



# WATERFRONT

**For well  
designed interiors—  
a new look  
in Soundsoak™  
acoustical walls**

For interiors that should be quiet as well as elegant, Armstrong announces a wall panel with the same sound-absorbing efficiency as a good acoustical ceiling.

Soundsoak Supreme acoustical wall panels are faced with an attractive nylon fabric woven in a classic texture favored for contract furnishings. A complete palette features 15 neutral and accent colors.

For literature describing these fully assembled ready-to-install panels, write Armstrong, Dept. 05NAJ, Lancaster, PA 17604.

FROM THE  INDOOR WORLD\* OF  
**Armstrong**

Armstrong introduces an open plan ceiling  
with the design you want  
and the speech privacy people need.



Armstrong's new Quietlook™ Silok® Ceiling provides you with a beautiful solution to the noise problem an open plan office presents.

Because Quietlook Silok offers all the sound-absorbing properties you need, insuring speech privacy and preventing noise problems, with an NRC range of .90–1.0 and an NIC' of 20.

At the same time, its high style beautifully enhances the look of the prestigious open plan office.

In fact, Quietlook Silok is as attractive as it is functional. The clean modern look of its regular-edge panels perfectly highlights your contemporary

open plan design. The recessed exposed grid allows you the option of colored or reflective grids to add even stronger design accents to ceiling areas.

So before you design an open plan office, compare the sophisticated elegance of Quietlook Silok with the look of ordinary lay-in panels.

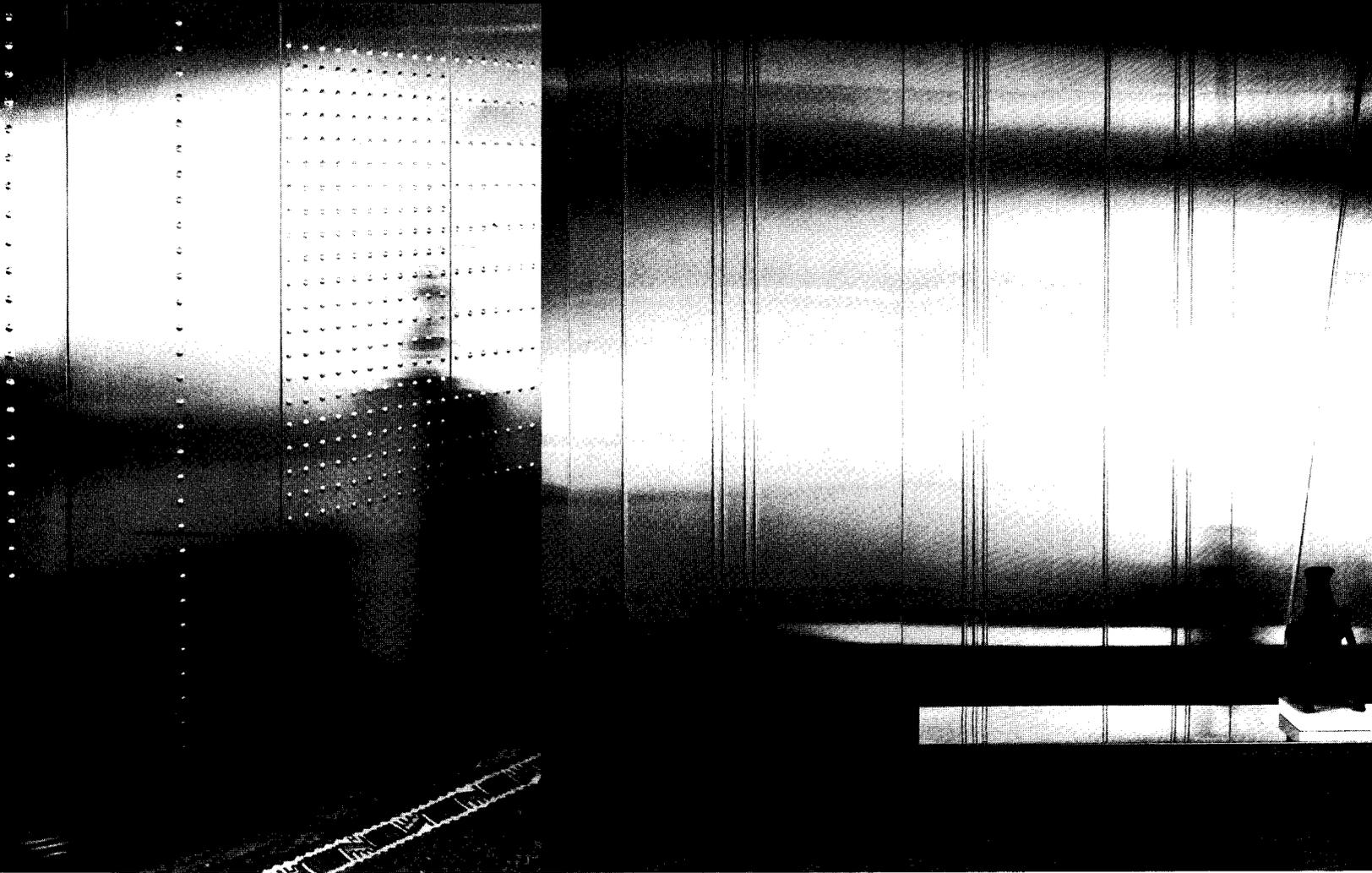
For a free booklet about Quietlook Silok Ceilings, write Armstrong, Dept. 05NAJ, Lancaster, PA 17604.

**Armstrong**  
CREATORS OF  THE INDOOR WORLD

Circle 1 on information card

**Metal Graphics** is an innovative series of wall panels that combine a quality material with a dramatically elegant design statement. Beautifully detailed stainless steel or brass-plated steel panels are embossed in numerous variations of a basic design theme, offering the potential for unique and individual combinations on each project.

Forms & Surfaces Box 5215  
Santa Barbara, California 93108 (805) 969-4767



**FORMS+SURFACES**

# CONTENTS

## The American Institute of Architects

### Officers

Charles E. Schwing, FAIA, *President*  
R. Randall Vosbeck, FAIA, *First Vice President*  
Gerald L. Clark, FAIA, *Vice President*  
Anna M. Halpin, FAIA, *Vice President*  
Thomas H. Teasdale, FAIA, *Vice President*  
Robert M. Lawrence, FAIA, *Secretary*  
J. W. Barnes, FAIA, *Treasurer*  
David Olan Meeker Jr., FAIA, *Executive Vice President*

### Directors (Year indicates expiration of term)

William Blurock, FAIA ('82), *California*  
James C. Dodd, AIA ('81), *California*  
Donald L. Hardison, FAIA ('80), *California*  
Harry W. Harmon, FAIA ('80), *California*  
R. Bruce Patty, FAIA ('82), *Central States*  
Henry W. Schirmer, AIA ('81), *Central States*  
P. Whitney Webb, AIA ('82), *East Central States*  
Ellis W. Bullock Jr., AIA ('81), *Florida/Caribbean*  
E. H. McDowell, FAIA ('81), *Florida/Caribbean*  
Gaines B. Hall, AIA ('81), *Gulf States*  
Ray K. Parker, AIA ('80), *Gulf States*  
Raymond C. Ovresat, FAIA ('81), *Illinois*  
Paul D. Bowers Jr., AIA ('80), *Michigan*  
David A. Holtz, AIA ('80), *Middle Atlantic*  
James R. Nelson, AIA ('81), *Middle Atlantic*  
John Avery Carter, AIA ('82), *New England*  
George M. Notter Jr., FAIA ('80), *New England*  
Harold D. Glucksman, AIA ('80), *New Jersey*  
Joseph Monticciolo, AIA ('82), *New York*  
William A. Rose Jr., AIA ('81), *New York*  
Leroy Bean, AIA ('82), *North Central States*  
Edwin B. Crittenden, FAIA ('81), *Northwest*  
William H. Trogon, FAIA ('80), *Northwest*  
Robert Gramann, AIA ('82), *Ohio*  
Derek Martin, AIA ('81), *Pennsylvania*  
John A. Busby Jr., FAIA ('82), *South Atlantic*  
Michael D. Newman, AIA ('80), *South Atlantic*  
William Caudill, FAIA ('82), *Texas*  
Theodore S. Maffitt Jr., FAIA ('81), *Texas*  
Pat Y. Spillman, FAIA ('81), *Texas*  
Thomas B. Muths, AIA ('82), *Western Mountain*  
John B. Rogers, FAIA ('81), *Western Mountain*  
Robert B. Pease, Hon. AIA, *ex officio, Public Director*  
Richard Martini, *ex officio, President, ASC/AIA*  
Ann Stacy, Hon. AIA, *ex officio, Chairwoman, Council of Architectural Component Executives*

### Headquarters

David Olan Meeker Jr., FAIA, *Executive Vice President*  
James A. Scheeler, FAIA, *Group Executive, Program and Services Management*  
Alan B. Stover, AIA, *Acting General Counsel*  
James A. Schuping, *Assistant Secretary*  
William G. Wolverton, Hon. AIA, *Assistant Treasurer/Controller*  
Michael B. Barker, AICP, *Administrator, Practice and Design*  
Francis X. Brown, *Administrator, Conventions*  
Muriel Campaglia, *Administrator, Public Relations*  
James E. Ellison, AIA, *Administrator, Education and Professional Development*  
Arnold J. Prima Jr., AIA, *Administrator, Government Affairs*  
David Olan Meeker Jr., FAIA, *President, AIA Corporation*  
Jeanne Butler Hodges, *President, AIA Foundation*  
Charles R. Ince Jr., *President, AIA Research Corporation*  
John H. Schruben, FAIA, *President, Production Systems for Architects and Engineers, Inc.*

- 
- 36 **The Renewed Relevance of Medieval Cities**  
*Lessons for contemporary urban design. Text and illustrations by John J. Desmond, FAIA*
- 
- 46 **Registration: Riding Off into the Sunset Laws**  
*The current re-examination of the ends and means of licensing architects. By Nora Richter*
- 
- 48 **Architecture and Consumerism**  
*The quality of services will shape the profession's role in a consumer-oriented society. By Harold Fleming, Hon. AIA*
- 
- 52 **Mr. Johnson's Hidden Jewel of a Museum**  
*It was called 'postmodern' in the middle '60s and has been largely neglected ever since. By Andrea O. Dean*
- 
- 58 **An Island Laboratory of Architectural Transformations**  
*A visitor's view of Hawaii's 'patterns of environmental domination.' By Forrest Wilson, AIA*
- 
- 64 **The Biography of a Remarkable Tool**  
*Architectural use of computers enters its third stage of sophistication. By Eric Teicholz*
- 
- |                             |                       |
|-----------------------------|-----------------------|
| 6 <b>Events and Letters</b> | 66 <b>Books</b>       |
| 11 <b>News</b>              | 80 <b>Advertisers</b> |
- 

**Cover:** Photograph of Edinburgh, Scotland by John J. Desmond, FAIA,

**Donald Canty**, Editor; **Suzy Thomas**, Art Director; **Carole Palmer**, Associate Art Director; **Stanley Abercrombie**, AIA, Senior Editor, Architecture; **Mary E. Osman**, Senior Editor, Departments; **Andrea O. Dean**, Senior Editor, Articles; **Allen Freeman**, Managing Editor; **Nora Richter**, Associate Editor; **Virginia Dart**, Editorial Assistant; **Michael J. Hanley**, Publisher; **Michael M. Wood**, National Sales Director; **George L. Dant**, Production and Business Manager; **Terry L. Peck**, Circulation Manager; **David S. Godfrey**, General Manager

The AIA JOURNAL, publication number: ISSN0001-1471, official magazine of The American Institute of Architects, is published 14 times yearly at 1735 New York Ave. N.W., Washington, D.C. 20006. **Subscriptions:** for those who are, by title, architects, architectural employees and to those in architectural education (faculty, schools and students), and to libraries, building construction trade associations and building products manufacturers: base rate \$12 a year in the U.S., its possessions and Canada. For all others: \$18 a year in the U.S., its possessions and Canada; other countries to those who are by title, architects: \$18 a year. All others outside the U.S., its possessions and Canada: \$30 a year. Single copies, \$2.50 each. Publisher reserves the right to refuse unqualified subscriptions. For subscriptions: write Circulation Department; for change of address: send Circulation Department both old and new addresses; allow six weeks. Quotations on reprints of articles available. Microfilm copies available from University Microfilm, 300 N. Zeeb Road, Ann Arbor, Mich. 48106. Referenced in *The Architectural Index, Architectural Periodicals Index, Art Index, Avery Index to Architectural Periodicals*. Second class postage paid at Washington, D.C., and additional mailing offices. © 1980 by The American Institute of Architects. Opinions expressed by the editors and contributors are not necessarily those of AIA. vol 69, No. 5.

# PPG SETS THE GOLD STANDARD IN GLASS.



The Midland Life Insurance Building, Sioux Falls, South Dakota. The centerpiece of a far-reaching urban renewal program. And a triumph in modern center city architecture.

One reason for the building's success is 26,000 square feet of energy-conserving PPG *Solarban*® Gold *Twindow*® reflective glass. A breathtaking building skin that, literally, has earned its way into this design.

### THE STANDARD FOR BEAUTY.

Perhaps the most striking characteristic of *Solarban* Gold is its true color. It isn't brassy or greenish like many other gold reflective glasses. Instead, its rich golden tone is distinctive and elegant. An excellent way to bring out the best in any innovative design.

Yet *Solarban* Gold never looks out of place. Its reflective qualities

allow it to blend easily and naturally into practically any surroundings.

### THE STANDARD FOR ENERGY EFFICIENCY.

But beauty is only half the story. *Solarban* Gold is also the most energy effective of all PPG's high performance glasses. Each panel boasts a U-value of .30. And spandrel units are available with even more impressive U-values of .08.

That kind of insulating efficiency is coupled with other energy-saving features to meet the design goal of a building that needs no heat until the outside temperature dips below 10 degrees Fahrenheit.

*Solarban* Gold is effective during the summer, too. By reflecting the sun's heat, it reduces solar heat gain as well as the need for air-conditioning.

There's much more to learn about PPG's spectacular gold standard in glass. For more details, see Sweet's 8.26 Pp, or write PPG Industries, Inc., One Gateway Center, Pittsburgh, PA 15222.

PPG: a Concern for the Future



Architect:  
Henningson, Durham & Richardson, Inc.,  
Omaha, Nebraska.  
Owner:  
Midland National Life Insurance Company,  
Sioux Falls, South Dakota.



## EVENTS

**May 26-June 10:** Traveling seminar to study early 20th century architecture in the USSR, including a visit to Helsinki, Finland, sponsored by the departments of architecture of Massachusetts Institute of Technology and Rhode Island School of Design. Call: Natalia Bourso-Leland, (617) 742-0105.

**May 31-June 1:** Association of Architectural Librarians annual convention, Cincinnati. Contact: Stephanie Byrnes, AIA Library.

**May 31-June 4:** Architectural Secretaries Association annual convention, Cincinnati. Contact: Cathy Krieger, AIA Headquarters.

**June 1-4:** AIA annual convention, Cincinnati.

**June 2-6 or June 9-13:** Principles of Color Technology Program, Rensselaer Polytechnic Institute, Troy, N.Y.

**June 2-7:** Conference on Urban and Regional Research, Paris. Contact: Human Settlements Section, Environment and Human Settlements Division, Economic Commission for Europe, Palais des Nations, CH-1211 Geneva 10, Switzerland.

**June 4-7:** International sculpture conference, Washington, D.C. Contact: International Sculpture Center, 743 Alexander Road, Princeton, N.J. 08540.

**June 6-7:** Solar Design and Analysis of Subterranean Structures Seminar, Biltmore Hotel, Phoenix. Contact: Architectural Extension, Oklahoma State University, 115 Architecture Building, Stillwater, Okla. 74074.

**June 9-11:** Solar Energy Systems Course, Hartford Graduate Center.

**June 9-12:** Structural Design Seminar, University of Wisconsin, Madison.

**June 11-13:** National Exposition of Contract Interior Furnishings, Merchandise Mart, Chicago.

**June 12-13:** Designing with Plastics Seminar, Chicago. (Repeat seminars: June 26-27, San Francisco; Aug. 7-8, Lowell, Mass.) Contact: Continuing Education Office, University of Lowell, Lowell, Mass. 01854.

**June 15-20:** International Design Conference, Aspen, Colo. Contact: IDC, Box 664, Aspen, Colo. 81611, (303) 925-2257.

**June 16-20:** Advances in Earthquake Engineering Course, University of California, Berkeley.

**June 16-20:** Advanced Passive and Active Solar Energy Systems Design Course, Hartford Graduate Center.

**June 21-26:** Association of Collegiate Schools of Architecture/AIA Teachers Seminar, Cranbrook, Mich. Contact: ACSA, 1735 New York Ave. N.W., Washington, D.C. 20006.

**June 22-26:** International Federation of Consulting Engineers annual conference,

San Francisco. Contact: American Consulting Engineers Council, 1015 15th St. N.W., Washington, D.C. 20005.

**June 22-27:** Air Pollution Control Association annual meeting, Place Bonaventure, Quebec, Canada. Contact: APCA, Box 2861, Pittsburgh, Pa. 15230.

**June 24-25:** "Windfall Profit Tax" Conference, New York City. Contact: Energy Bureau, 41 E. 42nd St., New York, N.Y. 10017.

**June 27:** Deadline for letters of intent to enter, Owens-Corning Fiberglas annual energy awards program. Contact: Mary G. Reinbolt, Owens-Corning Fiberglas Corporation, Fiberglas Tower, Toledo, Ohio 43659 (419) 248-7797.

**June 30-July 25:** Parsons School of Design and the Musée des Arts Decoratifs program on interior design, decorative arts and the history of French architecture, Paris. Contact: Dean Vieri Salvadori, Parsons School of Design, 66 Fifth Ave., New York, N.Y. 10011.

## LETTERS

**Architects in Government:** As an architect employed by the federal government, I must take exception to the views expressed by R. Randall Vosbeck, FAIA, as reported in the March issue (p. 12) in which he said that "there is little incentive, or will be, for young architects in government service" because "design vitality comes from the private sector."

Having worked in both sectors, as well as having taught architecture for the past six years, my personal experience has been that planning and design conducted within the federal agencies with which I have been associated has been comparable to, if not of higher quality, than that obtained when work is contracted with A/E firms. I also have observed that the experience young professionals have gained with government agencies, in general, has been far superior to that received outside the government, particularly in the areas where architecture is related to energy, the environment, diminishing resources and national land use planning.

I would not insist that everyone agree with me since each person's experience is different. Mr. Vosbeck, however, speaking as the president-elect of AIA, has officially gone on record extolling one segment of the architectural profession—his own—at the expense of another. I consider this to be inappropriate; both good and bad design emanates from the public and private sectors alike.

Finally, the statement in the article that "many state licensing laws do not count government service toward registration requirements" misrepresents government employment. The requirements for registration depend on the nature of the

experience. Just as some outside experience is unacceptable to state boards, so is some government experience. The inference of the article, however, is that government employment per se is suspect. In my present agency, of the 28 individuals classified as architects, 25 are licensed. Nearly 10 percent of AIA's membership is made up of architects in government; 25 percent of all registered architects work in the government sector. The large number of architects working in government who have not joined AIA is indicative of the Institute's problems in addressing itself to this segment of the profession, as demonstrated by Mr. Vosbeck's comments. *Terrel M. Emmons, AIA  
Fredericksburg, Va.*

I read, with great disappointment, about Mr. Vosbeck's congressional testimony in the March issue.

Mr. Vosbeck's understanding of state licensing laws is, at best, not totally accurate. He implied that "many states do not count government service toward registration requirements." The National Council of Architectural Registration Boards itself does not care where one gains experience, but rather about the quality of it. Professional experience in the federal government is not, by definition, as Mr. Vosbeck would imply, unacceptable to most state licensing agencies.

Mr. Vosbeck's lack of respect for a group that comprises about 10 percent of AIA membership is unfortunate. Speaking of architectural quality, he said, "To put the government in the role as mentor for young design professionals ignores reality" and that "design vitality comes from the private sector." He appears to think that working for the federal government and producing high quality design is a contradiction in terms. It would not be productive to debate here whether architects in government service or architects in the private sector comprise the only reservoir of architectural design talent. Each group has characteristics that could be commended and others that could be criticized.

AIA is supposed to represent the entire  
*continued on page 78*

**Corrections:** Sen. Robert T. Stafford (R.-Vt.) introduced the Architectural Quality Act of 1979 (S461), not Sen. Daniel P. Moynihan (D.-N.Y.), as stated in the March issue (p. 12). Also, the bill called for use of design competitions on federal projects costing between \$2.5 million and \$25 million.

In our news story last month about HUD grants for innovations in housing (p. 36), an incorrect telephone number was given. The correct number is (202) 755-0640.

# Nobody simplifies ceramic tile like your American Olean Sales Representative.



When you're considering using ceramic tile, there's one person you can always count on for help. Your American Olean sales representative.

You'll get help in specifying the proper tile for the job. Help in answering those tough, technical questions. And helpful suggestions – for new and imaginative ways to use our tile.

You'll get more. Your American Olean sales representative helps see that your ceramic tile installation is completed as specified, no matter where it is. Because backing our representatives, there are American Olean sales service centers and manufacturing plants across the country. And there's even more coming on board this year.

Get information about our fine ceramic tile and allied products plus the name of your American Olean sales representative. Check our catalog in Sweet's General Building File or call us at (215) 855-1111. Or write American Olean Tile Company, 2721 Cannon Avenue, Lansdale, PA 19446.



*A National Gypsum Company*

## American Olean is Ceramic Tile.

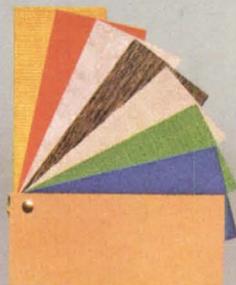
*Circle 4 on information card*

# Don't settle for anything less

**USG® Gypsum Ceiling Panels** help you meet special job conditions and close budgets...all without closing out some beautiful options. Such as a distinctive collection of texture-painted and vinyl-clad panels for interior and exterior applications. Or classic plain panels for interior use only.

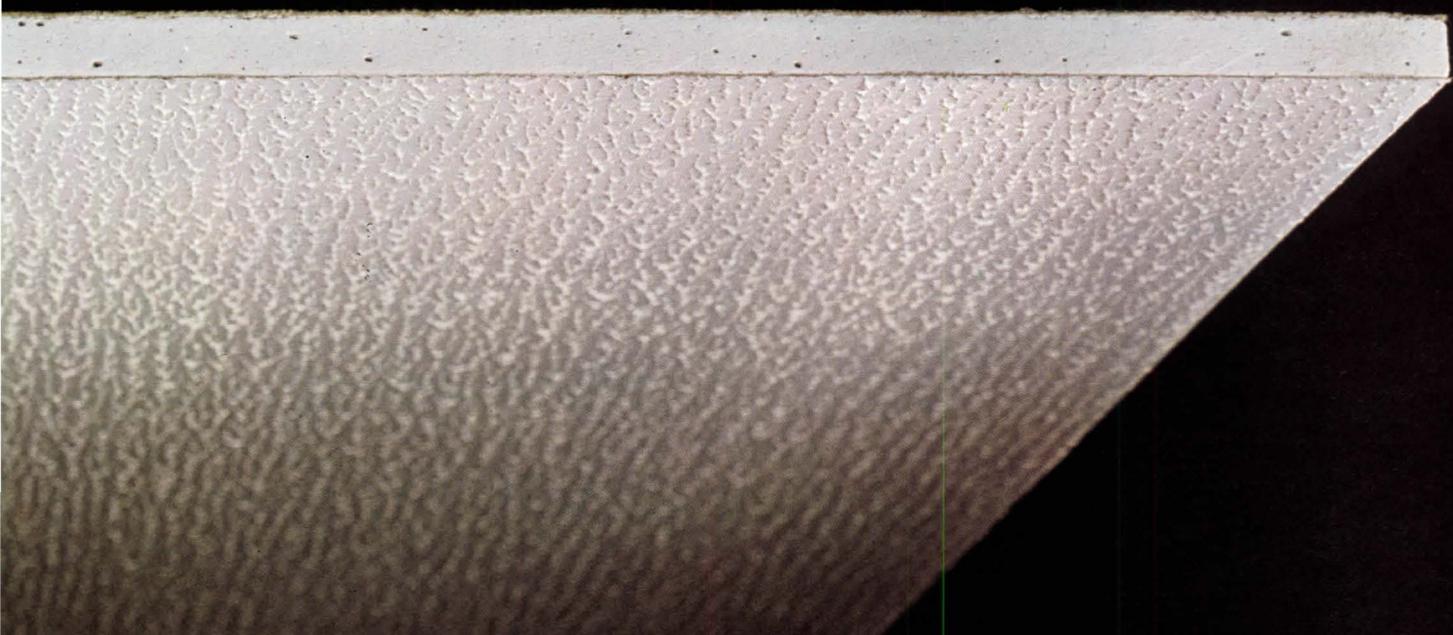
Inside or out, these versatile ceiling panels do so much more than limited alternatives. They strongly resist abuse, offer easy vinyl-face washability, require little else in the way of maintenance. And you can get USG Gypsum Ceiling Panels for fire-rated applications. Other notable benefits include simple lay-in installation, impact and crack-resistance, as well as USDA approval.

Make the big cost-saving move that won't show it on the finished job. Call your U.S.G. Representative for details on USG Exterior Gypsum Ceiling Panels or USG Interior Gypsum Ceiling Panels in 2x2' or 2x4' sizes. ■ Or write to us at 101 S. Wacker Dr., Chicago, IL 60606, Dept. **AJ58Q**



Two options:  
Lunar, Vinyl Stipple.  
Wide variety of washable  
vinyl-clad choices.\*

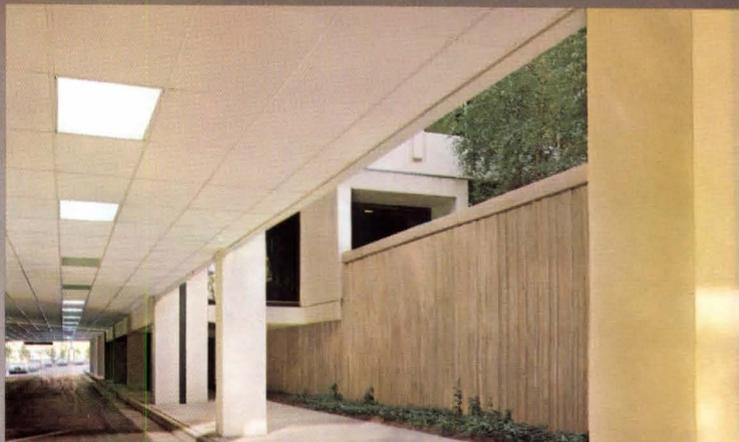
\*Not all patterns,  
available on a  
national basis.



when you can get low-cost, fire resistant ceilings like these.



interior



exterior

**UNITED STATES GYPSUM**   
BUILDING AMERICA

Circle 5 on information card



First Federal Savings & Loan Association, Chattanooga, Tenn. | Arch: Derthick & Henley



Capitol Building, Washington, D.C. | Arch: Architect of the Capitol

# Georgia Marble... The Proven Performer...

Georgia Marble with its inherent beauty and durability has remained a favorite medium for the design professional through many decades of change in building designs, shapes, sizes, types and color preferences.

Why? It has proven to be one of the densest most durable marbles in the world; it's available in large size panels (6' x 15' max.) for cost effective floor to floor erection, or in weight saving veneers with our famous Zibell Anchoring System designed to significantly reduce building loads by eliminating heavy masonry backup; its extreme hardness and low absorptivity to dirt all but eliminates exterior maintenance; it's available in colors from sparkling whites to nature's subtle earth tones; its exclusive GAMARTEX and RIBTEX finishes afford the architect a latitude in design never before available.

And, best of all, if budget or delivery is your problem, Georgia Marble is the solution. Our timely deliveries and competitive prices will help to keep your job on schedule and within budget.



STRUCTURAL DIVISION / Nelson, Georgia 30151 / (404) 735-2591

a **Jim Walter** company



National Gallery, Washington, D.C. | Arch: I.M. Pei & Partners



Water Tower Place, Chicago, Ill. | Arch: Loeb, Schlossman & Hackl

Circle 6 on information card

## Energy

# Design Professions Back BEPS —With Significant Reservations

Many of the 160 witnesses at the Department of Energy's hearings on the building energy performance standards in Washington, D.C., supported BEPS in principle but singled out specific problems that they felt made the standards unworkable as written. The witnesses represented national design, engineering, construction, energy and consumer organizations and private individuals.

For example, while supporting energy conserving building design, Hugh D. McMillan Jr., president of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, argued that "BEPS would fail because there is insufficient time to develop it completely." Edgar K. Riddick of the National Society of Professional Engineers maintained that "BEPS as proposed will not, in the aggregate," achieve the maximum practicable improvement in energy efficiency nor increase the use of renewable sources of energy."

Other groups, while disagreeing with some of BEPS provisions, offered more support. "BEPS have the potential to become the most important energy conservation initiative of our time," said Mark Cooper of the Consumer Energy Council of America. The Center for Renewable

Resources' spokesman, Gerald Mara, suggested that "in spite of several shortcomings, BEPS is a positive step" in the direction of reducing U.S. energy consumption. Herbert Epstein, FAIA, testified that "AIA believes that building energy performance standards represent a major step toward national energy self-sufficiency and urges that these standards be implemented as rapidly as possible."

A strong criticism of the whole BEPS program came from the National Association of Realtors: "BEPS is a pervasive regulation of the housing industry." An association spokesman said that market incentives resulting from recent federal deregulation of energy prices would do the job that BEPS were designed to do.

The 1976 law calling for the development of BEPS requires that they be put into effect a year after promulgation. AIA supports a two-year phased-in implementation period for BEPS, during which time "needed improvements can be made, workable standards produced and technical and administrative capacity established." During the two years, both building performance and component performance standards could be used with the latter eventually eased out.

The Conservation Foundation called for the implementation of BEPS within the proposed DOE timetable. "By implementing these flawed BEPS, we will be saving more energy and more money than with no BEPS at all," the foundation's spokesman said.

ASHRAE and the American Consulting Engineers Council called for a three to five year implementation period, while a representative of the National Council on State Building Codes and Standards testified that "effective implementation by the majority of the code jurisdictions across the country will take up to three years."

Congress can vote to halt federal assistance for building projects in noncomplying jurisdictions a year after promulgation of BEPS. "We strongly urge DOE

not to request the federal financial assistance sanctions," said the National Association of Realtors' spokesman. "This is a severe and harsh measure that should not even be contemplated." On the other hand, the Conservation Foundation called for a "graduated set of incentives and penalties for states that refuse to adopt BEPS or its equivalent."

In the proposed rulings DOE suggested that the implementation process may be flexible to allow local or state agencies the use of other building energy codes such as ASHRAE 90-75, if they are revised to be as stringent as BEPS. ASHRAE's McMillan proposed that DOE go further than that. Since 44 states have codes in place based on ASHRAE 90-75, "there is a significant advantage for the nation in maintaining and strengthening these standards and codes rather than replacing them with the whole building performance approach."

NSPE took the position that "if BEPS is structured in such a manner as to preclude the use of existing standards or methodologies or discourage their development, it would be at best a disservice to the nation." NSPE also expressed concern that "the proposed BEPS do not provide a mechanism by which existing standards can be measured against BEPS to determine their equivalency."

AIA maintains that there cannot be equivalency between a prescriptive or component energy performance standard and a total building energy performance standard. Epstein said, "Many creative and low energy consumption building designs now are being rejected because they do not conform to existing prescriptive and component performance standards."

BEPS would establish energy budgets according to building type, location and type of fuel to be used. NSPE, ACEC and ASHRAE called the research leading to these budgets incomplete. NSPE specifically criticized the fact that no procedures exist for qualifying unique buildings within specific categories.

The budgets were called too lenient by the Conservation Foundation and the Consumer Energy Council of America. The council suggested budgets at a level roughly 30 percent stricter than BEPS, to be decreased by 10 percent at five-year intervals. It also called the "standards definition of conventionally accepted en-

*continued on page 14*

<b>Energy</b>	
<i>Design professionals back BEPS</i>	above
<i>Passive solar competition</i>	17
<i>Geothermal development promoted</i>	20
<b>Practice</b>	
<i>Barrier-free guidelines proposed</i>	20
<i>New National Trust president</i>	20
<i>Housing needs of retirees examined</i>	22
<i>Library association/AIA awards</i>	25
<i>Japanese museum competition</i>	25
<b>The Institute</b>	
<i>New master specifications system</i>	25
<i>Irving Kristol to address convention</i>	26
<i>Candidates for AIA offices</i>	26
<i>Preservation strategies sought</i>	28
<b>Government</b>	
<i>Competitions proviso modified</i>	31
<i>Liability self-insurance bill</i>	31

# IF YOU THINK ALUCOBOND™ MATERIAL IS GREAT FLAT OUT, WAIT TILL YOU SEE HOW IT TAKES



The building on the left is an example of what ALUCOBOND material doesn't do.

Namely ripple, buckle, or bulge.

Thanks to this remarkably flat composite of two aluminum sheets and a thermoplastic core, oil-canning has been totally eliminated on Kubota Tractor's streamlined U.S. headquarters in Compton, California.

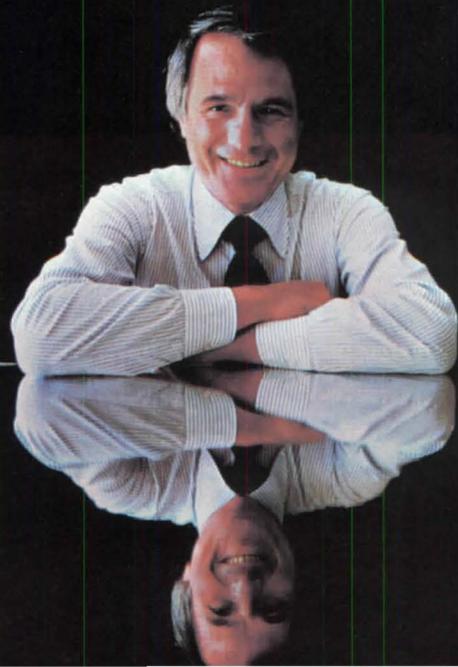
The building on the right is an example of what ALUCOBOND material does do.

Wrap around corners in sinuously graceful lines.

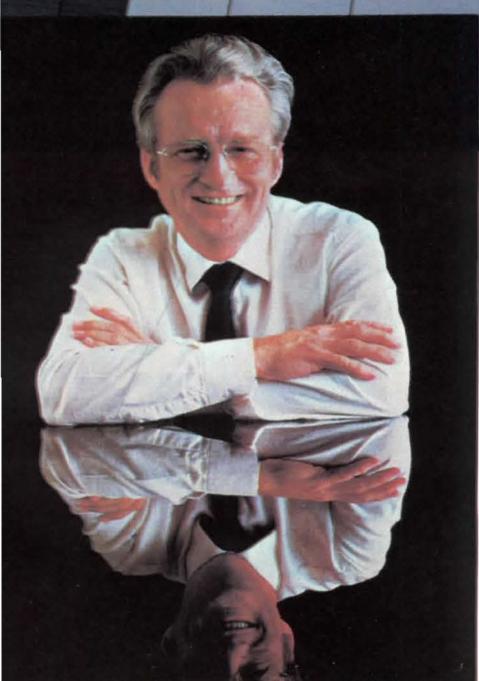
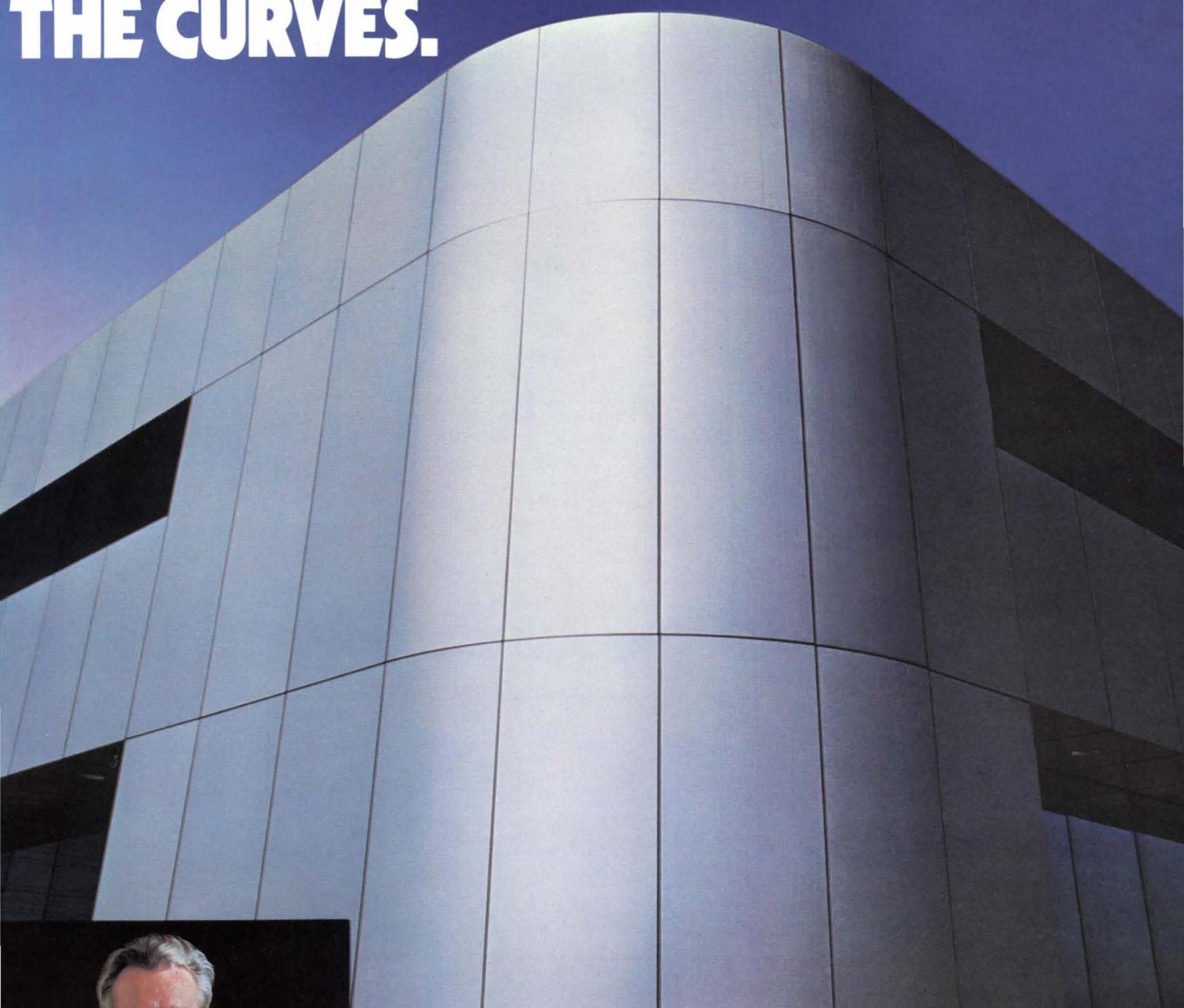
The incredibly smooth curves and uniform color of this Consolidated Aluminum product help create a beautiful first impression for Trailer Life Publishing Company in Agoura, California.

Available in six siliconized polyester resin colors and four handsome

*When Daniel Dworsky, FAIA, of Daniel L. Dworsky FAIA and Associates, Inc., selected ALUCOBOND material, a key consideration was the easy expansion it permits.*



# THE CURVES.



anodized finishes, ALUCOBOND material comes in panel sizes up to 5' X 28' and thicknesses of .118", .157", and .236" (3, 4, and 6 mm).

And its extraordinary adaptability offers architects design possibilities as diverse as their imaginations.

To find out more, call our Marketing Manager, Carla Lane, at (314) 878-6950. She can provide you with samples and

*Jerrold Lomax, AIA, of Lomax-Mills-Architects, shares credit for his creative use of ALUCOBOND material with Project Architect John Rock.*

information on ALUCOBOND material. The innovative product that's smoothing the way for creative architects everywhere.

*Turn page for distributor listing.*



Circle 7 on information card

## Energy from page 11

ergy-saving building practices too narrow," and questioned why passive solar energy design strategies were not considered in establishing the budgets.

The Solar Energy Industries Association spokesman said that "BEPS should be modified step by step to recognize the passive solar contribution in the same manner as the active solar contribution."

The standards were designed to encourage the use of renewable sources of energy and discourage the use of nonrenewable fuel sources. For each building the calculated energy use would be multiplied by a weighting factor assigned to nonrenewable energy sources to obtain the energy budget (for single-family residential, natural gas weighted 1, oil 1.22, electricity 2.79; for commercial and multifamily residential, gas 1, oil 1.2 and electricity 3.08).

These weighting factors drew a great deal of criticism. AIA testified that "the present method allows energy inefficient buildings to be designed in some regions of the country and also permits different levels of energy efficiency of building within the same regions."

NSPE, the Edison Electric Institute and the National Coal Association testified that BEPS weighting factors would ac-

tually encourage the use of imported oil and natural gas. "It is the application of the proposed weighting factors," the NSPE spokesman said, "that leads to the development of a standard that produces these shocking results—that while BEPS may be a form of energy performance standards, it is in this instance by no means a path toward energy conservation." All three groups criticized DOE for what one called "reaching into the public policy arena."

However, the American Gas Association and the Conservation Foundation supported DOE's proposal. "We believe that one of the principal benefits of the weighting factors will be to drive the development of new energy conservation technologies that are responsive to the new reality of higher energy prices," said the foundation's spokesman.

DOE has estimated that BEPS would add 75 cents to \$1 per square foot to the price of single-family homes and would increase the cost of commercial buildings by 3 to 5 percent. At the same time, it expects that the outlay would be paid back in fuel savings in three to five years. While the National Association of Home Builders suggests that a house of 1,176 square feet will cost an extra \$1,500, the National Association of Realtors sug-

gests that the cost will be \$2,500 adjusted to inflation and larger median floor space (1,745 square feet). ASHRAE has estimated that BEPS would add a minimum of \$2,000 to \$3,000 to the design costs of commercial buildings and \$200 to \$300 to the design costs of a single-family house. ASHRAE's McMillan said significant increases in design costs have not been given adequate consideration.

To evaluate a building's energy performance, DOE has suggested three different computer programs (see Jan., p. 22). ACEC was "disturbed" by this suggestion and called for simplified design tools, including manual calculations. ASHRAE agreed. "Most design firms are small (more than 60 percent have 12 or fewer employees) and four out of five currently have no experience with computerized analysis procedures," said ASHRAE's McMillan. "Accordingly, the BEPS plan effectively discriminates against these small businesses."

NSPE called for "alternative evaluation techniques and calculation procedures, manual and computerized," to be developed prior to the implementation of BEPS. AIA recommended the development of reliable, inexpensive, easy-to-use energy consumption analysis methods.

*News continued on page 17*

## WHEN YOU WANT TO USE ALUCOBOND™ MATERIAL, THESE DISTRIBUTORS WILL SMOOTH THE WAY:

### NORTHEAST

Adammetal Supply  
Elizabeth, NJ 07207  
(201) 351-2550

A.O. Stilwell Co., Inc.  
Buffalo, NY 14224  
(716) 828-1415

B.R. Johnson, Inc.  
Syracuse, NY 13057  
(315) 437-1070

Building Specialties  
of Pittsburgh  
Pittsburgh, PA 15209  
(412) 821-5310

Custom Walls and Windows  
Kensington, MD 20795  
(301) 949-6550

Eastern Metal Mill Supply  
Dedham, MA 02026  
(617) 329-1200

The Fox Steel Company  
Orange, CT 06477  
(203) 799-2356

Frank N. Henry, Inc.  
Wilkes-Barre, PA 18703  
(717) 824-4611

Fred Boschan Co., Inc.  
Philadelphia, PA 19127  
(215) 483-8000

Metal Construction  
Services, Inc.  
Baltimore, MD 21218  
(301) 949-6550

### SOUTHEAST

Attaway & Howell Co., Inc.  
Tucker, GA 30084  
(404) 938-7830

Delph-Context, Inc.  
Charlotte, NC 28201  
(704) 376-3671

Demarest Company, Inc.  
Oneco, FL 33558  
(813) 758-3811

Fletcher & Associates  
Birmingham, AL 35203  
(205) 328-0525

J.M. Power Company, Inc.  
Trenton, MI 48183  
(313) 479-2200

John W. McDougall Company  
Nashville, TN 37209  
(615) 383-4036

Penco, Inc.  
Louisville, KY 40204  
(502) 584-1166

W.H. Stovall & Co., Inc.  
Ashland, VA 23005  
(804) 798-1415

### MIDWEST

Casewin, Inc.  
Minneapolis, MN 55416  
(612) 545-1635

Condit Construction Products  
Dayton, OH 45409  
(513) 298-9922

Columbus, OH 43228  
(614) 274-2283  
Cincinnati, OH 45229  
(513) 242-4029

Jones and Brown Co., Inc.  
Addison, IL 60101  
(312) 543-0300

Karl M. Block Co., Inc.  
St. Louis, MO 63144  
(314) 647-8044

Swanson Gentleman Hart, Inc.  
Omaha, NB 68154  
(402) 493-9393

Swanson Gentleman, Inc.  
Des Moines, IA 50309  
(515) 244-0186

### WEST

Associated Specialties Co.  
Salt Lake City, UT 84106  
(801) 487-8501

Elward, Inc.  
Denver, CO 80223  
(303) 936-7201

Payne & Howard, Inc.  
Dallas, TX 75234  
(214) 243-5050

Portland Wire & Iron Works  
Portland, OR 97202  
(503) 234-9731

RPS Architectural Systems\*  
North Hollywood, CA 91605  
(213) 982-5866

*ALUCOBOND is the trademark of Consolidated Aluminum Corporation for its aluminum composite material.*

*Technical information with reference to ALUCOBOND™ material test results can be obtained by writing to Consolidated Aluminum, Attention: Carla Lane. Always consult local building codes before use.*

*\*System design and fabrication for the buildings on the preceding page were by RPS Architectural Systems.*

 **CONSOLIDATED ALUMINUM™**

11960 Westline Industrial Drive  
St. Louis, Missouri 63141



**K I M B A L L**

Announces  
**group artec**

Brilliance in form and function. See our newest division,  
Group Artec office systems, at NEOCON, show space 970.

Group Artec and Kimball Office Furniture Co. are divisions of

**kimball** *International, Inc.*

*Circle 8 on information card*

# 1980 OWENS-CORNING ENERGY CONSERVATION AWARDS: CALL FOR ENTRIES.



**AN ENERGY-EFFICIENT DESIGN** isn't created by a committee on a one-dimensional blackboard.

Rather each design is born in the mind of an architect or engineer. A three-dimensional world where an idea can be developed. Shaped to an environment. Built in theory even before pencil has been put to paper.

Owens-Corning would like to honor those specific architects and engineers responsible for conceiving and creating the most energy-efficient designs of 1980.

Registered architects or professional engineers practicing in the United States may enter as

individuals or in teams. The building entry must be a commissioned project: new or remodeled, in the design process, under construction or completed.

A panel of proven professionals in architecture and engineering will act as jury. Entries must be submitted by August 29th, 1980. Winners will be notified in early October.

The Call for Entries has full details. For your copy, write today to Mary Reinbolt, Department 128, Owens-Corning Fiberglas Corporation, Fiberglas Tower, Toledo, Ohio 43659. Or call her at this number: (419) 248-7419.

©O.-C.F. Corp. 1980

OWENS-CORNING  
**FIBERGLAS**  
CORPORATION

## California Cites 13 Designs In Passive Solar Competition

Thirteen winners have been chosen in a competition authorized by state legislation for design of passive solar homes, sponsored by the California state energy commission and the office of appropriate technology. The winning designs were selected on the basis of "marketability, efficiency, esthetic appeal and likelihood that a lending institution would finance them." "Best-in-state and first place" winners are designers Sinan Sabuncuoglu and Jim Fong in the coastal zone for a single-family house in the \$85,000 sales category and by Robert Colyer, architect, and Pearl Freeman, designer, also in the coastal climate zone, for a multifamily residence in the \$77,500 per unit sales category (drawings below).

The single-family-home winner's heating system incorporates both direct and indirect solar gain features. Direct gain is from south-facing windows and clerestories; indirect gain is from two-story Trombe walls. During warm months, the clerestories are used for cooling the house. South-facing clerestory vents are opened to let hot air out while cooler air is drawn in from northern windows at the intermediate staircase level, the report explains. Cool air, drawn in from the northern windows through lower Trombe vents at each level, leaves through exterior vents. Open stairway windows also draw in cool air through bedrooms and lower levels and is released through open south-facing windows. Overhangs, rollup shades and curtains also block solar radiation.

The multifamily winning design has exterior "solarium vents" that can be closed on cool days to retain maximum solar radiation, with the warmth stored in the 12-inch-thick concrete block mass walls between the solarium and dining-living room, in the second floor earth planter and prestressed floor slab and in the insulated earth mass and open slab of the first floor. This heat is received in the living spaces through open solarium doors and windows and as radiation from the mass wall. For cooling, the solariums are shaded by extending the interior roll-down shades and by opening exterior vents. The cool night air enters through the lower vents on each floor, with the hot air exhausted through top vents. Also, a skylight can be opened to vent stairwells. Interior blinds are on south-facing windows, and opened north windows and vents in the ventilation stacks also contribute to cooling the unit.

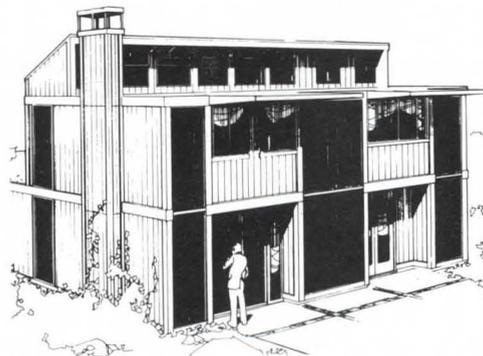
Other winners in the single-family residences category are:

- Designers Dave Schleiger and Tom Schlageter in the Central Valley climate zone, \$55,000 category (special commendation and first place).
- Architect Lawrence Thompson, AIA, in the warm inland/coastal zone, \$85,000 category (first place).
- Designer Robert Van Roekel, in the warm inland/coastal zone, \$55,000 category (first place).
- Designer Robert Van Roekel in the warm inland/coastal zone, \$85,000 category (second place).
- Designer Michael Hurst and solar consultant Richard Warren in the coastal zone, \$85,000 category (second place).
- Designers Jonathan Hammond and James Plumb, in the Central Valley zone, \$85,000 category (first place).
- Architect Gary Schloh, AIA, in the Central Valley zone, \$85,000 category (second place).

Other winners in the multifamily residence category are:

- Designer/builder Jack Schultz and designer Jay Sztuk in the south coast zone, \$49,000 per unit category (first place).
- Designer David Mogavero in the Central Valley zone, \$77,500 per unit category (first place).
- Architect James Eley, AIA, in the Central Valley zone, \$49,000 per unit category (first place).
- Architect Jim Morelan, AIA, coastal zone, \$77,500 per unit category (second place).

In addition to Barry Wasserman, AIA, state architect, other members of the jury were Janice Hamrin, manager of solar programs for the California energy commission; David Wright, AIA; Dennis Campbell, appraiser and energy counselor of the Home Federal Savings and Loan Association, and William Leonard.



A report on the competition gives full descriptions of all the winning designs and also contains a "Passive Solar Energy Handbook," a list of resources for solar builders, a glossary of terms and a bibliography. Entitled "Solar Gain," it is available for \$3.25 postpaid from Publications Unit, California Energy Commission, Suite 616, 1111 Howe Ave., Sacramento, Calif. 95825.

## Proponents of Adobe Thwarted By HUD's Energy Regulations

Adobe has been a building material in the sun-drenched Middle East for 9,000 years, and homes of adobe built more than 700 years ago in the nation's Southwest are still in use. Adherents of this building material, who can be passionate, have praised it for its energy efficiency qualities since adobe is able to store the day's heat for nighttime use in winter and to cool enough at night to resist the sun's heat in summer. It is adobe's passive solar energy qualities, ironically, that have caused a debate between HUD and those experienced in the use of adobe as a building material.

An article by Steve Frazier in the *Wall Street Journal* (Feb. 4) says that today "adobe bricks come wrapped in red tape, and that's beginning to anger some descendants of America's adobe masters." Low-income housing for Indians is now nearly impossible because, Frazier says, bureaucracy is "muddying" the recipe for sun-dried brick, causing prices to skyrocket.

HUD claims that adobe's solar passive qualities cannot be proved and evaluated by measuring its resistance to temperature change. In any such measurement, Frazier says, adobe "fares poorly compared with standard insulated wood frame walls." So HUD requires that walls be sheathed in insulation, adding costs to construction.

Frazier quotes Paul G. McHenry, who has built adobe homes for 20 years, as saying, "You must divorce your normal architectural ideas," in the use of adobe. "A conventional wall is more efficient as an insulator, but it doesn't have the heat storage capacity of adobe. Adobe walls act as a balancing factor between inside and outside."

Architect William Haney of Santa Fe, N.M., where adobe is used in many building types, from humble homes to modern hotels, is quoted as saying that insulating adobe would destroy its energy efficiency qualities. "If adobe can conduct heat, it can store heat. The worst thing you can do is block heat transfer with insulation."

Frazier tells of other HUD regulations about adobe. For example, it is required

*continued on page 20*

## Outside Salt Lake City, Vulcraft and the Army Corps of Engineers

544,400 square feet, to be precise. For a new warehouse facility at Hill Air Force Base. The completed 1361' by 400' building could accommodate thirteen football fields.

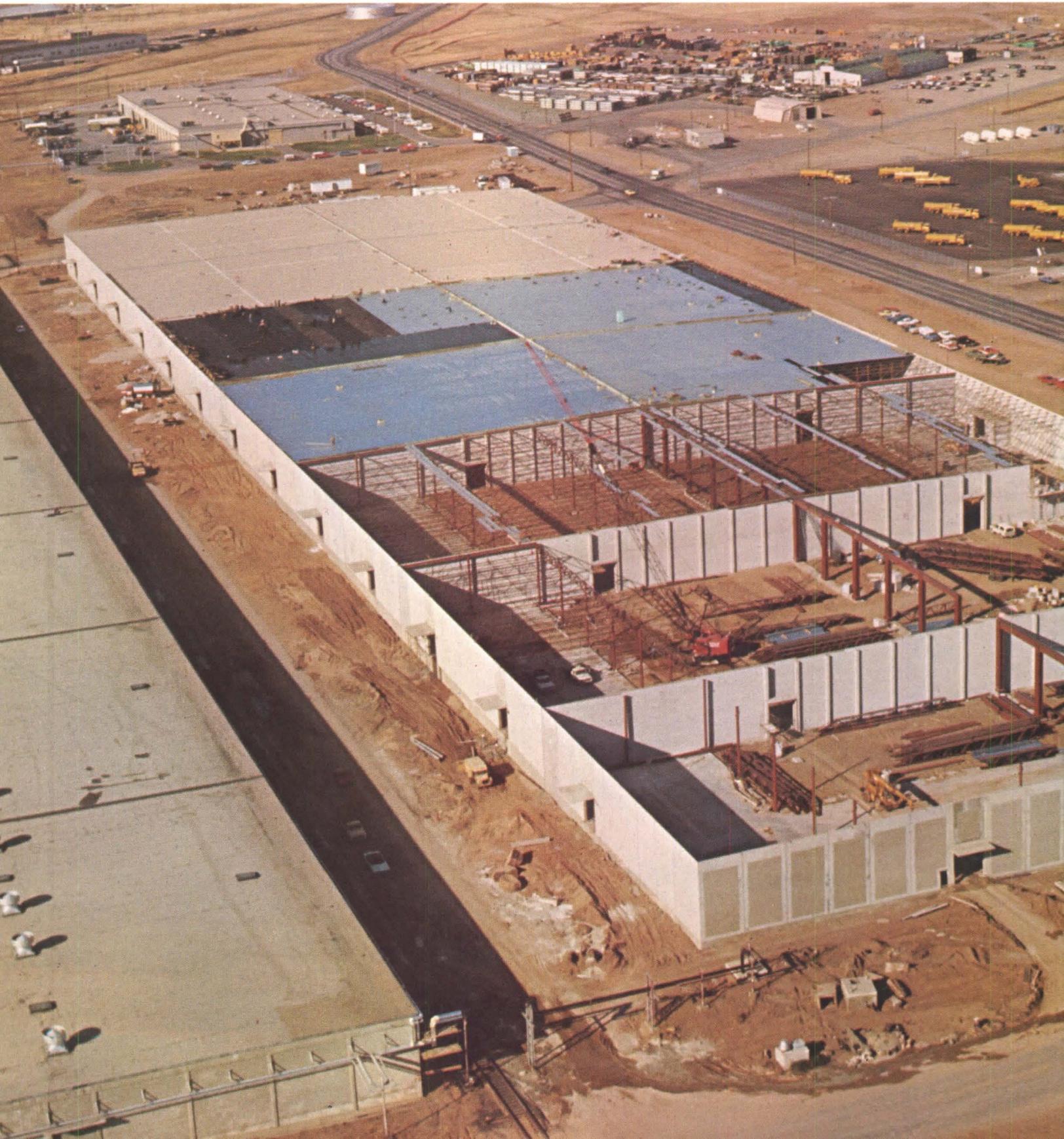
The Corps of Engineers and the Air Force first considered making the facility an all concrete structure like its twenty year old counterpart next door.

Then, Weyher Construction Company value engineered the structural system to see if they could reduce the contract price without altering the function or characteristics of the completed building. And to obtain the greatest possible savings

they recruited Vulcraft to computer design steel joists and joist girders specifically for the job.

The resulting Value Engineering Change Proposal showed that an estimated \$300,000 could be saved by using Vulcraft steel joists and joist girders instead of reinforced concrete.

When the Army Corps of Engineers and the Air Force saw that Vulcraft joists and joist girders were the least expensive structural system for the job, they gave Weyher Construction the go ahead. Weyher then issued Vulcraft's orders: deliver the joists and joist girders fast. In time to meet the original deadline.

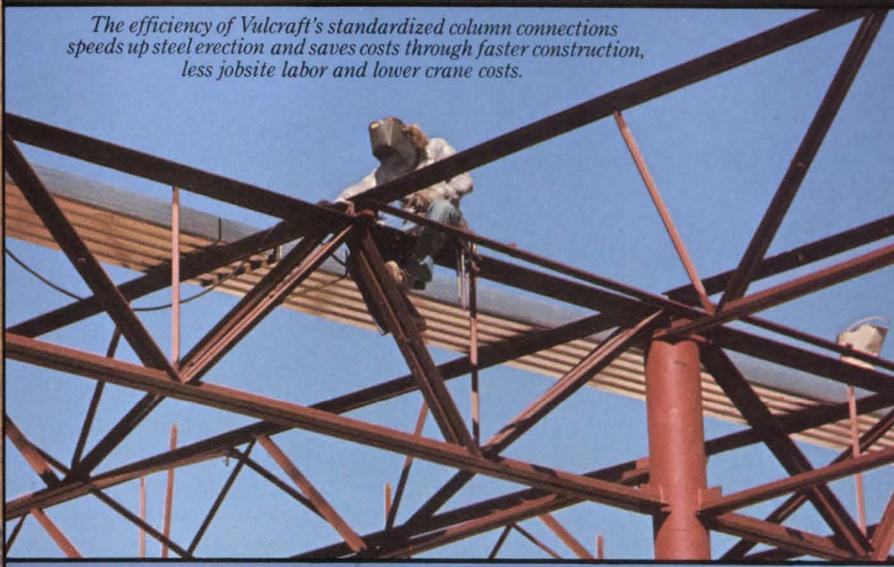


# covered a lot of ground together.

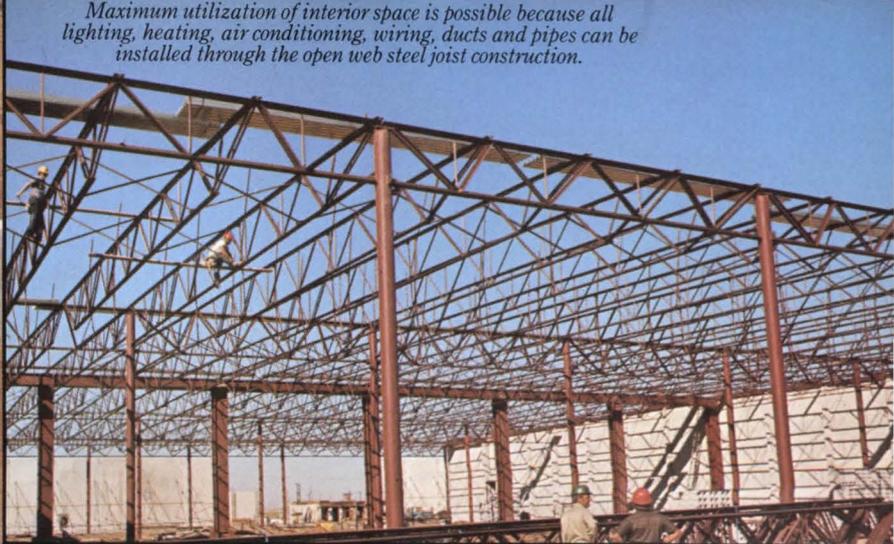
Vulcraft came through with flying colors. Weyher Construction came through with an on-schedule building. And the U.S. Government came through with an estimated \$300,000 savings. The Vulcraft system might be able to save you money on your next job. So contact your local Vulcraft representative for details. Or write Vulcraft, P.O. Box 17656, Charlotte, North Carolina 28211 for your Joist and Joist Girder Specification Guide (See Sweet's 5.2/Vu.). Or call 704/366-7000. What you'll get is action above and beyond the call of duty. No matter how much ground you want to cover.



*Economy results from high strength to weight of steel joists and joist girders. More efficient design and erection of primary structure is possible because fewer columns and beams are needed.*



*The efficiency of Vulcraft's standardized column connections speeds up steel erection and saves costs through faster construction, less jobsite labor and lower crane costs.*



*Maximum utilization of interior space is possible because all lighting, heating, air conditioning, wiring, ducts and pipes can be installed through the open web steel joist construction.*

## VULCRAFT

A Division of Nucor Corporation

- P.O. Box 3009, Florence, S.C. 29501 803/662-0381
- P.O. Box 169, Fort Payne, Ala. 35967 205/845-2460
- P.O. Box 186, Grapeland, Tx. 75844 713/687-4665
- P.O. Box 59, Norfolk, Neb. 68701 402/371-0020
- P.O. Box 1000, St. Joe, Ind. 46785 219/337-5411

*General Contractor:* Weyher Construction Company, Salt Lake City, Utah.  
*Steel Fabricator:* Utah American Steel, Salt Lake City, Utah. *Steel Erector:* Masco, Inc., Centerville, Utah. *Architect and Engineer:* Reid & Tarics Association, San Francisco, California

Circle 10 on information card

**Energy** from page 17

that adobe bricks be waterproofed with an asphalt additive. McHenry contends that if adobe needs repair after a rain, "you just scoop up the mud from the bottom of the wall and stick it back on." Most contemporary adobe homeowners, however, prefer a waterproof stucco coating.

Astrid Truth, employed in HUD's Indian programs office, is quoted as admitting that it's hard to understand "why the Indians have ancient Pueblo structures that are comfortable in winter and summer, yet the federal government can't do it." He continues, "Adobe is just a traditional building material that has run up against a modern, technological, standards-oriented society." But because there are so many unanswered questions, Frazier says, HUD recently agreed to finance a study of adobe "that could refute many of its own building standards."

## DOE Promoting Exploitation Of U.S. Geothermal Resources

Hot water geothermal resources are located in many areas of the U.S., but are most common in the West. For example, the only commercial geothermal electric power plant currently in operation is the Geysers in northern California, where steam is collected from wells, and passed through turbines that drive electric generators. But recent studies indicate that the Mid-Atlantic states also contain geothermal resources of moderate temperature (below 300 degrees Fahrenheit) that could be used for many industrial and agricultural purposes. To stimulate geothermal energy use in the eastern portion of the country, the Department of Energy is providing up to \$1 million for drilling and testing to confirm a commercially usable geothermal resource in the Delmarva Peninsula of Maryland, Virginia and Delaware.

DOE is asking for proposals from individuals, educational institutions, corporations or state and local governments that outline a specific use for the reservoir, once it is confirmed. Selection of one applicant for funding will be based upon the proposal that suggests the most promising and efficient use of moderate temperature water resources.

A promising candidate for the use of moderate temperature hydrothermal resources, says DOE, is the large poultry industry on the Delmarva Peninsula. This industry now consumes 2.5 trillion BTUs of energy a year, the equivalent of nearly 437,000 barrels of oil. Moderate temperature resources could supply most of the energy needs of this industry, warming hatcheries and broiler houses, drying feed and processing poultry.

## Practice

# Three Agencies Propose New Sets of Barrier-Free Guidelines

The recent revision of the American National Standards Institute's standard A117.1 ("Specifications for Making Buildings and Facilities Accessible to and Usable by the Physically Handicapped") was a five-year, \$500,000 effort, sponsored by HUD, and involving 53 public and private organizations concerned with accessibility. A major objective of the revised standard was to provide uniform regulations promulgated by federal agencies.

Recently, however, three federal agencies—GSA, the U.S. Postal Service and the Architectural and Transportation Barriers Compliance Board—published notices in the *Federal Register* of their intentions to issue separate guidelines or standards for barrier-free design. Immediate protests came from AIA, the National Easter Seal Society and the National Center for a Barrier-Free Environment, among others.

These organizations say that the proposals by the agencies are not in compliance with current federal policy of relying on standards voluntarily developed through the consensus process, as stated in the Office of Management and Budget's "Circular A-119," which directs federal agencies to use voluntarily developed standards "whenever feasible and consistent with law. . . ."

The protesters also believe that a "proliferation of accessibility standards at the federal level can only exacerbate the already confusing situation facing designers and builders as a result of differing state and local codes and standards," as Dean Phillips, president of the National Center for a Barrier-Free Environment, has expressed it.

Mrs. Edward Plaut, president of the National Easter Seal Society, also warns of the "fragmentation" that will result "when individual federal agencies develop accessibility criteria separate from that contained in the national standard approved by the American National Standards Institute." One national standard, she says, will reduce building costs and will ensure consistency in interpretation and application. For the federal government to "abdicate its role" in the support of a uniform design standard for accessibility, she says, "will only compound the problem of fragmentation which has become the focus of attention of all major building code groups and state building officials. To separate design specifications

for accessibility from this timely thrust for unification would be a disservice to disabled persons."

Charles E. Schwing, FAIA, president of the Institute, has also voiced AIA's objections to authorities at GSA and the Postal Service. He says that the "proposed adoption by GSA and other federal agencies of their own separately developed standards runs counter to the efforts to unify all codes and standards affecting buildings in the U.S. . . ." Federal agencies, he says, should take a "consistent posture" with federal policy regarding reliance upon voluntarily developed standards. AIA questions, Schwing says, even an in-house attempt by federal agencies to revise the ANSI standard and suggests that the new edition of A117.1 be adopted by all federal agencies.

Dean Phillips points out that the previous edition of A117.1 "was widely accepted . . . as the definitive guideline for developing accessible facilities. It has been the national standard consistently used by designers, and it is referenced in most state building codes and statutes relating to accessibility, as well as in the federal Architectural Barriers Act of 1968."

The revised A117.1, whose purpose is to allow people with physical handicaps to get to, enter and fully use buildings, differs from the earlier standard of 1961 in that it includes requirements for residential in addition to public buildings (see Jan., p. 108). It embraces both architectural features and site design. HUD, the National Easter Seal Society and the President's Committee on Employment of the Handicapped served as the secretariat of the committee that developed the revised standard.

## New President for National Trust

Michael L. Ainslie, a businessman with experience in management, marketing, real estate, fund raising and preservation, will become president of the National Trust for Historic Preservation in Washington, D.C., on July 1. He succeeds James Biddle, who headed the organization for 12 years.

Since 1975, Ainslie has been associated with the N-Ren Corporation, a nitrogen fertilizer and industrial nitrogen products manufacturing company, based in Cincinnati, where he recently served as senior

*continued on page 22*

# A dash of dazzle in a shopping center. **ELEVATOR BY DOVER**

It's quite a trip for shoppers when they move from the main level to the promenade level of the Rolling Acres Mall in West Akron. Designer James B. Heller of Keeva J. Kekst Associates combined glass, chrome, and incandescent lamps to create a "vista" elevator that dazzles and delights. At the heart of these glamorous trappings is a Dover IVO Elevator, the high quality, pre-engineered Oildraulic<sup>®</sup> elevator made for add-on or new construction of three stories or less. For more information on the complete Dover line of traction and hydraulic elevators, write Dover Corporation, Elevator Division, P.O. Box 2177, Dept. G, Memphis, Tenn. 38101.

**DOVER**<sup>®</sup>  
The elevator  
innovators.

Rolling Acres Mall,  
Akron, Ohio

Developer:  
Forest City Rental Properties  
Corporation and  
Richard B. Buchholzer

General Contractor:  
Forest City Dillon, Inc.

Architect: Keeva J. Kekst  
Associates, Architect, Inc.

Cab Designer:  
James B. Heller

Dover IVO Elevator sold  
and installed by  
Dover Elevator Company

Frontier Fruit & Nut Co.

**Practice** from page 20  
vice president and chief operating officer. Prior to 1975, he served as president of Palmas Del Mar Co., and was responsible for the development of a resort complex in Puerto Rico. While employed by McKinsey & Co., in New York City, from 1968 to 1971, he took a leave of absence to serve as deputy director of Mayor John Lindsay's model cities program.

He has headed fund raising efforts for Vanderbilt University, from which he received a degree in economics, and the School for Creative and Performing Arts in Cincinnati. He also holds a master's degree in business administration from Harvard University. He has restored and converted five Gothic revival town houses into apartments, and has restored other 18th and 19th century houses, including an 1880s Queen Anne Victorian house in which he has lived in Cincinnati.

## Housing Needs of Retirees Examined by 'Fannie Mae'

In 1979, 45.4 million Americans reached the age of 55 and over; by the year 2030, almost 30 percent of the total population will be in this age category. Thus, this age group is of concern to the business community, government and professional groups, including architects. A recent report entitled "Housing for the Retired" presents the findings of "Forum III," a symposium sponsored by the Federal National Mortgage Association ("Fannie Mae"), attended by 120 middle-income retirees, selected from 1,158 people who responded to a request from Fannie Mae to write about their housing needs, preferences and concerns.

Three major findings are emphasized: (1) There is a significant housing market of middle-income retirees, growing at a fast pace; (2) retired people have "real" preferences about their housing and, within cost limitations, want such preferences incorporated into their housing; (3) the "type of home that retirees prefer and can afford is not currently being built in any significant quantity."

The conference participants came from every state in the union and had worked before retirement in every major area of the economy. Although the discussions reflected differences of opinion relating to income, age, marital status and region, participants agreed that they are forced to spend a disproportionate share of their income on housing. Looking to the future, the participants said that the two most significant concerns are financial security and maintenance of independence. Many of the retirees foresee the necessity of changing residences, and a majority wants their future homes to be smaller. The report says that "maintenance difficulty is

the single most important factor which would influence the respondents to make a change of residence."

Highrise buildings were found to be "forbidding." Retirement villages were said to be "too expensive," and many people objected to living only with older people. Although mobile homes were said to be lacking in space for storage, they were praised for their efficient use of available space.

Some participants expressed concern that emphasis is placed on the needs of the handicapped and those in need of subsidized housing; most of the participants expressed a hope that the "housing industry would be shown the real need for small single-family houses for many retirees of moderate income." One participant said, "Housing is more than a roof over one's head. Housing for the elderly, as for anyone, involves one's sense of self-respect."

The participants were asked to "walk through a house, to be designed especially for retirement living, and express their needs and preferences room by room." Some of the opinions are:

- The kitchen is the most important room in the house. A universal response was, "Bring down the upper cabinets so that we can reach them without climbing on a stool or ladder." The most desired elements are more cupboard space and more drawer space.
- A bedroom is desirable even for single retirees; the more affluent participants said that two bedrooms are minimum.
- It was agreed that a walk-in shower is safer than a bathtub, but the participants said, "We are a generation that grew up with the bathtub and we still want it."
- As with people in any age bracket, the retirees said that there is never enough storage space. Older people are inclined to hold onto things, much of which could be disposed of logically, but "emotions push reason aside."
- Interior doors should be wide enough to accommodate a wheel chair and windows should be selected according to regional needs. "Give us windows easy to clean," the participants said. They objected to

high windows that cut out the view and because of the inability to climb through them in case of a fire.

- Materials and products should be selected according to ease of maintenance.
- Location was an important consideration; retirees want to live near stores, churches, doctors. They want the housing to be simple and compatible with the neighborhood.

The report contains design plans by Joseph Orendorff, AIA, for an "options house," with a variety of arrangements developed from a basic plan for a 24x24-foot, 26x26-foot, 27x26-foot or 28x28-foot house. The plans are flexible enough for use as single-family dwellings and for combining into duplexes, triplexes or row houses. They can even be converted into highrise condominiums. The plans were commissioned by Fannie Mae to encourage builders, government and other groups "to become involved and meet the needs of the growing market for middle-income retirement housing."

Said a conference participant: "Builders should realize how many retirees live in a small town atmosphere and should start building villages for this type of people. They should build little houses the way they build apartments, with four together. That would be wonderful for retired people. Smaller complexes instead of large."

The report is available for \$3.50 from Federal National Mortgage Association, 3900 Wisconsin Ave. N.W., Washington, D.C. 20016.

## Portland Jury Selects Finalists For Courthouse Square Design

Five finalists have been invited to participate in the design phase of the Pioneer Courthouse Square design competition in Portland, Ore. (See Jan., p. 34.) The selection was made by the jury after interviews with 10 firms and individuals over a two-day period in March, these interviewees having been chosen from 162 submissions. The site (photo below)

*continued on page 25*



**“You don't have to be  
the biggest to be insured  
by the best.”**

**“Shand, Morahan?”**

**“Shand, Morahan.”**



It's the growing consensus of the leading architectural and engineering firms in the land: the E&O program available through Shand, Morahan & Company is about the best coverage you can have, at a most competitive premium rate. That's why so many of the ENR top 500 design and construction firms are choosing our insurance.

But your firm doesn't have to be among the biggest to enjoy the best in Architects and Engineers Professional Liability insurance. Shand, Morahan also extends its uniformly excellent claims-made program and unmatched standard of service to more and more medium and smaller-sized firms as well. These firms enjoy the same experience and attention that only the nation's foremost source for professional liability insurance can provide.

If your present Architects and Engineers Liability policy or premium might benefit from an analysis and comparison with ours, we welcome your insurance broker's inquiry. Whether you're among the biggest, or just want the best.

**SM Shand, Morahan  
& Company, Inc.**

*One American Plaza, Evanston IL 60201*

*Circle 11 on information card*

# Introducing the StarTherm<sup>TM</sup> Energy Efficiency Analysis!

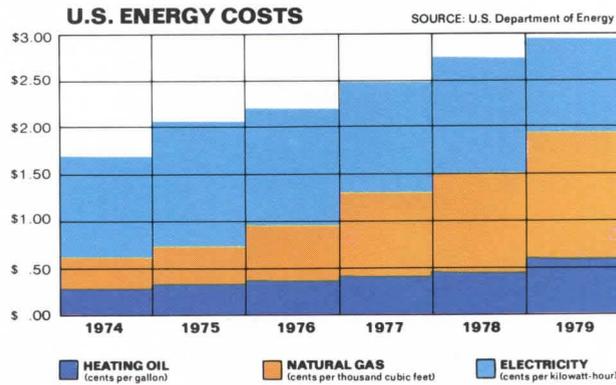
**It won't cost you a penny, and it could save your clients thousands.**

StarTherm insulated roof and wall systems are so remarkably energy efficient we think they'll out-perform almost any conventional construction materials. And we're willing to prove it with a free StarTherm Energy Efficiency Analysis.

Just give us the location and specifications of your proposed building project and your Star Builder will ask our computer to determine the energy savings you could realize with a StarTherm building of the same size. The results can be dramatic.

The StarTherm system's remarkable insulating properties will significantly reduce operating and maintenance costs, which account for about 50% of the total life cycle costs of any building. (The rest is initial construction and finance costs, plus improvements or building additions.)

You'll find it pays impressive dividends to build with StarTherm insulated panels.



## \$1,839 Annual Savings in Chicago.

In one example, the computer compared a 100' wide by 150' long by 20' high structure with 4" normal density blanket insulation in the roof and 12" corefilled concrete block walls, with a building of the same size equipped with StarTherm roof and wall panels.

Our energy savings calculations were based on heating loads only. We told the computer that our example buildings were located in Chicago, and we specified that each building had two 3x7' walk doors, two 10x10' insulated overhead doors and two 3x6' thermal pane windows. We assumed gas heating at \$3.50 MCF.

### The results?

The StarTherm building consumed 68% less energy than the conventional building, resulting in an annual dollar savings of at least \$1,839. And when you consider the current rapid inflation in energy costs, this savings will be even more significant to the building owner 20 years from now.

**Remarkable but not surprising.**

StarTherm insulated panels offer some of the lowest U factors money can buy: 0.043 for roofs, an even lower 0.040 for walls. They have no through fasteners or compressed insulation points. Joints form a positive energy tight seal, and, according to ASTM-E-283 testing procedures, allow no detectable air infiltration.

**Tax incentives. Reduced maintenance costs. Even lower insurance premiums.**

The StarTherm system's low thermal transmission properties might qualify your structure for energy-related tax incentives.

Additional savings will occur through reduced maintenance costs. And our Class 1 low fire hazard rating and UL 30, 60, and 90 wind uplift ratings could lower insurance premiums. So over the life of your building StarTherm panels really pay off.

**Ask for your energy efficiency analysis today.**

Your Star Builder wants to help you design the building your client will thank you for—both today and in the future.

So ask for your free energy efficiency analysis today.

**Call toll-free 800-654-3921.**  
In Oklahoma call collect 405-636-2548.  
Or write Star Manufacturing Company,  
Box 94910, Oklahoma City, OK 73143.

**STAR BUILDING SYSTEMS**

Circle 12 on information card



### Practice from page 22

has been occupied by a two-level parking structure since the Portland Hotel, designed by Stanford White, was demolished. The purpose of the competition is the preparation of schematic designs that will turn the city's prime downtown area into a day and evening attraction.

The five finalists will be paid \$10,000 each to prepare conceptual plans to be considered by the jury in July. The jury's recommendations will then be sent to the city council and the development commission for action.

The five finalists are an interdisciplinary team consisting of Willard K. Martin, FAIA; J. Douglas Macy; Lee Kelly; Terence O'Donnell, Spencer Gill and Robert Reynolds, Portland; a joint venture of Machado/Silvetti and Schwartz/Silver, Boston; a joint venture of Lawrence Halprin and Charles Moore, FAIA; Geddes Brecher Qualls Cunningham, Philadelphia, and Eisenman/Robertson, New York City.

Jury members are Pauline Anderson, M. Paul Friedberg, George McMath, AIA, John Rian and Sumner M. Sharpe. Professional adviser is Donald J. Stastny, AIA.

## Library Association and AIA Honor Six Recent Projects

Six library buildings are winners in the 10th awards program sponsored jointly by AIA and the American Library Association. The awards are given every other year "to encourage excellence in planning of libraries."

The winners are:

- An addition to the Morley Elementary School, West Hartford, Conn. (Architect: Tai Soo Kim/Hartford Design Group, Hartford; client: Town of West Hartford.)
- The renovation of the Yale University law school library, New Haven, Conn. (Architect: Herbert S. Newman Associates, New Haven; Client: Yale University, division of building and new construction.)
- Addition to the University of Minnesota law library, Minneapolis. (Architect: Leonard Parker Associates, Minneapolis; client: University of Minnesota board of regents.)
- Lyndon State College library, Lyndonville, Vt. (Architect: Perkins & Will Partnership, White Plains, N.Y.; client: Vermont State Colleges, Burlington.)
- Addition to and renovation of the Providence Athenaeum, Providence, R.I. (Architect: Warren Platner Associates; client: Providence Athenaeum.)
- New Rochelle Public Library, New Rochelle, N.Y. (Architect: Pomeroy, Lebduska Associates, New York City; associate architect: Fred Lyon, New Ro-

chelle, N.Y.; client: New Rochelle Public Library.)

Jurors were Bob D. Carmack, University of South Dakota; Charles Herbert, FAIA; Nancy McAdams, AIA; Maria Rosaria Piomelli, AIA; David R. Smith, Hennepin County Library, Edina, Minn., and Claude Stoller, FAIA (chairman).

## Acclaimed Urban Design Group Disbanded in New York City

The panel of architects within the New York City department of city planning called the urban design group has been disbanded and its members dispersed to the department's offices in five boroughs. The group, which once had 20 members, was created 13 years ago by Mayor John Lindsay. Its original director was Jonathan Barnes. The group received acclaim for its role in encouraging installation of plazas and arcades in developments, the introduction of mixed use buildings and the preservation of neighborhoods.

The disbanding of the group, says Herbert Sturz, chairman of the city planning commission, was to strengthen borough offices, "without weakening our commitment to improve the quality of design." Raquel Ramati, director of the group since 1974, will be in charge of design in the Manhattan borough.

The planning department's personnel has been cut to 350, from a high of 500 in 1975, causing concern among such groups as the New York Chapter/AIA.

### The Institute

## New Master Specifications System Tailored More for Smaller Firms

Production Systems for Architects & Engineers, Inc., an AIA subsidiary, has produced a new master specification system intended for use by architectural firms of any size. Known as MASTERSPEC 2, the new system is an expansion of PSAE's decade-old MASTERSPEC.

The original MASTERSPEC was the outgrowth of large and successful private and governmental practices, and its development and utilization has been consistent with its origins. Today, a high proportion of the largest architectural offices use MASTERSPEC. Among current subscribers, the average firm employs about 20 persons. This is in contrast to AIA membership figures, which show that the median firm employs four persons, and the number employing more than 25 comprises less than 7 percent of the total.

## Museum Competition in Japan Offers First Prize of \$4,000

An international design competition of ideas, in which a first prize of about \$4,000 will be awarded, has been announced by Central Glass Co., Ltd., and Shinken-chiku-sha Co., Ltd., of Japan. The competition is for a "hometown museum for the culture of the future." Three second place winners will receive about \$800 each, and honorable mentions will receive a total of about \$1,000. Results of the competition will be published in the January 1981 issue of *Japan Architect*.

"We are not seeking a mausoleum," say the sponsors, "in which things of the past are enshrined in glass cases. Instead, we want the contestants to design something that will inspire delving into the past, research and growth for the future." Entries must never have been made public in any form. Drawings and photographs of models may be used, as well as blueprints. Explanatory text may be appended. Panels are unacceptable.

Judges for the competition will be Kenzo Tange, Hon. FAIA, Motoo Take, Kisaburo Ito, Takekuni Ikeda, Fumihiko Maki, Shin'ichi Okada and Hiroshi Takashima.

Deadline for receipts of entries is July 31. For information, write Shinken-chiku-sha Co., Ltd., Department of the CGIADC 1980, 31-2 Yushima 2-chome, Bunkyo-ku, Tokyo 113, Japan.

There have always been a few one-person firms using MASTERSPEC—perhaps 5 percent of all subscribers. Nevertheless, experience has shown that the system has not appealed as strongly to small firms as it has to larger offices. A number of explanations for this shortcoming have been advanced, but the one most frequently cited is cost. Although there are small firms that consider MASTERSPEC a bargain, there are many potential subscribers who have felt it was not affordable.

Also, potential subscribers are sometimes intimidated by MASTERSPEC's "overkill" capability. The system currently includes 427 sections in its architectural/structural/civil reference set and 210 sections in its mechanical/electrical

*continued on page 26*

## The Institute from page 25

set. These thousands of pages of text have been essential to the establishment of an authoritative and comprehensive system, but they have been underutilized by small firm subscribers.

MASTERSPEC 2 has evolved to meet these criticisms of cost and sheer volume, leading to a more flexible approach. Instead of requiring every subscriber to pay for the entire text, PSAE is offering the architectural/structural/civil reference library of MASTERSPEC 2 in three different versions.

The core subscription all users will receive consists of approximately 125 frequently used sections covering the Uniform Construction Index divisions 1 through 14. This nucleus of essentially broadscope sections has been dubbed the "basic version," and is intended to serve the needs of general practice architectural firms. Planned for eventual expansion to about 150 sections, the basic reference library should provide more than 90 percent of the text required for a typical project. At additional cost, the short language version and the "narrowscope" version can be separately ordered to supplement the basic reference library.

Written in an abbreviated style, the short language sections are especially applicable to projects that are either small in scope or to be built by owners. Narrowscope sections, on the other hand, deal with subjects that are either highly customized or infrequently encountered—and thus are more suitable for larger offices. For additional flexibility of MASTERSPEC 2, however, PSAE plans to allow basic subscribers the opportunity to purchase individual copies of narrowscope sections for occasional one-time use.

In keeping with the goal of making the product relevant to the type of practice typical of smaller firms, the content of the basic reference library has been totally rewritten in a more streamlined style. There is heavy reliance on division 1 "general requirements" sections to eliminate repetitions in general provisions of each section. To keep the text to a reasonable length, only commonly specified options are included, with brief editing notes alerting the specifier to potential insertions. In addition, PSAE's alpha-numeric section numbering system has been abandoned in favor of the five-digit system devised by the Construction Specifications Institute and widely accepted as standard within the construction industry. To the greatest degree possible, section titles and numbers of MASTERSPEC 2 will conform with MASTERFORMAT, as issued by CSI in 1978. The basic and narrowscope versions of MASTERSPEC 2 maintain CSI's three-part format, and the short language version follows the same infor-

mation sequence, but without formal division into three parts.

Separate evaluation sheets and drawing coordination recommendations attached to every section have been expanded greatly in MASTERSPEC 2. Printed on colored paper to distinguish them from the text, these instructions provide background information and product evaluations that should be especially helpful to nonspecialist architect/specifiers. Useful references are also frequently cited, making each section a convenient means of quickly learning about unfamiliar subjects.

The mechanical/electrical reference library, covering division 1, parts of divisions 2 and 13 and divisions 15 and 16, will continue to be offered as a totally separate product. Present plans call for its conversion to MASTERSPEC 2 format with a year.

MASTERSPEC 2 offers subscribers a number of processing options. The one-person office is unlikely to need anything more than hard copy, which is provided to all subscribers. Larger firms can take advantage of the fact that MASTERSPEC 2 is also available on prerecorded media for a wide variety of word-processing equipment. There are also several independent firms that are licensed by PSAE to process edited MASTERSPEC 2 hard copy mailed to them by subscribers.

In brief, MASTERSPEC 2 is designed to help the architect in general practice today who needs every tool available in order to remain competent and competitive. For additional information, write or telephone PSAE, 1735 New York Ave. N.W., Washington, D.C. 20006 (800) 424-5080. Robert P. Dean Jr., AIA, assistant program director, PSAE, Inc.

## Editor-Columnist Irving Kristol To Address Convention June 2

Irving Kristol of New York City, editor of *The Public Interest*, will speak at the AIA convention in Cincinnati on the second theme program of "Professionalism in the '80s." His address on June 2 is expected to consider society's demands of professionals and the impact of current trends in litigation, liability, legislation, professional conduct and public accountability. He is also professor of social thought at New York University's graduate school of business administration. Since 1947, he has edited three other journals and has been vice president of a New York City publishing firm. He is also the writer of a monthly column in the *Wall Street Journal*. Other theme speakers at the convention will be Leon C. Martel, J. Irwin Miller, Hon. AIA, and Gerald M. McCue, FAIA (see Mar., p. 28).

Another convention event will be a

reception in honor of Mrs. Leroy M. Campbell, given by the National Organization of Minority Architects, to be held on June 1 from 3 to 5 P.M. in NOMA's suite at the Stouffer Hotel. Mrs. Campbell will receive the Whitney M. Young Jr. citation for her late husband, Leroy Miller Campbell, AIA, who died on Aug. 28, 1977 (see Jan., p. 19). The citation recognizes the "significant contributions of an architect or architecturally-oriented organization toward meeting the architectural profession's responsibility to the social issues of today."

The Architectural Secretaries Association, meeting in conjunction with the AIA convention, at the Netherland Hilton Hotel on June 1-4, will have as its 11th annual convention theme "New Directions." The theme was selected, says Lorraine C. Sweeny, ASA president, after the membership voted to become an affiliate of AIA, an action that took effect in January. Various segments of the ASA convention schedule have been arranged so its members can attend AIA seminars.

In addition, ASA will have two workshops. One, on proposal writing, will be conducted by Gerre Jones, Hon. AIA; the other, on record management, will be led by Gerald L. Hengel, president of the National Association of Records Management. During the ASA convention, Eleanor Smith of St. Paul, Minn., will be installed as the organization's president.

## Teasdale, Lawrence Candidates For Institute's President-Elect

A principal matter of business before the AIA convention in Cincinnati is the election of officers for 1981. There are two candidates for first vice president (president-elect): Robert M. Lawrence, FAIA, of Oklahoma City, who will complete his second term as secretary at the end of the year, and Thomas H. Teasdale, FAIA, of St. Louis, who is currently serving as a vice president of the Institute.

Lawrence, a principal in the firm of Noftger, Lawrence, Lawrence & Flesher, served a three-year term on the board as a director from the Central States region. A past president of the Oklahoma Council/AIA and the Oklahoma Chapter/AIA, he has chaired the ethics task force, the commission on professional practice and the construction management committee, as well as the board of Production Systems for Architects and Engineers, Inc.

Teasdale, a founding partner of Kenneth E. Wischmeyer & Partners, represented the Central States region on the board from 1976 to 1979. He chairs the AIA/Associated General Contractors liaison committee and the product infor-

*continued on page 28*

# Columbia super**tube**!

Fluorescent lighting that goes up,...  
over... down... or around corners...  
wherever you want it!



Columbia Operation  
GTE Products Corporation  
T. A. Box 2787  
Spokane, WA 99220

**Specification  
Lighting**

Columbia Lighting's versatile aluminum **super**tube**** brings flexibility and sparkling colors to architectural lighting. They may be suspended from ceilings or bracket mounted on walls in standard or custom sizes to fit your job. Lamp openings are symmetrically centered and each fixture retains its own "turnability" . . . you can aim it. For more information contact your Columbia agent or write us; we have answers to lighting questions you've yet to ask.

**GTE**

Circle 13 on information card

**The Institute from page 26**

mation systems task force. He is also a member of the legal impact decisions task force, as is Lawrence, and is AIA's liaison with the National Council of Architectural Registration Boards and a director of PSAE.

There are three candidates for AIA secretary: Robert W. Dorsey, AIA, of Cincinnati, vice president of the Cincinnati Chapter/AIA; Harry Harmon, FAIA, of Long Beach, Calif., currently in his third year as AIA regional director from California, and Michael Newman, AIA, of Winston-Salem, N.C., who currently rep-

resents the South Atlantic region.

The six candidates for vice president (three to be elected) are: Robert Broshar, FAIA, Waterloo, Iowa; Gerald L. Clark, FAIA, Phoenix; Anna M. Halpin, FAIA, New York City; George M. Natter, FAIA, Boston; Ray K. Parker, AIA, Little Rock, Ark., and Roger N. Ryan, FAIA, Akron, Ohio.

**Octagon Opens Conway Exhibit**

"That Red Head Gal: Fashions and Designs of Gordon Conway, 1916-1936" is the title of an exhibit organized by the

AIA Foundation that will premiere this month at the Octagon in Washington, D.C. After the exhibit closes on July 20, it will travel to the Dallas Historical Society (Aug. 6-Sept. 28), the Chicago Historical Society (Oct. 16-Feb. 8, 1981) and the Los Angeles County Museum (Mar. 16-June 28, 1981). Guest curator is art historian David Schaff.

The exhibit features narrative drawings, fashion illustrations and motion picture and theater costume design by Conway, a 1920s exponent of art moderne. She was "rediscovered" in 1977, two decades after her death, when an AIA Foundation team was conducting research on the lives of James and Dolley Madison for an exhibition and catalog. Conway had retired at the height of her popularity 45 years ago to James Madison's mother home, Mount Zion near Fredericksburg, Va.

For two decades, Conway's work intrigued the readers of such fashion magazines as *Vogue*, *Harper's Bazaar*, *Vanity Fair* and *Eve*. The collection of Conway fashions, drawings, original sketches and other works has been lent to the AIA Foundation by her cousin, Mrs. Marshall Allen of Orange, Va.

**Institute Seeks New Strategies And More Funds for Preservation**

AIA has reminded Congress that historic preservation is not a "luxury," but a beneficial contributor to the nation's economy, energy conservation and revitalization of urban centers. In two separate hearings before congressional committees, representatives of AIA called for the strengthening of historic resources through the development of new strategies and for increased funding for preservation programs, consistent with today's federal budget realities.

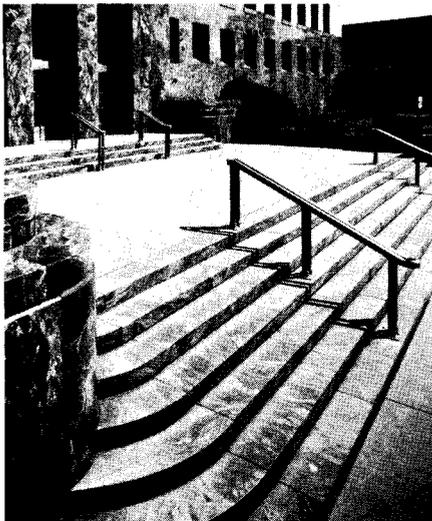
Thomas B. Muths, AIA, of Jackson, Wyo., a board member and the first architect to be appointed to the President's Advisory Council on Historic Preservation, asked the House committee on interior and insular affairs to amend the National Historic Preservation Act of 1966 (HR 5496), calling for keeping historic preservation programs within the Interior Department, but separate from parallel programs of recreation and natural resources, with staff responsibilities and funding clearly defined. He suggested that members of the architectural profession and architectural historians be placed in decision-making roles.

In separate testimony before the House appropriations subcommittee on the Interior Department, Nicholas A. Pappas, AIA, of Washington, D.C., a member of the Institute's committee on historic re-

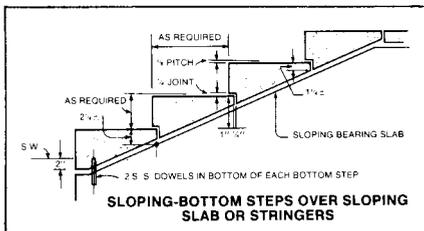
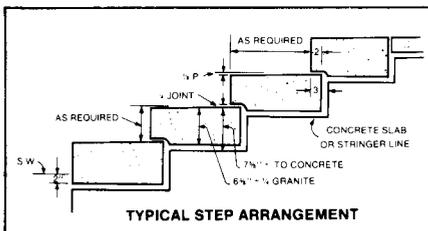
*continued on page 31*

# Granite.

## Tough enough to take the thunder of 10 billion feet.



Architect: Tinsley Higgins Lighter & Lyon, Des Moines, IA

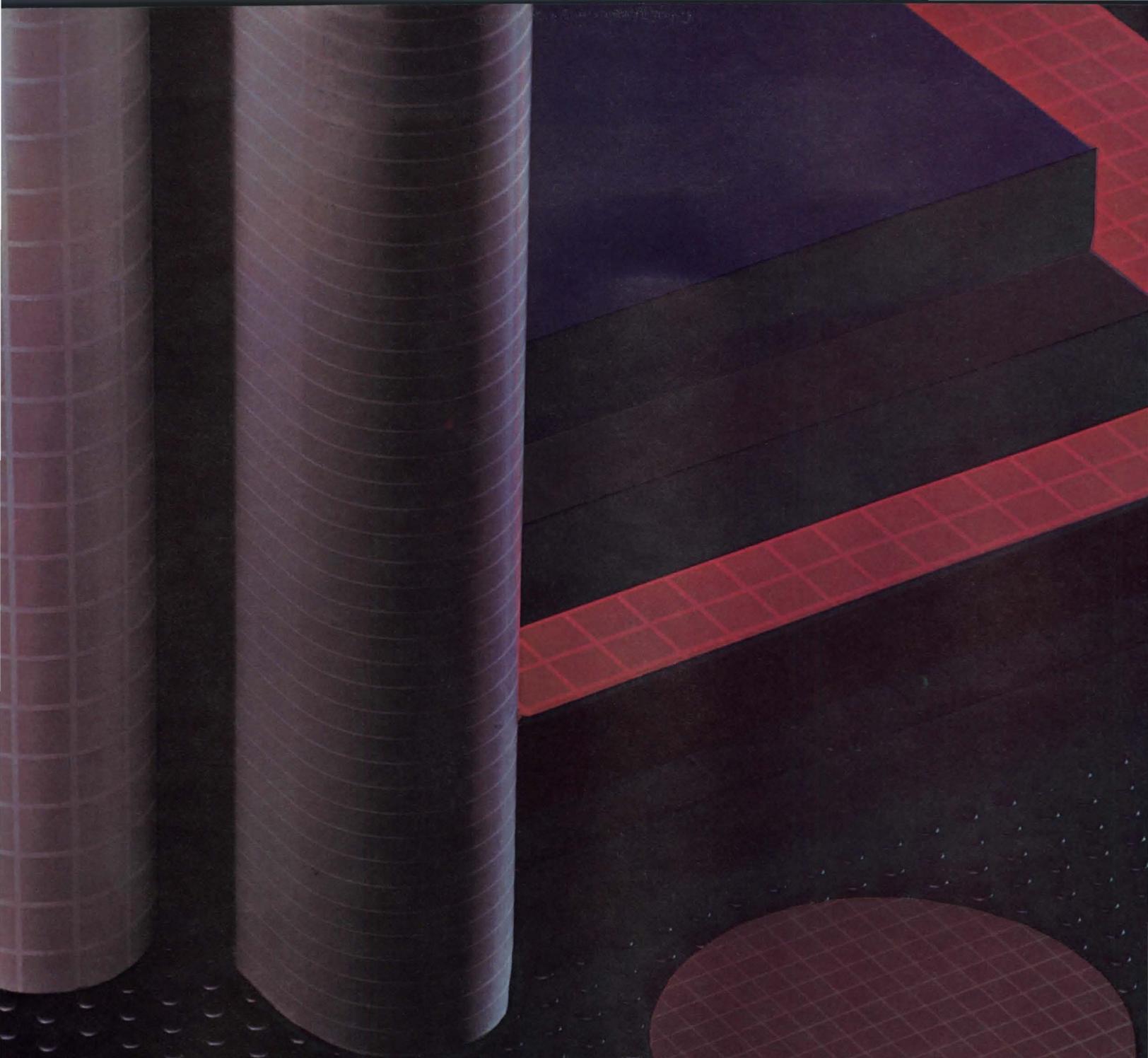


What else but granite can take 38 years of wear and weather without fading, staining, or showing measurable wear? That's what made Cold Spring granite the ideal choice for the Banker's Life Insurance Building when it was built in Des Moines, Iowa, in 1939. And that same unique combination of beauty and unsurpassed durability make it ideal for today's floors, facades, core walls, steps, malls and walkways — wherever you need maximum durability that's virtually maintenance-free.

For more information, plus a free copy of our 16-page, full color catalog showing all 18 Cold Spring colors available, call toll free **800-328-7038**. In Minnesota, call (612) 685-3621. Or write to the address below.

**Cold Spring Granite Company,** Dept. AIA-5 202 South 3rd Avenue, Cold Spring, MN 56320





**Design  
Concepts**

A New Age in Laminate

A group of thirty-eight extraordinary expressions—unique, preemptive. Originated in decorative laminate exclusively by Formica Corporation with guidance from its Design Advisory Board.

Design Concepts. Solid colors. Highest gloss lacquer finishes. Surface textures creating basic shapes of the purest form.

To receive samples, refer to our listing in Sweet's Catalog, Section 6, or contact your nearest Formica Corporation Distributor.



decorative laminate

FORMICA® is a registered trademark of Formica Corporation, Subsidiary of American Cyanamid Company, Wayne, N.J. 07470.

Circle 15 on information card

# This 3/8" thick Romany® Paver meets all quarry tile performance standards...and more.

Even though Romany Pavers are 3/8" thick, they exceed all current A-137.1 performance standards for 1/2" quarry tile. When measured against seven physical properties, ASTM test results show that Romany Pavers are stronger, more durable, and of consistently high quality thanks to a rigidly controlled, dry-press manufacturing process.

The unglazed, smooth surface of Romany Pavers makes it ideal for interior and exterior floors, walls and other surfaces in institutional, commercial and residential applications. Rich, earth-tone colors like flashed or blended red, brown and camel, provide a truly natural look.

In addition, Romany Pavers can be used with our unique Orsan Heavy-Duty tile which is also 3/8" thick, to provide unusual and imaginative designs. Sizes include 6" x 6" and 3-5/8" x 7-5/8".

For details on Romany Pavers, contact your Romany-Spartan distributor. Or write United States Ceramic Tile Company.



**United States  
Ceramic Tile  
Company**

Subsidiary of  
**Spartek®**  
Inc.

1375 Raff Road, S.W.  
Canton, Ohio 44711

## The Institute from page 28

sources, pled for as much funding as possible from the full \$150 million appropriation authorized for the fiscal year 1981 historic preservation fund's grants-in-aid program. Noting that the Administration's \$45 million appropriation request is \$10 million less than 1980's funding level, Pappas said that the Institute "recognizes the need for fiscal responsibility," but that the historic preservation budget "is subject to unduly severe restraints." He reminded the subcommittee that preservation-related construction activity can generate employment, aiding the general economy.

Specifically, Pappas asked for the strengthening of such programs as the Heritage Conservation and Recreation Service, the Historic American Buildings Survey (HABS) and the provision of technical services. He emphasized AIA's continuing support of funding for the National Trust for Historic Preservation.

Muths, who also stressed the need for the revitalization of an influential advisory board for HABS on which architects would be included, said that such technical assistance services as historic construction methods and conservation techniques should be made available to architects and contractors. He urged

Congress to more thoroughly address the documentation of buildings through writings, drawings and photographs, with specific provisions in the revised legislation. He said that certain sections on registration in the historic preservation act are unnecessary since an effective system of nomination and registration already exists in the National Register of Historic Places.

Saying that AIA advocates legislation that increases the ability and citizens and institutions to prevent the demolition of worthy historic properties, Muth said that financial assistance is perhaps the most important determinant in the success or failure of a comprehensive historic preservation program. "Without adequate funding," he said, "so many of our national treasures, landmarks and history will be lost forever."

## New Numbers at Headquarters

Effective May 31, AIA's main telephone number at headquarters in Washington, D.C., will be changed to (202) 626-7300. Also, all extension numbers will be changed at the same time. The change is necessitated by heavy demands for telephones in the area.

## Liability Self-Insurance Bill Would Aid Design Professionals

Recently, Senator Charles McC. Mathias (R.-Md.) introduced the Service Liability Self-Insurance Act (S2512), which would "amend the Internal Revenue code to enable design professionals, architects and engineers, to set up partial self-insurance funds to cover service liability, or, in other words, the liability for the service that design professionals introduce into the stream of commerce, be it a building, a road or a bridge."

The act would allow design professionals to deduct from gross income money put into a self-insurance fund. The money paid into the fund would be deducted "as a cost of doing business, just like insurance premiums," Mathias said.

Introduction of the legislation followed meetings with representatives of the design profession, including AIA. "I think the time has come," said the senator, "to eliminate this inequity in the tax laws." Last spring, he had introduced the Product Liability Self-Insurance Act (S634) that would have allowed small business owners and design professionals to set up partial self-insurance funds to cover product liability. "Since that time," he said in introducing the new legislation, "I have reviewed the problem of product and professional liability and have concluded that a new bill should be introduced that addresses the particularly heavy cost of liability insurance faced by design professionals."

He said that architects and engineers have been "hard hit" by rising costs of professional liability insurance, which went up an average of some 26 percent in the last year. "Over the past decade, premiums paid by architects and engineers for liability insurance rose from \$25 million to \$175 million," Mathias said. "The exorbitant cost of liability insurance is driving an increasingly large number of firms out of the insurance market." The "unattractive alternatives" are to go without insurance, risking disaster, or to pay the high costs. He said that the small firm "cannot afford these high-priced options."

Mathias contended that the bill would not affect insurance companies. "Rather, most design professionals will use the trust fund to cover the low end of their product liability, which is often unprotected, and will rely on conventional insurance to cover their upper exposure. With the high risk end covered, they will pay a lower premium and could even afford more insurance. . . ."

Senator Mathias said that in our increasingly complex society, "it is more and more often the case that disputes must be resolved by litigation. The incredible

*continued on page 32*

## Government

# Moynihan Competitions Proviso Modified in Senate Committee

The Senate committee on environment and public works has marked up the Public Buildings Act of 1979 (S2080), making modifications in some elements of the proposed legislation, including those pertaining to design competitions and to GSA in-house design of federal buildings.

On design competitions, the bill as introduced by Senator Daniel Patrick Moynihan (D.-N.Y.) called for limited design competitions on federal projects costing between \$2.5 million and \$25 million. The mark-up revisions call for half of all federal building projects, expected to cost \$5 million or more, to use the competition method for A/E selection.

Also, the bill now calls for a "significant" portion of the competitions to last no more than 60 days, and only preliminary design concepts would be solicited. Total stipends for any A/E firm participating in each competition would amount to one-half of 1 percent of the anticipated costs for the design and construction of each project.

Testifying for the Committee on Federal Procurement of Architectural/Engi-

neering Services at Senate hearings on the bill (see Mar., p. 12), AIA President-Elect R. Randall Vosbeck, FAIA, objected to competitions for every federal project within the cost range, saying that while competitions may be proper for such buildings as monuments and single-function structures, they are not appropriate for those buildings "where there are complex factors to be weighed."

COFPAES also objected to the requirement that at least 25 percent of all federal project work be performed by GSA in-house staff, fearing that such a provision would not in itself improve federal design (see p. 78 for a statement by Vosbeck on his testimony).

The mark-up revisions in the bill call for GSA in-house staff to perform sufficient design tasks to maintain special skills and training, with GSA being allowed to make the decision on just how many projects would be required to achieve this goal. The specific requirement that at least 25 percent of the design work should be accomplished by in-house staff has been dropped.

# 1980 National Fire Codes®



National  
Fire Protection  
Association  
Boston, MA

Government from page 31

technology that the design profession has fostered makes it the medium by which we shall create our future. We must protect this important profession from the damaging and possibly destructive liability suits that may arise from time to time."

## Architects Portman and Willis Are Development Panel Members

The Council on Development Choices for the '80s has been formed by the Urban Land Institute with the financial assistance of HUD. The group of elected state and local government officials and leaders from the private development community will examine trends and conditions that affect the built environment, define public policy goal choices "that are consistent with projected conditions as well as established public needs" and promote nationwide response. The council's findings and recommendations will be presented to the President's Commission on a National Agenda for the '80s. Architects among the 35 council members are John C. Portman, FAIA, of Atlanta and Beverly A. Willis, FAIA, of San Francisco.

The council will examine and interpret the significance of economic and demographic trends and resource constraints on physical development, will identify existing and proposed developments that respond to change and will develop strategies and techniques for desired kinds of development in the '80s and beyond.

To obtain information and perspectives from a cross section of the country and to stimulate a national dialogue around the issues, the council will sponsor forums in the four principal regions of the U.S., visit developments that "possess qualities responsive to changing needs and resource limitations," prepare a major exposition in New York City in October that will show in graphic form outstanding developments across the nation and undertake implementation measures at the regional, state and local levels in 1981 to promote further action on desirable new choices that are appropriate for changing development decisions.

When the council's formation was announced by HUD Secretary Moon Landrieu, he said that we enter the '80s "with the burden of a great many public policies affecting development that reflect an era of cheap energy and land and fewer constraints on government outlays. . . . Failure to modify such policies to fit the changing times would be a prescription for disaster in both economic and social terms." He promised the council support and said that HUD would enlist the technical resources of federal agencies to assist the council in its work.

News continued on page 74

## Order Today!



# NATIONAL Fire Codes 1980



Just  
**\$110.00**

for the complete  
16-volume set.

Come and  
See us at  
Booth 345  
At the AIA  
Convention

The complete set of the  
1980 National Fire Codes  
offers you:

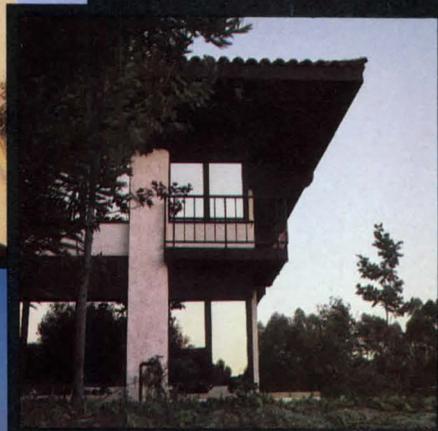
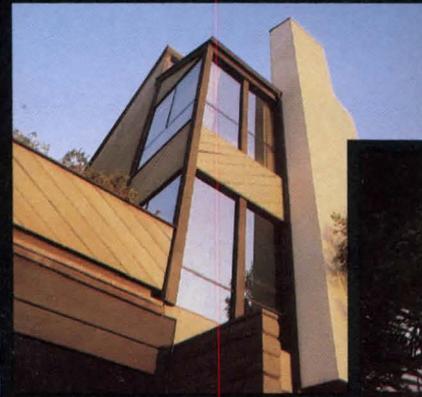
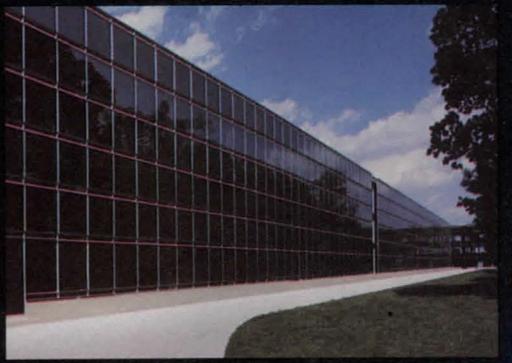
- Full texts of all 239 firesafety codes and standards
- 41 new or revised codes, standards, recommended practices, guides and manuals
- 12,800 pages of reliable, comprehensive firesafety information

The complete set of the new 1980 National Fire Codes is an essential resource for fire protection engineers, architects, health care and safety professionals. Handsomely bound in a durable cover format, each volume is a convenient carry-along size — 5x7-5/8 inches — and references all codes and standards in the entire set for fast, easy use. Comprehensive, orderly, precise — fire protection information you'll refer to again and again.  
(Order complete set by No. NFC-SET.)

To order, write or call:  
National Fire Protection Association  
Attn: Publications Sales Dept. D-19  
470 Atlantic Avenue  
Boston, MA 02210  
Dial Direct (617) 426-2525; Telex: 94-0720



# Introducing Sunglas® Reflective, it blocks up to 65% of the sun's heat.



**New Sunglas Reflective blocks the heat to help reduce the high cost of air conditioning.**

Installing Sunglas Reflective can, over the lifetime of your building, amount to a saving of thousands of dollars. Because it blocks up to 65% of the sun's heat, it can aid in cutting air-conditioning operating costs and may allow for the use of smaller air-conditioning units.

**A new concept – blocks the heat. Yet lets in the daylight.**

While Sunglas blocks the sun's heat, it lets in more daylight than most other reflective glass products. This means reduced solar heat load while permitting the use of natural daylight for illumination – this

unique property presents another big saving potential. It also helps minimize hot spots so room temperatures remain more uniform and comfortable.

**Ford Sunglas Reflective for a natural color view of the outdoors.**

Sunglas Reflective lets in the beauty of the outdoors without noticeably affecting its natural color. The neutral silver coating reflects the surrounding outside environment and provides a full-color view of colors throughout the day.

**New Computer Program shows you how to S.A.V.E.**

Ford's new computerized S.A.V.E. program (Systems to Analyze Value and Energy) can help you determine your solar glass requirements and savings quickly. Find out more about the S.A.V.E. program and Sunglas Reflective so you can take the heat off you *and* your budget. Sunglas Reflective is available now and it can be

cut, tempered and fabricated locally. You'll find that choosing Ford Sunglas Reflective will be a nice reflection on you.

**Sunglas Reflective is backed by Ford experience and a 10-year warranty.**

Before we ever marketed Sunglas Reflective, we field-tested more than 2,000,000 square feet of it. The result? When the heat was on, Sunglas Reflective performed very cool. For more information, send for our detailed product information kit including all the specifics of our warranty by writing: Ford Glass Division, 300 Renaissance Center, P.O. Box 43343, Detroit, Michigan 48243, or call toll free 1-800-521-6346.



Circle 18 on information card

**“The flooring I specify  
must fit my design -- and my client's budget.  
That's why I ask for Azrock.”**



**“Economy is the watchword in school construction. And with Azrock Custom Cortina, I can create versatile floor designs that fit today's tight school budgets.”**

Custom Cortina in Azrock vinyl composition tile makes it easy to express your creativity and offer your clients the most floor for the money. The color-chip pattern is distributed through the full thickness of each tile for extra years of durable service. Custom Cortina easily outperforms carpet and other types of resilient flooring in heavy traffic areas. And it's easy and economical to maintain.

For low-cost floors of lasting beauty ask for Azrock Custom Cortina.

**The name to ask for  
in resilient floors.**



Custom Cortina in Azrock vinyl composition tile. 18 colors, 1/8" and 3/32" gauges, 12" x 12" size. For free samples, ask your Azrock flooring contractor or write Azrock Floor Products, Dept. 410A, P. O. Box 531, San Antonio, Texas 78292.

## Happy Preservation Week

The very term "Preservation Week" tends to conjure up images of ladies in white gloves (or even white tennis shoes), and gentlemen in celluloid collars, tapping a plaque onto a stable where George Washington's horse once left its mark.

This year's Preservation Week (May 11-17) is being celebrated in a far different spirit. The movement to protect our built heritage has gone far beyond the genteel, or garden club, stage. It is a vital, even aggressive movement, and its objectives are more ambitious, and more significant, than the embalming of architectural relics. (In fact, preservation may be too passive a word to describe it.)

One expression of the new spirit came in the January-February issue of *Historic Preservation*, the National Trust's recently, and handsomely, revived magazine. In it, Mayor Joseph P. Riley Jr. of Charleston, S. C., said that his city "has adopted a positive approach to preservation."

"Too often," he continued, "preservation has been used to mask a fear of any change. A positive approach employs the preservation ethic as a tool to deal with the city's economic, housing, employment and esthetic problems. This approach requires that the city be considered as a whole and saved and restored as a whole." He termed the approach "urban conservation," and said that "it must begin with urban design."

Something quite similar could be said of the relationship between architecture and preservation. A surprisingly short time ago a good many architects saw preservation as a sometimes impediment to new construction. Later, as new construction faltered and the preservation movement flourished, many began to learn and market the skills of restoration and adaptive use.

More recently, a heartening number of architects have come to see the design of new buildings and the preservation and use of old ones as two sides of the coin of urban design. The new must not only respect but reach out to the old, so that together they become strands in a coherent urban fabric, each enriching the other and the whole. *D. C.*



Photographs and drawings by John J. Desmond, FAIA

# Medieval Cities' Renewed Relevance

*Lessons for contemporary urban design. Text and illustrations by John J. Desmond, FAIA*

Current urban design ideas are deeply in accord with the realities that made medieval cities work. There is, first of all, an appreciation of the organic, ecological relationship of human settlements to existing topography, an esteem heightened by the obvious disastrous effects of our recent disregard of this relationship. These ground-hugging cities punctuated by meaningful vertical structures have been shown in contemporary urban design schemes at Urbino and Jerusalem to be still valid and sometimes superior alternatives to the highrise concept. Population trends and energy realities reinforce this increasing ecological understanding to command our examination of lowrise, high density urban areas. Coexistence of people with vehicles in urban situations, a source of study and of some conflicting views by distinguished planners, has been deftly handled in most of these examples. The awareness of neighborhoods, their composition, function and restoration, along with the re-evaluation of diversity as stated by Jane Jacobs and reflected in planned unit developments and downtown mixed use developments, are all preceded by viable examples from medieval cities.

Because they are pedestrian in scale and comprehensible, because they have meaningful public places where the seats of government, worship, trade, living and work are all given architectural form, these cities are to us the physical embodiment of urban community.

In this series I have drawn some of these varying, still viable urban centers: river cities, maritime cities, plains cities, hill cities and delta cities. Their common denominator is a protective place to live, work, worship and trade; their meaningful variations of urban form as adopted to place and social function are their source of fascination. I therefore include cities that occupy different positions in the chain of medieval worldwide distribution and trade. One is an inland walled enclave protecting a primarily agricultural community. One is an inland

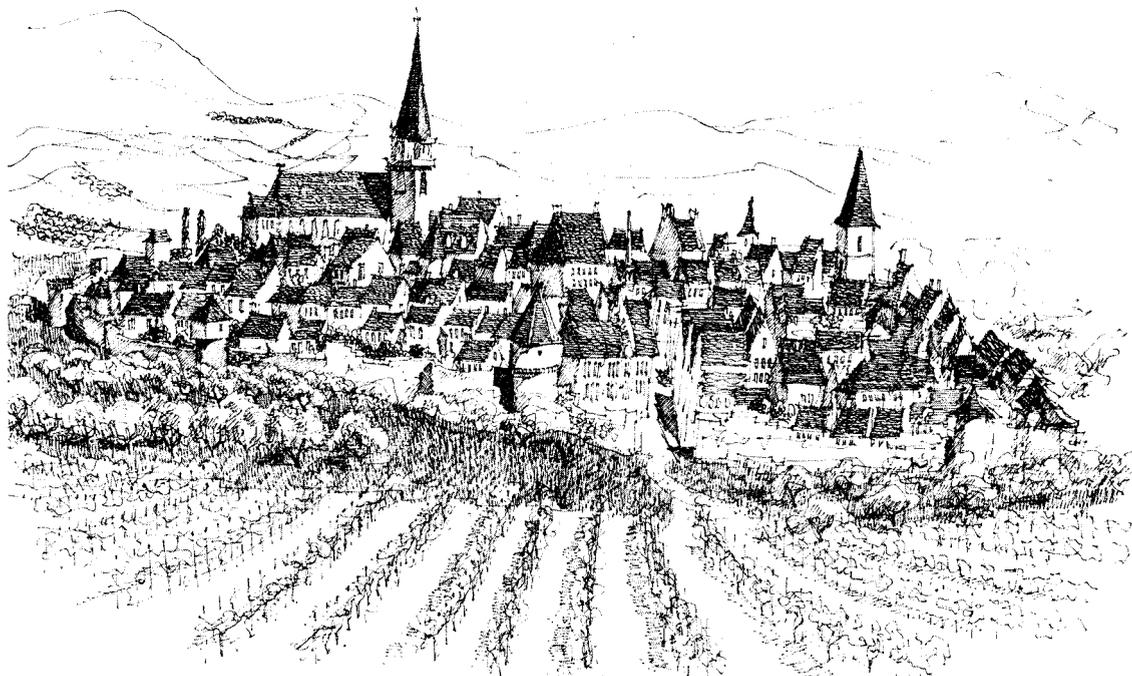
city in a more peaceful area serving as a first stop trading post for England's early wool growers. One is a delta city formed as a trading center to distribute the processed products of the wool trade overseas. One is a strongly fortified maritime city built out into the sea astride important trade and pirate routes. And one is a great city grown far beyond its still used medieval core which exhibits to us now the values and attitudes of the centuries between theirs and ours.

Oxford, England (facing page), is a special-use medieval city that illustrates, as Lewis Mumford has pointed out, the very special space created when green enclosed pedestrian super-blocks are interspersed in high density areas. This same quality is achieved in the Beguinages of Bruges and Amsterdam.

Of the urban centers covered here, Bergheim (drawing below) is the one most prototypical of medieval cities. Enclosed by a still intact medieval town wall, it is surrounded by the intensively cultivated vineyards that support the city. Its function as an agricultural community has remained unchanged for centuries. Located in the immensely fertile valley between the Vosges Mountains and the Rhine in the "le beau jardin" of Alsace in France, it is one of a string of marvelously preserved villages on the "Wine Road" between Strasbourg and Colmar. These villages, set only a few miles apart and separated by the carefully worked vineyards, became a diagram of the French urban-agricultural relationship.

Because of its rich loam soil and its incomparable productivity, the land has been a source of constant dispute between France and the covetous Germanic nations across the Rhine. The necessity of the wall is evident. Those who farm the fields for the most part are clustered inside the walled city in closely spaced urban lowrise structures. The main industry is wine—the processing of the Riesling grape into the thousands of family named brands, mostly accomplished in the lower floors or cellars of the family home in the tightly packed urban enclave. Schumacher's low-tech economy still works here as it has for centuries; indeed, the outstanding visual characteristic of the area is an absence of the industrial technology presence.

**Mr. Desmond** is a partner in the firm of Desmond-Miremont & Associates, Baton Rouge, La.





## Stow-on-the-Wold

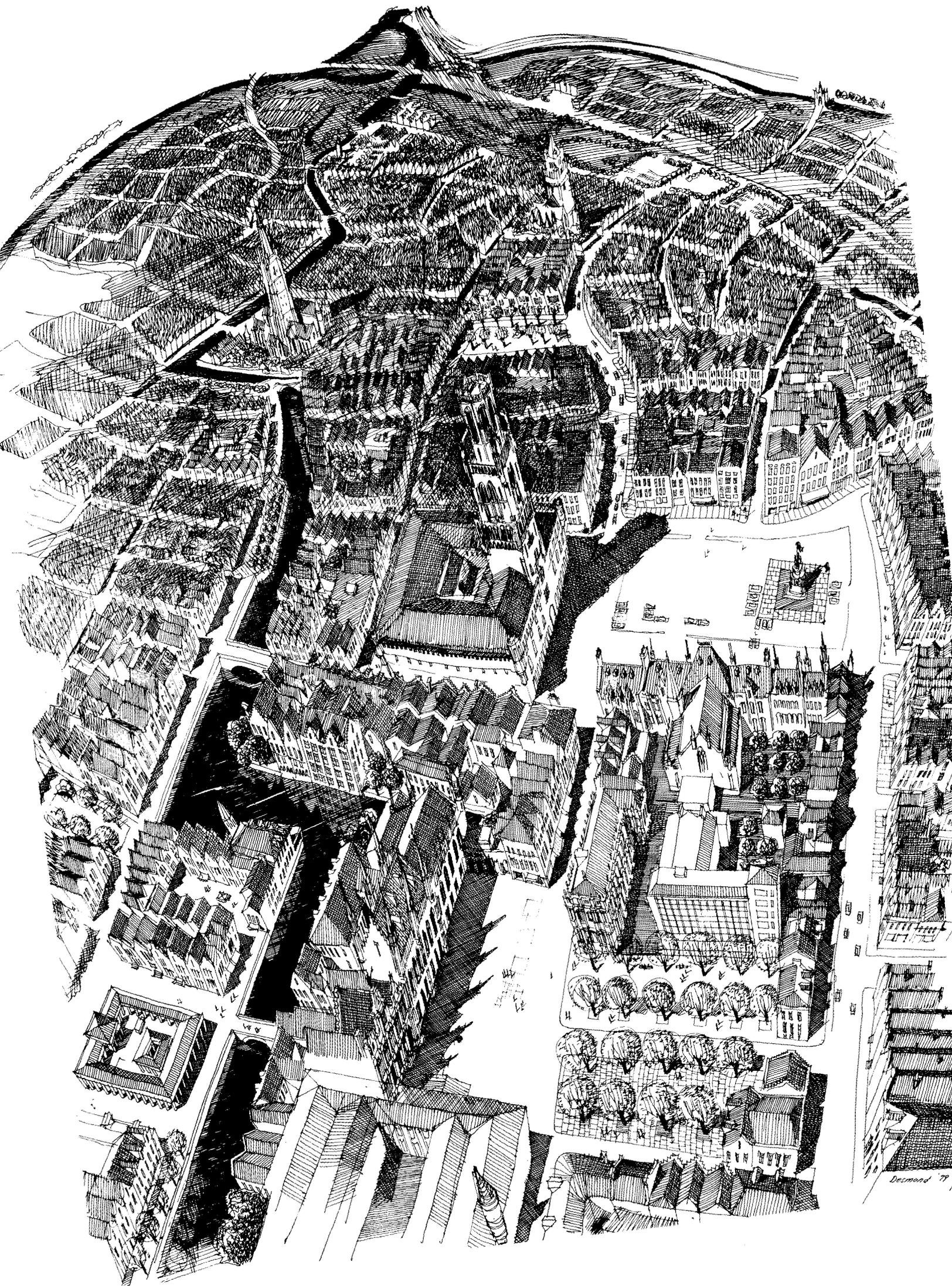
In southeastern England, just east of the Severn River, a limestone escarpment of up to 200 feet rises sharply from the river valley. The land then slopes gradually back toward Oxford and the central plains. The area, known as the Cotswolds, is laced by clear small rivers that thread their way through a beautiful countryside. It shelters some of the most humane and satisfying villages in the world, towns marked by variety but unified by the use of the native oolitic limestone as a building material. This sand-colored stone is shaped into buildings, fences, pavement, roof tiles and civic furniture in varieties of form all wonderfully harmonious with the native conifers and hardwoods.

Stow-on-the-Wold "where the wind blows cold" sits on the highest level of the Cotswolds escarpment. The ancient Roman Road (left in the facing drawing) and the venerated, 2,000-year-old Stow well probably account for its location. Stow represents one of the basic town types—the crossroads market village formed at the hub of radiating rural roads. The marketplace, an open area that varies in size and shape from town to town, forms the center of this prototype. Because the Cotswolds is a relatively peaceful area, there are no village walls and a typically English meld of town and country prevails.

The Cotswolds were developed during the rise of England's sheep culture and it was in the marketplace of Stow that the thousands of sheep were herded for distribution. Around the market and still functioning as a center for the adjacent countryside are the shops, inns, civic hall and church, as well as residential neighborhoods.







## Bruges

The Flemish city of Bruges is situated on a Roman road-river crossing (hence *bruges*, or bridge). Because of this connection to the North Sea it became in the Middle Ages the main trading outlet for goods from the European mainland to Britain, Scandinavia and the Baltic ports. Located in flat delta lands, the main defenses became a concentric series of two man-made walled moats, which along with their connecting canals now thread through the inner city, enlivening the urban scene much like the canals of Venice.

As the city developed, each of the evolving medieval institutions after the church and courts—such as the marketplace, counting houses, guild halls, city council—built their own seats of residence. Almost always, an open place was related to them. The city plan, except for the fortified and moated city wall, was haphazard. But the council consciously guided esthetic development, and the city became the outstanding artistic center of its day. However, the actions of sea and tide eventually silted the River Zwiijn, Bruges' outlet to the sea, causing a cessation of growth that enables us to study this beautiful city largely undisturbed by the Industrial Revolution.

My drawing at left shows a pedestrian's scope, one which is easily covered in a morning's walk. I have tried to show this for what it is—a series of urban spaces each very different in quality and function and all connected by streets of architectural merit. Along these streets, although the architecture is richly varied, the Flemish stepped gable and a consistent proportioning of fenestration weave a unifying pattern through the urban fabric. This fabric is carefully preserved by one of the most enlightened historical preservation programs in Europe.

At lower left in the drawing is the fish market with covered but open stalls. A walk to the right across the canal bridge and through an arched opening in the recorder's house (bottom center) brings one into the burg, the center of civic government and the original core of the ancient city. It is now enclosed by the architecturally important town hall, old recorder's house, provost's house and other civic structures dating from the 13th to the 16th century. A short walk leads to the market square

(middle), the historic center of the town. Here, the proud and startlingly scaled belfry tower, more impressive than the typical church and castle tower spires, proclaims the strength of Bruges as a commercial center. It symbolizes the freedom of the secular medieval city and the strength and creativity of Flemish architecture.

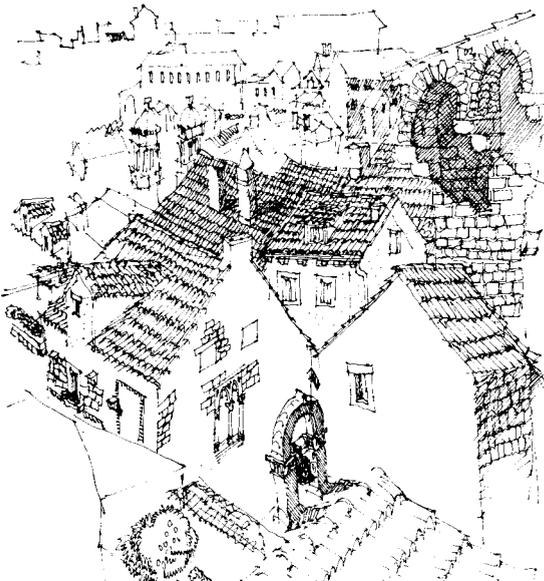
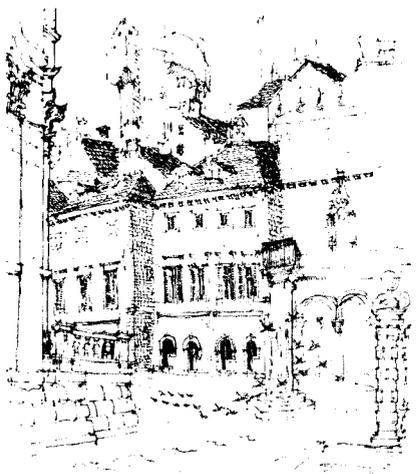
It is, as Robert Venturi has pointed out, scaled to the entire city and its immediate countryside and overscaled for its market square and its base. One side of this square (lower) is dominated by the provincial palace. Other sides are framed by the gabled guild houses. This square still functions as a weekly market on Saturday mornings when it is suddenly filled with motorized vans from which are vended every conceivable kind of merchandise. The pedestrian observes a beautifully curved street (toward the top), coming to the small-scaled, tree-lined Simon Stevin Place, now bounded by smart shops and galleries. As one walks along, the curving streets provide each facade in turn its chance to afford visual enjoyment.

The street leads past St. Salvator's Church another strong vertical, toward a large gathering space just inside the city walls. A contemporary town plan exhibit shows a plan to build a large underground parking structure below this plaza, interrupting and storing cars here at one of the entry points to this medieval core. The reconstructed plaza would then become a children's place, according to the plans. The remainder of this lively and beautiful urban core is surrounded by the ancient moat, now a landscaped greenway.

Because of the arrested growth, there are important and beautifully landscaped open green spaces within this core. The two concentric rings of canals define two scales. The original central ring encloses the high density area pictured here containing most of the civic, religious and commercial centers. The space between this canal ring and the other one, while still pedestrian in scale, encloses residential and mixed commercial and cultural uses all tied together by the waterways and their associated greenways. It is a model in urban land use that would be difficult to improve upon.



*Left, bright canopies over the stalls on market day on one of Bruges' many and varied public spaces.*





## Dubrovnik

Located on the Adriatic Sea at the base of Yugoslavia's limestone mountain range, Dubrovnik (formerly Ragusa—from "rock") began as a rocky island refuge during Roman times. The living rock from which the superb enclosing walls rise is still evident on the seaward side. The space between this rock island and the mainland has long been filled and enclosed within the one-square-mile city. The urban form accurately reflects this topography, with the high ground at right in the drawing above, the lower original sea level area in the center and the higher seaward island to the left.

The central space is characterized by the Plaka, one of the most urbane streets in the world, which serves as the central focus and social magnet for the entire area. It is short and straight, broken at both ends by plazas, and enclosed by repeti-

tion of the same basic building along both sides of the street.

A sophisticated, perfectly functional street paving pattern unifies the street and the city. All cross streets lead by steps from their higher ground directly onto the Plaka, making it a powerful magnet to the solely pedestrian traffic within the city walls. Because of the excellence and uniformity of its stone construction in the city walls and ramparts, and the carefully controlled urban housing blocks, the many churches, monasteries and civic buildings, Dubrovnik is probably the single most architecturally satisfying urban entity in the world. It has a long history of invasion and conquering rulers, including Romans, Arabs, Normans, Venetians, Turks and Germans. Through it all, the Serbo-Croatian people fiercely defended their individuality. Dubrovnik exhibits their tenacity in preserving their culture.

## Edinburgh

The Scottish city of Edinburgh is situated dramatically on high ground overlooking the Firth of Forth, one of the great estuaries of the North Sea. The facing drawing shows the central city as it grew well beyond its medieval core. The old city in medieval times was basically a one-mile-long street (right center) that stretched from Edinburgh Castle (right foreground) to the Holyrood Palace (right center), located at the base of another dramatic land form—King Arthur's seat. This large hill is preserved intact as a treeless city park, which still serves as a sheep meadow. From here one sees the city as it has developed over its many hills.

The plan of the old city resembles the skeleton of a fish, with the head at Edinburgh Castle and the tail at Holyrood. The spine of this skeleton is the major thoroughfare—High Street, the "royal mile." The ribs are the crossing alleys, called wynds or closes, which eventually became filled with dark tenement buildings five or six stories high. This form largely survives, although important urban spaces have been carved out along High Street and some of the closes have been reclaimed as modern dwelling places by judicious removal of obsolete structures.

Just left of the castle and the old town is a deep gorge, originally a river or slough, that has been largely preserved as a dramatic park separating the old and "new" towns. The new town (center of drawing), was built largely in the 18th century on high ground as the result of an advertisement by the Conven-

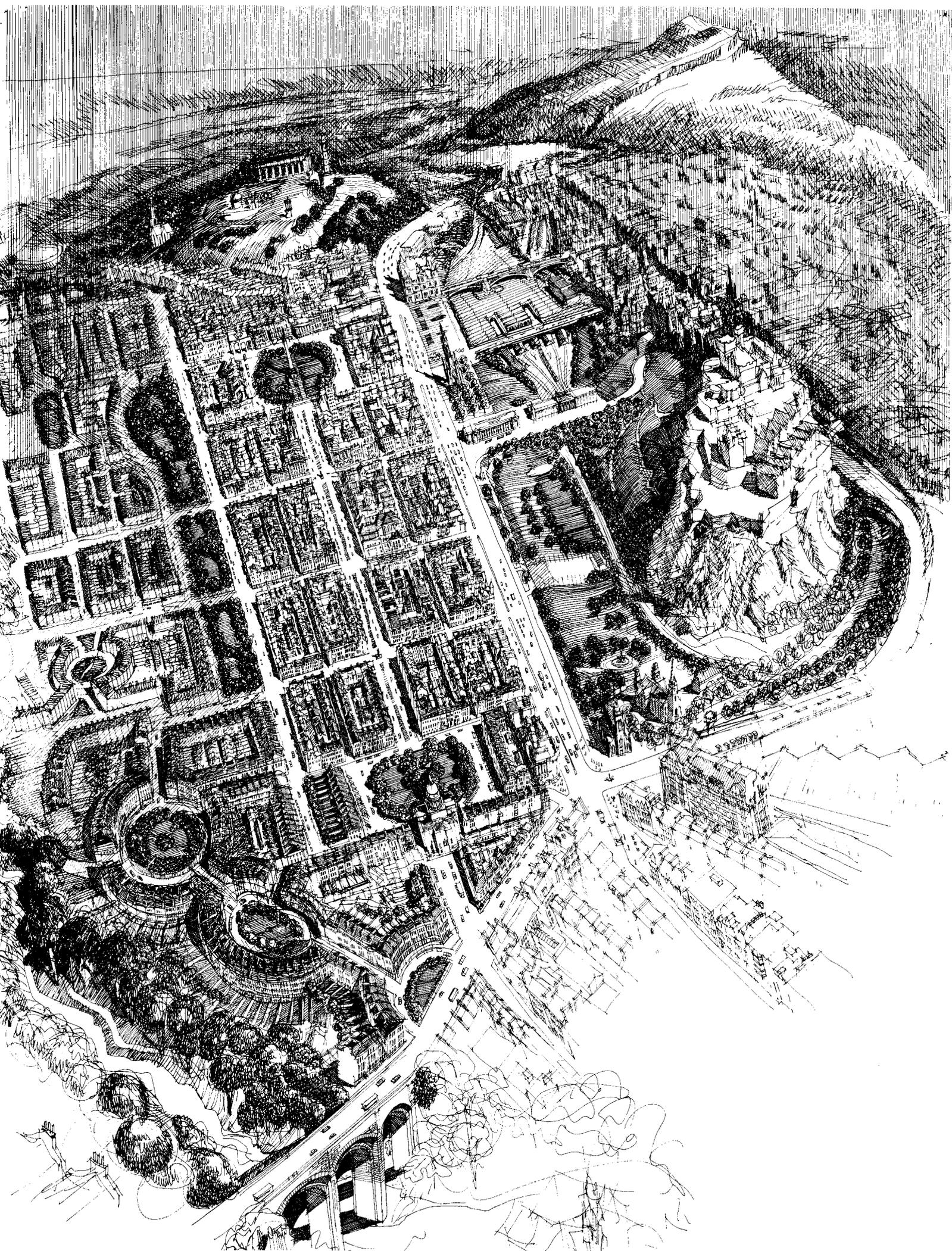
tion of Royal Burghs to build various civic and residential structures "in accordance with the highest artistic, patriotic and economic levels of thought." It is remarkable because it was an enlightened call for urban development by a public body which led to 80 years of consistent and unsurpassed execution. The proposal was followed by advertisements for a town plan competition, which produced a rather orthodox 18th century plan by James Craig that nevertheless related admirably to the topography, permitting the construction of Princes Street (center) to overlook the ravine and the old town. It also brought to Edinburgh the scale and open squares of London and Bath. These, placed on Edinburgh's high plateau with views across the spectacular hills, became a new dimension in urban design and one that is still refreshingly felt.

Craig's plan was followed by the development shown at left in this drawing: the 19th century circles and squares by Robert Reid and the linked circles of town houses in the Earl of Moray's developments (lower left). These urbane town houses, each with its own private backyard, have served for centuries as the British Isles' unbeatable urban living solution.

The Industrial Revolution reaches into this scene through the British rail system, which penetrates the port at the lowest point and unloads passengers into glass covered sheds (center and lower right), which feed directly into the inevitable British rail hotels. □



Courtesy of the British Tourist Authority



# Registration: Riding into the Sunset Laws

By Nora Richter

Both the ends and the means of registering architects are undergoing unprecedented re-examination. Some find this process a cause for anxiety, others a cause for celebration; in any case, it is a process of fundamental influence on the future of the profession. Current impetus comes indirectly from the consumer movement's concern for safety and welfare (see following article) and more directly from state scrutiny of professional registration procedures, notably through so-called sunset laws calling for automatic termination of activities and agencies after a set time unless specifically renewed.

The first state to pass a sunset law was Colorado in 1976. This was in response to legislators' and consumers' complaints that agencies and programs tended to continue indefinitely without significant improvement or termination of mismanaged activities. The majority of the 34 states which now have sunset laws require periodic review of their architectural registration boards, and if a board is not recreated by the state legislature, its authority will be terminated.

Sunset reviews have been conducted and the need for registration laws has been confirmed in Alabama, Florida, Montana, New Mexico, North Carolina and Texas, but not always without a strong lobbying effort by local architects and state AIA components, sometimes in conjunction with state engineering societies. By 1984, architectural registration laws and boards will be reviewed in 17 states: Alaska, Arizona, Colorado, Connecticut, Georgia, Hawaii, Kansas, Kentucky, Maine, Maryland, Nebraska, Oklahoma, Oregon, Tennessee, Utah, Vermont and West Virginia.

In response to the review activity, AIA's board of directors voted in June 1979 to establish a registration law advisory task force (members include William C. Muchow, FAIA, chairman; Dan Sheridan, AIA; Robert C. Brosher, FAIA; David Lawson, AIA; Harold Fleming, Hon. AIA, and John Wilson-Jeronimo, an AIA associate member). The task force will recommend policy positions to the component affairs commission and the board and will publish an analysis of registration laws and legislative guidelines. It hopes to bring the registration debate to the national level. Toward this end, the task force conducted discussion sessions highlighting registration issues at recent grassroots meetings.

The most penetrating current investigation of architectural registration is taking place in California. It originated when Gov. Jerry Brown proposed in his 1979 budget message that 15 professional licensing boards (or major programs within boards) be phased out, including the board of architectural examiners. The governor argued that the board was failing to adequately protect public health, safety and welfare, and that, in any case, state regulation was not necessary for such protection. In the end, after a concerted lobbying effort by the California Council/AIA and the board itself, Governor Brown approved a budget of \$558,000 for the board, an increase over the previous year.

However, Governor Brown's surprise attack prompted both CC/AIA and the board into action. Ward Deems, FAIA, chairman of the CC/AIA steering committee on the architects' practice act, explains: "The CC/AIA said, 'Hey, Governor Brown, thank you for the opportunity. We have been wanting to deal with this issue for years. To change our practice act is a major

kind of effort when you don't have a reason to do it that is at least saleable, and you have given us this reason. You have questioned whether architects should be licensed. We're going to grab that opportunity, and we're going to research this program and come back to you, Mr. Governor, with a proposal. It may be status quo. It may be that it will be to give up licensure.'"

The steering committee was established in July 1979 to conduct a "complete exposé" of the registration process. The committee's first step was to hire consultants Joe Akinori Ouye and John Parman (of the Berkeley group Advocates for Responsive Environments) to identify the regulatory and licensing issues facing California architects. Their report presented 25 question areas and set the stage for a two-and-a-half-day charrette. The two major possibilities examined in the charrette, according to Deems, were "an ideal model for a state regulatory system and a concept of self-regulation based on a public corporation franchised by the state." The charrette abandoned as unrealistic any thought of total self-regulation either by the profession or by an instrument of the profession like AIA or the National Council of Architectural Registration Boards. The committee plans to make its final report in September, with the goal of having a new practice act introduced in the state legislature in December.

The board of architectural examiners has reacted in other ways. It is dissatisfied with the current NCARB examination and hopes to administer in December a new examination of its own design, a revised NCARB examination or a combination of the two, says Paul Welch, the board's executive secretary.

The board considered but recently rejected an energy conservation examination as a requirement for recertification (California architects must have their licenses renewed every two

**Measuring the fit—or the lack thereof—between the licensing examination and the realities of practice.**

years). "The main concern of the board is that design professionals have not responded to the challenge of energy conservation. We just don't see the performance of architects and buildings being responsive to the energy crisis," Welch comments. "Part of that concern is that architects educated and tested in previous years have not had an opportunity to be aware of or exposed to new processes and principles in energy conservation." The board is also studying ways to make the program self-supporting and is moving toward modernizing the licensing and renewal process.

The NCARB examination has also been challenged in Wisconsin. Currently, the joint regulatory board of architects and engineers has decided to administer the NCARB examination in June, but tentatively plans to have developed a new examination by December '80. The debate began in 1973 and early '74 when members of the Wisconsin legislature grew concerned over the abnormally high failure rates of NCARB examinees.

The legislature ordered the examination cut in half. The truncated examination was given only once—in December 1974. Since then, Wisconsin has offered the NCARB examination minus the design portion.

The state then hired a consulting group, National Evaluation System Inc., Amherst, Mass., to determine how the NCARB examination relates to the actual practice of architecture in Wisconsin. The group found that less than 50 percent of items on the NCARB examination matched a task list compiled by Wisconsin architects.

The Wisconsin Society of Architects/AIA supports continuation of the present examination in light of the fact that it is being re-evaluated by NCARB itself. Other reasons include ease of reciprocity and the international recognition of the NCARB examination.

NCARB's own extensive study of the examination began at its 1979 annual meeting with a unanimous vote of funds "to analyze and define the knowledge, skills, abilities and functions necessary for minimum competence for the practice of architecture." A practice analysis survey was recently sent to 12,000 randomly selected registered architects (the survey was developed by the resolution five steering committee chaired by Patrick Meconi, AIA, and the consulting firm of McManis Associates of Washington, D.C.). The results will be used to determine what a registered architect should be expected to know "as a practitioner responsible for protecting the public health, safety and welfare." The committee will also conduct panel discussions nationwide and determine testing format options. The committee's work will be presented at the NCARB annual meeting in June.

Currently, NCARB administers two types of examinations: the professional examination and the qualifying test. A majority of states requires that a person with a professional degree in architecture from an accredited school pass only the professional examination; a few require that the qualifying test, or parts of it, be successfully completed for registration. The qualifying test is primarily designed to be taken in conjunction with the professional examination by applicants who do not hold an accredited or approved professional degree in architecture but have 4-13 years experience (with the majority of the states calling for 10-12 years).

The professional examination has two sections: a one-day, 12-hour multiple choice examination concerning environmental analysis, architectural programming, design and technology and construction and a one-day, 12-hour design problem. The qualifying test is a two-day, nine-hour multiple choice examination concerning architectural history, structural technology, materials and methods of construction and environmental control systems. Both were first administered in 1973, with the design problem added in January 1978. Registration examinations have been given since the advent of the registration law. Illinois was the first to pass an architectural regulation statute in 1897, followed by 31 states during 1910-20, and 21 states in the '40s and '50s. Each state wrote and administered its own examination until 1954 when NCARB developed a syllabus recommending how examinations should be scored. Around the same time, NCARB developed a four-day, 36-hour, seven-part written examination that was adopted nationwide by 1968.

The JOURNAL interviewed a number of architects, educators and state registration board members on the issues involved in the current registration controversy. A sampling of their concerns and opinions follows.

First of all, is registration necessary for the protection of public health, safety and welfare? Or are building codes and zoning laws adequate protection for the public? Most architects appear to be in agreement with the basic tenet that registration is necessary. Reasons vary. "Unless you are going to have some kind of very elaborate, very sophisticated policing mechanism, more elaborate than any state currently has, or anyone has ever

thought of, there is really not a substitute for registration," says Earl R. Flansburgh, FAIA, chairman of the Massachusetts board of architectural examiners.

Edward Sovik, FAIA, a member of the Minnesota state board, believes registration is to the public's benefit, "simply because the architectural skills and judgments are too complex to leave to untrained people." He believes that the word welfare is most important: "welfare as having, ultimately, everything to do with psychological health, with local pride, with sense of place, with all those things that make an environment not only physically safe but beautiful. You can protect physical safety by codes pretty well, and if that were all I was concerned with, then I would have some question about whether you needed an architect or a registration law." Richard R. Whitaker Jr., AIA, director of the school of architecture, University of Illinois at Chicago Circle, suggests that if codes are the only protection,

### Questions about the multiple choice method of examination and whether design ability is susceptible to testing.

they would become more rigid and not allow for innovative designs without major revisions.

But George Notter, FAIA, a principal in the Boston firm of Anderson Notter Finegold Inc., imagines the profession functioning well without registration. "I think it is the education of the architect that is important." And John Hartray, FAIA, believes that registration is unnecessary for consumer protection because architects, "unlike hairdressers and horse-shoers and a lot of other groups that are licensed by the state," deal with "relatively sophisticated" consumers.

Assuming registration will continue in some form, is the current registration examination administered by NCARB adequately testing competency? "I think the current examination is a leftover process supporting the principle that there ought to be an examination," says Gerald McCue, FAIA, recently appointed dean of the Harvard graduate school of design. He questions "selecting fragments for examination from a past era which may or may not form a mosaic of reality that matches either the current field or the current social need for registration." On the other hand, Flansburgh thinks that, although the NCARB examination "has some shortcomings . . . it is the best thing we have going at the moment."

While most people interviewed support examination of technical aspects of architecture, views on whether design can be measured by the examination are mixed. "I think the design portion of architecture should be left up to the market," Hartray comments. "I would be in favor of a much more rigorous examination in the technical areas and the abandonment of anything that has to do with esthetics or judgmental issues."

Others argue that testing design abilities is essential. "I think that certain kinds of things are testable in terms of design," Whitaker says. "I feel very strongly that one of the critical things that an architect ends up doing is not just dealing with things out of context, but in fact integrating the whole range of activities that relate to the design planning and building of a building."

Many of the interviewees have problems with the multiple choice testing method. "There are no multiple choice questions in real life," Hartray says. His "ideal" examination would be a combination of writing and drawing. "The only reason for multiple choice," Sovik suggests, "is easy grading. It has no virtue except for that."

The current registration system in most states requires three

years of practical experience following an architect's formal education (one state requires four years, two states two years and two states none). Could this system be changed so that the examination is given immediately following formal education? The practical experience before registration seems to be favored. One reason is that this is how young architects can really "learn what the practice of architecture is," says Bertram Berenson, AIA, dean of the college of design, architecture and art, University of Cincinnati. Flansburgh comments, "One of the principal problems we have with recent graduates of schools is that by and large there is no degree of coupling between the design and construction process. Most students have very little feeling for what materials do, can do, don't do." Others fear that placing more emphasis on education could restrict course flexibility by requiring a vigorous core curriculum.

"I don't think that should be done at the demand of national registration," says Robert Bliss, FAIA, dean of the graduate school of architecture, University of Utah. "I think they [state boards] are beginning to get rather presumptive in that they are going to define core education programs. The first thing you know the schools become more and more limited. We can look at the Florida example, in which the state registration board is saying what an architectural curriculum is. The result is that many schools will be simply vocational."

In addition to testing for registration, state boards enforce compliance with registration laws. "Everyone has trouble with compliance," Sovik says. "It's hard to prosecute contractors and unregistered people who somehow get past the law, partly because the owners don't like to prosecute the people they have hired."

The crux of the registration re-examination was summarized by Ward Deems in a report to the CC/AIA executive committee and board of directors: The debate, he said, "is about just *who* may be entitled to call him or herself 'architect,' if at all, and for what reasons. And, further, what on-going processes of education, supplication, examination, regulation, administration, determination and adjudication are appropriate to establishing the states' recognition of the architect, if at all. And, still further, we are considering the nature, role, scope, definition and

**Registration as matter of public recognition. 'Few people understand what we do; fewer yet demand our services.'**

potential enforcement of the responsibilities and competencies of the architect as they pertain to that still-to-be identified, amorphous group called 'the consumer.'

"The basic element of these considerations concerns the matter of *recognition*. The concern of a majority of individual architects appears to lie within the context of their perceived need to be recognized and identified by an established authority in order to assure some established measure of credibility on the part of our society. The architects' role seems more easily defended (or so they believe) when sanctioned by law, subsequently administered by government.

"Yet consistent agreement on a fundamental issue appears repeatedly when architects discuss their role in society—that few people understand what we do; that fewer yet demand our services, and that education of the 'public,' beginning in early school years, could do much to overcome that condition. However, time will tell if the score of interactive issues with which we are now dealing might be largely resolved by an approach that has always been in our power to implement—simple, societal education." □

# Architecture and Consumerism

By Harold Fleming, Hon. AIA

It is startling to recall how recently the consumer movement, as we know it today, came into being. It dates back no further than 1966, when an intense young lawyer named Ralph Nader single-handedly took on General Motors, branding the huge corporation's products "unsafe at any speed." For his pains, Nader was harassed by agents of GM—an indiscretion that ultimately cost the company a public apology and payment of \$45,000 in damages. It was this sum that funded the initial assaults of "Nader's Raiders."

The idea of consumer protection was not unknown, of course, before Nader's emergence. A few private organizations had long tested and reported on the quality and safety of commercial products. And the federal government had purported to meet its obligations to consumers through such regulatory agencies as the Fair Trade Commission and the Food and Drug Administration. But, significantly, the first task undertaken by Nader was to demonstrate that the regulatory agencies were captives of the interests they were supposed to police. Nader's view of consumerism was a far cry from the mild, often permissive style of government regulation at the time. He was determined to see that the power of government, as well as the power of publicity and litigation, should be used to bring business into line.

It was the audacity of Nader's attack that made his successes possible. The public imagination was captured by the image of this Jack the Giant Killer engaging in hand-to-hand combat with the titans of business and government. For the same reason, the mass media were more than ready to publicize the charges and demands that flowed from the growing network of Nader-sponsored public interest groups.

This new version of the consumer movement was not an isolated phenomenon; it was one of several movements that were born of the activist spirit of the 1960s. Like environmentalism, women's rights, the peace movement (and later advocacy for the handicapped, the gays and the elderly) consumerism was heavily inspired by the methods of the civil rights movement. The sedate programs of public information that had for years characterized such groups as Consumers Union and the Audubon Society gave way to the more aggressive techniques of lobbying, litigation and demonstrations.

The environmental and consumer movements were especially close kin, as to both methods and objectives. In the style of the civil rights movement, each of them set out to demonstrate that a combination of entrenched economic interests and their allies in government were riding roughshod over the physical and financial well-being of the general public. They relied on the excesses of their adversaries to generate public indignation and support, much as the civil rights activists had benefited from the unintended help of the Bull Connors of the South.

Again like the civil rights movement, and most important of all, the environmentalists and the consumerists owed their effec-

**Mr. Fleming** is president of the Potomac Institute in Washington, D.C. As he mentions in this article, he was AIA's first public director, serving on the board in 1978 and 1979.

tiveness to the prominence given their activities by the media—most particularly, television. Nothing could equal the “consciousness raising” effect of the vivid nightly images of protesters lying in the path of bulldozers, individuals maimed or bereaved by defective automobiles, industrial cancer victims, Kepone-poisoned streams, and on and on. “Sixty Minutes” alone has probably done more for the environmental and consumer movements than could have been accomplished by any amount of pamphleteering.

It is noteworthy that—*unlike* the civil rights organizations—these two movements do not profess to speak for a special disadvantaged group, but for the generality of Americans. They are, in fact, essentially middle class efforts and, on occasion, find themselves at odds with spokesmen for minority and lower-income groups. For example, environmentalists seeking to block construction of a refinery on the coast of South Carolina found themselves opposed by black leaders who saw the proposed installation as a welcome source of jobs for their unemployed constituents. Similarly, consumer protection measures that increase the cost of products are often seen as imposing a special penalty on those least able to pay. Given the prospect of continuing in-

**The unfolding of an inevitable confrontation between consumerism and the traditions of professional practice.’**

flation and unemployment, these conflicting purposes may loom even larger in the 1980s.

There is a touch of irony in the fact that a disproportionate number of the new consumer movement’s supporters were professional people—particularly younger professionals who had also applauded the successes of the civil rights movement and the rising demand for protection of the environment. These well educated and well informed individuals were better equipped than most other Americans to appreciate the extent to which American consumers were being victimized by the mass marketing of unreliable and dangerous products. They were quick to see the virtues of effective efforts, undergirded by fact-finding, to hold the producers of goods and services to a higher standard of public accountability.

Some of them might have been less supportive could they have foreseen the confrontation to come between consumerism and the traditions of professional practice. With the aid of hindsight, it now seems clear that such a confrontation was inevitable. Historically, the major professional associations have insisted on self-regulation and peer judgment as the keys to maintenance of proper standards of professionalism. Consumer advocates, on the other hand, view professionals as no less self-interested than other sellers of services; for them, anything that restricts competition or access to practice or public accountability is inimical to the interests of the consumer.

The defenders of each of these contending viewpoints justify their positions on precisely the same grounds—that the users of professional services need protection against exploitation. The professionalist argues that too lax a system of credentialing and unbridled competition leaves the public at the mercy of charlatans and incompetents. The consumerist maintains that tight professional controls on access and competitiveness are stratagems to protect the interests of the professional and deny the consumer better quality services at lower prices.

The battle over this issue had scarcely been joined in the early ’70s when it became apparent that more was involved here than an arguable difference of opinion. The consumer-oriented “public interest” groups turned out to have some powerful legal weapons in the form of laws prohibiting anticompetitive prac-

tices. The Sherman Anti-Trust Act and its counterparts in state law could be, and were, brought to bear with telling effect against restraints on professional advertising, price competition and efforts by one professional to supplant another.

Professionally approved procedures for determining who may practice have also come under fire, although this challenge is still in a relatively early stage. The essence of the proconsumer position has been summed up by the National Center for the Study of Professions, a foundation-supported public interest group, as follows:

“Few conditions in our society affect the welfare of its citizens as much as opportunities for gainful employment on the one hand and access to quality services at fair prices on the other. Opportunities for job entry and mobility within a field become restricted as these requirements become more rigid. Entering a licensed profession or occupation becomes more difficult as training, certification and licensing procedures in each field become more complex and restrictive. These restrictions may involve training, experience, citizenship, residency, test taking abilities, professional school admissions, practices, and a myriad of factors that determine who is eligible for and/or can meet licensing requirements. Major barriers to entry and mobility in these jobs are licensing policies and practices. These practices also affect the availability and quality of service in ways that are not always beneficial to the consumer. Thus, for some citizens, licensing requirements can impede entry into a chosen career, and increase the costs while often limiting the availability of services.”

Professional licensing is regulated by the states, under their police power to protect public health, welfare, safety and morals. The fact that many states have adopted “sunset laws,” requiring periodic review and justification of regulatory bodies, gives an advantage to critics seeking to amend or abolish existing licensing procedures. They can also carry their attack through the appropriation and budgeting process by maintaining that state licensing boards are not cost effective. Some state officeholders have turned a sympathetic ear to that argument. Sensitized by Proposition 13 and its equivalents, politicians may find it increasingly easy to agree with the Center for the Study of Professions that licensing boards and certifying professional bodies do not earn their keep, since they “tend to pay very little attention to disciplining members of the profession for abuses or incompetence.”

Professionalism is in the line of fire in still other respects. To the extent that professional associations can be represented as near-monopolies, their membership and dues structures are subject to legal attack or regulation. To the extent that malpractice suits and large damage awards continue in vogue, professionals can be rendered virtually uninsurable. And to the extent that large numbers of applicants fail to gain entry to the professions, qualifying examinations and other procedures can be attacked as exclusionary or discriminatory devices.

On the last point, it should be pointed out that the challenge to examinations is part of a broader effort that comes near to being a movement in itself, under the banner of “truth in testing.” The main target thus far has been the Scholastic Aptitude Test and other standardized tests which are used to determine admission to colleges and graduate schools. The “truth in testing” advocates argue that these examinations are biased against minorities and applicants from economically disadvantaged backgrounds; that they are administered under circumstances that are inhibiting to those who are not from the test-wise upper middle class; that they do not measure what they are supposed to measure, and that the test results are withheld from both test takers and independent researchers who question their validity.

On the strength of these criticism, New York state has passed a law requiring that test takers be allowed to see their examinations after scoring, and that the testing organizations make their data publicly available. An effort to enact a federal law of the same kind failed in the last Congress, but its backers have

pledged to continue their campaign. Similar efforts to force the modification or abandonment of professional qualifying examinations have surfaced in several states and may well spread to others.

As professions go, architecture probably enjoys as favorable an image as any, and more favorable than some. Unlike the medical professionals, whose services may touch the most basic emotions and may affect almost everyone eventually, architects serve a relatively small and select clientele. Moreover, literature and folklore have projected a positive, if somewhat romanticized, picture of the architect's role and commitment. Finally—though scarcely an unmixed blessing—the average architect's income is not one to inspire envy or charges of ruthless exploitation.

Notwithstanding these advantages, architects have not been spared fallout from the consumerist atmosphere. Almost every manifestation of proconsumer pressure identified above has had an impact on architectural practice and professional self-regulation. A detailed discussion of each of these developments would exceed the scope of this article—and no doubt the patience of readers who are already familiar with them. It seems appropriate, however, to characterize the main issues briefly.

**Marketing.** Like other professionals, most architects have maintained that it is improper to offer professional services through competitive business methods. This conviction has been expressed in various rules of the AIA's code of ethics and professional conduct—for example, those prohibiting or restraining advertising, design competitions and exhibitions, the employment of agents and the use of free sketches to secure commissions. By 1978, governmental actions affecting professionals made it plain that the ban on advertising was untenable. The code was amended to permit "dignified" advertising, though still forbidding the use of radio and television, photographs, testimonials and references to other architects. The other marketing restraints are as yet unchanged, although how long they will remain so is uncertain.

**Supplanting.** For many years the AIA code of ethics held it unethical for an architect to seek or accept a commission for which another architect had been selected. In 1977 a member suspended for a period of one year under this provision filed suit in federal court against AIA and its officers. He charged, among other things, that the supplanting rule and the manner in which it was applied against him constituted a conspiracy in restraint of trade under the Sherman Anti-Trust Act. The trial judge ruled unqualifiedly in his favor. The stringency with which the law was applied by the court came as a shock to many; it appeared that, however laudable the intent of an ethical standard, if it had the net effect of limiting competition, it was legally indefensible. (A jury trial to determine the amount of damages, if any, suffered by the plaintiff is still pending.) As a result, in 1979 AIA first suspended the enforcement of the supplanting rule and later repealed it outright.

**Licensing and Registration.** Although procedures for admitting architects to practice vary from state to state, most of them are based on the model developed and promoted by the National Council of Architectural Registration Boards. The main elements of this model are: possession of an accredited architectural degree or its equivalent in experience; compliance with prescribed residence and on-the-job training requirements; passing a written (and often an oral) examination, heretofore standardized by NCARB. Many state boards are also mandated to act on complaints of incompetence, negligence or dishonesty, but few of them have done so with any diligence. The strongest of the state registration acts confer on architects the exclusive right to design buildings of certain sizes and categories; the weakest merely determine who may use the title architect.

The growing controversy over registration has emerged most conspicuously in California. Consumer-minded critics of the program there charged that the qualifying examination was un-

related to actual competence, that architects were granted a monopoly over design tasks that others were no less well qualified to perform, and that the state board did little to enforce honest and competent performance by its registrants. In response, Gov. Jerry Brown urged abolition of the board, but he later relented and increased its appropriation with an implied admonition that it should mend its ways. As the '80s began, this controversy showed every sign of spreading to other states.

**Liability.** Architects need no instruction on the proliferation of liability claims, large damage awards and consequently increasing liability insurance deductibles and premiums. One approach to these problems is to diminish professional exposure through a more precise and limited definition of the architect's responsibility. But this approach alone is unlikely to reverse the trend. That will probably require a basic change in the public mood, coupled with higher standards of competence among both architects and their partners in the building process.

**Voluntary Changes.** This account is not meant to suggest that the profession's response to greater consumer consciousness is solely the result of legal, regulatory and political bludgeoning. Architects and their associations have displayed considerable sensitivity to the need to re-examine traditional attitudes and practices. For example, over the past 10 years, AIA has taken a variety of steps to encourage increased participation by minorities and women in the profession and in the affairs of AIA itself. In 1977 AIA became one of the first professional associations to provide for public-interest representation on its board by creating the position of public director. The Institute and many of its components have strongly supported environmental protection, historic preservation, energy conservation, inner-city revitalization and other public interest measures. It is reasonable to assume that these and other such activities fairly represent the commitments of the 34,000 members of AIA.

The term "consumer movement" is something of a misnomer, in that it implies a large group of active participants united around common political goals. In fact, consumerism is less a

**Public interest in the consumer movement may have waned but its victories are unlikely to be undone.**

movement than a public state of mind that confers legitimacy on a network of advocates acting in the name of the public interest. These advocates do not march at the head of a long column of visible followers, but their success does depend on the extent to which they can convince political and institutional leaders that they represent a major segment of public opinion. Until recently, at any rate, few doubted that this was the case.

The public mood invoked by these advocates is hard to define, and even harder to explain in its full complexity. But it does not take a social psychologist to identify the strains of dissatisfaction that ran through our society during the last decade and a half. One of these was a widespread feeling that the "quality of life" in America was declining. A clear manifestation of this sentiment was the environmentalist demand that action be taken to halt air and water pollution, the indiscriminate use of pesticides, oil spills, radiation and other abuses of our natural surroundings. An additional manifestation was the insistence that businesses be held accountable for shoddy products, deceptive advertising, price gouging and indifference toward complaints.

Yet another evidence of discontent—and the one most relevant for this discussion—was the widespread loss of trust in and respect for authority. While some of this disillusionment

would have occurred in any case, the Vietnam war and the scandals of Watergate raised it to giant proportions. The perfect text for the time was the book *The Best and the Brightest* by David Halberstam. This exhaustive debunking of the brainy, credentialed "experts" of the '60s sounded a theme that was to persist, at least through the '70s. Not only did governmental leaders and bureaucrats fall victim to this tide of public skepticism, but almost anyone who claimed to speak with authority by virtue of specialized education, training or experience. In this culture grew the challenges to the profession that we have been examining.

What is the public mood of the '80s likely to be?

Many journalists and other social observers have voiced the opinion that Americans are growing steadily less sympathetic toward reformist crusades, assaults on authority, challenges to the major institutions, wholesale resort to the courts and excessive government regulation. If this is in fact the case, it would seem to follow that the consumer movement will experience declining support. There are some indications that this is already happening. An intense industry lobbying campaign won strong support in Congress for a congressional veto power over the regulatory actions of the Federal Trade Commission. Foundation support for public interest law firms is on the wane. And clearly there is a rising tide of support for deregulation.

Caution is advisable, however, in assessing the significance of this apparent shift in public attitudes. It is probably a reflection more of impatience with consumer demands viewed as extreme or egocentric than a desire to see the clock turned back. As evidenced by such ill-fated proposals as the mandatory wearing of seat belts, prohibition of smoking on airplanes and the banning of saccharine, there are limits on what Americans will support at any given time in the name of consumer protection.

Anyone trying to predict the fortunes of consumerism in the '80s should reflect on the degree to which it has been built into the cultural and institutional life of the society. It is improbable that the large array of laws and regulations designed to protect consumers will be repealed. It is equally improbable that the government agencies charged with administering these measures will be dismantled. There is no reason to believe that safety recalls of defective cars and other products, which are now almost routine occurrences, will be discontinued. Consumer advisers in the White House, state capitols and city halls (and in newspaper and television offices, as well) seem to be here to stay. Government lawyers will continue to attack practices alleged to be in restraint of trade, and courts will continue to hear cases charging violations of consumer rights. In short, the basic elements of a consumer-oriented society appear to be firmly enough implanted to withstand transient shifts in public sentiment.

If this judgment is accurate, the prospect for the professions can be simply put: They must continue to adjust to pressures for a more open and competitive system of service delivery.

I hope I may be forgiven now for switching to a more personal note. In 1978 and 1979, it was my privilege as the first public director on the board of AIA to join with other board members, officers and staff of the Institute in wrestling with some of the issues I've just discussed. On the strength of that learning experience, as well as some passing familiarity with the consumer movement, I offer the following general observations.

1. Architecture is a poorly understood profession. Few laymen could give an acceptable explanation of what architects do—or, at any rate, what they do that clearly distinguishes them from engineers and other design practitioners. This is partly a problem of communication with the public, but it reflects also a certain lack of clarity within the profession itself. I have heard more than one thoughtful architect speak of the difficulty of getting agreement within the profession on the attributes and functions that are unique to the architect. Achieving broader consensus on this question is a necessary first step toward resolving the major issues facing the profession.

2. Registration laws and practices will preoccupy architects and their state organizations in the years just ahead. Requirements for admission to practice will probably have to be made less restrictive. As is already happening in California and Wisconsin and in the National Council of Architectural Registration Boards, examinations will have to be revised and validated. Exclusive practice rights will have to be either justified or abandoned. There will be increasing demands for greater public representation on registration boards. There may also be insistence that registered architects periodically give evidence of their continuing competence. In recognition of the seriousness of these questions, AIA has provided for discussion of them by the components, at grassroots and at the annual convention.

3. New types of practice are ordinarily thought of as related to the economics of practice rather than consumerism. But they are, in fact, consumer-related when they come about because of changes in social conditions and client preferences, and thus are aimed at making the profession itself more competitive. The re-

**The future of the profession  
will be determined in the end  
by the quality of architects'  
services to client and public.**

cent amendment of AIA's ethical code to define acceptable terms under which an architect may participate in profits on labor and materials is a case in point. In the '80s, new social and economic circumstances are likely to require further changes in traditional concepts of practice.

4. Reconsideration of the AIA code of ethics seems bound to continue. Various alternative means of coping with recurring charges of "anticompetitiveness" have been suggested. One is simply to defend the existing ethical rules to the last ditch; this, however, could be an expensive process, and one that would severely tax the time and patience of the profession's leaders. At the opposite extreme is the alternative of repealing the code and prescribing no ethical standards whatever; but this would eliminate the special commitment to ethical practice that is supposed to distinguish the professional from the tradesman. The most promising approach, in my view, is to start from a clearly drawn distinction between those ethical rules that can have no other purpose than to protect the client and the public, and those that are intended to regulate the conduct of one architect toward another. It is only rules in the latter category that raise questions of anticompetitiveness; moreover, it is doubtful that they are actually ethical rules at all. For example, it is hard to see what ethical principle is violated by professional advertising on television, so long as it is not false or misleading. The same might be said about free sketches and design competitions. Practices may be unwise or unseemly without being unethical. Whether one accepts this view or not, the hard fact is that any rule that seeks to prevent a professional from soliciting clients by any honest means is unlikely to survive sustained attack. The wisest course in matters of professional etiquette may well be to rely on the individual architect's good judgment and desire to be respected by his fellow professionals.

The future of the architectural profession will not be ultimately dictated by the consumer movement, the courts or regulatory agencies. It will be determined finally by the quality that architects bring to the service of their clients and to those members of the public who pay attention to the structures and spaces that surround them. Although it must contend with lawsuits and regulations, the organized profession should give highest priority to assisting its practitioners in meeting the highest possible standards of excellence. □



# Mr. Johnson's Hidden Jewel of a Museum

*It was called 'postmodern' in the middle '60s and has been neglected ever since. By Andrea O. Dean*



A 1964 article in *Architectural Forum* carried the unwittingly prescient headline “Pre-Columbian Art in a Post-Modern Museum.” Its subject was Philip Johnson’s new wing for Dumbarton Oaks in Washington, D.C. The building can hardly be considered a seminal work for postmodernism, though, since the movement’s trend-setting scribes, including Johnson himself, have ignored it in their writings. With exception of the *Forum* article and a paragraph in Robin Boyd’s book of 1965, *The Puzzle of Architecture*, the pavilion, which Johnson calls “a jewel-like box in the woods,” has received virtually no critical attention. Why? What place does the little building occupy in Johnson’s *oeuvre*? And what is there about it that makes the magazine headline of 16 years ago appear now to have been prophetic?

The answer to the last question seems evident enough: The tiny addition to a neo-Georgian mansion, a research center for Byzantine and medieval studies, is classical in its clarity of plan, its symmetry, repetition of forms and carefully worked out proportions; it appeals to the current predilection for masterful detailing and use of rich materials, and it alludes to history, especially in its Byzantine plan.

Today Johnson contends, “I’m not postmodern, just a little

bit historical. I don’t like to be thought of as a pioneer, because I’m quite reactionary. It’s just that reactionary has caught up with progressive now. For instance, a most amusing ally of mine is Morris Lapidus. He wrote me a long letter of congratulation for at last seeing the light. Isn’t that marvelous? He always was interested in elegance and grandeur and historical allusion and now we’re all learning what he’s always known. I was brought up that way; I was an architectural historian before I was an architect, so my postmodernism is just an amusing accident. To me, I’m as much a modern architect as ever. I start with a function and a structure, first. It was the function that gave me the idea of the small pavilion at Dumbarton Oaks and then enabled me to feed on what I’d remembered from Sinan, the 16th century Turkish architect.”

The probable reasons why Johnson’s little museum wing was ignored by pundits of the 1960s reflects more on the period than the building. It was a tiny addition at a time when small was considered negligible, and additions most of all. Its most ingratiating qualities—the immaculate *detailing*, use of sumptuous materials and clarity of plan—were not regarded as hot news in a time enamored of industrial, brutal and crude materials and convoluted space making, a time which lionized Paul Rudolph’s

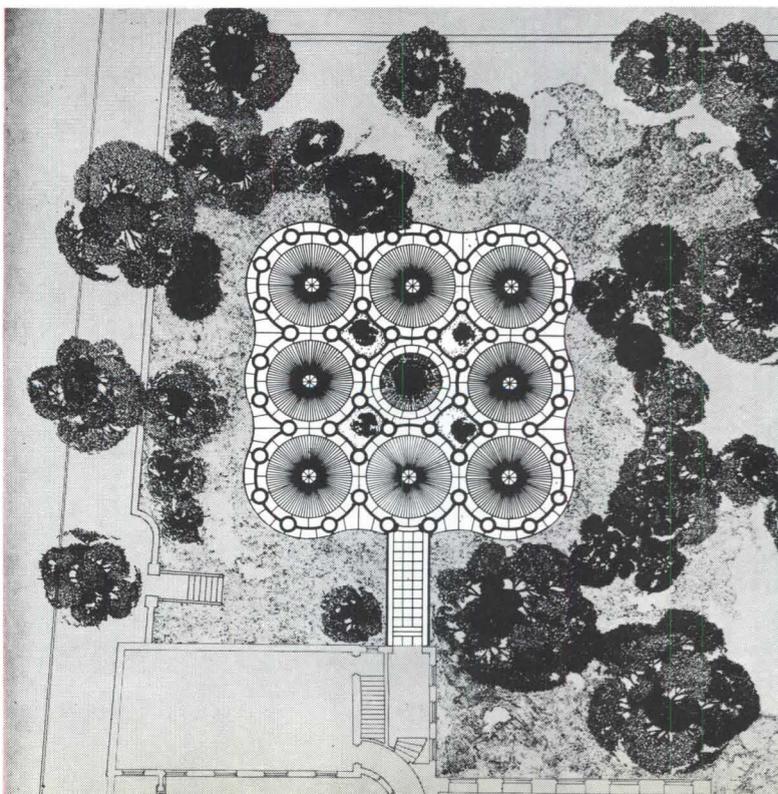
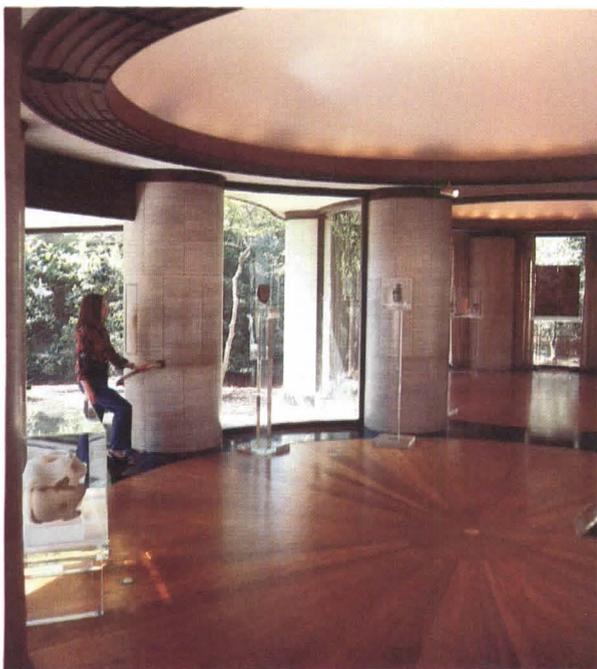
## In plan, an 'ornamented tic-tac-toe square.'

Art & Architecture Building at Yale. Nor was Dumbarton Oaks newsworthy in the more controversial context of Johnson's frou-frou, neoclassical work of the time. He emerged from this period, after a dry spell, to present to the world and critics a new Johnson, seemingly more worthy of serious attention as a designer of sleek office towers not even distantly related to Dumbarton Oaks.

Johnson was chosen to design the Fabergé-like pavilion by then director of Dumbarton Oaks, John S. Thacher, "because," Thacher says, "I wanted something different, something beautiful, something small, something unobtrusive, something hidden in the trees that would not dominate the scene of the landscape. I frankly didn't think it was up to the standards of the Bliss' [the clients'] imagination or to the beauty of Dumbarton Oaks to create more of what I call Long Island Georgian, and I didn't want a Pei-like building sticking up there. Johnson came up with the idea of little domes and shapes very reminiscent of Byzantine-Turkish architecture and it seemed most appropriate."

The building, tiny, low, surrounded by shaggy growth, was never intended to be seen from the exterior, which is why Johnson felt no compulsion to fit its style to the existing mansion. "Besides," he says, "we may now have carried constextualism. [that is how he chooses to pronounce the word—haughtily] too far. If you were having Chartres Cathedral constextual with the hovels of the period that were around it, it wouldn't have made much sense, would it?"

In plan, the pavilion resembles a preciously ornamented tic-tac-toe square, eight of the nine boxes transformed into overlapping, glass-walled rooms about 25 feet in diameter. The circumference of each room is described by eight plump drums of Illinois marble, four of which are shared by adjacent galleries. (The round drums conceal supporting lally columns.) Johnson describes the drums, almost three feet in diameter, as "cuddly. Their solidity gives you a background feeling, so that the curved windows, inside and outside, become small." An open central court, with a fountain splashing to shoulder height, serves as focal point for the eight display rooms, which are topped by artificially illuminated, shallow domes; beneath each a flat and broad bronze ring serves as soffit to contain lighting and services. "The domes," says Johnson, "are sky, which could be very shallow or deep; you can't know the height of the dome. It's meant to be illusive like the cyclorama in the theater that represents infinity."





*From the neo-Georgian mansion, a neutral stem-like element leads into the pavilion. Repeated curvilinear elements are underscored by meticulous detailing of rich materials—wheels of teak flooring, marble-sheathed drums, bronze soffits, lighted domes.*

Johnson designed the pavilion as a totally interior building, a series of roofs under which to display the small collection “against green walls. Also, the inside is sort of an exterior, because you see the next room as an exterior. You look across the court as you first come in and across the fountain and see the exterior of the far dome.” The idea of a series of domes came from Sinan, whom Johnson greatly admired at the time. Every detail is calculated to echo the repeated, low circular motifs: In each gallery is a round of teak flooring, carefully cut as spokes of a wheel; edging it is a swirl of deep, green marble. (Johnson estimates the building’s cost to have been between \$160 and \$180 per square foot. “Instead of buying an emerald collar,” he says, “Mrs. Bliss built this pavilion. I imagine it cost about the same.”) Overhead, strips of bronze encircle the fat marble drums, making them look all the more rotund; the heavy, banded bronze soffits follow and underscore the forms of the domes, which are connected at roofline by undulating curves.

All this repetition and reinforcement of a static form, the

circle, in combination with the bulk of the drums and the intentionally low, hovering quality of space, makes for a feeling of stasis. There is no tension, there are no surprises and Johnson wanted it that way. His intention was to slowly spin the visitor around the circular galleries and back out via the connecting corridor to the neo-Georgian mansion. For him, “clarity in sequential procession is the first principle of museum design.” A constant in Johnson’s work has been the importance he gives to the idea of procession in architecture, which “doesn’t mean that architecture develops as you go.” As he wrote in 1965, “Architecture is surely *not* the design of space, certainly not the massing or organizing of volumes. These are auxiliary to the main point, which is the organization of procession.”

Apart from its concern for the organization of procession, how does Johnson fit Dumbarton into the body of his designed work? “It fits in just after my Todian arches [Amon Carter Museum of Western Art, Fort Worth, 1961; Sheldon Memorial Art Gallery, Lincoln, Neb., 1960] when I was working in classical directions and rich materials. It seems to fit in right about the time of my first revolt against the modern, which later was toned down. I think it was done better there than with the Todian arches, which became sort of a glued-on decoration to the modern box. This is more integral. My work is rather jumpy. As Tafuri said

Not of Johnson's design are plexiglass display cases, unobtrusive, surprisingly sturdy, but glary; plus unattractive benches (right). Another addition, large, flowering plants (right below), an idea that makes Johnson 'nervous.' Across page is the pavilion's centerpiece, an open atrium with fountain.



## More of a debt to Wright than to Kahn.

in his recent book, I'm a collector, not a browser. I collect styles and things. But it's hard to fit things into any sequence in my work. I'm just frog-minded."

Frog-minded? "I jump."

It is an irony, perhaps, that Johnson's memory of the sources for, and facts about, his own buildings, until jogged, has always been somewhat hazy. The needed jolt in this instance was given by Robert A. M. Stern, who was asked how he sees Dumbarton Oaks fitting into Johnson's *oeuvre*. Stern, one of the most informed and dispassionate interpreters of recent architectural trends, was a student at Yale in 1963 and editor of its architectural journal, *Perspecta*, in which he published in 1964 Johnson's article, "Whence and Whither," along with illustrations of his work, including a photograph of Dumbarton Oaks. In 1963, Johnson was also at Yale as a visiting critic, delighting his audiences by verbally ravishing the modern movement.

Looking backward at Dumbarton Oaks, Stern regards it as a summation of Johnson's work to the mid-'60s. "It goes back to a project he did in 1953 for a house on Nantucket [for John P Lucas], where he used domical space and overstated columns. In that sense, Dumbarton Oaks goes back to Wright."

How does that strike you, Mr. Johnson? "Why, of course. Good for Bob Stern. How stupid architects are! They don't even know where they get their own ideas. Dumbarton was very much influenced by Wright's circular houses; I knew them all, of course. The idea of using drums as walls was Wrightian. I was working for MOMA at the time, showing Wright's work for Joseph Loeb, and the use of drums comes from there. But the idea of drums under a dome was not Wright's. That idea might almost have been my own. But I used the same way of going from one dome to the other by using the drum as a connecting link. But the space configuration was not Wrightian; it's Byzantine."

Stern also relates Dumbarton to Johnson's Boissonas house of 1956, an atrium building with a partially covered interior court containing a pool of water. He believes that the influence of Dumbarton and its progenitors is seen for the last time at Yale's Kline Science Center with its heavy, drum-like columns. Stern is also of the opinion that the 1963 pavilion "came out of Kahn—the very clear, idealized plan of columns and spaces between. It restates Johnson's interest in Kahn's idea of space making. It strikes me as almost Jeffersonian in having a geometric integrity that very few buildings of our time have had and Kahn certainly strove for. Because Dumbarton Oaks has only served spaces



and no servant spaces, it really could be wonderfully clear. Kahn was certainly trying to revise modern architecture and Johnson was very much impressed by him. Johnson supported Kahn by getting him the show at MOMA of the Richards building and emulated him in the Boissonas house; Dumbarton is a direct borrowing from some of Kahn's unbuilt projects."

Your response, Mr. Johnson? "Certainly it was a summation of those periods of my work that are not known anymore to anyone but Bob and me. It was an insertion into a building of lots of trends in my work, many of which had been running along unbuilt. For instance, the permanent rhythm of the even-sized units, inexorable, inevitable, dull in a way. The repetition of exactly the same unit was what I did in the Boissonas house. That's the geometry that I've always been interested in—that I didn't have in the 1953 project for the Lucas house. But Kahn? Everybody says I was influenced by him, but I just wasn't."

In *The Puzzle of Architecture*, Robin Boyd refers to Dumbarton Oaks as "witty space." Was that Johnson's intention? "I am apt," he says, "to be a little humorous, I'm afraid. But the intention at Dumbarton Oaks was deeply serious." □





Photographs by Forrest Wilson

# An Island Laboratory Of Architectural Transformation

*A recent visitor's view of Hawaii. By Forrest Wilson, AIA*

From vine tied poles to today's post-tensioned condominium slabs, the Hawaiian Islands have been transformed from a primitive to an automated society in just 200 years. Two centuries after Captain Cook's rediscovery of the islands, they have become, in effect, an environmental petri dish clearly showing the evolution of building form from primitive to modern.

We are fortunate to have such an island laboratory, but regrettably, we are ill-equipped to interpret its findings. Until recently we have tended to consider the built environment almost entirely in terms of memorable architecture while ignoring the far more numerous unpretentious structures that surround the favored few. As a consequence, the mutations in the Hawaiian petri dish have been little appreciated and only partially interpreted. We have confused architectural history as the totality of environmental history, accepting partial definitions as the whole.

The historic thread that appears to link all cultures, their institutions and their building efforts is the universal desire to control the elements of the environment in such a way as to govern nature, dominate members of their own tribe and as many neighboring tribes as possible. Institutions and institutional buildings are patterned, designed and constructed in response to this simple imperative which is as blatantly displayed in the building of a Hawaiian heiau (religious place) as it is in the design and construction of a New York World Trade Center.

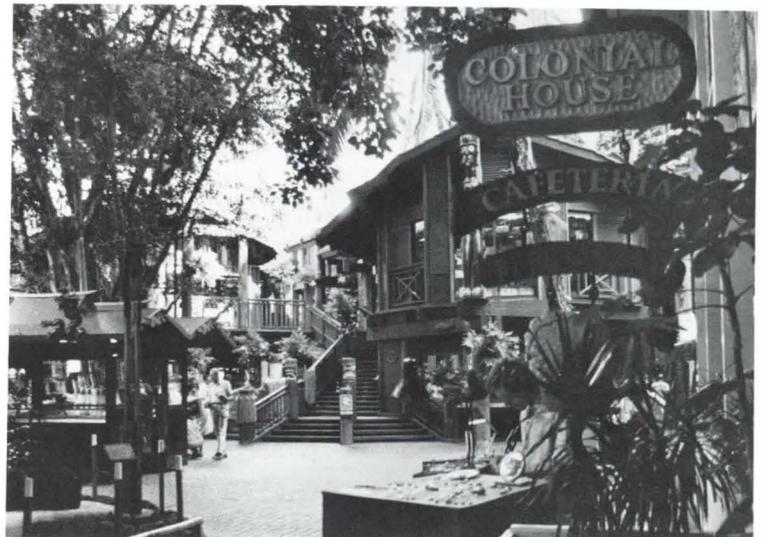
The most perceptive historians have always explained the crucial institutions of the great ancient river valley cultures by the way in which they were controlled by the overriding necessity of governing the flow and utilization of water. In medieval Western Europe the crucial factor was the control of land with special emphasis upon its convertibility to military power. Industrial society, even in the developing nations and the collectivist states, has been dominated by the problems associated with the control and utilization of capital.

This consistent environmental theme explains the evolution of Hawaiian architecture from the colonization of the islands by the ancient Polynesians to the recent flurry of speculative build-

**Mr. Wilson**, a professor of architecture at Catholic University, was a visiting professor at the University of Hawaii at Manoa for the fall 1979 semester.



*Toward the mountains from the banks of the Ali Wai (across page); hang loose gazebo on the windward side of Oahu (above); International Market, Waikiki (below).*





### Nature retains primacy over buildings.

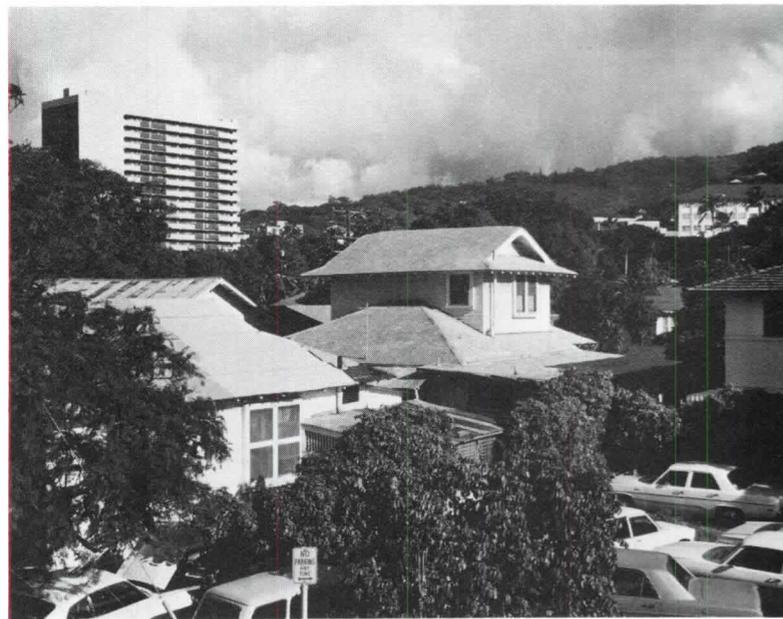
ing after statehood. The islands appear to have been the scene of four distinct patterns of environmental domination that dictated building form during the time they held sway. The present scene contains elements of all of them.

The first Polynesian settlers apparently brought with them a remarkably simple system of land tenure. All land belonged to the chiefs, and the kapu was the building code. The second system of environmental domination was a byproduct of the control of the sea by 19th century merchant traders plying between the Western world and the Orient and whalers prospecting for oil in the sea. The seafarers were responsible for urbanizing the islands as a nation of ship chandlers. When the whaling industry died and steamships lessened the need for a mid-Pacific service station, the environmental imperative shifted to the development of land for agriculture. This resulted in the Hawaiian feudal period, which persisted until the end of World War II.

The Pacific, shrunk by airliners, is no longer part of a control system. Land ownership is an element of a larger environmental system in which buildings are a medium of exchange. Most architects in Hawaii, as in the remaining 49 states, are commissioned by speculative builders. In place of the *kuhikuhi puuone* (Hawaiian architect), siting huts and heiaus, we have the shaman entrepreneur moving highrises in monumental checker games on the city blocks. The architect and urban designer are sorcerers' apprentices. The certain indication that the Hawaiian Islands had reached the status of an independent state is that capital is now controlled and manipulated by financial institutions with headquarters in Japan, Hong Kong, New York City, the Persian Gulf and other exotic and secret places. The descendants of the former indentured field laborers of the plantation period are now lawyers and governors of the islands. The tourist trade harvests more than five times the revenues of sugar cane. Sweet indeed are the uses of adversity.

The building forms that result from the contemporary environmental imperative are essentially the same in the islands as they are in the rest of the Western world. Buildings are designed by architectural and building organizations that cross national boundaries as readily as does investment capital.

The grass hut treasured by the Bishop Museum and the heiaus restored by the University of Hawaii are all that remain of indigenous Hawaiian architecture. But from the colonial period we still find well preserved stone churches patterned after those of New England at the time they were built. We might, if we searched hard enough, find vestiges of the prefabricated houses imported from North America, China and Australia in the mid-19th century.



The island environment written about by Mark Twain and Robert Louis Stevenson during their visits in the 19th century and Somerset Maugham's in the early 20th are all remarkable for the descriptions of the island aborigines and quite ordinary in their description of Hawaiian building. The built environment worthy of notice apparently consisted of the unremarkable buildings that merchants, sea captains, preachers, priests and planters would have and did build for themselves in their countries of origin, according to their fortunes.

The warehouses, churches, offices and shops—even the Iolani Barracks of 1870 and the Iolani Palace of 1882—are interesting but unremarkable. The latter are comic opera idealizations of the missionaries, merchants and planters to symbolize an independent Hawaiian kingdom and its household troops, a kingdom they took so seriously that they overthrew it a decade later and had no difficulty whatever in converting what had once been intended as a royal residence into a "judiciary building."

The same tendency has followed through to modern times. If you have seen one skyscraper you have seen them all, even such impressive renditions of the art as the monumental forms patterned after poi pounders that grace the Financial Plaza in downtown Honolulu, or Kuhio Avenue in Waikiki in the form of the Prince Kuhio Hotel.

But as we warned at the beginning, this is the smallest part of the Hawaiian environmental scene. The great variety of original form appears outside the environmental imperatives of govern-



*Highrise condominiums, one with hut hat, Waikiki (across page above); house and home, Honolulu (across page below); indigenous hang loose telescoping roof, Waikiki (top); house in center of downtown Honolulu (left); single wall Buddhist temple, Island of Hawaii (above).*

## The evolutions of the 'hang loose style.'

ing nature and dominating fellow and neighboring tribesmen.

Since we cannot designate a new style without a theory, as Tom Wolf pointed out in his little book, *The Painted Word*, we must at the very least give our style a name. It is the "hang loose," a style unrecorded in architectural history (since I just made it up). Hang loose is such a widely used description of the Hawaiian approach to life in general that it is even emblazoned on locally made T-shirts.

As an architectural style, it is defined by a consistent delightful ambience that composes most of the Hawaiian built environment. It is no respecter of environmental or other imperatives and is therefore difficult to isolate in our petri dish. It will be found perched on the *lanais* of highrise condominiums, peeking through button-down office corridors, running rampant in shopping centers. It is remarkably evident in Ian McHarg's Fine Arts Building at the University of Hawaii at Manoa, as Gus Ishihara and Gordon Tyau, who helped design it, pointed out. It is gleefully planted in bamboo in that building's interior court. Bamboo, you must remember, grows a foot a day. It will probably uproot the building in a few years and the entire campus by the turn of the century, which makes McHarg's design with nature somewhat picayune.

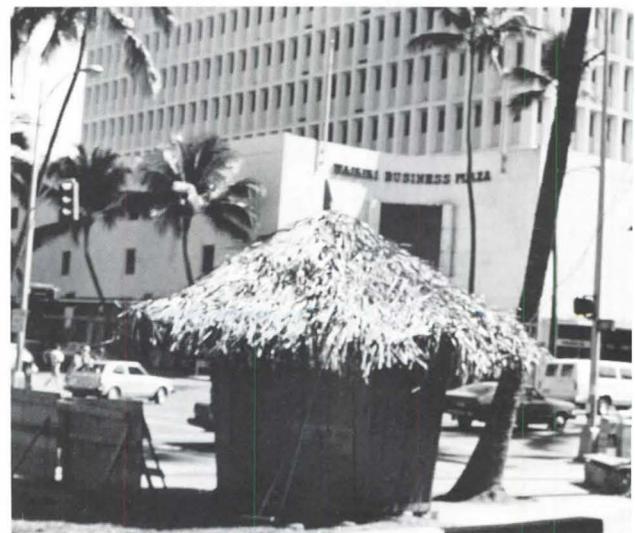
The hang loose style thrives in the interstices between imperative institutional building and is most developed in places where it has had the time to grow, such as plantation camps and the back streets of Honolulu. Its major characteristic is a design with nature that makes McHarg appear a window box gardener in comparison. Plants are the means of expressing a gentle territoriality, privacy, transformation of space, reducing the boundaries between a benign outside climate and tight interior space. This love of planting and gardening is extended to farming the borders of the major thoroughway of Honolulu. The gardeners use ladders to scale the keep-out fences and till the soil next to the lanes.

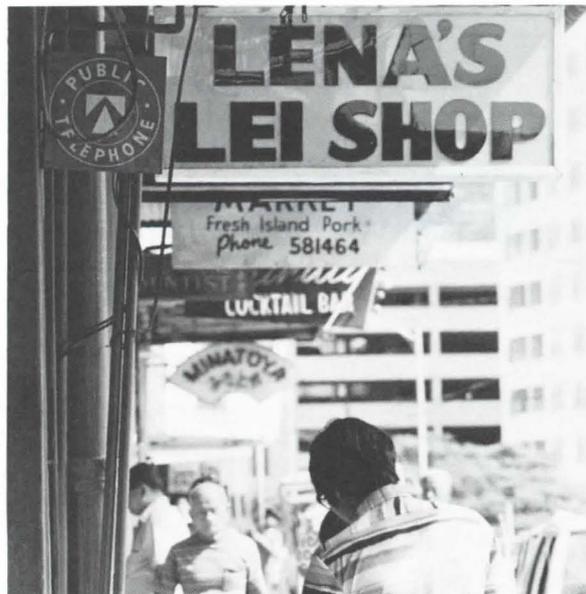
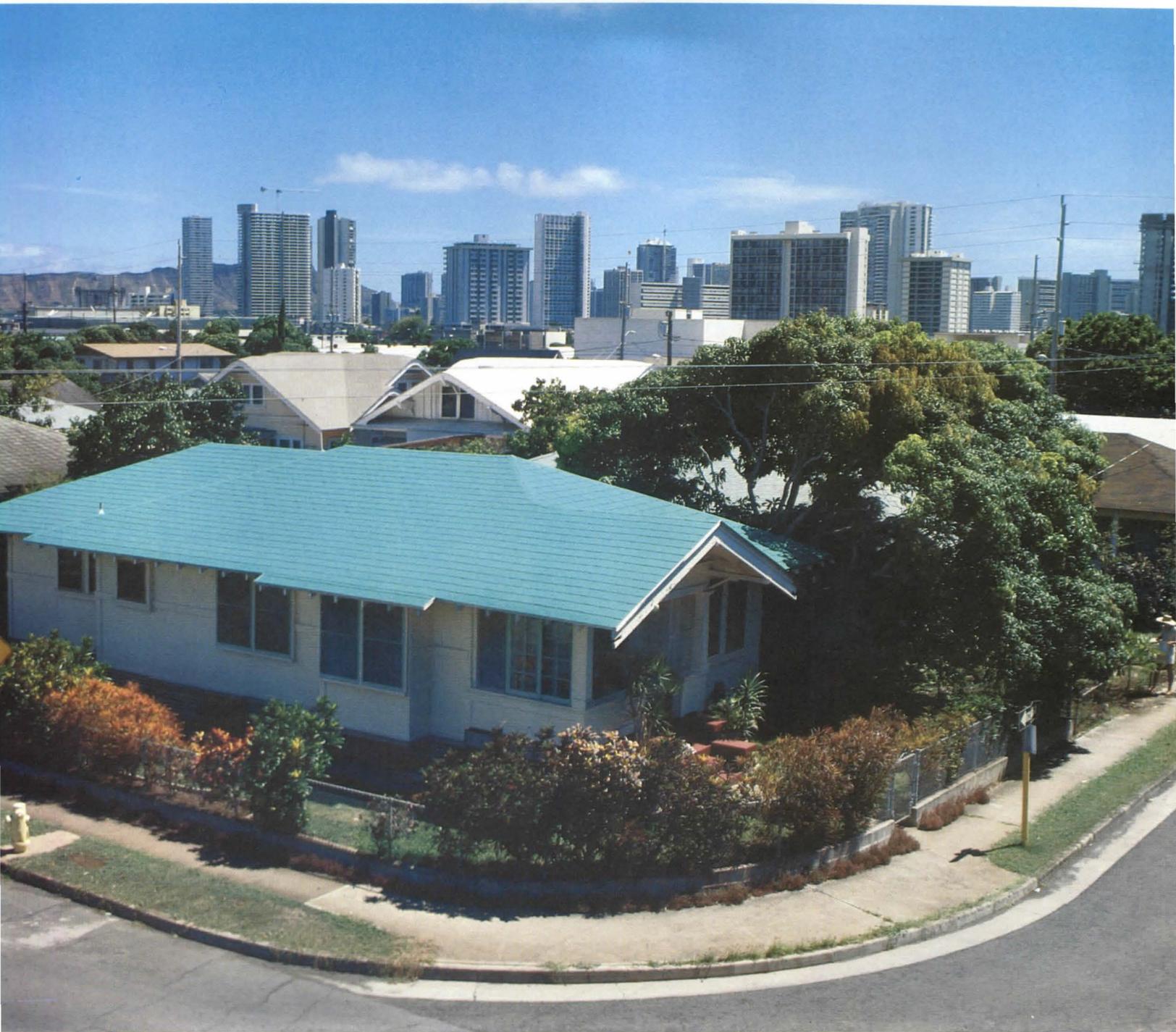
The complexity of the hang loose is a surrealist delight rather than a Venturi contradiction, although the good Robert would find much to enjoy and little to add. There are enough cool aediculae to please even Charlie Moore.

Remarkably, the hang loose symbol is much the same as the hand of Corbusier's modular man and, as Corbusier claimed for his invention, the modulator, it will not automatically make good architecture but makes bad architecture more difficult. The Hawaiian hang loose makes bad architecture impossible. For important buildings must have institutions to make them important to assert their domination over nature, fellow tribesmen and neighboring tribes. If there is one quality lacking in the hang loose, it is domination. It is simply outside the imperative system and probably not even architecture at all by any definition other than the love of creating place.

The single wall plantation house is typical of the hang loose style. It is now commercially produced by Hicks Homes and does not have much of a recorded history. It most probably began as a jerry-built flume lumber shack for indentured cane workers. Its appearance in old plantation photographs cannot be detected, at least by me, until 60 or 70 years ago. Somehow someone, probably Japanese carpenters, transformed it into a masterpiece of stressed skin construction. The single walls bear the weight of the roof. The sag of the lower chord of trussed rafters binds interior partitions. It is a basic, sensible form which has supported a great and wide plethora of building additions devised by its Japanese, Filipino, Portugese, Puerto Rican and many other inhabitants of diverse origin.

The plantation layout separated each national group. They lived and retained their cultural identities and—judging by the accomplishment of the Hawaiians in managing to bring amicably together the greatest mixture of people in the U.S. and perhaps the world—the *hang loose style* has a remarkable base. □





*Condominiums on the banks of the Ali Wai (above); McDonald's in the Sandwich Islands (across page top); contractor's shanty, main street Waikiki (far left); walk-on grass, Iolani Palace, Honolulu; the aloha spirit on Hotel Street (left).*

# The Biography of a Remarkable Tool

*Computer use enters its third stage of sophistication. By Eric Teicholz*

In 1954 Charles Eames considered the newly developed optimization theories and "rational" approaches to architecture. He wrote to the editor of the English *Architectural Review*: "... the development and application of these and related theories will be the greatest tool ever to have fallen into the hands of architects or planners. . . . Of course, there will be the hidden fears of loss of individuality and creativity which tend to swamp any concept which gives greater responsibility to the individual and the creator. But of one thing we can be quite sure: The buildings and communities of the near future will be planned with the aid of the development of these theories. Whether or not they are planned by architects may pretty well depend on the way architects today prepare to use such tools."

Eames' statement remains valid. The theories he wrote about have evolved into accepted approaches to design and have been incorporated into computer programmed procedures. Although some architects are beginning to use computer programs in support of some aspects of the design process, few have integrated computers into daily architectural practices. In contrast, engineering professions have embraced computers to the point that it is difficult for engineering firms today to be competitive without their use.

But architects have faced practical and psychological barriers: The profession represents a small market segment (compared to the construction industry, for example); the average design office has limited capital for computer methods; there is little standardization in the profession resulting in a lack of data base applications; technical education and training for the design professions are meager; it is difficult and probably impossible to computerize esthetics, and there is an unfounded fear that machines somehow threaten the creativity of architects.

Many of the practical and some of the psychological problems have been overcome in the last few years. The mystique is disappearing as offices increasingly use computers in such areas as accounts payable/receivable, general accounting and payroll, general ledger and billing, data base management (nongraphic), information retrieval, job accounting, project control and perhaps some statistical analysis. And computer courses in the design curriculum are now standard in dozens of architectural schools. Computer programming is also becoming more sophisticated, resulting in more cost-effective applications packages available through service bureaus, universities, computer manufacturers and AIA. Most significant is the revolution in microelectronics, resulting in cheaper computers with enough storage capacity to support interactive computer graphics—the critical ingredient in making computers useful to architects.

The use of computers in design can be traced back at least to the early 1950s when Buckminster Fuller, FAIA, was making structural design calculations with them. Other large engineering firms were doing some structural and mechanical computations with computers, but machines were unreliable, expensive and

difficult to use and to program. The Department of Defense promoted the first large-scale application of computers by engineering firms in the late '50s and early '60s by requiring the use of the critical path method (CPM) and program evaluation and review technique (PERT) programs for large defense construction projects involving the combination of subassemblies developed by different subcontractors. Engineering firms started to use CPM and PERT network analysis on nondefense projects as well, for manpower resource estimating, calculating resource schedules and shortening the construction process itself. In the early 1960s, researchers in the civil engineering department at the Massachusetts Institute of Technology developed an integrated set of engineering programs called ICES that operated from the same computer language designed specifically for the engineer. This made the computer both easier to use and more flexible by providing a common computational, user-oriented language for a variety of engineering application programs.

By the mid-1960s engineering and large A/E firms were routinely using computers for electrical distribution systems, HVAC calculations and construction management. Meanwhile, remarkable work was going on in universities. In 1963 Ivan Sutherland at MIT's Lincoln laboratory developed his graphic Sketch-pad system and almost single-handedly invented computer graphics in the process. Engineers could now create and manipulate drawings on a graphic display terminal, performing such operations as scaling, rotation and dimensioning. In 1964 Christopher Alexander in his *Notes on the Synthesis of Form* advocated for the first time a practical, systematic approach to architectural design. The work of these two men, along with the decreasing costs of computers and developments in computer graphics technology, led academicians and several architectural firms such as Skidmore, Owings & Merrill; Caudill Rowlett Scott; Perry, Dean & Stewart, and Bertrand Goldberg & Associates to explore the use of computers in design.

A 1964 conference at the Boston Architectural Center showed that there was a great deal of parallel effort taking place throughout the U.S. For example, a study by the Center for Environmental Research, a nonprofit group based in Boston, published a compendium of computer programs in architecture. Of the 150-odd programs reviewed, 40 percent of them dealt with the area of computer-aided space allocation (computer generated activity space configurations based on specific economic or other criteria). All programs were based on four or five different mathematical techniques. But the practical applications of computers were still predominantly in engineering.

During the early '70s, after the same people kept showing up at computer conference after conference, academic meetings fizzled out. Computer graphics were still expensive and difficult to use and the design process itself was undergoing change, which made it difficult to develop computer programs. The technology simply was not living up to the promises of the computer hardware salesmen. In the research labs, however, progress was being made as the decade progressed. Advanced design research groups, mostly in Europe and England, were examining the design process, and design laboratories, such as the architecture machine group at MIT, continued research in

---

**Professor Teicholz**, an architect, is an associate professor in the department of architecture and associate director at the laboratory for computer graphics and spatial analysis at Harvard University's graduate school of design.

the area of artificial intelligence and man-machine interaction and interfaces. The institute of physical planning at Carnegie Mellon University conducted research on holistic graphic design systems, and the University of California at Los Angeles, Cornell, Harvard and others effectively integrated computer courses into the design curriculum. Meanwhile, the microelectronics revolution slashed computation costs just as the architectural profession was feeling pressure to be more cost effective.

Today, incentives are present for designers who want to take advantage of computers. By way of a primer to the current state of the art, the following is a survey of the way they can be used.

Architects, like many other professionals, are information processors. They take space requirements, site parameters, circulation criteria, zoning constraints, etc. (input), analyze (process) this data and produce drawings and related contract documents (output). This, of course, is simplistic, but it enables us to think about various levels in which computers can help gather and process data as well as judge the results.

William J. Mitchell, in his book *Computer-Aided Architectural Design* (see Nov. '78, p. 66), identified three levels of computer participation for architects as dynamic information processors. The simplest (level one) is to use discrete computer programs to perform functions that usually replace manual procedures. Proven applications include specification writing, cost accounting, scheduling, environmental analyses, nongraphic data base and financial management, project control and, to an increasing extent, graphic tasks such as perspective generation and production drawings.

Of the literally hundreds of design firms that use computers (through service bureaus, time-sharing companies or by owning their own computer), the vast majority uses discrete programs—sometimes with an accompanying data base such as a master specification, a material data base for energy analyses or labor and material costs for estimating programs—to automate exist-

**Current cost effective applications to architecture range from cost accounting to project management.**

ent manual information processing tasks. Current cost effective applications, judging from advertisements in the architectural magazines, include cost accounting, financial management, energy systems analysis, miscellaneous solar programs, project management and control, and building code requirements.

What program is suited to a particular firm is another question. Factors to be taken into consideration include office size, job mix, location, access to programs and computers, repetitiveness of certain operations, structure and organization of offices.

The second level of computer use identified by Mitchell eliminates tracing paper in favor of designing with computer graphic display terminals and thereby derives a number of application programs from a comprehensive integrated data base. That is, the architect designs a building in a computer-readable format and can ask the computer, at any time, to generate a perspective view, a cost estimate, a door schedule, etc., based on the current status of a project. This eliminates the tedious and expensive task of data entry necessary for level one applications every time the design is changed. On the other hand, level two computer usage means large data bases must initially be generated and subsequently managed and edited by the computer. More significantly, it also means that the architect must usually enter a great deal of information that might not be particularly germane to a design task currently being worked on but that will be needed later for another application program. Technology is

making data base creation and management easier and cheaper.

An integrated data base for level two computer use should ideally contain all the information needed to design and construct a building. Unfortunately, such a comprehensive base is unrealistic and will probably always be so. For example, applications programs that need to have access to materials information would be hard pressed to create and maintain a data base that has, it is estimated, 20,000 new product entries and deletions per year. It is more pragmatic to create project data bases (in contrast to master or library bases) that contain information about a building and that are created while the project is being designed in computer-readable form. A project data base could take advantage of other, previously created, specialized master data bases in applications such as energy analyses, specification writing and building codes.

The complexity and magnitude of the data needed to support level two applications are enormous and the data entry and updating problem is significant. But by designing on a cathode ray tube in a computer-readable format, data do not have to be re-entered each time a design change is made. There is also much greater flexibility and freedom in querying the data base to see what design decisions have been made at any time. Most important, the same data can be used for a number of application packages. All users of the project data base (engineers, architects, et al.) use the same data, so communication is facilitated. Although this approach might be still uneconomical for the small design firm, great cost and time savings have been realized by other computer aided design information processors, including aerospace, manufacturing and shipbuilding industries.

Besides the decreasing costs and increasing sophistication of technology, another important stimulus for development of level two computer applications has been the lifting of AIA's prohibition on design/build. The computer industry previously lacked interest in architectural design because the market segment was too small and fragmented. Now computer firms can market to the construction industry through the designer. The result has been several crash research and development programs to take advantage of the situation.

Already in existence is another interesting segment of the computer industry known as the integrated graphic "turn-key" vendors. These groups have traditionally supplied the electronic, manufacturing and aerospace industries with complete (turn-key) hardware and software systems that provide general purpose graphic data base creation and management tools. The total systems costs are relatively expensive (\$200,000 to \$300,000 for a device that three or four people can simultaneously use), but they are increasingly being purchased by architects for production drawing purposes. That is, designers are creating project data bases and, in some cases, adding other application programs to the system, but predominantly for the ability to produce, at any point and at any scale, working drawings. These systems provide many routines, such as different line and text fonts, automatic dimensioning and good editing procedures, that make automatic working drawing production extremely competitive with manual techniques.

Level three computer use is the world of research in artificial intelligence—of machines that "think." It is taking place primarily in universities such as MIT and Stanford and where the objective is not automating design but the development of sophisticated design languages and man-machine interfaces that can sense and learn from the environment; that provide the user—not necessarily the professional designer—with unsolicited feedback on physical and even social and esthetic implications of design decisions, and that automatically perform many of the routine tasks of design. There are no level three computer systems available for architecture, even at research centers, but the insights that researchers are providing into man-machine interaction, machine and language capabilities, etc., will have an impact on both level one and level two computer use. □

# BOOKS

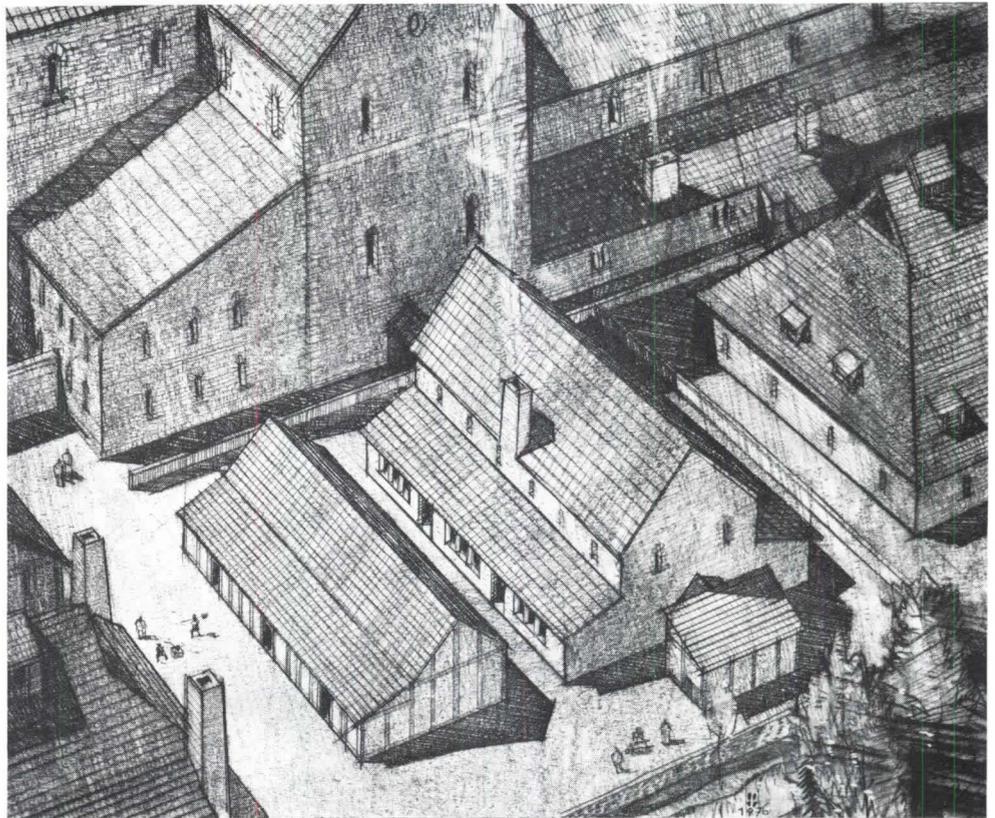
## A Single Drawing Unfolds To Reveal Medieval Life

**The Plan of St. Gall.** Walter Horn and Ernest Born, FAIA. (University of California Press, three volumes, \$325.)

Seldom has so much been written about so little. The plan of St. Gall is a single drawing (a site plan, really, of a monastic community) on a 30 x 40-inch sheet of vellum. A copy of a lost original, it dates from the ninth century and has been stored since then in the Swiss monastery of St. Gall, its preservation probably due to the fact that a 12th century monk used the back of the sheet for writing a life of St. Martin. For centuries the plan existed only as a meaningless geometric abstraction, and it seems never to have served as the plan of any actual community (although Charlemagne's palace at Aachen "can be said to have been organized along similar lines") but rather to have presented a guide for an ideal community. Some of us may remember it—vaguely—from architectural history survey courses: It is mentioned by Sir Banister Fletcher in his history, and it is reproduced by Howard Saalman in both his books, *Medieval Architecture* and *Medieval Cities*.

By today's standards, naturally, it is a quaint piece of work. For some of the plan's 40 buildings, the ground floor is shown; for others, an upper floor; and there is no indication of which is being shown. In some places, elevations are drawn as if the walls had toppled over on the ground. Most privies and most stairs are omitted. There are no indications of wall thicknesses or of building materials. Yet the authors, an art historian and an architect, tell us that "The Plan of St. Gall" has a surprisingly modern flavor. Its analytical precision and clarity compare favorably with any modern site plan drawn at a comparable scale," and they even have the nerve to compare the plan's modest novitiate-infirmarium building with the great Forum of Trajan. Is all this hyperbole? Ingenuousness? Has the authors' long immersion in their subject wrecked their sense of perspective? At 20 pounds, 1,000 pages, 1,000 illustrations and \$325, is *The Plan of St. Gall* the year's heftiest put-on?

On the whole, no. There are some seemingly excessive enthusiasms for the



quality of the drawing, and there are some patches of dry pedantry, but the heart of the work is a fascinating, lively, convincing record of the details of monastic life, much of it inferred from the information on the plan. And these details, in turn, suggest the quality of medieval building and medieval life in general. The authors remind us that "up to the very close of the 11th century all truly important architectural innovations were made in the great monastic compounds," and they seem justified in claiming that "the insight the Plan of St. Gall affords into every segment of the culture and history of its age is inexhaustible."

The organization of the three books is like a sandwich. The first half of the first volume reviews, as background for the study, "Previous Literature, Origin, Purpose & Special Problems." Here we are given answers to questions—Was the draftsman right-handed? In what order were the sections of vellum sewn together?—that most of us never thought to ask. And the whole third volume is devoted to scholarly addenda—a list of illustrations, a catalog of titles on the plan, index, glossary, bibliography and appendices.

Between these supporting sections is

the meat. Here the authors look in turn at every segment of the plan—at each of the 40 buildings, from the monastery church to humble structures such as the hospice for pilgrims and paupers, the house for swine and swineherds, and the curiously cylindrical goosehouse, and at the cloister yard, the cemetery, the orchards and gardens—and, piece by piece, the monastic world comes to life for us. We learn of the monks' medical care and their diet, of their water power and heating systems. From a study of the workshops for goldsmiths, blacksmiths, curriers and turners, we get an understanding of medieval crafts. We are told about the probable structure of the corner fireplace in the schoolmaster's lodging, and about the method of disposing of manure from the stables. We are told of beer and bread rations in the hospice, of vegetables and herbs in the gardens, of the milling of grain, the breeding of livestock and the construction of wine barrels. We learn of proscriptions against bathing (except at Christmas and Easter) and against the eating of meat ("except for the sick who are very weak"). We learn of such esoteric concerns as the relationship of bloodletting to the phases of the moon, and even

(in a section coyly titled "Fears of the Vigilant Abbot") of precaution against monkish sodomy. But, most of all, we learn of the religious ritual that dominated monastic life as the church dominated its architecture.

Throughout this investigation the authors emphasize the practicality, rather than the utopian aspect, of the plan. Although much of it seems diagrammatic to our eyes, the authors show that it was drawn to a consistent scale, with an impressive awareness of spatial and functional implications, and that it could well serve as a guide to working drawings for all the necessary buildings of a monastic community and to the proper relationships among them.

Such an exhaustive, objective view of a community very foreign to our own leaves us, inevitably, not only with increased knowledge but also with some very subjective questions and reactions. Some of these concern the quality of the life so carefully reconstructed for us: Does the plan of St. Gall represent an admirable quest for perfection in planning or a stultifying quest for conformity? (In approaching this probably unanswerable question, we must consider that the proposed community was not intended as an enduring settlement but only as a temporary camp on the trail to Heaven.)

The authors themselves provoke a question very relevant to current thought and work: When—if ever—does a drawing become architecture? (They admit that the church design shown on the plan was never built. "Yet," they say, "being conceived, it became a historical reality." And they refer to the whole—unbuilt—plan as "possibly the most accomplished architectural creation of the age of Charlemagne.") There are many ways to hedge our answers to this question, but it is clear that the plan of St. Gall was not architecture, only a drawing rich in ideas *about* architecture.

And a final reaction that all readers must share is delight in the book's production. While so much about us, including our architecture, declines toward the cheap, the shoddy, the expedient, it is thrilling to see volumes—at any price—so lovingly executed.

Stanley Abercrombie, AIA

**Arid Zone Settlement Planning: The Israeli Experience.** Edited by Gideon Golany. (Pergamon Press, \$47.50.)

The objective of this book is to introduce the modern Israeli experience, with its theoretical and practical aspects of desert development, to architects, planners, environmentalists and social scientists who are unaware of the potential value of arid areas. The rapid expansion of many arid areas throughout the world and the continuing population pressure in

large urban centers should make this volume of international interest.

The book contains original contributions from architects, planners, environmentalists, economists, physicians and social scientists, as well as others with knowledge of the implementation of arid zone development strategies. The contributors cover a broad range of topics, organized into six sections.

The first section identifies the opportunities offered by arid zones, discusses the Israeli approach to the development of the Negev Desert and outlines topics awaiting further research. Subsequent sections deal with urban planning and housing design, regional and rural planning, agricultural planning, water and irrigation planning and health planning. Particularly the first three and the sixth parts of the book provide design professionals with valuable insights based on first-hand experience with various aspects of desert architecture and planning.

Generally, the authors take the perspective of professionals responsible for converting desert land into a habitable (urban) environment. This producer's bias appears oblivious to the actual experiences of the inhabitants of these areas. Also, while some designers have taken their cue from autochthonous architecture, there is no systematic consideration of the lessons that may be learned from the functional adaptations of "primitive" housing to harsh environmental conditions. Furthermore, there is little discussion of the sometimes divergent interests of the various public and private development agencies.

This lack of attention for sociocultural and organizational aspects is somewhat disappointing, because the successes and

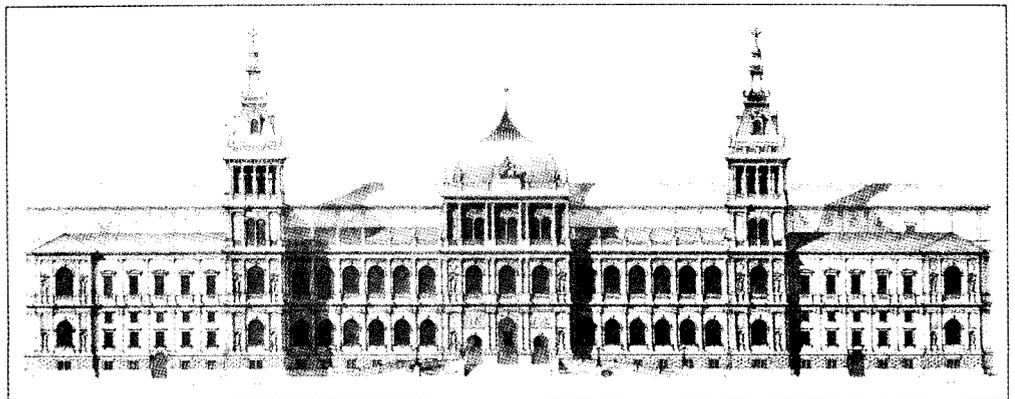
failures of Israel's desert planning are, in large part, attributable to a careful orchestration of physical, economic and social planning, or the lack thereof. It is the more technical aspects of arid zone development, however, that are most easily transferable, and this makes the book worthwhile reading for designers and planners involved in this field. *Willem van Vliet, Division of Man-Environment Relations, Pennsylvania State University*

**The Practice of Local Government Planning.** Editors: Frank S. So, Israel Stollman, Frank Beall and David S. Arnold. (International City Management Association, \$31.50.)

This is the fifth edition of the "classic" book on planning by the International City Management Association, the *Architectural Graphic Standards* of the local city planning field. This edition is as excellent as the earlier ones and should continue to be the standard reference of the planning profession.

Early on in the development of the fifth edition, the editors realized that substantial changes and expansion had taken place in the planning field and many new subjects needed to be covered. Consequently, the following principles were adopted: (1) The book would focus on the *principles* of local governmental planning practice rather than on the constantly changing *techniques*; (2) the book would serve as a *general reference* for the field of planning, useful to the student, the professional planner and the local government official, with the result that each subject is not exhaustively treated, but rather surveyed and highlighted, and with an annotated bibliography following each

*continued on page 68*



**Viennese Architecture, 1860-1930, in Drawings.** Edited by Karl and Eva Mang. (Rizzoli, \$32.50). Another of the recent handsome books on architectural drawings, this volume appears simultaneously with an exhibition that is touring Europe and the U.S. During the period covered, Vienna was a great architectural center. The drawings not only reveal the working methods of such renowned architects as Otto Wagner, Josef Hoffmann and Joseph Maria Olbrich, but "will serve as an example and stimulus for our own generation of architects, which is showing a growing interest in graphics," the editors say. Above is a drawing (first design) by Heinrich von Ferstel (1828-1883) of the elevation of the main facade of his major late work, a renaissance style university. The composition used drawing ink and water color.

### Books from page 67

chapter to provide the reader with additional sources of information, and (3) the field of state and regional planning would be covered in a separate volume, rather than receiving meager coverage in the local environmental planning work. These decisions were thoughtfully taken and are the right ones for this kind of reference book.

The book has five major parts: the context of local planning; management information and finance; making plans and programs; land use and regulation, and social and economic development. The 21 individual chapters are arranged under these five major sections. The chapters are authored by 30 different contributors. Unlike many books that are "collections" of various authors' works, this one really functions as a unified whole. The editors and authors deserve credit for this achievement.

Some of the authors who are familiar to architects include John Kirken, AIA, of Skidmore, Owings & Merrill, on urban design; Alan M. Vorhees, University of Illinois at Chicago Circle, on urban transportation; K. C. Parsons, FAIA, of Cornell University, on education services, Philip Hammer, Hon. AIA, economic consultant, on economic issues facing cities, and Israel Stollman, executive director of the American Planning Association, on the values of the city planner.

David S. Arnold of the International City Management Association should be recognized for managing this edition and previous editions and for generally overseeing the onerous and difficult task of producing yet another edition of a classic. One suggestion that the editors and authors seem to have embraced with some relish is the one made by this reviewer in the matter of a substantial increase in the illustrations. The fifth edition contains more than 110 figures, copious photographs and excellent tabular information.

This book is highly recommended as an essential reference volume for architects, planners and local officials concerned with the shape of our cities. *Michael B. Barker, AICP, Administrator, AIA Department of Practice and Design*

**Above Washington.** Robert Cameron. (Cameron & Co., 235 Montgomery St., San Francisco, Calif. 04104, \$19.95.)

The photographs in this remarkable album of the city of Washington, D.C., are reproduced in color at the size of 11x14 inches; but so clear and so fascinating are these helicopter views at architectural scale that one is constantly reaching for the magnifying glass. Some, like the Hirshhorn Gallery or the Theodore Roosevelt Memorial are taken from an altitude of only 100 feet. Others embrace much more extensive views from greater heights.



*The Watergate complex is in the foreground, behind which is the Kennedy Center.*

But all repeat the story of the engagement of great architecture with the larger compositions of the monumental city.

Like other similar books by the same author (on San Francisco, Los Angeles, Hawaii), this one is concerned with more than the federal city. Cameron's work is concerned with sections of nearby suburban Maryland and Virginia, many non-federal aspects of the city and a well-chosen selection of historical views which frequently complement the absolutely contemporary scenes. An even greater shock of revelation comes from views of older parts of the city, such as the Victorian neighborhood of Glenwood.

Among the credits, Cameron has remarked: "A vital ingredient in aerial photography is the right helicopter pilot. The right helicopter pilot was Daniel P. 'Captain Dan' Rosenson. His expertise comes from 15,000 hours 'Above Washington.'" While there can be no mistaking the value and fascination of the photographs, neither the captions nor the brief introduction add any distinction to this unique book. *Frederick Gutheim, Hon. AIA, Washington, D.C.*

**Diversity in Architectural Practice: Six Interviews in the San Francisco Bay Area.** Edited by Michael Shellenbarger. (University of Oregon, School of Architecture, \$5.)

Based upon conversations taped when an architectural practice class at the University of Oregon visited architects in the San Francisco Bay area, this volume (reproduced from typewritten copy) gives insights into an architect's typical day, revealing both frustrations and satisfactions. One interviewee points to the difficulties that result from the continuous and

"undermining efforts" of people to romanticize architecture as a profession. Another says that his firm either has a great deal of work or none at all. Yet another tells of the "constant pressure you fight in practice to do the expedient thing."

No attempt is made by the editor to analyze the remarks of the architects. The interviews stand by themselves, and as such they show the long hours of hard work, the constant pressure, difficult clients, sad facts of liability. So why do they keep on doing what they do, the editor queries. He believes that "if there is a lesson in these interviews, it may be that the secret of being an architect must come in the ability to sustain the pleasure of those fulfilling moments of creative energy that do come—however infrequently—sandwiched into the . . . tedium and frustration." As one of those interviewed says, "When you know . . . you've got a good answer, the whole world swings."

**Government Contracts: Proposalmanship and Winning Strategies.** Herman Holtz. (Plenum Press, \$19.50.)

The author of this book, a government marketing consultant who has had, he says, a long career in government procurement and contracting, believes that the key to success in negotiated procurement is proposal writing. The approach should be to "sell" the government.

The first half of the book tells how to get through the "jungle" that is the U.S. government, how to get help from the government itself, how to prepare and submit bids, how the government evaluates proposals. The second part is on "proposalmanship"—how to gather intelligence, what strategies to follow, how

*continued on page 70*

# The American Institute of Architects

# Energy Planning for Buildings

**Michael M. Sizemore AIA**  
**Henry Ogden Clark AIA**  
**William Ostrander PE**

Building owners expect their architects and engineers to have the practical knowledge it takes to translate energy theory into a reliable form of practice.

This book, written by two architects and an engineer who have hands-on experience in energy-conscious building design and redesign, does just that. It presents a proven process that design professionals can use (or adapt) to study the present energy performance of a building, uncover opportunities for energy-conscious improvements, evaluate those opportunities, and see to it that they are carried out to the owner's best benefit.

The book describes in detail a manual technique for calculating energy usage and shows in a sample problem how that technique can be applied. This allows the reader to evaluate any energy design solution, including solar assisted alternatives. It also provides a basis for understanding computer-aided energy estimating techniques.

In developing their work, the authors have recognized that non-energy related concerns such as user comfort, environmental impact and visual appearance are as important in an energy-related design as energy performance itself, and they urge designers to iden-

tify these at the outset of a project and to keep them in mind to the end.

An opening chapter offers a look at the basic concerns of energy planning, including such concepts as comfort; illumination and daylighting; the building envelope; heating, ventilating and air-conditioning; and the very concept of energy itself.

Chapter 2 takes up the roles and responsibilities of the team needed to carry a project through to a successful end. Team members discussed include the owner, the architect/engineer, the building users and operators, energy suppliers, product manufacturers and building officials.

Chapter 3, a key part of the book, shows how to study a building's present performance (or, in the case of a new building, analyze a set of building plans) so the energy planner can examine the impact of any proposed changes suggested as a way to greater energy efficiency.

Chapter 4 pinpoints those opportunities, describing the best way of identifying them. The following Chapter 5 then shows how best to narrow the list of possibilities to those that make the most sense in terms of cost, time, payback and technical feasibility. Two

levels of evaluation are given—"quick" and "detailed."

Chapter 6 shows what is needed to carry out the recommendations stemming from the evaluation, and offers much sound advice to the energy planner and owner for monitoring the results and maintaining the renewed building at a peak of performance.

This chapter is followed by a sample problem which illustrates the procedural steps presented in the various chapters.

Finally, an appendix includes discussions on system response and cost benefit analysis.

There is also a glossary and a practical reference list.

ENERGY PLANNING FOR BUILDINGS fills a serious need for a practical, process-oriented book which energy planners can use, and owners can refer to, as they embark on a new building project or go about redesigning an existing one for greater energy efficiency.

156 pages, 120 charts and illustrations.

**\$40 AIA Members**  
**\$44 Others**

## The American Institute of Architects

Yes, I would like \_\_\_\_\_ copy (copies) of ENERGY PLANNING FOR BUILDINGS (#4M-720)

Enclosed is my check for \_\_\_\_\_

Mail to: Manager, AIA Publications Marketing  
1735 New York Avenue, N.W.  
Washington, DC 20006

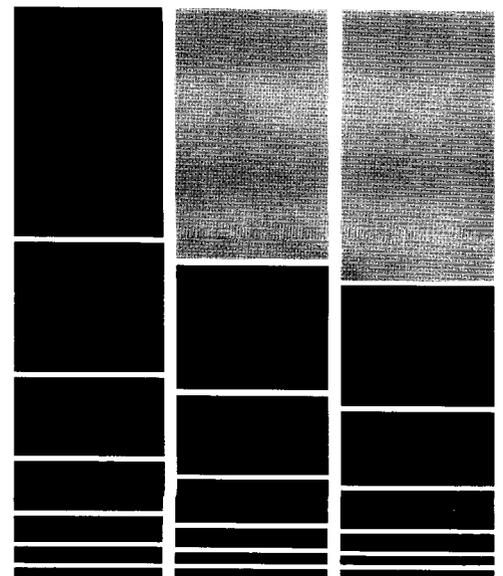
NAME \_\_\_\_\_

FIRM \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY, STATE, ZIP \_\_\_\_\_

IDENTIFY AIA MEMBER \_\_\_\_\_



**Books from page 68**

to prepare a proposal and package it. In this section, there is a separate chapter on the "special case of architects and engineers." It's less than three full pages of print, however, and doesn't give any information that the average A/E firm doesn't already have.

**Industrial Design.** Raymond Loewy. (Overlook Press, \$45.)

From Guinness beer in England to Motta ice cream in Italy to American skylab missions, Raymond Loewy has put his imprint upon products and institutions. This book, which contains more than 700 color and black and white illustrations, sketches and photographs, is a personal and professional document of the industrial designer's life and career. The book begins with an edited version of many conversations—tape recorded, transcribed and annotated—between Loewy and publisher Peter Mayer. This is followed by an essay on industrial design by the decades—from the '20s through the '70s—in which Loewy tells of his accomplishments. The remaining 191 pages are given over to illustrations, with brief captions, on all the things in which Loewy has been involved. The list is staggering: automobiles, railroads, radio and television sets, kitchen and

farm equipment, ocean liners, the U.S. postal service emblem and on and on.

**Modern Fireplaces: Introduction, Examples.** Ernst Danz and Axel Menges. (Architectural Book Publishing Co., \$27.50.)

"Cold feet in front of the fire, biting smoke, unpleasant draughts and high fuel consumption are now things of the past," say the authors of this book, who contend that all such handicaps and more have been eliminated through technical developments, so that the fireplace in today's house is readily adaptable to current architecture. The book covers fireplaces comprehensively, giving detailed information on design, dimensioning, construction, location, safety, ash removal, openings, air supply, dampers, chimney tops, accessories, fuel and prefabricated fireplaces and their elements. There are many illustrations.

**Applied Solar Energy: A Guide to the Design, Installation and Maintenance of Heating and Hot Water Services.** David Kut and Gerard Hare. (Wiley, \$19.95.)

This book is written by British engineers, but the principles are universal. Their intent is to give help to the installer of solar heating systems and also to give the layman the "unadorned facts about the subject." The book begins with a defi-

nition of terms. The authors point out that salesmen tend to use terms loosely, "without a full understanding of their meaning." So terms are defined, such as hour angle, infra red, net radiation, solar array and weathering.

Now on a firmer footing of understanding, Kut and Hare discuss solar collectors and their application, various systems, maintenance, payback. They provide checklists for energy conservation. For example, check to see if ceilings and roof are thermally insulated to adequate standard, if filters are clean, if the best use of daylight is made by keeping windows and roof lights clean. They caution that it is highly unlikely that any solar collector can go unattended for more than five years without impairing efficiency. Again, a checklist is provided. For example, check that the surfaces are clean from foreign matter such as industrial pollutants and bird droppings; check all valve seals periodically; be sure roof repairmen do not damage collectors. And among the other data provided are the factors to be evaluated in the all-important subject of payback. Both simple and more sophisticated approaches are suggested.

There are many diagrams and charts, and both metric and imperial units of weights and measurement are provided.

*Books continued on page 72*

# Heart attack or stroke could knock you down on your way up.



You're working for the challenge, the satisfaction, the success. The last thing you want is a heart attack or stroke. Yet nearly one million Americans die of heart disease and stroke every year. And 200,000 of them die before retirement age.

The American Heart Association is fighting to reduce early death and disability from heart disease and stroke with research, professional and public education, and community service programs.

But more needs to be done. You can help us find the answers by sending your dollars today to your local Heart Association, listed in your telephone directory.

**Put your money where your Heart is.**



**American Heart Association**  
WE'RE FIGHTING FOR YOUR LIFE

## Questions About Your Subscription

To insure fast service on inquiries concerning your *AIA JOURNAL* subscription, please include the address label from the most recent issue received.

## Change of Address

Eight weeks' notice required for change of address. Include address label from most recent issue and new address information in space provided below.

### NEW SUBSCRIPTION

Please check here if you wish subscription rate information.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

### MAIL TO:

AIA JOURNAL  
Circulation Dept.  
1735 New York Ave., N.W.  
Washington, D.C. 20006

ATTACH LABEL HERE

*William A. Broadway, Jr.,  
Regional Sanitarian,  
Western Regional Office  
Division of Health Services  
North Carolina Department of  
Human Resources  
Chairman, NSF Council of  
Public Health Consultants  
Former President of NEHA  
Recipient of the  
1973 Walter S. Mangold Award  
Recipient of the  
1973 Walter F. Snyder Award*



## **“IF IT’S AS GOOD AS NSF, WHY DOESN’T IT HAVE THE NSF SEAL?”**

This is a natural question for a public official to ask if a product is in one of the categories covered by an NSF standard—but doesn’t have the NSF seal. Maybe the product is “as good as NSF”, but why would the maker of such a fine product pass up the recognition represented by the NSF seal? Regulatory officials are required by law to pass judgment on new health related products that are submitted to them. Few regulatory departments, however, have the equipment or personnel to check the performance of a product against an NSF standard.

To find out if the product in question is truly as good as NSF, the health or code agency might have to spend thousands of dollars at a testing laboratory, quite possibly in another state or jurisdiction.

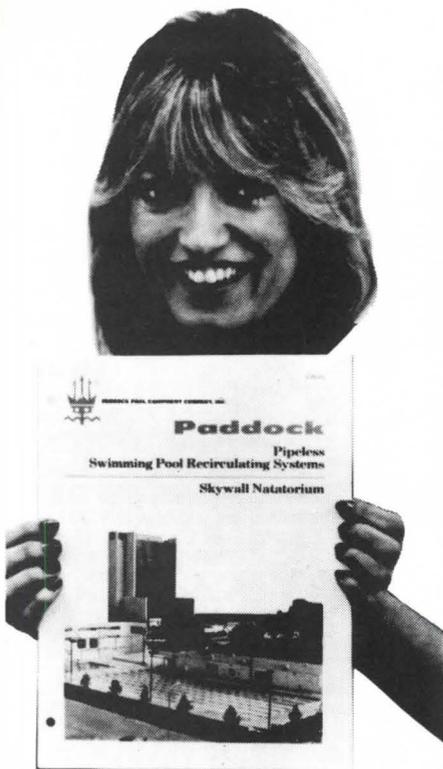
The presence of the NSF seal on a product means that it has been evaluated against the standard in the NSF Testing Laboratory. It also means that the product is under continuous scrutiny by NSF field forces or the NSF laboratory, or both.

NSF standards center around performance rather than rigid specifications. Innovative manufacturers with new ideas and new products that can do the job better are always welcome at NSF. Doubly so, in fact, because NSF standards are periodically updated to keep abreast of technological progress.

*William A. Broadway, Jr.*



National Sanitation Foundation—an independent non profit, non governmental organization dedicated to environmental quality. Offices and laboratories: NSF Building, Ann Arbor, Mich. 48105 (313)-769-8010



# The answer to all your swimming pool questions.

New construction or rehabilitation... filtering systems to pool enclosures... manual or fully automated operation... whatever your question, you'll find the answers in our new 16 page, full color brochure. Write, call, or send reply card today — we'll send your brochure out by return mail.

**Paddock®**  
Pool Equipment Co., Inc.  
P.O. Box 511  
Rock Hill, S.C. 29730  
803-324-1111

Circle 22 on information card

## Books from page 70

**Kindergarten Chats and Other Writings.** Louis H. Sullivan. (Dover Publications, \$4.)

It is hard to think of a better use of \$4 than the purchase of this engaging book—an unabridged republication of the revised (1918) edition. The “chats,” as admirers of Sullivan know, are between the master and an architectural novice. He leads the reader into his ideas about form and function, values, imagination, responsibility, democracy, education—and life itself. The 52 consecutive essays, in a simplistic way, can be summarized by Sullivan’s opinion that “as a people thinks concerning architecture, so it thinks concerning everything else; and as it thinks concerning any other thing, so it thinks concerning architecture; for the thought of a people, however complicated it may appear, is all-of-a-piece, and represents the balance of heredity and environment at the time.”

The “other writings” of the title are eight additional papers, supplementing the original text. Among the essays are “Characteristics and Tendencies of American Architecture,” “Ornament in Architecture” and “The Tall Office Building Artistically Considered.”

**A Walk Through the Cloisters.** Text by Bonnie Young; photographs by Malcolm Varon. (Metropolitan Museum of Art, distributed by Viking Press, \$14.95.)

The Cloisters, a branch of the Metropolitan Museum of Art in New York City, contains a truly unique collection of medieval culture. On a hill overlooking the Hudson River, the Cloisters is patterned on European monasteries in design, the work of architect Charles Collen. The museum has drawn thousands of visitors who are transported by its many treasures—the frescoes, sculpture, rare books, tapestries, paintings, metal objects. This book is highly recommended to the visitor. The text by Bonnie Young, associate curator, is engaging and informative; the beautiful photographs by Malcolm Varon are most helpful as well, calling one’s attention to things otherwise easily missed, such as a “hell monster” on a capital, the tomb effigy of a young boy, a running hound in the famed tapestries called the Hunt of the Unicorn.

**Wayne County: The Aesthetic Heritage of a Rural Area.** Stephen W. Jacobs, with photographs by David Plowden. (Publishing Center for Cultural Resources, 152 W. 42nd St., New York, N.Y. 10036, \$22.50.)

Published under the aegis of the Wayne County (N.Y.) Historical Society and sponsored by the New York State Council on the Arts, this study was conducted under a grant to Cornell University’s cen-

ter for housing and environmental studies. It is a part of the series “Architecture Worth Saving in New York State.”

Described as a “catalog for the environment,” the book’s subject is confined to Wayne County, but its concern is also with the preservation of “what is visually significant everywhere.” The emphasis is upon the geological and ecological patterns of the county and its social and economic development.

Although many of the illustrations are architectural, they do not depict structures per se, but the visual elements in a particular environment. There are village stores, migrant camps, leaning gravestones, smokestacks, high-tension wires. All are classified “to make a composite picture of why the region came to look as it does.”

The volume’s large size makes it rather difficult to handle, but the reader will be rewarded for the effort. The book is filled with a wealth of material and is a model for regional study.

**Learning from Baltimore.** Roberto Brambilla and Gianni Longo. (Institute for Environmental Action, \$6.95.)

Partners for Living Places has commissioned the Institute for Environmental Action to prepare descriptions of how several cities are attempting to preserve and develop their livability. Accounts of Seattle and Baltimore have been published, and similar volumes on Atlanta, Denver, Minneapolis, New Orleans, Cincinnati and Winston-Salem, N.C., are in the pipeline. More places may be added. The emphasis is on “innovative strategies” for developing the physical environment, but much of what is described—pedestrian malls, housing rehabilitation, public transportation systems—will be familiar to those who have been dealing with the urban environment.

The treatment of Baltimore may be taken as representative of the series. Based on available literature, interviews with key figures and information supplied by public agencies, this is a straightforward account, attractively presented, that is not likely to tell anyone more than they wanted to know. After reading the volume, one still does not know whether it was a good idea to import so many architectural superstars (Mies, Johansen, Safdie, et al.) or to rely more on RTKL and other local firms. Can another town do it without Jeff Miller, Walter Sondheim, Larry Reich—and Jim Rouse? Does homesteading (and “shopsteading”) really work? In short, is Baltimore’s experience transferable? More to the point, has it really changed Baltimore? The hard questions remain to be answered but within its acknowledged limits, this is a useful report. *Frederick Gutheim, Hon. AIA, Washington, D.C.* □

# Rite-Hite Guarantees\* Dock Levelers For 20 Years.

Purchases specified with Dock Leveler Selection Guide to be backed by Money Back No-Risk Purchase Plan



Rite-Hite Corporation, pioneers of the concept of increased dock leveler capacity, have now guaranteed the longevity of many of their products for periods as long as 20 years. The warranty, which applies on all Rite-Hite levelers specified according to their Dock Leveler Selection Guide (DLSG), is known as the No-Risk Purchase Plan. If the leveler fails to last for the full period stated on the DLSG, Rite-Hite will refund a percentage of the original purchase price equivalent to the unexpired warranty.

Arthur White, Rite-Hite president, commented, "For years we've preached to our customers the concept of 'Impact Capacity.' This means they have to consider not just maximum loads, but lift truck speed, frequency of use, ramp incline, etc. The DLSG incorporates all these factors, to form the basis for our No-Risk Purchase Plan which allows us to give our customers the best possible performance at the lowest possible lifetime ownership cost. No gambling. No questions asked. If the leveler doesn't hold up, they get their money back. Structural integrity is something everyone promises, but so far we're the only ones to guarantee it."

Prospective buyers interested in obtaining a FREE Dock Leveler Selection Guide are advised to contact Rite-Hite headquarters or their local representative.

we keep coming up best!  
**RITE-HITE**

9019 North Deerwood Drive, P.O. Box 23043, Milwaukee, WI 53223  
Phone: (414) 355-2600

Circle 23 on information card

\*Per Rite-Hite special DLSG warranty.

From Airports to Youth Hostels...  
400 Pages of Building Types  
3,500 Plans • Diagrams • Tables  
Checklists • Planning Data  
Bibliography • References

# ARCHITECTS' DATA

The Handbook of Building Types  
2nd International English Edition

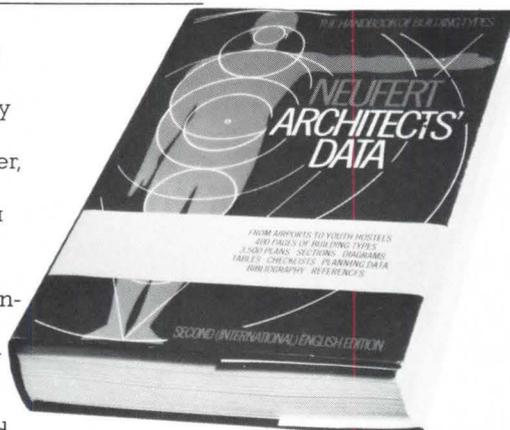
Ernst Neufert

Since it first appeared nearly forty-five years ago, Ernst Neufert's *Rules for Building Design* has been translated into nine languages—with thirty editions in the German alone. Hundreds of thousands of copies later, architects all over the world are still turning to this classic handbook as a starting point in the planning and design of building projects.

Now American architects and designers, contractors, planners, and students can have access to these time-tested guidelines with the second English edition of ARCHITECTS' DATA. Thoroughly updated and modernized to be of practical day-to-day value to American users, this new edition provides basic data on:

- user requirements—including the requirements of the elderly and disabled
- general planning criteria
- site selection
- basic dimensions
- flow charting
- and a host of other design considerations

At the core of every section are illustrations of plans, sections, and site layouts chosen to illustrate key aspects of each building type's design. Most illustrations are drawn to scale—with SI units used throughout, and equivalent non-metric units provided both in accompanying graphic



scales and in the book's built-in conversion table.

No matter how large or small the project, ARCHITECTS' DATA is the place to start for the fundamental data that's critical to the early stages of every design process.

(0 470 26947-2) November 1980  
approx. 420 pp. \$69.95 (tent.)

Order from your regular bookdealer, or directly from: Dept. AAG-4



**HALSTED PRESS**

a division of John Wiley & Sons, Inc.  
605 Third Avenue  
New York, N.Y. 10016

IN CANADA: John Wiley & Sons  
Canada, Ltd., 22 Worcester Road,  
Rexdale, Ontario.

Prices subject to change without notice;  
slightly higher in Canada. 313 1-7692

Joseph Bernard, New Orleans  
George Bolotin, Seattle  
Robert C. Boyson, New Britain, Conn.  
John T. Doran, Boston  
Truman B. Douty, Houston  
Arthur M. Emerson, Dayton, N.J.  
Arthur B. Gallion, FAIA, Pasadena, Calif.  
W. R. Kiene, Topeka, Kan.  
Stewart S. Kissinger, Dearborn, Mich.  
Philip Koenig, Beverly Hills, Calif.  
Maurice Kraut, Miami Beach  
Herbert Lippmann, FAIA, New York City  
C. F. Mershon, Hutchinson, Kan.  
Elbert E. Picker, St. Louis  
Irene McFaul Pierce, Long Beach, Calif.  
H. T. Rinker, East Stroudsburg, Pa.  
Robert A. Ritterbush, FAIA, Bismarck, N.D.  
Domenic T. Russillo, Providence, R.I.  
Eugene F. Schrand, Cincinnati  
C. G. Seale, Lincoln, Neb.  
J. C. Thornton, St. Petersburg, Fla.  
William F. Thrall, Grand Rapids, Mich.  
George F. Trapp, North Little Rock, Ark.  
Marcus D. Walters, Cincinnati  
Harry E. Weir, Jackson, Miss.

**George Foster Harrell II, FAIA:** Once a member of AIA's board of directors, Mr. Harrell was also a past president of the Texas Society of Architects/AIA and of the Dallas Chapter/AIA. He was former chairman of the board of the urban design task force of Dallas and a member of the boards of the Greater Dallas Planning Association, the Texas Research League, the Dallas Museum of Fine Arts and other organizations.

Mr. Harrell, who died on March 16 at the age of 73, was a partner in the Dallas firm of Gill & Harrell in the 1940s and '50s, forming the firm of Harrell & Hamilton in 1956. He participated in the design of such buildings as the Republic National Bank building, Fairmont Hotel, Dallas Convention Center, North Park Shopping Center and Mountain View Community College. He earned a bachelor of architecture degree at Georgia Institute of Technology and a master's degree from the University of Pennsylvania.

**Isadore Rosenfield, FAIA:** Known internationally for his hospital designs, Mr. Rosenfield was the author of hundreds of articles on hospital planning, as well as three books that received critical acclaim: *Hospitals: Integrated Design*, *Hospital Architecture and Beyond* and *Hospitals: Integrated Components*. He won architectural awards for such designs as the Industrial Hospital in Puerto Rico; the North Shore Hospital, Manhasset, Long Island; Clark Field Hospital in the Philippines, and the Olen (N.Y.) General Hospital. With Kelly & Gruzen, he

received an AIA honor award of merit in 1951 for the Veterans Administration Hospital in Wilkes-Barre, Pa.

Mr. Rosenfield, who died on March 6 at the age of 86, was born in Russia. He came to this country in 1910 and lived at first in Boston, working at such jobs as a picture framer and a butcher's assistant. In 1918, he received a B.S. degree from Harvard University and two years later a master's degree in architecture.

He served in New York City's department of hospitals from 1936 to 1938, becoming senior architect in 1938. From 1940 to 1945, he was chief architect for the department of public works and was in charge of the city's \$100 million post-war hospital program. In 1949, he organized the New York City firm of Isadore & Zachary Rosenfield. He was associated with the firm until his retirement in 1970.

A lecturer at hospital planning conferences around the world, Mr. Rosenfield also taught at Columbia, Michigan State, New York and Yale Universities. He served on several AIA committees, including hospitals and health and the natural environment. At the time of his death, he was preparing his autobiography for publication.

## BRIEFS

**"Conducting Successful Energy Audits"** is the title of a new AIA professional reference program, designed to give the user experience and skills in energy audits. For information, write: Continuing Education Programs at Institute headquarters.

**Hugh Stubbins, FAIA**, of Cambridge, Mass., former vice president of the Institute, whose firm won the 1967 architectural firm award, is the recipient of the Thomas Jefferson Memorial Foundation medal in architecture, sponsored by the University of Virginia and the Thomas Jefferson Memorial Foundation.

**The home of Nobel prize winner Pearl S. Buck** near Dublin, Pa., was recently dedicated as a National Historic Landmark by Cecil D. Andrus, secretary of the Interior. She lived there from 1933 until her death 40 years later. She once remarked, said Andrus, that the 1835 farmhouse symbolized her "strength and durability." The same words characterize her writings, said Andrus, who called her a "human bridge between the civilizations of the East and West."

**The United Nations publication "Development Forum/Business Edition"** provides advanced information on projects in developing nations, financed by international banks and various governments. Among the fields covered are construc-

tion, energy and transportation. The yearly subscription rate is \$250. Contact: United Nations, GCPO Box 5850, New York, N.Y. 10017.

**The Fontainebleau (France) Fine Arts School** is sponsoring a summer program on architecture and special arts in July and August. For information, contact: Fontainebleau Fine Arts Association, 47 Fifth Ave., New York, N.Y. 10003.

**The National Association of Home Builders'** new president is Merrill Butler of Newport Beach, Calif. A professional engineer, he is president of three companies that are building homes in Arizona and California.

**The 1980 Rotch scholars** have been announced by Norman C. Fletcher, FAIA, secretary of the Rotch Travelling Scholarship. Winner and 1980 Rotch scholar is Marvin J. Malecha of La Verne, Calif., who received the master of architecture degree from Harvard graduate school of design in 1974. Second winner is Loren Ahles of Minneapolis, who received a master of architecture degree from the Massachusetts Institute of Technology in 1977. The alternate is Mark K. Robitz of Cambridge, Mass., who was the recipient of a master of architecture degree in urban design from Harvard graduate school of design in 1978.

**"The Art of Being an Architect's Spouse"** is the title of a program conceived and organized by Jeana Savu Dragash, the wife of a Florida architect. AIA components interested in the program, which was initiated at a recent conference of the Florida Association of Architects/AIA, may write to Mrs. Dragash at 1357 Richmond Road, Winter Park, Fla. 32789.

**"Who's Who in Interior Landscaping"** is a new directory published by the interior landscape division of the American Landscape Contractors of America. A free copy (send a no. 10 self-addressed envelope) may be obtained from ALCA, 1750 Old Meadow Road, McLean, Va. 22102.

**Sacramento, Calif., is the first local government in the U.S.** to require a minimum of 2 percent of a project's total construction costs to be set aside for public art. The ordinance applies to all city construction and renovation projects on public property, as well as to private construction on land owned by the city's redevelopment agency. Although Philadelphia (1959) and Baltimore (1964) were the first of all other local governments to adopt art ordinances, the amount required for art is only 1 percent.

**Your travel expenses abroad could be paid for** by the U.S. International Communication Agency, if you have knowledge based on specific needs of various foreign posts in 120 countries. The agency chooses about 600 citizens a year to discuss their areas of knowledge in various countries. Fluency in a language is not required, and both academics and practitioners may apply. For more information, write: Office of Program Coordination and Development, International Communication Agency, 1750 Pennsylvania Ave. N.W., Washington, D.C. 20547, or call (202) 724-1900.

**Calvin G. Rand**, president of the Niagara Institute, Niagara-on-the-Lake, Canada, has been made president of the American Academy in Rome, succeeding Bill N. Lacy, FAIA, who resigned last October to become president of Cooper Union. Rand will remain vice chairman of the institute, which is an educational center for humanistic studies and public affairs, with organizations in New York state and Ontario, Canada.

**"The Plan of St. Gall"** (reviewed on p. 66), by Walter W. Horn and Ernest Born, has been named the "most outstanding book in architecture and urban planning" in the fourth annual professional and scholarly book awards, sponsored by the Association of American Publishers. The three-volume set also received a special award for "excellence in book design and production."

**The professional degree program leading to the master of architecture degree** offered by the department of architecture at the State University of New York at Buffalo has received national accreditation from the National Architectural Accrediting Board.

**A variety of noncredit seminars in architecture**, design and environmental design and preservation are offered by Harvard University's graduate school of design and the Massachusetts Institute of Technology this summer, beginning on June 9. The short courses range from three to seven days in length and are taught by Harvard and MIT faculty. For a detailed brochure, contact: Carolee Kort, HGSD, Gund Hall L-37, Cambridge, Mass. 02138.

**The Women's School of Planning and Architecture** has selected Hood College in Frederick, Md., as the location of its fifth session on July 23-30 and invites women of all ages and varying interests in environmental issues to attend. For information and application forms, send a self-addressed envelope to WSPA, 2105 Erdman Ave., Baltimore, Md. 21218.

*Products on page 76*

## PRODUCTS

### Solar Collector Coating.

Miroblack, an electroplated metal finishing, is designed to protect solar collectors from temperature and humidity extremes and corrosive pollutants. It has an absorptivity (alpha) of .93 to .95 and return radiation (epsilon) of .09 to .13. (American Heliothermal Corporation, Denver. Circle 164 on information card.)

### Heating System Controller.

The Steam Miser temperature controller is a photoelectric time sensor. It can control 11 daytime and 11 nighttime heating programs. An optional Full Week clock is available. (American Steam Timer Corporation, New York City. Circle 199 on information card.)

### Indirect Indoor Lights.

SPI Lighting SDE2 luminaires can be suspended from the ceiling, mounted on top of gondolas or permanently mounted on a column or wall. The fixture has a combination of metal halide and high pressure sodium lamps, designed to permit installation of a single fixture for every 500 square feet with 80 foot-candles maintained. Fixtures are available with symmetrical or asymmetrical light patterns. (Area Lighting Division, McGraw-Edison

Co., Racine, Wis. Circle 170 on information card.)

### Operative Skylight Roofs.

Both stationary and movable roof decks can provide up to 50 feet of unsupported span in a ridge type installation and up to 200 feet in a barrel vault type. (Rollamatic Roofs Inc., San Francisco. Circle 169 on information card.)

### Heat Pump Thermostat.

This thermostat has internal wiring for H-R and PHP heat pumps; a system signal light that indicates that the heat pump's compressor is operating on either the heating or cooling cycle; an auxiliary heat light; a check light that shows if the heat pump is malfunctioning, and indicator lights to reassure the operator that the unit is operating. (Climate Control Division, Singer Co., Carteret, N.J. Circle 168 on information card.)

### Vinyl Flooring.

New vinyl flooring products include: Burgoyne, a Congoleum sheet vinyl with the look of hand-painted tile; Plaza Suite, large mosaic hand-set tile look; Emerald Glen, natural stone effect in a random design; Branham Crest, geometric rectangles against a counterpoint of contrasting diamond motif; Fairmont, with irides-

cent, crystal-like chips embedded in the vinyl. (Congoleum Corporation, Kearny, N.J. Circle 165 on information card.)

### Soil Stabilizing Agent.

J-tac was designed to reduce wind and rain erosion of bared soil at building sites. It interlocks surface soil particles with seed, mulch and other additives. Available in powder form, the 100 percent organic material swells in water and hydrates completely. (Reclamare Co., Seattle. Circle 186 on information card.)

### Access Signs.

Symbol of access graphic signage is available in embossed steel, reflective embossed steel, cast aluminum and fiber-reinforced polyester. The signs can be used to direct handicapped persons to facilities designed especially for this use such as ramps, elevators, parking areas, rest rooms, drinking fountains. (Seton Name Plate Corporation, New Haven. Circle 185 on information card.)

### Welding Agent.

Uniweld is a two-part epoxy, waterproof welding agent that can be used in all phases of concrete maintenance and construction. (Permagile Corporation of America, Plainview, NY. Circle 184 on information card.) □

# 63 hospitals depend on EPICORE® Deck for hanging, loading and fire ratings.

Life-cycle flexibility is critical in hospital design. EPICORE's dovetail ribs and two hangers are the key. Both hangers can be inserted without tools anytime after the slab has cured, allowing mechanical and medical support equipment to be installed with the greatest efficiency and the least disruption.

Find out what EPICORE's lifetime hanger system, heavy loading and top fire ratings can do for your next project. Contact Bob Ault, Vice President - Engineering.



Standard Hanger.  
Safe load capacity:  
200 pounds.\*

Wedge Bolt Hanger.  
Safe Load capacity:  
1000 pounds.\*

\*Providing the floor system is designed to support this load.

**EPIC**  
METALS CORPORATION  
Eleven Talbot Avenue  
Rankin, Pennsylvania 15104  
(412) 351-3913

## ARCHITECTURAL PROJECT MANAGERS AND DESIGNERS

Ellerbe's philosophy of architecture is making dramatic changes in the design for the 80's. The excellence of our progressive outlook has brought us 26 design awards in the past 4 years.

Our dynamic growth has created a need for creative, design oriented Project Managers and Designers in our Minneapolis corporate offices. Your minimum 6-10 years or architectural experience will qualify you for these exceptional leadership positions. You'll have a chance to exert a tremendous impact on design, and receive national prominence and recognition by working with our prestigious clientel.

Minneapolis offers one of the finest displays of architecture in the nation. Our growing metropolitan area is a study of diversity in architectural design and construction. You will find a quality of life that is hard to beat, from the excellent cultural and entertainment activities, to the fine schools and colleges and the diversity of the 4 seasons.

Ellerbe offers a professional work atmosphere and outstanding benefits, including:

- \*Incentive Bonus
- \*Profit Sharing
- \*General Profit Distribution
- \*Pension Plan
- \*Liberal Relocation Package

Consider Ellerbe and the challenge we offer for the 80's. For more information, please call Frederick Richter, Director of Architecture, or Vance Shipman TOLL FREE at:

1-800-328-1977

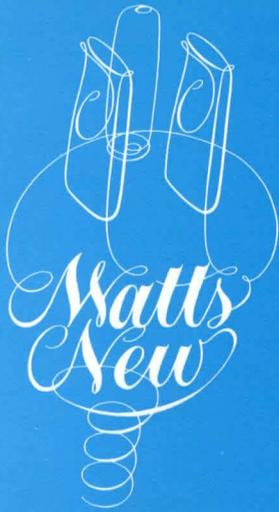
Or send your letter of introduction to:

**GROWTH BY DESIGN**



**ELLERBE ARCHITECTS**  
Director of Personnel  
One Appletree Square  
Minneapolis, Mn. 55440

An equal opportunity employer



Electrical Energy Views  
from The National Electrical  
Contractors Association  
Volume IV, Number 1

**H**ow to solve our energy problems? Try using a little common sense. (with appreciation to Jefferson and Hegel)

Between July 2 and July 4, 1776, while composing the Declaration of Independence, Thomas Jefferson wrote of "... a history of repeated injuries and usurpations, all having in direct object the establishment of an absolute Tyranny over these States." Today, we are facing an equally ominous tyranny, a tyranny born from the growing demand for oil and the economic and political power wielded by the countries who export it.

Our insatiable demand for oil is proving basic economic principles. Because domestic oil supplies are not meeting demand, foreign suppliers in a sellers' market are increasing prices. As a result, demand is shifting toward increased use of alternative fossil fuels and their prices are also rising in response. Due to misunderstandings about basic laws of supply and demand, rising prices sustained by demand for oil to fuel industrial, commercial, and residential uses are threatening to, in Jefferson's words, "excite domestic insurrections amongst us." We are rapidly shifting from a nation based on the profit incentives of free enterprise to a people who are skeptical and downright antagonistic toward large oil producers who happen to be supplying a product for which excessive demand has created large profits.

We seem to be creating a new economic ethic: it is all right to make a lot of money if your organization is small and privately owned; it is unethical if the organization is large and publicly owned. But only very large organizations can create the capital needed for energy exploration, processing, and distribution. We must soon decide whether such large organizations are going to be run by professional managers or by professional bureaucrats. The game is tilting toward the bureaucrats.

Solving our energy problems should be only a matter of putting good American common sense to work. If there are no economical alternatives to oil distillates for personal and commercial transportation, it would seem logical that transportation should be our primary use of oil products. All other uses should be shifted to some other fuel as rapidly as possible. This would include all industrial processes as well as all home heating. And, of course, all efforts should be applied to exploration and development of possible domestic oil supplies. It also means developing domestic oil shale and tar sand potential. The easiest way to accomplish this is through free-market pricing and incentives for more oil exploration and synthetic development.

If the free market is not permitted to work, the only future alternative may be compulsory government allocation of fuels and, possibly, all forms of energy. Use of common sense should make this undesirable possibility unnecessary. For example, let's not get trapped into another international cartel because we lean too heavily on importation of natural gas. If rising gas prices indicate domestic supply is not keeping up with demand, let's concentrate gas use for its most economical applications, and begin shifting as rapidly as possible to other alternatives.

And what of electricity? Its basic advantage is that it can be created from any form of energy that contains enough power to drive a generator. Where would we be without electric motors, air conditioning, lights, computers, communications, and yes, even electric heat? Electricity generation can be doubled in 15 years, if we do not restrict more use of coal and nuclear fuel.

As Jefferson said, "These United colonies are, and of right ought to be, Free and Independent

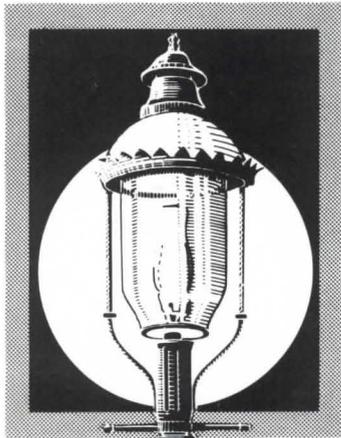
States." "... Such is now the necessity which constrains them to alter their former Systems..." We don't need more government regulations to increase both costs and confusion. We just need to get on with what needs to be done. If you wish to know more about managing energy in all its forms, write us for a free copy of the newly-expanded "Total Energy Management Handbook." In it you'll find ninety pages of valuable-energy-saving information ranging from subjects such as energy audits to effective solar applications.

Georg Wilhelm Friedrich Hegel (1770-1831) said experience and history teach that people and governments never have learned anything from history, or acted on principles deduced from it. Let's prove him wrong — for a change.



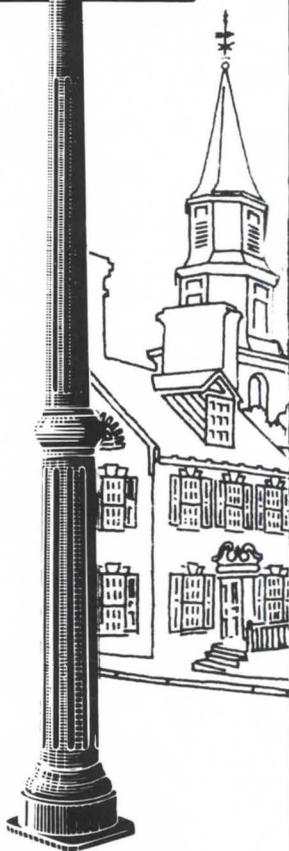
THE NATIONAL ELECTRICAL  
CONTRACTORS ASSOCIATION  
Department AI-50  
7315 Wisconsin Avenue  
Washington, D.C. 20014

# Welsbach Stands Unique.



Since 1877

See us  
at  
Booth  
336



Welsbach Lighting, Inc.  
240 Sargent Drive  
New Haven, Conn. 06511  
(203) 789-1710

Circle 28 on information card

## Letters from page 6

architectural profession. It was distinctly inappropriate for the president-elect of the Institute to single out a segment of the AIA membership for public ridicule.

Daniel J. Feil, AIA  
Oakton, Va.

**In Response:** I am sorry that the testimony has been interpreted as a lessening of support for architects in government service. This is the furthest thing from my intent.

Basically, I commented on two major points on this proposed legislation. The first related to design competitions for selection of architects for federal work. The proposed legislation would require that every federal project between \$2.5 million and \$25 million be selected by the design competition method. I testified that while there is a place for design competitions for certain federal projects, this is not an appropriate method for every federal project.

The second major element of my testimony related to the requirement in the proposed legislation that at least 25 percent of all federal work be performed by in-house staff. I testified against any prescribed percentage and stated that such provisions would only add to the growing federal bureaucracy and would not in itself improve federal design.

I further stated that there is an absolute need for highly qualified, competent professionals in government service to monitor, administer and challenge the private practitioner. I feel strongly that the private firms in this country are a vital part of, and inherent to, our American economic way of life. This is not meant to take away from the importance of competent and qualified architects in government service, but I do not feel that much, if any, project design work should be performed with in-house staff.

With regard to state licensing laws, the National Council of Architectural Registration Boards' guidelines are certainly interpreted differently from state to state. I agree with Mr. Feil that the quality of the experience is the thing that NCARB and most state boards are concerned with. They do usually allow government service experience if the work is performed under the direct supervision of a registered architect, and if such experience is equivalent to work for a private practitioner.

Some federal agencies such as the Naval Facilities Engineering Command do promote an intern-architect development program, but there is a great variance in the type and quality of experience gained in government service.

However, we often hear the complaint from many young professionals that their government service has not been counted toward their registration requirements.

Many states do count 50 percent of such

time toward the registration requirement, but there is a great deal of variance from state to state.

I again apologize for any offense my testimony may have given. I greatly value the role of architects in government and feel that they are a vital part of AIA. I give them my assurance that I will do everything possible during my year as president of AIA to support and encourage architects in government and their programs. They are indeed a vital part of AIA.

R. Randall Vosbeck, FAIA,  
First Vice President of the Institute

**Charles Luckman and Seagram:** Stanley Abercrombie, AIA, in his article in the March issue (p. 76) on the Institute's 25-year award to Lever House, thoughtfully incorporated the role of Charles Luckman, FAIA, as then president of Lever Brothers, and then relates this building to the subsequent Mies-Johnson design of the Seagram Building.

If memory serves, the initial design for Seagram, published as a rendering in late '54 (?), was done by none other than the aforementioned Charles Luckman, back in architectural practice after leaving Lever Brothers. The design was short-lived, which story has been covered as background for the Seagram Building as we now know it. Leonard Jacobson, AIA  
New York City

**More on Eclecticism:** In his essay in the January issue (p. 66), James Marston Fitch misrepresents both eclecticism and postmodernism. Late 19th and early 20th century eclecticism did not "shackle" the creative architect. On the contrary, it established rules without which there can be no creativity. Modern architecture was not the first to "mediate man's environmental problems." Beaux-Arts construction, by its sheer breadth and mass, served quite well in both catching breezes and retaining heat.

Eclecticism did not prevent the "invention of a new esthetic." In the 1920s, the moderne style was taught by many ateliers as an appropriate architectural expression for warehouses, airports and other utilitarian types. Eclecticism was not the "iron maid of conformism." The more we learn about 19th and early 20th century architecture, the more striking is its variety and richness of invention. The true conformists were modernist historians who brushed aside a whole century as "intolerable."

True, the "Bauhaus did not destroy history." What it did destroy was the necessary connection between history and the practicing architect. If postmodernism attempts to restore that connection, then a historian of Fitch's stature should applaud, not condemn, the movement.

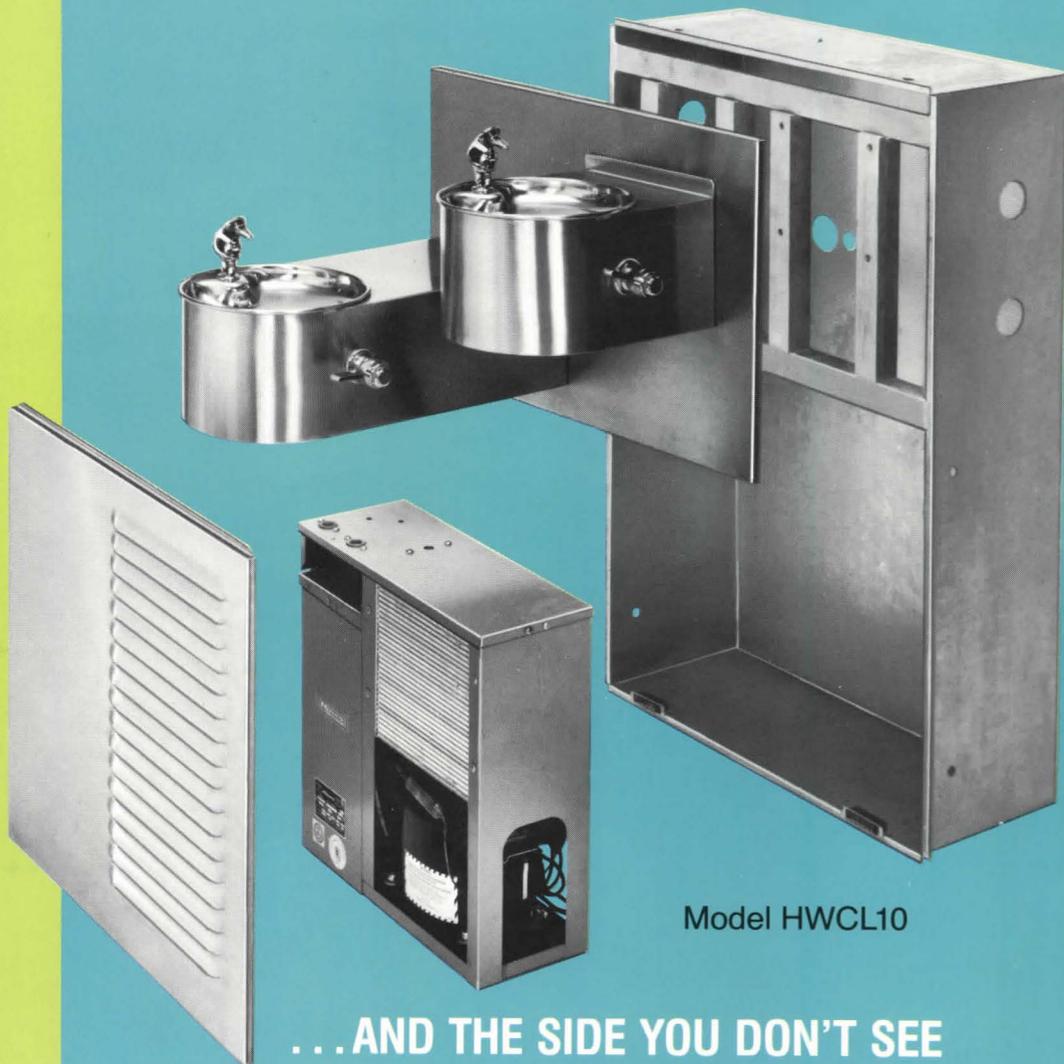
Thomas R. Fisher  
Hartford, Conn.

# There are 2 sides to every fountain



## THE SIDE YOU SEE

- Chrome-plated bubblers
- Circular stainless steel receptors
- Self-closing lever valve handles
- Extended receptor for wheelchair access
- Stainless steel backplate and louvered grille



## ... AND THE SIDE YOU DON'T SEE

- Angle steel support struts
- Steel mounting box
- Automatic stream control
- Vandal-resistant bottom plates
- 9.5 gallon per hour chiller with 1/4 hp compressor

At Haws we make the side you see stylish, strong and practical. We put that same quality workmanship in where you don't see it, too, because we know the hidden features pay off in performance. Look at the HWCL10. You don't see the steel mounting box with angle steel struts that provide added support and strength. You don't see the automatic stream control that keeps the flow arched and even... or the vandal-resistant bottom plate\* that keeps vital parts safe from mischief makers. And you don't see the efficient chiller unit that can satisfy 114 thirsty users per hour with a cold drink of water. Haws takes care to include these and other special features—because even when you don't see them, you do benefit!

HAWS DRINKING FAUCET COMPANY  
P.O. Box 1999 Berkeley, California 94701  
Circle 30 on information card

\*Optional at extra cost.



**Haws**

St. Regis Church, Birmingham, Michigan.  
Designed by Brown and Deyo Associates AIA.  
Photos by Balthazar Korab.



# Creative and practical Osmose Flame Proof<sup>®</sup> Wood

The warmth and beauty of gently curving wood creates a deep sense of peace and serenity. Yet, it's founded on a rock of practicality. Both ceiling and roofing system, bridging and decking, are constructed of Osmose FLAME PROOF WOOD.

Along with care-free beauty, Osmose FLAME PROOF meets today's demands for fire protection. It meets all major building codes and the approval of insurance rating bureaus for interior decorative and structural use. Your clients can enjoy the warmth and charm of wood and, frequently, a preferred insurance rate classification.

Whether you're designing a church or a school, a supermarket or a warehouse, fire retardant FLAME PROOF WOOD belongs in your design. For details, check us in Sweet's *General Building File 6.5/Osm*. Or write us for our brochure, data sheets and the name of your nearby Osmose wood treating specialist.



**Osmose Wood Preserving Co. of America, Inc.**  
980 Ellicott Street, Buffalo, New York 14209

*Circle 31 on information card*

