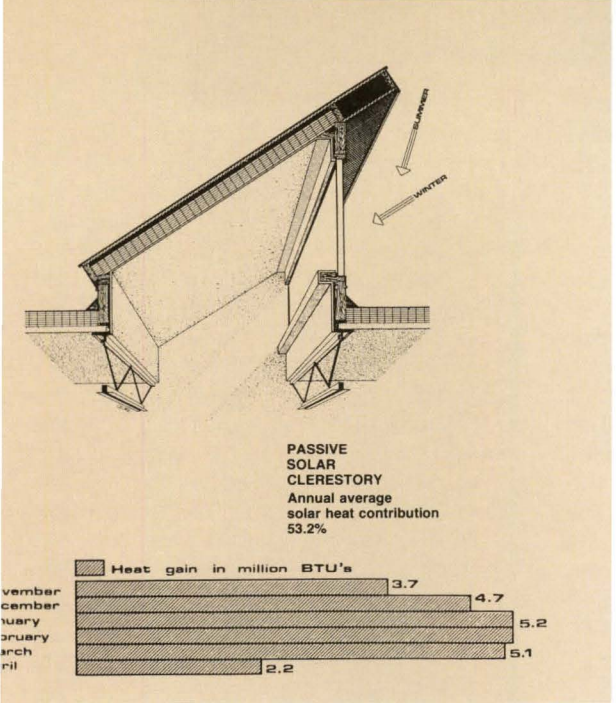
Blue River Main Sewer District No. 1 Waste Water Facilities Operations and Maintenance Building

Johnson County, Kansas

Architects/Engineers
Ponzer, Sears, Youngquist, P.A.



Detail of the exterior concrete masonry facade.



An interior scene with exposed concrete masonry walls used for heat storage and the clerestories above.

Clerestory windows and concrete masonry function together for passive solar collection, heat storage and daylighting in this waste water treatment facility near Kansas City.

The operation and maintenance building measures 87 x 44 ft., and is of heavily insulated loadbearing concrete masonry construction. Exposed concrete masonry is used for both exterior and interior walls. The exterior walls feature a veneer of 4″ decorative split ribbed concrete masonry and single scored block backed up with 8″ regular concrete masonry units.

The passive solar system with concrete masonry provides the basic heating and cooling package. The building has R-38 ceilings, R-20 walls and other state-of-the-art energy conservation features. The architects and engineers estimate that this passive solar and conservation package will provide a yearly energy savings of more than 50% over conventionally built structures.

Above

A view from one of the water clarifiers showing the clerestory windows and concrete masonry construction.

Duane R. Youngquist, Architectural Engineer for the project. "We needed a building material that was economical, virtually maintenance free, aesthetically pleasing, and able to provide mass required for the passive solar design. Concrete block proved to be an excellent material to meet these demanding criteria. Concrete block provided a good surface for painting on the inside of the building, allowing the designer freedom of expression. Split ribbed block, combined with smooth, scored block, provided an aesthetically pleasing appearance for the exterior of the building." —**Ponzer, Sears, Youngquist, P.A.**

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Practice *from page 21*
ing), fire doors, fire escapes, fire exit hardware, fire extinguishers, fire separators, and exit corridors." Where the codes fall short is in toxicity protection.

Previous code requirements covering toxicity stated that a combustible material may be considered for use in the interior of a building if it did not produce excessive quantities of smoke or products of decomposition more toxic than those of wood or paper. However, in 1976 these provisions were removed because of the minimal information available on the toxic nature of the combustion products of wood. It was also realized that there was no accurate test method giving comparison of data on combustion products of wood.

Currently, the National Fire Protection Association's life safety code has one requirement concerning toxicity, which the NIBS committee calls "vague." It states that "any interior furnishing material shown by test to present an unreasonable life hazard due to the character of the products of decomposition shall be used only with the approval of the authority having jurisdiction." The committee suggests that "such provision offers no reference to any particular test method and no criteria for what is an unreasonable life hazard."

As for testing the toxicity of various materials, the task force found that various groups are working on developing tests to determine the toxicity threat of specific materials in isolated conditions, but that there is no "generally accepted methodology" to determine the toxic threat in building fires. Says the committee's report: "It is widely recognized that additional factors such as the quantity of material present, its configuration and location, the proximity of other combustibles, the volume of the compartments to which the combustion products may spread, the ventilation conditions, ignition and combustion properties of the materials present, the presence of potential ignition sources, fire protection systems, and building occupancy, are important and must be considered in evaluating the toxic hazard posed by the use of a material in a given situation."

State Activity Leading Toward Stiffer Building Codes Increases

In 1982 the number of bills introduced in state legislatures addressing public health and life safety in buildings increased 36 percent over 1981 (from 360 to 490), according to a study complied by Robert C. Wible of the National Conference of States on Building Codes and Standards, Inc. This is due, he says, to "an increase in public awareness in the importance of health and life safety in buildings" and in reaction to the Reagan Administration's federal deregulatory efforts. The 1982 bills reflected growing concern with fire codes and firesafety and hazardous substances and products and a leveling off legislative initiatives responding to energy conservation needs. As of Dec. 1, 1982, 60 of the 490 bills had become law.

Twenty-one percent of the 490 bills introduced related to firesafety in buildings. During 1982 there was a significant increase in the number of bills concerning smoke detector requirements and tax incentives for the installation of smoke detectors, automatic sprinkler systems, and other fire detection and suppression systems.

Greater public concern over indoor air pollution toxicity of plastic products, formaldehyde, and asbestos in building materials and the proper installation and use of woodburning stoves and unvented space heaters was seen (40 bills were introduced in 1982, compared to 27 in 1981). California passed two such bills: One mandates state research into allowable levels of formaldehyde vapors in all new mobile homes sold in the state; the other calls for research into a toxicity test method to solve the problem of fire-gas toxicity in highly occupied buildings.

Bills prohibiting the selling of urea formaldehyde foam insulation were introduced in Washington, Vermont, and Kentucky,

continued on page 27

Practice *from page 24*
although all three legislatures adjourned before passing the bills. Kentucky's bill would have prohibited "builders or others from selling or leasing inhabited structures containing and emitting urea formaldehyde."

Bills relating to energy conservation in buildings decreased in number from the previous year. This is due, says Wible, to the fact that most states already have in place energy conservation programs. One-half of the 60 such bills introduced concerned tax credits for energy conservation devices, solar collectors, and woodburning stoves. Bills mandating solar orientation of residential structures were introduced in several states, but none passed.

There was little change over the previous years in the number of bills pertaining to accessibility. Bills were introduced in 12 states and generally proposed either updating the existing state accessibility requirements or expanding state authority to include additional building types. Kentucky was the only state that adopted the American National Standards Institute's accessibility standard A-117.1.

Only one of the 16 bills concerning licensure and/or certification of building code enforcement personnel, architects, and building trades passed. And while the California legislature considered four seismic safety bills that were carried over from the 1981 session, no new legislation was introduced.

Almost half of the bills concerning buildings were purely administrative issues, such as the adoption of new or updating of existing state codes, increasing the size of a state building code commission, and changes in the occupancy classifications. Less than 10 percent of these administrative bills became law.

Chicago to Host World's Fair In '92—'Age of Discovery'

Having won approval from the Bureau of International Expositions (BIE) for a 1992 World's Fair, the city of Chicago is gearing up to make the event "the best fair the world has ever seen." So says Thomas G. Ayers, president of the Chicago World's Fair 1992 Corporation. The theme of the fair is the "Age of Discovery," and is scheduled to run from mid-April to mid-October.

Ayers headed a seven-person delegation of Chicago businessmen who travelled to Paris in December to lobby for a change in BIE rules that would allow the U.S. to hold a fair. According to the rules, a "universal class" fair may be held only once every 10 years. Seville, Spain,

Skidmore, Owings & Merrill's plan for the 1992 World's Fair in Chicago.

planned on a fair in 1992 to commemorate Columbus' voyage to America. Paris wanted to host a fair in 1989 to mark the bicentennial of the French revolution. By a 26-0 vote, with 10 nations abstaining, BIE's international delegates approved a

continued on page 28

Practice *from page 27*

three-city plan in which Chicago will co-celebrate a fair with Seville, and Paris will hold its own exposition.

With this approval concerns arose about the cost to countries that would now participate in three fairs within four years. One plan for the Chicago fair proposed the construction of large span, all weather, airconditioned domes that would house individual pavilions. The cost to participating nations would thus be less than constructing free-standing pavilions, each with its own airconditioning and mechanical systems.

Ayers says that this strategy would "maximize the amount spent on the exhibits themselves," adding that the 1992 fair could well be remembered for its breakthrough in space-enclosing technology. The all weather domes would also be an energy conscious alternative.

Skidmore, Owings & Merrill of Chicago has already worked on a plan and model of a general layout of the fair on the city's south shore, which was presented to BIE. SOM's Roger Seitz, AIA, who is in charge of site planning, says that the firm's efforts have been concentrated on determining the size of the site at this point. It now encompasses approximately 575 acres, including Meigs Field, various parks, and landfill. It is bounded by the Buckingham Fountain and 31st Street to the north and south, and Lake Shore Drive to the west.

Seitz says that organizing the fair will demand the attention of the 1992 Corporation for at least the next three months, while SOM conducts more research and planning on transportation systems, engineering, and formulating design teams for the final plan.

Meanwhile, the Chicago firm of Stuart Cohen & Anders Nereim has designed an alternative plan (left), "in response to SOM's," for the Citizen's Fair Committee, a private concern headed by Chicago

continued on page 82

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Photographs Courtesy of Museum of Modern Art, New York City

The Arts

The Haunting Photography of Atget

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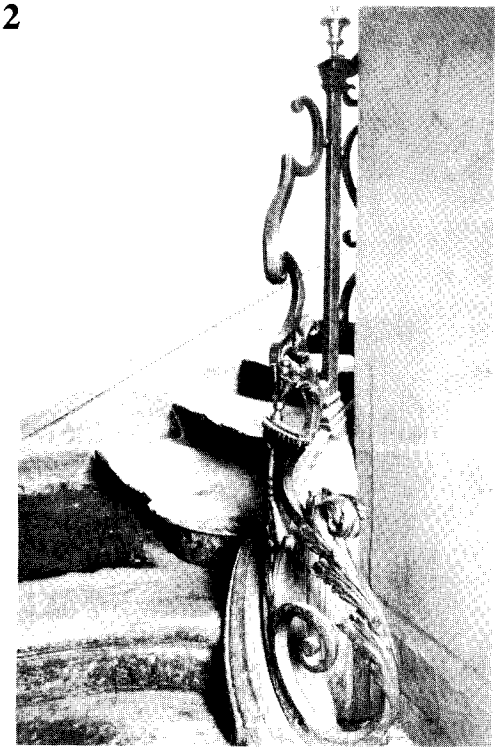

The Museum of Modern Art in New York City recently presented an exhibit of work by the French photographer Eugene Atget, active between 1897 and 1927. His works quickly put to rest any doubt whether photography is an art or not. Their rich, timeless, and absolutely haunting quality is even greater when one considers that Atget came to his art by default, as an unsuccessful thespian.

Atget was born in 1857 in Libourne, near Bordeaux. He went to sea as a cabin boy and had little formal education. In his 20s he moved to Paris, the city that was to become his studio, and pursued a career in acting. He never rose above "third roles" and eventually gave up theater. He turned next to painting, but at nearly middle age had little hope of developing questionable talent. Now in his early 40s, he decided to provide photographs to artists for subject matter.

Atget canvassed Paris and its environs, producing a historical document of images. William Howard Adams, writing of Atget, describes him as an "urban historian." His camera recorded buildings and artifacts weathered with time, often days before they were demolished. He lived among the artists to whom he sold his prints; Man Ray, Duchamp, and Braque were familiar with his work.

Judging from a photograph of Atget, he looked remarkably like the images he captured—gravid with past and permanence, and solitary. Adams writes that his work has the atmosphere of a stage set. Atget's experience in the theater undoubtedly influenced the composition he viewed through his bellows camera.

The titles of the photographs are understatements, simply giving the location of the subject matter. Coin de la rue Valette et Panthéon (1) was taken in 1925; (2) 91, rue de Turenne, 1911; (3) Pont Neuf was photographed sometime between 1902 and 1903; (4) Ambassada d'Autriche, 57 rue de Varenne, taken in 1905, reflects Atget's shrouded camera; (5) Cour de Rouen, 1916; and (6) Un Coin, rue de Seine, was taken in 1924.

MICHAEL J. CROSBIE

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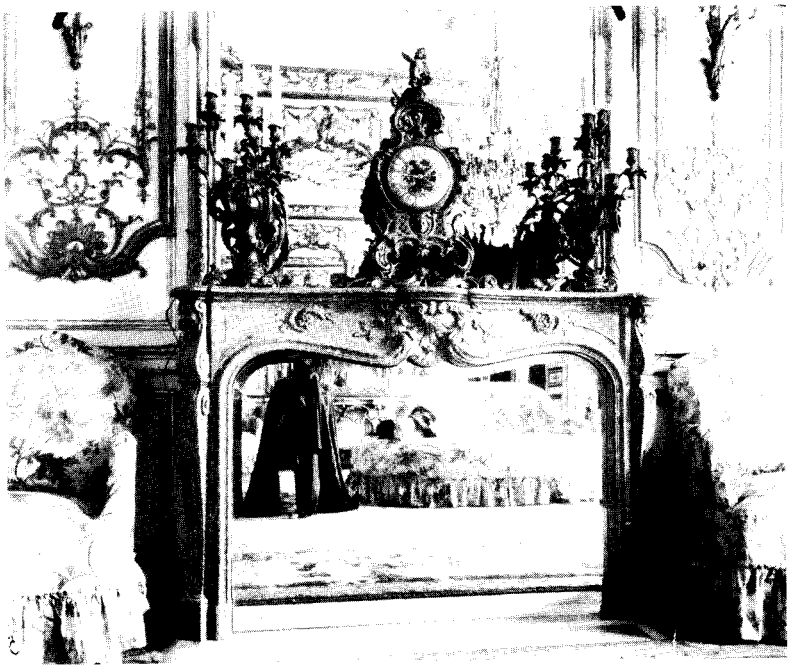

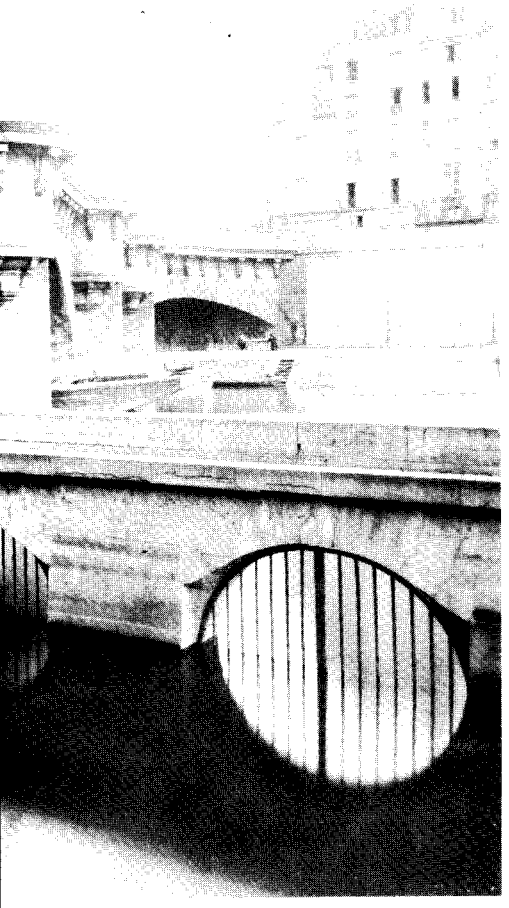

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The Congoleum *difference*

Courtesy of The Museum of Modern Art Film Stills Archives

The figures above, peering superciliously down at Roark's inspired tower in "The Fountainhead," are part of every architect's secret image of The Client. Every architect also knows, however, that behind very nearly every good building is a good client. The client's role will be explored in a series of JOURNAL profiles beginning in this issue with the State Department's Foreign Buildings Office and continuing as the year progresses with AT&T. Author of the series, which we and he hope may one day become the nucleus of the book, is Carleton Knight III, former editor of *Preservation News* at the National Trust for Historic Preservation. Also in this issue Knight's name is added to the masthead as contributing editor, along with that of Marguerite N. Villecco. The latter name is a familiar one to former readers of *Architectural Forum* and *Architecture Plus,* where she was a senior editor—and also, of course, to regular readers of the JOURNAL, where she has contributed highly valuable ideas as well as words to such special issues as those on daylight, structure, skin and, most recently, the architecture of movement. We intend to announce other additions to a board of contributors in coming months. *D.C.*

Significant Clients: Slayton at State

For the Foreign Buildings Office, high point of an irregular history. By Carleton Knight III

American embassies ought to be a chain of White Houses located around the world. No, that is not the latest idea in the current orgy of postmodern architecture offered by Robert Venturi, Allan Greenberg, or their coterie of young historicists. Rather, it reportedly was a notion of President Truman.

He didn't get very far with that after World War II, when America's influence in foreign affairs began to grow. In part to meet these new responsibilities, the U.S. began a massive embassy building program, commissioning America's best and brightest young architects. Buildings by Eero Saarinen, Harry Weese, John Johansen, Edward Durrell Stone, Walter Gropius and his associates at The Architects Collaborative, and Minoru Yamasaki began to dot the world landscape.

The U.S. Department of State spent $215 million in the 15 years following the war and another $200 million in the 1960s. After a fallow period, the program has bloomed once again, this time under the leadership of William L. Slayton, Hon. AIA, former Institute executive vice president and a man who proclaims a strong commitment to quality design.

Today, his Office of Foreign Buildings Operations (FBO) in the State Department has more than 50 projects underway, including new embassies, consulates, ambassadors' residences, and 350 units of staff housing. FBO is currently spending approximately $100 million a year, less than Slayton would like. "Capital funds are easy prey" for budget cutters, he notes, and the program has "taken its lumps" during the Carter and Reagan administrations.

Architect Harry Wolf, who is designing new embassy facilities in Abu Dhabi, United Arab Emirates, and in Doha, Qatar, points out that "these buildings are extraordinarily important symbols of our country. Our allies genuinely want these symbols and give us prominent sites in proximity to their own important national architectural symbols. The absence of capital funding thwarts our efforts at diplomacy. Old embassies do not reflect well on us."

Prior to World War II, there had been some limited embassy construction using traditional classical styles. Delano & Aldrich designed the suitably French American embassy in Paris while FBO staff architect Franz Jacquet did a magnificent Spanish colonial mansion for the ambassador's residence in Lima, Peru. And there is a pleasant, albeit unaccountably Georgian for Finland, American embassy in Helsinki.

After the war, with the maturing of modern architecture, it was decided that the International Style was appropriate for America's new image overseas. Lois Craig, in her book, *The Federal Presence: Architecture, Politics, and Symbols in United States Government Building* (MIT Press, 1978), reports that the 1946-54 flurry of design in the "modern corporate idiom," as she describes it, brought some credit to the United States but some criticism as well. Two embassies in particular—the eight-story one in Havana and the 12-story building in Rio de Janeiro (both by Harrison & Abramovitz)—were singled out as being too conspicuous and inappropriate in image.

As is its wont, Congress got into the act. The result was a halt to "modern architecture" and very nearly an official style, either Georgian or Renaissance neoclassical.

But, in what architecture critic Allan Temko described as "an episode unique in the history of federal architecture," the State Department turned for advice to some experts—three of the country's leading architects—and not only that, the State Department took their advice.

What the experts—Pietro Belluschi, Ralph T. Walker, and Henry R. Shepley—suggested was that our embassies ought to be the best designs this country could produce. They opposed a specific "style," fearing it would limit the kind of talented architects they sought. The three also suggested a process of carrying out their recommendations—a three-member rotating architectural review panel to select the architects and oversee the designs. Secretary of State John Foster Dulles approved both ideas in January 1954.

The State Department's architectural policy, as enunciated then and altered only slightly since, is simple and direct: "Facilities shall be provided in an architectural form representative of the United States expressing such qualities as dignity, strength, and neighborly sympathy. These facilities should create good will because of their excellent architectural design, and their appropriateness to the site and country. Ostentation will be avoided."

The policy also expresses the need to maximize use of American materials, achieve economy in construction, and give maximum consideration to life safety requirements. The only changes have been to add considerations of security and energy.

At the first meeting of the architectural review panel, Belluschi said he hoped the policy would encourage architects "to find solutions which are truly creative rather than uninspiredly conventional.

"To the sensitive and imaginative designer it will be an invitation to give serious study to local conditions of climate and site, to understand and sympathize with the local customs and people, and to grasp the historical meaning of the particular environment in which the new building must be set. He will do so with a free mind without being dictated by obsolete or sterile formulae or clichés, be they old or new; he will avoid being either bizarre or fashionable.

"It is hoped that the selected architects will think of style not in its narrower meaning but as a quality to be imparted to the building."

It is to Belluschi's everlasting credit that his 25-year-old statement rings true today and still serves as a major guidepost. In a recent interview he said, "It was the right thing at the right time. It was a prod to allow gifted architects to work within limits."

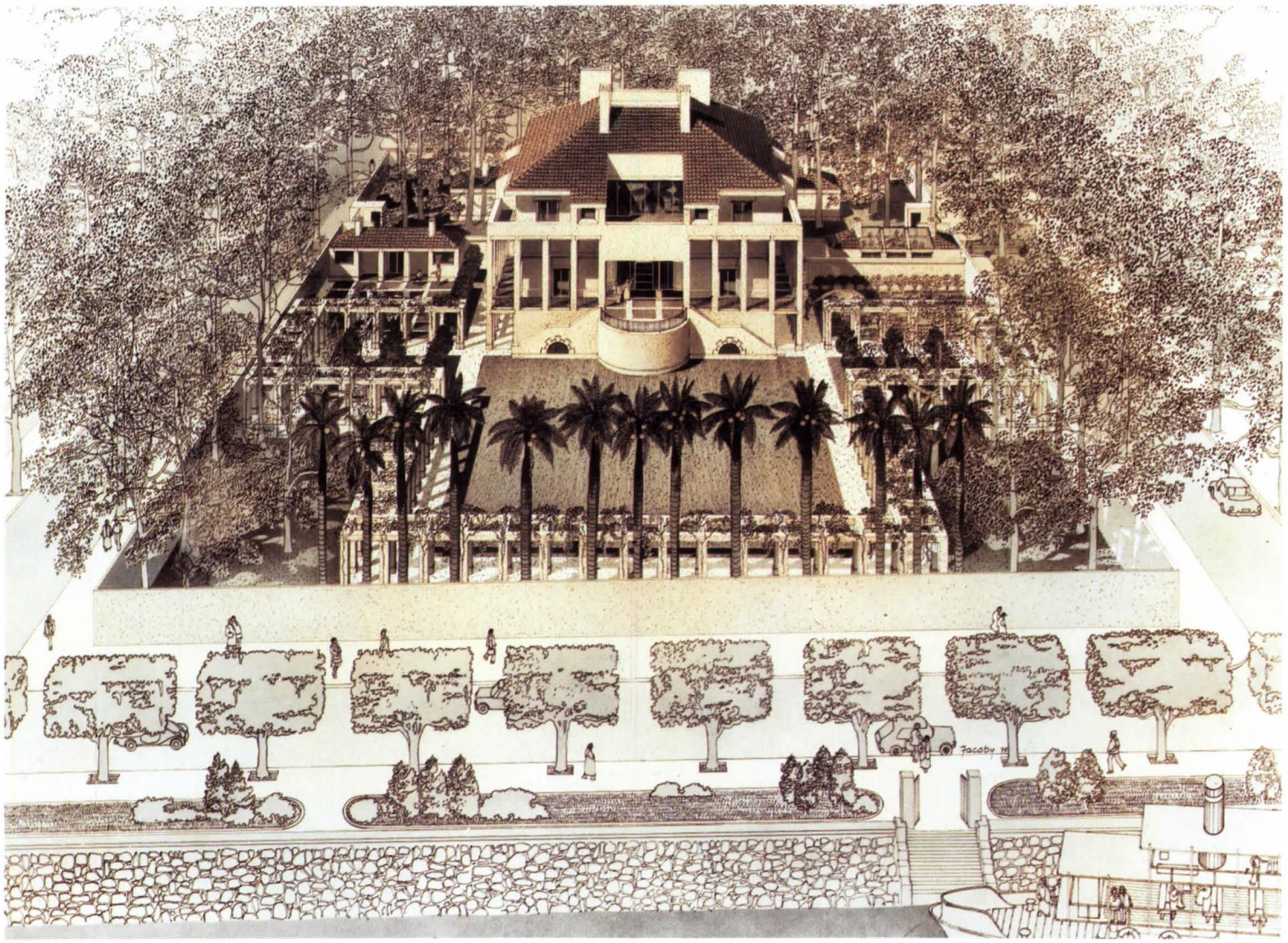
He added that the secret of the program's initial success was simple. "You get the best architect, and you get the best architecture."

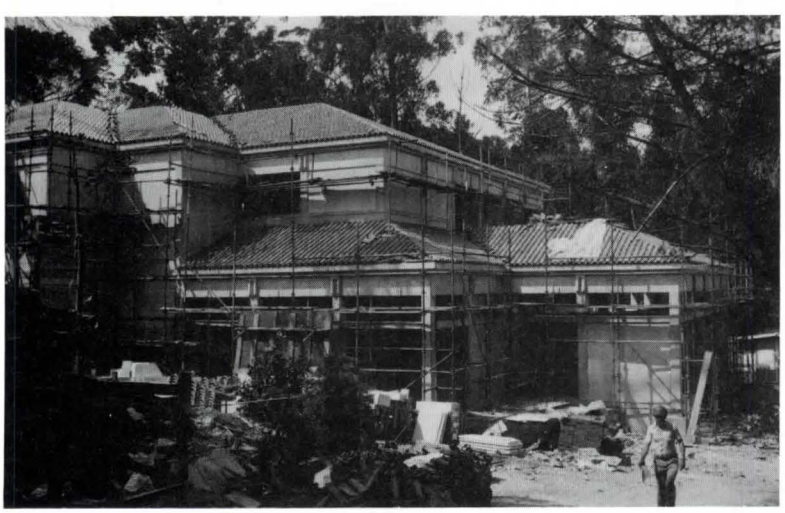
Despite some congressional monkeying with the program and a decline in the level of building from the late 1960s well into the 1970s, the panel still operated and strove for quality in its limited work. But there was no doubt that FBO had lost its punch.

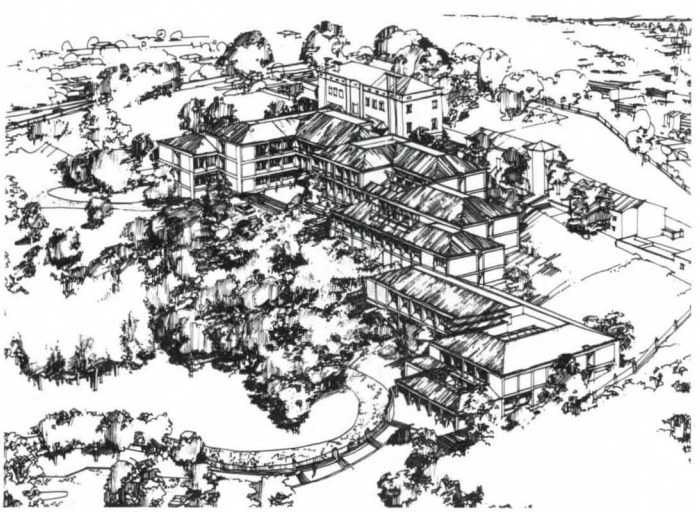
That changed with the unlamented departure of Representative Wayne Hays (D.-Ohio) and his replacement as chairman of the subcommittee on international operations of the House Committee Foreign Affairs by Dante Fascell (D.-Fla.). Fascell told the State Department in no uncertain terms to clean up its act and put a professional in charge of FBO.

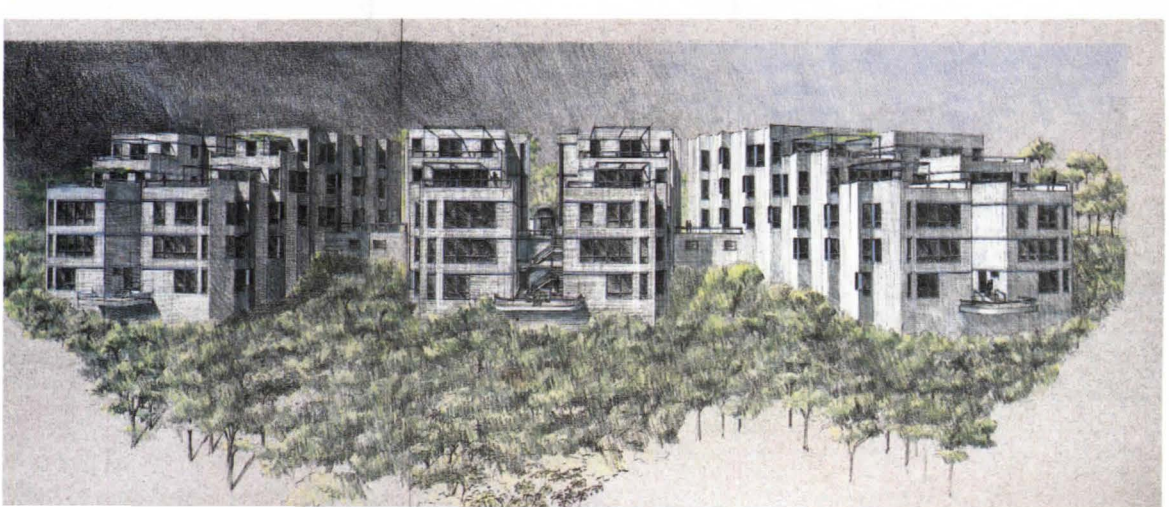
The timing was fortuitous. In 1977 Slayton became available—

Across page, top, Metcalf & Associates' embassy residence in Giza, Egypt; middle, left and right, construction detail and aerial perspective of embassy office buildings and related facilities in Lisbon, Portgual, by Bassetti Norton Metler; bottom, U.S. consulate housing in Hong Kong by Davis, Brody & Associates.









Rendering by J. Woodson Rainey Jr.

very available—and it was clearly a perfect fit between a person and a job. Not only was Slayton steeped in architecture and in dealing with architects, but as Harry Weese says, "Bill is crazy about architects and architecture."

In addition to the building functions, the job includes management of all U.S. real estate holdings abroad. And before AIA, Slayton had been affiliated with megadeveloper William Zeckendorf and had run the federal urban renewal program, among other things. And finally there was the fact that, in the words of a friend and longtime Slayton-watcher, "There's nothing that Bill loves more than traveling in style."

In five years on the job, Slayton has traveled to 109 of the State Department's 250-odd posts scattered around the globe. During the past two years, this peripatetic ambassador of architecture has been on the road 260 days, taking the State Department's design pulse and massaging turf-conscious egos in faraway places.

Slayton has also been particularly effective in utilizing the talents on his architectural review panel. The group, which used to meet only once a year, now gathers four or five times, and he often takes members on his travels to acquaint them with problems on site. The panel reviews each project a minimum of three times and usually more, it selects new architects to receive commissions, and chooses who will replace the retiring panel member each year.

Lawrence Cutler of Ecodesign, which has designed new embassy staff housing in Lagos, Nigeria, remarks, "The panel is a most efficient way of using the name of the U.S. government. They are able to get good designers, not just a bunch of bureaucrats, for review. The government couldn't afford to hire the kind of quality represented by the panel."

Slayton says that the panel is selected "on the basis of professional stature." Members in the past five years—all AIA fellows—have included Donn Emmons of San Francisco, Joseph Esherick of San Francisco, O'Neil Ford of San Antonio, and Francis D. Lethbridge of Washington, D.C. The present board consists of Hugh A. Stubbins Jr., of Cambridge, Mass., Ralph Rapson of Minneapolis, and Edward Charles Bassett of San Francisco.

The panel does tend to represent mainstream American architecture. Weese, another former member, points out, "They don't want clones or people who are part of some junta." That is as it should be because State Department architecture, as Slayton notes, is "serious, not faddish or in a style that is currently in vogue." FBO is clearly not looking for assertively premodern or postmodern design and does not feel a necessity to be on the "cutting edge."

"The panel knows what is going on in architecture," says Fred Bassetti, architect for the new embassy in Lisbon, who adds that because the individuals are tops in their field, "you respect them." Belluschi believes that the variety in panel members is beneficial and leads to variety in design. "It preserves vitality," he says, adding, "No one has a monopoly on taste, good sense, or good design."

Lethbridge describes the selection of an architect for a job by the panel as "a vote of confidence." He adds that it "conditions the relationship in the future because the panel wants the architect to justify its faith in that firm."

He believes that one of the reasons FBO "has had a higher degree of distinguished buildings than other agencies" is that the State Department has been willing to take more chances on talent rather than depending exclusively on proven ability."

That also brings more opportunity for failure, as happened with an effort to commission Los Angeles architect Frank Gehry to design an office building and school complex in Damascus. Gehry admits the problem was about half his fault, while blaming the panel for the other half. He says he was not satisfied with the design that was done in association with a partner, and thus had problems defending it. The panel, in turn, did not think Gehry was responding to FBO needs.

Lethbridge, who was sitting on the review board at the time, recalls, "Gehry avoided the obvious solutions." That was more than likely just what Gehry had intended to do, given the nature of his work. For his part, Gehry believes some of the panel had a "vendetta against current trends" and seemed upset that he was "having so much fun" with architecture. In any case, the commission was subsequently given to Marcel Breuer's firm, which is now doing the schematics.

Slayton and his panel, working from a computer listing that currently contains about 600 firms who have expressed interest in State Department work, try very hard to marry an architect and a specific commission. Thus, Hugh Newell Jacobsen's magnificent restoration of the interior of the Renwick Gallery in Washington, D.C., led to his commission to restore the 1759 Hotel Tallyrand on one corner of the Place de la Concorde in Paris for embassy office space.

Benjamin Thompson's superb work with masonry buildings over the years was a major factor in his assignment to design the new embassy in Ottawa. Ecodesign knew Nigeria, having worked there as a planning consultant since 1973.

And, although no funds have yet been set aside and no site has been selected, Slayton wants very much to have I.M. Pei design the new embassy for Peking.

One of the things Slayton assures himself of before choosing an architectural firm is that the principal will be involved in the design and that the same individual will make the presentations to the review board. This concept is ideally suited to smaller and/or more design conscious firms.

Once an architect is selected, FBO arranges for a site visit for the architect to conduct a feasibility study and soak up the native architecture and culture. The architect then makes a report to the review panel. Design is purposely left out of this first meeting, Slayton notes, in favor of general discussions about massing and orientation as well as an examination of the architectural character of the area. After all meetings, Slayton summarizes the panel's remarks in a letter to the architect, along with suggestions for modifications.

The next time the panel meets with the architect, it is to go over the schematic design. This is where things get down to the nitty-gritty, to use a favorite Slayton term. Most architects like the experience, comparing it to their days in architecture school when professors would offer crits of various designs in class. "It was the best crit I've had since school," says George E. Hartman Jr. of Hartman-Cox, a Washington, D.C., firm in the middle of construction for a new embassy in Kuala Lumpur, Malaysia.

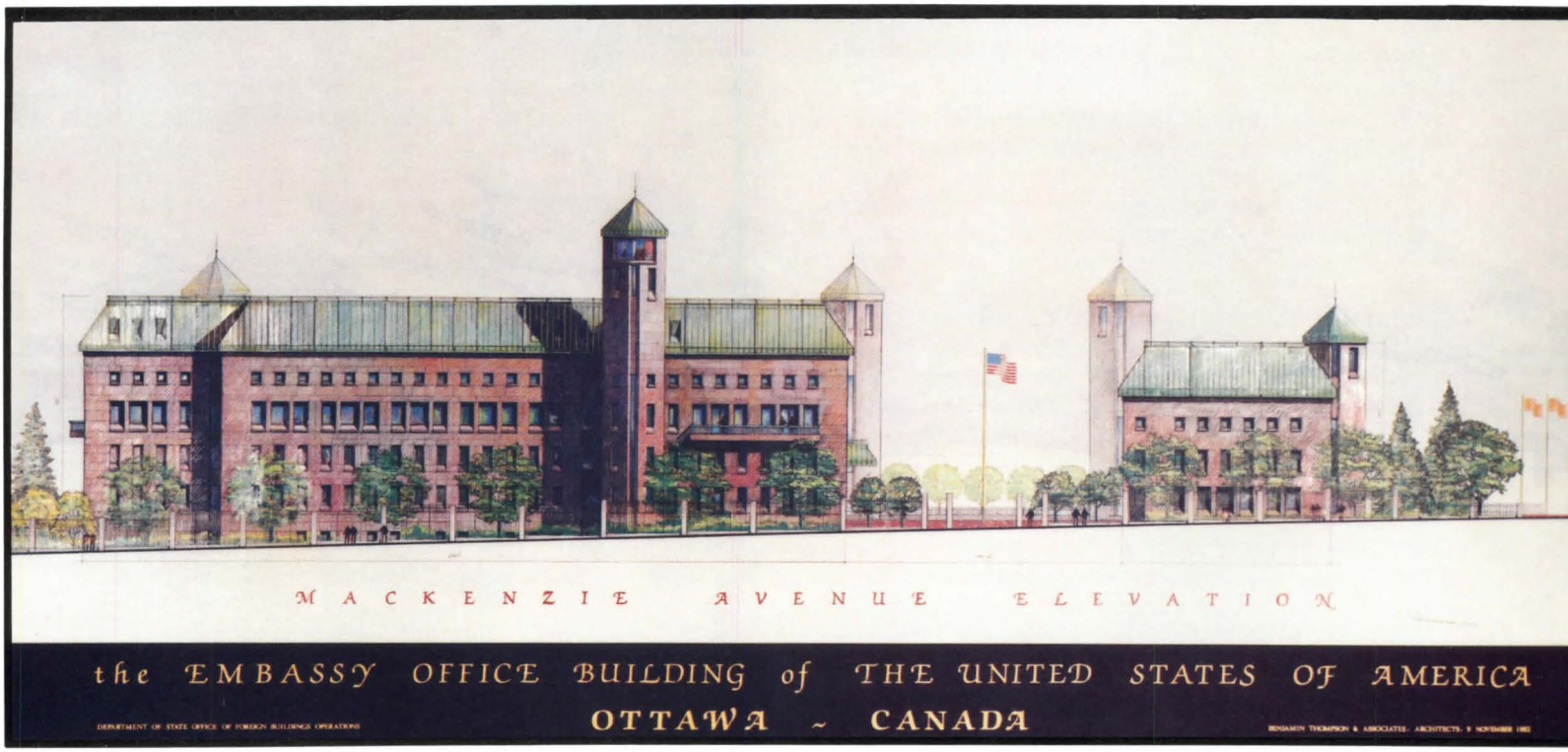
Slayton describes the process as a "peer discussion" with four architects—the panel and the designer—working out problems together. "We don't design," he says. "They do." It is a very subtle process achieved through the asking of questions and suggestion of possible directions.

Peter Dodge of Esherick, Homsey, Dodge & Davis, which has designed a new chancery for La Paz, Bolivia, says the experience was "positive. It was helpful criticism. . . . They spoke our language. Their approach was to say, 'That's a good idea, but don't you think you could make it better by. . . .'

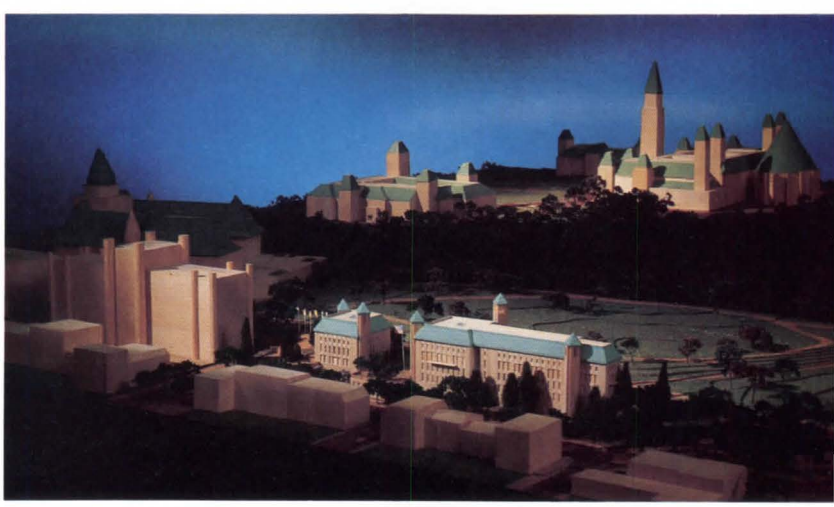
"They egged us on to do better work," Dodge concludes.

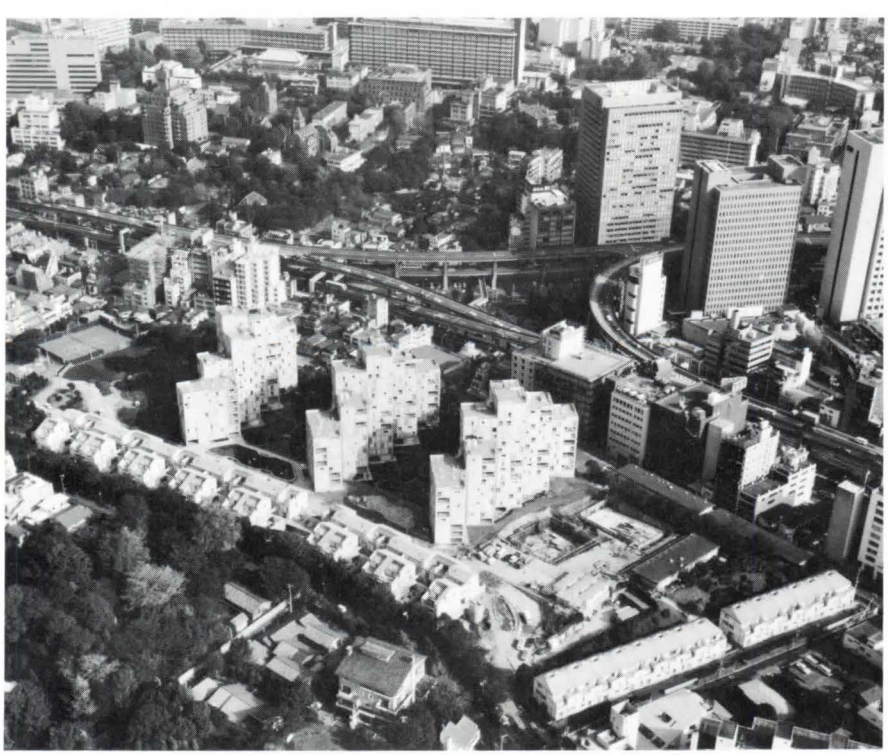
Victor Lundy, whose embassy in Colombo, Sri Lanka, will be finished next year—21 years after he received the commission (Eero Saarinen was on the panel then, Lundy recalls)—found the process to be an excellent way for "an architect to

Across page, clockwise from top: embassy office building in Ottawa, Canada, by Benjamin Thompson & Associates; model of Ottawa scheme, showing nearby towered buildings; embassy in Moscow, Russia, by Skidmore, Owings & Merrill and Gruzen & Partners; aerial view of embassy housing complex in Tokyo, Japan, by Harry Weese & Associates; one of the Tokyo housing blocks.



Steve Rosenthal





verify a point of view." Adds Hugh Jacobsen, "The panel always comes down on the side of esthetics. It raised very good questions."

Fred Bassetti's presentation of the schematics for his Lisbon project seems to stick in many people's memories. He felt "something was off" in the design, but deadline pressures forced him to go ahead. Because O'Neil Ford was going to be absent, Slayton had invited a "mystery guest," who turned out to be Pietro Belluschi. Ford showed up anyway, and it meant a four-member panel.

Bassetti made his pitch for the design, a four-story structure nestled into a hillside in front of a restored mansion. Belluschi, alone among the panel members, thought the scale was too large. Francis Lethbridge remembers approving the concept because there "was a hesitancy to suggest such a major change at such a late date."

Over the weekend, however, Bassetti, back in his Seattle office, went to work, cutting off one floor and spreading the building out. "Belluschi was right," he exclaimed. He called Slayton the next day to inform him of the change. "We lost a couple of months," Bassetti says, "but it was worth doing."

The project, which has much less of an office building look and more of the indigenous appearance Bassetti sought (he had spent two months in the country soaking up the architecture before putting pencil to paper on the project), is now nearing completion.

Winthrop Faulkner, whose firm has designed staff housing in Jakarta, Indonesia, that is just finished, presented his plans to a panel that included the irrepressible O'Neil Ford. "He told us that the bathrooms were not big enough for women, that there wasn't enough counter space," recalls Faulkner.

"Our plans fit the standards," he said, "but we found a way to redo them to meet the spirit of the panel's recommendations. It's a very collegial atmosphere."

While Slayton describes the process as a "free-flowing of ideas," he admits that there are sometimes "digs" at the architects. Others, less charitable, have described the panel as being "brutal" with some architects.

Although the panel is used to kicking ideas around, some architects find this difficult. Says one, "Sometimes you get a situation with the panel members upstaging one another, and the architect is left in a cloud of dust while the jury argues a point of design philosophy."

The contention has also been made that while architects do "get attention and depth of review in a concentrated dose, they do not get the kind of day-to-day review offered by a regular client." This architect adds that while he was able to talk with the FBO staff between reviews, he could never be certain of how the panel would react at the next meeting.

That is in part because the panels are always changing. Since many of these projects take several years—Benjamin Thompson received his commission in January 1980 for the $10.5 million building in Ottawa that is only now through schematic design, is now up to $22 million, and not scheduled for construction until 1984 at the earliest—it is entirely possible to find a completely new panel, with completely new biases, between startup and completion.

One architect suggests that Slayton "could help remedy this situation by stating at the outset of a panel review of a particular project that the design is at such-and-such a stage and that we are not going to review the entire building."

Harry Wolf calls his experience with the panel "interesting," adding that the changing players "can make it a real challenge." While he realizes the panel's goal is to assure the best possible job, Wolf sees a potential conflict when "an architect is perhaps proposed by one panel, selected by another, and reviewed by yet another."

But even in the change there is consistency. The panel sticks squarely behind the State Department's architectural policy. The question for architects becomes how to interpret that policy. George Hartman puts it this way. "You don't want to wave the flag and yet you don't want to go native with grass huts. This creates a tension in the design that is good."

Wolf welcomes this tension too. "We thought the buildings, which need to be American and cannot look transplanted, should behave as though they were guests in someone's home." Wolf says of his severely abstract altered cube design for Abu Dhabi, "We were able to respect the local culture and climate through geometry."

Housing creates a different set of design parameters because the architects are attempting to recreate an "American lifestyle" in a foreign country. Sherrie Cutler of Ecodesign points out, for example, that while a kitchen in a standard Nigerian private residence would be closed off because the servants do the cooking, her firm's plans in Lagos called for an open kitchen "because American wives like to cook and be with their families."

Trying to find a local context within to work can also be a problem. On his first trip to Kuala Lumpur, George Hartman says, it was difficult to discern a context because all of the old buildings were being replaced by highrise office towers. On a subsequent visit, however, he found a suitable architectural milieu, especially in an old railroad station with its shaded verandahs, decorated balustrades, and exterior stairs. In addition, he found some tile-roofed remnants of English and Dutch colonial rule. All those elements have fit together quite attractively in Hartman-Cox's stepped-roof chancery now under construction.

Metcalf Associates used an unabashedly American example for its just-finished ambassador's residence along the Nile River in Cairo. The house is a Mississippi River raised plantation with arbors and flower and fruit gardens surrounding the property. The climate is similar to Louisiana.

For his Ottawa chancery, Benjamin Thompson has reinterpreted the multitude of green copper roofs and towers that dot the city. He had one small problem, he notes humorously. "There are no pattern books for towers today. We haven't done them for years."

While achieving the correct "look" for a new embassy project can be difficult, architects find a major problem in resolving the myriad functions such a building must serve. To ameliorate this problem, Slayton hired Ferebee, Walters & Associates to prepare a series of looseleaf notebooks on the various embassy building types.

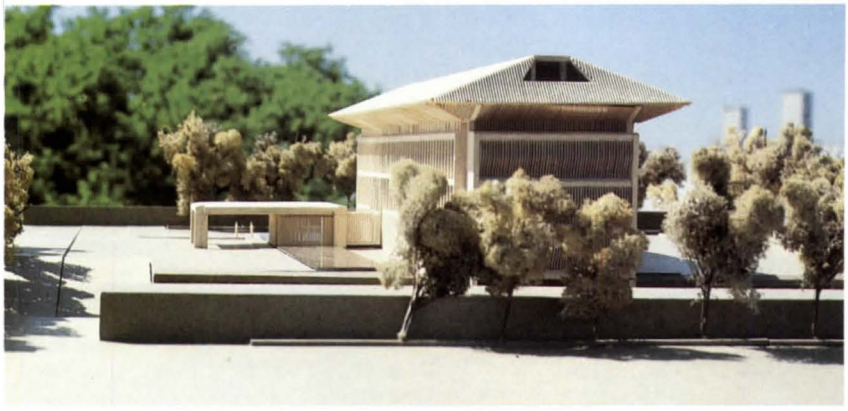
Each book fully documents the various space standards that must be followed in the different size posts. In addition, with text and an effective series of charts, the relationships between the many functions are detailed.

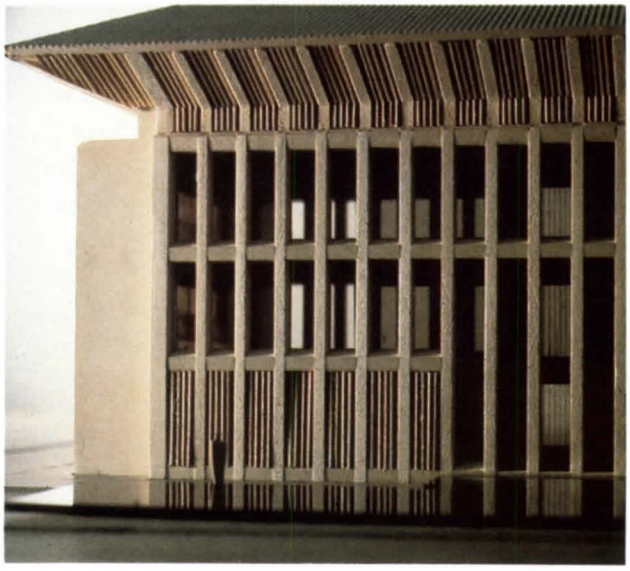
The vast number of functions is, at times, hard to conceive. Thomas M. Tracy, assistant secretary of state for administration and Slayton's superior, points out that only about 20 percent of the staff in an embassy is from the State Department. Many federal agencies have personnel stationed overseas; in Bonn, West Germany, there are 48 such agencies, he adds.

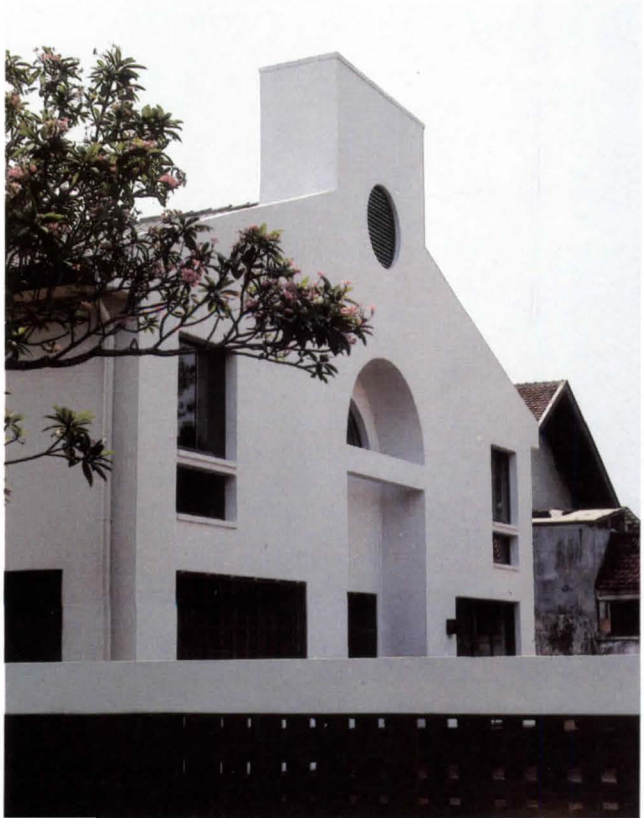
That's something for an architect to consider, because, as Harry Wolf put it, "They all have to say grace over the plans." George Hartman found a similar situation. "They all have their own agendas," he notes, "and fight over them. The only thing some people do is solve interdisciplinary problems. I'm surprised it goes as well as it does."

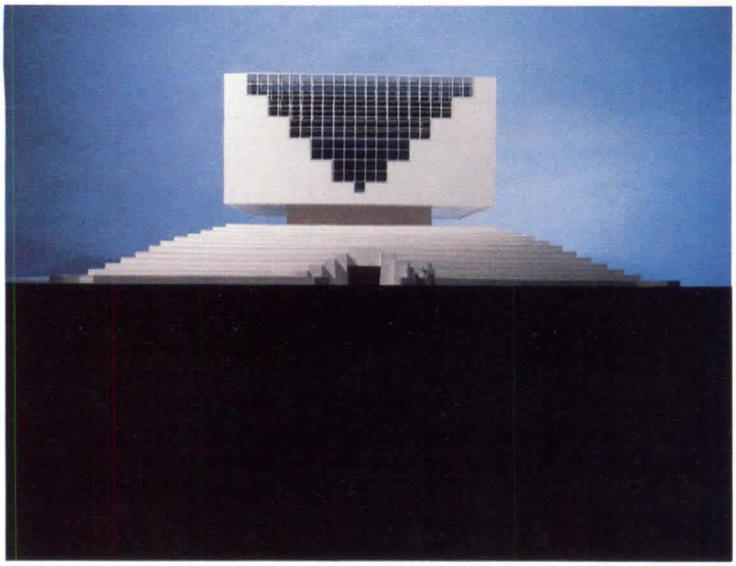
Hugh Jacobsen reports that he was saved from this problem by the fact that the building he is doing in Paris is a historic

Across page, top, Hartman-Cox's design for embassy in Kuala Lumpur, Malaysia; middle, left, embassy in Sri Lanka, Ceylon, by Victor A. Lundy, FAIA; middle, right, a detail of its fenestration; bottom, left, three-bedroom house for embassy compound in Jakarta, Indonesia, by Wilkes, Faulkner, Jenkins & Bass; bottom, right, four-bedroom house in the Jakarta compound.

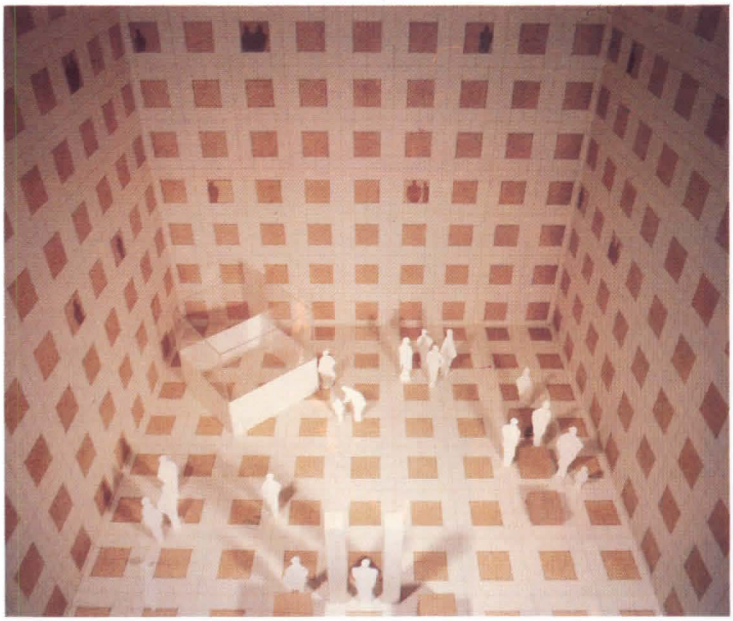


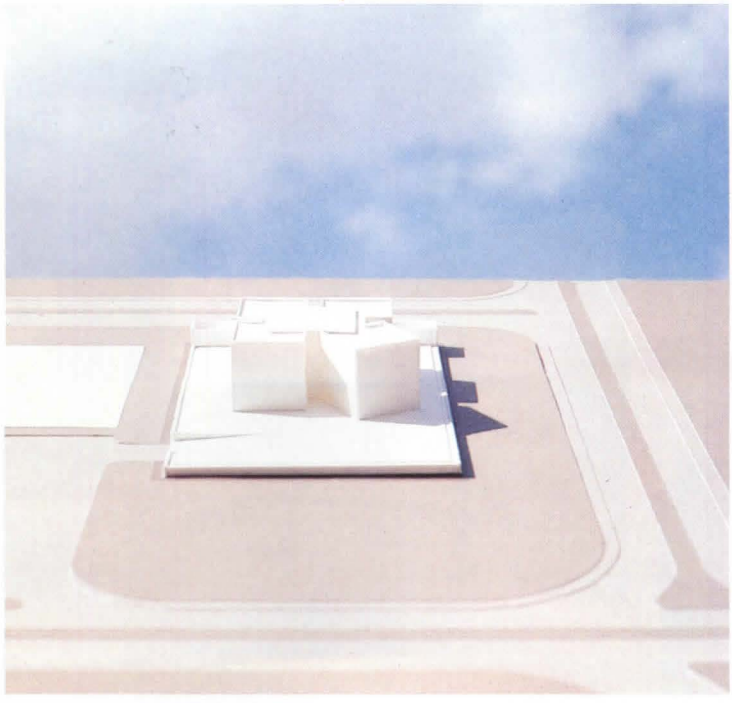






Above, scheme for embassy in Doha, Qatar, by Wolf Associates; below, interior and exterior views of embassy in Abu Dhabi, United Arab Emirates, also by Wolf.





landmark. "That discouraged turf-grabbing," he says. By squeezing here and there, and finding previously unaccounted-for space, Jacobsen was able to meet all the necessary office requirements and have nearly 7,000 square feet left over for a series of museum-like rooms. These 18-foot-high spaces will be ideal for receptions, exhibits, or concerts.

The multiplicity of users also change frequently, and it is not uncommon to hear an architect say, "We're on our second or third ambassador." The original users, who gave the architects many of their design ideas, are long gone by the time a building is completed, making a fair field evaluation difficult.

Increased security, brought on by the new world order and situations in a number of unstable countries, is on everyone's minds these days. Although, as the State Department's Thomas Tracy points out, we cannot go around the world building "fortresses," that is very often exactly what the building must be. George Hartman describes his Kuala Lumpur structure as "a reinforced concrete pillbox, broken down in scale to resemble houses." There is no glass within 16 feet of the ground.

In designing roofs for its housing in Lagos, Ecodesign suggested rounded forms to add interest, but was told these would make easy targets. The roofs are similar to nearby houses.

The ideally secure structure, points out Harry Wolf, would be "a titanium sphere." Yet it is possible with imagination to treat security esthetically, as Hartman-Cox and Victor Lundy have done. In Sri Lanka, Lundy designed a teak grille composed of 2.5x8-inch planks closely spaced vertically to cover the windows. "It's an ancient security trick based on the palaces in India," he says. "People can't see in, but those inside can see out."

It should be evident that designing an embassy facility is no easy task. In addition to the problems already mentioned, the level of technology is far below American standards in most places. Harry Weese, whose firm just completed 175 units of highrise housing in Tokyo, reports having "to teach the Japanese how to use stucco." In Jakarta, notes Winthrop Faulkner, all work is done by hand. "There are no bulldozers, not even wheelbarrows."

The new American embassy compound in Moscow, a $140 million effort designed by Skidmore, Owings & Merrill and Gruzen & Partners that is FBO's largest ever, was a real challenge. Slayton reports that the Russians did not know how to lay bricks. "They scored the mortar with their thumbs and didn't use a level or plumb bob," he says. "We sent over the necessary tools and showed them how to do the job. Now they are so excited, they line up each morning to get their tools. They're doing an excellent job."

Harry Wolf says it is hard enough to create a good building locally and with a single client who is usually the user. With State Department buildings, there are so many players involved, from embassy staff to host country officials. All have their own agendas, and in satisfying them the original design concept can easily be eroded. That's the importance of having someone like Slayton as the ultimate client, who really cares about building quality and can mediate among the other interests. Hugh Jacobsen notes, "Slayton is always available to solve a problem."

Despite the myriad problems, Slayton has brought stability to FBO and has managed to do what he tried to from the start—seek out the best design to represent the U.S. overseas. In the process he has achieved a level of design quality far above that of most other federal buildings.

Architecture has been described as "an old man's profession," and the members of the review panel do bring years of experience to their deliberations. It is hard to remember, but Eero Saarinen, Harry Weese, and John Johansen, to cite a few, were all in their 40s when they received their first State Department commissions some 25 years ago. The panel was taking a chance on them, just as it continues to do with others today. What Slayton is trying to do, he says, "is find the Harry Weeses, the Eero Saarinens, the I.M. Peis of tomorrow." □

Holabird & Root: Century of (Intermittent) Progress

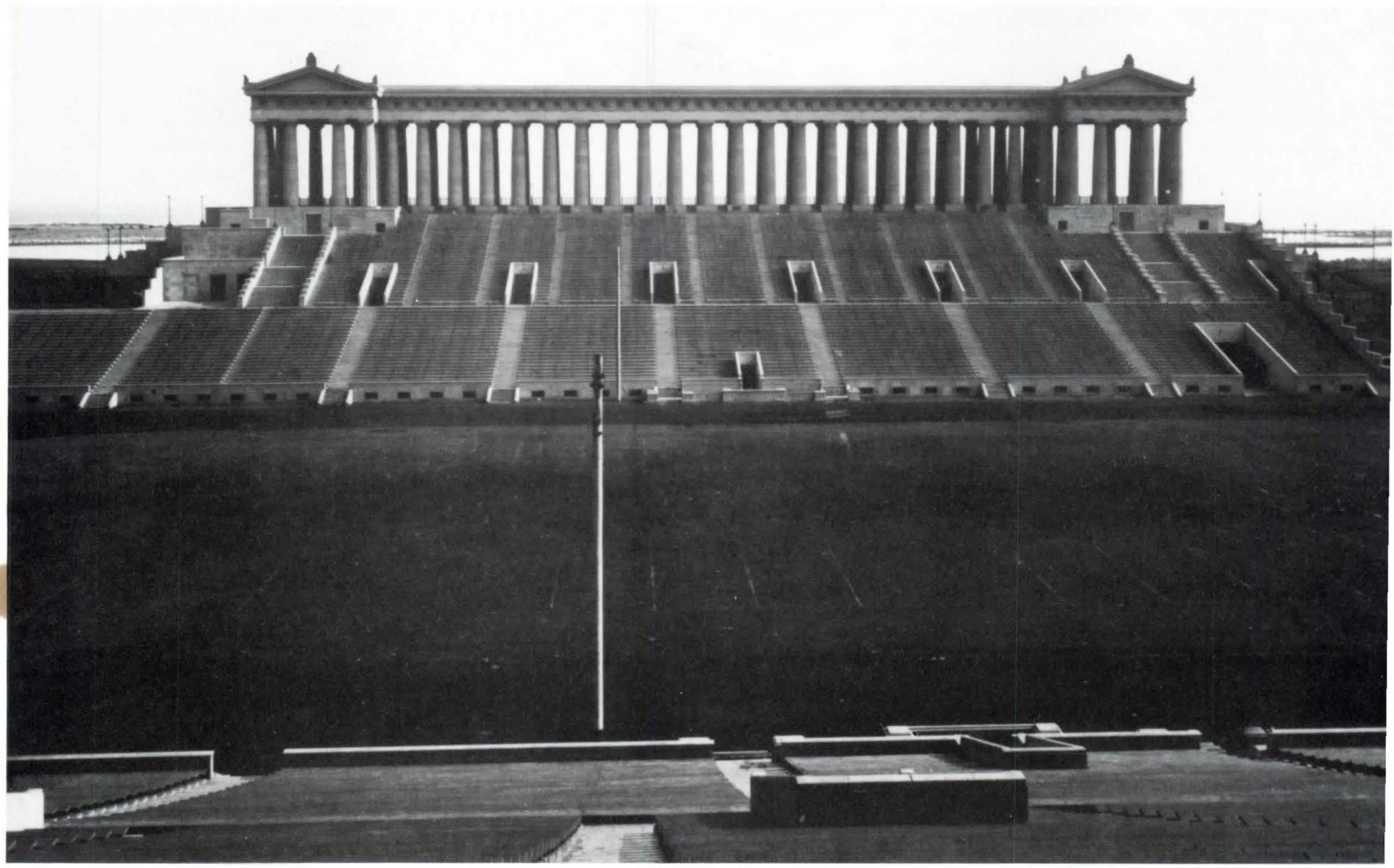
A venerable but rejuvenated practice wins AIA's firm award. By Richard Guy Wilson

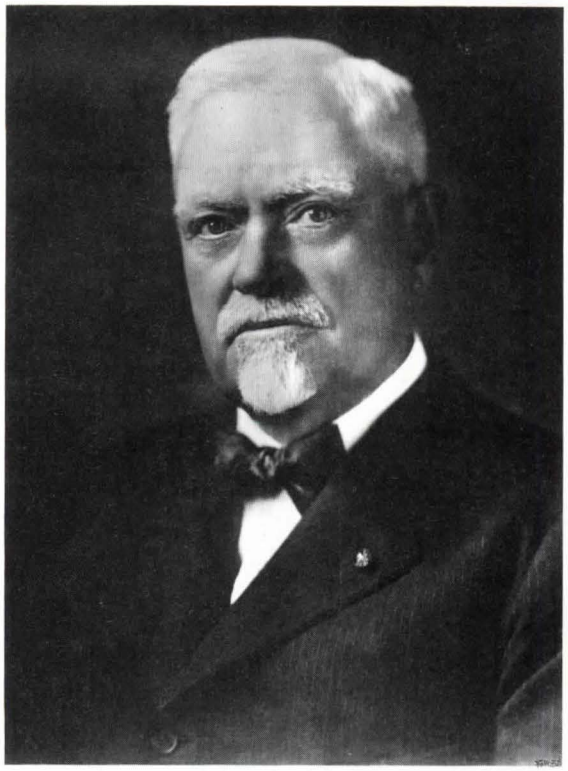
"At one time all we used to be known for was our older buildings; history really was a problem for us. Now, it is helpful, I guess it shows how far we have come." These observations by John A. Holabird Jr., a partner in Holabird & Root of Chicago, give a special insight into the 1983 AIA firm award. For Holabird & Root the past is always present. Their lineage goes directly back to Holabird & Roche, leading Chicago School practioners whose buildings appear in any history of modern or American architecture.

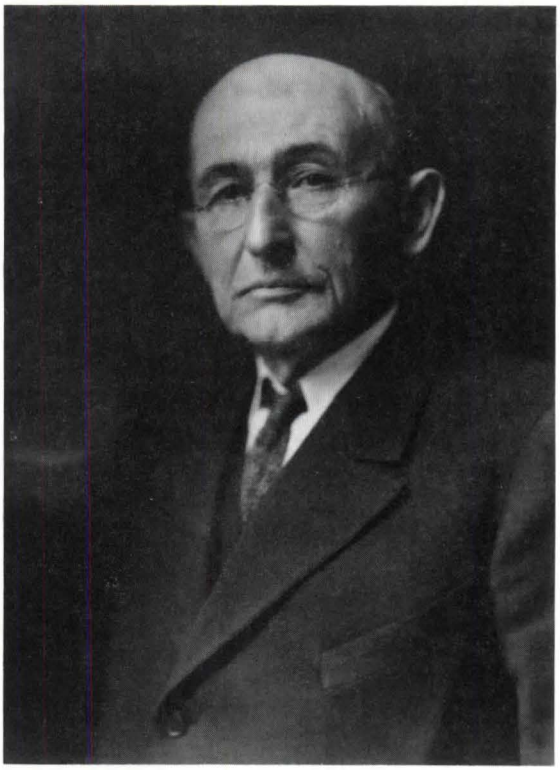
Above, elevation of the Senior Citizens Recreation Center, Wheeling, Ill., one of Holabird & Root's most recent projects; below, Chicago's Grant Park Stadium, Holabird & Roche, 1923.

Later, in the 1920s and '30s a regenerated Holabird & Root produced seminal skyscraper and lowrise art deco designs. Yet, this year's firm award was not given for past achievements, or for the ability to stay afloat for over 100 years—there are other firms with similar records. The award went to a firm that is surprisingly young and produces quality architecture.

Gerald Horn, a current partner, observes that Holabird & Root "never was on the leading edge of design innovations." Its emphasis has been on consolidation and refinement, making advanced design concepts acceptable and workable for a wide group of clients. Holabird & Root's architects never have been theoreticians or boutique designers, rather they are production architects, concerned with the practical details of getting a de-







Chicago School minimalism cum eclecticism.

sign to work and giving their clients the best building possible. Or as Horn says, "We make very nice, high quality buildings." Clients return to them: Illinois Bell for 75 years, Monsanto for 40 years, and Hollister, a more recent client, has commissioned four plants and a corporate headquarters. The firm also has been involved in restoration and preservation, most recently in renovating the Marquette Building in Chicago, an original design of the firm from the 1890s. This indicates not only continuity but adaptability to new interests and new markets. How Holabird & Root endured both on the top and in decline, and then rejuvenated itself is an important story indicating the power of history as a model, and also of individual commitment to that elusive element, architectural quality.

The story of Holabird & Root begins in Chicago in 1880 when William Holabird and Ossian Simonds formed a partnership. Within a year, Martin Roche joined and then in 1883 Simonds departed. Both Holabird and Roche had been in the office of Major William LeBarron Jenney, the father figure of the Chicago School. Holabird had spent a few years in the mid-1870s at West Point and had a strong engineering background as well as important connections. His father, for example, was in the Army quartermaster corps and probably slid a few commissions toward the new firm. William Holabird, who became the business half of the firm, was a large man with a blustery manner, and his grandson, John Holabird Jr., remembers being "absolutely terrified" of this "tribal potentate."

Martin Roche was more retiring. A bachelor, his training had come through cabinet making, a few courses at the Art Institute, and Jenney's office. Roche commanded the design of the firm, though what this meant in the 1880s was different than now. From investigations by Robert Bruegmann into the early years of the firm and by Donald Hoffman into the contemporary office of Burnham and Root, it appears that the business partners generally had an input into the structure and planning element of a large building. Design was the "art," applying decoration and "expression" to an already agreed upon volume and structure.

From the beginning Holabird & Roche was a general line architectural firm, and while best remembered for its elegant Chicago School commercial work, also did suburban residences and town halls in the Queen Anne and colonial revival styles. It gained its reputation with designs such as the Tacoma and the Crown-McClurg buildings in the Chicago Loop, where they refined the paradigm of the Chicago School solution. The Tacoma was one of the earliest undulating wall, or oriel-windowed buildings, and the Crown was the supreme expression of structural minimalism. The piers are emphasized as continuous verticals and the spandrels are recessed.

Both buildings clearly expressed their purpose as offices or lofts, and both were in a sense classical compositions, with a base, shaft, and capital. Also, both were up-to-date technically, with full steel framing, wind bracing, and wall surface reduced to a minimum to allow daylight and air to penetrate the interior. The Tacoma, one of the first all-frame buildings, was the first to use rivets instead of bolts and nuts and had unique floating concrete raft foundations. On both buildings the exterior cladding was almost entirely terra cotta, which, combined with glazing, gave the buildings a shimmering-glistening appearance.

Recently some critics have questioned the importance of these Chicago School buildings, and whether a real Chicago School esthetic ever existed, holding that other styles of buildings also were going up in Chicago at the time. Certainly some promoters of modernism did overemphasize the Chicago School, and each generation finds its own place in the past, its own interpretation. Yet to blame these early masterpieces for the subsequent failure of American architecture—the banal glass box—is to sadly misunderstand history.

Even at the time, Montgomery Schuyler, a New York critic writing in *The Architectural Record* in 1912 on Holabird & Roche, noted: "In the judgement of the Chicagoan, the Easterner needs to 'scrap' a good deal of his academic learning. Speaking of office buildings, the Westerner believes that the first function of every commercial building is to pay." Schuyler concisely sums up the pragmatic Chicago School ethic, which to some degree still governs Holabird & Root.

Reflective of the changing currents in American architecture at the turn-of-the-century, and the impact of East Coast Beaux-Arts-inspired classicism, is Holabird & Roche's Marquette Building of 1893-1894, designed while the World's Columbian Exposition was underway in Chicago. The steel frame again provides the primary organization for the facade, with the large

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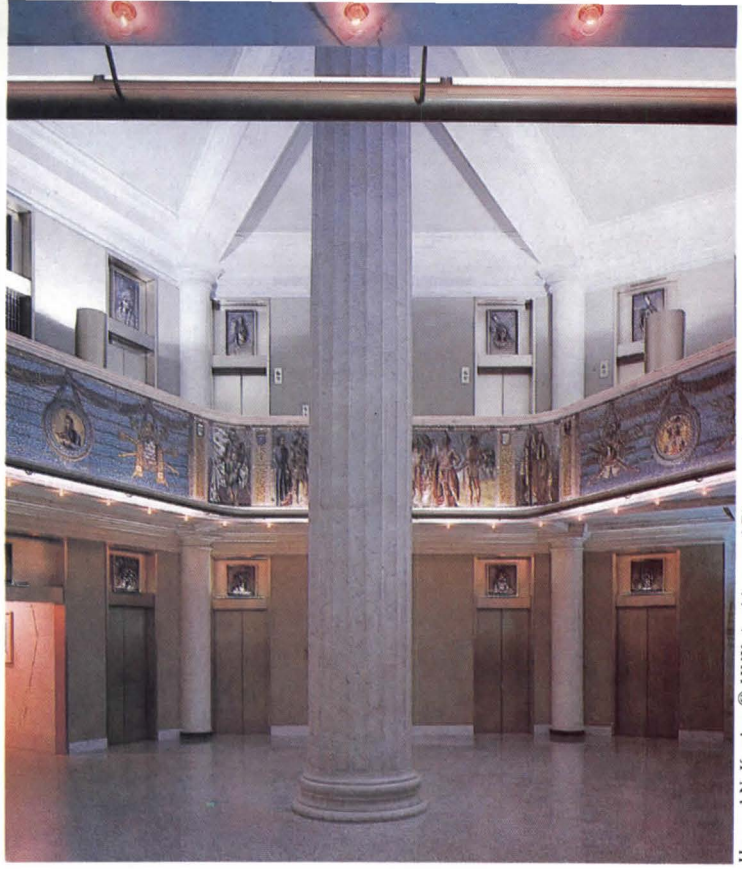
windows indicating the primary cellular nature of the interior. And yet, at the same time there is an evident attempt to dress up the building through the strongly projecting frieze at the second floor level, a lesser band at the third floor, and then the entablature of the 15th and 16th floors; creating an architrave, frieze, and cornice. Vertically, the piers for the corner bays are widened and rusticated, and the central bays slightly recessed. Exterior cladding is a brown mat-faced terra cotta and brick. The recent restoration revealed that the terra cotta had stood up well for nearly 90 years; the only replacement needed was where it had been cut or removed during different remodelings.

The site of the Marquette on a prime business corner, and the location of a bank on the second floor, called for more than the usual perfunctory treatment of the lobby. A two-story rotunda with nine elevators and a balcony was lavishly decorated with Tiffany glass mosaics depicting Père Marquette's voyages and busts of Indians by Edward Kemeys and Herman A. MacNeil. White Carrara marble, brass elevator grills, and stenciling covered the remaining surfaces, while in the center a two story Roman Doric column further emphasized the new classical orientation.

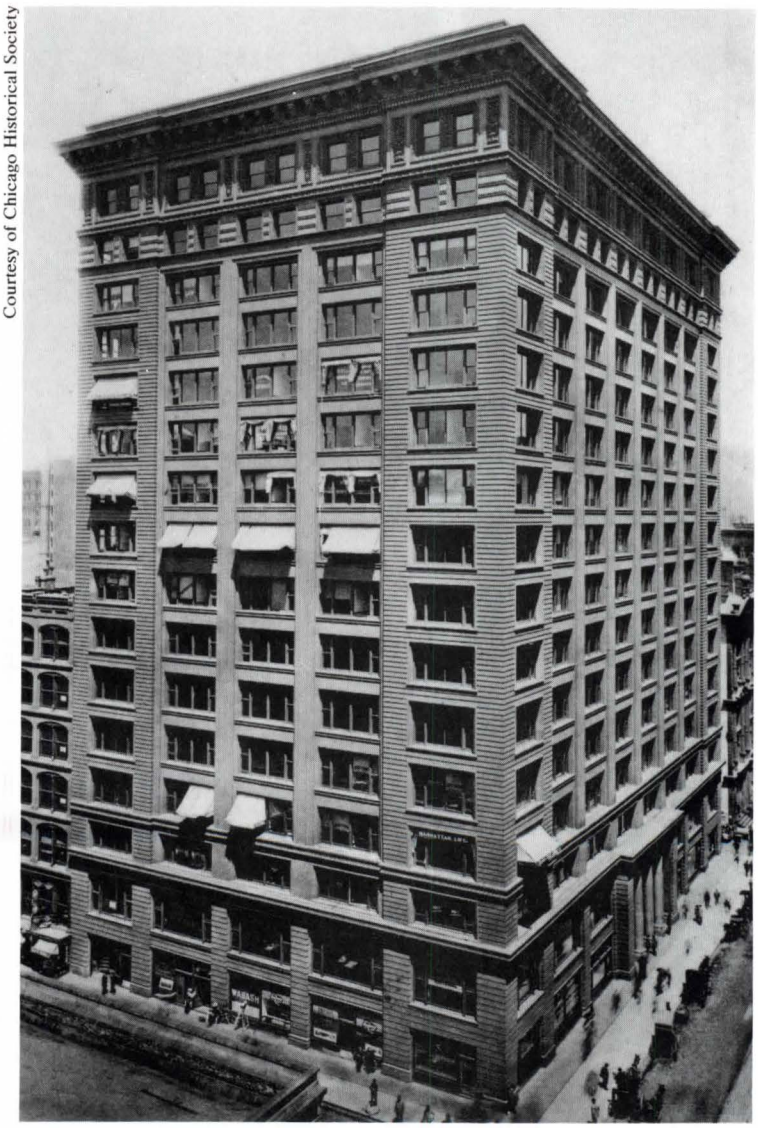
Holabird & Roche continued into the 20th century with Chicago School commercial minimalism. Yet as seen in the Marquette, a new wind of eclecticism was blowing. In fact, Montgomery Schuyler in the same article in which he praised their "Chicago idea" designs, deprecated their "exercises in academic architecture."



Howard N. Kaplan © HNK Architectural Photography

Courtesy of Chicago Historical Society

Courtesy of Chicago Historical Society



Across page, William Holabird and Martin Roche; left, Chicago's Takoma Building, designed in 1887, demolished 1929; top and above, lobby and facade of Chicago's Marquette Building, designed in 1893-94 and recently restored by the firm.

Hedrich-Blessing

In the 1930s, stringency and streamlining.

The firm became well known as hotel architects producing a host of designs such as the Palmer House, the La Salle, and the Stevens (now the Conrad Hilton), all in Chicago, the Muehlbach in Kansas City, the Nicollet in Minneapolis, and others throughout the Midwest. The City Hall-County Building, which the firm won in competition in 1905, is a burley classical structure, with six-story-high Corinthian columns on a four-story plinth. Soldier's Field, 1923-25, has giant 100-foot-tall porticos of Doric columns atop the grandstands. Other buildings were in versions of the Tudor, the Gothic, and other styles.

Concurrently Holabird & Root expanded in the technical area. From the beginning, engineering had been important in solving the structure of highrise commercial buildings, but especially after 1900 there were growing complications in heating, ventilation, electrical systems, and other mechanics. The exact date is unclear, but about 1910 engineering and design emerge as separate entries within the firm.

In the 1920s two new personalities rose in the firm: John A. Holabird Sr. and John Wellborn Root Jr. took the place of William Holabird and Martin Roche, who died in 1923 and 1927 respectively. John Holabird, the son of William, graduated from West Point in 1907, and resigned his commission two years later to enroll at the École des Beaux-Arts in Paris. John Wellborn Root Jr. was the son of the famous designing partner of Daniel Burnham. Root's father died when he was only 4, he received a cosmopolitan upbringing with frequent foreign travel, graduated from Cornell University's architecture school in 1909, and then went to Paris to attend the Ecole. Both Holabird and Root rose to prominence after World War I, and in 1927 the firm was renamed.

Both partners shared major design responsibilities, though John Holabird assumed more of the public role. He was on the planning board of the Century of Progress Exposition, for which he designed the Chrysler Pavilion, served on the public housing committee for Chicago, and was on the board of the Armour Institute. Holabird was responsible for bringing Mies van der Rohe to the Armour, later renamed IIT. Subsequently, however, he became disenchanted with Mies's educational system and directed his son, John Jr., to attend Harvard and study under Gropius, who had actually been his first choice for the Armour. John Root also assumed public duties but his interests were more in design. He was responsible for many of the major works of these years, though in all cases, there were many contributors, and received the AIA gold medal in 1958. A smallish and somewhat deliberate man, he was not necessarily prim. John Holabird Sr. recalled Root arriving at one of the Beaux-Arts bashes nude on a bicycle.

In the later 1920s and '30s, Holabird & Root became in some critics' eyes premier designers, who stayed true to an American expression and were not seduced by foreign imports such as the International Style. At a symposium on "Contemporary Architecture" held at the 1930 AIA convention, Holabird & Root was portrayed as the true heir of Sullivan & Wright. This type of praise continued throughout the 1930s.

In retrospect, Holabird & Root can be seen adapting and refining design advances of others, such as Eliel Saarinen's second place Chicago Tribune entry (Holabird & Roche received third), and the New York work of Raymond Hood and Ralph Walker. Holabird & Root took the setback form and further intensified the contrast between the different masses, thereby increasing apparent height. In this they were greatly assisted by Gilbert "Gibbs" Hall, one of the most talented renderers of the period, who outdid Hugh Ferris at charcoal perspectives. Typically, as in the Chicago Board of Trade, flat masonry wall surfaces are cut into by window channels, which emphasizes mass, bulk, and height. More a true skyscraper than the earlier Chicago School commercial buildings, the Board of Trade begins on a nine-story base, which fills out an entire city block. Two 13-story wings form a U to La Salle Street, which ends in front and to the rear. The tower rises 36 stories with a series of smaller setbacks at the 34th, 37th, 40th, and 43rd stories. On top, a 32-foot-tall aluminum statue of Ceres by John Storrs surveys Chicago. In the critical terminology of the day, the building has "good mass."

The A. O. Smith Research Laboratory, built in Milwaukee in 1929, became the first of a firm specialty, "R & D" buildings. It was eight stories high with a U-shaped plan, and structural columns were placed to the periphery, allowing for 45-foot free span interior spaces. It was a completely sealed environment and the structural piers contained the HVAC duct work.

On the exterior, the almost continuous base to roof glazing was carried in aluminum extrusions in a faceted pattern. On the roof, a traveling crane supported the window cleaners' platform. Decoration appeared on the cornice, the piers, and around the entrance. Reflective of changing esthetics is a letter of Root's from 1955 in which he notes: "The influences of the time seem to have dictated stone pylons at the corners. The design as we look at it now would have been better if the glass and aluminum grill had enclosed the whole building."

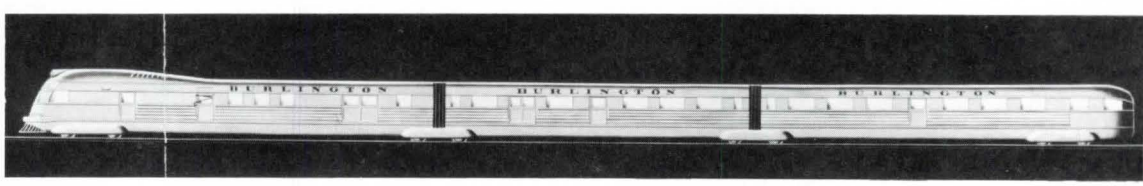
The issue of eliminating ornament began to raise its head in the 1930s both because of the straitened building economy and the new puritanism emanating from Europe. The city hall and county courthouse designed for St. Paul, just two years after the board of trade, incorporates similar massing effects, yet the overall treatment is more volumetric and severe. Some low relief sculptures by Lee Lawrie are applied next to the entrances. The interior is more lush, with an elaborate Blue Belge marble-sheathed lobby in which a 25-foot-tall, onyx Indian god of peace sculpture by Carl Milles stands on a rotating base.

In the 1930s the firm was severely reduced in size, but survived, and later in the decade work began to return. It designed a variety of projects, including railroad car interiors and stations

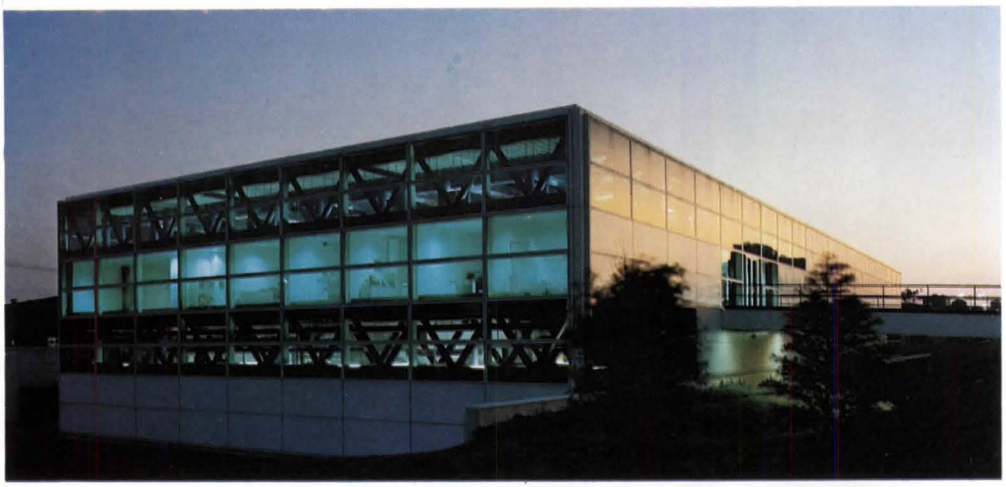
Above, Chrysler Exhibition Building, Chicago, 1933; across page, clockwise from top left: A. O. Smith Laboratory, Milwaukee, 1929; Racine County Courthouse, 1930; the high speed Zypher, which ran between Chicago and Denver; interior of railroad station, Burlington, Iowa, 1940; Chicago Board of Trade Building, 1930.

Hedrich-Blessing

Richard Guy Wilson



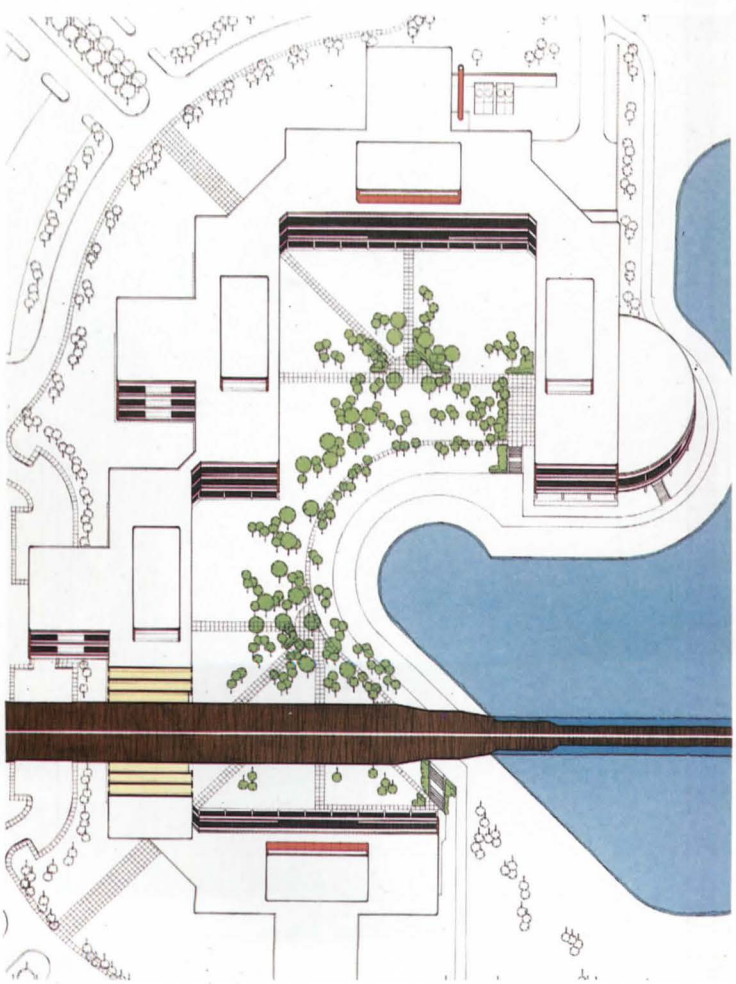
Hedrich-Blessing

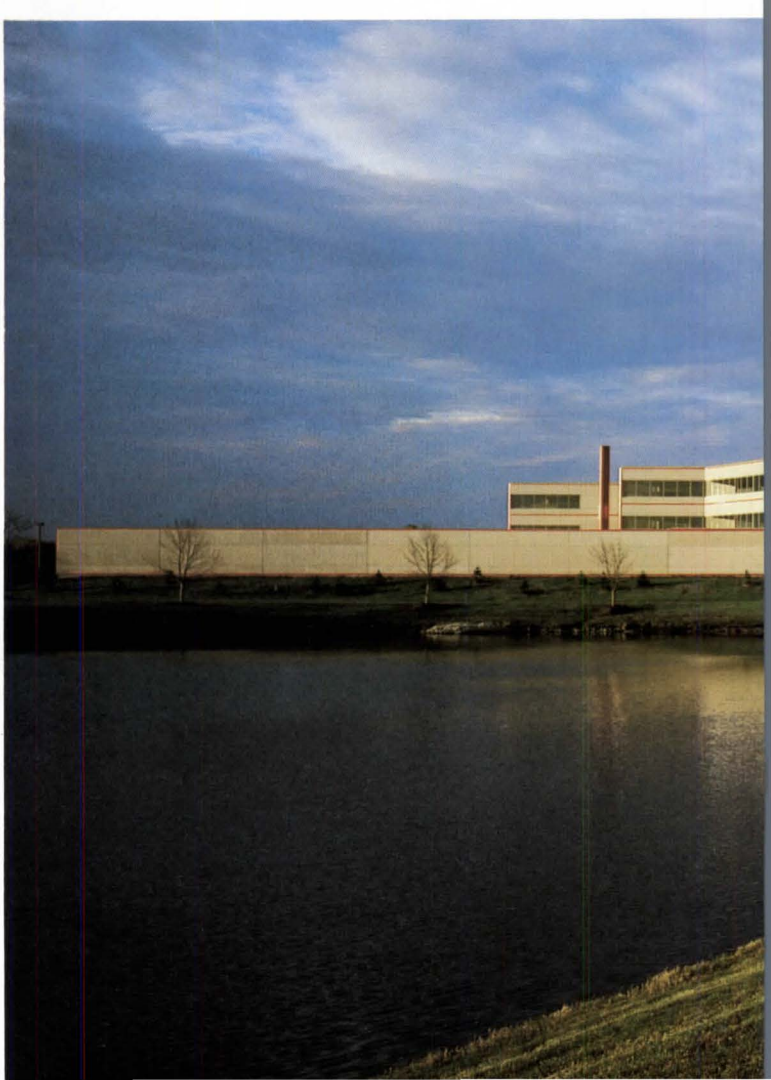


Howard N. Kaplan ©HNK Architectural Photography

Above, Monsanto's Environmental Health Laboratory, St. Louis, 1978; right, Illinois Bell Telephone Company Equipment Building, Northbrook, Ill., 1972; below, site axonometric of Western Electric Network Software Center, Lisle, Ill., 1981; across page, Software Center's waterfront elevation.

Bill Hedrich, Hedrich-Blessing





Tim Hursley ©Hursley/Lark/Hursley

An era of decline, then a housecleaning.

for the Burlngton Railroad to hotels. The war intervened, and, while much work came into the office, design was not paramount. John Holabird Sr. died in 1945, and though Root continued to direct the firm he suffered from Parkinson's disease. New partners such as John Burgee, William Holabird (a nephew of John Holabird Sr.), and Helmuth Bartsch were committed to construction and engineering rather than design. The firm continued with big commissions and got into hospital design, but the work was not particularly distinguished. In the words of one of the current partners: "We had a reputation as a stuffy old firm." By the early 1960s the firm was in real decline.

The rejuvenation began when some of today's partners, then in lower positions in the firm, began to challenge the then-current direction and to suggest changes. John A. Holabird Jr. entered in 1955 with a memory of the office's former excellence. Eugene Cook, now the managing partner, had come in 1948 as an apprentice and spent many years observing how projects and the office were managed—and mismanaged.

The result was a housecleaning in 1970 and a shift in direction from buildings that were known only because they didn't leak, to an aggressive emphasis on design. Designers were encouraged not toward a house style, but, as Gene Cook explains, "to do their own thing; allowed freedom." Management and hierarchical structure have been de-emphasized. Projects sometimes are handled by teams, sometimes by departments. Each of the several leading designers is responsible for seeking clients, and, in egalitarian fashion, has a table in the drafting room. The same people, from the partners to the draftsmen, are present on a job from conception through programing, development, and production. A recent innovation is the quality assurance committee, or QAC, which serves as the firm's "jury." Representatives from all departments and several partners serve on the committee, which oversees the quality of details, drawings, procedures, and design.

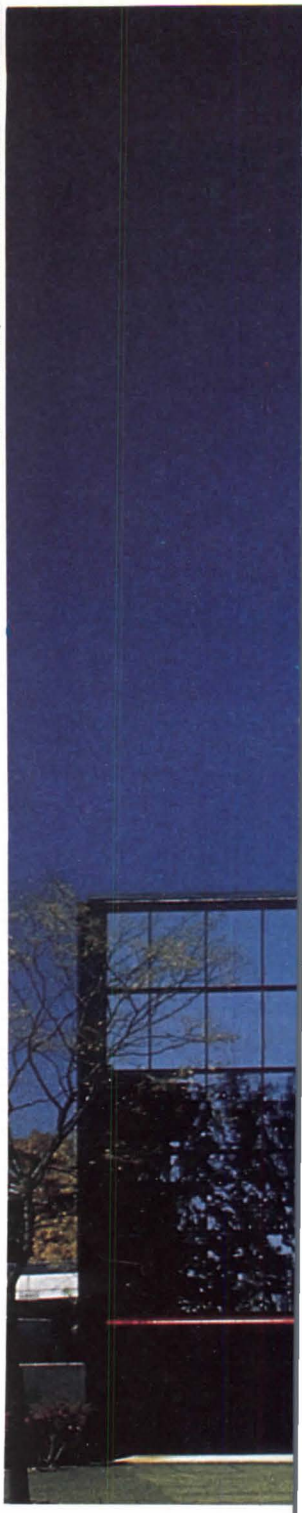
QAC also plans several firm outings each year, where the entire office, from secretaries to partners, travel by bus to visit job sites and recently completed projects. As Gene Cook notes, "We discovered not everybody knew what we were doing." And as Walker Johnson says, "We're architects, we have never given up architecture."

Important in this rejuvenation was the sense of firm history and tradition. Being an old office gives credibility in making presentations, but tradition can also mean an unwillingness to change and stoggy clients. It was crucial to see the early work not as nostalgia, but in terms of how in the 1890s and 1920s the partners adapted. Gerald Horn feels "The old firm had quality in details," and "details make a good design." This is perhaps a Miesian attitude, and Horn has followed Mies to some degree, yet as his project for the University of Chicago Physics Building indicates, it is a sensitivity for quality and appropriateness that is of the essence. Horn has observed that the early firm gave clients better than requested; it made art out of the mundane. The Monsanto Environmental Health Laboratory in St. Louis is basically a "building for rats," and "anything would have sufficed." As Horn explains, "We gave them something good."

Consciously avoiding a house style, the work of Holabird & Root since 1970 reveals a number of directions. Currently there are four leading designers, all different: Gerald Horn, a partner, who received his training with Craig Elwood; Roy Solfisburg, a partner, who attended Penn in the 1960s; Tom Welch, an associate, who attended Yale in the early 1960s, and Walker Johnson, an associate, who attended the University of Illinois, Champaign-Urbana. Each has followed his own particular bent. Johnson, for instance, is the preservation expert.

Recently the firm has produced some of the neatest and tightest Miesian or late Chicago School structures to be found. The Illinois Bell Equipment Building in Northbrook is an elegant steel and glass envelope that stands alongside an Interstate highway. The Western Electric Network Software Center in Lisle, Ill., is a large campus of linked buildings that snake across

Sarah Lavicka, Holabird & Root



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Above, Hollister Corporate Headquarters, Libertyville, Ill., 1981; across page, barrel vault elements unite the headquarters' three rectangular blocks; right, the interior gallery space.

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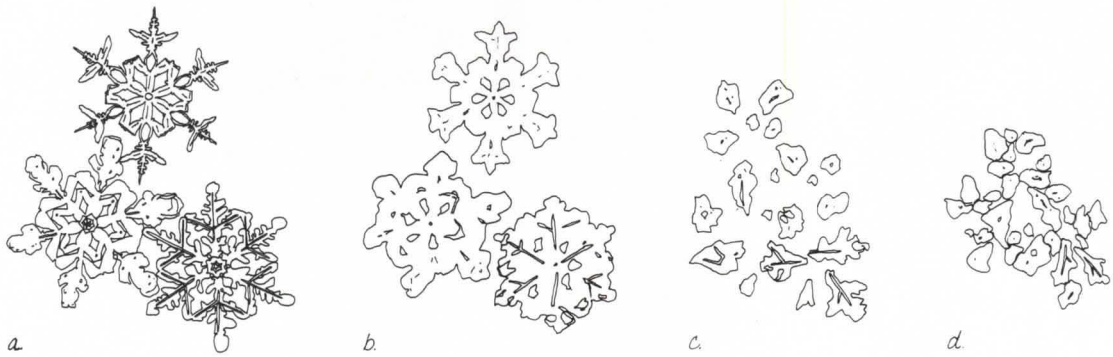
Taking new directions without denying the past.

the landscape and around a pond. A combination of repeated units, carefully proportioned with a revealed red frame, gives a memorable image. The Hollister Incorporated offices in Libertyville, Ill., indicates that the head designer, Gerald Horn, had not been looking exclusively at Mies. A multipurpose building, its four separate components—manufacturing, laboratory, data control, and corporate offices—are treated as discrete units and placed around a large curved roof atrium. Extrusions of the atrium serve as corridors and mechanical spaces. Exterior walls are glass fiber panels, precast concrete, different colored metal panels, and glass, each indicating a different function. The plan is processional.

Postmodernism is not a threat to Holabird & Root. In this they are perhaps different from some other large firms. As one partner noted, "We accepted postmodernism and like it. It gives us freedom." There are a number of current projects in the office that both expand on the past and suggest new departures. The Physics Building for the University of Chicago is obviously a contextual building. Still under design, it is concerned with commenting on the collegiate Gothic idiom of surrounding turn-of-the-century buildings. The side away from the street will be glass and very high-tech. The Wheeling Senior Citizens Center, still under construction, adopts a suburban scale and motifs, some functional and others symbolic.

Currently, the firm numbers about 175; it has been up to 220. All the partners feel the pressure to expand, to add more employees or branches in other cities. But this raises questions. Will the firm's unstructured management work for that size? Roy Solfisburg notes that at 220 employees the sense of control seemed to disappear: "We didn't know quite what we were doing."

Another issue seems to plague the firm, and has for 10 years: its unpretentious office. John Holabird says, "We can't decide how to redesign it. We get too busy." □



The Neglected Hazards of Snow and Cold

Coping with them demands special design techniques—and stronger codes. By Ian Mackinlay, FAIA

The cold country contains hazards as great as earthquake, wind, or flood, and architects need a basic understanding of risks from snow and ice. Codes must be modified to properly reflect the real threats to public welfare and safety.

Since the dawn of history, man has lived in severe climates such as the Himalayas and the polar regions. He has learned techniques to conserve his body heat and to warm his habitats. Our forefathers comprehended this manipulation of nature intuitively with experience gained through generations of experimentation.

But as technology has accelerated in the past century man has lost touch with his surroundings. The remarkable relationships between man and his environment found in such traditional cold country forms as the chalet and the igloo are no longer understood.

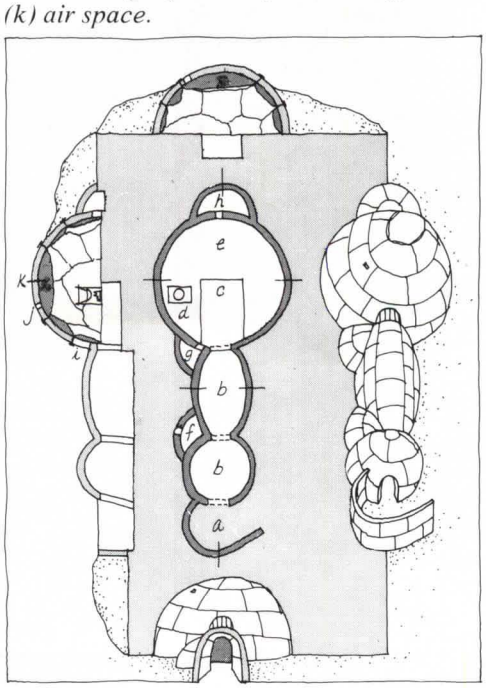
The igloo is an intuitively correct design for its environment, using the natural properties of snow to the advantage of its occupants. Lisa Heschong has pointed out in *Thermal Delights in Architecture* that "the Eskimo essentially lives within a semitropical environment" with the help of his fur parka and his igloo. The igloo has a minimum surface area in relation to its volume, efficiently conserving heat. The blocks for the structure are cut from porous snow, and, after the igloo's erection, the inner surfaces quickly absorb the moisture produced by body heat and fire. The inside freezes, strengthening the igloo, preventing air infiltration and preserving the insulating properties of the snow.

Snow, a mixture of ice and air, is a semisolid form of water. In cold country, the most rigid constraints on design are imposed by changes in the density of water, not by freezing temperatures alone. Water expands when it freezes, and this reaction produces forces powerful enough to crack rocks, walls, and pavement, to tear shingles off roofs, and to force foundations out of the ground. It has been estimated that the force of crystallization of ice is as much as 30,000 pounds per square inch in a confined space. Few materials can resist such pressure.

Freshly fallen snow is as light and insulative as down. The plumes of snow crystals interlock with one another as they fall. The crystals entrap air and become immobile. Sooner or later, depending on temperature, humidity, and air pressure, the fine points of the snow crystals evaporate, and the air in their centers is filled with recondensed ice in a process called sublimation. The once delicate crystals can become as slippery and as unstable as a pile of ball bearings. No longer interlocked, they are mobile and can slide off roofs onto the heads of the unwary or avalanche down mountainsides into the works of man.

Should the temperature of the snow rise above freezing in the daytime, the melting and refreezing at night tends to glue the particles together into a living, plastic medium that can be as solid as ice or can change into avalanche-prone, unstable crystals of hoarfrost. These complex and unpredictable changes can cause a sudden fatal event in a scene of picture postcard serenity.

Above: (a) newly fallen flakes interlock; (b) sublimation makes crystals mobile; (c) mobilization increases by fracturing; (d) they become granular and cohesive. Below, igloo spaces: (a) entry, (b) tunnel, (c) main room, (d) cooking, (e) rest, (f-h) three storage spaces, (i) window, (j) vent, (k) air space.



The downward movement of snow on a pitched roof is determined by several factors, which include: the quantity and quality of the snow itself, the temperature of the air and the roof surface, the steepness of the slope of the roof, and the coefficient of friction of the roofing material. In general, wet or icy snow tends to stick to rough roofs of low slope, and loose dry snow tends to slide from slippery, unobstructed roofs of high slope angle.

The 1982 standards of the American National Standards Institute, whose recommendations for calculating snow loads attributable to structures are far superior to earlier building codes, permit the snow load on a roof to be neglected only when its slope exceeds 70 degrees. ANSI allows for some reduction in snow load for unobstructed slippery surfaces, but only where the slope of cold roofs exceeds 30 degrees.

Mr. Mackinlay is president of Mackinlay/Winnacker/McNeil & Associates in Oakland, Calif.

Many think snow will adhere to asphalt or wood shingles and slip off metal roofing, but, in reality, depending on the angle of slope and the weather conditions, snow can stick at times to the most slippery of roofs.

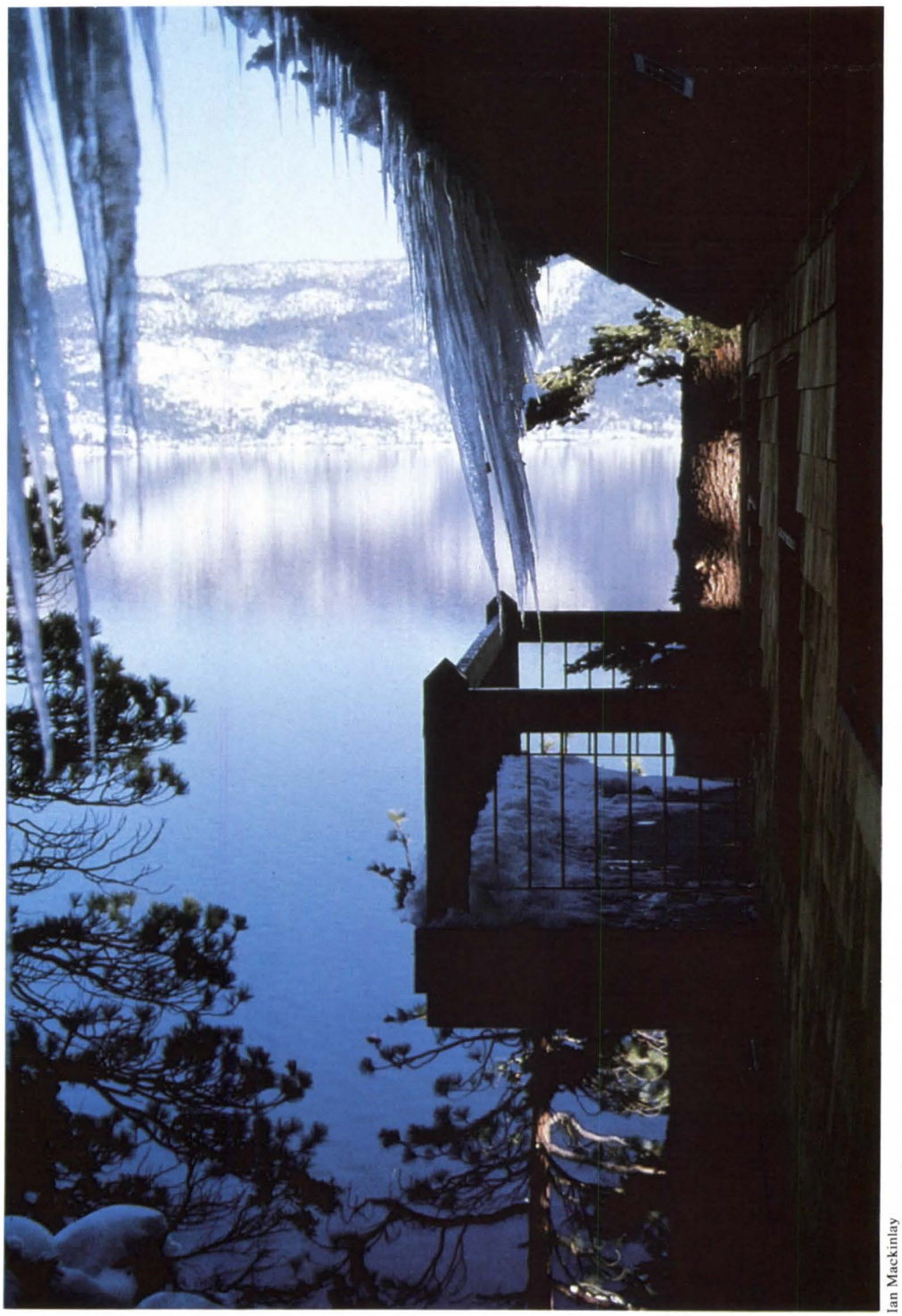
In contrast to ANSI, the 1982 Uniform Building Code permits snow loads to be set at the discretion of the building official and permits a reduction in loading in excess of 20 pounds per square foot for each degree of slope in excess of 20 degrees, regardless of the roof design or material. This practice is unsafe, especially in the mountains or heavily snowed areas.

Ice dams (right), are the most common and unpleasant difficulty bedeviling pitched roofs. They can prevent the shedding of snow from even very steep roofs. Radiant heat from the sun or convection heat from the building interior melts the snow on the roof. The moisture generated collects at the outer face of the roof and is prevented from refreezing by the insulation of the snow blanket. It drains to the edge of the roof and, if the air temperature is below freezing, it turns to ice where it exits from under the snow.

If the snow blanket on the roof is thick, the temperature at the roof face will normally be below freezing (32 degrees Fahrenheit) even though the air temperature may be much colder. After several days, a sizable pool of water will build up under the snow blanket behind an ice dam at the eaves. On a 40-foot-long, R20 sloping roof covered with three feet of snow, roughly two gallons of water will be deposited at every lineal foot of eave every day if the interior is 70 degrees.

On a roof pitched 4 in 12 (15 degrees), an ice dam three feet thick will back water more than nine feet up the roof. This produces hydrostatic pressure that will cause a conventional shingle roof to leak. None of the building codes used in the U.S. today considers this problem, and yet it is the most frequent defect of sloping roofs in cold country.

As the snow and ice slide from a sloping roof, as they will when weather conditions change, great danger can occur. An ice dam may hold snow, ice, and water attached to the roof through several storms until a great mass is accumulated. When it at last falls, it can crush anything in the way.



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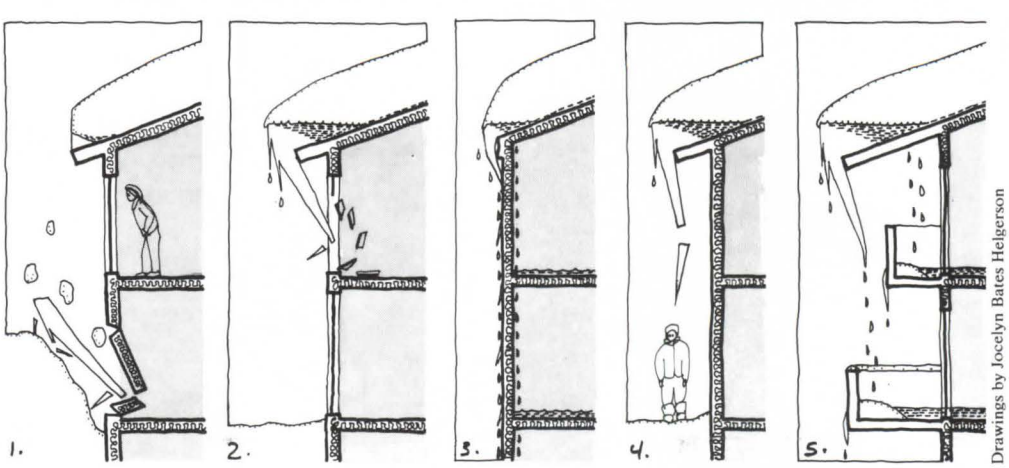
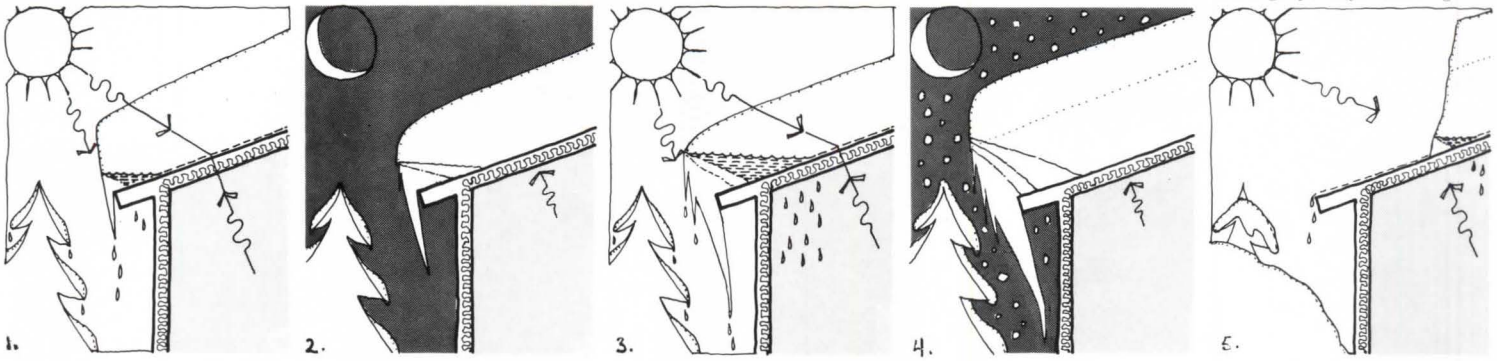


Drawings by Jocelyn Bates Helgerson

Five dangerous conditions that can result in a snowy clime: (1) falling icicles collapse side walls; (2) pressure from snow pack curls icicles into windows; (3) small overhangs contribute to water damage from freeze-thaw cycle; (4) falling icicles can be deadly; (5) melting snow can drip onto balconies, causing flooding.

Drawings by Jocelyn Bates Helgerson



Above, (1) ice dam forms when water from melting snow hits cold air; (2) ice dam increases with drop in temperature; (3) static pressure from backed up water enters building; (4) second snow adds new layer; (5) new ice dam forms farther up roof after removal of original ice dam.

The ice dam and its family of icicles may break off, bounce off snow banks built up by previous slippage from the roof, and crush the lower walls of the building. This is a much more frequent cause of building collapse than roof failure in the deep snow country.

With sloping roofs in snow country, it is impossible to eliminate ice damming problems, but there are several methods for controlling them, including the cold roof, increased insulation, heat leaks at the roof edge, heated eaves, and, if all else fails, electric heat tape.

The cold roof is actually two roofs with an air space in between for the flow of outside air. The outer roof acts as an umbrella and holds the frozen snow, while the insulated inner roof keeps the heat within the building. The air space prevents building heat from melting the snow on the outer roof. However, the air space does not prevent melting from sun radiation or warm air. Snow is a good absorber of long wave length radiation (infrared), so although snow reflects visible light, it will absorb considerable energy from sunshine, especially at higher elevations. If ambient air temperature rises above freezing for any length of time during the day, this will cause the snow on the upper roof to melt from below.

At a significantly higher construction cost, and at the loss of being able to utilize the natural insulative properties of the snow, the cold roof does tend to retard ice damming. But the cold roof only works well on shady sites where winter air temperatures rarely rise above freezing. In climates where the air temperature goes above freezing in the day and falls below at night, the cycle of freeze/thaw will construct ice dams on a cold roof as large as those on a warm roof.

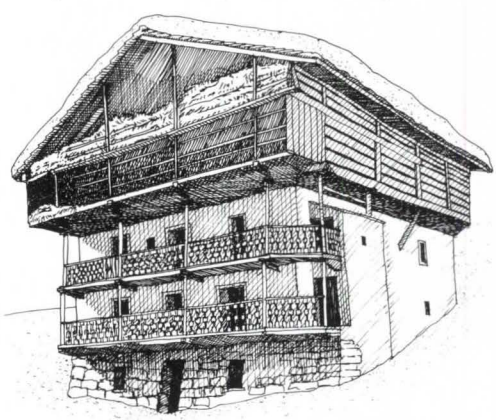
There is also a drawback to a cold roof in very cold climates. Fine wind-blown snow can collect between the inner and outer roofs, preventing free air circulation and causing leakage and ice damming. The wind-blown snow, which can be subjected to the freeze-thaw cycle because of the interior building heat, may even force the upper and lower roof layers apart.

The Swiss understand the principles of cold country design very well. The old chalets (right), were divided vertically into three thermal zones with the farm animals on the lowest level, which was often partly dug into the hillside for insulation. Considerable heat was generated by the animals and by the decomposition of their wastes. The heat rose to the next zone and warmed the spaces occupied by the family. Over the family zone was unheated storage for hay and grain that acted as insulation for the living creatures below. This upper space provided summer cooling, as well as a storage area for dry fodder to feed the livestock through the winter when snow was on the ground.

The broad wooden eaves with their stout bracing sheltered the exterior openings in the lower chalet walls, which were sometimes made of square-cut logs and sometimes of thick masonry, decorated with timber balconies. If ice dams did develop, the broad eaves usually kept the dripping water beyond the walls.

The close association between man and beast has its redolent drawbacks. Less rural chalets are heated by beautiful "airtight" stoves, often decorated in ceramic tile, but the attic is usually an unheated storage area. If the average winter temperature in the attic stays below freezing, there will be minimum ice damming at the eaves. Stones hold the snow on the roof, preventing the snow from falling onto people who may be standing below. In addition, the snow provides an insulative cover that retards the heating of the attic by the sun.

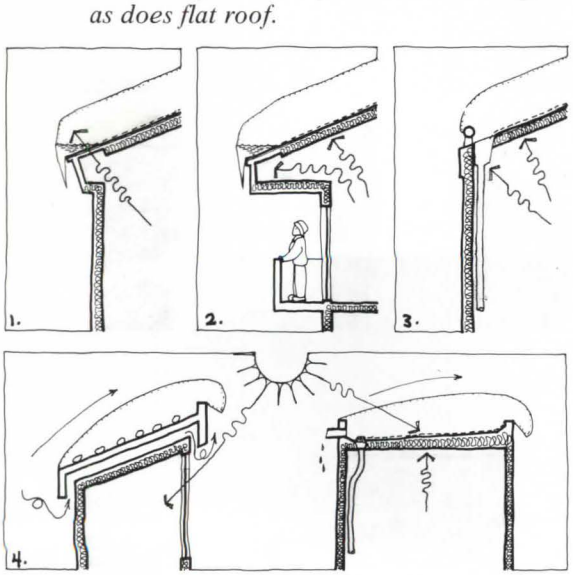
In most locations where there is a significant daily temperature swing through the freezing point, the best way to control ice dams is to use a warm roof with additional insulation (R30 or more) so that the building heat melts the snow at a slower rate. In fact, if the snow blanket is thin and the air is cold, there may be no melting from building heat.



Insulation thickness should be reduced at the roof edge, creating a natural temperature gradient so that the water at the eave line is less likely to freeze, and ice dam formation is controlled. A common maintenance mistake when ice damming occurs is to remove the snow a few feet back from the edge of the roof. As the dam is caused by melted water's contact with cold air, partial snow removal merely changes the point at which the ice dam forms. A sloping roof should either be completely shoveled or not shoveled at all. The building heat should be carried out to the roof edge even in cases where the roof extends out over unheated decks and balconies. A warm roof must never drip onto an unheated roof.

At least the lower 10 feet of all pitched

Below, (1) heat leak at eave stops ice dam; (2) heated overhang should extend out; (3) snow arrester and inside gutter prevent slippage and icicles; (4) cold roof insulated from heat prevents damming, as does flat roof.



roofs should be underlain with an impermeable membrane, such as Jiffy Seal or Bituthene, to assure water tightness. Side walls that abut the eave line of an adjoining roof should be similarly protected. The membrane should be carried up the wall above the top of the largest anticipated ice dam.

Heat tape is often seen laced into roof edges to attempt to control ice dams. It can be effective in piercing the face of the dam and relieving the water pressure that is causing leakage, but sooner or later the snow and ice will slip from the roof, often carrying the heat tape with it. It is not easy to replace the tape under winter conditions. Heat tape cannot be controlled by a thermostat, and manual control requires close attention to snow and temperature conditions.

Vents, chimneys, and other protuberances in the roof plane should be located at the ridge line or in flat portions of the roof. An alternative is to bring them through the side walls away from the roof slope. If a chimney or vent must be located at the eave line, it should be heavily reinforced and completely waterproofed, and it should assume a knife-like shape to encourage snow to slip around it.

A rough or ribbed roof will prevent the snow from slipping around a chimney or vent, so such obstructions must be set in a smooth, slippery field that lies well above and to the side of the obstructions. The tops of vents should be high enough above the roof so the snow will not plug their openings. Plugging can asphyxiate building occupants. Drip lines at roof edges should be beyond balconies and decks, and balconies and entrances below eaves should be protected by roof overhangs. Overhead electrical and telephone lines should never be led into buildings under sloping eaves where sliding snow will break them. Underground utility services are far more practical than overhead ones in the snow country.

If the building is designed to encourage snow to slide off the roof, the roof should be steep and slippery. It should be arranged so the snow will slide off cleanly, falling into areas where it will not cause harm.

A flat roof, generally defined as a roof that has a slope of half an inch in one foot or less, eliminates ice damming, sliding snow, and icicle formation and it takes maximum advantage of the insulating properties of snow. In most locations, wind stripping will control the snow buildup on the roof, and the 1982 ANSI standards permit a 20 percent reduction in snow load in windy locations. The roof should slope slightly toward interior drains, which should be brass with copper pipe. The heat of the building will keep the drains free of ice as they are protected from extreme cold by the blanket of snow on the roof. Scuppers in the outer parapet walls should be located several inches higher than the drains. These scuppers only operate if an interior drain becomes plugged or if the water volume is too great for the drains to handle, as sometimes happens when warm rain falls onto a heavy snow pack on the roof.

Ian Mackinlay

Above, snow slides on metal roof. Unlike shed roofs, gable roofs (below) can build up snow drifts.

A flat roof will be satisfactory almost anywhere in the snow country except those rare locations without exposure to wind or sun. Even under these conditions, it may be more practical to increase the structural strength of the roof than to make the roof steep enough to shed the snow.

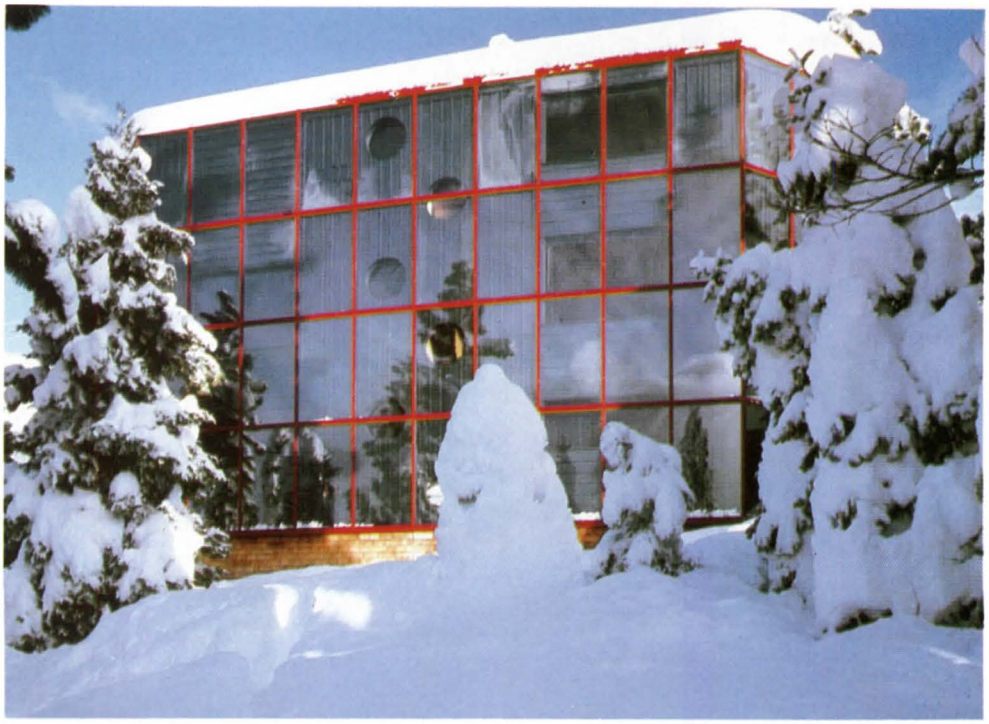
The roof and walls of a building retain humidity as well as heat. Warm air holds more moisture than cold air, and air at 70 degrees can hold three times the water of air at 40 degrees. Outdoors, the moisture precipitates as rain or snow as air cools; indoors, it becomes dampness on walls, windows, and ceilings.

This condensation is often mistaken for leakage. Condensation is controlled by preventing warm moist air from coming in contact with cold surfaces. At any given temperature, the air can only hold so much water. When the temperature drops, the dew point is reached and condensation will take place. A vapor barrier must be created on the inner face of the outer walls and ceilings of the building to seal in the warm moist air and prevent it from reaching cold surfaces that are below the dew point.

Condensed water vapor can become trapped in insulation in walls and roofs and freeze in cold weather. When the temperature rises above freezing, this trapped moisture melts, and the roof or walls appear to leak. The condensation may remain hidden until mildew, rot, delamination of plywood, or paint deterioration occurs. Any trapped moisture can permanently damage the building insulation. In the cold country, rain water must not be allowed to soak the construction, as it will freeze and damage will occur, come winter.

Windows are a major challenge to the architect in the cold country. Condensation sometimes occurs even between panels of double-pane glazing. Windows with metal frames often appear to leak, as metal is an excellent conductor of temperature and the cold is conducted inside, bringing the warm inside air below the dew point. One solution is to disconnect the window frame with a piece of plastic, so there is no thermal contact between the exterior and interior of the frame. Another is to use nonmetallic window frames. Condensation on the window glass itself can often be controlled by mounting the inner face of the glass flush with the inner face of the wall.

Except in the arctic winter, sunshine should always be considered as a source of winter heat. My flat-roofed mountain house, at an altitude of 6,400 feet near Lake Tahoe, has solar collectors mounted on all south facing walls. The vertical collectors function efficiently in the winter, catching the solar energy both from the low angle of the sun and reflections from the ground snow. The vertical collectors are never covered by snow. The structure presents its main face to the south and all major rooms are heated both actively and passively by the sun. The heat from the collectors is stored in an insulated 4,000-gallon basement tank for use on dark days. The tank usually stores



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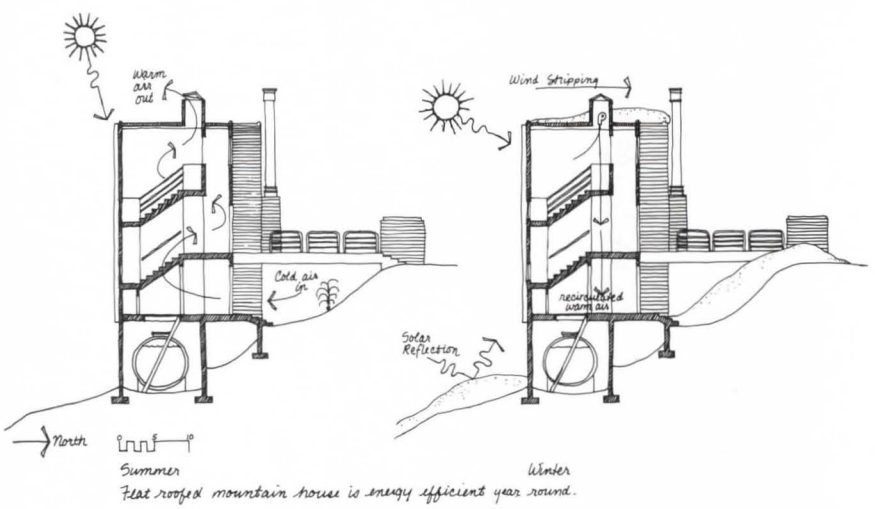
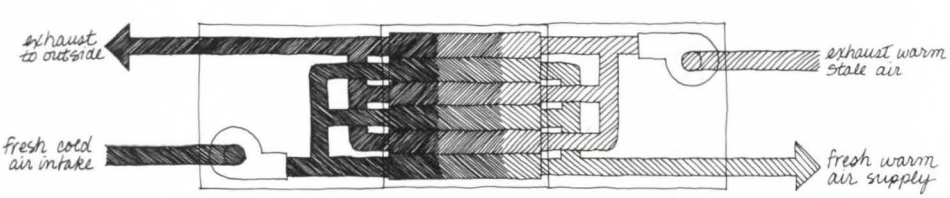


Flat roofed mountain house is energy efficient year round.



Air to air heat exchangers help to avoid indoor air pollution.

Drawings by Jocelyn Bates Helgerson

enough extra heat for a hot tub on the lower deck.

One reason my mountain house (top), is so energy-efficient is that it is well insulated and tightly sealed. Ten years ago, few architects concerned themselves with indoor air pollution because buildings were so porous that outside air infiltrated into them at rates high enough to provide adequate ventilation. Now the drive to conserve energy in the cold country has cut this infiltration to one-tenth or less of what it was.

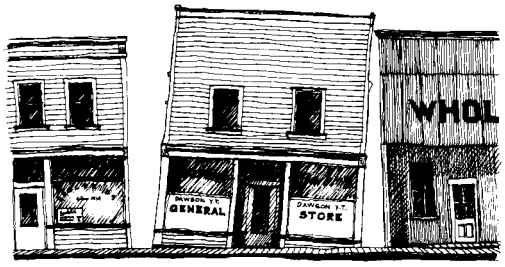
In my mountain house, (drawings above), preheated fresh air is injected whenever the fan circulates the air, but in many buildings constructed recently, the inside air in the winter is 10 to 30 times more polluted than Los Angeles on a smoggy day. Unvented kerosene heaters can be deadly in tightly sealed dwellings. Any burning appliance, such as a stove or fireplace, must have a fresh air source near the combustion and a flue to the outside.

Architects already are concerned over outgassing of formaldehyde from particleboard, plywood, and some foamed insulation. Now we realize that the emission of radon, a product of radium decay, from the stone masonry and concrete may constitute a deadly threat. This is a factor to consider when designing passively heated buildings in the cold country. Building codes must be revised to require sufficient interior air changes, proper venting, and to curtail interior use of toxic materials.

Air-to-air heat exchangers are a promising way to avoid indoor air pollution. They extract heat from air being vented from the building and use it to warm the fresh air being brought in. They are well adapted to places where large volumes of air are needed, such as heated parking garages, or places where makeup air is required, such as in large office buildings where the interior is warmed by the lighting and the office workers themselves. Smaller exchangers can be used domestically. In the cold country, where air is very dry, health problems can arise from the injection of too much untempered outside air. If the interior relative humidity falls below 50 percent, throat and eye irritation occur. To correct this, humidifiers should be added to makeup air in cold climates.

Foundation design depends upon the freeze/thaw cycle. Where there is no underlying permafrost, the architect must insulate all around the building to keep the ground underneath from freezing. When the ground outside the foundations freezes, the entrapped moisture expands, forcing the surface upward. This is particularly true with fine particle soil that contains a great deal of moisture. When the ground thaws, it sinks back. If the ground freezes in the fall and stays frozen until spring, the forces on the foundation are not as great as they are when there is frequent freeze-thaw. One solution is to sink the foundation far enough into stable material that can withstand the freeze-thaw forces. Another is to coat the foundations with a slippery material so that the frozen earth cannot adhere to the building and the ground can rise and fall around it without damage. Where there is no underlying permafrost, foundation insulation should be carried below the active freeze/thaw layer so that heat from the building affects the surrounding ground as little as possible.

Where the surface ground is permanently frozen during winter months and the buildings are constructed on underlying permafrost, it is critical to keep the interior building heat from melting the underlying layer. If the permafrost melts, portions of the building will sink into the mud. In downtown Dawson, a Canadian Yukon town that underwent rapid development during the Klondike gold rush at the turn of the century, one can see what can happen when these principles are ignored. The foundation posts of the hospital must be cut off about every second year to keep the building reasonably level.



Above, melting permafrost can cause building shifts; below right, collapsed building in Redding, Calif,; bottom, a covered road in Houghton, Mich.

The 10-inch-diameter posts that supported a part of the original territorial commissioner's residence (now housing for elderly people) move up and down five inches a year. Settlements of as much as three feet have occurred along the walls of the public school.

In permafrost country, foundation movement can be avoided by elevating the building on stilts driven through the active layer with their bases permanently anchored into the permafrost. Cold air must be permitted free circulation below the structure. If the building is too large for stilts, it can be set on a thick pad of well drained crushed rock through which cold air circulates in large pipes. The pad does not trap water and is not active. It isolates the building from the underlying permafrost.

In Barrow, Alaska, an inflatable dome to be used as a garage was erected without a floor; the permafrost was expected to support the weight of the vehicles. Instead, the heat of the building melted the permafrost and the vehicles sank into the mud. Such air supported structures work better for temporary than for permanent use in the far north.

Construction methods for water and sewage systems also depend on whether the area is underlaid by permanently frozen ground. In permafrost areas, the distribution systems should be constructed above ground on supports frozen into the permafrost. Domestic water should be heated and continuously circulated in insulated chases, called utilidors. Good sources of fresh water are hard to find in the frozen north, and there is no completely satisfactory way to dispose of sewage. Compost toilets can solve the problems of solid wastes; other waste water can be stored in a holding tank, kept from freezing by the heated envelope of the building until the spring thaw.

In areas not underlaid with permafrost, the pipes should be placed in trenches below the active frost line and brought up into the building inside the insulated footing line. Sewage is less likely to freeze than domestic water as it contains water already heated to room temperature, but sewage lines should slope steeply until they reach a disposal site below the frost line.

The areas with the heaviest snowfall or the coldest weather often cope with snow and cold quite well. The snowiest large cities in the U.S. are in Minnesota, Michigan, and upstate New York, where storms come off the Great Lakes. Minneapolis, St. Paul, Calgary, and Edmonton have "skyways" connecting downtown buildings at the second-story level so that people can go about their daily business protected from cold and snow. Toronto and Montreal accomplish the same purpose with underground pedestrian systems. The ski resort of Snowmass, Colo., heats the pavement in its sloping main street, aptly called "Snowmelt Avenue." In Houghton, Mich., with an annual snowfall of more than 200 inches, the city built stout steel roofs over the main street, and even these must be shoveled from time to time.

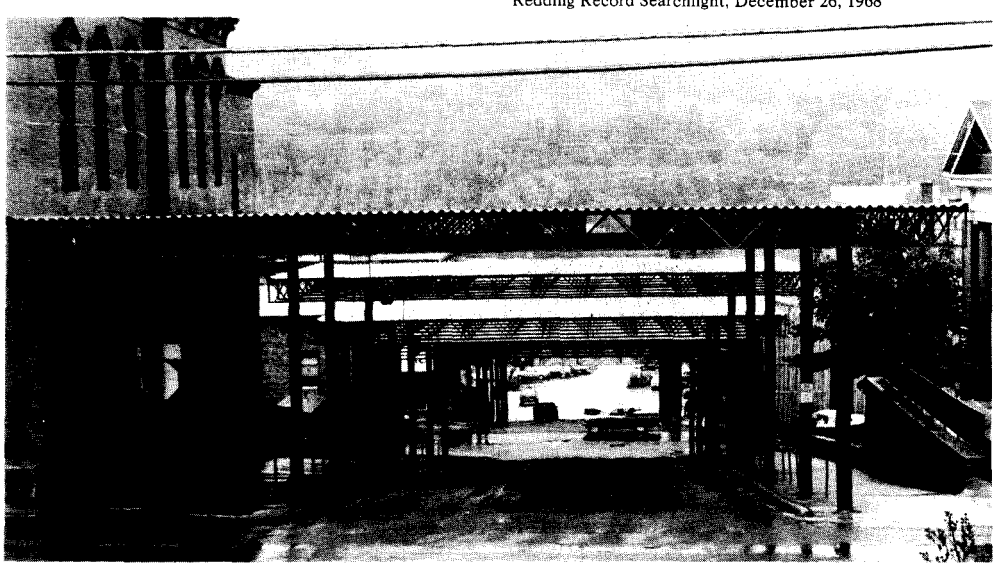
The disasters usually occur in areas where heavy snowfall is not expected. In 1979, a record 88-inch snowfall in northern Illinois resulted in an estimated 37,327 claims of property damage. In Redding, Calif., in 1968, seven long span buildings collapsed and two others were declared unsafe and closed after a 23-inch snowfall was followed by heavy rain. At that time, the snow load on the roofs in Redding was calculated as at least 20 pounds per square foot; the city code required design for only 12 pounds. Even the 1982 ANSI standards show Redding as having a maximum of five pounds ground snow load from a 50-year storm.

The 300x360-foot Hartford, Conn., Civic Center Coliseum collapsed in January 1978 under a snow load variously estimated at from 11 to 18 pounds per square foot, although it was designed to support a snow load of 30 pounds per square foot. Fortunately, the coliseum was empty at the time. It has been suggested that the design and/or construction of the coliseum was faulty, but I feel part of the cause of the collapse came from a lack of recognition in the building codes of how snow loads affect structures, especially highly flexible buildings subject to sizable horizontal forces. This might be called the "inverse pendulum effect," where the weight of the snow on the roof acts under wind or earthquake force to amplify the stress in the structure. The 1982 ANSI standards for earthquakes state that "the authority having jurisdiction may allow the snow load to be reduced up to 75 percent."

Such reductions are common in such places as Redding and Hartford, where heavy snows are uncommon. I suggest this is a dangerous practice, and places of public assembly should be designed for at least 80 percent of the ground snow load; and at least 50 percent of the snow load should be used in computing the lateral force loading. This is an aspect of structural design where more investigation is needed. The next failure of a coliseum may happen when the building is filled to capacity.

None of the codes require a building to withstand a maximum snow load combined with a maximum wind load or with a maximum earthquake load. This may make sense for wind loads on buildings with steeply pitched roofs. Strong winds rarely occur without warning, and the wind itself tends to strip the snow off the roof

Redding Record Searchlight, December 26, 1968



Courtesy of Houghton, Michigan

Eliot W. Goldstein

Above, snow-support structures above Davos, Switzerland, are used to control avalanches. Across page, slopes above Juneau, Alaska, pose a threat in an area subject to both avalanches and earthquakes.

prior to reaching maximum intensity. However, earthquakes cannot be predicted in advance, and the full force of the shock may take place while a large snow load is on the roof.

Sensitivity to the microclimates and weather history of a particular site is vital in the cold country. Zermatt, Switzerland, is a beautiful mountain village that takes full advantage of its special climate. It is at only 5,000 feet elevation, but it is encircled by giant mountains, such as the Matterhorn and the Zinal Rothorn, which shadow the town in the winter except at midday. Although the snowfall in the town itself is not heavy, there is very little solar melting, and air temperatures remain cold in the winter.

The snow sits charmingly on the chalet roofs and the streets. No cars are permitted. Skiers can slide right to their hotel doors, and guests are conveyed to their abode by horse-drawn sleighs.

In contrast to Zermatt, modern towns in mountain settings can be insensitive to environmental factors. Tall buildings can create their own negative microclimates. They can block solar access and shadow streets and parks, making them cold and uninviting. At Snowmass, Colo., the main shopping mall rises three stories high along the south side of a central plaza. Shops with entrances in the shade are not as prosperous as those with entrances in the sun.

Modern cities in the cold country have a problem from the phenomenon known as "aerodynamic shade," created when tall buildings alter wind patterns, sheltering lower roofs from prevailing winds. Unanticipated snow loads can build up on the lower, shadowed structures. Until building codes deal with this special problem, the only solution is to design all buildings for higher snow loads.

Avalanches are a hazard not adequately considered by cities in North America. The typical avalanche slope is a barren, north-facing slope with an angle of 30 to 40 degrees, although avalanches have occurred on hills with all exposures and with slopes from 10 to 60 degrees. Steeper slopes seldom avalanche because the snow slips off before dangerous depths accumulate.

Juneau, Alaska's capital, faces the most severe avalanche danger of any sizable city in the U.S. Major avalanches have swept the west-facing Behrends Chute on Mt. Juneau six times in the past century. Before 1946, there was only one building in the slide path; today there are 30 houses, a 500-boat marina, part of a high school, and a motel.

In 1972, the Borough of Juneau made an extensive study to define the potential avalanche hazard. One expert predicted that a Juneau house under the Behrends Chute has a 96 percent probability of being hit by an avalanche if it stands for 40 years. The study suggested such precautions as monitoring snowfall, developing warning and evacuation systems, controlling the removal of vegetation and reforesting certain areas. The most practical solution is to construct snow support structures high up on Mt. Juneau and on the other high hills above the city. So far, little has been done, and the people of Juneau seem nonchalant about the danger.

The majority of people in Juneau, together with many others who live on avalanche prone sites, appear to feel that the danger is overstated. This is a curious attitude in a nation that has building codes and zoning laws to protect people from their own folly in choosing to live in the paths of floods, over earthquake faults, or in buildings that are firetraps. Unfortunately, the codes probably will not be changed until possibly hundreds are killed by a great avalanche.

The American Planning Association has no reference manual on avalanche ordinances. A survey of 20 states, 165 counties, and 14 municipalities found that only four states, 15 counties, and six municipalities had any sort of avalanche zoning regulations. The models for the avalanche zoning ordinances in Vail, Colo., and in Ketchum, Sun Valley, and Blaine County, Idaho, came from Switzerland, where the national government even provides funds to help communities build snow support structures and diverters to keep avalanches from populated areas.

All of the major building codes in the United States have shortcomings in their treatment of snow loads and the special problems of cold country design. Building Officials and Code Administrators (BOCA) and Southern Building Code Congress (SBCC) have almost identical methods for calculating nonuniform accumulations of snow on pitched, curved, or multispan roofs and increased loads caused by snow sliding off sloping roofs onto adjacent roofs, or by projections such as penthouses, cooling towers, and parapet walls. The codes reflect many of the provisions of the 1972 ANSI standards. At a minimum, these

codes should be upgraded to completely comply with 1982 ANSI standards.

The Uniform Building Code, used throughout the Western states, whose mountain areas have heavy snowfalls, and in Alaska, which has both drifting snow and freezing ground, permits the local building official to determine the snow load. The justification is that snow loads vary too much for a standard requirement to be useful. However, no special training or credentials are required for building officials, and they vary widely in their abilities, knowledge, and judgment. Many mountain counties have adopted their own snow load standards, and it is not uncommon to find snow load requirements in excess of 200 pounds per square foot in one country and 20 pounds per square foot the next.

All of the building codes are inadequate in recognizing the greater fire danger in cold country, where snow may block building exits and make roads impassable for firefighting equipment. Additional building exits should be required, and sprinklers should be mandatory in areas where they would otherwise be one of several fire safety options. In arctic areas, where sprinklers can cause as much damage as fire and where direct egress from buildings is often hazardous, places of refuge with full life support systems should be mandatory.

It is ironic that architects, building officials, and the public as a whole have so neglected the techniques and responsibilities of building in the cold country. Many who live in earthquake zones live in dread of the next big tremor. Winds sweep through the Midwest, killing many and leaving more homeless. Floods cause great suffering and loss of life. Fire is an omnipresent risk. All of these plagues are dealt with by our building codes. But for some reason the hazards and inconvenience of the cold country have received little attention. No standards are set to prevent ice on snow-laden roofs from crashing into public spaces or wrenching chimneys off roof slopes.

No standards have been established to keep vents from becoming closed by snow and ice, sickening or even killing the building occupants. No standards prevent ice dam leaks. The 1982 Uniform Building Code has devoted 96 pages to fire risk and 23 pages to earthquake risk, but only one clause to all cold weather and snow considerations, and this code applies to Western mountains and Alaska.

With more and more people moving into cold climates, where massive amounts of snow can fall in the streets, where cities can be swept by avalanche, where the ground can boil with frost, it is high time we devoted the attention to these hazards that they deserve. The cold country has its special appeal. We architects must help see that the attraction is not fatal. □

Ian Mackinlay

Designing for (and with) the Christian Brothers

A participatory planning process is taken into two stages. By Jim Burns

Peter Aaron ©ESTO

Peter Aaron ©ESTO

Editor's prologue: This article deals with an unusual application of a pre-programming process called Take Part, developed over the past 15 years by Lawrence Halprin, Anna Halprin, Jim Burns, and Dr. Paul Baum (described in Halprin and Burns' 1974 book, Taking Part: A Workshop Approach to Collective Creativity*). The process entails involving people who will use a project (or be otherwise affected by it) in a series of participatory workshops at the very outset of conceptual planning. This application is unusual because the process was applied twice, once at the initiation of the project and again at the beginning of a second stage of development, resulting in modification of the original plans. It is described here by Burns, who was involved in the first workshop for the Halprin firm and conducted the second, and who goes on to evaluate the built results, designed by Marquis Associates.*

For going on 10 years, the students, faculty, parents, administration, and neighbors of a Catholic secondary school in Berkeley, Calif., have been working together to determine changes in the environment of their 12-acre campus. The results that have emerged so far—a brothers' residence, a student center, a central plaza, and basic landscaping and site planning—are the prod-

ucts of experience of mutual creativity between the users of the campus environment and its architects and planners. Quite aside from its physical results, the process has been a learning experience that reflects the philosophy of the Christian Brothers teaching order: helping people to learn how to learn.

As the next elements of the ongoing plan are realized in 1983 and 1984, the Brothers of the Christian Schools (better known to wine lovers as the Christian Brothers) will be celebrating the tercentenary of the founding of their order. St. John Baptist de la Salle, canonized the patron saint of teachers, created the first order devoted to Christian eduction in 1684, and the following year opened the first normal school for training teachers. The brothers thus have been devoted for three centuries to the enrichment of the inner man, through expansion of knowledge and the enjoyment of a good glass of wine.

California members of the Christian Brothers have faithfully followed this admirable tradition. Their winery is known throughout the world. Their devotion to learning and teaching flourishes as abundantly as the grapes in the Napa Valley vineyards—nowhere so robustly as at St. Mary's College High School in Berkeley.

St. Mary's, which will celebrate its own 120th birthday this year, has occupied its lush Peralta Park campus since 1927. In the early 1970s, De La Salle Hall, the old main instructional building, was demolished as a seismic risk, and remaining buildings were undistinguished, inadequate, or "temporary." The situation represented an opportunity to have a look at long-term needs, and to evolve a plan to fulfill them.

At the initial workshop in 1974, students, teachers, administration, parents, and community people began their planning process by exploring the physical and nonphysical qualities of St. Mary's. In an introductory session the various groups were separated according to age, interests, jobs, etc., and then moved slowly about in the gym where the workshop was held, finally reassembling as a single group with one objective. Then people spent an hour in personal tours around the campus, aided by a tour map and individual notebooks in which they transcribed ideas and made sketches. Following this walk they shared their discoveries and ideas back in the gym, then were arbitrarily mixed into small groups for planning activities. First they were asked to prepare a graphic campus plan based on several fantasy scenarios. Example: "An earthquake has demolished St. Mary's and $15,000,000 in emergency aid is available from Washington (remember, this was in 1974). Plan for the future under this situation." Getting people to pick up a magic marker or a pair of scissors and start drawing and cutting is a delicate point in these workshops. Once they start, they enjoy it and get quite active graphically. Fantasy scenarios help break down any initial resistance lay people have on this score.

After each group had presented and described its fantasy plan for St. Mary's, it was time for more pragmatic decision-making. The groups reassembled and were asked to prepare "real-life" graphic plans for the campus on base maps. Once again, they used varied media such as colored markers, magazine cutouts, parsley, cellophane, and Froot-Loops. With the help (but not the qualitative guidance or control) of the professional team, people prepared their plans in close to 1/20 scale to demonstrate their recommendations for the campus. These were then presented and commented on and the workshop conductors offered a summary of the agreements and differences that had emerged. The workshop had taken a full Saturday and more than 80 people had taken part.

When the campus plan was ready it was reviewed with workshop representatives to make sure it reflected what had been proposed, and soon actual work began on several projects. The new brothers' residence was itself the subject of a mini-workshop for residents.

In 1981 Marquis Associates and this writer returned to St. Mary's to involve people in updating and changing the campus plan according to the needs of the '80s. By the professional team's re-involving people in the plan review, testing, and revision, the St. Mary's plan has kept its reponsive and Protean qualities. For consistency and continuity with the 1974 workshop—since all students and many faculty were different—most of the same activities and planning sessions were repeated. By becoming involved in helping to make decisions and changing previous decisions that no longer seemed appropriate, people achieved understanding of their shared environment and the consequences to it of what they proposed.

For the final planning session of the 1981 workshop a take-apart scale model of the campus was provided so that groups could make their plans, test them out in three dimensions on the model, then make any changes or adjustments before presenting their recommendations. Understanding the consequences of their suggestions helped people make proposals that will be implementable in reality. Said one participant: "Both workshops helped me to get beyond mere housing of students and into questions about the relationships between the campus itself and various types of learning, social, and recreational environments." Commenting on user-participation as an aid to professional programming, Marquis associate partner Jim Caldwell comments that "the workshops quickly gave us information for which we

Across page, the brothers' residence. Below, workshop in progress.

Courtesy, Marquis Associates

Courtesy, Marquis Associates

More emphasis on focus than on structure.

otherwise would have worked for weeks, and some of it we would have never discovered, buried as it was in people's personal feelings."

In both workshops, personalities had the opportunity to emerge and interact in a situation different from the school routine or the hierarchy of order and diocese. Students were suddenly on the same level as teachers and the ideas and needs of neighbors and parents had equal weight with those of diocesan representatives. While the evolution of a general plan was paramount, people still were able to protect their own "turf" or promote their own concerns.

Nervous in the first workshop about encroachments on his playing fields, the athletic coach was an active lobbyist. By the second, he still had his playing spaces and was relaxed and affable. A neighboring housewife with complaints about off-campus movement and noise still was not satisfied on these matters by 1981 and let it be known. The science faculty was determined to get better quarters and that became a prime priority in the second workshop.

In 1974 the plan, reflecting expressed wishes for greater focus and connectivity at St. Mary's, called for a covered pedestrian spine between elements of a tightly knitted complex. By 1981, particularly after the completion of the central plaza and student center, the second workshop found this approach too structured and formalized. Instead, elements of the campus now will be grouped around plazas and quads, all spinning around the central plaza or "town square."

St. Mary's brothers' residence, one of the buildings that emerged from the 1974 workshop, rises serenely aslant a hillside overlooking Cordonices Creek, its entrance aimed discreetly and diagonally at the main campus. It is a contemporary evocation of the traditional cloistered residence presenting a somewhat aloof exterior of creamy stucco to the viewer but possessing a richer and more varied interior. The exterior reflects something of the essence of the Marquis Associates style, which frequently achieves its effects through a sedate and delicate manipulation of planes, fenestration, jogs in levels, and subtle color and shadow relationships, rather than by more extroverted and muscular displays. It is an architecuture of understatement, combining elements of the Bay Area style (arches, bays, relationships to the landscape, materials such as wood and tile and stucco) and a sort of West Coast-Corbu style reminiscent of the work of Irving Gill—flat planes punctuated with windows, doors, entryways, and stairwells of various sizes and intensities, with little embellishment or decoration.

The residence has a quality of having been planted sturdily in its landscape for years, almost appearing as the remodeling of an existing building. Such a self-effacing exterior does not vibrate back to the viewer; it is even somewhat boring in its quietude. This quality, however, has the effect of reducing the visual impact of the brothers' residence on the rest of the campus. If it possessed a more monumental aspect, students might have the unnerving sense that "Big Brother" is watching them from his eyrie.

The interior is quite another story. The skylit central atrium (cloister), the common rooms, the chapel, and the dining room (refectory), are all colorful, lively, warm places. The Christian Brothers is by and large a sweet-tempered, gregarious order and these interiors reflect that personality. The central cloister, in particular, is an airy meeting place hung with banners and green with potted trees.

Standing here, one can "read" the other public spaces through the openings and choose whether to enter the commons, retire to the chapel or smaller living rooms, or proceed into the refectory.

The brothers' private rooms (cozy, self-decorated versions of the medieval "cell"), are, as in the classic religious residence, connected with but separate from the more public life of the building. The plan is basically two overlapped squares: a slimmer, three-storied square dovetailed into a lower, broader square with an extension of outbuildings. The higher square contains the private spaces of brothers' rooms and related uses; the lower square contains the cloister and public spaces. All rooms look out onto lawns and woodlands designed to emulate the qualities of a natural California hillside.

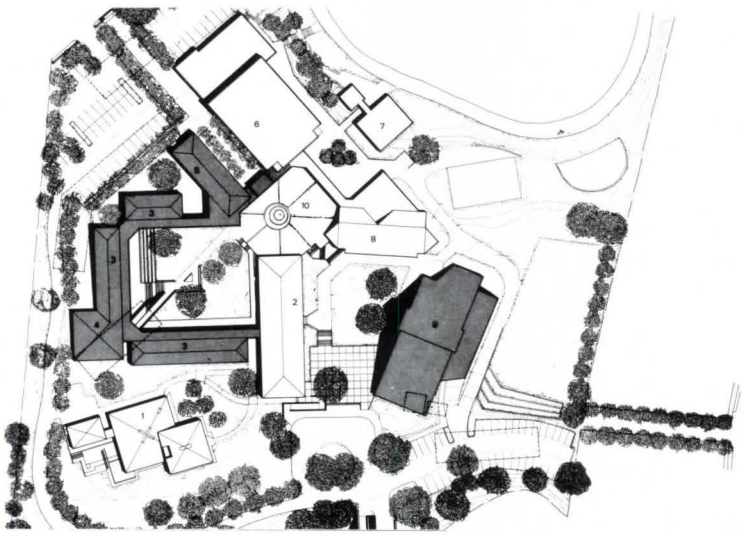
After the demolition of stately old De La Salle Hall, the campus was just a collection of quite ordinary buildings standing around disconsolately in a beautiful natural setting. There was no crux to connect the campus three-dimensionally. Visually, the quasi-WPA-Post-Office quality of St. Joseph's Hall (administration, library, and classrooms) and the faintly moderne touches on the gymnasium were not enough to give the complex sufficient architectural cohesion to bind it together. The recommendations of both planning workshops was to intensify the connectiveness of the campus, either in terms of the built linkages (first workshops) or by articulating new buildings with old ones around major and minor open spaces in a network (second workshop).

The covered pedestrian spine recommended in 1974 was soon set aside when design progressed to the point where people realized that (1) it was not needed in this equable climate and (2) what they sought was a focus, not necessarily a structured system per se. Indeed, keeping as much of the campus in open space as possible has become the watchword. The town square was immediately successful and has been used for outdoor mass, rallies, community events, theatricals, and overflow for big occasions in the student center.

The town square is a small version of a European piazza, with varying topographical approaches: up an angled sweep of stairs from the auto turnaround below; down a slope through an arcade from the playing fields; on grade from student parking areas; and through grassy knolls from classrooms. Every 45 minutes during the school day, and all during lunch hours or sports and public events, this space is transformed by vigorous rushing activity in all directions, with here and there a pool of quiet where people relax over a snack or stop for a chat. Students have added a vivid high-tech design note to the scene by chaining their bikes to the arcade grilles connecting the student center to the gym. This is the sort of thing that makes architects cringe and is erased from their official building photos. It actually adds a lot of interest, color, and vivacity—people and things becoming vibrant accretions to the designed environment. Slightly off-center in the plaza is a Cor-Ten cross atop a stone platform much used by noon-time loungers. The radiating pattern of the plaza reflects abstractly the generally diagonal movement of people making their ways to class, to sports, or to events in the student center.

Like the exterior of the brothers' residence, the outward appearance of the student center-cafeteria (and its arcade connection to the old gym) is non-demonstrative and architectur-

Across page, the cafeteria/student center during a workshop. Above, steps from main square. Bottom, the square. Master plan shows (1) brothers' residence, (2) St. Joseph's Hall, (3) classrooms, (4) library, (5) laboratories, (6) and (7) physical education, (8) cafeteria/center, (9) performing arts, (10) square. Shaded buildings are projected future additions.

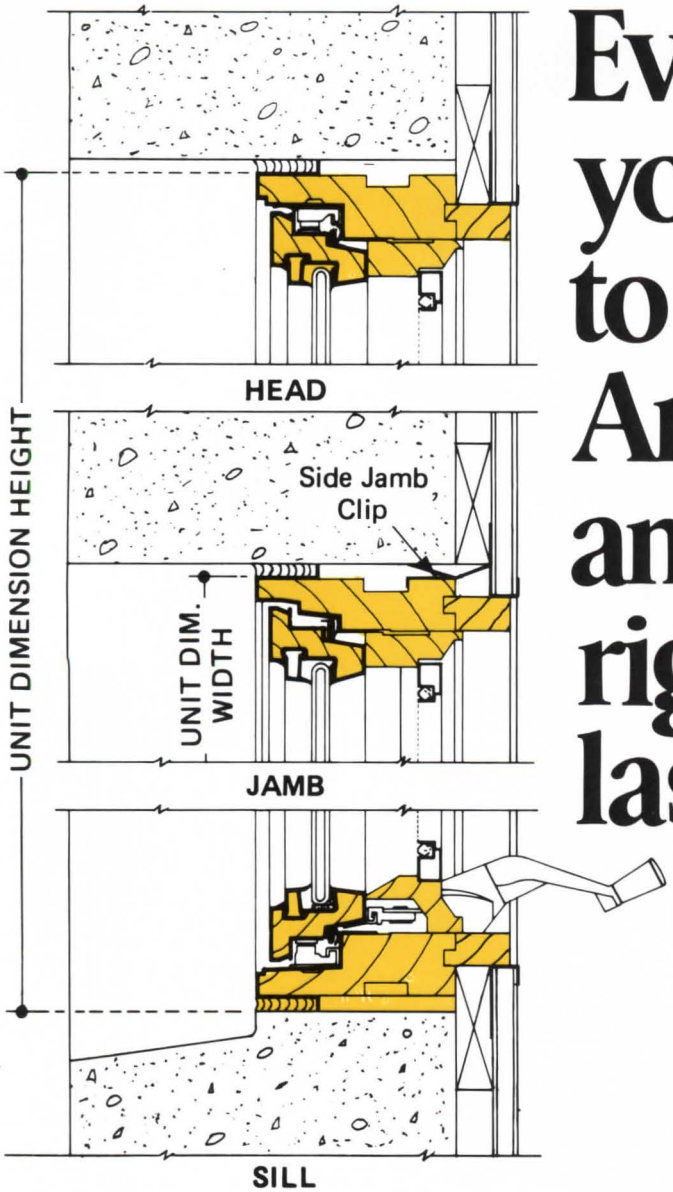


Peter Aaron ©ESTO

ally unconceited. The materials bespeak the regional vernacular of tile, stucco, and metal grilles. The sweeping roof of the center is its announcement that it is a special building on campus. The sole dramatic exterior effect is an eccentrically shaped window punched into a canted slice of wall above the entrance off the town square. Classrooms and studios opening off grade on the lower level are quite unprepossessing. This rectitude of the exterior allows it to become an agreeable partner to St. Joseph's Hall and the gym, with their differing styles.

Again, as in the brothers' residence, the highlight of the student center is its interior. It is essentially a great hall used for dining and special events. Food service and rest rooms are on the north edge; some are shared with the adjacent gym and sports areas. A wall at the east end provides a background for theatricals and music, and shelters what was intended as a faculty room. The sound quality here proved overresonant, and it now serves mainly as a general-purpose room for events.

Chief structure and adornment of the student center interior is a lively system of exposed wooden cross-beam trusses that creates a kinetic sculpture overhead as people move about in the space. A series of wide rectangular openings at the lower southern edge of the slanting roof provides a shallow gallery where people can eat, meet, or study slightly withdrawn from, but still part of, the communal activities in the main space. The squared-off openings recall the arcade to the gym, and this motif occurs also in the brothers' residence. A bank of windows along this side looks down into the main entry circle and will eventually have a view of the proposed performing arts complex. □



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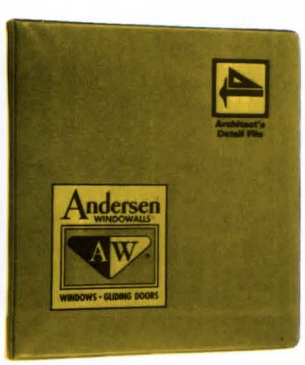

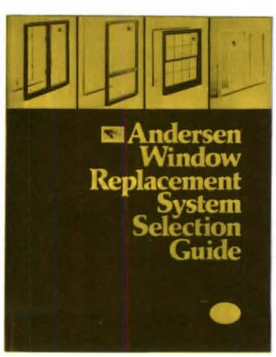

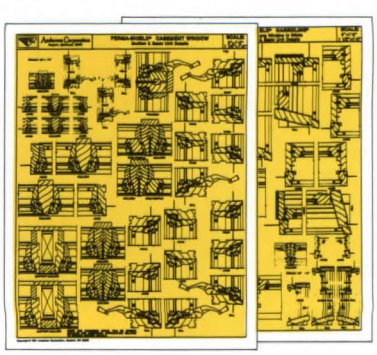

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DENVER — Boise Cascade Corp. — (303 629-1629)
DENVER — Rocky Mountain Millwork Corp. — (303 373-0210)

CONNECTICUT
NORTH HAVEN — Brockway Smith Company — (203 239-1603)
ROCKY HILL — Cleary Millwork Co. — (203 721-0520)

DELAWARE
BEAR — C.-E. Morgan Distribution — (302 322-1227)

FLORIDA
CLEARWATER — Huttig Sash & Door Company — (813 446-2141)
FORT MYERS — Huttig Sash & Door Company — (813 332-2424)
JACKSONVILLE — Huttig Sash & Door Company — (904 786-1622)
ORLANDO — Huttig Sash & Door Company — (305 295-9020)
RIVIERA BEACH — The Weiler-Wilhelm Window & Door Company -(305 845-1555)

GEORGIA
ATLANTA — Addison Corp. — (404 355-0520)
AUGUSTA — Addison Corp. — (404 790-1280)
MACON — Huttig Sash & Door Company, — (912 742-4594)

IDAHO
BOISE — Chandler Corporation, — (208 375-5050)

ILLINOIS
DECATUR — C-E Morgan Sash & Door Co. — (217 877-4621)
PEORIA — Wahlfeld's — (309 673-4421)
ROCK ISLAND — Rock Island Millwork Company — (309 788-0421)
SKOKIE — EHLCO Wholesale Distribution Center — (312 761-6600)
WEST CHICAGO — Wahlfeld's — (312 293-1000)

INDIANA
GOSHEN — Goshen Sash & Door Co. — (219 533-1146)
INDIANAPOLIS — Midland Sash & Door Inc. — (317 637-3381)
TERRE HAUTE — Associated Door & Plywood Co. — (812 232-1371)

IOWA
CEDAR RAPIDS — Rock Island Millwork Company — (319 365-6904)
DES MOINES — Rock Island Millwork Company — (515 265-6071)
DUBUQUE — Rock Island Millwork Company — (319 588-0551)
MASON CITY — Mason City Millwork Co., Inc. — (515 423-2822)
SIOUX CITY — Jordan Millwork Company — (712 258-7554)
WATERLOO — Rock Island Millwork Co. — (319 233-3331)

KANSAS
LENEXA (Kansas City) — C-E Morgan Distribution — (913 888-5900)
WICHITA — Rock Island Millwork Co. — (316 264-8375)
WICHITA — Rounds & Porter Co. — (316 262-1421)

KENTUCKY
LEXINGTON — Combs Company — (606 254-3321)
LOUISVILLE — Allied Sash & Door Inc. — (502 361-8481)
LOUISVILLE — Huttig Sash & Door Co. — (502 491-4560)

LOUISIANA
ALEXANDRIA — Davidson Louisiana, Inc. — (318 442-1355)
BATON ROUGE — Davidson Louisiana, Inc. — (504 387-6746)
HOUMA — Davidson Louisiana, Inc. — (504 879-2313)
KENNER — Davidson Louisiana Inc. — (504 466-4558)
LAFAYETTE — Davidson Louisiana, Inc. — (318 234-6373)
LAKE CHARLES — Davidson Louisiana, Inc. — (318 439-8393)
MONROE — Davidson Louisiana, Inc. — (318 323-2273)

MAINE
PORTLAND — Brockway Smith Company — (207 774-6201)

MARYLAND
BALTIMORE — Iron City Sash & Door Co. — (301 796-7766)
BARCLAY — Delmarva Sash & Door Co. — (301 438-3102)

MASSACHUSETTS
ANDOVER (Boston) — Brockway Smith Company — (617 475-7100)
EAST LONGMEADOW — Brockway Smith Company — (413 525-3377)
SPRINGFIELD — Martin Lumber Company — (413 788-9634)

MICHIGAN
BIRCH RUN — Morgan Sash and Door Co. — (517 624-9383)
GRAND RAPIDS — Grand Rapids Sash & Door Co. — (616 784-1500)
HOLT (Lansing) — Grand Rapids Sash & Door Co. — (517 694-2108)
SCHOOLCRAFT (Kalamazoo) — Grand Rapids Sash & Door Co. — (616 679-5205)
TRAVERSE CITY — Grand Rapids Sash & Door Co. — (616 947-5420)
WIXOM (Detroit) — Kimball & Russell, Inc. — (313 624-7000)

MINNESOTA
DULUTH — The Radford Company — (218 624-3654)
MINNEAPOLIS — Independent Millwork Inc. — (612 425-6600)
ST. PAUL — Pacific Mutual Door Company — (612 631-2211)

MISSOURI
CAPE GIRARDEAU — Associated Building Centers Inc. — (314 335-8231)
HAZELWOOD (St. Louis) — Chromalloy Building Products Div. — (314 731-1401)
KANSAS CITY — Pacific Mutual Door Company — (816 531-0161)
MARYLAND HEIGHTS (St. Louis) — St. Louis Millwork Company — (314 872-8724)
ST. JOSEPH — Associated Building Centers, Inc. — (816 232-7744)
SPRINGFIELD — Toombs & Company — (417 862-9377)

MONTANA
BILLINGS — Boise-Cascade Corp. — (406 652-3250)

MONTANA
GREAT FALLS — Lumber Yard Supply Co. — (406 453-0356)
MILES CITY — Richland Lumber Co. — (406 232-1345)
MISSOULA — Exchange Lumber Co. — (406 549-5121)

NEBRASKA
OMAHA — The Radford Company — (402 341-0774)
OMAHA — Jordan Millwork Co. — (402 334-7660)
SCOTTSBLUFF — Huttig Sash & Door Co. — (308 436-2151)

NEW JERSEY
ALLENDALE — Black Millwork Co. — (201 934-0100)
RIDGEFIELD — Whittier-Ruhle Millwork Co. — (201 943-6600)
WOODBURY HEIGHTS — Middle Atlantic Millwork Co. — (609 848-8000)

NEW MEXICO
SANTA FE — Santa Fe Lumber & Millwork Inc. — (505 471-9022)

NEW YORK
ALBANY — Dorsey Millwork Inc. — (518 489-2542)
ALBANY — Iroquois Industries, Inc. — (518 436-9631)
BUFFALO — Iroquois Industries, Inc. — (716 856-8144)
DEER PARK (Long Island) — Sturtevant Millwork Corporation — (516 667-6700)
RIDGEWOOD (Long Island) — Hussey-Williams Co. — (212 381-2500)
SYRACUSE — Iroquois Industries, Inc. — (315 455-2491)
VESTAL — Middle Atlantic Millwork Co. — (607 797-1288)
VICTOR (Rochester) — Iron City Sash & Door Company — (716 924-3201)

NORTH CAROLINA
CHARLOTTE — Huttig Sash & Door Company — (704 332-1503)
KERNERSVILLE — Huttig Sash & Door Company — (919 996-5221)
ROCKY MOUNT — Huttig Sash & Door Company — (919 446-2446)

NORTH DAKOTA
BISMARCK — The Radford Company — (701 223-5890)
FARGO — The Radford Company — (701 282-7200)

OHIO
CANTON — Iron City Sash & Door Company — (216 478-1461)
CINCINNATI — Acme Sash & Door Company — (513 242-4400)
COLUMBUS — Huttig Sash & Door Company — (614 486-4367)
DAYTON — Dayton Sash & Door Company — (513 224-0626)
NORTH LIMA (Youngstown) — Iron City Sash & Door Company — (216 549-9801)
TOLEDO — Allen A. Smith Co. — (419 537-1373)
VALLEY CITY (Cleveland) — Weiler-Wilhelm Window and Door Co. — (216 225-9500)

OKLAHOMA
OKLAHOMA CITY — Huttig Sash & Door Company — (405 524-7636)
TULSA — Mid-West Mill & Supply Co. — (918 747-2000)
TULSA — General Sash & Door Co. — (918 622-3131)

OREGON
BEAVERTON — Savage Wholesale Bldg. Materials, Inc. — (503 643-8505)
WILSONVILLE (Portland) — Sequoia Supply — (503 682-2822)

PENNSYLVANIA
ALLENTOWN — Reeb Millwork Corp. — (215 770-0700)
CARLISLE — Middle Atlantic Millwork Co. — (717 243-5656)
MECHANICSBURG — C-E Morgan Distribution — (717 697-0346)
MONTOURSVILLE — C-E Morgan Distribution — (717 368-2656)
NORTH HUNTINGDON (Pittsburgh) — Shuster's Building Components — (412 863-4018)
SANDY LAKE — Iron City Sash & Door Co. — (412 376-7415)
WILKES-BARRE — C-E Morgan Distribution — (717 824-8781)
WINDBER (Johnstown) — Iron City Sash & Door Co. — (814 467-4571)

SOUTH CAROLINA
GREENVILLE — Addison Corporation — (803 277-9123)
WEST COLUMBIA — C-E Morgan Distribution — (803 791-5634)

SOUTH DAKOTA
ABERDEEN — Jordan Millwork Company — (605 225-1310)
SIOUX FALLS — Jordan Millwork Company — (605 336-1910)
WATERTOWN — Jordan Millwork Company — (605 886-5801)

TENNESSEE
KINGSPORT — Holston Builders Supply — (615 247-8131)
MEMPHIS — Memphis Sash & Door Co. — (901 363-6040)
NASHVILLE — Wholesale Building Products — (615 259-4222)

TEXAS
AUSTIN — Davidson Texas, Inc. — (512 444-6701)
DALLAS — Huttig Sash and Door Company — (214 247-8161)
HOUSTON — Davidson Texas, Inc. — (713 462-7171)
HOUSTON — Huttig Sash & Door Company — (713 680-3217)
LUBBOCK — Dea Window & Door Co. — (806 763-7078)
LUBBOCK — Lubbock Sash & Door Co. — (806 763-7695)

UTAH
SALT LAKE CITY — Diehl Lumber Products — (801 972-8300)

VIRGINIA
ALEXANDRIA (Washington, D.C.) — C-E Morgan Distribution — (703 370-5740)
FREDERICKSBURG — Huttig Sash & Door Co. — (703 371-1710)
PORTSMOUTH — C-E Morgan Distribution — (804 393-4036)
ROANOKE — Huttig Sash & Door Co. — (703 344-6201)

WASHINGTON
SPOKANE — Exchange Lumber & Mfg. Co. — (509 487-1621)
TACOMA — Savage Wholesale Building Materials — (206 383-1727)

WEST VIRGINIA
NITRO (Charleston) — Appalachian Sash & Door Co. — (304 755-8251)

WISCONSIN
LACROSSE — The Radford Company — (608 781-2280)
MADISON — The Radford Company — (608 222-8240)
MILWAUKEE — Western Moulding Co., Inc. — (414 258-4686)
OSHKOSH — The Radford Company — (414 231-4880)

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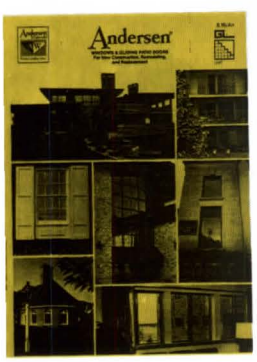


Circle 42 on information card

AIA Directory 1983

As reported in previous issues of the JOURNAL, in 1981 the Institute's board of directors approved restructuring the organization into three separate entities: AIA, AIA Service Corporation, and AIA Foundation.

Professional membership programs and related activities are now the province of AIA, which is a nonprofit membership corporation. David Olan Meeker Jr., FAIA, is AIA's chief executive officer who oversees the staff and is chairman of the AIA executive management committee.

Group executive for program management is James A. Scheeler, FAIA, whose office coordinates departments dealing directly with architectural practice and communicating AIA programs and policies to members, components, and the public.

Susan Allen heads the office of institute affairs, which is responsible for membership affairs, award programs, and international relations. Alan B. Stover, AIA, is legal counsel to the Institute and its related corporations. Fred N. DeLuca is controller.

The convention/conferences/special events department is headed by Francis X. Brown, and is responsible for organizing and conducting the annual convention, numerous conferences, and special events. Muriel Campaglia heads the communications department, which is responsible for public relations, special events promotion, and *MEMO*.

Michael Barker heads the design department, which disseminates design information to architects through publications and urges clients to demand quality design. James E. Ellison, AIA, heads the education and professional development department, which is concerned with all phases of public and professional education on the built environment. Joseph Crane is in charge of government affairs, which is the Institute's liaison with federal, state, and local governments. The member/component affairs department is headed by Elizabeth Prewitt Chalmers. Robert T. Packard, AIA, heads the practice division, which provides contracts, technical books, and manuals, along with financial management, liability insurance, project delivery, personnel, programming, computer applications, and energy programs.

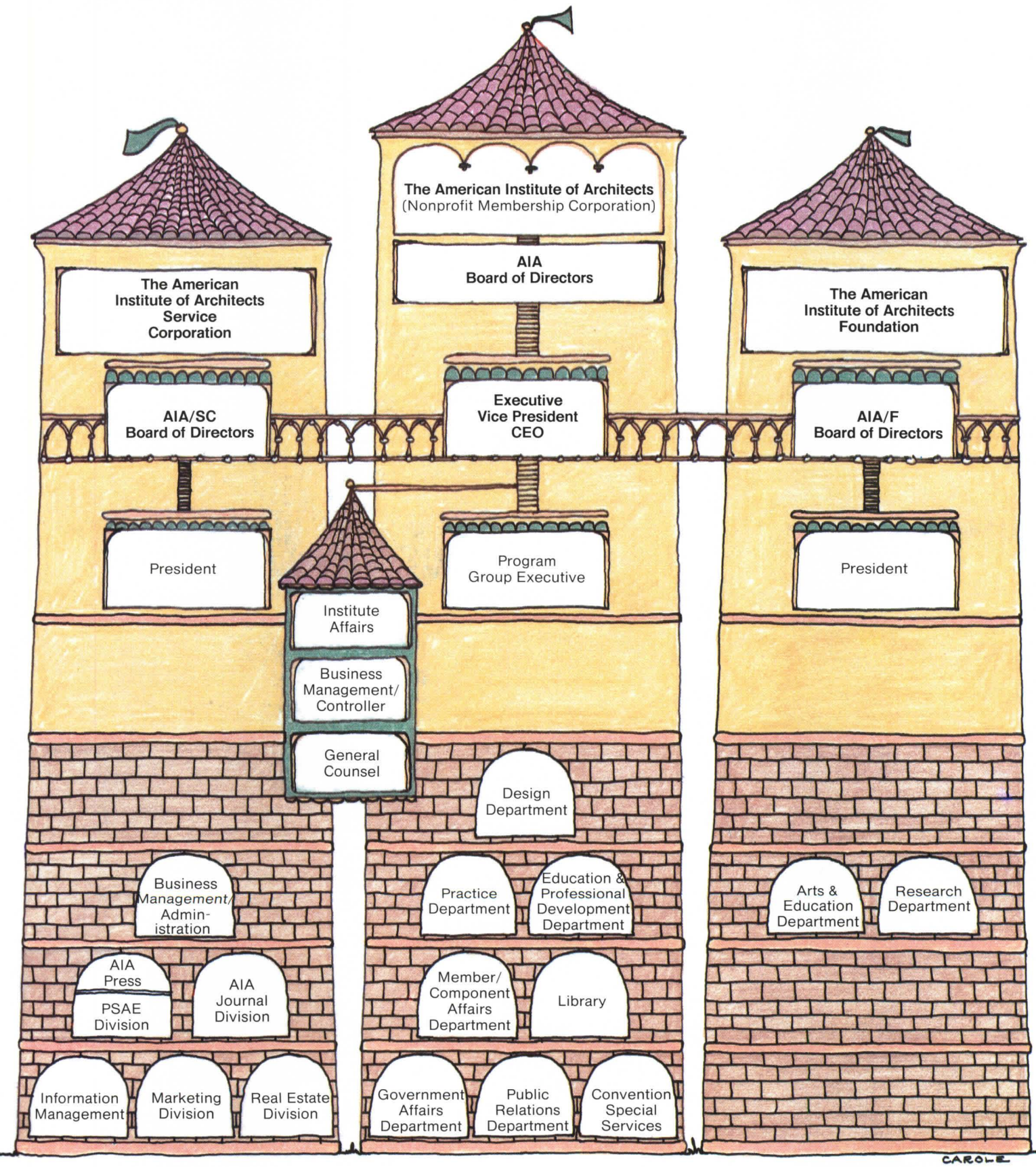
All business and for-profit ventures come under the AIA Service Corporation. James P. Cramer, as president and chief executive officer, presides at all meetings of stockholders and directors, has general and active management of all business activities, ensures implementation of all board resolutions and orders, and executes other corporate activities.

C. Christopher Kelly is business management executive, responsible for financial management and administration. John H. Schruben, FAIA, is operations executive. Robert Petterson is acting administrator of production systems for architects and engineers. PSAE develops, produces, and operates production systems that comprise systemized approaches to design, production, construction, and office management. Donald Canty heads the AIA JOURNAL and is responsible for its editorial content. David Godfrey, general manager of the AIA Press, oversees all publications of the Institute. Anna Nunez heads the marketing division, which conducts research and market analysis. The real estate division is in charge of managing headquarters and the Institute's other properties. Ronald Panciera heads the administrative services division.

The AIA Foundation is comprized of charitable, educational, scientific, and research activities of the Institute. Charles R. Ince Jr. is president and oversees all its activities. Earle Kennett heads the research division, which focuses on issues of national significance affecting the built environment. The arts and education division is headed by Susan Stein, which manages the Octagon, provides scholarships, administers research projects, establishes awards, manages the prints and drawings collection, and sponsors publications.

On the following pages are found phone numbers for contacting several staff members, floor plans of the Institute, and a look at some new AIA publications.

LYNN NESMITH AND MICHAEL J. CROSBIE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Service
Corporation
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Foundation
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Business
Management/
Administration
Practice
Department
Education &
Professional
Development
Department
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Education
Department
Research
Department
AIA
Press
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AIA
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Component
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Department
Library
Information
Management
Marketing
Division
Real Estate
Division
Government
Affairs
Department
Public
Relations
Department
Convention
Special
Services
CAROLE

Whom to Call For What

The following is a key word index, a quick reference for finding the AIA or affiliated organization staff member who can answer your questions. Telephone numbers begin with 626 unless noted. The area code is 202. AIA's hotline is (202) 626-7554.

Subject	Staff	Telephone
Accounting Office	Ronald J. Panciera	7325
Accreditation of Architectural Schools	Karen Bradbury	783-2007
A/E Selection, National	Philip Croessmann	7503
A/E Selection, State	Sharon Currens	7385
Affirmative Action	Beverly Sanchez, AIA	7434
Aging, Design for	Professional Interest Programs	7364
AIA	David O. Meeker Jr., FAIA	7310
AIA Foundation		
President	Charles R. Ince Jr.	7513
Arts and Education	Susan R. Stein	638-3105
Endowment Campaign	Suzanne Martin	638-3105
The Octagon	Joanna H. Wos	638-3105
Prints and Drawings Collection	Sherry C. Birk	7571
Research	Earle Kennett	7500
AIA Journal		
Circulation	Brenda Owens	7327
Editor in Chief	Donald Canty	7477
Production Manager	Jesse Sims	7484
Publisher	Michael J. Hanley	7470
AIA Political Action Committee	Stanley Kolbe	7379
AIA Press	David Godfrey	7450
AIA Service Corporation		
President	James P. Cramer	7441
Business Management	C. Christopher Kelly	7443
Marketing	Anna Marie Nunez	7300
Operations	John H. Schruben, FAIA	7369
Architect Liability Committee	William Hooper, AIA	7532
Architects in Education	Beverly Sanchez, AIA	7434
Architects in Government	Beverly Sanchez, AIA	7434
Architects in Industry	Beverly Sanchez, AIA	7434
Architectural Graphics Standards	William Miner, AIA	7570
Architectural Secretaries Association		7405
Architectural Study Tours	Syed Ali	7397
Architectural Training Lab	Suzon Loomis	7356
Archives, Institute	Tony P. Wrenn	7496
Arts and Recreation Architecture for the,	Professional Interest Programs	7364
Association of Architectural Librarians	Stephanie Byrnes	7494
Association of Collegiate Schools of Architecture	Richard McCommons, AIA	785-2324
Association of Student Chapters	Robert Klancher	7472
	Christine Vina	7472
Audio Tape Cassettes	Publication Fulfillment	7332
Audiovisual Material	Sheryl Romeo	7595
Awards Program	Maria Murray, Hon. AIA	7390
Baldwin Memorial Archives	Library	7493
Barrier-Free Architecture	Henry J. Lawrence	7456
Bibliographies	Library	7493
Board of Directors	Susan Allen	7549
Building Energy Performance	David C. Bullen, AIA	7448
Business Management		
AIA	Fred DeLuca	7322
AIA/SC	C. Christopher Kelly	7443
Bylaws	Susan Allen	7549
Catering Services	Shelly Getchell	7398
CFMS	Leonard Bain, AIA	7446
Change of Address	Tom Ainsworth	7335
Chapter Awards Program	Yina A. Moore	7349
Clearinghouse of State Legislation	Sharon Currens	7385
Codes and Standards	Joel Vicars III	7566
College of Fellows	Syed Ali	7397
Committee on Federal Procurement of A/E Services (COFPAES)	Philip Croessmann	7503
Committees, AIA	Susan Allen	7549
Community Design Center Program	John Gaillard	7363
Competitions, Architectural	John Gaillard	7363
Component Affairs	Elizabeth Chalmers	7387
Chapter/State	Rose Mohan	7376
Component Public Relations Assistance	Mary Wells Vickery	7467
Computers in Architecture	William Hooper, AIA	7532
Congressional Liaison	Stanley Kolbe	7379
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Contracts and Forms		
Interpretations	Dale Ellickson, AIA	7440
	Douglas DuCharme, AIA	7309
Orders/Sales	Terry Longood	7485
Controller	Fred DeLuca	7322
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Copyright (AIA Documents)	Douglas DuCharme, AIA	7309
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Interpretations	Douglas DuCharme, AIA	7309
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Emblem of the Institute	Susan Allen	7549
Energy Committee	David C. Bullen, AIA	7448
Energy/Government	Mary Ann Eichenberger	7382

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Energy Professional Development Program	Donald (Chip) Levy	7458
Environmental Education	Alan R. Sandler	7573
Environmental Policies	John Gaillard	7363
Equal Employment Opportunity	Sheila Neary	7324
Ethics	Susan Allen	7549
Executive Committee	Susan Allen	7549
Executive Vice President	David O. Meeker Jr., FAIA	7310
Exhibitions, AIA/F	Susan R. Stein	638-3105
Federalism Initiatives	Mary Jo Malone	7556
Film Sales/Loans	Library	7493
Financial Management	William Hooper, AIA	7532
General Counsel	Alan B. Stover, AIA	7388
Government Affairs		
National	Joseph Crane	7374
Research	Brian Cook	7375
	Amy Kezerian	7507
	James Frye	7508
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MASTERSPEC Review Committee	Douglas DuCharme, AIA	7309
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Media Relations		
National	Ray Rhinehart	7463
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Meetings (at headquarters)	Shelly Getchell	7398
Membership Application	Maureen Marx, Hon. AIA	7392
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Minority/Disadvantaged Scholarships	Yina A. Moore	7349
National Architectural Accrediting Board	John Wilson-Jeronimo	783-2007
National Council of Architectural Registration Boards (NCARB)	Samuel T. Balen, FAIA	783-6500
National Organization for Minority Architects	Beverly Sanchez, AIA	7434
Octagon House	Joanna Wos	638-3105
Pension Programs	Fred DeLuca	7322
Personnel Office	Sheila Neary	7324
Political Action Committee	Stanley Kolbe	7379
Practice Department	Robert Packard, AIA	7454
Practice Management	William Hooper, AIA	7532
Preservation Programs	Professional Interest Programs	7364
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PSAE	Robert L. Petterson	7565
Public Education	Alan R. Sandler	7573
Public Policy	Mary Jo Malone	7556
Public Relations	Muriel Campaglia, Hon. AIA	7459
Public Relations Awareness Network	Mary Wells Vickery	7467
Publications Distribution	Terry L. Longood	7485
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Purchasing Department	Janice Young	7331
Quality Urban Environment Study Team (QUEST)	John Gaillard	7363
Regional/Urban Design Assistance Teams (R/UDAT)	John Gaillard	7363
Registration		
NCARB	Samuel T. Balen, FAIA	783-6500
State Laws	Sharon Currens	7385
Research Division	Earle Kennett	7500
Resolutions, Convention	Susan Allen	7549
Rules of the Board	Susan Allen	7549
Scholarship Programs	Yina A. Moore	7349
Schools of Architecture	Yina A. Moore	7349
(ACSA)	Richard McCommons, AIA	785-2324
Social Events	Shelly Getchell	7398
Solar Energy	John R. Hoke Jr., AIA	7588
Speakers Bureau	Kathleen Knepp	7377
Specifications	Robert L. Petterson	7565
State Government Affairs	Sharon Currens	7385
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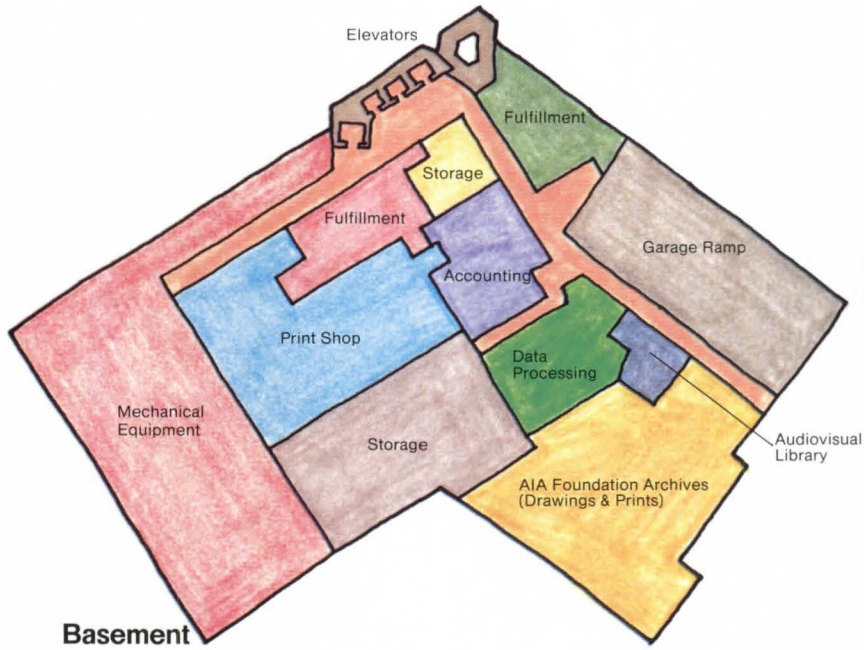
Student Affairs	Robert Klancher	7472
Supplementary Education Program	Cameron Tucker, AIA	7454
Switchboard	Hilda Gasch	7300
Tax Incentives	Stanley Kolbe	7379
Technical Committee	Robert Packard, AIA	7454
Urban Design and Planning	John Gaillard	7363
Word Processing	Linda Lambrecht	7430
Women in Architecture	Beverly Sanchez, AIA	7434

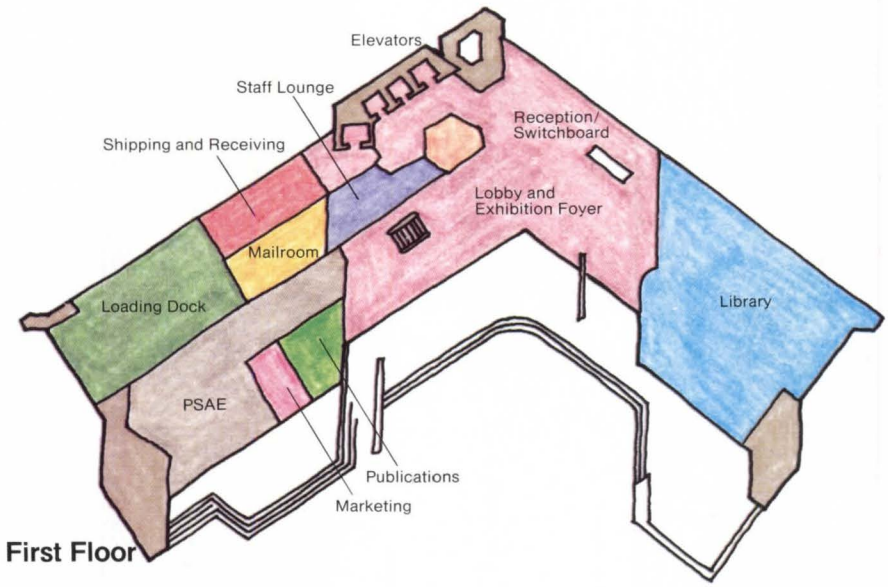
Headquarters

These floor plans show the location of the various divisions of the Institute, as reincorporated into three separate entities: AIA, AIA Service Corporation, and the AIA Foundation. According to James P. Cramer, Service Corporation president, the new plan reflects a more logical positioning of services in the building, clustering the departments of each corporation in closer proximity to one another. By grouping like functions, services should be enhanced and made more "information efficient."

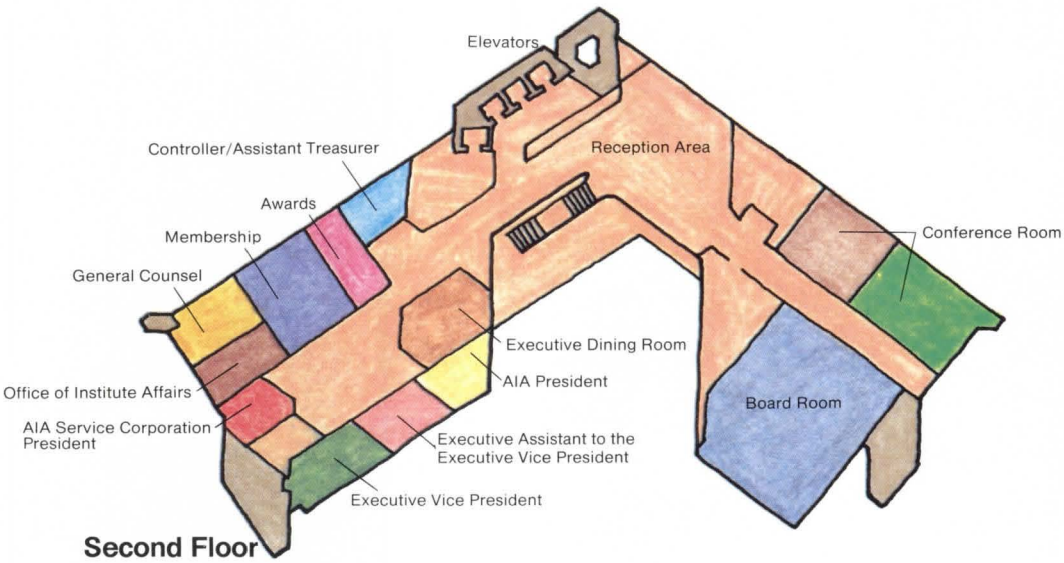
Along with PSAE, publications sales is now located on the ground floor for greater public access. The proximity of the mail room to publications was suggested in the 1982 long range plan. AIA membership services are concentrated on the third floor, service corporation and foundation functions on the fourth.

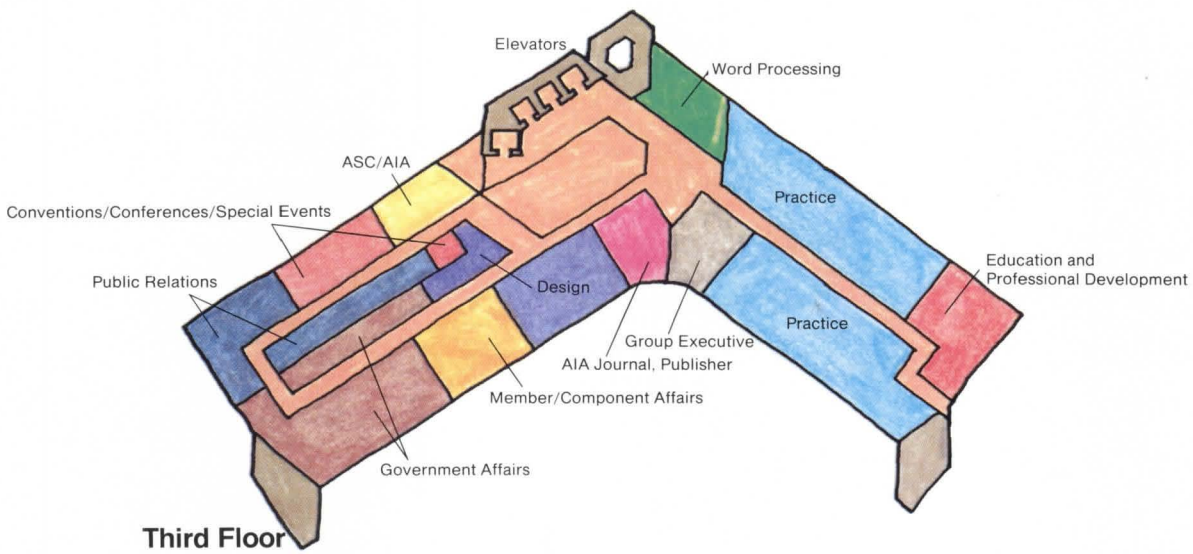


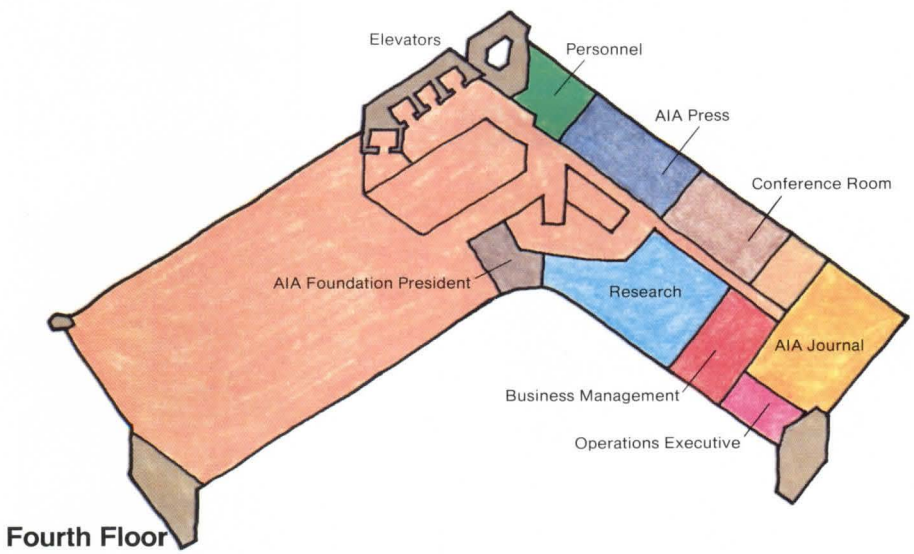
Basement



First Floor

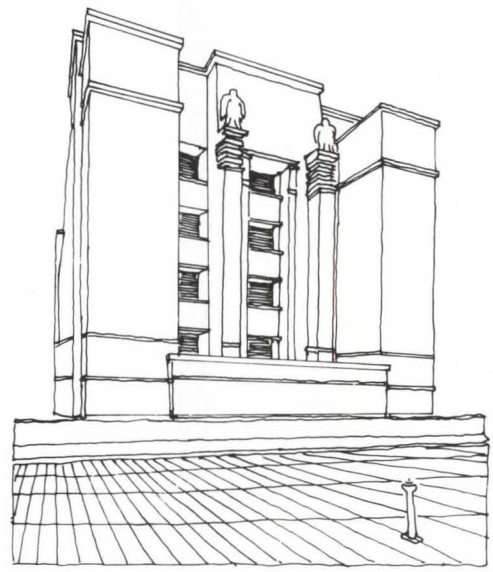

Elevators
Controller/Assistant Treasurer
Reception Area
Awards
Membership
Conference Room
General Counsel
Executive Dining Room
AIA President
Office of Institute Affairs
Board Room
AIA Service Corporation President
Executive Assistant to the Executive Vice President
Executive Vice President
Second Floor


Elevators
Word Processing
ASC/AIA
Practice
Conventions/Conferences/Special Events
Education and Professional Development
Public Relations
Design
Practice
Group Executive
AIA Journal, Publisher
Member/Component Affairs
Government Affairs
Third Floor


Elevators
Personnel
AIA Press
Conference Room
AIA Foundation President
Research
AIA Journal
Business Management
Operations Executive
Fourth Floor

Recent Institute Emissions

Since last April, when the JOURNAL reviewed publications available from the Institute, a number of new ones have appeared. All the publications below can be ordered from AIA's publication sales division headed by Kathleen Davis at Institute headquarters.



Revised Version of Level 2 Energy Design Workbook

A revised edition of *Energy in Design: Techniques,* level 2 workbook of the AIA energy professional development program, has appeared. The 1981 edition was reviewed in last year's Directory (see April '82, page 88). The 1982 edition is unchanged in concept but incorporates a number of revisions. The mechanical systems section has been expanded, reference charts have been updated, and a simplified energy estimator (SEE) has been added. Also new is an order form for local climatological data summaries, which offer climatic information on 75 locations around the U.S. (Price: $75 for members and nonmembers.)

The drawing above, from *Energy in Design: Techniques,* is of Frank Lloyd Wright's long demolished Larkin Building in Buffalo, one of the first buildings of the 20th century to attempt total environmental control.

Architectural Accounting Practices 'in Plain English'

The latest edition of *Standardized Accounting for Architects,* by Robert F. Mattox, FAIA, has just been published. In comparison to its 1978 predecessor this edition is organized with greater clarity, explaining the intricacies of architectural office accounting in plain English.

The book's purpose is to introduce firms to the basic concepts of accounting and to some of the forms they will need to establish an accounting system. It will be valuable to new firms setting up initial accounting practices and informative to accountants who work for architects in understanding the specific needs of an architectural firm.

A companion volume to *Financial Management for Architects*—which gives a general overview and perspective of accounting for architects—this new edition gives more detail about procedures, forms, and preparation of financial reports.

The first chapter identifies the three players in architectural office accounting: the architect as financial manager, the accountant, and the bookkeeper. It outlines the responsibilities of each and how their functions interrelate.

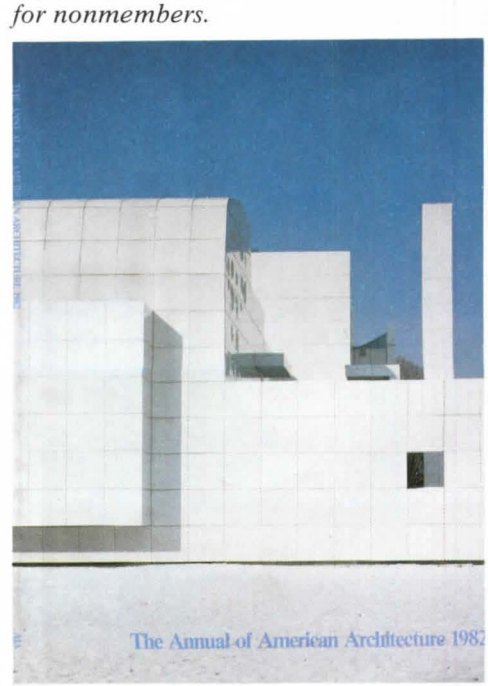
The second chapter presents an overview of common accounting and bookkeeping practices: cash versus accrual accounting; single-entry versus double-entry bookkeeping; and general ledger versus project accounting. There is also a section on legal organization of the firm.

The following chapters consider the management of payroll, project cost accounting, cash receipts and disbursements, billing, and financial statements. Each chapter contains blank forms that can be used directly by the practitioner.

Chapter 8 is specifically geared to the architect just starting a practice, giving a condensed version of points outlined in previous chapters and a checklist of actions to be taken en route to a more established accounting system.

A case study follows (which takes up nearly half of the book) illustrating how the accounting principles presented are implemented in everyday practice. The

Since 1980 the Institute has published hardbound editions of the JOURNAL'S Annual of American Architecture. *The 1982 edition is available for $24 to members, $30 to nonmembers. All three editions are available in a limited edition slipcase for $64 to members and $79.75 for nonmembers.*



financial transactions of a hypothetical six-person firm are documented by the use of charts, records, and forms in a prescribed fashion.

The remainder of the volume includes appendices, an afterword, glossary, annotated bibliography, and index. (Price: $44 members, $54.95 nonmembers.)

A Second Set of Six Monographs on Energy Design

The Institute currently offers a dozen monographs in its *Architect's Handbook of Energy Practice* series, covering predesign, design, analysis, and practice reference material, with an annotated bibliography, index, and several case studies of energy-efficient buildings.

Six of the monographs have been reviewed in the JOURNAL (see April '82, page 89). They include "Climate and Site"; "Shading and Sun Control"; "Daylighting"; "Building Envelope"; "HVAC Systems"; and "Active Solar Systems." Described below are the six new monographs published since then.

- "Thermal Transfer Through the Envelope" considers how certain design strategies can affect a building's energy consumption. Contributing factors are the building's basic form, the heat conductance of materials, and the amount of time for heat transfer to occur. A method of thermal analysis is presented, with a sample problem worked out.
- "Photovoltaics" addresses the major components of the PV system, the economic feasibility of which is enhanced as research continues. The monograph reviews major elements of photovoltaic systems and describes a typical system in operation. The subsystems of power conditioning and control and storage are also examined. There is also a comparison of different PV systems.
- "Energy Analysis" discusses the factors and calculations involved in analyzing a building's energy consumption. Consideration is given to internal and external effects contributing to both heat gain and loss, including internal heat gains, solar gains, infiltration, and building envelope heat transmission. Also described is energy use associated with the operating loads from lighting, equipment, and domestic hot water. The monograph concludes with charts and data for analyzing energy use.
- "Economic Analysis" examines techniques for computing the life cycle costs and benefits of a building design as well as for determining which of two or more design alternatives is most economical. Ways of calculating the rate of return on investment for design strategies are also included, as are other techniques for determining the economic advantage of one design over another. The monograph is loaded with charts and tables.

Andrew Kramer, AIA

The North Campus of the Community College of Denver, by John D. Anderson Associates, uses 35,000 square feet of solar panels. From "Climate and Site." Architect's Handbook of Energy Practice.

- "Passive Heating and Cooling" presents methods of passive heating through solar collection, solar storage, direct gain systems, indirect gain systems, and isolated gain systems. Passive cooling techniques covered include direct, indirect, and isolated cooling. There are ample charts and technical data.
- "Simplified Energy Evaluation Technique (SEE)" offers a graphic tool to determine a building's energy use in the schematic and design development phases of a project. The monograph is actually a workbook in form. A design for a Minneapolis office building is used as an example with the SEE graphic technique applied step by step. The monograph is filled with blank forms and graphs that are intended for use by the practitioner.

All 12 monographs are available for $170 to members and $205 to nonmembers.

Compensation Management Advice for the Small Firm

As a companion volume to the fourth publication in AIA's financial management series, *Compensation Guidelines for Architectural and Engineering Services,* the Institute has just published *Compensation Management: A Guideline for Small Firms,* by Peter Piven, FAIA. This 25-page book is tailored to the small firm with questions about cost-based compensation.

The book outlines an eight-step process of determining compensation and suggestions on managing this process. The eight steps include: confirming the project scope; identifying services needed; estimating time to complete services; calculating costs; estimating reimbursable expenses; determining method of compensation; negotiating the agreement; and monitoring project progress.

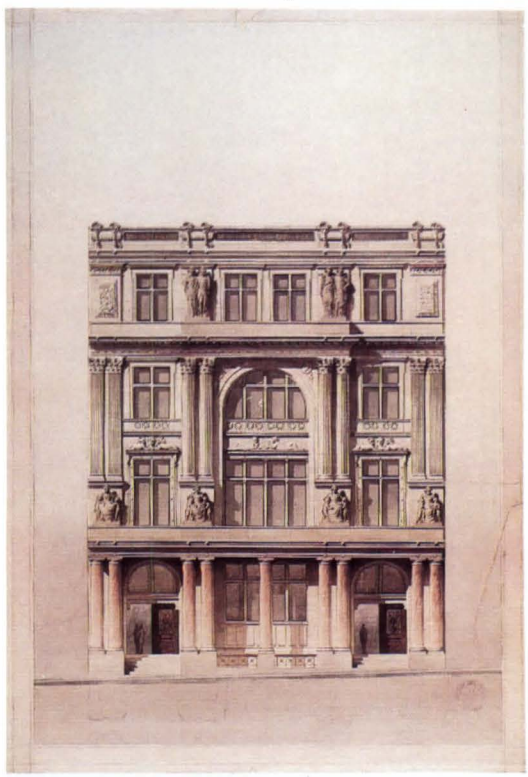
The book is not to be interpreted, the author warns, as a method of compensation, but rather as a guide for determining "what is to be done, how long it will take and how much it will cost."

The book takes the practitioner through the eight-step process, explaining the intricacies of each and giving examples of how they can be applied. The extensive section on "Step 6. Determine the Method of Compensation" offers 10 questions the architect might ask to determine the compensation method most suitable.

Twelve methods of compensation are then described, with the advantages and disadvantages of each, and the context for which each is best suited. The book also includes sample forms, compensation worksheets, and a phase/service matrix.

The last section presents a case study involving Mac Apple—the proprietor of a small architectural firm—who uses the eight steps outlined. There is also a glossary and bibliography. (Price: $12 members, $15 nonmembers.) M.J.C.

Below, a poster featuring Richard Morris Hunt's design of the New York Stock Exchange is one of a series published by the AIA Foundation to benefit its endowment campaign. (Price: $20, half of which is tax deductible.)



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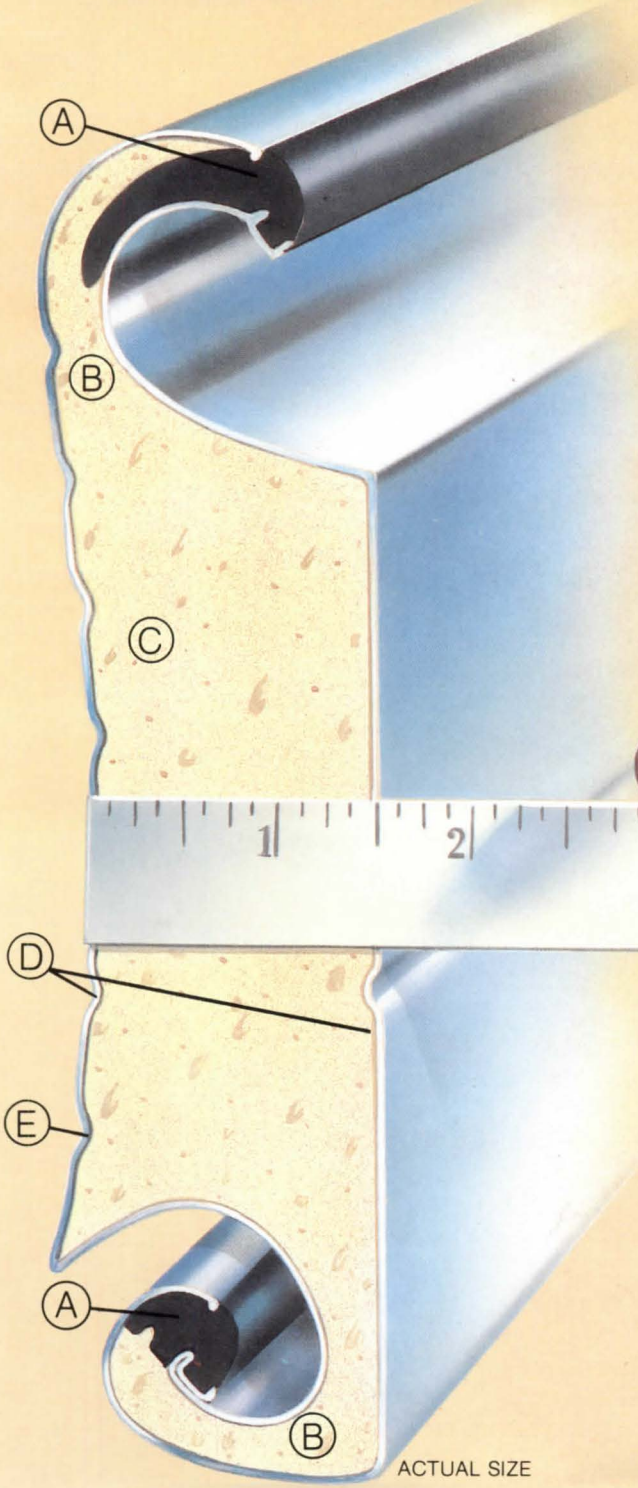

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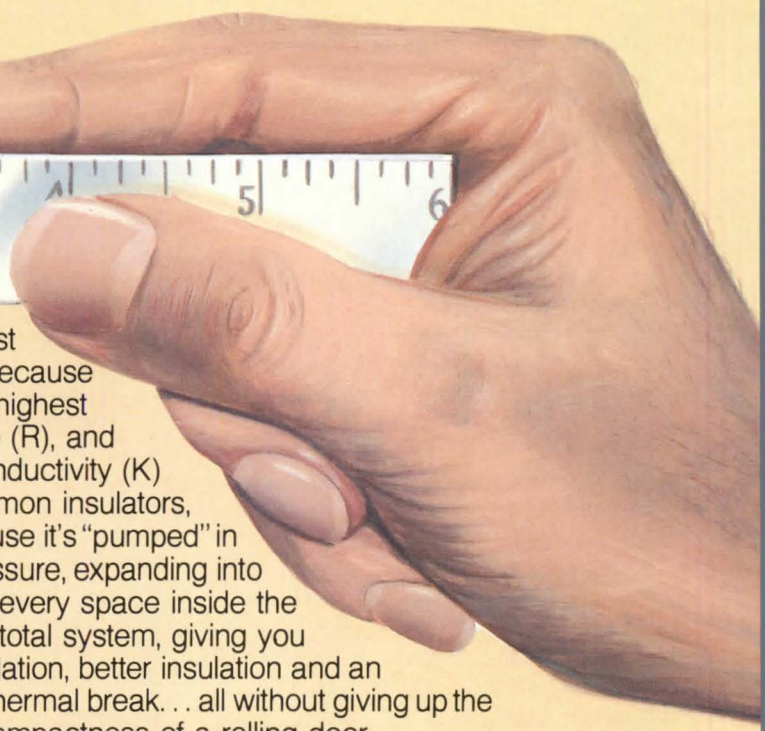

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BOOKS

'Personal, Fallible' Guide To Boston's Architecture

The City Observed: Boston. A Guide to the Architecture of the Hub. Donlyn Lyndon. Photography by Alice Wingwall. (Vintage Books, $7.95.)

It's just as true of architectural guidebooks as it is of novels that the point of view from which the tale is told is all-important. Most guidebooks are written from the viewpoint of some bureaucratic all-seeing, all-knowing eye, well-informed, but lacking in personality. They're like architectural photographs in which there isn't any foreground element to stand as a surrogate for ourselves, the viewers. It's the great virtue of this new guide to Boston, by Donlyn Lyndon, FAIA, the syllabic palindrome who formerly headed the architecture department at the Massachusetts Institute of Technology and now teaches at Berkeley, that the author's presence and voice are in every paragraph.

Even the photographs, by Alice Wingwall, Lyndon's wife, record the buildings as seen by a personal and fallible eye, rather than as reimagined by the perfecting techniques of the Platonic architectural photographer. All views are from the public sidewalk where you and I might stand, without even much correction of converging verticals. Donlyn's prose is eye-level, too, keeping us constantly in touch with the human observer.

Of Back Bay houses he writes: "They were built ... in a time and place where the pleasures of being inside (and the imagining thereof from outside) were thought to be primary. The architecture of these houses is based on forms that you can imagine being in." Of a 1925 loft building: "If I were commissioned to design a nice little three-story commercial building, this is just what I'd like to do: streetscape Regency. ... It deserves an affluent ballet school for its tenant."

Lyndon's willingness to be himself, complete with fantasies, is the virtue of this book. Another strength is its depth of research. It also has a useful pictorial glossary of architectural terms, as well as a less satisfactory thumbnail history of Boston and its architects.

Shortcomings include the fact that there aren't nearly enough photographs. Fewer than half the buildings are shown. Many times Lyndon's text makes you want to check a photo that isn't here. And the scope is too sharply limited to only the central area of the city, leaving out much marvelous architecture in the streetcar

neighborhoods and suburbs, such as Cambridge. Lyndon can be wordy, and he tilts toward architects with an MIT connection, but that's perhaps part of being a real person instead of a bureaucracy. Within its self-imposed limitations, this book is without peer for Boston, and people will be mining it for its pithy characterizations of individuals for decades to come. ROBERT CAMPBELL

Mr. Campbell, who practices architecture in Cambridge, Mass., is also a writer and critic.

H. H. Richardson: Complete Architectural Works. Jeffrey Karl Ochsner. (MIT Press $50.)

Henry Hobson Richardson (1838-1886) has held the unquestioned position of one of America's greatest architects for about a hundred years. Yet there have been only three major studies of his work and, until now, no complete catalog. Almost immediately after his death, Marianna Griswold Van Rensselaer's monograph appeared (1888; reprint edition, Dover, 1969), based on her knowledge of Richardson, his work, and the material in his office books. This became the main source for later research. Henry-Russell Hitchcock's *The Architecture of H. H. Richardson and His Times* was published in 1926, along with an exhibition at the Museum of Modern Art in New York City. Almost 50 years later, James F. O'Gorman's *H. H. Richardson and His Office* accompanied an exhibition of the architect's drawings at Harvard on the centennial of Richardson's move from New York City to Brookline in 1874. This was enriched by access to drawings given by the successor firm of Shepley, Bulfinch, Richardson & Abbot to the Houghton Library at Harvard and by O'Gorman's analytic skills.

On the basis of all this, and years of his own research that included visits (and photographs) at all structures and sites, Jeffrey Karl Ochsner has brought to life an exemplary *catalogue raisonné.* It is richly illustrated with a descriptive text dealing for each building or project with: the client, how the commission was received, the history of design construction (plus alteration, demolition, collaborators), an architectural description, and the architectural/historical significance. These categories, suggested by O'Gorman, make for a clarity in the body of Richardson's work that is further aided by photographs of plans, sections, elevations, buildings then and now, details, and interiors when possible. In addition, both textual references and "miscellaneous sources" are listed in chronological order. For a great architect with some 135 buildings and projects to his credit in 20 years of practice, the material is welcome, if overdue.

A very model of a catalog is this, invaluable for an architect's library and an architecture buff's delight. The dust jacket (above) is worthy of framing: The front

continued on page 78

shows Richardson's watercolor longitudinal section of Trinity Church, Boston, better known today for its reflection in Pei's mirrored walls; the back has the plan of the same building as published in *American Architect and Building News,* Feb. 3, 1877. The book within continues to be a satisfaction from both the esthetic and the scholarly point of view. About time. SARA HOLMES BOUTELLE

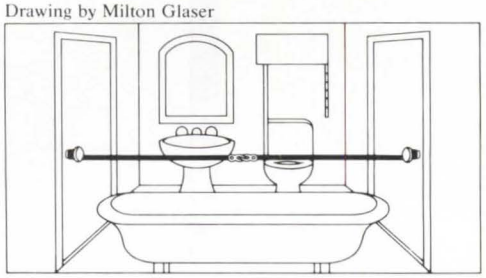
Ms. Boutelle is director/founder of the Julia Morgan Association and author of a forthcoming book on Julia Morgan.

By Design: Why There Are No Locks on the Bathroom Doors in the Hotel Louis XIV and Other Subject Lessons. Ralph Caplan. (St. Martin's Press, $16.95.)

This delightfully witty and edifying book is about design—"for people who couldn't care less"—to inform them that design greatly affects all our lives. Even a McDonald's hamburger is designed according to market research, facility planning, and all the rest involved in making a product profitable. Don't go away, architects, for the book is also for those who think "design is everything," although Caplan continues, saying, "Designers won't save the world, but the design process can help make it worth saving."

In a chatty way, telling stories, quoting from letters to the editor, philosophers,

Drawing by Milton Glaser



novelists, art critics, and an array of other sources, including designers themselves, Caplan explores the many facets of design from the design elements in the CBS evening news to office furniture and equipment to hotel architecture to public restrooms, to mass transit. He extols the "superior" design of the egg, the paperclip, the clothespin, the safety pin, but deplores many other things, such as chairs that don't take one's lumbar region into account. He emphasizes the design process, reminding us that "we must learn to make the resources of technology yield objects we can respect and love, objects designed for use and affection rather than sales and acceptance." Design, he says, "which is now directed largely to superficial ends, is appropriate to our most significant human activities and belongs to them."

He concludes with a most rewarding chapter on Charles Eames, who was not a "typical" designer, but one whose career "passed through and assimilated the stages of industrial design itself: product to environment to communication to situation." Caplan finds the Eames office a great source of insight into the design process at work in a beneficial manner.

And where does that long subtitle come from, the reader may ask. Well, the drawing at left is of a "private bath" in the Hotel Louis XIV in Quebec. The bathroom is private only to the degree that it is shared by someone in the adjoining room. No locks are on the doors, but each doorknob has a three-and-a-half-foot length of leather thong equipped with a hook. The bathroom user links the hooks together to hold both doors shut, making it impossible to get back into one's room without at the same time unlocking the door for the occupant of the connecting room. "It is total integration of object and circumstance," Caplan says.

The Architectural Heritage of the Roanoke Valley. W. L. Whitwell and Lee W. Winborne. Selected photographs by Judith Farb. (University of Virginia Press, $14.95.)

It seems hard to believe that any part of the Commonwealth of Virginia's architectural heritage has not been thoroughly investigated and published, but Roanoke Valley in southwest Virginia has been neglected. The authors of this study, who

continued on page 80

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Books *from page 78*
have spent five years in vigorous research to make amends for this lack of appreciation, say that the neglect has probably been due to the "dearth of enormous, ornate mansions." Nonetheless, as the book reveals, there is a great and interesting variety in architectural forms and styles. To be sure, social historians, say the authors, have dealt "overgenerously" in treatment of the valley. The intent here, however, is to avoid glamorization and to reveal the valley as "a homey place to live."

W. L. Whitwell, a professor at Hollins College in Roanoke County, and Lee W. Winborne, a resident of the city of Roanoke, describe the settlement of the region in the 19th century by Scotch-Irish and German people, discussing the first log cabins and other early structures. They then go on in their survey of the valley's architecture into the 20th century. They present an array of photographs, all captioned to give location and date and, in most instances, pertinent information as to architectural style. Of particular interest are the I-form houses commonly found in the area, with their central halls and equal-size rooms on either side.

The authors of this book, which will interest architectural historians, say that Roanoke Valley architecture is "seldom trendy" and innately conservative. As a result, "few architects have made their mark on the valley." Nonetheless, the architecture described and depicted reveals that there are worthy landmarks and that the buildings in this area of Virginia parallel the nation's architectural history.

Energy-Efficient Products and Systems: A Comparative Catalog for Architects and Engineers. Energyworks, Inc. (Wiley, $125.)

The 1983 edition of this work is a loose-leaf catalog that surely weighs more than five pounds. It is intended for use by decision makers who must select or recommend energy-efficient products and systems for installation. The catalog is a version of a products information file developed from many sources by Energyworks, Inc., a consulting and construction management firm in West Newton, Mass.

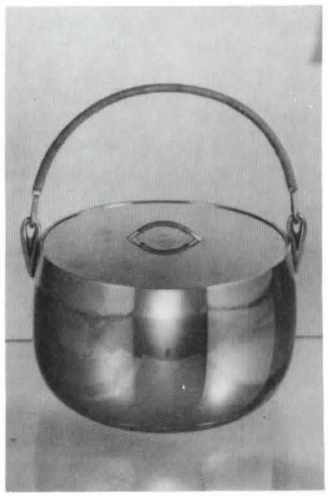
As is explained, the catalog is more than a collection of products literature; it has a comparative format of products by different manufacturers. In the nearly 1,000 pages of this first edition, there are entries for about 400 products from 260 manufacturers. The sheets concerning each product are divided into four sections: the building envelope; mechanical systems; domestic and process hot water; and electrical systems. Within the sections, products are grouped by broad classifications of generic product types. Data supplied by the manufacturers give technical specifications, such as thermal properties, materials, fire resistance, actuation/tracking, codes/standards/certification, etc.

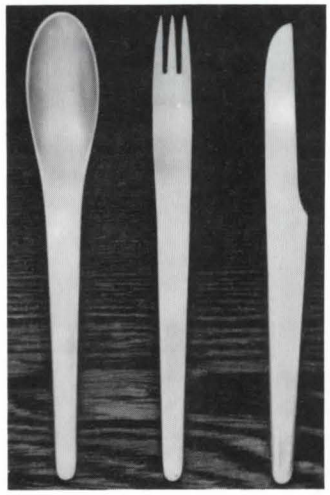
Product description information includes such items as general function, standard features, installation requirements, and maintenance recommendations. Each entry in the new edition supplies also generic product type and descriptive subcategory; brand name identification; manufacturer contact person, address, and telephone number; manufacturer's code; outline number; Construction Specifications Institute's five-digit code; and Alpha-numeric system of pagination.

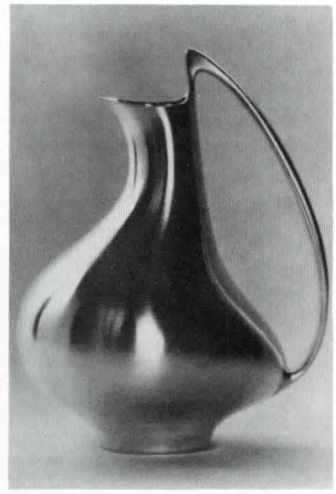
With all this information before the user, comparisons can be made among various energy efficient products. The catalog is offered as a subscription service, with updates provided every six months to two years, thus keeping the catalog current. Energyworks, Inc., says the aim of the catalog is "to increase the ability of the design and construction professional to efficiently access timely, accurate, and comprehensive product information during the design process."

Scandinavian Modern Design: 1880-1980. Edited by David McFadden. (Abrams, $45.)

This superbly and lavishly illustrated volume, published in cooperation with the Cooper-Hewitt Museum, is a testament to the vibrant design of Scandinavia. The retrospective survey of the design histories of Denmark, Finland, Iceland, Norway, and Sweden contains 13 essays by scholars and critics who discuss the remarkable esthetic contributions of Scandinavia. To the text are added photographs (right), of more than 340 artistic creations, varying from pots in earthenware to bowls of beaten silver. There is also a vast array of glimmering jewelry, sculptural furniture, wool tapestries, glassware and tableware, embroideries, lamps. All reveal the modern world's debt to Scandinavia. The book is published in conjunction with an exhibit of the same title, organized by the Cooper-Hewitt Museum.







William Talman: Maverick Architect. John Harris. (Allen & Unwin, 9 Winchester Terrace, Winchester, Mass. 01890, $21.95 hardbound, $9.95 paperbound.)

John Harris, curator of the Royal Institute of British Architects' drawing collection and historian of 17th and 18th century British architecture, has written a monograph of 54 pages on William Talman (1650-1719), the leading country house architect of his time and comptroller of the Royal Works under William III, serving under Sir Christopher Wren. Harris says his brief book is not "the proper memorial" to Talman, who really deserves a work "on the scale of those dedicated to Vanbrugh and Hawksmoor." It is strange that very little research has been done on Talman either as a person or as an architect, for he "meddled in more country houses than all of his chief contemporaries put together."

Talman's large and elaborate houses of mixed Italian and French baroque characteristics bear the imprint of his idiosyncracies, awarding him, says Harris, "the epithet of maverick." Greatly influential, Talman was an "idea man." And for 20 years, "almost every architect of consequence inherited something from Talman. . . ." Architectural historians are surely indebted to Harris for this monograph, written in a fashion that is interesting for the modern reader.

The book contains notes, a list of Talman's documented and attributed works, and a select bibliography (only six publications). At the book's conclusion are 90 plates, showing some of the Talmanic designs of architecture and lavish gardens. □

Practice *from page 28*
attorney Ronald Grais. Cohen says that SOM's plan has several aspects that range from "ill conceived to awful," such as building a deck over Lake Shore Drive and the plan's "suburban sprawl," which Cohen sees as inappropriate for an urban context.

The alternative plan covers the same site, except for some park area, with a series of large-scale urban spaces defined by long, continuous, demountable buildings made of industrialized parts. Cohen views the function of this plan as making the public aware of an alternative before the SOM scheme becomes finalized. He said that the plan was presented to the Chicago Architectural Club and drew some positive response.

DEATHS

Ronald E. Childress, AIA: A 34-year-old Knoxville, Tenn., preservationist, Mr. Childress was a partner in Childress & Associates and Format Photography, a photography/graphic arts firm. He was also founder and past president of the Knoxville Heritage, which worked to preserve the city's historic buildings. He had been assistant professor of architecture at Tennessee since 1979, and an officer in the East Tennessee/AIA chapter. Mr. Childress died unexpectedly Dec. 1.

Fred S. Toguchi, AIA: A principal in the firm of Toguchi & Associates, Mr. Toguchi was the designer of many civic buildings throughout the Cleveland area including schools, libraries, and dormitories. Born in 1922 in Stockton, Calif., Mr. Toguchi attended the University of California at Berkeley and received an associate degree in 1942. He completed his studies at Washington University in St. Louis, receiving his professional degree in 1945.

He was a partner in the firm of Outcalt, Guenther, Rode, Toguchi, & Bonebreak from 1958 until 1962 when he opened his own office. He also served in a number of civic posts. Mr. Toguchi died Oct. 13 while visiting Japan.

BRIEFS

Real Estate Development Conference.
"Architects and Real Estate Development" will explore the economic opportunities of a design/development practice. Seven architects will present case studies of development projects. The conference, sponsored by the California Council/AIA, will be held May 13-14 at the Monterey Conference Center, Monterey, Calif. For more information, contact CC/AIA, 1414 K St., Suite 320, Sacramento, Calif. 95814.

Student Competition Winner.
The Royal Institute of British Architects has announced that Alan McGuinn, a student at the University of North Carolina at Charlotte, has received a first runner-up award in its 1982 student competition for his design to rehabilitate and convert a fire station in Asheville, N.C.

Design Competition.
The Evanston Art Center is sponsoring a design competition, Evanston 2063, open to all architects, urban designers, and artists. Projects should illustrate the American city of the future, using Evanston's fountain square area in the city's bicentennial year, 2063. An application fee of $18 is due by April 1. For information, write Evanston 2063, Evanston Art Center, 2603 Sheridan Road, Evanston, Ill. 60201.

Architectural Tour in France.
The Boston Architectural Center is sponsoring a 15-day tour of France, May 20-June 3. The itinerary will include architectural sites in Normandy, Burgundy, and Chateau, as well as Paris, Versailles, and Chartres. The cost will be $1,250 per person, *including* air fair. A reservation deposit of $200 is due by March 15. Contact Leon Bailey, BAC Tour Committee, 320 Newbury St., Boston, Mass. 02115.

Los Angeles Architect Honored.
The Construction Industries Alliance on behalf of the City of Hope National Medical Center has presented their "spirit of life" award to Alan Rosen, AIA, of Los Angeles, for his "major contribution to his profession and to his community." □

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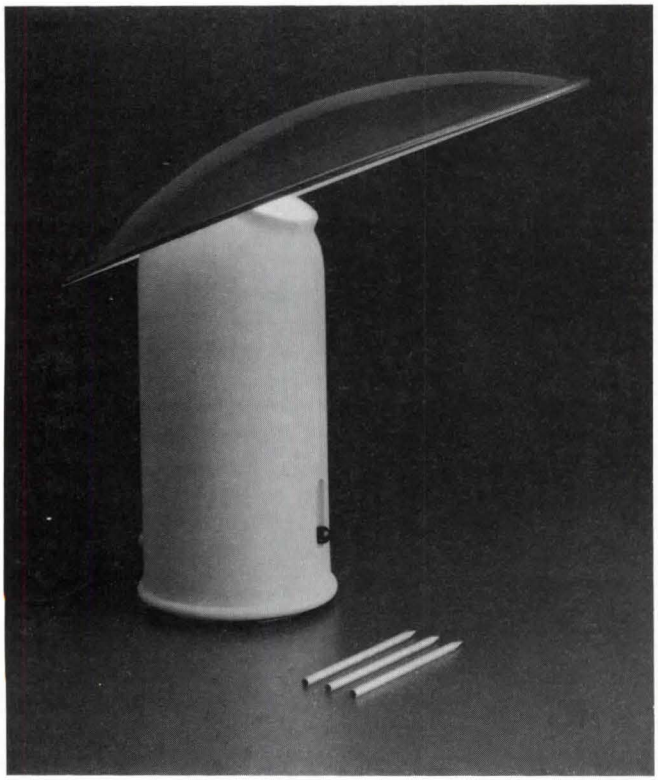

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Franco Marconicini

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Furnishings

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

New to Stilnovo, a Milan lighting firm, is a mushroom-shaped table lamp called Aithos, designed by Franco Poli (1). It is made of lacquered metal with a gray "stem" and a black or brick-red "cap." Also from Italy is the Otto chair designed by Werther Toffoloni (2). Manufactured by the Venice firm of IBIS, the beechwood chairs are available in natural, red, white, or black and conveniently fold up and can be stored in the shipping case. A third offering from Italy are trolley tables (3) from Ciatti, made of lacquered metal with two double-faced shelves—one side is natural birch, the other lacquered white.

The Bonte seating system designed by Cini Boeri for Beylerian Ltd., consists of sofa, coffee table, and end tables (4). The sofa is polyurethane foam padding over a rigid molded foam structure, with the seat suspended on elastic bands and cushions filled with polyester fiber. The tables have a black glass base with a black lacquered glass top. The Spectator fabric collection, available from Metropolitan Furniture Corporation, is blended wool (75 percent) and nylon (25 percent) and is offered in the 20 colors illustrated here (5). And from the New York City firm Furniture of the Twentieth Century, Inc., are re-editions of chairs designed by the French architect Rene Herbst dating from the late '20s and early '30s. Herbst pioneered the use of industrial materials in architecture and interior design, as seen in these side chairs (6), which use the principle of automotive tension straps for seat and back supports.

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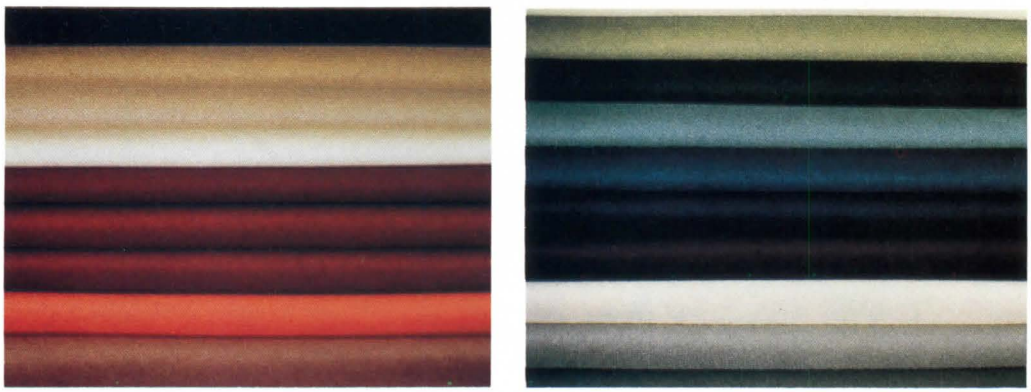

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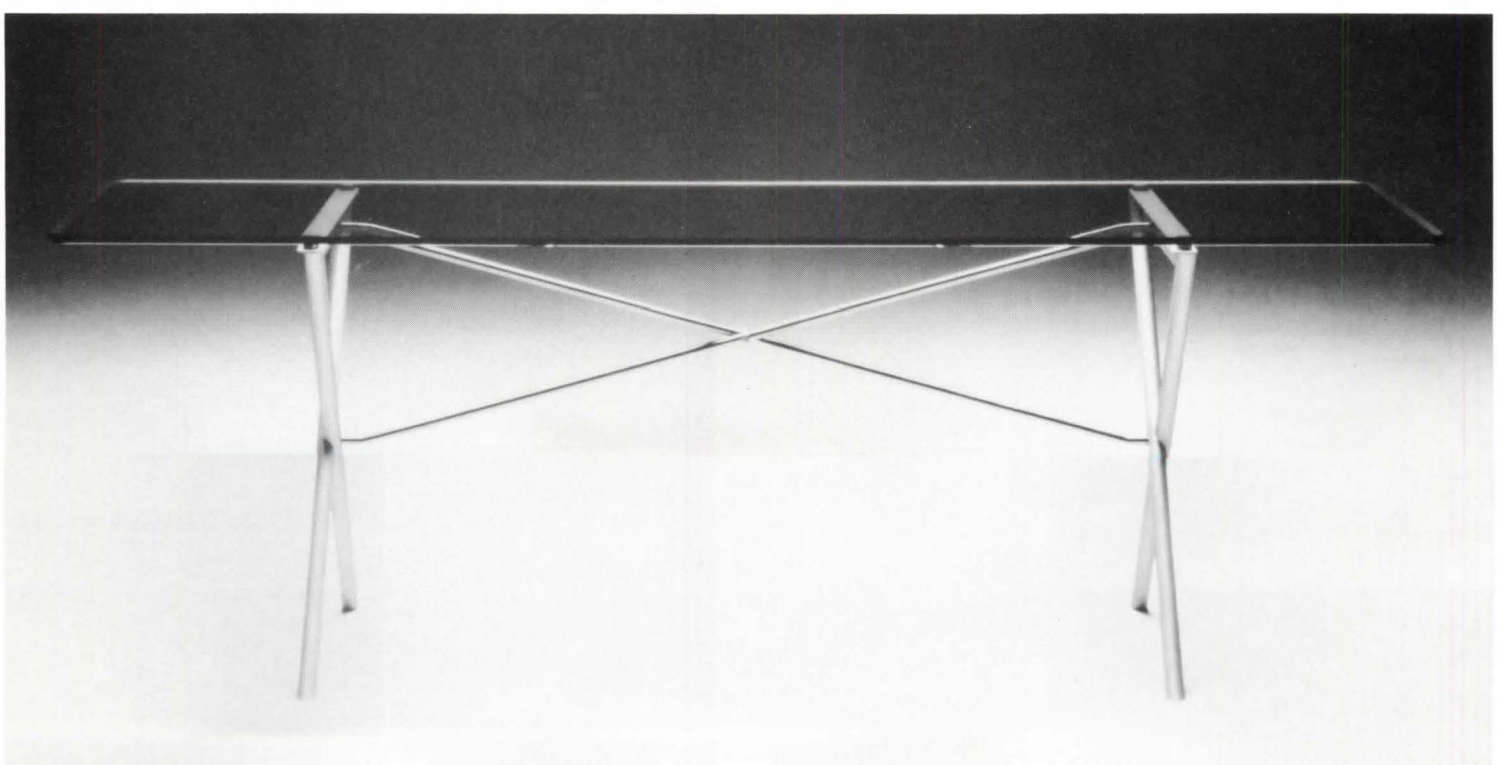

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Aldo Ballo

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Contemporary Italian designs available from B&B America are the New Harmony chair and the Quadrante table. The wood and polyester chair (1) has a companion round table; both come in combinations of walnut/black and rosewood/red and are designed by Afra and Tobia Scarpa. The Quadrante table (2) of aluminum base and cobalt blue crystal top offers an elegant simplicity. Two more table lamps from the Stilnovo collection are the swivelling Don 20084 (3) and the lacquered aluminum Blitz 23011 (4). From Kron's Bolotto modular seating collection, the extra-wide airchair (5) is available in leather, wool, or cotton. The collection includes an armchair, ottoman, and seven modular sections that join together to form sofas or angular arrangements. The Rosacamuna folding chair (6), designed by Achille Castiglioni for the Italian firm Zanotta, has a bent steel tube back with reinforced arcs and a cowhide seat. □

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Products

A selection of notable offerings and applications.

By Lynn Nesmith

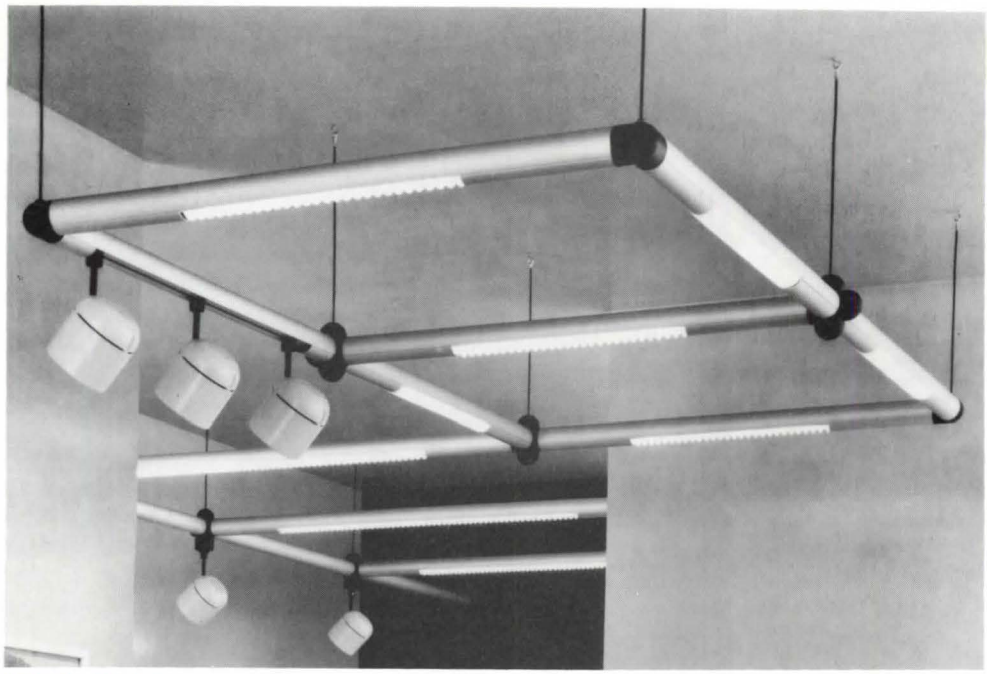
3

A crane lifts one of the preassembled glass truss units (1) into position on Tokyo's 30-story Shinjuku N.S. Building by Nikken Design Architects. The three-dimensional 800-ton skylight measures 130x200 feet and creates an atrium with 21,000 square feet of floor space at street level. The multi-faceted system is constructed of wire-reinforced glass panes set into a zipper gasket with a lockstrip of Dupont neoprene synthetic rubber in aluminum frames and expansion joints. (Circle 161 on information card.)

Woven leather fabric (2) designed by Charles Schambourg for Jack Lenor Larsen is available in three colors of suede. The stitching and varied grains provide a pleasing irregular texture. (Circle 162.)

North Miami's Mall at 163rd Street (3), a 25-year-old open air shopping center, became the first retail complex to be covered by a permanent fabric roof after being retrofitted with Owens-Corning's Structo-Fab, a translucent architectural glass fiber fabric coated with Teflon resin. The dark and light pattern of the roof was created by alternating double and single layers of the fabric. (Circle 163.)

more products on page 90



Tubular Lighting System.
Incandescent track lighting is combined with fluorescent lighting in this tubular system by Staff (above). A three-inch-diameter tube in various lengths serves as the basic module and may be adapted for direct or indirect applications. The system is available in bronze, matt aluminum, or white finish. (Staff, Highland, N.Y. Ciricle 169 on information card.)

Double Hung Window Unit.
Focus window series by Howmet features a heavy-duty frame with one-inch glazing suitable for renovation and new construction installations. The unit can be installed, cleaned, and reglazed from the interior of the building. It is available in walnut, cherry, oak, or birch wood grain patterns and a variety of colors. (Howmet Aluminum Corp., Dallas, Tex. Circle 173 on information card.)

Exterior Insulation System.
Polystyrene insulation board features a glass fiber fabric reinforcement suitable for heavy-traffic commercial areas. Fabric joints butt tightly together, and edges are feathered for a smooth surface. (ISOP, Inc., Mansfield, Mass. Circle 171 on information card.)

Bench Seating System.
Macro-Laminated lumber seating is constructed of many thin layers of veneer coated with waterproof adhesives. It is available in lengths up to 80 feet and can be cut to fit most stadium seating foundations and bleacher frames. (Tus Joist Corp., Boise, Idaho. Circle 170 on information card.)

Solar Window Unit.
Sun-Lite solar air heater is designed to be installed in any double-hung or slider window with southern exposure. The fan housing is constructed of aluminum with a white grille that may be painted or wallpapered. The unit measures 7x21 inches. A thermostat within the collector controls a built-in fan. (Solar Components Corp., Manchester, N.H. Circle 178 on information card.)

Skylight.
Residential skylight features one-piece exterior design, bonded triple-glazed construction, and foam insulation. The unit is available in four sizes. (Fox Skylights, Dayton, Ohio. Circle 176 on information card.)

Window Blinds.
Horizontal window blinds (below) by Andersen are designed to be installed between the screen and sash on operating casement and awning windows. Brackets hold the blind in place when the window is open, allowing ventilation and providing privacy. One-inch-wide metal slats rotate 180 degrees. Control cords are installed over the top of the screen for easy access. (Circle 180 on information card.)

Textured Ceramic Tiles.
Ceramic tiles with a small ribbed pattern are designed to provide a nonslip surface for commercial and residential installations. Eight-inch-square tiles, available in brown, white, and blue, are suitable for interior and exterior applications. (Sphinx Ceramics, Fairfield, Conn. Circle 177 on information card.)

Energy Management System.
Temp-Miser is a 17 load environmental control system accommodating up to eight temperature sensors. It controls air conditioners, heaters, fans, lights, and water heaters with both interior and exterior temperature sensors. It can be monitored and programmed directly or from remote control stations connected by telephone lines or direct wiring. (MicroControl Systems, Inc., Milwaukee. Circle 168 on information card.)

Lighting System.
Econ-Nova is a compact fluorescent lighting system designed for incandescent sockets. It measures 7½ inches in length and 3¼ inches in diameter and is suitable for commercial and residential installations. (Westinghouse Electric Co., Bloomfield, N.J. Circle 167 on information card.)

Task Lighting.
Fixture constructed of molded polycarbonate resin is designed to resist scratching, cracking, and breakage. It uses two 9 watt twin tube fluorescent lamps and provides the same amount of usable light as a 100 watt incandescent bulb. (Kenall Manufacturing Co., Chicago. Circle 166 on information card.)

Computer-Aided Drafting System.
Two-dimensional computed drafting system from Carrier Corporation is designed specifically for the heating and airconditioning industry. The system combines graphics software with an engineering-specific library of symbols, details, and equipment. The software is programmed for Hewlett-Packard hardware. (Carrier Corp., Syracuse, N.Y. Circle 165 on information card.)

Radiant Heating Unit.
Ceiling mounted radiant heating panel measuring 2x2 feet is designed for small rooms and work areas in residential and commercial applications. The unit features an insulated board with a textured surface coating and may be adapted to existing electrical systems. (TVI, Energy Corp., Beltsville, Md. Circle 172 on information card.)

Acoustic Panel System.
Versipanel by Magna Design is a free-standing acoustic panel system that weighs 10 ounces per square foot and requires

no posts or hardwood for installation. It is constructed of multiple, joined, structural planks covered with a tailored wall carpet in a variety of heights, lengths, and colors. (Magna Design, Lynnwood, Wash. Circle 174 on information card.)

Resilient Floor Tiles.
Arrangements of four colors in varied shapes are fused into a 12-inch-square tile with the texture and look of slate. Tiles are designed to be used randomly for a unique installation without a definite pattern. They may be used in commercial and residential spaces. (Azrock Floor Products, San Antonio, Tex. Circle 185 on information card.)

Whirlpool Bath.
Hexagon-shaped Sienna whirlpool bath is adaptable to gas, electric, or solar heating units. The unit measures seven feet long, six feet wide, and three feet deep. It can be recessed in the ground, placed in a deck setting, or installed with an optional custom-fitted redwood skirt. (Jacuzzi, Walnut Creek, Calif. Circle 157 on information card.)

Waterproofing Treatment for Wood.
ChemStop waterproofing is a transparent chemical solution that penetrates the wood fibers but does not stain, discolor the surface, or form a film. Surfaces can be painted, stained, or finished. The solution may be applied with a roller, brush, or airless spray. (ChemStop Manufacturing Corp., Itasca, Ill. Circle 182 on information card.)

Interior Signage Lettering.
High-density fabricated foam letters feature a laminated polished gold or silver finish. The Micaletters are available in one-, two-, or three-inch thicknesses. Edges can be painted to blend with or accent the letters. (Scott Plastics Co., Sarasota, Fla. Circle 181 on information card.)

Mirrored Ceiling.
Mirraplank ceiling system features a totally concealed supporting grid. Panels measure 1x4 feet and are available in brass or chrome with brushed or polished finishes. The system is designed to incorporate most downlight and track lighting. (Integrated Ceilings, Los Angeles. Circle 184 on information card.)

Electronic Drive Elevator System.
Otis Elevator's MRVF incorporates an energy-efficient, variable-frequency drive system with electronic power equipment that regenerates electricity as it operates and stores it for reuse in its own series of power cells. These cells will keep the elevator operating at full capacity for up to four hours in the event of a power failure. The system features a compact linear door design, high-efficiency gearing, and reduced hoistway mass, and weighs approximately one-third less than conventional elevators. (United Technologies Otis Elevator, Farmington, Conn. Circle 183 on information card.)

Outdoor Lighting Fixture.
Cast aluminum housing with a molded polycarbonate clear prismatic lens cover is designed to resist vandalism and breakage. It is available with symmetrical or asymmetrical light distribution with lamp sizes from 35 watt HPS to 100 watt HPS. (Kenall Manufacturing, Chicago. Circle 188 on information card.)

Radiant Heating Unit.
Vented radiant heater is rated 150,000 BTUs fueled by natural gas and 145,000 BTUs with LP gas. The 21-foot unit is designed to be mounted more than 13 feet above the floor in areas with great heat loss. (Roberts-Gordon Appliance Corp., Buffalo. Circle 187 on information card.) □

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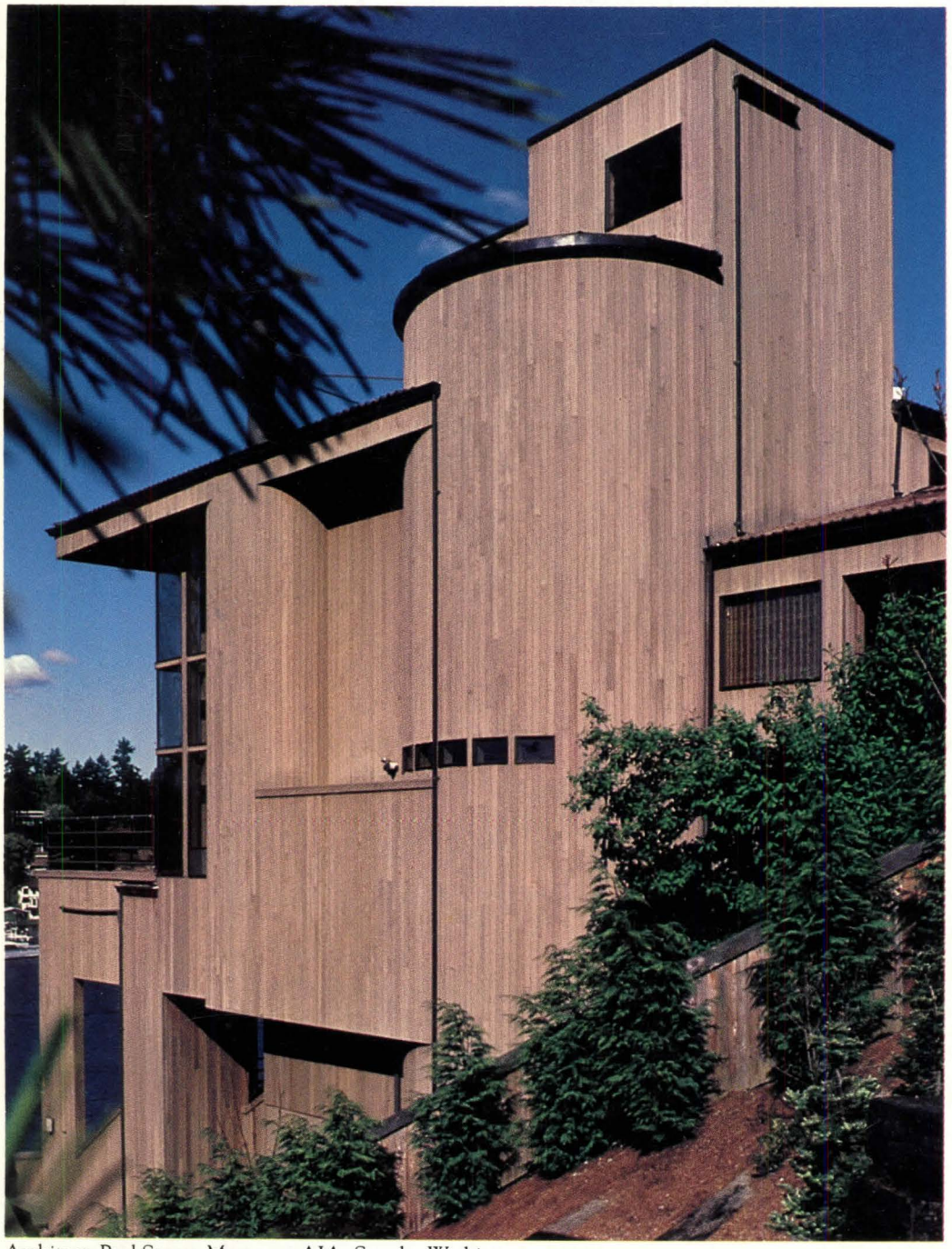

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