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**EVENTS**

May 2-4: 10th National Technical Institute of Docks and Marinas, Department of Engineering, University of Wisconsin, Madison.


May 5-6: Design ADAC '83, Atlanta. Contact: Pat Adams, Atlanta Decorative Arts Center, Suite 2200, 240 Peachtree St. N.W., Atlanta, Ga. 30043.


May 6-7: AIA Energy in Design, Practice Workshop. (Repeat workshop June 10-11, Pittsburgh.) Contact: Brenda Henderson at Institute headquarters, (202) 626-7353.


May 9-11: North American Session of the Third International Colloquium on Stability of Metal Structures, Toronto. Contact: Structural Stability Research Council, Fritz Engineering Laboratory, Lehigh University, Bethlehem, Pa. 18015.


May 12-15: Workshop on Successful Rehabilitation, Baltimore. (Repeat workshop June 9-12, Pittsburgh; June 23-26, St. Louis.) Contact: Education Services/Successful Rehabilitation, National Trust for Historic Preservation, 1785 Massachusetts Ave. N.W., Washington, D.C. 20036.


May 13-15: Symposium on The Design of the Fitting Environments, University of Pennsylvania, Graduate School of Fine Arts.


May 26-27: Course on Wind Effects on Buildings and Structures, University of Missouri-Columbia, Kansas City.


**LETTERS**

Structure of the Tacoma Building: Please permit me to correct a few popular misconceptions pertaining to the Tacoma Building that were contained in Richard Guy Wilson's otherwise excellent overview of Holabird & Root (see Feb., page 43). The Tacoma Building, like the Home Insurance Building, was not "one of the first all frame buildings." Both buildings incorporated continuous masonry bearing walls of significant proportions. The first all-iron framed building in Chicago didn't appear until after Minneapolis architect Leroy Buffington popularized the all frame concept by publishing a proposed 28-story building (twice as high as any existing building in the U.S. at the time) in the March 1888 issue of Northwestern Architect.

As floor plans of the Tacoma show, four continuous interior bearing walls, up to 36 inches thick, were used not only to carry floor loads to minimize the size of columns in the facade, but also to provide lateral rigidity. Therefore, there was no need for any other wind bracing, contrary to that suggested in the article. Also, the framing was not "full steel." The columns were cast iron and the majority of the girders were wrought iron. Steel was used very sparingly, apparently reserved for the smaller beams. Lastly, the exterior cladding was not "almost entirely terra cotta." Only the horizontal banding at each floor was terra cotta. The working drawings show all of the vertical piers, which comprise a significant portion of the opaque surface area, as pressed brick.

The Home Insurance and the Tacoma buildings were the first experiments, after the 1871 Chicago fire, in utilizing fireproofed iron framing at the exterior of tall building. However, by no means do either deserve the claim erroneously made by many historians that they were completely skeleton framed structures.

Gerald R. Lars
Assistant Professor of Architecture
University of Cincinnati

Richard Guy Wilson responds: Mr. Lars is correct. I did oversimplify a complex building. I am especially glad to see this corrected by a former student of mine.

‘Commitment to the Studio’: I cannot remain silent on an article by Robert Campbell in the December 1982 issue (page 9). The article was in reference to a conference sponsored by the AIA committee on design at Harvard's Graduate School of Design. The reported result of the conference: "a deep commitment to the concept of the traditional design studio."

As a recent graduate of Texas A&M University (bachelor of environmental design) I have been exposed to the desire continued on page

Addenda: The alternative plan for the Chicago 1992 World's Fair (Feb., page 2) was designed by a group that included Paul Janicki, Max Underwood, Paul Danna, Steve Lacker, and Stuart Cohen & Anders Nereim. Viking Press reports a "major mistake" in its expanded reissue of Gaudi: The Visionary by Robert Descharnes and C. vis Prevost. The author of the essay on "The American Hotel," to which reference was made in our review (see Dec. '82, page 89), is Robert Descharnes and not George R. Collins as cited.
Cavity Shaft Wall:

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- Limiting height tables for the system, covering design loads for 5, 7½, 10 and 15 psf intermittent air-pressure loads and allowable deflection criteria.
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NCARB's assurances that an alternative to the degree requirement will be "studied" are totally unsatisfactory and should null no one into thinking the battle has been won.

Although the arguments and beliefs exchanged by both sides are in my opinion sincerely presented, there remain two glaring facts that NCARB must address if it is to proceed in clear conscience. First, the Institute roundly rejected the mandatory degree concept at its 1981 convention in Minneapolis. To continue on its course despite that rejection, NCARB must realize that it is out of step with the sincere desires and experienced judgment of the architectural profession. Second, in presentation of its case in support of the mandatory degree requirement, NCARB has failed to produce any substantial research or hard facts to establish the validity of its position. Where are the statistics that show that a non-degreed architect is a detriment to the public good? Indeed, where are the facts that indicate a non-degreed architect is any better or worse than those of us who were fortunate to obtain degrees.

Anyone can recite a story or two to make a point, but a drastic measure such as the NCARB action should be supported by solid research and statistics and be in response to a public or professional demand, or it should be abandoned as an elitist whim. T.H. Teasdale, FAIA
St. Louis

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Circle 11 on information card
Governments

Lever's Landmark Status Upheld;
Demolition Threats Defeated

By a vote of six to five the New York City Board of Estimate has voted to uphold the landmark status of Lever House, which has been called a “key monument to the evolution of the International style.” Designed by Gordon Bunshaft, FAIA, of Skidmore, Owings & Merrill in 1952, and winner of AIA's 25-year award in 1980, Lever House is now the city’s most contemporary landmark.

Earlier this year the New York City Landmarks Preservation Commission designated the Park Avenue skyscraper a landmark amid threats of demolition. Since the commission is restricted from conferring landmark status on structures less than 30 years old, it acted at the earliest possible date (see Jan., page 30). Following the commission’s designation, the Board of Estimate had until Mar. 25 to either uphold or deny the landmark status. In its meeting on Mar. 18, Mayor Edward Koch, City Comptroller Harrison J. Goldin, and City Council President Carol Bellamy voted to uphold the status, each having two votes. All five borough presidents, including Manhattan Borough President Andrew Stein, voted against the designation. (New York City's Village Voice reported that Stein had collected $45,000 in campaign contributions from Fisher Brothers, the developer that sought to demolish Lever House to construct a 40-story office tower.)

In February, a proposed new design to replace Lever was unveiled by Swanke Hayden Connell of New York City. Described as an “art deco tower with 528,000 square feet of space,” by the developer, the scheme featured a “landscaped urban park” on its southern exposure, with a multi-level fountain and extensive seating along Park Avenue.

Fisher Brothers claimed that the new tower would generate $9.4 million in annual taxes for the city, 1,500 new jobs, and $78 million in annual economic activity. The architectural firm also presented a report to the Landmarks Preservation Commission claiming that Lever House was “not worthy of landmark status,” and has been “substantially compromised from its original appearance by the deterioration and replacement of its glass panels, and with a gloomy and unsuccessful plaza and arcade space.”

John Barie, AIA, of Swanke Hayden Connell, said that landmark proponents had inaccurately described Lever House as “this glimmering, shimmering green glass form.” In reality, said Barie, “the green glass is falling out of the facade, it’s breaking, and the frame that holds it in place is rusting away. You would have to take away the entire skin of that building... and replace it with something of current technology, make a new glass skin, and you’re going to mummify that structure.” In a radio interview, Barie said that the building would need an estimated $12 million facelift.

According to New York City’s Welton Becket Associates, however, of the $12 million needed to retrofit Lever House, only $5 million would be needed to restore the facade. The firm, as consulting architect for the Lever Brothers Co., submitted a report to the Board of Estimate saying that less than one-half of the estimated retrofit costs would be used for exterior wall repairs. “The other $7 million was budgeted for upgrading and replacing the building’s aging interior finishes and building systems, a basic necessity which has no bearing on discussions of the building’s historic significance.”

As an alternative to tearing down Lever House, Welton Becket proposed the construction of a 51-story hotel on the adjacent Jofa site, which would be possible with the transfer of air rights. In light of the landmark designation, Mark Curtin of Welton Becket said that “the potential is there for this building to go ahead, if the leaseholder of the land were to agree to it.”

The New York Landmarks Conservancy became a major opponent of plans for demolishing the structure. In February the conservancy held a rally of support at Lever House. Brendan Gill, arts critic for the New Yorker and chairman of the conservancy, said that “there’s no doubt on anybody’s part, including the people who want to throw this building down, that this building is of great historic and esthetic importance. We want it to be known—this building must be saved.”

Top, Welton Becket Associates’ proposed 51-story hotel behind Lever House; bottom, Swanke Hayden Connell’s proposed 40-story office tower to replace Lever.
Controversy Resurfaces over
The U.S. Capitol’s West Front

Proponents of restoring the west front of the U.S. Capitol received unexpected support last month as Vice President George Bush, Senate Majority Leader Howard Baker, House Minority Leader Robert Michel, and Senate Minority Leader Robert Byrd voted to restore rather than extend the last remaining visible facade of the original Capitol. The four-to-one vote came in an unannounced, closed session of the little-noted Commission on the West Front of the Capitol. House Speaker Thomas P. O’Neill continues to favor extension, and House Majority Leader James Wright, the sixth member of the commission, did not vote.

The commission thus began a new round of the generation-long debate over the only remaining exterior wall of the Capitol designed by William Thornton, Benjamin Latrobe, and Charles Bulfinch and completed in 1822. Expansion was first proposed in the 1960s by George Stewart, then architect of the Capitol. The question of the fate of the west front has come to the floor of the House for debate periodically over ensuing years. Historically, the House has voted for extension by a small margin, while the Senate has consistently supported restoration and won in conference.

The expansion scheme currently under consideration, proposed by Architect of the Capitol George White, FAIA, would reproduce the sandstone exterior wall in marble 22 feet in front of the original, with the old wall becoming an interior partition. An earlier expansion scheme required moving and altering the Olmsted terraces in order to accommodate a restaurant, visitors center, and vehicular access. The current proposal eliminates those features and does not require altering the terraces. According to White, the current proposal would provide 147,000 square feet of new space.

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Institute honors to eight

The Arts
Structure, mechanics as sculpture

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

On the day following the vote of the commission, a subcommittee of the House Committee on Public Works and Transportation heard arguments for both expansion and restoration. The problem, as stated by William L. Ensign, FAIA, assistant architect of the Capitol, is the “need to restore the structural integrity and appearance of the wall, which has weakened, deteriorated, and cracked over the years. Damage has resulted from the normal expansion and contraction, from settlement, from being burned first by the British in 1814 and then by a fire that virtually destroyed the old Library of Congress in 1851, from excessive weathering of the poor quality sandstone, and from questionable workmanship in parts of the original construction. The wall can no longer be depended upon to resist the horizontal forces that result from the interior arched masonry construction.”

Proponents of extension base their esthetic arguments on the concepts of Thomas U. Walter, the architect who added the House and Senate wings and the great dome to the Capitol in the mid-19th century. “The design concept for completing the building was Walter’s, which included the addition of the dome and House and Senate wings, and the wings would be preserved in its historic context,” Ensign said. “We feel that this is as valid an approach to historic preservation as the more limited interpretation of preserving the wall as . . . .”

Concurring with Ensign was Albert Swanke, FAIA, of Swanke Hayden Connell, New York City. Swanke, who was an architect on the east front extension completed in 1961, testified that the exterior walls cannot be repaired without danger to the structure. He also said that such a restoration would not be “an honest job,” but rather more of a recreation of what was, “like Williamsburg.”

On the other hand, the subcommittee heard from an architectural historian that reproduction of the original front in an extension scheme would greatly reduce its significance. Barbara Miller Lane, a fellow of the National Gallery of Art speaking on behalf of the Society of Architectural Historians, said such a reproduction would “destroy the fabric of the nation’s most important building.” Walter’s 1850s plan for extension is historically “curious,” she said, but like many interesting unbuilt proposals, it should not be carried out.

The Institute’s position was expressed by Professor Frederick D. Nichols, FAIA, of the University of Virginia. Nichols said that “the infill between the central and flanking wings” created by extension would “destroy the articulation of the massing, which, in our opinion, is a very positive esthetic value of the present façade.”
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Circle 78 on information card.
Final Approval — The protracted battle over siting a statue and a flagstaff near the Vietnam Veterans Memorial on the National Mall came to a quiet close last month with acceptance by the National Capital Planning Commission of a scheme previously approved by the Washington Fine Arts Commission (see March, page 40). Jan Scruggs, founder of the fund that built the memorial, says the 50-foot-high flagpole and eight-foot-high bronze statue of three infantrymen — to be grouped at the southwest approach to the black granite walls — could be in place by the end of the year. Meanwhile, the memorial has become a major Washington attraction.

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cade. The proposed infill would create a more monolithic, flat, and monotonous wall to the west,” and extension of the center wing “would add visual bulk to the massing and effectively diminish the visual impact of the dome as perceived from the Capitol grounds.” The effect on the Olmsted terraces would be to “destroy much of their character” by bringing the front “uncomfortably close.” Concerning the effect of enclosing the original front behind an extended front, Nichols said emphatically: “Entombment is not historic preservation.”

One of the rationales for expansion, of course, is to provide additional space within the Capitol. Under questioning from Representative Clay Shaw (R.-Fla.), Ensign said that no specific program has yet been written for the space. Nichols in his testimony said that when George White presented the 1981 Capitol master plan to the AIA board, “he assured AIA that the master plan provides that future space needs of the Congress can be accommodated, and without expansion of the west front.”

And Samuel S. Stratton (D.-N.Y.), testifying for restoration, said “there is no justification for destroying this historic architectural monument just for the purpose of putting in costly hideaway offices for more senior members. . . . I recognize the need for some space to be made available in the Capitol for the House Appropriations Committee, but their needs could readily be met by simply clearing the architect and his large staff out of the window suites facing the Mall, which they now occupy.”

The debate is to continue this month, with additional hearings scheduled for April 13 in the legislative subcommittee of the House Appropriations Committee.

New Navy Memorial Approved in Concept by PADC

A new design concept for a Navy memorial in Washington, D.C., contrasting dramatically with the 110-foot arch unsuccessfully proposed last year, has been given preliminary approval by the Pennsylvania Avenue Development Corporation.

Designing Conklin Rossant, the New York City firm that also designed the arch, and Stanley Bleifeld, a Weston, Conn., sculptor, the proposed memorial would be a circular plaza, sunken an average of about six feet below grade, with wave-like forms sculpted in granite. On the southern part of the plaza, the “waves” would be high and rough, rising from a pool of water. On the northern half, the waves would be gentler and also serve as seats for audiences at the military band concerts.

In addition there would be figurative sculptures and flagpoles. The figures could include a 30-foot-high bronze statue of a seaman, a 15-foot-high group of three mariners climbing shroud lines, or a 7-foot-high sculpture of a sailor, according to William Leonard, chairman of the National Memorial Foundation. The new memorial would not include a storage chamber or a naval museum, which were included in the original arch proposal.

The new design, which is being further developed, must gain final approval from the PADC, as well as approval by the District of Columbia Fine Arts Commission and the National Capital Planning Commission. It was the NCPC that last year rejected the proposed Navy memorial arch/bandstand (see Aug. '82, page 10). Its opposition centered around the arch’s scale, the “destruction of vistas,” and the “incompatibility of its dual functions.” However, the commission did, at that time, endorse the concept of an “appropriately scaled memorial.”

The site for the proposed sunken plaza is the same as for the arch: Pennsylvania Avenue’s Market Square. The square, located between Seventh and Ninth Streets N.W., is on an important minor street connecting the National Archives with the National Portrait Gallery and Museum of American Art.

News continued on page
Knoll International is deeply gratified that the American Institute of Architects has recognized the company's 45-year commitment to excellence and innovation in design and manufacturing with an AIA Institute Honor for 1983.

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1983 AIA Institute Honors Nominators

“The new leadership of this company has protected the firm’s tradition of high quality and extended its unique role by commissioning America’s most talented architects and designers for its most recent collection of furnishings and showrooms.”

1983 AIA Jury on Institute Honors
The intelligent thinking behind the Gwathmey Siegel desk

Until now, the thinking and talents of Charles Gwathmey and Robert Siegel have been reserved for their individual clients. Now, Gwathmey Siegel have designed a desk and cabinet line for the entire office.

Applying the logic that is characteristic of all their work, the architects have designed a system that, because of its modularity, solves a great many logistical problems for the interior designer.

The Gwathmey Siegel desk and cabinet line offers maximum storage, maximum design continuity and maximum flexibility. And with the Knoll tradition of manufacturing excellence, maximum value.

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"Opting for the simple thing well done", Gwathmey Siegel, simply stated, have done it very well again.

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Knoll Textiles introduces Furrows Wallcarpeting
The first carpeting created specifically for vertical surfaces

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Practice

Modest Proposal' Honored in Harvard Gate Competition

The local newspaper compared it to a Harvard Lampoon stunt. More than 300 entries were submitted in February in a competition for the design of a ceremonial gate across a Cambridge, Mass., street at one corner of Harvard Yard. A distinguished jury then met and awarded first prize to an entry that ignored the program and offered, instead, the suggestion that no gate was needed.

The competition wasn't a joke, though, and may even prove to merit a footnote in history as an early warning of the beginning of the end of the recent obsession with historic motifs. Sponsored by students of the Harvard Graduate School of Design, it was a paper competition intended to explore the theme of "Precedent and Invention" in order to provide fodder for an issue of the Harvard Architect Review, the student publication. By the second day of deliberations, the jury early never wanted to see another Georgian gate, Lutyensque gate, attic gate, sladigan gate, Krierish gate, topiary gate, deco gate, or another gate attempting collage of all possible styles. A modest proposal that had been largely ignored in the first day began to look better and better. Submitted by Thomas Bartels, a young German architect currently teaching at Virginia Polytechnic, this entry pointed out that a gate already existed adjacent to the competition site, a gate to Harvard Yard designed by McKim, Mead & White but now never used because it is blocked off by the ungainly amount Library. Bartels proposed demolishing and replacing Lamont and reopening this old gate, leaving the competition to remain as a public street.

The jury lauded Bartels' entry as a response to context instead of a self-servicing object like many other entries. It agreed that the competition program, high implied a gate dividing town from gown, was problematic to begin with. "The winner insisted on principle," commented juror Anthony Vidler. Said juror D Jones: "It shows an embarrassment about making honorific form in the present age. We're not in the nineteenth century when armies marched through gates."

The jury was obviously also enchanted, extolling several hundred lavish presentations, with Bartels' tactic of presenting his entry by simply doctoring the competition poster. The literary style of his text led the jury to suspect the hand of John Rowe, the Cornell architectural historian, and Vidler went so far as to read it aloud mimicking Rowe's voice, "That makes me very happy," later commented Bartels, who once attended Rowe's lectures as a Fulbright scholar at Cornell.

Second prize went to another non-gate, this one an obelisk by Sandra Paret, Andrew Roth, and William Ryan, all architects at RTKL in Baltimore. Third was the design of Cary Tamarkin, Timothy Teckler, and Steve Johnson of Cambridge. Tied for fourth were Frederick Schwartz, a partner in Venturi, Rauch & Scott Brown, and the team of Craig Spangler and Stephen Bartlett of Baltimore. Jurors were Vidler, Jones, Jacqueline Robertson, FAIA, Susanna Torre, Henry Cobb, FAIA, Laurie Olin, and Stanley Tigerman, FAIA. Robert Campbell

Manufacturer Found Liable for Deteriorating Building Facade

A recent court decision has found a manufacturer of mortar additive containing vinylidine chloride responsible for the deterioration of a building's facade. This type of additive has been used extensively in buildings since the late '60s to improve the structural qualities of cement mortar.

The case involved charges brought by Central National Bank and its holding company, Centran Corporation, against Dow Chemical Co. The bank claimed that Dow's product Sarabond leached out chloride ions when in contact with unprotected steel. This caused an excessive build-up of rust on the steel, which then exerted outward pressure on the building's facade, the bank claimed, eventually causing the bricks to crack.

The building in question is a 23-story structure with a six-story garage in Cleveland built in the late '60s. It has a full-height, four-inch-thick, single course of brick with no backup block. The bricks are set in Sarabond mortar. Major cracking in the facade was discovered in 1978. Repairs made in 1979 and '81 included removing the brick and mortar that was in contact with the structural steel, sandblasting the steel, painting it with epoxy, and connecting the replaced brick with non-Sarabond mortar. Some sections of the corroded steel were replaced.

In its argument Dow denied that Sarabond had anything to do with the problem, claiming that the cracking was the result of faulty design and construction. Dow stated that it refused to sell the product unless a sales contract was signed stating that the buyer would protect any metal used in proximity to Sarabond with cadmium or galvanizing.

The Cuyahoga County Court of Common Pleas, however, disagreed with Dow and awarded CNB $13 million in compensatory damages and $13 million in punitive damages. The jury also found Tishman Liquidating Corporation, the original owner and builder of the CNB building, free of responsibility and awarded the company $12 million for litigation expenses. The project's structural engineer, Hertzberg & Canter, was also freed of responsibility. The building's architect, Charles Luckman Associates, was freed of responsibility during the trial. Dow plans to appeal the case.

Arguments over the problems caused by mortar additives with vinylidine chloride are far from over. There are currently 14 similar lawsuits against Dow, which is no longer manufacturing Sarabond. (The product is still available, however, from Masonry Systems of Missouri, Inc.) Numerous owners say they have problems caused by the product, and experts say deterioration of those buildings may just be a matter of time.

In addition, AIA's architects liability committee is advising that architects "carefully investigate the chemical components of any admixtures to be specified on new projects" and has called for a "thorough investigation of the application and the potential for deterioration."

The committee also said that mortar additives containing vinylidine chloride have been specified in over 1,000 buildings since the late-1960s.

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News continued on page 32

AIA JOURNAL/APRIL 1983 29
THE MALL AT 163RD ST. — MIAMI, FLORIDA

Challenging projects bring out the best in lighting technology

The interior space: a unique fabric-covered mall, dramatically illuminated by Omega indirect H.I.D. luminaires in a blending color balance of Metal Halide, and High Pressure Sodium – hidden fixtures in a cove, and finely articulated discs, wall brackets and twin pendants.

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mcPhilben/Omega — The lighting specialists
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Beauty—With its visible fire and lustrous hand-glazed color tile exterior, a WESO will grace the most tastefully decorated home, where a stark metal stove would seem rudely out of place. And a WESO’s slim profile takes up less precious room or hearth space.

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WESO’s have met rigid U.S. safety standards and ways in which those individuals can best be trained.

The policy statement defines professional architectural education as “the foundation for lifelong learning,” with the purpose to “provide students with the skills, knowledge, abilities, and judgment critical to the practice of architecture.” Through the policy AIA “reaffirms that design is the central component of architectural education and supports the inclusion of the allied design disciplines and the teaching of a multidisciplinary approach to problem-solving within the context of environmental design.” It calls for the incorporation of instruction in life safety, science and technology, politics, social sciences, and business management.

The policy further states that in the area of professional education, AIA “encourages architectural schools to sponsor graduate and doctoral-level study, investigate areas of specialization and research, provide continuing education for the profession, and undertake community service projects,” when possible. Concerning professional education, the policy calls for a faculty “equipped with effective teaching skills and representing a balance of active practitioners, practitioners educators, and professional educators.” Also encourages the creation of grants for research and advanced education programs, learning aids, literature, and communication.” To do this, the task group recommends promoting the expanded use of AIA’s Sourcebook (a reference resource designed for primary and secondary educators); developing other teaching aids; improving ways for architects to communicate with educators; coordinating AIA’s public education/public relations efforts to assure that messages being conveyed by architects and architecture are consistent; and identifying key individuals, who “serve as conduits of information to the public and/or are particularly influential in shaping public opinion on environmental issues.”

Concerning nonprofessional, architecturally related education (such as two-year programs leading to an associate degree in architecture), AIA “advocates a thorough review of the nonprofessional role in architecture and industry and the implications for the educational institutions.” Among the recommendations in this area are developing new guidelines for two-year programs and identifying all support positions related to architecture.

continued on page
HANDLE OF ENERGY TECHNOLOGY AND ECONOMICS
Edited by Robert A. Meyers
More than 50 experts provide energy technology theory and engineering and economic data for scientists, engineers, economists, planners and managers for the evaluation and comparison of energy technologies, with the view of achieving energy solutions for today and the future.
approx. 1,089 pp. (1-08209-0) 1983 $62.95

ENERGY MANAGEMENT HANDBOOK
Edited by Wayne C. Turner
This practical guide to current techniques and ideas in energy management can help businesses, commercial buildings, and industrial plants to realize cost reductions of up to 60%. Technical material is included only when it is relevant to cost savings.
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approx. 416 pp. (1-86649-0) April 1983 $29.95

SIMPLIFIED ENGINEERING FOR ARCHITECTS AND BUILDERS, 5th Ed.
Edited by Joseph A. MacDonald
This concise, highly readable handbook describes the three vital phases of building renovation and recycling: analysis, design and construction. The book offers detailed guidelines that are applicable to all building renovations.
132 pp. (1-86644-7) 1982 $27.95

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This concise, highly readable handbook describes the three vital phases of building renovation and recycling: analysis, design and construction. The book offers detailed guidelines that are applicable to all building renovations.
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Christopher Arnold
A major revision and expansion of the classic text that systematically explains how to design trusses. The principal changes in this Third Edition are the addition of algebraic analysis and the expansion of the topic from roof trusses to the general use of trussed structures for buildings.
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560 pp. (1-08626-4) 1982 $59.95

RAMSEY & Sleeper's ARCHITECTURAL GRAPHIC STANDARDS, 7th Ed.
Prepared by the American Institute of Architects
Robert T. Packard, AIA Editor
Universally accepted as the "architect's bible" (Architectural Record), this fully revised Seventh Edition contains approximately 70% new material, including a new chapter on SI metric dimensions and new material on modern energy sources, conservation, site planning, and landscaping.
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The Institute from page 32
study and the "emergence of doctoral-level professional educators who have a foundation in architectural practice."

Although AIA endorses the value of a professional degree from an accredited architectural program for state registration or the National Council of Architectural Boards' certification, it also recognizes that "there are equivalent routes to this level of learning that will serve as a prerequisite." Among these alternative prerequisites are "appropriate combinations" of independent study, on-the-job training, examinations, among others. The policy, therefore, called for continuing efforts by NCARB to define alternative routes to licensure.

The policy states that "AIA endorses a structured internship and maintains its support of the voluntary Intern-Architect Development Program and other organized efforts to enhance internship."

Also at the Seattle meeting the board reviewed 11 resolutions to be presented to the 1983 convention.

The resolutions address the following concerns:
• Grassroots meetings (submitted by the New York State Association of Architects/AIA): "That henceforth, the Institute sponsor a single grassroots to be held annually in Washington, D.C., to coincide with the congressional session; and that the Institute develop a more equitable travel reimbursement system during the 1983 budget process that will encourage all components to participate in grassroots meetings."
• Supplemlental dues (submitted by the New England Regional Council): "That the Institute initiate a study to determine a more equitable method of assessing supplemental dues and report back to the 1984 annual convention, with an interim report submitted to grassroots 1984."
• Document sales (New Hampshire Chapter/AIA and New England Regional Council): "That it should be Institute policy that the AIA Service Corporation be encouraged to ensure that components that sell documents not lose revenue to non-AIA vendors, and that the Institute encourage the AIA Service Corporation to prepare a plan of action to be implemented at the earliest possible time that addresses that policy."
• Membership dues for newly registered architects (New York Chapter/AIA and Peter B. Thompson, AIA): "That AIA membership, at a reduced rate, be made available to newly registered architects within one year of original registration, for a period of four years prior to their obligation to pay full membership dues at the fifth year."

• Women in architecture (New York Chapter/AIA and Peter V. Thomson, AIA): "That the officers and board of directors of the past 10 years be commended on their interest and efforts on behalf of the women in the profession, and that present and future officers and boards of directors be urged to continue in this direction until such time as women, both in number and opportunity, are indeed fully integrated into the profession of architecture."
• Minority board member (William E. Patnaude, AIA, and the affirmative action committee): "That the Institute encourages and actively solicits full participation of minority architects in the activities of the Institute, and that an appropriate bylaw revision be prepared for presentation and action at the 1984 convention that will provide an ethnic minority architect with full voting rights be appointed to the board of directors of the Institute, and that the architect so appointed shall be aware of and concerned with problems affecting the minority architect, and shall act as a speaker for those concerns and, in addition to other board responsibilities, shall be charged with representing the interests of affirmative action to the board."
• AIA board of directors (member petition continued on page 17)
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Adler & Sullivan's Auditorium Building, now Roosevelt University, was the largest structure of its kind in America at the time of its completion in 1890, combining a 4,237-seat theater, hotel, and office building. The complexity of a structure containing three unrelated functions on a small site created design problems of space and access for the architects and engineers.

The combination of these factors with the desire of the clients to have the latest conveniences and most luxurious surroundings required state of the art structural systems and associated building technology. The result is a building that in its structural, heating, ventilating, cooling, lighting, electrical, hydraulic, and sanitary systems reveals all the virtues and limitations of the available technology of that time.

Much is known and much has been written about the Auditorium Building. Only the most detailed and scholarly accounts of the building cover more than what is visible to any Chicago pedestrian or theatergoer. Yet, what is behind the scenes, the architectural technology of the building, rivals the significance of its vaunted esthetics. From the foundation, carrying widely varying loads on both point and linear spread footings bearing on clay,

This page, section and isometric views of the Auditorium's exterior and basement, across page, roof trusses and stage rigging high above the performance floor.

Mr. Lowe is a HAER staff photographer. Mr. Burns, an architect at HABS, was project director of the Auditorium Building documentation.
subsoil, to the offices of Adler & Sullivan over the water tanks in the tower, the building is a masterwork of integration of esthetic design solutions and structural and mechanical systems.

Research into and documentation of the engineering systems of the Auditorium Building were undertaken by the Historic American Buildings Survey (HABS) and the Historic American Engineering Records (HAER) in cooperation with Roosevelt University and with financial support from the Graham Foundation of Chicago and the State of Illinois Department of Conservation. These photographs and drawings are the product of this documentation effort. They illustrate, in just one building, many of the tremendous changes in American building technology in the late-19th century.

Above, a loft over the stage house with a plethora of pulleys for positioning flown sets; across page, clockwise from top left, hand cranked chain winch for operating cove ceiling; roof trusses intersecting a firewall, with cove ceiling curving away; theater attic space with Pratt trusses.
Above right, hydraulic rams on the second basement level allow stage floor to be raised, lowered, or inclined; right, hydraulic ram for operating stage curtain; above, 'star lift' (circular cutout) at the first basement level allows actors to appear on stage from below. Behind the fire door is the orchestra pit.
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In July and thereafter the AIA Journal will publish under the banner Architecture.

The new name reflects the fact that for several years the magazine's prime concern has been architecture as an art and profession.

To use a distinction drawn by AIA's Direction '80s task force, our concern is architecture rather than architects.

The new name also reflects the fact that the magazine speaks for the profession, not AIA per se, and that reporting on AIA activities, while part of its content, is by no means the major part.

The magazine will continue to be the AIA Journal, the Institute's principal periodical service to the profession. But the large letters of its logo will proclaim its focus upon Architecture.

D.C.
Color: Media and Messages

A portfolio of varied approaches to brightening building interiors. By Michael J. Crosbie
Use of color in architecture continues to increase apace, and to range across the spectrum of hues, techniques, and purposes, as the examples on these pages indicate. They also seem to show that there is purpose present; that color more often is being used, not just for decoration, but as a design tool.

 Appropriately lavish color and flights of detailing fancy distinguish the interior of the Janovic/Plaza paint and home decorating store in New York City. The sales floor is U-shaped, thus the architect used color to encourage customers to circulate throughout. Edward Mills, AIA, of Voorsanger & Mills Associates, says that this progression is reflected in the ceiling. At the entrance (below), which faces east, the ceiling is a dark, predawn blue. As one moves through the store, due west, it lightens and finally turns to a sunset orange.

 Playful details include the “paint brush order” (across page) and miniature houses whose roofs display floor tiles (above). The “paint can rustication” of a doorway (right) uses colors relating to the visual weight of its elements: heavy green on bottom, light yellow on top.
Orange and pink neon,” says Mark Simon, AIA, “are great colors for dining. They not only make the food look good, but everybody looks like they’ve got a suntan.” With those effects in mind Simon, of Moore Grover Harper, Essex, Conn., used glowing loops of light reflected in metal and glass to make the Backstreet Restaurant into what he calls “a carefully considered excess.” The New Haven, Conn., restaurant has a set of swinging doors (above left) into its bar. Simon points out that they are hinged from inside two large columns to avoid hitting the bead molding. The molding is rendered in pastel pink and blue, soft counterpoints to already strong forms. The bar’s woodwork (left) was molded in natural walnut and cherry. Strands of light zip across the ceiling, culminating in a pink neon clock at the corner. With polished metal and glittery glass, the entire ensemble is vaguely reminiscent, Simon suggests, of an art deco steamer ship.

For a tranquil setting conducive to scholarly pursuits, Moore Grover Harper turned to academic Palladio. Sammis Hall at Cold Spring Harbor Laboratory on Long Island, N.Y., is a symmetric arrangement of rooms about a two-story core of sunlight (across page). William Grover, AIA, says that color is used to zone the building concentrically. “The lighter elements are in the middle, with darker colors toward the building’s periphery.” The center core is white to reflect as much light as possible. The spaces surrounding the core are beige with the same color carpeting. The ceiling inside the core is blue, “in association with the sky,” says Grover, “so it seems like the top is gone.” Over the entrance stairway floats Grover’s “Slice of Light” chandelier (above right). A tube-shaped cotton and rayon fabric is stretched over a rectangle of neon, its ends shaped like the center core cutouts. When viewed axially, the chandelier appears as a single white line, denoting the symmetry of the building, says Grover.
The color scheme in the Capitol Hill Medical Center in Washington, D.C., is judiciously applied to enhance the overall design concept. The work of Cross+Little Architects of Silver Spring, Md., the clinic occupies the first floor and basement of a small office building. Dennis Cross, AIA, says that, “Color is not an element in the design by itself,” but works to enhance the figural quality of the free-standing elements, such as the reception desk (above) and computer terminals (left). These sculptural forms are grouped in the center of a “doughnut” plan, and their lively pink is accentuated from the surrounding pale peach walls. The peach walls are bathed in soft, fluorescent cove lighting, while the center elements are illuminated with incandescents. Soft gray is used to articulate edges, such as the “stepped thermometer” element (above), with the entire composition set on a gray carpet. The choice of colors was a departure from the “hard, clinical, antiseptic white,” and also denotes a “home atmosphere,” as architect Donald Little, AIA, explains.

In Davis, Brody & Associates' Philip Morris headquarters in Richmond, Va. (across page), color is used to punctuate the geometric quality of the building. Chermayeff & Geismar Associates of New York City was in charge of the interior graphics and art. Designer Keith Helmetag says that the forms used in the screen behind the reception desk “started with the architecture.” Circles, squares, triangles, and diamonds echo the geometric, overlapped quality of the floor plans. The colors were used in different zones throughout the complex to help orient visitors and employees. Large airbrushed canvases (across page, bottom left) also pick up on the color scheme. In the employees' cafeteria, the four shapes were raised in plywood against a white background, their reveals illuminated with bright neon, lending an air of “corporate punk.”
Boston's One Post Office Square (left) uses color with a Renaissance flair. Robert Brannen, AIA, of Boston's Jung/Brannen Associates, selected 10 varieties of Carrara marble from the Italian quarry. He also studied the use of marble in Florentine and Venetian churches. The result is a two-story columned space displaying the "richness and exuberance" that Brannen sought.

For his own loft apartment in a converted factory, Chicago architect Kenneth Schroeder, AIA, used color to code the design's major elements. A three-story edicular tower, "a house within a house," says Schroeder, is painted yellow (above). The skewed tower separates the kitchen from other living areas and is crowned with a skylight. The color, says Schroeder, is associative with sunlight, and makes the form figural against white walls. Historical pieces, such as the columns, are gray.
Rothzeid, Kaiserman & Thomson of New York City employs warm and cool colors, varying light intensities, and hard and soft materials in a Greenwich Village apartment house conversion. The complex comprises 10 former meat refrigeration warehouses, "which first had to be defrosted," says Bernard Rothzeid, AIA. For security reasons, access was limited to one entrance. The resulting long corridor uniting the complex is a string of ramped spaces of differing character to lighten the trip. A wide corridor (above right) is a gallery of pulsating blue with carpeting on top, illuminated with interior "windows." Cool mauve, floating panels of carpet, and fluorescent lighting distinguish a transition space (top). An elevator bank (above) is dressed in earthy tan and blue with luminous trim. The walls also skew, says Rothzeid, "so as you look up the ramp, it appears shorter than it really is."
Michael Graves, FAIA, uses color in a New York City apartment renovation and expansion to communicate some idealized notions about nature. Patrick Burke, associate in Graves' Princeton, N.J., office, describes the color concept as thematic. "It's always derived from nature, it's associative, it's representational." Set upon a gray carpet, the columned bookcases (above) have bases of terra cotta, "which implies an earthy, three-dimensional material," even though it's painted gypboard. The middle section, or body of the column is flesh colored but lighter at the face (left), "to relate the idea that the wall is being sheared," says Burke. Blue sconces on top throw a warm light on a cream ceiling. The mural at the end of a hallway (left) is Graves' conception of an "alternative landscape" incorporating the apartment's colors in their natural setting. The mural faces a window overlooking Central Park.

Another New York City apartment of quite a different stripe is the work of Peter Wilson. The client wanted to convert his small bachelor apartment into a home for two, which called for an expanded bedroom and an enlarged living area to accommodate a video system. Here, Wilson uses color to articulate the spaces' edges. A wandering line of pink and gray ceramic tile (across page, top) leads one up from the entryway, become a border for the dining area, and then zags over to double as a kitchen counter. In the entertainment area (across page, bottom) the tile encircles the seating pit, which is oriented toward the video screen and a marble hearth. Wilson says that the bold red neon adds a theatrical note. Providing a quiet background the walls are varying shades of rose-beige, which reveal their subtle changes of hue under the indirect lighting. The carpet throughout is beige, and the floors are white oak. The private areas not shown are decorated with richer versions of rose-beige. ☐
New Health Hazards In Sealed Buildings

Findings from recent research.
By Elia and Theodore Sterling
and David McIntyre

Adler & Sullivan's Wainwright Building in St. Louis, constructed in 1891, contained all of the new technical elements that would become standard features of the high-rise office for the next 50 years: raft footings, fireproof tile covering structural steel, movable interior partitions, and fully operable windows for ventilation and daylighting. The Wainwright Building represented Louis Sullivan's deliberate attempt to create a special form for the multistory office block.

However, more importantly, the Wainwright offered a supremely logical solution to the technical and environmental problems important to the success of this new building type, the large office block. It introduced working and workable structural use of the steel frame; building anchoring techniques; provisions for heating, ventilation, and airconditioning; provisions for daylight penetration into individual room type offices; fire safety; vertical circulation by elevator.

The Wainwright functioned as an organic unit, providing light, air, and temperature control to the interior office and commercial space. The skylit ground floor and U-shaped plan of the office floors above maximized daylight penetration and provided outer exposure for all offices. Fully operable windows allowed adjustable fresh air ventilation, while steam radiators provided a clean, adjustable heat source. The Wainwright lacked the sophisticated, mechanical airconditioning system we now rely on, yet for nearly a century of constant use, until major renovation in 1981, it satisfied the spatial and environmental needs of office tenants.

The glass curtain wall, the deep floor plan, and the open office entered the American scene with a vengeance after the Second World War. These new architectural elements, combined with Willis Carrier's invention of the airconditioning system, provided the raw material from which the new mechanistic aesthetic of the fully sealed, airconditioned building, evolved. One of the earliest buildings representative of the effects of these changes is Pietro Belluschi's Equitable Savings & Loan Building in Portland, Ore., opened in 1949. The Equitable Building was one of the first sealed, glass, mechanically serviced, and fully airconditioned office buildings in the U.S. In 1980 it was designated a National Historic Mechanical Engineering Landmark by ASHRAE and last year was honored with AIA's 25-year award (see July '82, page 84). Considered a landmark in the transition to sealed, glass, airconditioned buildings, its office space incorporated year-round airconditioning, good natural illumination and artificial light sources, sound control, attractive durable finishes, and a structure and utilities easily adaptable to change in office partitioning.

The design of the airconditioning system is of admirable simplicity. Each floor has its own fresh air supply through louvered intakes on the stair tower. Air is conditioned by a separate system on each floor. Incoming air is distributed through ceiling outlets. Return air is removed through slotted window sills in the plenum of the floor below. Perforated ceiling panels allow air, heated by the light fixtures, to be removed directly into the return air plenum. The building skin functions as a passive environment modifier. Heat absorbing glass was used not so much to reduce the solar heat load, but more to cut sky glare so that blinds or shades would not be needed for comfort. Similarly, double glazing was intended primarily to reduce cold drafts off exposed glass surfaces. Economically the use of a mechanical system was justified to allow an increase in leasable space over earlier window ventilated buildings. The Equitable was so successful that it became the model for a generation of American high-performance, sealed office buildings.

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But much of its success was based on a variety of conditions that no longer exist for the subsequent generation of sealed buildings, including stable, mostly natural materials and durable interior finishes; lighting by cold cathode tubes with good or balance, no flicker, and minimal ultraviolet radiation; a constant supply of fresh, outside air; an air conditioning system designed for good circulation by placing exhaust vents under the windows near the floor with supply vents in ceiling; perforated ceiling panels allowing heat to escape from the lighting fixtures directly into the return air plenum; an abundance of inexpensive energy that frees the design from constraints imposed by climate.

With the rapid rise of energy costs in the 1970s, which brought an end to the era of the high performance, sealed building, the search began for new design solutions responding to energy constraints and performance requirements. The Gregory Bateson State Office Building in Sacramento, Calif., designed and implemented under successive state architects Sym Van der Ryn and Terry Wasserman, FAIA, is a prime example of recent energy serving office buildings.

Approximately of the same scale as the Equitable Building (7,000 square feet), the Bateson was designed to respond to a wide variety of functional and esthetic constraints, including energy use and employee working conditions. Wasserman has described as uncommonly sensitive to the impact of work upon worker, often pointing out that employees spend most of their waking hours in the office than anywhere else, that lower level employees are particularly affected since they have so little administrative control over their own working conditions. The Bateson, like the Equitable, is for all practical purposes sealed, with the environment created and controlled by a mechanical system. The focus of the building is an atrium, designed as a flexible energy management device that redistributes heat and provides natural light to interior offices.

As a means to minimize energy use, the Bateson, like the Wainwright a century before, uses the structure and massing to sively control the indoor office environment. A massive, exed concrete frame stores daytime heat and slowly releases it night. The many terraces, stepbacks, and re-entrant cores increase the surface area available for thermal transfer and wide daylight penetration. On the interior, the suspended ceiling has been eliminated to permit heat stratification and indirect ambient lighting. Solar collectors for hot water, computer monitoring of electrical use, and an underground heat storage system using 600 tons of rock are technological features integrated into the building to enhance energy conservation.

Despite the architects' desire to design an office environment sensitive to the needs of the worker, the Gregory Bateson has been plagued by environmental quality problems since it opened in 1982 (see Sept. '82, page 18). Complaints of respiratory, gastro-intestinal, skin, and eye problems began soon after the first occupants moved in. Some occupants complained of suffering dizziness, loss of balance, occasional sore throat, and itchy skin. There were reports of unpleasant odors. Most complaints seemed to come from areas with the lowest ventilation rates. More complaints occurred when the ventilation system was operated only in the daytime than when operated around the clock. Complaints were sufficiently insistent to lead public health authorities to study conditions. In fact as a result of the problems, contractors, subcontractors, and suppliers have been sued and the state faces worker compensation and class action suits, claiming health damages from poor air quality inside the building.

Air quality tests conducted by the California Occupational Safety and Health Administration found slightly elevated levels of formaldehyde, carbon dioxide, and other pollutants. Fun-
gal spores were found present in the air exhausted from the rock bed thermal heat storage.

Inspection of the ventilation system revealed that up to 80 percent of the induction boxes (a strategic component that controls the mix of air to diffusers) were found to be defective. Office space divider partitions were identified as a major inducer of formaldehyde and contributors to air stagnation.

All indications pointed to inadequate ventilation and poor air circulation and filtration as the most serious sources of occupant complaints. By good fortune, declining energy costs have allowed the ventilation system to be put back on 24-hour operation, providing a maximum fresh air supply without severely increasing operating costs. Better ventilation has resulted in dramatic reductions in both complaints and contaminant levels.

This solution, however, is not permanent. When energy costs again escalate, the increased cost will force the choice between comfort and energy conservation.

With the best of intentions (to provide optimum environmental quality conditions within the context of an energy conserving office building), the architects stumbled upon the dilemma of modern, airconditioned office buildings. Major changes in building technology and energy supply that have occurred over the past decade and are still in progress may reduce the capacity of airconditioned office buildings to provide conditions fit for human habitation. These changes have included sealed building envelopes; dependence on mechanical heating, ventilation, and airconditioning to provide acceptable thermal comfort and air quality; introduction of unstable synthetic materials, maintenance products, and finishes that off-gas toxic contaminants such as formaldehyde, chlorinated hydrocarbons, and respirable particles or that leave dust residues; dependence on fluorescent and other gas vapor lighting that emit nonionizing radiation and may be a major catalyst of photochemical reactions indoors; technological advances in office equipment such as photocopiers and video display terminals that emit radiation and airborne contaminants and may require specially designed environments for safe use; and increased cost of energy and possible shortages at times of greatest demand that have become major incentives for reduction of fresh air ventilation.

In many ways the sealed, airconditioned, energy conserving building with minimum ventilation resembles a submarine, in that its indoor atmosphere must be kept fit for human lungs through the extensive use of sophisticated, mechanical equipment. The quality of the ambient environment depends primarily on inside activities, and materials, and on ventilation procedures that clean and refresh the air. Filtration of many contaminants is often neither economically practical nor technically possible. For this reason many maintenance products containing volatile chemicals commonly used in buildings are no longer allowed in submarines. Air quality problems in sealed buildings and submarines differ in specific instances but are often similar in kind. For example, there is a parallel between experience in submarines where deadly phosgene gas was produced by accidental combinations of leaking gases and the failure of the ventilation equipment in the Bateson Building leading to increased exposure of occupants to formaldehyde and other fumes.

There are now nearly 200 investigations on record across North America of building-associated epidemics of illnesses and comfort complaints similar to those experienced by the occupants of the Bateson Building. Investigations were undertaken by government agencies, research institutes, and private consultants. Complaints ranged from minor to serious reports of reproductive system and pregnancy problems. Almost all instances have occurred in new or refurbished buildings in which conditions of ambient air and ventilation are completely mechanically controlled and lighting is supplied by fluorescent lamp. The overwhelming majority of these investigations coincided in time with a concerted effort to minimize building energy use by reducing fresh air ventilation rates and increasing the operational comfort ranges for acceptable temperature and humidity.

Tight building syndrome, insulated building illness, office building syndrome, and often simply building illness, all refer to epidemic complaints of illness or discomfort including headache, burning eyes, irritation of the respiratory system, drowsiness, and fatigue. The symptoms are generally experienced over an extended period of time and recur during occupancy in sealed buildings. The cause is rarely definitely determined but is often suspected to be related to components of the building or air supply system. A few of investigated epidemics have been explained by specific causes such as carpet shampoo residues, glass fiber from ducting systems, asbestos, or formaldehyde. (Although smoking has been considered in nearly every investigation, no data have been presented that link smoking in buildings to health related complaints.)

In most investigated buildings, specific causes for symptom have not been determined, yet many investigations have concluded the symptoms to be related to components of the building, particularly the ventilation system, operated at minimum ventilation rates.

In 1979 with the collaboration and support of the Legal Services Society of British Columbia and the British Columbia Government Employees Union in Vancouver and the Office and Professional Employees International Union in New York, T.I. Limited began evaluating the effect of contemporary building on the health and comfort of office workers. This research included a work environment survey and an experimental study monitoring the effects on health and comfort of modification to lighting and ventilation systems.

For the work environment survey a questionnaire was administered to 1,100 office workers in nine different buildings in the New York City area. The questionnaire was designed to inventory comfort complaints and health-related symptoms similar to those recorded for epidemics of building illness. Uncomfortable conditions in the office environment were more prevalent than expected. Fifty-eight percent of respondents worked in sealed buildings, 75 percent reported too little air movement, 54 percent reported unpleasant odors, over 70 percent report

Nine building features relevant to the incidence of illness: (1) sealed building envelope, (2) mechanical HVAC, (3) location of vents and exhausts, (4) location of ventilation diffusers, (5) lack of individual control, (6) use of new materials and equipment, (7) fluorescent lamps, (8) garages, restaurants, etc., (9) energy conservation methods.

Drawing by David Melanson.
at the temperature was either too cold or too hot, 65 percent reported the air too dry, and 74 percent reported the air too stuffy. Building illness symptoms experienced more than once a week were also prevalent: 37 percent reported headaches, 51 percent reported fatigue, 59 percent reported sleepiness, 31 percent reported nasal irritation, and 34 percent reported eye irritation.

A consistent association was found of all relevant symptoms with ability to control ventilation. A more detailed evaluation of the work environment survey (reported at the recent Second International Conference on Building Energy Management) owed building illness symptoms to be significantly associated with ventilation, air movement, and lighting. As could be expected, of the nine office buildings surveyed, fewer health and comfort complaints were reported in buildings with functional windows. This “I can open the window” effect agrees with other studies. In 1982, pollster Louis Harris conducted "comfort and productivity" survey (commissioned by Steelcase) that found 46 percent of office workers believe air circulation through open windows is better than in offices where only the HVAC system circulates the air. The study also found a profound negative impact on the comfort of white collar workers of the contemporary office workplace and concluded that office comfort has direct impact on job performance.

A n experimental study was undertaken to determine the effect of ventilation and lighting on symptoms reported by occupants of one sealed building. Office workers in the sealed building were paired with occupants of an older building with operable windows. A comparison of symptoms showed percent more complaints of eye irritation, 25 percent more complaints of headaches, and 40 percent more complaints of sleepiness and fatigue among occupants of the sealed building. The cause was suspected to be indoor-produced smog generated by ultraviolet emitting, full spectrum (sunlight simulating) fluorescent lighting impinging on indoor pollutants. Ultraviolet radiation is known to enhance the production of photochemical oxidants, a major component of atmospheric smog believed to be responsible for eye and respiratory irritation. Next, symptoms were monitored while experimentally modifying lighting and ventilation conditions. In a blind test subjects were not aware that conditions were being modified) the ventilation was increased to the maximum fresh air supply, and if the offices the existing full spectrum lamps were replaced with cool white lamps. When only ventilation was increased, eye irritation diminished by 7 percent; when only lighting was angled, eye irritation diminished by 8 percent; but when both lighting and ventilation were modified, eye irritation diminished a significant and substantial 32 percent.

All the necessary conditions exist in offices to produce photochemical smog—ultraviolet radiation (from fluorescent lamps and photocopiers), formaldehyde (off-gassing from particle board, and over the light fixtures and even through vents built into the windows. This practice exposes a very large volume of air to photon bombardment.

- Parking garages, restaurants, and other nonoffice space use: Many large office developments also contain within the same building parking garages, access to transportation (such as buses and subways), restaurants, health clubs, and laundry and recreation facilities. These spaces may add substantial amounts of combustion byproducts, including carbon monoxide, oxides of nitrogen, carbon dioxide, and diesel exhaust to the indoor environment.
- Energy conservation methods: These usually involve reduction of fresh air ventilation rates. Reduction of the fresh air supply increases the rate of accumulation of pollutants by reducing the volume of air exhausted. The efficiency of standard air filters and their ability to control contaminants is reduced substantially as the velocity of the ventilation air is lowered. Many buildings now use a variable air volume system, which only introduces fresh air when cooling or heating is required. Occupants of buildings with this type of system often complain of stale, stuffy air, an indication of insufficient ventilation.

Today an estimated 25 percent of the U.S. workforce can be found in office buildings. Sealed, airconditioned buildings no longer provide occupants sanctuary from air pollutants and often do not even provide adequate thermal comfort. Yet new laws and standards now being considered to promote energy conservation, including ASHRAE series 100 energy conservation standards and the building energy performance standards proposed by DOE, are likely to cause severe discomfort, possibly leading to reduced productivity and even illness in the office workplace.

The 1980s are a transitional period for architecture. The human health and comfort component of the building, in addition to energy conservation, new technology, and new materials, has begun to define a new design esthetic. Height, massing, and material use are the key architectural elements, combined with ingenuity and imagination, that will chart the course back to an architecture that serves rather than irritates.
San Francisco is a picturesque city with lively and diverse neighborhoods, and Chinatown may be the most colorful of them all. Jammed into its narrow streets are hundreds of exotic shops: Roast ducks hang in storefront windows; cases are filled with dim sum, dried mushrooms, sandalwood soap, teas, and herbs. For all its attractions, however, Chinatown is a slum, in the strictest sense of the word. Behind and above its thriving streets, a high concentration of low-income people inhabits dilapidated, unsanitary buildings.

Chinatown has the nation's highest residential density outside of Manhattan. In its core, more than 20,000 people live in an area covering only 35 square blocks. This population is crammed into 8,400 dwelling units, most of them in poor physical condition: 4,400 residential hotel rooms (in 115 hotels), 3,400 apartments and flats, 519 public housing units, and only 32 single-family homes. Most buildings have 100 percent lot coverage, and there is a shortage of open space—only two acres.

Despite these grim figures, for some residents the Chinatown community itself offsets housing problems. It offers convenience for shopping, transportation, and work, and most important, a place to live among persons who speak the same language, a matter of special importance to recent immigrants. For them, and for all the old and the poor, the community is essential to life, even if the quality of life is inferior to that found in mainstream America.

Half of Chinatown's population is elderly, and half of its elderly, about 5,000, live in low-rent residential hotels, often called SROs (for single room occupancy). The poor pensioners who live in them are without leases or other guarantees of tenancy, and have no control over their rooms. As one resident said, "There's not much to like (or dislike). It's just a place to sleep."

Mrs. Mak Kwong, age 77, is typical. She can barely afford the $50 a month she pays to live in a 7x10-foot room, a room so crowded that half of her bed is covered with stacks of boxes and bags. Apart from the landlord's bed and bureau, her furnishings consist of discarded crates. Boxes and tins are everywhere. The ceiling leaks badly, the paint is peeling, and the plaster walls crumble whenever she tries to put in a nail. Her only window faces into a lightwell, but most of the light is blocked by a large box.

Ms. Comerio, an assistant professor of architecture at University of California at Berkeley, was a consultant to the project she describes here. A fuller description in the form of a booklet titled "Inside Chinatown" is available from Asian Neighborhood Design, 576 Vallejo St., San Francisco, Calif. 94133.
Mrs. Mak’s room is not heated; she just put on extra clothes to keep warm. She has one electrical outlet (with a lot of extension cords), and her only light is a bare bulb. She seldom cooks a meal on her hotplate—she’s afraid of fire—and most days eats only tea and noodles. She washes her dishes in a basin she keeps under the bed and throws out the dishes in the bathroom down the hall. She goes out for a few hours each day to visit her family association, to purchase food, or to sit in a nearby park. Most of her time she spends in her room.

The lives and rooms of many elderly residents in Chinatown hotels are similar. Eighty-nine-year-old Mrs. Mui K. Lee, for example, spends her evenings in darkness because her landlord told the tenants that everyone should keep the lights off as much as possible. Mrs. Yuet Ming Wong carries her dirty dishes downstairs in a bucket to a public restroom. Mrs. Mei Jin used to poison the mice, but she couldn’t move the bed to retrieve them, and they smelled.

SRO tenants have learned not to complain. They have no other options. And the situation is not much better for apartment dwellers. Mr. and Mrs. Hu, who just came to the U.S. with their three children, live with her elderly parents and her sister’s family in a rundown Chinatown flat. When the Hu approached their landlord for rent, he refused them, making it clear that he was already doing them a favor to let all 11 family members stay in the five-room flat. They didn’t complain.

Chinatown’s housing shortage is part of a citywide plight: The cost of housing in San Francisco ranks among the highest in the nation, and the vacancy rate is less than 1 percent. As San Francisco has grown as an international center of trade, downtown office and commercial space has expanded tremendously. Increasing numbers of young, affluent professionals have been attracted to the city’s jobs and activities. The result has been condominium conversions and demolition of existing units to make way for new condominiums. At the same time, no-growth attitudes and high interest rates have brought the construction of rental units to a virtual standstill. Consequently, even the demand for “less desirable” rental housing exceeds the supply. With this shortage, the SROs are particularly valuable resource for seniors.

Since 1980, helping improve Chinatown’s living spaces has been the focus of Asian Neighborhood Design (AND), a community design center whose work includes architectural and construction services to other community agencies, employment training in the construction trades for youths, and general housing and self-help programs in the community.

Like other housing agencies involved in upgrading the environment, however, we realized that the desire to provide a “decent” physical environment could displace the very community we hoped to help preserve. AND recognized that its services could be beneficial to the low-income community only if tenants were allowed to participate in the improvement and control of their living spaces.

So AND began to explore design and education programs that would help tenants to take the initiative in upgrading their living spaces and begin to raise their sense of helplessness.

Facing page, two views of typical Chinatown streets. Resident in crowded single room apartment, left. Mrs. Mak Kwong’s room before and after, below.
consciousness of housing issues. It was clear that tenants in the most deteriorated buildings—those that required upgrading the most—would be very hesitant to press their landlords for improvements, and that the only space over which they felt some control was the interior of their rooms. Because of this, AND focused on the improvement of that space.

AND’s design demonstration project in Chinatown combined design research on finishes and furnishings for small living spaces with a variety of related community services. Research focused on furnishings because furnishings are the only features that SRO or apartment tenants can change.

We conducted a number of case studies in which seniors and families participated in the design process and received free furniture prototypes. Housing educators conducted community workshops and followed up with home audits on health, safety, and energy issues. As direct services, AND offered a furniture loan program and an emergency repair service.

The first case studies involved single, elderly tenants in SROs owned by private landlords, family associations, and community agencies. In the second round of case studies families were included, and also a younger group of tenants in a hotel, the Aarti, being transformed into a cooperative. AND designed and built furniture for each of the clients and worked with these clients on organizing their possessions, arranging their furnishings efficiently, and simplifying housekeeping tasks. We also tried to determine what motivations the tenants might find for doing their own painting and repair work and what strategies they might use to persuade their landlords to absorb the cost of such improvements.

Interviews with the first six SRO tenants AND studied covered every aspect of their lives that might affect or be affected by their living quarters: family background, previous housing, daily activities, social patterns, and current building condition. We found that most of the day-to-day problems facing them were physical ones. Each had to live in a room in which the bed filled 20 to 30 percent of the living space, one roughly the size of a walk-in closet in the average detached house. Commercial furniture does not fit in such rooms, and the SRO tenants could not afford it anyway. Clothes and personal belongings were stacked in cardboard boxes, hung from clotheslines, kept in plastic bags, and left strewn about on recycled orange crates. Antiquated hotplates and overloaded extension cords posed a lethal fire hazard, and clutter attracted pests and rodents.

In such a tiny room, a tenant had to wash, dress, cook, read, relax, entertain, and sleep. In order to accommodate all these activities, each piece of furniture had to serve more than one purpose. A chair also had to function as a stepping stool. The bed had to include storage. The lighting had to be adjustable, to suit different activities.

Multipurpose products do exist, such as the elaborate component storage units made of brightly colored plastic and metal sold in design boutiques. But open shelves and wire baskets were not appropriate for AND’s clients, who liked to keep their possessions clean—in something rather than on something. They preferred the pink and yellow plastic bags free at nearby grocery stores, which they used to sort clothing or food and hang on the walls.

For the case study clients, AND designed beds and modular storage units. Mrs. M and Mrs. Wong each received a 32x72-in bed with a trellis above the long side for hanging clothing and plastic bags. The trellis saved the walls from nail holes, because the bed was so narrow it could be used as a couch when pillows were added for a back. Also, the bed itself is higher than most to accommodate a drawer underneath. The drawer provides extra storage, pulls out for cleaning, and discourages people from stacking newspapers and other items that draw bugs under the bed. The various beds and storage cabinets were lightweight and flexible for use in small spaces. The multipurpose pieces were designed for purposes specific to hotel rooms and local habits: Pieces like metal-lined food storage units and cooking units and lattice work with pegs for hanging plastic bags took up where commercial furnishings left off.
New furniture provided an immediate, ible and economical improvement in ing conditions for the clients, and it o served to develop their awareness of w the environment affects their lives. effect, it was part of the educational 'ust of the project. The effectiveness such a combination of physical improve­nt with housing education was recog­ned more than 10 years ago by the Jeff­nder-Lou (JVL) Community Develop­nt Corporation in St. Louis. JVL's opportunity House provided temporary alter for displaced residents and basic instruction on how to manage and live in uses, including training in simple repairs, numer problems, and community -vices.

AND took a similar approach in its case idies. Mr. Hu had become accustomed gh, bok choy hanging to dry on fire 'ape. Cabinet for food and utensils, roll­t bed, bed with storage units, below.
to covering holes with masking tape, and it took several sessions to convince him that there were better alternatives. AND provided Mrs. Hu with bathroom accessories for storing toiletries, but several follow-up discussions were necessary before her children stopped leaving toothbrushes on the windowsill. When another family requested instruction in painting their mildewed rooms, we helped them identify a leaky roof as the source of their problem.

To demonstrate what could be done to improve the livability of an entire building, AND worked with tenants and community organizers on the conversion of a 52-room hotel in the Tenderloin to a hous­ng cooperative. Like most residential hotels, the Aarti consisted of single rooms, shared bathroom facilities, and no kitchens. While the Tenderloin Neighborhood Development Corporation organized its tenants, AND worked with them on the design of communal facilities and model rooms, providing architectural drawings and some construction training for them. The final design reduced the number of units from 52 to 41, and made room for shared kitchens, dining rooms, lounges, and bathroom facilities.

For the rooms, AND developed furnish­ings that could be built in. In one model room, a closet and storage unit was hung from the wall that the bed could be rolled under it during the day; this opened up two feet of floor space. In another, a plat­form for dead storage hung over the door, supported by drawers and a closet on either side. For the younger tenants, platform beds provided space underneath for desks or storage. In one unusual room with an angled wall, AND proposed a “V-berth” and modeled the storage units after those on sailboats.

Participation and a sense of control were much more important to the tenants at the Aarti than particular details in the model rooms. Tenants themselves did much of the construction work, and they were full of design ideas by the time they began to finish their rooms. Each tenant was allotted $100 for furnishings in his or her room. Some chose to build platforms on their own; others elaborated on AND’s designs. One man opted for a second­hand bed so that he could afford to install track lighting. We saw all the tenants become aware of and make choices about their living environment, and we saw that they transformed an anonymous hotel into a home.

If all the city’s residential hotels could be converted immediately to tenant cooperatives, as the Aarti was, the education program would not be necessary. In most Chinatown and Tenderloin buildings, however, conversion is out of the question, and upgrading will be a painfully slow process.

A room made tolerable is not necessar­ily a “good living space,” but living spaces like those in Chinatown’s SROs will con­tinue to be used, accepted, and necessary. We do not believe that interim solutions like our upgrading of these rooms are pacifiers—token reforms to placate the poor. We believe that they represent the beginning of a practical incremental proc­ess. In the next year, our community design center will search for new ways to involve tenants and landlords in the improvement of housing conditions in Chinatown. AND will seek out building owners applying to city loan programs for funds to repair code violations and improve communal space and try to persuade them to consider de­signs that include furnishings and finish­ings as well as repairs.
AJA honors a firm with a lengthy history of commitment to design quality. By Peter Blake, FAIA

AIA next month will honor Knoll International for its "distinguished achievements that enhance ... the environment and the architectural profession." The Institute honors jury took special note that "the new leadership of this company has protected the firm's tradition of high quality and extended its unique role by commissioning America's most talented architects and designers for its most recent collection of furnishings and showrooms." The article on these pages deals mainly with the beginnings of the whole enterprise, from a very special and personal point of view. The author is former editor in chief of Architectural Forum and Architecture Plus, an architect and author, and chairman of the architecture department at Catholic University in Washington, D.C. Ed.

It was exactly 40 years ago this spring, and I was the most junior copywriter on the old Architectural Forum. It was my first assignment, and Howard Myers, our editor and publisher (and godfather) told me to take a look at some chairs that were about to be produced by H.G. Knoll Associates. The firm, it seemed, was an offshoot of a company that had made early modern furniture in Germany and in England in the 1920s and 1930s; and these new easy chairs were about to be made and distributed by the original Knoll's son who had come to the U.S. in 1937. The chairs had a form-fitting wood frame and a continuous seat-and-back made out of surplus parachute webbing—one of the few materials still available in the civilian sector, in 1943. "You'll like Hans Knoll, I think," Howard said.

As a matter of fact, I wasn't sure I did. I went up to that little showroom at 601 Madison, and met Hans and together we looked at the chairs. The trouble was that Hans was just too beautiful, too charming, too elegant, too blond, his voice (that Swabian accent, overlaid on European English) just a bit too mellifluous. He was just too much.

Well, of course, we became (just about) each other's closest friends, or a reasonable facsimile thereof. He and Shu (who later became his wife) and I—we became, for a brief time, anyway, almost inseparable. Hans and Shu worked like maniacs, late into every night, trying to find ways of designing and manufacturing this or that, squeezing materials out of the war economy, discovering and then supporting young and relatively unknown designers. And whenever Hans and Shu were ready to call it a day—usually around 10 P.M.—I'd drop by and we would go out for a late dinner, or to some nightclub conveniently located on the way back to their apartment in one of those charming, black-and-white-striped houses that used to inhabit Sutton Place.

The nightclub we liked best was a place called Cafe Society Uptown, and we had a regular table there, on the balcony level. There was a delightful little clown called Jimmy Savo who performed at Cafe Society Uptown, and he sometimes joined us after he'd finished his act. There was also Hazel Scott and a nonstop drummer whose name I have forgotten.

Shu, like Hans, was really something: She was even more elegant, even more beautiful, even more charming—and also very cool and very sophisticated. Hans was probably the smoothest salesman I had ever met; but while he was totally dedicated to what we used to call "Good Design" (capital G, capital D), Shu was the one with flawless taste. Hans learned a lot from her, but he never stopped deferring to her judgment.

I suppose they were in all of this to make a living, though I don't recall that money was ever discussed or ever made the prime criterion for a decision to abandon or to go ahead with new design. I think they really believed that they could help make a better world through Good Design! There was nothing about Hans' and Shu's apartment that wasn't ravishingly beautiful from the view of the East River and the passing boats, down to the smallest ashtrays.

Even their dog was ravishingly beautiful. His name was Cartree, and he was an enormous, enthusiastic, fluffy, and playful English sheep dog. I don't know who laundered him, but he, too, was impeccably groomed, all of the time—quite an accomplishment in itself, in view of the fact that Cartree spent most of the day asleep on a fire escape overlooking Sutton Place. When Hans and Shu and Cartree went out for a walk, they caused traffic jams.
Though we didn't know it at the time, we were really at the vanguard of furniture design and architecture in America in those days. Because of their enormous energy and their unfailing taste and their great generosity, Hans and Shu attracted everyone in those fields who had anything to contribute—including some people who had little to offer other than promise.

It wasn't the beginning of modern furniture design by any means, of course. There had been all those remarkable Breuer and Mies and Le Corbusier pieces in Europe in the 1920s and 30s, and we knew all about them. But in the U.S. there was only imported Aalto furniture, and the so-called "Butterfly Chair," an occasional piece imported from Sweden or Denmark. There really was no one else in the U.S., with the possible exception of Herman Miller Inc., who was trying to manufacture well-designed modern furniture in a consistent way. Hans and Shu led the way.

The event that triggered much of this was the so-called organic design competition organized in 1940 by the Museum of Modern Art's Eliot Noyes. The most interesting winning designs were the proposals for molded plywood chairs by Eero Saarinen and Charles Eames. These were extraordinarily innovative; unlike Aalto's earlier plywood chairs, which bent laminated sheets of wood veneer in one direction only—the way one might bend a sheet of paper—the Saarinen and Eames designs consisted of three-dimensionally formed (i.e., molded) shells of plywood, manufactured in a process that was being developed during the war years by the U.S. Navy.

None of the MOMA competition designs could be manufactured until the war was over and industry had been permitted to revert to civilian production. When that happened, the Saarinen and Eames entries to the organic design competition were divided between Knoll and Miller: Eero Saarinen (who had known Shu since childhood) developed a molded chair for Knoll; and Charles Eames developed a whole series of molded chairs for Miller. (Saarinen and Eames, incidentally, remained close friends and frequent collaborators until Eero died in 1961. They went their separate ways only in this particular effort because neither Knoll nor Miller was in a position to develop all the MOMA designs.)

But I am getting ahead of myself. A few months after I had met Hans and Shu and Cartree, I was drafted into the Army, and, for a while, I was stationed in Virginia and Maryland. Whenever I could manage a weekend pass or a more extended leave, I'd make a beeline for New York and Sutton Place and the Cafe Society Uptown. Hans had failed his Army physical (he'd had some serious problems with his lungs), and so he felt he should do his bit for the war effort by pampering draftees like me: While in basic training at Ft. Belvoir, I'd get postcards from Cafe Society, signed by Hans and Shu and Jimmy Savo, suggesting that I go AWOL. Cartree, it seems, missed me. And one day, in a typical fit of generosity, Hans phoned me while I was scraping the mud off my face in some swamp in Florida, and offered to finance my postwar architectural education, at Mies' school in Chicago. (I begged off.) Then he fixed it so I would be transferred to New York, so that he and Shu and Cartree and I could pick up where we'd left off when I was drafted.

Those months in New York were slightly bizarre. The nights were spent at one of our usual haunts; but every morning, at 7 A.M., I had to report for close-order drill at the old Armory, now demolished, at 34th Street and Park Avenue. Somewhere along the line I managed to get married; and then I was shipped overseas. The postcards from New York followed me across Europe, and I recall having to explain to an Army censor, on one occasion, why I was receiving postcards from an English sheep dog.

Expanding geographically and in scope.

It is now the spring of 1945, and I had been assigned to a U.S. Armored Division on the River Elbe. It was very late at night, and the war was nearly over. A ragtag army of Germans, Hungarians, Rumanians, Ukrainians, and God-only-knows-who else—something like 250,000 troops in all—was fleeing across the river from the east, pursued by the Red Army, and surrendering to us. Among this tidal wave of sick and hungry and wounded humanity I saw an unbelievable character: a kind of comic-opera Rumanian field marshal, wearing a green-and-red-and-gold-braid shako, carrying a long silver sword, and lugging over one shoulder, an enormous sheepskin coat. There wasn't a moment to lose: In exchange for a carton of Camels (worth a small fortune on the black market), I acquired the sheepskin coat. It was filthy, but I knew it would fit Hans to perfection.

It took me another two years to get myself and that Rumanian field marshal's coat back to the U.S.; but when I did, and delivered it to its only rightful owner, Hans and Cartee made quite a pair on their walks along Sutton Place.

When I came home from the Army, things had changed a bit: Hans and Shu were well on their way to making Knoll Associates the most prestigious firm of its kind in the U.S. and, in fact, in the modern world. Many new designers had been discovered and added to the Knoll stable—among them a talented Hungarian friend of Marcel Breuer's, Eszter Harastzy, who became director of the Knoll Textile Division and whose electric-prepunk colors represented a significant break with the white-on-white purity of the modern tradition. There was Harry Bertoia, who had worked with Charles Eames and contributed significantly to the design of the original Eames Chair, and whom Hans (typically) established as a sculptor, in a studio next to the Knoll plant in Pennsylvania—in the hope that Bertoia would be producing innovative furniture as a byproduct of his sculpture. (Bertoia did, in his plastic-coated wire chairs.) And there was Eero, of course: His huge, molded and upholstered easy chair was finally in production in 1948. At the press party for the chair, my wife, who was enormously pregnant, sat in it happily and comfortably. So Shu named it the "Womb Chair," and the name has stuck. Our daughter was born a few days later. (Eero Saarinen continued to design for Knoll for a dozen years or so.)

Before long, almost all the leading U.S. and European furniture designers, with the exception of Charles Eames and George Nelson, were working for Knoll. There were pieces by Franco Albini, by Pierre Jeanneret, by Ralph Rapson, and by many others—in addition to the Jens Rimson designs that I had seen the day I met Hans. Moreover, Hans and Shu had noted a growing interest in early modern classics, like Marcel Breuer's tubular steel furniture of the 1920s, and Mies van der Rohe's Barcelona chairs, stools, and tables. And so they signed up Breuer and Mies, and began to make those "modern antiques" in factories in Italy, Germany, and the U.S. Knoll Associates, in the course of all this, had become Knoll International, and the showroom had moved a couple of blocks downtown, into a large office building at Madison and 57th.

Although we saw less of one another than we had before I had gone into the Army, we continued to be close friends. But Hans was spending more and more time traveling to the many different showrooms that Knoll had opened in the U.S. and abroad. I would run into him in the Middle West, in France, in Italy. He was not only establishing new showrooms all over the...
In 1929, Mies Van Der Rohe designed the Barcelona Chair. See it at the Museum of Modern Art in New York, and buy it through Knoll Showrooms in 28 countries.
A design explosion following World War II.

place, but arranging to have Knoll furniture made in various
other countries as well. I would run into him in Paris, where
was setting up a Knoll showroom on the Left Bank, with Yve
Vidal in charge, and we'd promise each other that we'd have
dinner as soon as we both got back to New York. Occasionally
I would see him in East Hampton, during the summer months.
But, most of the time, it was "work, work, work" for all of
us—and for Hans that meant, more often than not, travel.

For Shu, it meant setting up the Knoll Planning Unit—an
organization capable of handling very large interior design
projects, such as complete corporate headquarters, and so on.
Shu is one of the best-organized professionals I have ever
known, and she handled the design of entire skyscraper floors
with as much aplomb as she brought to the design of a single
cabinet. Since she had been trained as an architect, at Mies'
school and at Cranbrook, architects liked to work with her. Shu
was a perfectionist second to none.

So there was less and less time to meet—but, hell, we were
young, and there would be plenty of time to catch up, next year
or the one after that. But, of course, we were wrong. All of a
sudden, time had run out for the three of us.

When the news came in 1955 that Hans had been killed in
an automobile accident in Havana on one of his business trips
it was, in a way, the end of our youth. I looked at Shu at the
funeral, and she was shattered; and so was I; and so were
most of us there. It was the end of our youth, and our hearts were
broken.

I saw Shu, on and off, for a number of years after that day
after we had pulled ourselves together. Craig Ellwood and I
designed a house in East Hampton for her and Hood Bassett
whom she married several years after Hans' death—but it
never got built because she and Hood decided to buy a farm in Ver-
mont instead. I sometimes think of Hans, and what it would
have been like if he had lived beyond his 41st year. And I realize
now that it would have been impossible—he was always young
and beautiful and charming and more than a little silly, and I
am glad that he never grew old.

What made Hans and Shu so successful? The answer is sim-
ple. They were first rate, and they thought that everything they did
should be, too. They did not tolerate mediocre people, or me-
cioate talents, or mediocre craftsmanship. Quality was so much
part of their lives that it was never discussed. Although their
decisions had to be affected, in some way, by practicality, or
cost, or the market, the overriding consideration was always
quality.

Nowadays, companies that design and manufacture things tend
to be run by committees; and committees tend to make com-
promise decisions. Hans and Shu never did. It was really as sim-
ple as that.

Top left, Marcel Breuer at home in a Vignelli-designed ad-
etiment of the 1970s; left, Vignelli's quiet understatement for
an advertisement in 1976. Across page, Knoll's Boston show-
room by Gwathmey Siegel, 1980. As has long been its tradi-
Knoll continues to draw furniture design talent from contem-
porary architects such as Gwathmey Siegel, Robert Venturi, and
Richard Meier.
Italian furniture design is a recognized phenomenon. Perhaps it is the wildly superfluous number of Italian architects that is behind it all, for the schools of architecture in Venice, Rome, and Milan produce hundreds of graduates every year, yet there is relatively little actual construction for them to design. Students are aware of their future predicament when they begin—it is not therefore tragic—and Italians seem to consider architecture school a good foundation for all useful arts (and some useless ones), just as Americans think of law school as training for a wide range of business ventures.

So it is that many Italian architects practice architecture but rarely, turning instead to exhibitions, graphics, interiors, design magazines (another Italian phenomenon), polemical discussion (another, alas), and furniture design. All this is a postwar development, of course, with Italian furniture first receiving international notice in the ’50s, a time when most attention was being paid to Scandinavian design influences. It was well established by the early ’60s, with the export of Italian furniture more than doubling in the four years from 1961 to 1965, and then doubling again and again every three years after that until the slowdown of the ’80s.

Emerging right along with this new industry and esthetic force keeping step with it all the way, simultaneously nurturing it and feeding on it, has been the Salone del Mobile (to most of us in this country, better known as the Milan furniture fair), which began not all that modestly in 1961 with 328 exhibitors and which was held this past fall for the 22nd year, this time with a record 2,090 exhibitors and well over a million visitors.

As if that weren’t enough, the fair is accompanied by two other concurrent fairs: Euroluce, an international lighting exhibition being held this year for the seventh time, and, new this year, an exhibition of office furniture and equipment. The fair has also spawned a show of kitchen furniture, Eurocucina, last held with the fair in 1974 and, since then, held every two years at different times. Another complication is that several important furniture firms have their headquarters in Milan and choose to use their own downtown showrooms for most introduction with only token representation at the fair itself, although at least one firm, Cassina, did provide a shuttle bus service.

The fairgrounds are set rather apart from the heart of Milan but are linked to it by the Metropolitana, the city’s extraordinarily handsome subway, designed in the early ’60s by architect Franco Albini with wall facings of granite and with then-new, now ubiquitous embossed rubber flooring.

Once there, one finds the fairgrounds to be a collection of 50 or more undistinguished buildings crammed together with no discernible master plan. It is Italian design at its worst. Yet compared to the compact order of Chicago’s Merchandise Mart where this country’s nearest equivalent exhibition (the mam-
10th but all-in-one building NEOCON show) is held, Milan offers pleasant environment, at least in good weather, for moving from one building to another allows occasional moments of light and air, sometimes even a tree and a bench (though rarely an empty one). And next to the number of showrooms is the number of bars—one at every corner, it seems—offering prosciutto sandwiches and coffee as well as drinks. And close behind the bars in frequency, suggesting the commercial heart of the enterprise, are branch banks.

The Milan fair differs from NEOCON and from such other American events as WestWeek in Los Angeles and Designer's Saturday in New York in another way: The American exhibitions are in relatively permanent, established showrooms, whereas the Milanese exhibits have all been erected only for six days of the show and will disappear immediately afterwards. This transitory character has the obvious disadvantage of time and budget restraints, but it seems, somehow, to free the imaginations of the exhibit designers. Tents, giant kites, walk-in grids, mirrored arcades, even tiny forest glades—these and more make the fair a visual phantasmagoria.

And then, speaking of phantasmagoria, there is the furniture. The Milan fair has come to be known as the place to find furniture innovations, furniture novelties, and even furniture shocks in 1981, for example, the designs of the Memphis group, already known in these pages). Those who sought such titillations again in 1982 cannot have been disappointed. It had been only a matter of time before someone began using the term “neo-modern,” and it happened first, so far as we know, in Milan, applied in most cases to furniture composed of combinations of simple geometric forms and turning away from the recently popular postmodern colors such as mauve, terra cotta, and various astels, back to the more robust primary colors of early modernism.

But beyond this rather superficial (but perhaps, by now, obligatory) smattering of up-to-the-second high fashion, there is a more serious message in the 1982 introductions: With a tight economy, high land costs, high construction costs, high energy costs, and—particularly—high interest rates, there has come to be a clear and growing reduction of living space and a consequent need for furniture that is small-scaled, practical, and adaptable. So that, in addition to the show-stoppers, there was furniture that kept the show going: chairs that could be folded and stacked and put away, tables that could be extended to larger sizes, battery-operated floor lamps that could be rolled from one room to another, sofas that could be disassembled for storage or shipping, other sofas that could be collapsed into closet-size package, still others that could quickly become beds. The Milan fair of 1982 may have been served with a frosting of neo-modernism,” but the key ingredient was flexibility. ❑
An influential early designer attracts renewed attention. By Nora Richter Greer

A leading figure in the design world at the turn of the century was Viennese architect Josef Hoffmann. Influenced by English and Scottish designers (particularly Charles Rennie Mackintosh), Hoffmann made a rapid switch from the curvilinear and floristic motifs of the then avant-garde art nouveau style to the angular and geometrical style of the European arts and crafts movement. Hoffmann's rectilinear designs were to have great influence on European and American design.

The height of Hoffmann's career was during 1900 to 1930, and recently there has been renewed interest in his work of that period. Late last year, the Fort Worth Art Museum opened the first exhibition devoted solely to Hoffmann's designs. And numerous reproductions of his furniture are now being manufactured (among them, the reproductions shown on these pages from International Contract Furnishings Inc.).

Of great importance to Hoffmann was designing an object in close relationship to the interior for which it was intended. In fact, in 1903 he cofounded the Wiener Werkstätte for the production of decors and buildings as coordinated projects. Among such projects were the Fledermaus Cabaret and Purkersdorf Sanatorium. Hoffmann designed chairs and tables for both the cabaret (1 & 3) and the sanatorium (6), and from these numerous variations, such as one on the Purkersdorf chair (5). His emphasis on the total design is seen in his drawing of a living room for Ver Sacrum magazine (2). He also designed numerous chairs for mass production, such as the bentwood lounge rocker (4).
The influence of Mackintosh is evident in the Armloeffe chair (1) and the Vitrine cabinet (2), in their thin-screened geometrical shapes. The Vitrine cabinet, as the Fledermaus and Purkersdorf chairs on the preceding pages, incorporate a Hoffmann trademark: Large wooden balls tucked into the joints. Their use was essentially decorative rather than functional. These pieces also illustrate the difference between the American and European arts and crafts movement. Unlike the furniture produced in America at that time, Hoffmann's furniture does not openly reveal the production methods. Instead, their surfaces, joinery, and detailing reflect the tradition of sophisticated European cabinetry.

Another bentwood rocking chair designed for mass production (3) illustrates Hoffmann's nontraditional approach. In his rockers, Hoffmann combines customary elegance with thin linear parts to create an object of seeming instability.

One of Hoffmann's credos was a call to "estheticize" daily life through authentic, contemporary artistic expression. "As long as our towns, houses, rooms cupboards, utensils, clothes, jewelry, language, and feelings fail to express the spirit of the times in a clear, simple, and artistic manner, we shall remain indefinitely far behind our ancestors and no pretense will conceal our lack," he wrote. He therefore designed numerous household objects, among them his elegantly simple design for tableware (4).

By the second decade of the 1900s, Hoffmann's style began to change. Still using rectangular shapes, these forms were softened somewhat by covering the frames with decorative fabric, as in the Cabinette chair, two-seat sofa, and table (6). The Haus Koller chair (5) more clearly shows Hoffmann's reversion to ornament, decoration, and circular forms. The style is different from that of art nouveau; it is more a precursor of art deco. In fact, Hoffmann is often viewed as the individual who, more than anyone else, set the stage for the art deco movement of the '20s.
A Long Island gallery's diverse collection of hand-molded pieces. By N.R.G.

In an age when machine-manufactured, mass-produced furniture is the norm, the art of the individual craftsman is re-emerging. The revival of this utilitarian art form had its beginnings in the '50s; what makes the '80s significant is the appearance of a handful of galleries dedicated solely to promoting hand-molded furniture. One such establishment is Pritam & Eames, in East Hampton, N.Y. Shown here are the artisan works recently added to its collection. Each piece is one-of-a-kind or a limited edition (up to a half-dozen copies). And each is an example of dazzling workmanship with styles ranging from the idiosyncratic variations of the traditional.

For an executive desk (1) designer Ed Zucca borrows from the architecture genre. High arches are the desk's legs and building blocks its frontal piece. The desk is made of curly maple, maple basswood, fiddleback mahogany veneer. Light emitting diodes highlight the center arches (small red dots above the arches) and incandescent and fluorescent lights, located under the frontal piece, are directed toward the floor. The backs of the building blocks provide drawers and shelves. Another Zucca design is the throne chair (2) in which he wittily blends the old with the new. The throne itself (made of cherry and gold leaf with leather seating) borrows from the Egyptians and sits on top of a contemporary office chair base.

A more traditional style is reflected in the elegantly simple reading chair (3), designed by Alan Marks. The materials are white oak and leather. The walnut and clear glass coffee table (4) by John Dean Dodd expresses its form through the geometry of the oval: The outline of the table is inverted and repeats to support a second surface level. For the torchere light (5) Nevell White uses ash sapplings to connect tulipwood blocks. In addition to the center light, there are four reflector lights on top. And in the limewood blanket chest (6), Judy Kensley McKextolls the movement of birds.
For his walnut rocker (1) Peter Korn explores straighter lines than are traditionally employed. Another variation on the traditional is Robert March's roll-top desk (2) made of padouk. Here the lines are gently curved. For the table with bird (3), Judy Kensley McKie again expresses her fascination with winged creatures, this time using the form of the bird as the table's pedestal. And John Dean Dood's interest in geometric shapes are again seen in the bird's-eye maple desk (4), in which the edges curve downward and that motif is repeated in the shape of the solid supporting legs. George Gordon's corner display cabinet (5), of maple, pearwood, and macassar ebony, echoes Oriental. The sculptural table and reading chair (6), by David Ebner, appears as if delicately sculpted from a single piece of English brown oak. And for the dining room extension table (7) Jonathan Wright cleverly places the extension leaves in their own carrying case. The bubinga and maple table consists of three triangular pieces connected at their apexes to form a circular table top.
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Circle 27 on information card
The Esthetic Pleasure Of Integrated Interiors’ Architects’ Designs for Furniture.

II Lever. (Rizzoli, $25 hardbound, 15 paperbound.)

Only the architect can achieve the integration of building, interior, and contents, says Jill Lever in this book, which concludes that, “by and large,” architects design the best furniture.” The book contains a selection of drawings from the treasures housed in the Royal Institute of British Architects’ drawing collection, and the drawings show a vast array of styles in furniture, designed primarily by British architects. “When eye and mind discover . . . that curved walls are matched by architraves and doors of the same curvature and that the geometry of walls, doors, ceiling, and floor in an oval room are accentuated by ornaments executed in a variety of media, and that tables and chairs reflect the form and details of the room, then some basic human need for order and wholeness is satisfied,” Lever writes. The esthetic pleasure of a truly integrated interior is “intense.”

In the introduction to the book, Lever recounts the history of architects’ involvement in furniture design. “New styles of architecture create new kinds of interior spaces that have to be matched by new finishes and furniture,” she says. She describes the role of the architect in fulfilling this requirement for new furniture design—from the time of the earliest
known surviving design of English furniture (a bed by John Smythson in the 17th century) on through the glorious 18th century when such stellar designers as Robert Adam and John Vardy flourished.

Lever continues with the Gothicism of the 19th century exemplified by furniture designed by A. W. N. Pugin, through the arts and crafts movement when C. F. A. Voysey and Charles Rennie Mackintosh reigned in the decorative arts, to the time of Edwin Lutyens, who designed furniture to match the design for the viceroy's house in New Delhi.

Lever moves on to the furniture designs of so-called modern movement architects who performed in new ways with tubular steel, preformed plywood, aluminum, and other materials, and then to post-modernism where the furniture "expresses that movement's preoccupation with metaphor and language."

Lever's introduction consumes about 25 pages, and the remainder of the book's 144 pages (with notes, bibliography, and index) are given over to the handsome illustrations, in black and white and in color. Lever supplies full descriptive captions for the drawings. Lever concludes, "It seems as though furniture design finds the architect at his happiest."


An enormously ambitious endeavor, this four-volume reference work attempts to write a history of the world by looking at its man-made structures from earliest times to the present. This new encyclopedia brings together biographies of 2,450 architects and persons involved in building design who have worked during the past 4,000 years on six continents. It presents, in the words of editor Placzek, "their lives, their personalities, their social and intellectual contexts, their traditions and innovations, their ideas, their styles and techniques, and above all the structures they created."

Included in these pages are also painters for whom architecture was important (Raphael), planners of cities (L'Enfant), craftsmen (Tiffany), critics and theorists (Mumford and Fuller), as well as famous design firms (McKim, Mead & White).

Only persons born before 1930 are included. But, notes Placzek, "wherever possible we came down in favor of inclusion; the vernacular builder, the modest but masterly craftsman, the accomplished amateur, and most importantly, the woman architect whose contribution has been suppressed or ignored."

The encyclopedia includes 1,500 illustrations, two computer-generated indexes, a chronological listing of every architect profiled in the book, a glossary of architectural terms, and a bibliography after each article.

The value of Kouwenhoven's insights is that they come from a man with a view wider than most. A professor emeritus of English at Barnard College and a former editor of Harper's, he has a knack for writing about things outside the realm of architecture in a way that makes them relevant to architects.

The chapters on words are a good example. Kouwenhoven writes that "we have a weakness of mistaking words for things. We tend to forget that a novel about life in the slums of Chicago is not life in the slums of Chicago." That point may appear blatantly self-evident, but as we now stand hip-deep in "talkitecture," we should take it to heart. A plethora of theories, books, and lecture circuits has made some architects' words more real than the buildings they represent.

The same can be said of the chapters on photography. "All of us live," Kouwenhoven writes, "... in a world of which we are aware primarily because of photography." This world needs some serious consideration, since many of us are aware of architecture primarily through photos.

Among the chapters on architecture and design, in one Kouwenhoven sketches the fascinating history of America's technological contemporary of the Eiffel Tower—the Ferris wheel—which made its debut at the Chicago Exposition in 1893. It is this "structure in motion," this mixture of machine and building, that Kouwenhoven sees as a more dynamic—and inherently American—engineering feat, when compared to the Eiffel Tower. Its form against the sky changed from circle to ellipse to line as the spectator moved. And where the tower only suggested movement, the wheel was movement.

"By that motion and by its changing aspects," Kouwenhoven writes, "it gave symbolic expression, as the tower could not do, to significant characteristics of the present technological and democratic: those characteristics of movement with which modern art has been largely preoccupied."

For Kouwenhoven, the combination of technology and the "democratic impulse" was the force behind the development of the American vernacular. He traced its development in Made in America and in this current work, the chapter "Democracy, Machines, and Vernacular Design" reaffirms his thesis. continued on page 94.
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Two historic moments coincided to encourage the American vernacular: the advent of manufactured power and the birth of a democratic republic. The vernacular arts were encouraged also by the new country’s cultural parameters or, more precisely, the lack of them. Kouwenhoven writes that the “people who came here to live were those least content with the traditional forms and values evolved in aristocratic societies founded upon agriculture and handicrafts. Among such people the shaping of elements introduced into their lives by democracy and the technology of power-driven machines developed very differently than it did elsewhere. . . .”

It was this tradition of vernacular design, Kouwenhoven argues, that influenced the work of early modern architects such as Sullivan and Wright. He exhibits the clean, geometric lines of Shaker architecture in the early 1800s and the stark, Mondrian-like composition of a locomotive cab built by the Trenton Locomotive Works in 1855 as examples of the precursors of modern forms. And his argument is convincing.

“It is my hope,” Kouwenhoven concludes, “that these illustrations will stay with you as specific visual evidence that the expressive forms of modern art derive, in large part, from the empirical attempts of untutored designers to give satisfying order to elements introduced into our lives by modern technology and the democratic spirit.”

The book closes with a thoughtful essay on the relation between human life and design, but I won’t give that one away. In all, Kouwenhoven has offered a collection of illuminating and readable gems that will be enjoyed and pondered by anyone interested in American architecture and its cultural incubator.

Michael J. Crosbie

Conservation of Historic Buildings. Bernard M. Feilden. (Butterworths, $124.)

Every conservation architect will want this book by the one-time director of the Rome Center, and the architect for the reconstruction of York Minster, St. Paul’s, and Norwich cathedrals in England. It is written to serve the needs of the practitioner in the field and addresses the structural aspects of historic buildings, the causes of deterioration, and the work of the conservation architect. Detailed treatment (with examples) of building repairs and many special conservation measures are described.

This well organized book is made more useful by an excellent presentation, good illustrations and drawings, a comprehensive bibliography, and a detailed index. Feilden recognizes the need to orchestrate the services of many specialists in materials conservation and other related fields, but this teamwork also requires leadership and coordination that is rooted in clearly stated objectives of such work.

One regrets the minimal treatment of North American experience, but it may be the price we must pay for failing to participate more actively in international programs in the field.

Frederick Gutheim, Hon. AIA

Mr. Gutheim teaches in the graduate program in historic preservation, department of urban and regional planning, George Washington University.


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continued on page

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is a very personal book. Seven persons share their thoughts, fears, and successes, bringing them close, almost painfully close. At those moments, one is conscious of learning, of understanding, of reaching past stereotypes and undefined images to touch essential qualities of behavior and the environment in which it takes place.

Though the study is based on a theoretical system that analyzes tasks against settings and is supported by environmental research, the results are blessedly free of academic jargon, functional generalizations, and simplistic design solutions. Both words and pictures tickle the imagination, because the many photographs show rare moments of being and living—what people do to take care of themselves, to enjoy themselves, to interact, to accomplish and achieve.

Paradoxical as this may seem, the authors stress the liberating qualities of disability, and the book offers not only an experiential but also a philosophic lesson: “When you are disabled, you just don’t have time for all the false values, the materialism, the ‘modesty.’ You have to define your values and devote your energy to the things that are important,” as one of the individuals sums it up.

Finding out about ourselves, in relation to those whom we have isolated because of ignorance and anxiety, can be quite a trip. This book goes a long way toward demystifying the fear of an unknown frailty and an assumed hopelessness. It is dedicated to eradicating barriers among human beings. With simplicity and honesty the authors communicate to our intellect and to our emotions, and thus open a way to break the barriers that separate us all.

Ms. Falta is an assistant professor in the school of architecture, University of Montreal.

Barbara Lee Diamonstein. (Rizzoli, $35.)

This recently published book resulted from conversations between Barbara Lee Diamonstein and an array of designers of interior spaces as part of a 1981 lecture series at the New York School/Parsons School of Design, videotaped and produced by ABC/Arts Network. The book is handsomely illustrated with 118 plates (many in color) that show the work of the designers interviewed. Diamonstein, author of American Architecture Now and other books, very briefly discusses the changes in interior design since the 1897 publication of The Decoration of Houses, by novelist Edith Wharton and interior designer Ogden Codman Jr. She says that there is no longer much freedom for individual self-expression, but among the notable exceptions "is the design of one's own surroundings."

Certainly, the conversations reported in this book reveal a diversity in approach to the design of one's own surroundings, or those of others. "The substance of these conversations does not add up to neat, easily packaged summary of the correction in which interior design is moving at this moment," says Paul Goldberg in introductory comments. "There is surely a sense of freedom; whether this is something new, as the title tells us, or whether it is just a tendency to mix different kinds of designs, different esthetic approaches which were heretofore kept quite separate, is a question worth asking. In any case, there is something in the air right now that was not there a decade ago, and these conversations help clarify it."

The reader learns the views of decorators Ward Bennett, Bob Bray and Mike Schaalbe, Murio Buatta, Joseph Paul D'Urs, Angelo Donghia, Mark Hampton, Sarah Tomerlin Lee, and John F. Saladin. There are the views as well of Wren Platner, FAIA, who says that interior design is far more difficult than the architecture of a building per se. "It means dealing not with systems or structure of a building, but dealing with people, an

continued on page...
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what makes them psychologically comfortable. " All interior designers should be architecturally trained, he says. "I think there are many disciplines they lack if they don't have an architectural education."

In the conversation with Robert A. M. Stern, FAIA, he declares that architecture does not improve people's lives and finds it "amusing that all the interior design magazines are filled with stuff that architects stopped doing 20 years ago."

Architecturally trained, Italian-born designers Lella and Massimo Vignelli agree with Stern in saying that "good design does not transform society. " Despite this fact, they say that they have been "preaching design. Really, that is what we have done for the last 25 years."

All the interior designers quoted in this book also preach design. And their messages vary. No "neat, easily packaged summary" here, as Paul Goldberger pointed out. Perhaps this is one reason that the book makes for enjoyable and provocative reading.

William Lescaze. Essays by Christian Hubert and Lindsay Stamni Shapiro. (Institute for Architecture and Urban Studies and Rizzoli, $18.50.) This commendable catalog surveys the work of Swiss-born William Lescaze (1896-1969) who came to the U.S. in 1920 and left a legacy in his influential architectural projects. He was "of the generation for whom the International Style was to become a common idiom." His most celebrated design in this idiom (with his partner George Howe) was the Philadelphia Saving Fund Society Building. Other projects in the International Style include the Longfellow Building in Washington, D.C., that city's first building in this style, as well as many other structures. This catalog, whose many illustrations are an important element, supplies a great deal of information on Lescaze from his apprenticeship years to his late work. There are also bibliographies of writings on Lescaze and his own writings.

The Works in Architecture of Robert and James Adam. Edited with an introduction by Robert Oresko. (St. Martin's Press, $17.50.)

Originally published in three volumes covering 1773 to 1822, The Works in Architecture of Robert and James Adam in this new edition combines into a single volume the text and engravings of the three volumes. This edition is based upon a French reprint of 1902, but it differs in that the prefaces to all the volumes and explanations of the plates are combined into a single section of the text. Also, the plates are reassembled to bring together the designs for a specific building. This edition also omits the French translation. There is an introductory essay by Robert Oresko on the work of Robert and James Adam, whom he calls "the liberator of architecture and design from what had become merely ossified standards of procedure." Oresko also says that Adam's style is marked "as one of the most uniquely personal and elegant statements in the history of British art and architecture."

Some of the plates in this edition are so dark that this elegance is hard to discern.

Sixty Years of Interior Design: The Work of McMillen. Erica Brown. (Viking, $50.)

Erica Brown, author of Interior Design at Its Best, chats at great length here about Eleanor McMillen Brown (relation), founder of the New York City interior design firm of McMillen Inc., in 1924, and a leading figure in the field for decades. We learn of her personal and professional life and her work for the likes of William Paley, Tiffany's, Mobil Oil—and at the Blair house in Washington, D.C., and the home of the American ambassador to Great Britain in London. There are many exceedingly beautiful photographs in black and white and in color that show the firm's prodigious efforts to try to achieve near perfection in interiors.

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Institute Honors Given to Eight For 'Distinguished Achievements'

AIA has announced the eight winners of its 1983 Institute honors, which recognize "distinguished achievements that enhance or influence the environment and the architectural profession." Thomas S. Marvel, FAIA, of Hato Rey, P.R., chaired the awards jury, which included Robert Royston of Mill Valley, Calif.; James L. Nagle, FAIA, of Washington, D.C.; Gary W. Johnson of Atlanta; Sonata McNabb of Jackson, Miss.; and Malcolm Holzman, FAIA, of New York City. The honors will be awarded at the Institute's annual convention in New Orleans next month. Among the winners is Knoll International of New York City, (see page 72). The seven other winners are:

• Missouri Governor Christopher Bond, who was instrumental in ensuring the preservation and conversion of Adler & Sullivan's Wainwright Building in St. Louis. "The governor's actions in saving this national historic landmark represent exemplary government commitment to the preservation ethic and merit national emulation," said the awards jury.

Bond instituted a national competition for adaptive use of the Wainwright for state offices. Mitchell/Giurgola and Hastings & Chiwetta won the competition. The resulting renovation and addition now house 18 state offices previously scattered throughout the city (see Mid-May '82, page 162).

• Donald Canty, who was cited for his achievements in architectural criticism and writing. On Canty's nomination for the award, the jury commented that he "has been a significant force in the field of architectural journalism and criticism for the past 30 years. As editor and writer he has sought both to communicate and to interpret architecture, as much for the public as for the profession."

Canty began his career as a newspaper editor in his native Northern California, and entered architectural journalism as editor of the California Book of Homes and Western Architect and Engineer in the 1950s. In 1962 he joined Architectural Forum at Time Inc., as senior editor. He became managing editor when the magazine was acquired by Urban America Inc. in 1965. Two years later he joined the Washington staff of Urban America and launched City, a national magazine of...
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The Institute from page 107

...urban affairs. While at Urban America he wrote One Year Later, an assessment of the response to the Kerner Commission Report, and A Single Society, which considered urban racial problems. He also edited and wrote much of The New City, containing the report of the National Commission on Urban Growth policy.

Since 1974, he has been editor of the AIA Journal.

The late Fazlur Khan, who made his mark in the structural engineering of highrise buildings. The jury wrote that besides his innovations in highrise buildings, cable and tension structures, and teaching, he demonstrated a human awareness and commitment to structural and architectural design collaboration that is of particular importance for architects today.

Born in Dacca, Bangladesh, Khan graduated from the University of Dacca in 1950, and continued his education at the University of Illinois, Champaign-Urbana. In 1955, Khan joined Skidmore, Owings & Merrill in Chicago, where he became general partner in charge of structural engineering in 1970. He remained with the firm throughout his career. He also served as adjunct professor of architecture at Illinois Institute of Technology. He died in March 1982 at the age of 52.

Khan was perhaps best noted for his development in the early-1960s of the tubular design system for highrise structures. This system employs a diagonally braced web wrapping around the building's exterior, offering greater stability under heavy wind loads while reducing the amount of concrete and steel normally required. John Hancock Center and the Sears Tower, both in Chicago, are two famous examples of its use.

- Christian Norberg-Schulz, the Norwegian architectural writer and theorist, whose work, the jury noted, “has had an international impact on the contemporary thinking of students and practicing architects alike.”

Born in Oslo in 1926, Norberg-Schulz studied architecture at the Technological University in Zurich, Switzerland, and studied at Harvard and in Rome. Much of his writing has explored the role of architecture in man’s striving for meaning in existence. “Since remote times,” he writes, “architecture has helped man in making his existence meaningful. With the aid of architecture he has gained a foothold in space and time. Architecture is therefore concerned with something more than practical needs and economy. It is concerned with existential meanings.” A prodigious lecturer throughout America and Europe, Norberg-Schulz has also continued on page 111.
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Circle 50 on information card
The Institute from page 109

News continued on page 112
DEATHS

L. T. Alexander, Waterbury, Conn.
Ralph A. Anderson, Coral Gables, Fla.
A. R. Barlow, Providence, R.I.
Henry Baume, Boulder, Colo.
Irwin Clavan, New York City
Richard M. Cramer, Bartlesville, Okla.
Homer L. Ford, Houston
Charles D. Hall, Billings, Mont.
F. D. Howell III, Los Angeles.
Kenneth J. Hubbard, Tucson, Ariz.
Ralph Robert Knapp, Evansville, Ind.
Linus Burr Smith, FAIA, Lincoln, Neb.
C. H. Leinbach, Grand Prairie, Tex.
R. E. Outcalt, Delray Beach, Fla.
William G. Palmer Jr., Daytona Beach, Fla.
Irwin Clavan, New York City
A. R. Barlow, Providence, R.I.
George E. Yundt, Dallas
L. Wilson, Easton, Conn.
L. Ford, Houston
Charles D. Hall, Billings, Mont.
C. H. Leinbach, Grand Prairie, Tex.
R. E. Outcalt, Delray Beach, Fla.
William G. Palmer Jr., Daytona Beach, Fla.
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R. E. Outcalt, Delray Beach, Fla.
William G. Palmer Jr., Daytona Beach, Fla.
George E. Yundt, Dallas
L. Wilson, Easton, Conn.

BRIEFS

Shingle/Shake Awards Program. The Red Cedar Shingle & Handsplit Shake Bureau in conjunction with AIA is seeking entries in its sixth biennial awards program for residential and light commercial structures. Application forms are due by June 10, and completed entries must be received by July 15. Contact Red Cedar Shingle & Handsplit Shake Bureau, Suite 275, 515 116th N.E., Bellevue, Wash. 98004.

Architectural Firm Directory. The 1983 edition of PROFILE, official directory of AIA membership and architectural firms, has been published by Archimedia in conjunction with AIA. The directory is available in soft cover to members for $77.50 and to nonmembers for $86; the hardcover version is $91.50 (members) and $100 (nonmembers) from Publication Sales, AIA/SC, 1735 New York Ave. N.W., Washington, D.C. 20006.

Disaster Mitigation Summer Institute. The Federal Emergency Management Agency, the National Science Foundation, and the U.S. Geological Survey are sponsoring a two-week design institute for teachers of architecture and engineering July 18-29 at FEMA's National Emergency Training Center in Emmitsburg, Md. Courses will be offered in wind engineering, protective construction, earthquake protective designs, and designing building firesafety. Travel, meals, lodging, tuition, textbooks, and registration are free to participants, but enrollment will be limited to 50 people. Deadline for application is May 13. Contact Shelter-Rad Technology, 2000 Century Plaza, Columbia, Md. 21044.

Housing Awards Program. The Western home awards program, co-sponsored by AIA and Sunset Magazine, is calling for entries in its 13th biennial program. Application deadline (with a $5 entry fee) is May 2. Completed binders must be received by June 2. For more information, contact Sunset Magazine, 2345 Menlo Park, Calif. 94025.

Information on Mies Sought. For a critical biography of Mies, Franz Schulze would appreciate hearing from anyone who has unpublished letters, manuscripts, photographs, reminiscence or anecdotes. Such material should be sent to Professor Schulze, Department of Art, Sheridan and College Roads, Lake Forest College, Lake Forest, Ill. 60045.
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Hardcover, 8 1/2 x 11", 292 pages. $32.00 (AIA members); $39.95 (nonmembers). AIA/SC Catalog #2M726. (ISBN 0-07-001490-6)

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Products

A selection of notable offerings and applications.

By Lynn Nesmith

Stylish hot water and steam radiators by the Swiss manufacturer Runtal, available throughout Europe for 25 years, are now offered in this country by North American Energy Systems. The radiators are compatible with hot water, forced circulation, steam, and gravity hydronic heating systems, as well as solar and water heated heat pump systems in renovations and new construction. The units come with a flat white primer and may be painted with almost any paint using a brush, spray, or electrostatic process. The flexible styles are designed to complement interiors by doubling as functional objects such as partitions (1), coat racks (2), and kitchen utensil holders (3). (Circle 161)

The Biblical Arts Center in Dallas by Burson, Hendricks & Walls includes a Naturalite cluster skylight system (5) comprised of 36 double domes. The system, measuring 36 feet square, provides natural lighting for the interior courtyard. Aluminum framing components are available with a standard mill finish, clear or color anodized, and baked-on paint finishes. The units are constructed with glass, polycarbonate, or a variety of acrylic glazing materials. (Circle 165)

Round Top windows (4) by Marvin Windows are built to customer specification in a variety of shapes, including curvilinear and elliptical arches, and full, half, and quarter rounds. Sizes vary from 13 inches to 15 feet in diameter. Units are constructed of fine-grained ponderosa pine with a laminated frame designed to accept stain and varnish or paint finishes. The windows feature ¾-inch or 1-inch insulated glass or triple glazing with an operating sash available on some designs. (Circle 164)

Broadloom woven virgin wool carpets from Couristan feature a square geometric pattern in three tone-on-tone berber shades. The Kalahari II Checkpoint design (6) is made with a cut and loop patterned weave with two levels of pile height. (Circle 166)

Monier's Mission S concrete tiles (7) feature the high barrel design and deep color shadowing of Spanish style clay tiles. Each tile weighs 10 pounds and measures 16½x13 inches. (Circle 167)

Products continued on page 116
Security Door.
Roll-up steel door bolts directly into existing framework of residential closets. It is available in widths of 24, 30, 32, and 36 inches and custom sizes. (Saf-T-Case, Irving, Tex. Circle 170 on information card.)

Insulated Wall Board.
Extruded polystyrene foam bonded to ½-inch gypsum board is designed to provide a moisture barrier and insulation. Standard panels measure 4x8 feet and may be fastened to studs or directly to masonry walls. (Spirex Structures, Warren, Mich. Circle 171 on information card.)

Modular Work Unit.
Open-frame modular factory system includes a series of interchangeable frames in various sizes designed to solidly lock together to form work stations that conserve floor space. (Wilfab Systems, Wilmington, Mass. Circle 172 on information card.)

Metal Core Laminate Panels.
Wilsonart panels, designed for heavy duty commercial and institutional installations, are constructed of a decorative laminate fused to a lightweight aluminum core. Panels feature a low fire hazard classification and are available in a variety of solid colors, wood grains, and patterns. (Wilsonart, Temple, Tex. circle 173 on information card.)

Blackhawk Heat Recovery System.
Blackhawk Heat Recovery System provides controlled ventilation of continuous fresh air and offers preheating and precooling capacities. It is designed for residential, agricultural, commercial, and light industrial applications. (Blackhawk Industries, Inc., Saskatchewan, Canada. Circle 145 on information card.)

DRAFTING TABLE.
Mayline drafting table (below) features a power pedestal for automatic tilt and lift control. The system is capable of lifting 250 pounds ranging from 30 to 50 inches with an 88-degree angle adjustment. (Mayline Co., Sheboygan, Wis. Circle 143 on information card.)

Wood Casement Window.
The Ariel window by Peachtree features a slim frame and sash with concealed interior and exterior hinges, scaled operator handles, and an unobtrusive screen. The interior wood is free of finger joints. The windows are designed for residential and light commercial installations. (Peachtree Windows and Doors, Norcross, Ga. Circle 150 on information card.)

Acoustical Wall Systems.
Vicractoustic sound absorbing component feature perforated Vicractex vinyl covering over a high-density, ½-inch molded glass fiber sheet bonded to a one-or two-inch glass fiber core. Seven different styles are available. (L. E. Carpenter and Co., Wharton, N.J. Circle 149 on information card.)

Acoustical Ceiling Panels.
Wrapped panels designed to absorb noise and limit sound transmission are available with fabric or vinyl finishes in 16 standard colors. Panels are sized to customer specifications in thicknesses of ½ inch to 1½ inch and can be coordinate with metallic, woodgrain, or pastel grid systems. (Interchange Inc., Chicago. Circle 148 on information card.)

Insulation Inserts.
Korfil inserts molded of expanded polystyrene are designed to fit standard two cor masonry units of 6-, 8-, 10-, and 12-inch sizes for both single wythe and cavity wa construction. Preinstalled inserts provide consistent insulation value and permit excess moisture to escape. (Korfil, Inc., Chicopee, Mass. Circle 147 on information card.)

Fluorescent Lighting Fixtures.
Acrylic lenses for fluorescent fixtures feature a bold prism pattern composed of radiusued pyramidal shapes designed to provide even light distribution and improve energy efficiency. The lens is available in clear acrylic and with gold, silver, or black ink embellishments. (K-S-H, Inc., St. Louis Circle 146 on information card.)

Ceramic Fiber Insulation.
Fire retardant Fiberfrax is an asbestos-free ceramic fiber insulation available in 40 different forms, including blankets, boards, coatings, and woven textiles. (Carborundum, Niagara Falls, N.Y. Circle 152 on information card.)

Reinforced Structural Panels.
Corflex plastic double wall structural panels are constructed of two parallel, ½-inch thick surfaces separated by vertical I beams. Panels are available in various lengths, widths, colors, and finishes with a hollow or foam core. Edges feature interlocking devices designed to provide waste

continued on page 1.
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CNA and Victor O. Schinnerer & Company, Inc. started the trend twenty-six years ago with our professional liability insurance for architects and engineers. Our program started a trend so innovative and dependable that competitors never hesitate to follow suit.

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To be sure your project is in the best hands, have your broker or agent contact Victor O. Schinnerer & Company, Inc., Program Administrators and Underwriting Managers.

26 years and still building together.
Products from page 116
tight assembly in various configurations.
The system allows a building to be con-
structed without metal for a static-free
environment necessary for the testing of
some computers and sensitive electronic
equipment. (Corflex Inc., Bamberg, S.C.
Circle 144 on information card.)

Task Lighting.
Fluorescent ambient Lite-Savers by Steel-
case are designed to easily adjust light
levels needed in different work areas.
Free-standing 65- and 75-inch models provide
"fill-in" light between work stations. Panel
mounted, shelf mounted, and 15-inch-deep
portable units are also available. (Steel-
case, Grand Rapids, Mich. Circle 159 on
information card.)

Elevator Control Monitor.
Westinghouse's elevator information con-
trol center features a switch panel, an
optional communications module, and an
information display monitor. The CRT dis-
play can identify cars out of service, moni-
tor corridor calls and responding car
movements, and indicate special operat-
ing instructions. The system is used in
new construction or may be retrofitted
to existing systems. (Westinghouse Elec-
tric Corp., Pittsburgh, Pa. Circle 156 on
information card.)

Architectural Panels and Enclosures.
Sheet metal panels and enclosures are cus-
tom designed for commercial and institu-
tional installations. The series includes
prefinished covers for perimeter heating,
venting, and air conditioning equipment,
aluminum linear bar grills, window silks,
and interior column enclosures. (Linear-
Flo Systems Co., Skokie, Ill. Circle 153
on information card.)

Undercarpet Cabling.
Electrical and communications circuit wir-
ing is installed with a plastic tape bottom
shield attached to concrete flooring with
pressure sensitive adhesive. The flat cable
features 3-, 4-, or 5-wire construction and
is covered with a polyester film. Carpet
squares are laid directly over the cable
system. (AMP, Inc., Harrisburg, Pa.
Circle 158 on information card.)

Access Floor Tiles.
Perma-Kleen decorative laminate flooring
by Wilsonart is available in 14 tile choices
including solid colors and abstract pat-
tterns, as well as more than 70 custom
designs. It can be bonded to aluminum,
oil-free steel, wood, or particle board ac-
cess floor components. Tiles are 24-inch-
square and available in three thicknesses.
(Wilsonart, Temple, Tex. Circle 157 on
information card.)

Drainage Panels.
GeoTech drain panels constructed
adhesive-bonded expanded polystyrene
beads are designed to protect foundati-
ons from rising water systems and reduce interior watt
condensation in below-grade structure
foundations, and retaining walls.
Circle 140 on information card.)

Electric Drafting Eraser.
Koh-I-Noor 2800 erasing system is de-
signed to remove both graphite and ink
from drawing paper and coated drafting
film. It features a white Lexon plastic
plastic casing with a hollow shaft for seven-inc
eraser strips and a finger tip control
switch on the unit barrel. The motor is
air cooled with a seven-foot cord that
requires no grounding plug. The hangi-
ing can be positioned for either right or
left handed accessibility. (Koh-I-Noor
Rapidograph, Inc., Bloomsbury, N.J.
Circle 155 on information card.)

Solid Wood Tambour.
Tambours from Customwood are availa-
ble in a variety of solid hardwood designs
bonded to 12-pound canvas backing. T
molding profiles are suitable for flat su
faces, facing curves, and irregular sur-
faces. (Customwood, Albuquerque, N.
Circle 154 on information card.)

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Fire protection sprinklers have not traditionally been designed for appearance, so many architects and designers prefer to use 'concealed' sprinklers in spite of their inherent drawbacks and high cost. Viking now offers an option to concealed sprinklers that is both attractive and extremely cost effective.

The new Viking Recessed Sprinkler features a fully adjustable escutcheon, U.L. listed with Viking's new Micromatic™ sprinkler. This combination provides an attractive, subtle look at a cost far below concealed or other recessed sprinklers. The Viking Recessed requires no 'near match' painted cover which disguises the fact that an area is properly protected. And, there is no need for an air gap, which collects dust and leaves a dirty ring around concealed sprinklers.

Viking's unique escutcheon allows sprinklers to be fitted and tested prior to ceiling installation, saving time and eliminating cutbacks. It is available in polished or satin chrome, painted white, and brassstone. The Micromatic Sprinkler (the smallest standard American sprinkler made) may be recessed up to one-half its 1 1/2" height for a clean appearance.

Viking's new Recessed Sprinkler adds up to an unbeatable combination of good looks and low cost that allows architects to get sprinklers out in the open again.

Contact your nearest Viking Distributor, write, or call for more detailed information on Viking's new Recessed Sprinkler.
Maushop Village, New Seabury, Cape Cod, MA; Architect: Claude Miquelle Associates, Melrose, MA. Cabot's Bleaching Oil on shingles.

Circle 28 on information card

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