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Forms & Surfaces offers the architect an unparalleled opportunity to develop new fascia concepts with a versatile design and technique vocabulary in metal. Concept is translated into reality by our Warnel Metal Division, relying on years of experience in the engineering and development of metal panel systems. A wide range of natural metals and durable finishes is offered: stainless steel, copper, bronze, weathering steel, aluminum with anodic finishes and aluminum or galvanized steel with long life color coatings. The design-strengthened cross-section of metal textures and shapes gives greater rigidity, reduces weight and cost, conceals abuse, and keeps fascias looking new and beautiful longer. Warnel Metal fascia systems are developed and engineered to meet individual project requirements.

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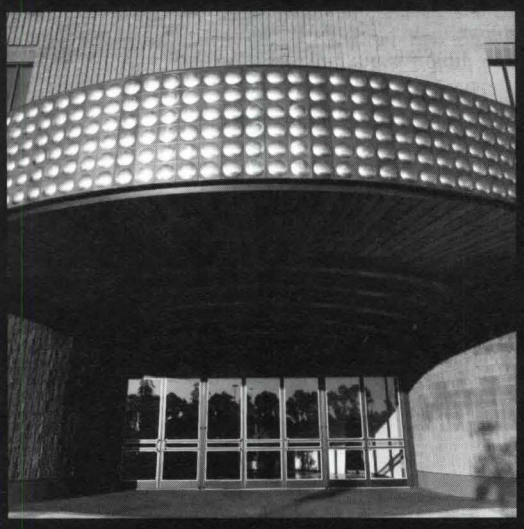

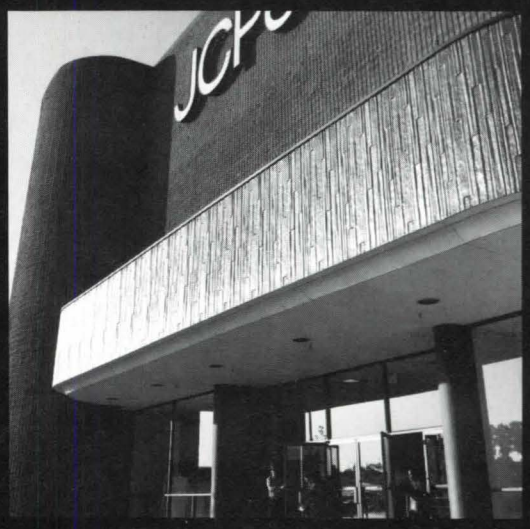

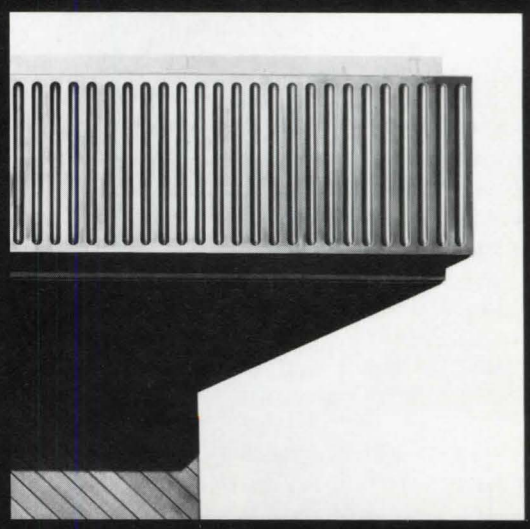

FORMS+SURFACES

EVENTS

Sept. 7-9: Minnesota Society of Architects annual convention, Radisson South Hotel, Bloomington, Minn.
Sept. 8: Entries deadline, swimming pool design awards. Contact: National Swimming Pool Institute, 2000 K St. N.W., Washington, D.C. 20006.
Sept. 12-15: Pedestrian Conference, Biltmore Hotel, New York City. Contact: F.J. Daniels, U.S. Department of Transportation, Federal Highway Administration, HRS-41, Washington, D.C. 20590.
Sept. 14-17: Tennessee Society of Architects annual convention, Hyatt Regency Hotel, Nashville, Tenn.
Sept. 15-16: Preservation and Restoration Conference, School of Architecture, University of Virginia, Charlottesville.
Sept. 18-21: National Association of Women in Construction annual convention, Fairmont Hotel, San Francisco. Contact: NAWIC, 2800 W. Lancaster Ave., Fort Worth, Tex. 76107.
Sept. 21-23: Symposium on Roofing Technology, Washington Hilton Hotel, Washington, D.C. Contact: National Roofing Contractors Association, 1515 N. Harlem Ave., Oak Park, Ill. 60302.
Sept. 21-24: Northwest Regional AIA Conference, Davenport Hotel, Spokane, Wash.
Sept. 26-27: Institute on Designing Architectural Interiors to Support Task Perform ance, University of Wisconsin, Madison.
Sept. 28-Oct. 1: Training session on Interpreting Landscape Features: Assessing Land Use Capability, Bergamo East Conference Center, near Marcy, N.Y. Contact: Dean, School of Continuing Education, SUNY College of Environmental Science and Forestry, Syracuse, N.Y. 13210.
Sept. 29-30: Seminar on International Design and Construction, University of Wisconsin, Milwaukee.
Sept. 29-30: Conference on Solar Energy Applications, Oakland Museum, Oakland, Calif. Contact: Interactive Resources, Inc., 117 Park Place, Point Richmond, Calif. 94801.
Sept. 29-Oct. 1: Indiana Society of Architects annual convention, Ramada Inn, Nashville, Ind.
Sept. 29-Oct. 1: Louisiana Architects Association annual convention, Hilton Hotel, Bossier City/Shreveport, La.
Sept. 30: Call for papers, National Conference on Wind Engineering Research, to be held Feb. 26-Mar. 1, 1978, University of Florida, Gainesville. Contact: Bernard M. Leadon, Department of Engineering Science, 216 Aerospace Building, University of Florida, Gainesville, Fla. 32611.
Oct. 2-4: Central States Regional AIA Conference, Oklahoma City.
Oct. 2-4: Pennsylvania Society of Architects annual forum, Hotel Hershey, Hershey, Pa.
Oct. 2-5: Council of Educational Facility Planners annual conference, Olympic Hotel, Seattle. Contact: CEFP, 29 W. Woodruff Ave., Columbus, Ohio 43210.
Oct. 3-7: International Fair for Cinema Theater, Convention Hall Equipment, Production Equipment and Related Materials, Parc des Expositions, Porte de Versailles, Paris, France. Contact: CISCO, 3 rue Garnier, 92200 Neuilly, France.
Oct. 3-14: International seminar on Habitat and Energy, Ottawa, Canada. Contact: ECE Seminar, Tower B, 5th Floor, 355 River Road, Ottawa, KIA OP6, Canada.
Oct. 4-5: Architects in Industry annual seminar, AIA Headquarters, Washington, D.C. Contact: Fred Marks, Institute Professional Interests Programs, (202) 785-7366.
Oct. 6-8: Midwest regional conference of the Association of Collegiate Schools of Architecture, Washington University, St. Louis. Contact: Carl Safe, School of Architecture, Washington University, St. Louis, Mo. 63130.
Oct. 8-13: International Congress of the Precast Concrete Industry, Vienna. Contact: Congress Secretariat, Bösendorferstrasse 4/14, 1010 Vienna, Austria.
Oct. 9-17: Architects Abroad Program, in London and Helsinki, sponsored by AIA national architects in government committee. Contact: Architects Abroad, Association of Academic Travel, Inc., 1346 Connecticut Ave. N.W., Washington, D.C. 20036.
Oct. 12-14: North Dakota chapter/AIA annual convention, Grand Forks, N.D.
May 21-24, 1978: AIA annual convention, Dallas.

LETTERS

Credit Due Ronald Gourley, FAIA: It was unfortunate that the article in the May issue on Sert, Jackson & Associates (p. 50) failed to mention that Ronald Gourley, FAIA, was one of the initial partners of the office on its founding in May 1958 and continued as a partner for approximately six years. Any work done between 1958 and 1964 should be credited to Sert, Jackson & Gourley. For example, the Boston University complex and the projects for Harvard University—Holyoke Center and Peabody Terrace—were designed during Ronald Gourley's years with the firm, and he made significant contributions to these projects.

Huson Jackson, FAIA
Partner
Sert, Jackson & Associates
Cambridge, Mass.

Honor Awards and Vitruvius: It is with the greatest alacrity that I send my congratulations and commendations to the juries and AIA officers and members, both corporate and associate, for the 1977 awards program. A story about the award-winning John Hancock Tower in Boston was published in the May 16 issue of our small town newspaper, the *Hayward Review*. *(See* May, p. 37, for an account of "Big John" as an honor award winner.)

For too long—1,976 years in fact—architects have been deluded by that arch deluder Vitruvius into thinking they were the masters of the building process, as the title arch (chief) itect (technician) implies. The Romans threw out the Greek ideas of pure democracy but tried to perpetuate the thought of the architect's supremacy through the Vitruvian definition of "commodity, firmness and delight."

Architects struggled with firmness from Vitruvius' time on. Finally, after 12 or 13 centuries of struggle between firmness and delight, they concluded that delight must prevail at any cost. Those characteristics of delight were expressed with lighter and lighter elements of firmness until Beauvais.

In the last five centuries, we have vacillated concerning the dictum of Vitruvius until finally we have taken the firm stand that we should have taken 20 centuries ago. We should make the public aware and the liability insurance carriers aware that we are devoted to "delight" but care nothing for "commodity" and "firmness."

So when the ceilings fall in, the glass breaks, the drains run uphill, the termites eat, the wind blows, the rains fall, the hospital violates the code and the earth shakes, we will be free of worry. Our insurance premiums will go down in contrast to the astronomical increases in recent years. It is said that beauty is in the eye of the beholder. As long as we enjoy looking at our monuments, we really should not care what the client or the public thinks.

Long live our emancipation!

George P. Simonds, FAIA
Oakland, Calif.

Energy, and Honor Awards: I want to express my appreciation for the article by Richard G. Stein, FAIA, in the April issue on "Reassessing Architecture as We Enter an Era of Increased Energy Consciousness."

So much of his writing expresses my thinking and "gripes" in regard to most or much of the architecture of recent years. Much of it is premiated, advertised, photographed and designed for "sculptural shapes" without regard to the uses, effect on persons using the building or

continued on page 68

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Movable Partitions

move-in costs with fixed partitions.

Vinyl-covered ULTRAWALL partitions frequently start out looking like they cost more than standard fixed partitions. But when moving-in time comes, *you'll find* material and labor savings have made ULTRAWALL costs very attractive indeed! And you move in much sooner in the bargain!

So if you are comparing ULTRAWALL with fixed partition prices, be sure to add in the cost of laborious measure-and-cut fitting of carpet and ceiling into many cubicles around fixed partitions. Then consider the simple way ULTRAWALL goes up: carpeting, ceiling, lighting and other items are installed an entire floor-at-a-time! Core and perimeter walls are finished in one overall operation before partitions are installed. And doors, reversible frames, base, finish trim and even glazing can be handled easily, efficiently by the same partition crew.

But that's just the beginning of savings. Every time you re-allocate space, ULTRAWALL partitions pay for themselves all over again. Just four basic components speed dismantling and re-assembly without the dirt, din and delays of breaking out fixed partitions. Other benefits include: 1-hr. fire rating, 40 to 48 STC rating, and possible qualification for investment tax credit and accelerated depreciation advantages.

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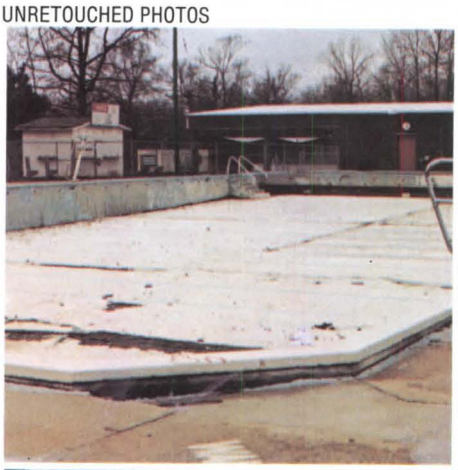
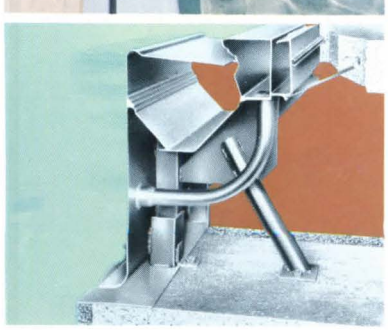


Ellenberger Park, Indianapolis MW Inc., Architects-Engineers



Cross-section of side-wall, circulation system

CHESTER POOL SYSTEMS

The Chester Pool System provides a permanent, low-maintenance solution for problem pools requiring annual repair . . . usually at a substantially lower cost compared to new construction. No more patching. No more water loss — a new pool for the old. ☐ The Chester self-supporting structural aluminum side-wall contains *all* perimeter piping which simplifies and speeds construction, and greatly reduces future repair problems. The all-aluminum welded floor is designed to compensate for contraction, expansion, and shear movement without cracking. Existing filtration plant and piping between filter and pool can be used if their condition permits, adding further to the economy. ☐ And Chester Pool Systems are warranted. Over twenty years experience in building and relining pools has proven Chester performance. All relined pools carry the same warranty as original Chester-built pools — warranted not to crack, leak, or corrode for five years.

Write today for full details, or call 513/424-5341.

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AIA JOURNAL

Cover: Photo by Tim Street-Porter for *Domus* of Centre Pompidou, Paris, by Piano & Rogers and Ove Arup & Partners

Departments

AIA JOURNAL, official magazine of The American Institute of Architects, published monthly at 1735 New York Ave. N.W., Washington, D.C. 20006. Telephone: (202) 785-7300. Subscriptions: for those who are, by title, architects, architectural employees, and to those in architectural education (faculty and schools), and to libraries, building construction trade associations and building product manufacturers: basic rate $12 a year; $20 two years; $8 to architectural students in the U.S., its possessions and Canada. For all others: $18 a year in the U.S., its possessions and Canada; other countries to those who are by title, architects: $18 a year. All others outside the U.S., its possessions and Canada: $30 a year. Single copy: $2, payable in advance. Publisher reserves the right to refuse unqualified subscriptions. For subscriptions: write Circulation Department; for change of address: send Circulation Department both old and new addresses; allow six weeks. Second class postage paid at Washington, D.C. Quotations on reprints of articles available. Microfilm copies available from University Microfilm, 300 N. Zeeb Road, Ann Arbor, Mich. 48106. Referenced in *The Architectural Index, Architectural Periodicals Index, Art Index, Avery Index to Architectural Periodicals.* VOL. 66 NO. 9.

Owens-Corning tells why you this unusual picture next time

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

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

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

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

The ceiling. Handsome is as handsome does.

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

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

should remember you design an open office

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

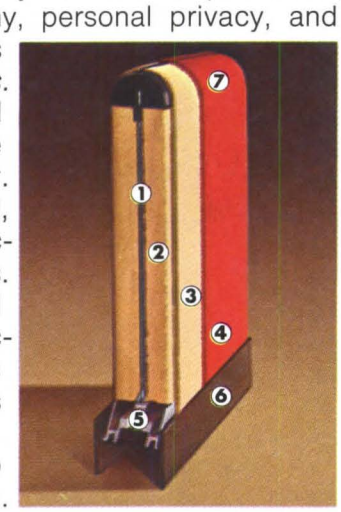
An independent acoustical testing laboratory examined eight ceilings, including costly coffered and baffled systems. Their verdict: Owens-Corning's Nubby II Fiberglas* Ceiling Board, in any standard exposed grid suspension system, is *best* for achieving speech privacy at economical installed cost. In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

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

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

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

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



1. A metal septum—to block sound transmission.

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

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

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

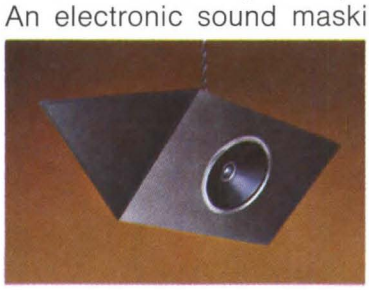
5. Extruded aluminum frame, fastened to septum—for strength and stability.

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

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

Masking sounds. The sounds of silence.

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



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

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

Owens-Corning system gets it all together.

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

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

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

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Effects of Court Ruling on Lawyer Advertisements Weighed for Architects

The Supreme Court, in a 5 to 4 decision that may have ramifications for the architectural profession, has ruled it is a violation of the Constitution's First Amendment on free speech to ban all advertising by lawyers of the availability and prices of their services. The opinion makes it clear, however, that the ruling extends only to the kind of advertising in the case before the court, namely, a factual statement in a newspaper of the availability and fees charged for routine legal services.

The decision came on June 27 in a case in which the legal firm of Bates & O'Steen in Phoenix advertised its fees for such services as uncontested divorces and adoptions, simple personal bankruptcies and changes of name. The advertisement breached a rule promulgated by the Arizona Supreme Court for members of the state bar. Disciplinary proceedings resulted in a one-week suspension of the two lawyers.

They appealed to the state supreme court, and punishment was reduced to censure, but the state court upheld the rule. The American Civil Liberties Union, whose lawyers handled the case, appealed the Arizona decision to the U.S. Supreme Court.

Associate Justice Harry M. Blackmun, who delivered the majority opinion of the high court, said that the ban on advertising "originated as a rule of etiquette and not as a rule of ethics." The belief, he said, that "lawyers are somehow 'above' trade has become an anachronism," and consequently "the historical foundations for the advertising restraint has crumbled."

The majority opinion states, in part, that "commercial speech serves to inform the public of the availability, nature and prices of products and services, and thus performs an indispensable role in the allocation of resources in the free enterprise system. . . .

"The heart of the dispute before us today is whether lawyers also may constitutionally advertise the prices at which certain routine services will be performed. . . . The only services that lend themselves to advertising are the routine ones. . . .

"In holding that advertising by attorneys may not be subject to blanket suppression, and that the advertisement at issue is protected, we, of course, do not hold that advertising by attorneys may not be regulated in any way. . . . Advertising that is false, deceptive or misleading, of course, is subject to restraint. . . .

"As with other varieties of speech, it follows as well that there may be reasonable restrictions on the time, place and manner of advertising. . . . And the special problems of advertising on the electronic broadcast media will warrant special consideration.

"The constitutitonal issue in this case is only whether the state may prevent the publication in a newspaper of appellants' truthful advertising concerning the availability and terms of routine legal services. We rule simply that the flow of such information may not be restrained, and we therefore hold the present application of the disciplinary rule . . . to be violative of the First Amendment."

All nine of the justices agreed that Arizona's ban on advertising by lawyers was not a violation of the Sherman [antitrust] Act, because the state was "acting as a sovereign."

Associate Justice Lewis F. Powell Jr., in one of three dissents, said that he feared that the decision "will be viewed by tens of thousands of lawyers as an invitation to engage in competitive advertising on an escalating basis." In a separate dissent, Chief Justice Warren Burger expressed apprehension that the decision "will be injurious to those whom the ban on legal advertising was designed to protect—the members of the general public in need of legal services."

Although no other professional groups whose codes of ethics ban advertising were mentioned in the decision, it is assumed that the ruling will have widespread effect.

John M. McGinty, FAIA, president of the Institute, says, "There are certainly substantive differences between architectural practice and legal practice that might preclude a narrow application of Bates & O'Steen to AIA. We are, however, in an era of consumerism and rising public expectations of all professionals and the subject deserves a full policy debate."

Delegates to the 1977 AIA convention in San Diego approved a revised code of ethics and professional conduct (*see* July, p. 8). The code states, in part: "Members shall not purchase advertising in the public media to offer architectural services. Members who advertise other services or products in the public media shall refer neither to the architectural profession nor to their AIA membership." An amendment to narrow the ban on advertising was easily defeated by the delegates.

Nancy Truscott, assistant secretary and legal counsel for the Institute, says that "the matter of expanding (or not expanding) AIA's new code of ethics and professional conduct to include (or not to include) advertising of the price and availability of architectural services in publications such as newspapers, yellow pages, trade journals, general circulation magazines or other media, such as radio and TV, will be on the agenda of the late September meeting of the AIA board of directors.

"Until such time as the AIA board changes them, the rules as set forth in the AIA code remain in effect and should not be violated by members."

NCARB Backs Program For Intern Architects

Delegates to the 56th annual meeting of the National Council of Architectural Registration Boards, meeting in Palm Beach, Fla., unanimously gave support to the intern-architect development program (IDP) whose primary sponsors are AIA and NCARB. The program aims at providing entering members of the profession with opportunities for exposure and exploration in the broad issues of architectural practice (*see* Jan., pp. 18 and 20).

A resolution passed by the delegates

continued on page 12

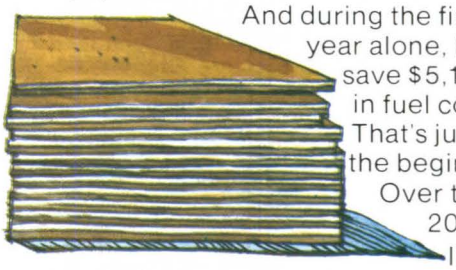
The man who owns this building is going to save $165,000 over the next 20 years.

He's constructing a 200,000 sq. ft., single story office building in Denver, Colorado.

And he's upgrading the roof insulation to J-M C-10 Fesco-Foam.™

His added one-time cost is $88,000.

But right away he's going to save $103,500 because he won't need as much heating and air-conditioning equipment.



And during the first year alone, he'll save $5,100 in fuel costs. That's just the beginning. Over the 20-year life of the roof —and using F.E.A. April, 1977, Energy Audit Procedures figures—his fuel savings will amount to $169,000.

That means his net savings in 20 years will add up to $165,000, with a present worth value of $78,000 based on a 10% interest rate (and using optimum design criteria).

Here's a perfect example of how spending a little more on the front end can lower building costs a lot in the long run.

It's an investment that pays off in both savings and comfort in the years that follow.

If you're planning a building and would like to know how much you can save by upgrading to Fesco-Foam, call your nearby J-M District Office, or contact Grant Edmonds, Johns-Manville, Ken-Caryl Ranch, Denver, Colorado 80217, 303-979-1000. AI-8

For single-source built-up roofing systems.

Johns-Manville

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NEW SOLARBAN® GOLD: PPG'S HARDEST WORKING ENVIRONMENTAL GLASS EVER.

When Tampa Wholesale Company built a new headquarters for its Kash 'n Karry Supermarkets on Florida's booming west coast, they decided to reflect the pace of their business. They cast the building in gold.

And they struck the purest vein of gold in the marketplace: PPG Solarban Gold Twindow® units. They are a long-awaited solution to the brassy and greenish metallic tones that characterized earlier gold glass.

PPG Solarban Gold has a uniform coating of pure gold. Its transmitted

light is a pleasant, soft, bluish-gray. And the exterior is a glorious reflection of the lovely Florida sky and landscape.

But aside from its esthetic appeal, Solarban Gold delivers very tangible thermal benefits. It is the best of all PPG high-performance glasses and conserves energy significantly by reducing solar heat gain, as well as conducted heat gain or loss.

Why not benefit from what Tampa Wholesale has learned about PPG Solarban Gold Twindow units? Then let it glorify your next design.

Contact your local PPG architectural representative for information about this or any of our family of high-performance glasses.

Or, if you prefer, write to PPG Industries, Inc., One Gateway Center, Pittsburgh, Pa. 15222.

PPG:
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PPG
INDUSTRIES

Tampa Wholesale Company, Tampa, Florida, utilized these performance characteristics of PPG Solarban 490 Twindow units for the Kash 'n Karry headquarters:
Shading coefficient: 0.14
U-Value: 0.29 winter nighttime
0.30 summer daytime
Relative heat gain: 32 Btu/hr-sq ft., when ASHRAE Solar Heat Gain Factor is 200 Btu/hr-sq ft. and the outdoor temperature is 14°F warmer than the indoor air temperature.

Owner and Architect:
Tampa Wholesale Company, Tampa, Florida

Circle 7 on information card

Going On from page 8
calls for the adoption of all 55 member boards of training experience requirements. California, Iowa, New Hampshire, New Jersey, Texas and Virginia may be the first states to activate IDP.

The delegates also unanimously approved the continued development of a concept for an "architect development verification" program in the recognition that "it is in the public interest for registered architects to demonstrate their continued professional competence. . . ."

In other action the delegates voted to eliminate the controversial two-year professional practice requirement for NCARB certification. Any registered architect otherwise qualified for certification will not be inhibited by a time factor.

The delegates also voted that a graphic design problem will be administered to all candidates for registration beginning in 1978. Both qualifying test and professional examination candidates will take the 10-hour graphic examination which was developed as one section of the new NCARB qualifying test for candidates without a professional degree from an accredited architectural program.

Another decision of professionwide importance was the approval of a set of rules of conduct to be used as guidelines by individual state registration boards. Two years in the making, the rules are based on the aim of protecting the public rather than advancing professional interests.

In part, the rules of conduct declare that an architect shall not accept compensation for services "from more than one party on a project unless the circumstances are fully disclosed to and agreed to . . . by all interested parties."

Further, an architect "shall not sign or seal drawings, specifications, reports or other professional work for which he or she does not have direct professional knowledge and direct supervisory control." If portions of the work are done by registered consultants, however, the architect may sign or seal that portion of the work, provided it has been reviewed by the architect and the architect "intends to be responsible for its adequacy."

Paul H. Graven, AIA, who heads his own firm in Madison, Wis., was elected president of NCARB. Other elected officers are Lorenzo D. Williams, AIA, a principal in the Minneapolis firm of Williams/O'Brien, president-designate; John R. Ross, AIA, president of the San Luis Obispo, Calif., firm of Ross & Leven Associates, second vice president, and Dwight M. Bonham, AIA, a principal in the Wichita, Kan., firm of Griffith & Bonham, secretary. Mace Tungate Jr., FAIA, a principal in the Houston-based firm of Calhoun, Jackson, Tungate & Dill, has begun the second year as treasurer.

It's a hot day in the nation's capital at this writing, but it may be a cold day in Death Valley before this issue is read. Printers have been on strike here for several weeks, causing regrettable delays. Ed.

Decision on West Front Put Off Until Next Year

The House and Senate continue to be at odds over the proposed controversial extension of the west front of the Capitol. Unable to resolve the differences, a joint Senate-House committee agreed July 20 to put off a decision until next year.

Late in June, the House by a vote of 212 to 204 approved extension of the west front at a cost of about $55 mililon. On July 18, however, the Senate voted to restore rather than extend the west front. The Senate passed a bill which calls upon Architect of the Capitol George White, FAIA, to prepare specifications and estimates for restoration.

AIA has consistently held the position over many years that the west front—the last visible facade of a landmark designed by Thornton, Latrobe and Bulfinch—should be restored rather than extended *(see* July, p. 20).

Botsai Promises Women Full Attention to Caucus

The 1977 AIA women's caucus at the convention in San Diego is reported to have been an overwhelming success, according to the June issue of *AWA News*, published by the Association of Women in Architecture. The caucus was attended by enthusiastic persons "of ideas, opinions and the desire to listen and learn."

James A. Scheeler, FAIA, Institute group executive for program development, attended the caucus and distributed materials on AIA's affirmative action plan (AAP) for the integration of women into the architectural profession. The plan, adopted by AIA's board in Dec. 1975 and mandated to be implemented over a four-year period, "sparked lively discussion," it is reported. Virginia Ward Tanzmann, AIA, president of AWA, comments that the caucus "reacted particularly strongly to the fact that the AAP does not establish a timetable for 100 percent parity of salary remuneration for men and women." She says that the "uniformly negative reaction" to this aspect of the plan "ranged from incredulity to outrage."

Elmer E. Botsai, FAIA, president-elect of the Institute, told the caucus that AIA reaffirms its commitment to the plan. He promised "full and fair—never 'token'—attention" to the caucus and the results of its meeting.

In view of AIA's commitment and in light of the fact that "women are not always aware of the procedures to follow when they encounter discrimination in employment," it was resolved that the Institute collect, publish and disseminate information outlining remedies available for the reporting and countering of instances of discrimination and that update reports be published as required.

The caucus also voted that the AAP consultant be continued in 1978 and that a task force on women architects meet to "review, monitor and propose actions" for the continuance and further progress of the affirmative action plan and that funding be given for followup activities.

It was also resolved that the component affairs commission develop guidelines for the adoption and implementation of the affirmative action plan at the component level and that a woman be appointed to assist the commission in such efforts. Also, it was resolved that the commission conduct a salary survey "to determine the degree of equality of salary remuneration of men and women architectural employees" and that the results of the survey be published.

Resolutions concerning convention activities call for full Institute support of a caucus and information desk "as a minimum" at the 1978 convention, inclusion of a representative of the 1977 caucus on the 1978 host chapter steering committee and "regular, fully supported events about women in architecture" at conventions.

The caucus resolved that AIA prepare a policy statement for the Carter Administration in which it would be urged that the category "women" be added as one worthy of special consideration in the award of federal A/E contracts. The caucus also called upon AIA to prepare another policy statement for the Administration which would urge that the definition of "small business" as applied to professional services be revised to reflect the actual size of A/E firms. Currently, the definition of a small business, said the caucus, is one which employs fewer than 500 people or realizes less than $2 million annual sales volume. About 93 percent of all architectural firms have fewer than 50 employees.

The caucus resolved also that AIA prepare and update annually for a period of five years a directory of women A/E firms for free distribution upon request.

The International Women's Year Conference will be held in Houston on Nov. 17-22, to which the board will send a representative. The caucus resolved that the representative's responsibilities "shall

continued on page 16

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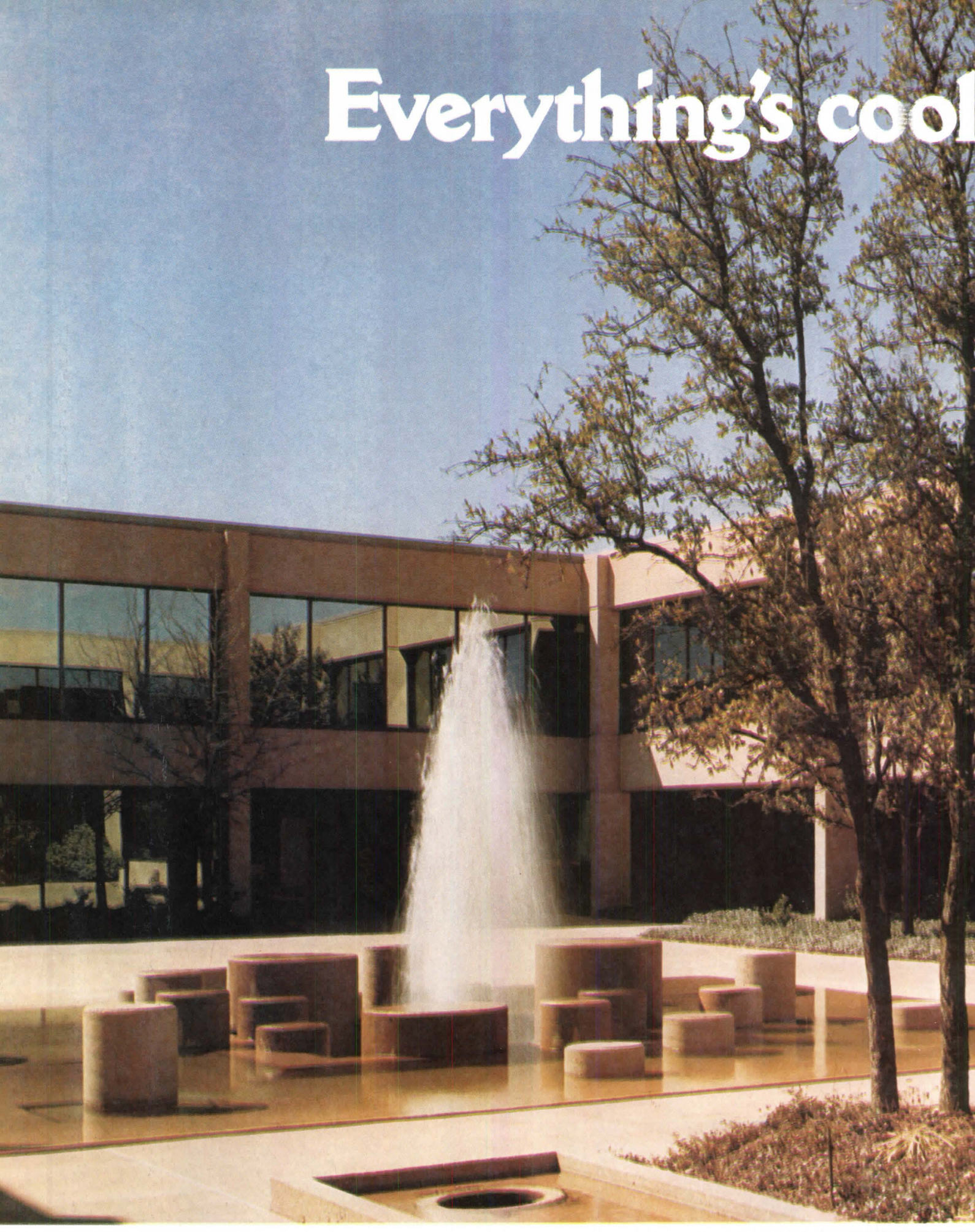

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include consultation with various women architect groups and women architects nationally to develop the position to be presented."

A copy of the resolutions passed by the caucus may be obtained from Scheeler at AIA headquarters.

Dean H. L. Kamphoefner Receives Educator Award

Henry L. Kamphoefner, FAIA, dean emeritus of North Carolina State University's school of design, is the second recipient of the joint award for lasting achievement in architectural education, given by AIA and the Association of Collegiate Schools of Architecture. The annual award is bestowed upon a living educator who has taught a minimum of 10 years and who has made a significant contribution to architectural education.

Kamphoefner became founding dean of the school of design at NCSU in 1949, and under his leadership the institution has become recognized internationally for its high caliber curriculum. Many of its graduates hold administrative and faculty positions in architectural schools both in this country and abroad. Kamphoefner was also instrumental in planning the new college of architecture at the University of North Carolina.

A graduate of both the University of Illinois and Columbia University, Kamphoefner also received a certificate in design from the Beaux Arts Institute of Design. He also is the recipient of two honorary doctoral degrees.

Before his appointment at NCSU he was in private practice in Sioux City, Iowa. He is the architect of the Grand View Music Pavilion in Sioux City, honored by the Royal Institute of British Architects as America's outstanding building of the post-World War I period. He has been active in the work of ACSA, serving as its president in 1963-65. He is the coauthor of *Churches and Temples* and *The South Builds.*

The joint AIA/ACSA award winner is selected by six AIA/ACSA members from nominations received from architects and architectural educators.

Fellows Elect Kassabaum

George E. Kassabaum, FAIA, of St. Louis, who served as president of the Institute in 1968-69, has been elected 1978 chancellor of the AIA college of fellows. Other newly elected officers are: David A. Pugh, FAIA, Portland, Ore., vice-chancellor; Leslie N. Boney, FAIA, Wilmington, N.C., secretary; Robert L. Durham, FAIA, of Seattle, president of the Institute in 1967-68, bursar.

James Shea Heads GSA's Public Buildings Services

James B. Shea Jr., counsel to the House committee on public buildings and grounds, has been appointed commissioner of the public buildings services, General Services Administration. In announcing the appointment, GSA Administrator Jay Solomon said: "Jim Shea knows his way around Capitol Hill and the real estate business. His legislative experience and broad background in real estate development make him uniquely qualified to head PBS. He shares my commitment to be a good landlord, to streamline GSA's operations and make them more responsible to the needs of our tenants—the other federal agencies."

For three years, Shea was responsible for the design, development, sales and operation of the resort and residential complex and commercial and industrial park developed by Anheuser-Busch, Inc., in Williamsburg, Va. He also served as vice president of Technology Park, Atlanta; vice president for industrial relations and development, Sharon Steel Corp., Sharon, Pa.; vice president of Research Triangle, Raleigh, N.C.; staff engineer for Albert Ramond & Associates, Chicago, and plant industrial engineer for Timken Roller Bearing Co., Canton, Ohio. Shea was graduated from Pennsylvania State University in 1948 and the William McKinley School of Law in Canton, Ohio, in 1953.

17 Entries are Cited in 'Better Living' Program

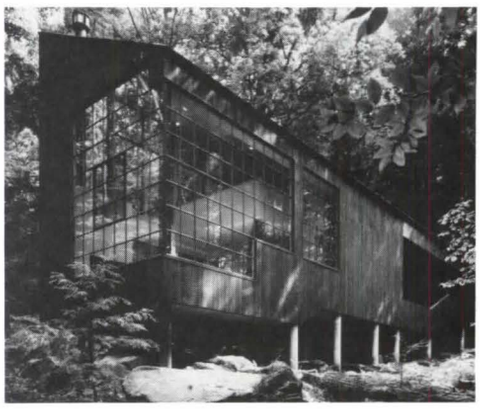
Seventeen architect-designed houses and multifamily housing projects have received awards in the 1977 Homes for Better Living awards program, sponsored by AIA in cooperation with the magazine *House & Home.* This year's program drew more than 300 entries, and two juries (one for custom houses and the other for merchant-built and multifamily housing) selected the winners.

First honors in custom-designed homes went to Bohlin & Powell of Wilkes Barre, Pa., for a house in northwestern Connecticut (photo right), and to Richard Meier & Associates of New York City, for a home in Mount Kisco, N.Y.

Awards of merit in this category were given to: Benjamin Baxt, Brooklyn, N.Y.; Einhorn-Yaffee, Associates, Albany, N.Y.; Robert E. Griffin, William R. Jenkins, Houston; Hugh Newell Jacobsen, FAIA, Washington, D.C.; the Leonard Parker Associates, Minneapolis; Morton Rader, AIA, San Francisco; Jefferson B. Riley, Moore Grover Harper, Essex, Conn., and Stern & Hagmann, New York City.

The jury for custom-built homes consisted of Hobart Betts, AIA (chairman); Kirby W. Fitzpatrick, AIA; Ella Hall, architectural student; Louis Rossetti, FAIA, and Mildred Schmertz, FAIA.

First honor awards for multifamily housing were presented to Natkin & Weber of San Francisco for housing in South San Francisco, and to John Sharratt Associates Inc. of Boston for the Mer-



cantile Wharf Building in Boston (also an AIA 1977 honor award winner, *see* May, p. 45). First honors in the merchant-built house category were won by Fisher-Friedman Associates of San Francisco for the Whaler's Island project in Foster City, Calif.

Awards of merit in multifamily housing went to: Bull Field Volkmann Stockwell, San Francisco; Fisher-Friedman, San Francisco; Hall Goodhue & Haisley, Monterey, Calif., and James McNeely, AIA, Boston.

Merchant-built and multifamily entries were judged by Ian Mackinlay, FAIA (chairman); Richard J. Bertman, AIA; William Caldwell, builder; Gerald Li, AIA, and June Vollman, associate editor of *House & Home.*

Minority Firms Listed

The first directory to identify and categorize minority A/E firms has been published by AIA, the American Consulting Engineers Council and the Environmental Protection Agency, in cooperation with the General Services Administration and the Department of Transportation. Entitled *A Directory of Minority Architectural & Engineering Firms,* the publication lists each firm by state, giving address and telephone number, a list of principals, firm size and capabilities of the firm. There is also an alphabetical index of firms and an index of firms by capabilities, arranged under such headings as "arctic facilities," "cost estimating" and "seismic designs & studies."

Copies of the directory may be obtained from the AIA department of publications marketing. The price per copy is $7.50 to AIA and ACEC members and $15 to nonmembers.

Going On continued on page 76

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"The savings from our study prepared for the owner amounted to 37 cents per square foot" said architect George Schipporeit, "or a total amount of about $200,000."

The structural system for the new building consists of rigid frames in the perimeter walls of the building to resist lateral loads, and simple gravity load framing in the interior. Therefore, the drift requirements dictated the use of A36 steel for the spandrel beams, while all other main framing, beams and columns are A572-50.

The building is an eighteen story tower with floors measuring 120 feet by 150 feet. The large bay size of 30 feet square provides the flexibility

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of space needed by the major tenant, The American Hospital Supply Corporation.

The office tower is served by a four level long span, steel framed parking deck with space for 384 cars. A cost evaluation was made on this structure, too. It also led to a decision to use steel. The bay sizes are 58 feet by 18 feet, and the floor beams act compositely with the concrete slabs.

In these new buildings, as in so many others, after a careful evaluation which considers current design and cost data, steel proved to be the most practical and economical structural system—while offering the greatest operating flexibility. Clean cut lines, together with the simplicity of the overall design, provided American Hospital Supply with a maximum of useable space for their headquarters, in a most attractive setting.

When you're planning a new building, it will pay you to think about steel. For a structural report on the American Plaza and for further information, contact a USS Construction Representative through your nearest U.S. Steel Sales Office or write to United States Steel, P.O. Box 86 (C805), Pittsburgh, Pa. 15230.

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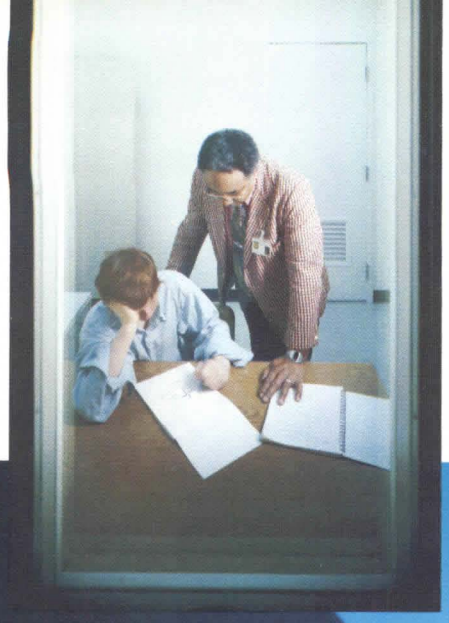
DEVELOPER/OWNER: American Plaza Associates, Evanston, Illinois.
ARCHITECT: Schipporeit, Inc., Evanston, Illinois.
GENERAL CONTRACTOR: Power Construction Inc. and Power Contracting and Engineering Corp. (A Joint Venture), Elmhurst, Illinois.
STRUCTURAL ENGINEER: Rittweger & Tokay, Inc., Park Ridge, Illinois.
FABRICATOR: SR Industries Corporation, Schmidt Iron Works Division, Schaumburg, Illinois.
ERECTOR: Midwest Steel Erection Company, Inc. Chicago, Illinois.
LEASING AGENT: Hawthorn Realty Group, Chicago, Illinois.



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CREATIVE IDEAS IN GLASS

One of the worst ideas to come out of the new Administration was generated in response to the President's attempt to get something for nothing in the way of welfare reform—his understandable but misguided desire to create a more just and compassionate system for helping the poor without spending any additional money.

His principal welfare planners, who are not an unsophisticated lot, soon concluded that this was an idle dream, and attention turned to where extra money could be found. At this point, someone at the Office of Management and Budget had the idea that is our subject here: Look for the money in the pockets of the poor themselves, in the form of their present housing subsidies.

The denigration and would-be desiccation of these subsidies is not a new idea. It has been, in fact, the principal preoccupation of HUD during most of the 1970s, when the department was in its self-destruct phase.

Nor is it novel to suggest that housing subsidies be folded into a single supplement to the income of the poor. That suggestion was made repeatedly by the so-called income strategists of the 1960s. Their argument was that since, by definition, the basic problem of the poor was lack of money, the solution was to give them more of it, in the most uncomplicated possible way.

The argument has a surface plausibility and a certain appeal. Few who are concerned about the poor would dispute the need for direct income supplementation as one of the means of helping them. The argument here is against terminating all other forms of assistance, notably housing aid, in its favor.

The first basis for such argument is the law of supply and demand. If the demand for decent low-income housing is increased through income supplementation without also doing something to increase the supply, there can only be one result: In places where there is a shortage of such housing, which means most places in urban America, prices will rise and no one will benefit but the landlords (or slumlords, as many are unkindly but accurately called).

The second basis for defense of housing subsidies has special relevance to the architectural profession. It is that such subsidies serve a purpose beyond improving the lives of the poor. They also serve to improve the physical environment of our communities.

The workings of the present welfare program have shown that cash assistance to the consumers of housing does not automatically move the purveyors of housing to improve their products. To do so requires more direct incentives such as those found in housing and community development subsidies.

Shortly after the OMB idea surfaced to some controversy, the agency disclaimed it, maintaining that it's been one of many alternatives under consideration rather than a firm proposal. We hope that's the end of it, but it probably isn't. Sadly, the problem of poverty traditionally has been plagued by the weakness of policy makers for one-shot panaceas. *D. C.*

The Evolution and the Impact Of the Centre Pompidou in Paris

It has attracted an unprecedented amount of lay and professional attention – and controversy. By Robert M. Brandon, AIA

"This multidisciplinary center is devoted to illustrating our century in its continuity and its renewal. It is open to all intellectual adventures."—Robert Bordaz in a speech at inauguration ceremonies for the Centre Pompidou.

"Beaubourg [Centre Pompidou] is a trans-Atlantic liner with all its lights on. . . . It could be anywhere, but it happens to be in Paris. It bids welcome to clientele as international as that of the time of Hemingway, Joyce, Picasso and Stravinsky, but it offers to them nothing of that subtle essence that only Paris was deemed able to give. It is anathema to the conservative and a glove in the face of the patriot."—Anthony Burgess, *New York Times.*

"The great colorful machine of Plateau Beaubourg has nevertheless the lightness of passerelles which agreeably soothe the eye, and I am convinced that in a great wind, these tubes must rival the organ of Saint-Eustache. . . . No, it is not ugly. It is different. Just as well."—Andre Frossard, *Le Figaro.*

". . . For rather than heralding the 21st century in its technology, the museum more appropriately bows to the 19th. And rather than posing the prototypical solution for the evolving museum building type, Pompidou provides the latter-day example of a French counterpart developed to its height in the 19th century—the exhibition hall."—Suzanne Stephens, *Progressive Architecture.*

"New York was terrorized by King Kong and we in Paris were jealous of the big ape's antics in the streets of the American city. Born clever, we Parisians prefer to have our apish tricks cultural."—*Minute.*

The Centre Pompidou at Plateau Beaubourg, Paris, opened its doors to the public last January, after being anointed by French President Giscard d'Estaing. The building resulted from an international competition won by the London-based firm of Piano & Rogers (Renzo Piano and Richard Rogers) in conjunction with another English firm, Ove Arup & Partners. It combines the new National Museum of Modern Art, the Center for Industrial Design, the Institute for Acoustics and Music Research and Coordination and a public library into one very controversial box.

The center has been damned and blessed in the international press, stimulating visions ranging from hell to Shangri-La. I suspect that for someone outside the Paris-London orb, this uncharacteristic, intense interest in a work of architecture outside the pages of architectural journals is difficult to fathom. One is hardpressed to cite any building or even an entire complex which has been subjected to so much scrutiny by both professional and lay audiences. What is it about this million-square-foot behemoth which has stirred such a fuss?

To begin with, the idea of a new national museum of modern art has been around for some time in France. The French have long been notorious for their cultural snobbery, and to Parisians in particular the thought of New York rather than Paris being the "city of light" for contemporary art is grating. Art critic Hilton Kramer observed in the *New York Times:* "By the time Pop Art burst forth in the 1960s, New York was clearly the nerve center of the art world, the place where new reputations were made and new trends initiated. . . . Paris had become what New York was in the '20s and '30s—important but subsidiary."

The controversy began with the sensitivity of the site and the competition jury's selection.

It is not surprising that the late André Malraux, minister for cultural affairs under De Gaulle, proposed that Le Corbusier design such a museum. It turned out, however, that the peripheral urban site suggested was unacceptable to Corbu who thought the museum should be more closely linked to the heart of the city. It remained for De Gaulle's successor, Georges Pompidou, a professed enthusiast and collector of modern art, to give official impetus to a national museum and related facilities. He announced in Dec. 1969 that the Plateau Beaubourg in the medieval Marais quarter would be used for this purpose. A committee was set up representing the future occupants of the center, and in the summer of 1970 Robert Bordaz was charged with organizing an international competition for its design.

From the outset we can perceive three reasons for the interest this building has drawn. First, there was the decision to locate it in a historic though deteriorating neighborhood only a short walk from Notre Dame and the Louvre and just four blocks from Les Halles. Second, there is the unique mix of facilities covering not only the plastic arts but music and literature as well. And third, the fact of an in-

Mr. Brandon is assistant professor of architecture at the University of Illinois' overseas division in Versailles, France.

ternational competition at a time of relatively slow architectural output assured a large number of entrants worldwide as well as controversy in professional circles after the selection.

The placement of any large new building in a historic context is a delicate undertaking and, no matter the degree of finesse in its insertion, there is certain to be contrary opinion. This is particularly true in Paris following the debacles of the past decade which include projects like La Défense, a huge, haphazard, highrise business center on the axis of the Champs-Elysées; the Front de Seine, another enormous and motley melange of highrise offices, hotels and housing near the Eiffel Tower, and the Tower of Montparnasse which reigns over central Paris like a glass and steel sore thumb.

These projects have aroused intense feelings among Parisians and outsiders who know Paris for its dense but medium-rise fabric occasionally sliced by broad boulevards or eroded by plazas and parks. The "Manhattanization" of Paris has been slowed by the Giscard government which senses the outrage of Parisians and tourists alike. Since the Centre Pompidou was to more or less conform to the height of its surroundings, it could not have the same visual impact on a citywide scale as these other projects, although questions could be raised over the effects of a 700-car parking garage on the congested local streets and on the neighboring land values and subsequent uses.

Some of the controversy over the site has stemmed from misunderstanding. I have heard people erroneously blame the Centre Pompidou for the destruction of Baltard's lovely glass sheds at Les Halles. The fact is that the Plateau Beaubourg was cleared in the 1930s to be used as a parking lot and had no direct effect on the myopic devastation of its neighbor. But certainly, the launching of the Beaubourg competition at the same time the elegant sheds of Les Halles were undergoing the wrecking ball was an unfortunate coincidence which has left a bad taste for many people.

It is impossible to discuss the center's unprecedented mix of facilities without touching on the controversy over the centralization of France's cultural facilities in Paris. French history is rife with battles

Service systems are color coded: blue for HVAC, green for water, red for elevators.

The west plaza (above), a top-level supergraphic (above right) and at right, a rooftop restaurant and view to plaza.

waged by the provinces over the political, economic and cultural hegemony of the French capital. One does not have to travel far from Paris to hear provincial Frenchmen speak derisively of the "Metro mentality" of Parisians. Strangely enough, until this year's election of Jacques Chirac as mayor of Paris, the city was not a self-governing entity. The national government had run the city, making Paris the beneficiary of whatever monuments it chose to bestow upon her.

As if in response to the 1968 social upheavals, President Pompidou decided to flex his muscles and set the wheels in motion for a national cultural center in Paris. Malraux's creation of Maisons de la Culture in the provinces seemed mere lip-service in comparison to the huge Beaubourg undertaking. Sensitive to criticism of excessive cultural concentration in Paris, proponents of the center coined phrases as vacuous as "centralized decentralization" in defense of the project. The danger remains, however, that furthur centralization of culture in the French capital will lead to "the best (most desirable) of what is produced elsewhere" being "brought to Paris for popular consumption. Or under the guise of decentralization, what is produced at Beaubourg as innovation" being "packaged and circulated to the provinces," as Jean and Marie Eiffel wrote in *AD*.

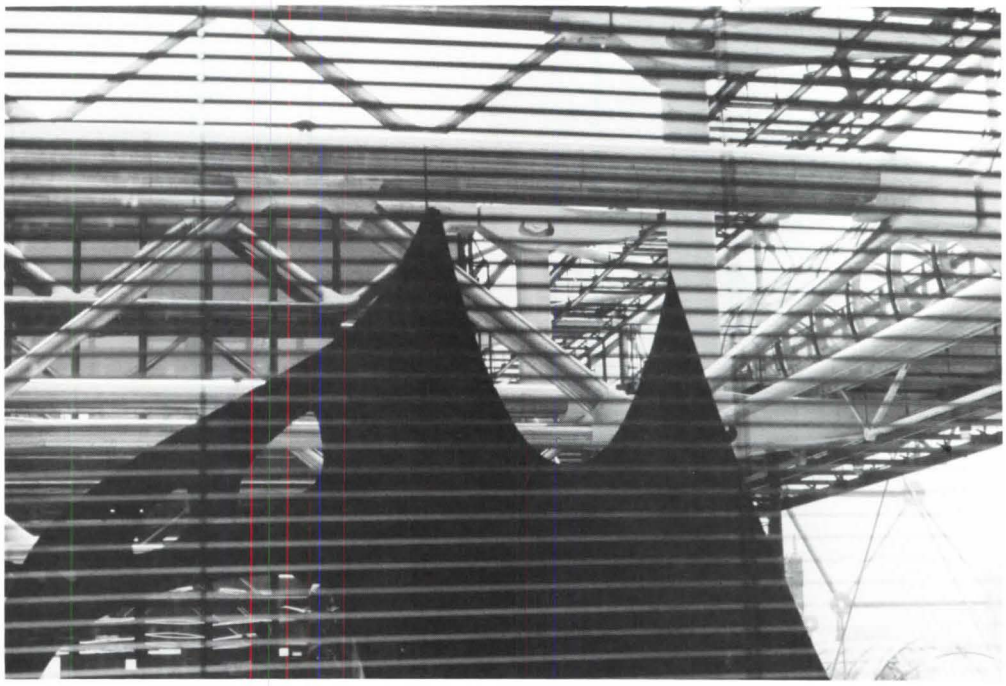
Beyond this, the center's yearly $26 million operating budget is far more than that of any other museum in France. This is certain to exacerbate the French conflict between city and state. While there has also been much criticism of the center's $200 million development and construction cost, it is difficult to fault the architects when, for example, the *New York Times* can wryly report shortly before the center's inauguration that Proctor & Gamble spent over $70 million on the development of the Pringles uniform potato chip.

A new library was already planned in the late '60s when it was incorporated into the Beaubourg program. The center's new library was originally to house a million volumes and accommodate 1,300 readers. While it continues the unfortunate Parisian pattern of not lending its collection, it does present a wide array of slides,

records and other tidbits to the public.

The National Museum of Modern Art is larger than the Museum of Modern Art in New York City and houses an enviable collection of 20th century works. The Center for Industrial Design seems to be a catchall for those activities which do not fit neatly under the umbrella of the more traditional museum. Judging from the opening exhibition, this component may well become the most vital, since its parameters are the broadest. The acoustical/musical component will attempt to combine the work of musicians and scientists under the direction of Pierre Boulez. Physically and administratively the most autonomous branch of the center, it lies beneath the Place St. Merri and contains specialized rooms for acoustic research and a 400-seat auditorium for public performances. It is the only component which is not yet open to the public. Whether these disparate facilities will complement and open up new possibilities to each other or whether they will simply be uncomfortable bedfellows remains to be seen.

The fact that the various entries for the competition were designed by 681 architects from 71 countries has, of course, raised the building to a level of professional consciousness and scrutiny rarely seen. Conflicting viewpoints were certain to emerge, as were personal jealousies. One disgruntled group of competitors, in fact, brought suit against the project and managed to close the construction site for 15 days in 1974. While the competition program stated the areas and needs of the various departments of the center, it did not specify how the parts were to be combined. Some competitors separated the program elements into clearly articulated pavilions linked through circulation and open space, while others like Piano & Rogers lumped the entire program into a single structure. It has interested me that with numerous schemes to choose from the jury picked the winner by an eight-to-one vote. It may be noteworthy that the dissenting vote was cast by a Belgian librarian and that, in the minds of many people I have spoken with, the center's

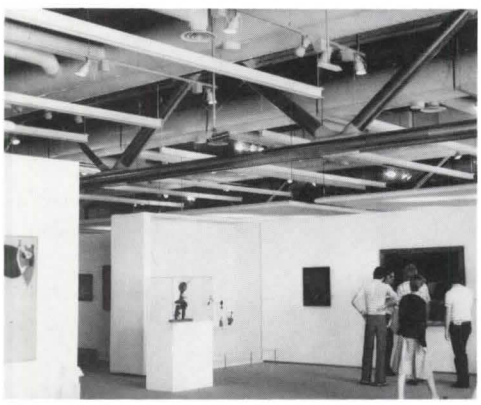


An emphasis on the building's entrails evoking images of oil refineries and launching pads.

library is its least successful space.

These are the overt factors which have thrust the Centre Pompidou into the limelight. Beyond these are more subtle reasons for the fuss. A few times in a century a building appears which embodies the ideas and aspirations of a stylistic movement. The Centre Pompidou, whether one likes it or not, is the culmination of much of the thinking of the 1960s and particularly that of the Archigram group.

Archigram was, of course, the brainchild of Englishmen Peter Cook, Michael Webb and others who disseminated their work in a comic book-like format which was finely tuned to the zap culture of the '60s, and through London's Architectural Association School where Richard Rogers was educated. Archigram's early work focused on issues like flow, movement, expendability and change. Present throughout the Archigram oeuvres is the joy of handling and manifesting complex technology whether in the design of a small living unit or an entire city. The tendency of Archigram to make apparent the mechanical intestines of a building came to be labeled "bowelism."



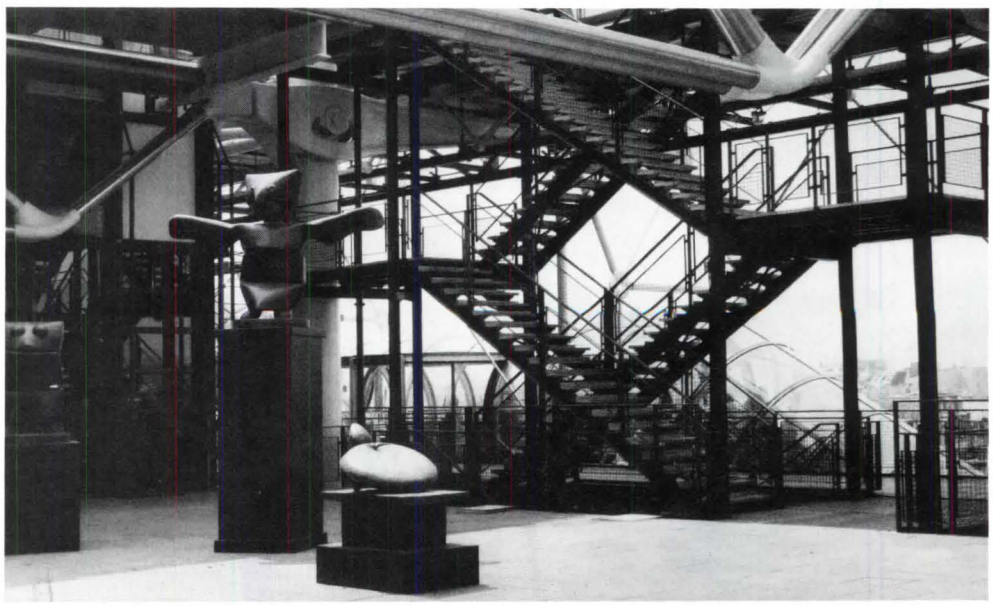
Emphasis on these issues is clear at the Centre Pompidou. It does not take careful reading to perceive the preoccupation of the architect with flow and movement on the exterior. The architects, in fact, were quoted in *Domus:* "The building is a diagram. People know how to read it instantly. Its entrails are on the outside, you can see them and understand easily why people move in specific ways; the elevator goes up and down, as do the escalators. It's elementary and that's something very important to us."

The regularity of the structure on the plaza facade is counterpointed by an escalator enclosed in a gracefully ascending glazed tube which is hung from the gerberettes.

The rear facade on rue du Renard, which has undoubtedly been responsible for more raised eyebrows than just about any building in history, is comprised largely of an intricate network of color-coded ducts, stairways and elevators. Clearly, the architects did not have only the flow and movement of people in mind. Indeed, greater value seems to be placed on the circulation of air, water and wastes than humans.

This emphasis on the building's circulatory system is of course not new but only bolder at Pompidou and on a scale which evokes images of oil refineries and Cape Kennedy launch pads.

While the main escalator provides spectacular views of Paris as well as glances into the exhibits, it also provides not-so-welcome views into ancillary facilities like administrative offices. When all is said and done, the architects' concern with circulation seems more symbolic than actual. The great emphasis placed on the visual movement of people on the outside is not carried through to the inside where the circulation is sometimes confused and dis-



A space converted for offices (right), galleries (left and below right) and an escalator transfer point (below left).

jointed. The path one takes on entering is circuitous and arrival on the different floors can be disorienting since one enters each floor at progressively removed points. I suspect that the original design with its more central distribution system would have alleviated this problem.

Although the architects can be admired for their perseverance in what must have been a tedious task organizing the maze of exterior ductwork, one is left with the gnawing question whether this bold display of HVAC is really desirable. Certainly, the whole assemblage is naked to criticism of a lack of energy efficiency. Warm air ducts which lose heat to the outside air in winter and cool air ducts which gain heat in the summer can hardly be rationalized on a nitty-gritty level. The best one can say is that the decision to organize the mechanicals on the outside is consistent with the overall parti which relegates structural, mechanical and circulatory systems to the periphery. Naturally, an esthetic choice lies at the root of this decision to expose the ducting in this manner. The question whether this psychedelic array turns one on or off seems secondary to its appropriateness in terms of urban design.

Most Archigram schemes for cities float, or walk or do some such thing which is not (no matter how seductive the image) very characteristic of our cities. Even their schemes which require integration into an existing urban fabric like the Sin Center project for Leicester Square in London are difficult to imagine meshing very successfully. The Centre Pompidou appears to share this belief that the contemporary city is not really worth dealing with on its own terms. It seems content to invite the neighbors in to watch color TV or plug into a pair of stereo headphones without feeling the need to make a positive architectural gesture toward integration. The center's platonic form in and of itself makes no gesture by way of extension or distortion to acknowledge the physical and social patterns around it other than to maintain a more or less consistent height. In fairness, it must be said Piano & Rogers had originally intended the building mass to vary in recognition of scale changes in the surrounding context, but increased space demands necessitated infilling the volume.

The immense cobblestone plaza which was lauded by the jury as a positive integrating gesture raises a number of intriguing questions. We will certainly have to wait quite a while to decide whether the architects' vision of the plaza becoming a

Escalator tubes during final construction phase (right) and in use (above).

sort of Parisian Hyde Park corner is realized. This will largely depend on the attitude of the municipal authorities toward eccentric goings-on.

One must also ask whether this space is another instance of a tendency to suburbanize cities with open space of dubious quality and meaning. But a more subtle question can be raised whether the plaza's edges, exclusive of the new center, are of sufficient scale and quality to front a major urban space. After all, unlike the buildings which surround the Place des Vosges, they were originally designed to face a narrow Parisian street.

'The '60s dream of the technological Nirvana is alive and well at Pompidou,' for now.

Expendability and change, another Archigram keynote, has been given great emphasis by both architects and jurors. Richard Rogers has said: "Houses, factories, today become museums tomorrow. Maybe one day our museum might become a foodstore, a supermarket." Other than the multistory main lobby and the top floor gallery, the million square feet of the center consist of loft-type space sandwiches, each more than two football fields in area and 23 feet thick. The flexibility of these levels seems to have been overplayed. I suspect this stems from simplistic thinking about the whole question of flexibility which is too often seen as a constant condition. This flies in the face of the fact that some functions have requirements for high flexibility (temporary exhibits, for example) while most often requirements are for adaptability rather than for complete change.

The end result of this emphasis on total polyvalence at Pompidou is five floors of unmodulated and sometimes monotonous space. Unfortunately, only one of the numerous moveable mezzanines originally planned to reduce floor heights survived budget cuts. This homogeneity of space leads to a problem of few spatial fixes existing on these vast floors by which to help organize such things as furniture. This is evident in the library where it is difficult to understand the spatial clues which resulted in the layout of stacks, carrels and lounge areas. In the end, the question must be asked: Should anything be able to happen anywhere or should some things only be able to happen in some places?

Another facet of flexibility concerns the ability of the organism to expand and contract. When different elements are placed in the same container, the interface becomes a sensitive area, since a change in shape or size of one affects the other. I doubt whether the sophisticated programming mechanism at Pompidou will fully alleviate this difficult problem.

A further result of the constant use of loft spaces is that they allow few nuances to occur. No differentiation is made between repetitive, ordinary functions (offices, say) and singular, extraordinary functions (a lecture hall). In order to permit these functions to operate in a rudimentary manner, modifications must be made, such as painting clear windows black in a projection area or extensive interior decoration in the museum to allow for favorable viewing of the art objects.

The '60s dream of the technological Nirvana is alive and well at Pompidou. The architecture of the building is largely determined by the structural and mechanical systems.

The former consists of exterior steel tubular columns at 42-foot intervals supporting steel trusses which clear span the building's 156-foot depth. Cast gerberettes extend some 20 feet beyond the column line on both the long sides of the building. While this system possesses grace and clarity, the need for a clear span of this size can be questioned. Would occasional columns have been antagonistic to the functioning of either museum or library? The array of climate control and security devices is beyond the scope of this article, but they are, to say the least, impressive in quantity and sophistication. I am told that the central computer located somewhere in the cavernous basement is far beyond any of the center's foreseeable needs. But it is somewhat bewildering that with all the technical delights and perhaps excesses of the center, a mundane consideration like the quality of the carpet is overlooked. After only a few months of use, the glued-down carpet squares used extensively are messy and soiled. Toward the day's end, the center is reminiscent of Yankee Stadium after a double-header.

Had the Centre Pompidou not been a strong and single-minded building, it would have provoked far less controversy and criticism. It is to the architects' and clients' credit that the building survived in spirit from its conception in 1971 in spite of program changes, budget fluctuations and bureaucratic hassles. For those of us who know the fortitude it takes to resist mutilation of our ideas until they are translated into built form, it is reassuring to know the job can be done even by an architect working in a foreign country that is renowned for the length and crimson of its red tape. One must also admire all parties of the Beaubourg undertaking for realizing this novel project in five years' time and close to the original budget projections.

While I do not want to equate it with the Centre Pompidou, the Eiffel Tower has proved to be the most widely loved and visited edifice in France in spite of the diatribes that were aimed against it in the late 19th century. While there are many uncertainties remaining in the use of the Centre Pompidou, let us hope it can survive the test of time and use and negate the criticisms which seem so appropriate today. □

Evaluation: Lantern-like Library Held Aloft on Concrete Fingers

The sculptural, somewhat isolated would-be centerpiece of the University of California at San Diego. By James Britton II

Tiger! tiger! burning bright
In the forests of the night,
What immortal hand or eye
Could frame thy fearful symmetry?

William Blake's famous lines may come to mind if you wander at twilight in the heavily wooded campus of the University of California at San Diego and encounter the central library. There is indeed something immortal behind the hand and eye of the architect when his structure achieves poetic force.

The "forest" is here, for sure, and so is the "symmetry." The brightly burning inner illumination of the building shows through the 360-degree surround of windows. And a "fearful" sense may arise from the fact that the main body of the structure looms larger than its base, like a cat coiled to spring.

Fearfulness is very real, furthermore, for those students who dare not go to the library at all after dark because there is no way to reach the entrance except by walking or cycling through the risky woods. Their danger is not from the tiger.

The generous campus of 1,000 premium acres abluff the Pacific has been master-planned for 12 colleges grouped in three pedestrian-scaled clusters, each with an undergraduate library. But this grand pattern has not matured, and may not. So undergraduate use of the central library is much heavier than intended. It was conceived mainly for graduate students in humanities and social sciences.

Architect William L. Pereira, FAIA, told me why the library was located at the geographic center of the campus, somewhat distant from the portions of academe already built: "The leaders of the campus wanted a centerpiece. They wanted the middle of the university to start, and the middle was to be the library."

The library design began with a plaza because, said Pereira: "We expected to produce not merely a storage house, and not merely a monument. It had to have people considerations. It had to draw the community."

The plaza is 200 feet square and it sits atop two floors bustling with basic library business—processing, catalogs, administration—and bursting with periodicals and government records. Entrance is at floor two.

A central utility core shoots up

Mr. Britton, a frequent contributor, is a writer and editor based in San Diego who specializes in architecture and urban planning.

Central Library: A lantern by night, a 'stone flower' by day.

through the plaza and feeds into five floors of books (and music). What Pereira & Associates did with those five floors was to raise this library to high individuality as architecture. For one thing, the superstructure has absolute completeness as a form "in-the-round," with little evidence of mere practicality anywhere on its exterior, except for inconspicuous fire exits at plaza level (there is no entrance from the plaza) and the usual blank utility penthouse.

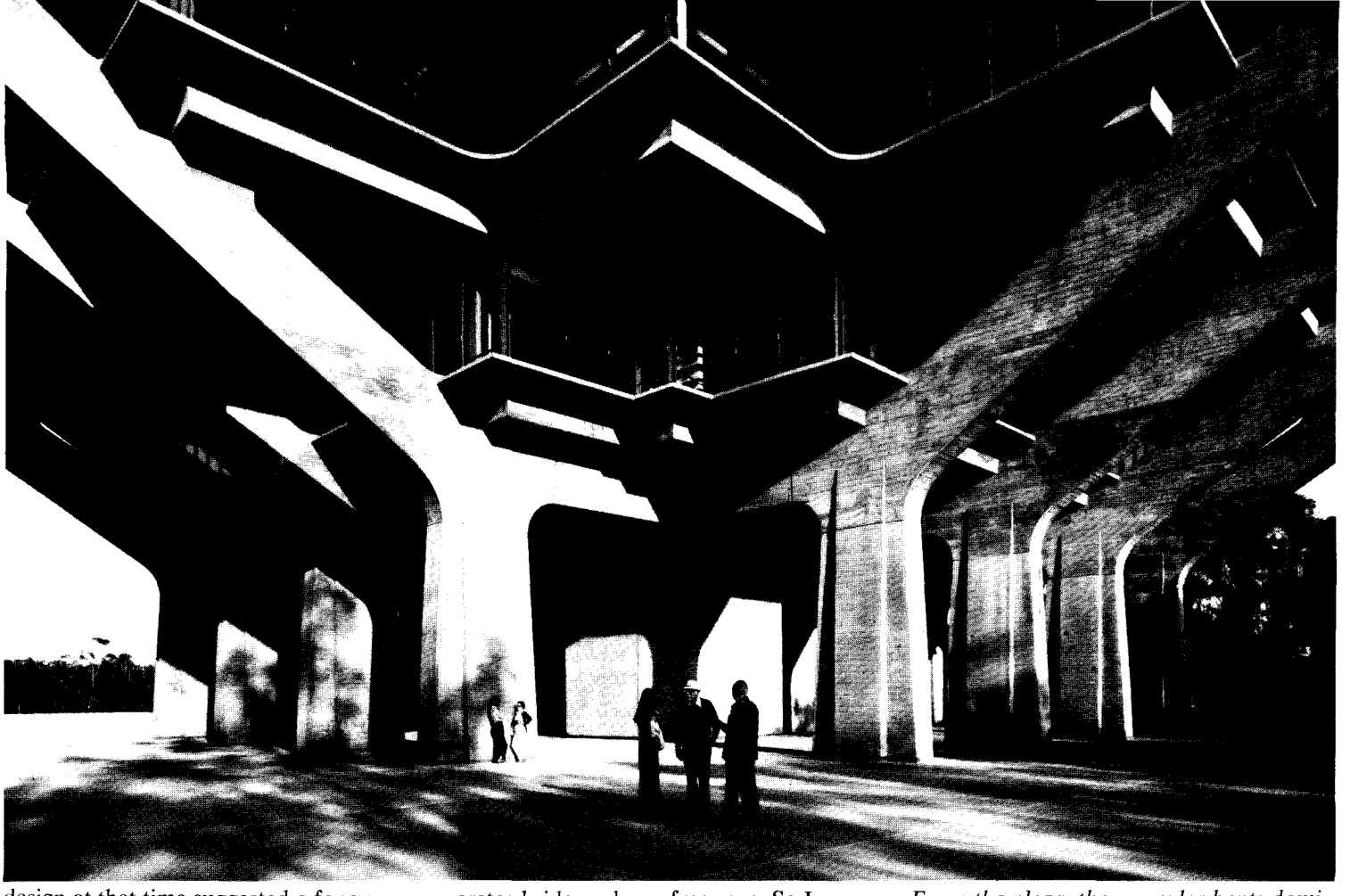
"That library is a piece of sculpture. I love it," said Paul Saltman, vice-chancellor. "The best thing Pereira ever did." Most observers I talked to, including architects, expressed overall approval, though some architects were in sharp disagreement. "It's just another monument, not a library," said one. "Circulation is terrible," said another. We'll see.

Each of the five floors takes its size from its place inside the spheroidal volume of the superstructure. Why this shape? Pereira: "The spheroidal form is unusual and could be expected to establish a more powerful image for the university center than a tower or cube. Functionally, it allows a high degree of flexibility in organizing the collection, and does not rely unduly on elevators for circulation within the stacks. The general library is on the largest floor and you can go up a floor, down a floor, to the more specialized material."

Why so much glass? No doubt it helped keep down the construction budget even if it now presents problems in energy conservation. Certainly, glass all around was invited by the splendor of the site. Pereira: "A perimeter to get out of the way of other people was important, a place to gather your materials and digest them. A library is a restaurant."

One notices that the process of digestion in this restaurant or library seems to call for young patrons to press close as possible to the glass walls and face outward. Not that they gain extra light. They may be unconsciously struggling to escape the bulge of unread books behind them and to soar out into the treetops beckoning on every side. The "call of nature" is at least equal to the call of culture in this phenomenal place.

The sculptural character of the superstructure arises from the use of 16 concrete bents or brackets to hold up floors which otherwise would have been strenuous cantilevers. The architects wrestled with space-frame conceptions in 1965 when they expected to build the entire structure in steel. Drawings show that the



From the plaza, the muscular bents dominate as the upper floors disappear.

design at that time suggested a fancy layer cake supported on toothpicks, with nothing like the visual impact that finally emerged.

Fortunately, high cost of the design in steel forced the architects to consider concrete instead. One of them, James Manning, recalls that he held up his hand with fingers spread in a gesture to suggest the supporting structure that was finally accepted. Indeed, one of the symbolic overtones of the final design is of books held high above the earthbound. Quite appropriate on a campus where one professor, John Isaacs, plots ladders into space. This is the first step.

It took the combined persuasions of Pereira and A. Quincy Jones, FAIA (UCSD consulting architect) to convince the board of regents that the expensive *looking* design in concrete was really not going to cost them more than they were paying for library construction on other campuses. Even so, at least one regent urged that the library not be publicized because it does not look like fiscal prudence.

Pereira told me something of his adventures with cost: "I saw the building in concrete from the very first, but I was dreadfully disappointed by the estimates of cost, so we tried to do it in steel. When we couldn't get the steel to look right, and stay within the budget, I thought perhaps we weren't searching the right disciplines. I felt the best concrete I had seen done—intentionally or otherwise as to esthetics—was that of the massive builders whose business is concrete: bridges, dams, freeways. So I called on Bechtel Corporation to help. With their guidance on designs, forming, the whole process of construction, we learned to do the library in concrete, within the budget.

"From Bechtel we learned why there is a wide range of cost for concrete. It has to do with the forming and the finish. We selected the texture imparted by six-inch form boards rather than plywood. There's no easy way to hide the plywood look that comes from plywood forms. We learned that treatment of corners with chamfers was important to keep down costly repairs of the finished concrete.

"We built a quarter-size mockup which showed us what we might expect in the building. It also showed bidders the character of concrete we would accept. With a model to go by, their notions of the cost dropped dramatically. Even so, we were nervous. We knew we couldn't go back and patch the concrete and get an esthetically acceptable result. So we had it in the specs that we could paint the concrete. Of course, we didn't have to."

So the library is esthetically a stone flower of the freeway technology. Who was it that observed that freeway complexes are the 20th century equivalent of the medieval cathedrals? The mighty bents of the library surely remember the buttresses that muscled the daring reaches of the Gothic. And they echo the Victorian era too, when Gothic brackery was rampant, etching architectural memories.

It's an inside-out cathedral, a California original, whose plaza—overhung by the mighty structure—is deliberately offered as a gathering place for throngs intent on higher existence. T. S. Eliot's "Murder in the Cathdral" has not happened here yet, but Sophocles' "Oedipus Rex" has. It was indeed a happening. As adapted by Michael Addison, it was offered as a "Carnival and Raree-show—a Burial in Thebes." Distant airplanes added a few cracks of doom by bouncing their decibels off the library and into the audience.

A graduation was mounted in the plaza in 1977, with speakers using a microphone to outwit the cathedral acoustics. All graduates except one wore the usual rented robes and mortarboards. The one came in wetsuit and scuba gear, ready to take the plunge.

The reverberant sound generated in the plaza by the overarching concrete serves to underline words and thus give oracular weight to a conversation of two or three persons. It also could heighten the menacing air of an angry mob. The plans include a good deal of plaza planting which, if ever budgeted, will soften all tones.

Angry campus mobs were something to reckon with in the '60s when Pereira conceived this plaza, and UCSD had its share. After all, this is the home of Herbert Marcuse. Pereira may not have had protesters in mind, but he did intend here an "uninhibited social forum — a

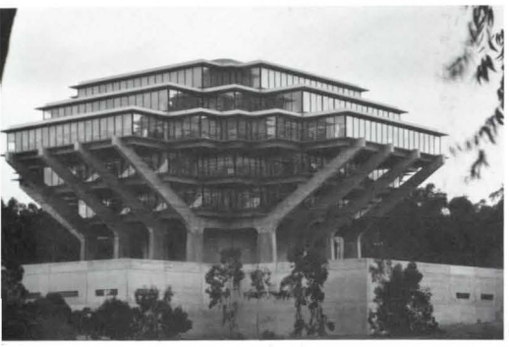
focus for both campus and community." He explained that the first floor of the library superstructure is raised well above the plaza to avoid the distraction of a look-in-look-out relationship.

"True, it would be hard to throw a rock through the high library windows," said Vice-Chancellor Saltman who, in the '60s, had his own office (in another building) fitted with large glass deliberately. "It is more important to acknowledge the fragile nature of education than to hide from campus moods." Of course, he occasionally had to fit plywood in where a pane would be smashed.

The distance of 40 feet between the central library's entrance level and the first floor of stacks means that stairs are not an attractive means of circulation between them, especially not for pampered Californians. There was no opportunity here to make the stairway interesting. It is merely a stack of firewell grimness where, according to one professor, even spring-legged students can be found pausing for breath on the landings.

Users prefer the elevators—when these are working and not too slow to respond. There are only two of the hard-pressed shuttles, and they have broken down frequently. There is space for a third, but the only thing that rises is the price—well over $100,000 now and out of reach. Thus, when traffic is heavy, a user might testily conclude that "circulation is terrible."

One of the virtues of the superstructure, the spheroid, is that you can always



Expansion was to occur in low extensions terraced into an adjacent canyon.

tell what floor you are on from its feel, its character. Sixth is the largest, fifth and seventh are the same size, and so are fourth and eighth—but similarity of size is offset by the fact that fourth and fifth enjoy deep overhangs, not requiring much in the way of sun screens, while seventh and eighth have broad terraces formed by roofs of floors below.

Seventh and eighth also have major battles with heat and glare so that slat-blinds are much in use. Floor eight even uses draw-draperies extensively because it houses the university's special collections and rare books—items which, least of all, can stand heat and light.

There was administrative logic before the fact in placing those bibliophiliac treats on the top floor, but the building tends to reject them as a human body tends to reject a baboon's heart. When the roof was new, it leaked on the paper treasures, so now each precious stack wears a casual canopy of plastic film, though the roof has long since been fixed.

Its isolated splendor of setting is one reason the library makes a powerful impression. By its out-thrusting nature it does not want massive neighbors too near. Yet, the architects expected other structures to rise up quite close. In the big-dreaming '60s, they (Pereira's firm and Jones) master-planned a university center with relatively sober buildings studded about the library, and with a grand boulevard, designed to be of Champs Elysées quality, connecting to the commercial center calculated to grow some two miles away.

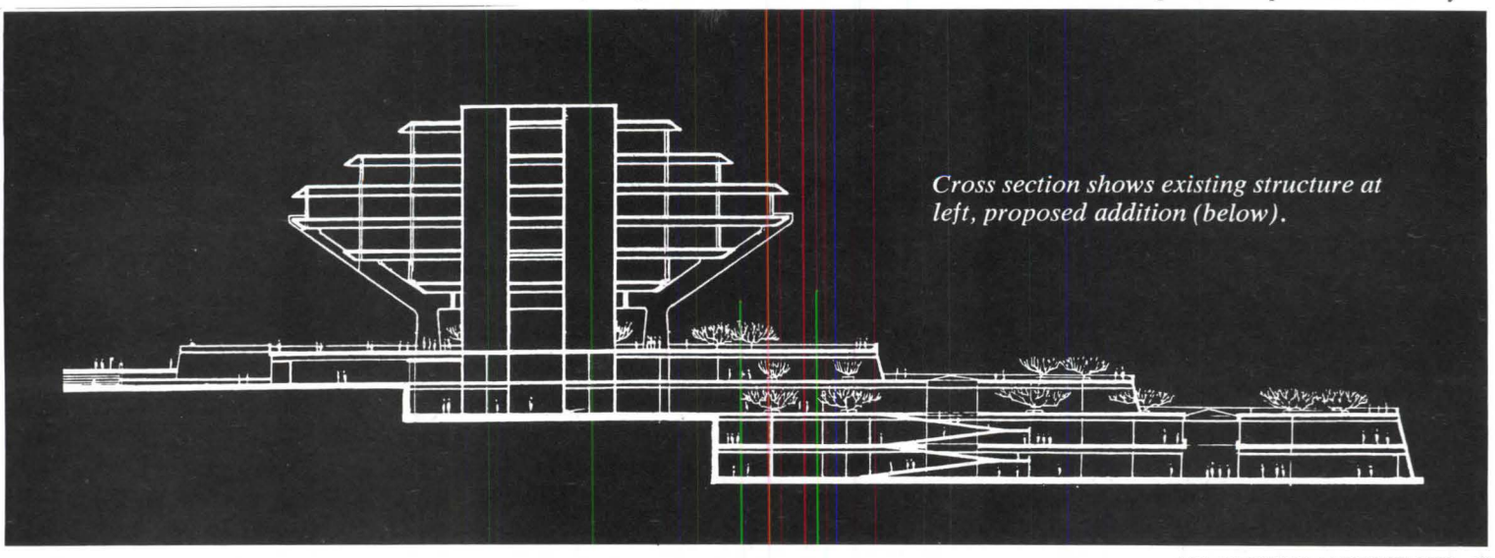
The commercial center is now under construction and may well become the center of centers for the San Diego County (big as all Connecticut). But University of California budget cutbacks have shelved indefinitely the grand boulevard as well as the fearful/blissful aloneness of the central library.

"It should not be called the central library at all because it never will be central, certainly not in this century," one faculty member told me.

Also "shelved"—if not too ironic a word—are plans for expansion of the library into the region's first full-scaled research facility. Pereira's idea for expansion was a series of lowrise extensions into an adjacent canyon with giant-stepped plazas and car parking swallowed up in layers along with the parked paper. Theoretically, the plan and the site are ideal for unlimited storage expansion without compromising the "monument," though the latter probably will always remain the preferred perching place for readers. The entire contents of the Library of Congress could easily be lodged in the canyon without any of the structure being necessarily very noticeable. However, first studies show a "cookie-cutter" addition, unworthy of the ambience already established.

Of course, a campus running over with environmentalists will not readily allow its major canyon to be plugged up clumsily. An early master plan done by Robert Alexander, FAIA, shows a lake there. Lately there has been talk of forming such a lake from sewage reclamation. When I told Pereira of this, he instantly responded that a lake could be incorporated into the design of library extensions.

With or without lake, the library extensions into the canyon could provide an appropriate semidark place for the special collections and rare books housed uncomfortably now on the top floor. If you ask that top floor what it "wants to be," you gather that it wants to be a restaurant (for feeding rather than reading). It wants to have sliding glass rather than fixed panes and full utilization of the potental roof-deck terraces. One of the more frequent complaints of library



Cross section shows existing structure at left, proposed addition (below).

users, settled in for long hours with books, is that there is no proper refreshment service in or near the building.

Rather than immediate expansion, the library faces a period when many stack areas may have to be compacted so more storage can be squeezed in. Stacks are now almost totally open, and a large minority of users find their way in from off campus. They come because there is no library that is both so attractive and so well-stocked—not in San Diego County. Needless to say, UCSD scholars also place a high value on the open stacks. They want open stacks, plenty of spaces in the aisles—and more books—an impossible combination without added building.

The pressure for growth was expressed to me by retired librarian Mel Voigt, who had laid out the program for Pereira in the first place. "Most librarians might agree that our central library is about as good a million-volume collection as any—in the areas we do cover—but it simply will have to be expanded. This campus, which probably engages in more research than any other of its size in the world, and this city, with its research industries, can't live without better library resources. That's the big argument going on now in the statewide university administration, and a new attitude seems to be shaping up in the state capital.

Agreement that the library is a monument, but with ambivalence about the term.

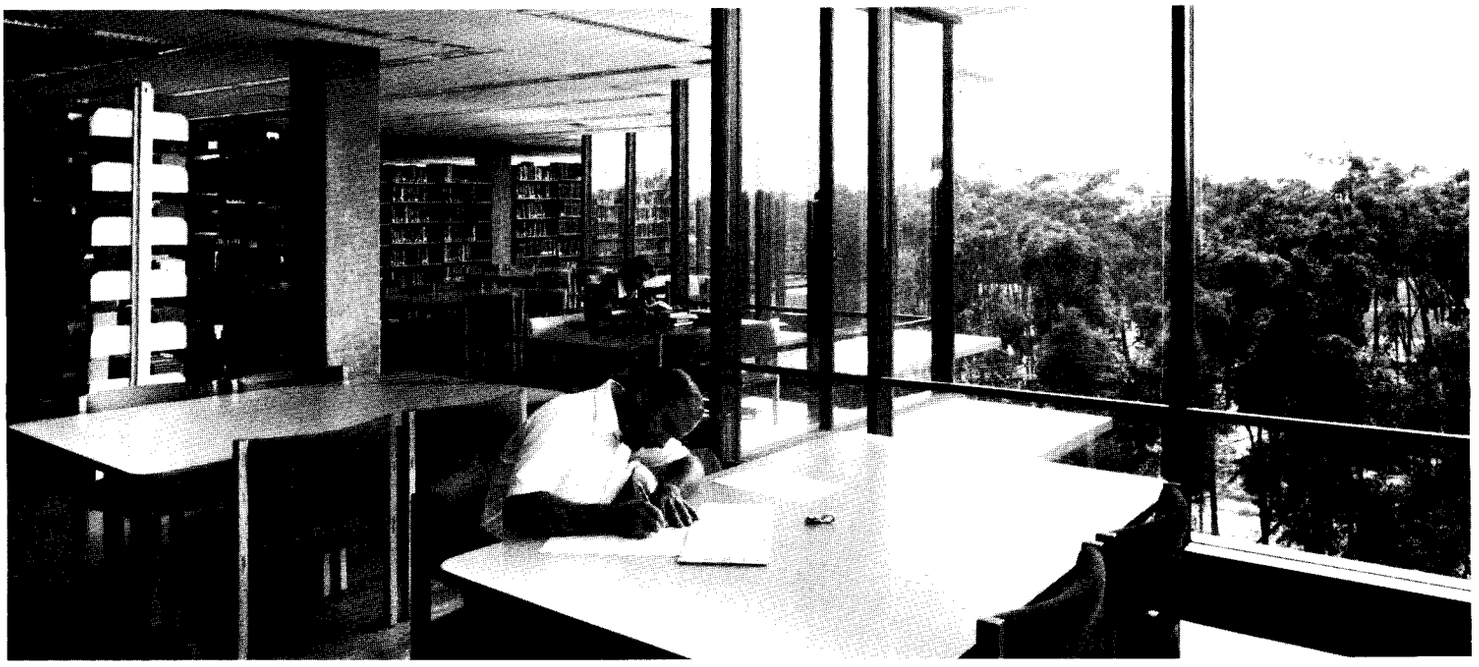
"Our scholars now have to take a special bus which goes daily to the UCLA campus, spending five hours on the road to gain four or five hours in the library there. Los Angeles has 14 million holdings in research libraries while San Diego has only 2.5 billion. But San Diego is growing at a faster rate than Los Angeles in population, and I just don't believe all the projections that suggest this campus will never grow beyond 15,000."

Neither Voigt nor Periera expects books to disappear as microfilm and other retrieval systems come more into use, but the spheroidal reading chamber —the egg for eggheads—is adaptable. Those chairs by the window will always be preferred spots to commune with words on paper, be they printouts or old style volumes. The chairs, by the way, and most of the furniture, are ingenious products manufactured by Hiebert, Inc., with design guidance from UCSD project architect Robert Thorburn. Items can be taken apart quickly with a jumbo Allen wrench (not found in most students' pockets) whenever portions are wrecked and need replacement. Another insurance policy arising out of the stormented '60s.

For all the grandeur of the superstructure, there is a visual uneasiness about its relation to its pedestal (the lower two floors) which admittedly is intended to spread and multiply itself as described above. Altogether, however, Pereira's library is a satisfying expression of the wise mystique already infusing the rather young UCSD campus, where Nobel laureates (Harold Urey et al.) doff their wreaths to each other daily.

In my minipoll, a second professional used the word "monument" which has today reached extremes of ambivalence in meaning, as has the whole subject of building esthetics. "It is a terrific monument," he said, "but I'm not sure about its lasting value as art. It may come to be regarded as corny."

That is unlikely to happen to the present building, but the word "corny" might apply to the scale model in which the weak first studies of the canyon ex-



Typically, students work facing views of the canyons, their backs to the stacks.

tension are much in evidence while the mighty canyon itself is not. One hopes that any extensions eventually built will have the disappearing character of the Oakland Museum (*see* June, p. 30).

An enchanting distant view of the central library—the stone flower of the freeways—may be had as you travel south on U.S. 5. Just before the Genesee Avenue off-ramp, the library looms (like a lantern, is a common reaction) at the head of its canyon to the southwest. A good building should increase in wonder as you approach. This one does. When you are close enough, the light, almost feminine upper floors have disappeared from view and you are much involved with the muscular bents.

If this is a monument, it is not the kind that celebrates the ego of the architect. It satisfies Emerson's preference for architecture in which the walls tend to disappear and the bones show strong. It also satisfies Emerson's claim that the beautiful rests on the foundation of the necessary (a line he developed in discussions with his prescient sculptor friend Horatio Greenough).

The Pereira library may even stand the test of Lewis Mumford's 1934 observation in *Technics and Civilization* that "in the light of new technology one might reverse Emerson's dictum and say the necessary can never divorce itself from the superstructure of the beautiful." (As Mumford developed it, this idea may apply equally to such diverse projects as the UCSD central library and the Centre Pompidou.)

William Pereira is a big success in business but he's also an artist well descended in American culture of the best stripe. Chicago-reared, he acknowledges the shaping effect of Sullivan and Wright on him. And he exudes magnetism and idealism that would win a smile from the Sage of Concord.

Pereira's words at the library dedication in 1970 underlined his good connections:

"If it appears to some that the design of this library building conveys the idea that powerful and permanent hands are holding aloft knowledge itself, and offering to future generations wisdom and hope with conviction—I can only say in all humility that is what we meant to do, as a dividend of spirit beyond the library's practical capacity as a functional building. . . . And in future years, I would like it to be said about the authorship of this building, as Emerson said it: 'He builded better than he knew.' " □

The Genesis of a Great Building —and of an Unusual Friendship

The principal client for the Deere & Company headquarters recalls his relationship with Eero Saarinen. By William Hewitt

Our company traces its origins back to the 1830s when John Deere, a Vermont blacksmith, arrived in Illinois and designed a plow that would scour and shed the sticky prairie earth, turning a clean furrow slice. He moved to Moline beside the Mississippi River, began importing rolled steel from England and by 1843 was producing a thousand plows a year. Ever since, product design has been at the basis of our business.

But Deere & Co., in the first 120 years of its existence, never once sought out the services of an independent architect. As company policy, Deere designed all its own buildings.

In 1955 when I became president of the company, one of the things we needed was a new headquarters office in Moline, and at that time we made two decisions: first, to build outside the city in rural surroundings, and even more radically after 120 years, to consider using an independent architect. No one in the company had much experience with architects other than our own, so it was more or less up to me to pick a firm.

Beginning the process, I subscribed to and read architectural magazines. Also, a friend from my college days at Berkeley, Bob McNamara, had just finished an administration building for his staff at the Ford Motor Co., so I asked his advice, and he sent me a big box of architects' prospectuses he had collected, and I studied them all. Another whose advice I sought was Henry Dreyfuss, who had worked on product design for Deere as early as 1937. We finally made a list of firms and I started off to take a look at their work first-hand. We wanted to get the best architect we could persuade to design our new headquarters.

Among the many buildings I visited was the General Motors Technical Center near Detroit, then just completed. Afterwards I went by to meet the architect and talk with him in his wooden office building. Then and there I decided Eero Saarinen was the man for the job; there would be other equally competent architects, I felt, but none more so. Perhaps I also remembered what Henry Dreyfuss had told me, "If you want to work with an architect's architect, put Saarinen on your list."

So we invited Eero over to Moline to look at four sites we had scouted out, none of which we then owned. They were all large, partly hilly and wooded, and we borrowed a truck from the local utility company that had a telescoping tower on it that went up to a height of 35 feet, so we could look over the tops of the smaller trees. The parcel that most appealed to Eero consisted of four farms that totaled about 720 acres. About half of it was hilly.

Asked if he could speak faster, Saarinen said,'No, but I could say less.'

It took us about a year to acquire the land, at an average price of $600 an acre, and then we asked Eero to come back to help decide where we should locate the building. The site he liked was the highest point, with a long view to the east and south across the Rock River valley. He wrote down our requirements: an office building for 800 to 1,000 people, a cafeteria, an executive dining room, a 400-seat auditorium and a large product display area, all accessible under cover for protection during the winter, plus capacity for further expansion. It was at that meeting, I think, that we came to a kind of understanding.

I said to him, "Well, Eero, I'm glad that you're going to do the job, and I recognize the fact that you are the professional, the expert, and I've heard a lot of horror stories about how clients have ruined the work of good architects by interjecting too much of their own opinion, too many views that are unacceptable to the architect. So I'm not going to breathe down your neck. You go ahead and do it the way you think best."

At that point Eero, who was a great pipe smoker, puffed his pipe and said, "Well, Bill, maybe you *should* breathe down my neck."

So I said to him, "OK, Eero, if that's the way you want it, I will," and he went back to Bloomfield Hills.

I wonder if Eero's pipe might not have been as important a tool of his trade as a T-square. Perhaps some of you have heard about the time he encountered the late Dean Acheson at a meeting of the Yale Corporation, the board of trustees of that university. Acheson, one of the trustees, was then secretary of state under President Truman, and had been flown to New Haven to attend the meeting. He was a man with a vigorous mustache and a very brisk manner, as befitted his position, I suppose.

Eero had been commissioned as master planner for Yale, but he did not get a chance to speak until fairly far along in the meeting. When at last his turn came, he lighted his pipe and went into an explanation of the planning options open to the trustees. Some of you will remember that Eero spoke quite slowly and deliberately. His wife, Aline, once told me that she thought he talked with clients as if he were a country doctor and they were patients facing very serious surgery.

At any rate, Eero had the explanation set up and was proceeding at his usual pace when Acheson began looking at his watch. Eero paused to relight his pipe, and then resumed, and Acheson broke in: "I say, Mr. Saarinen, I'm sorry to interrupt you, but would it be possible for you to speak more rapidly?"

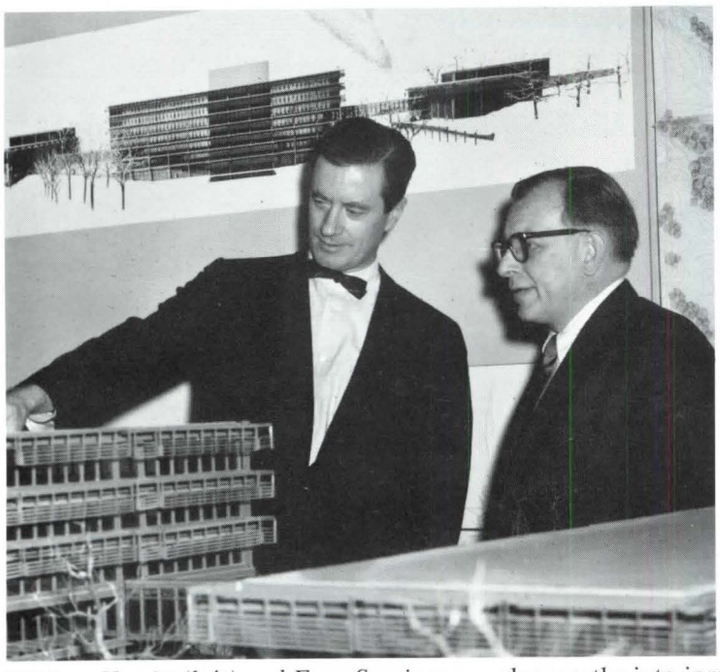
Eero puffed on his pipe, and then he smiled and said, "No, but I could say less."

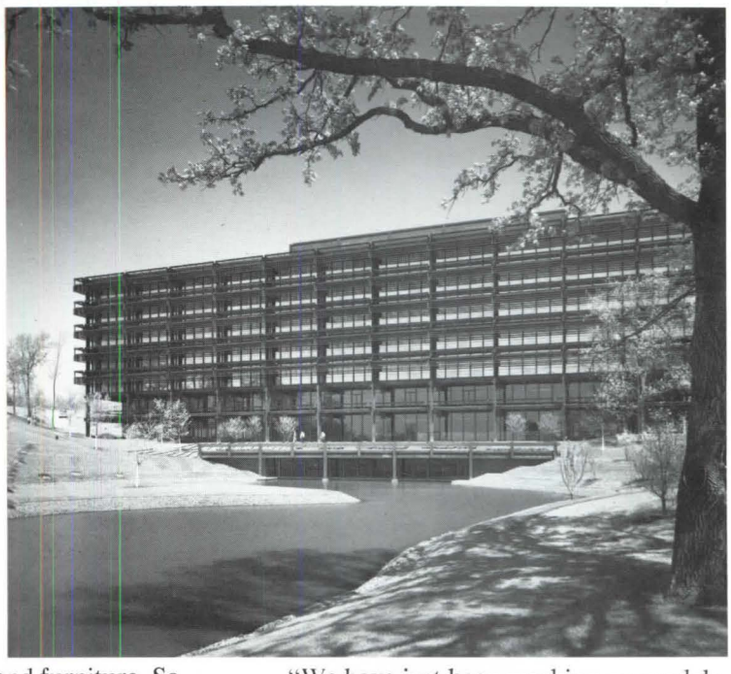
When Eero and his colleagues came back to Moline to see us again, he had some studies to show us. He had placed the office building on the highest part of the site, and it was in the shape of an inverted pyramid, made of reinforced concrete, with a large center open well. It had a display floor on the ground level and a skylight on top. Circulation was to be on balconies around the open well. I noticed several things were missing: the theater, cafeteria, dining room and expansion plan.

When I asked him how he was going to handle those, Eero didn't exactly answer me. He just puffed his pipe. Then we exchanged a few pleasantries, and he said goodbye and went back to Bloomfield Hills. In three weeks he asked us to visit him in his office. There he showed us a model, complete with land contours, trees, shrubs and a pond. It was for a steel building down in a little valley of the site, straddling a ravine, with everything accessible under cover, plus an expansion plan. It was essentially what was built.

After that, things began moving along.

Mr. Hewitt, chairman and chief executive officer of Deere & Co., spoke to the Institute's college of fellows convocation dinner June 6 in San Diego. This is an adaptation of his remarks.





William Hewitt (left) and Eero Saarinen with model of Deere headquarters in1959.

He put together a project team in his office, and I did the same in mine, and we met regularly. The Saarinen office suggested using an unpainted steel called Cor-Ten, which was originally intended only for power line towers and railroad freight cars, and we put a fair sized sample in place on the site to study how it would weather. Some of our engineers were a little alarmed, thinking, "We've been warning farmers against rust for 120 years, and now Hewitt wants to build a big rusty building—and make us work in it."

There were many decisions to be made, mutually. We worked together with a silent understanding that neither party to the building would accept anything he really didn't like, which, I firmly believe, is quite important. Properly, of course, the result should be a building that both of us understand and like. To achieve that, the client and architect have to get to know each other. Luckily, the chemistry between us was good and the Saarinen organization's attitude *never* was Father Knows Best. Nor was it, by any means, supine.

Working with the Saarinen office did, of course, raise some of the usual problems, but they were never anonymous ones. They had a great many other jobs working during that period, but Eero and I kept in touch. A friendship flowered. There were occasions when perhaps I did not put enough time pressure on Eero—or, thinking back on that, maybe it was because one part of me rather hoped that the project would just go on and on, I was enjoying it so much. On the other hand, logically, we knew we had to move ahead.

Quite far along I decided to give Eero a slight needle, because he seemed to be slow on the interiors and furniture. So I wrote him a sober but tongue-in-cheek letter in which I said I was going to take charge myself of selecting the furniture for the board room and executive area. With the letter, I sent him some pictures of some truly hideous Victorian furniture from a copy of a French magazine called *Connaissance des Arts*. I labeled some of the pictures, indicating that one grotesque breakfront might do well against the glass wall of the board room, another monster, a huge circular settee, might serve in the reception area, and so forth.

A tongue-in-cheek exchange of letters about furniture: Victorian vs. none at all.

He answered with a letter of which I am still very fond. It reads:

"Dear Bill:

"Thank you for the issue of *Connaissance des Arts* bringing the problem of your office, the board room and other offices to a head. For a long time I've had the intention of discussing this problem with you. Now I must spit it out, because actually your concept and mine of these areas are materially at opposite poles.

"I am a great admirer of Japanese residential architecture. The interiors of the Katsura Palace are among the most beautiful in the world. The absolutely simple interiors, the modular divisions in the wall and the standardized floor mats give a room real spatial dignity. The movement of people in such rooms—the grace with which the geisha girls sit down next to you right on the floor—is very, very beautiful; coats are folded neatly and placed in a corner of the room on a special mat; all works out so beautifully and gracefully.

"We have just been working on models of the executive area, and they show real promise of achieving interiors of the same quality as the Katsura Palace, the Silver Palace and others. It would be a shame to spoil them with furniture. I don't mean to be unreasonable—I could, for instance, imagine that in your office we could have a low, beautiful lacquer table—something about 12 inches high. The quality of the lacquer should match the finish of the telephone, because you will probably need a telephone. In the other corner, diagonally across from this table, we might provide a neck rest, which takes the place of the chaise lounge in the Western world.

"Now the board room. I have in mind there the same general treatment—that is, the concept of de-furnishing. The room is planned to seat 30 persons. Instead of providing that horrible monstrosity produced by the Western world—the standard corporation board room table—why don't we provide for each member a small lacquer tray, about 12 by 16 inches. On these they could keep a neat rice paper pad and pencil (or a brush if they prefer; that part could be optional). For some of the older members of the board with creaking knee joints, a small pillow could be provided. Instead of the traditional bottle of water and glasses which adorn every board room table, I suggest, and here again I go to borrow from the great Japanese tradition, the geisha girl. She would stand immobile in a corner of the board room, and the moment one of your board members looked thirsty, she in her attentive way would snuggle up to him with a cool drink of water (or sake—if he was the type). This would eliminate entirely the gross interruption to the spatial quality of the room made by the tray with water bottle and glasses.

continued on page 56

A Distinguished Generation of Women Architects in California

They flowered in an atmosphere of professional hospitality never equaled before or since. By Harriet Rochlin

Comparatively few American women have become architects, and most of those who did remained in the scullery of the profession. Investigators seeking the cause say that Americans, in general, and male architects, in particular, believe women do not belong in the field. To substantiate their conclusions, they offer plenty of evidence of past and present discrimination.

Of special interest, then, are the variations on the discrimination theme that California researchers are encountering in studies of that state's important early modern architects—male and female. It is now clear that in California, roughly from 1900 to 1929, the first women breaking into architecture were more hospitably received than at any time before or after. During these years, dozens of California women became professional architects. A handful launched distinguished careers and made historic contributions to an emerging regional architecture.

From the turn of the century to the Great Depression, a confluence of conditions warmed the California ambiance for women in architecture, not the least important being the mental outlook of the women themselves. The women's rights movement, peaking between 1900 to 1920, inspired women with a pioneer fervor to prove themselves as professionals, in this case, architects. Accelerating their drive in California was a long established coeducational system through the university, and greater overall freedom for women.

Plentiful work was another boon. The California population more than tripled from 1900 to 1929. Except for a slump during World War I, building boomed throughout the period; also helpful was the kind of architecture then popular. A powerful sense of regionality, grounded in a surging appreciation of the state's natural attributes, took root about 1900. Not tied to an established approach, these newcomers were free to go with the emerging regional architecture more readily than their entrenched male colleagues.

Noteworthy, too, is the support that eminent California architects gave these first women aspirants. When John Galen Howard started the first architectural school west of the Rockies in 1904 at the University of California, Berkeley, the initial class consisted of 10 students—five men and five women. The number of women students never again equaled the men's, but judging from yearbooks and albums of student work, women continued to be well represented in the school's first 25 years.

Innovative architects from elsewhere, who came to California to enjoy the widely touted amenities and to experiment, thrived, some in one decade, some in another. When they needed assistants, talent and dedication outweighed gender. Each of the women architects to be discussed here spent the formative years of her professional life under the tutelage of a gifted master before opening her own office.

Nearly 20 years ago, California architectural heritage buffs, historians and journalists began taking a second look at the early modernists. Receiving passing mention among the San Francisco bay traditionists was one woman—Julia Morgan, AIA (1872-1957). Her works were too ubiquitous to ignore, but comments were sparse. An adamantly private person during her lifetime, she had refused to speak or write about herself or her work. (*See* AIA JOURNAL, June 1976, for a more detailed note of her contributions.)

Morgan's works were difficult to pin down. Her designs had qualities in common with the bay traditionists, but they were often surprisingly different. Ap-

Julia Morgan designed Merrill Hall, Asilomar Conference Grounds (below).

Ms. Rochlin has written a number of articles on women and on architecture. This is her third on American women architects.

praisers circled the field with: "squarish and informally elegant," "unafraid of ornamentation," "interprets classical styles freely," "from the craftsman period" and "emphasizes simplicity and clarity."

By 1973, a swarm of researchers was gathering material on Morgan. The first fruits, too plentiful to detail, included research papers, articles, tours of Morgan buildings and formation of the Julia Morgan Association to document her estimated 800 buildings. One ambitious undertaking, completed in 1976, is a two-volume oral history produced at the University of California, Berkeley. Another was a major exhibition in January 1976 at the Oakland Museum.

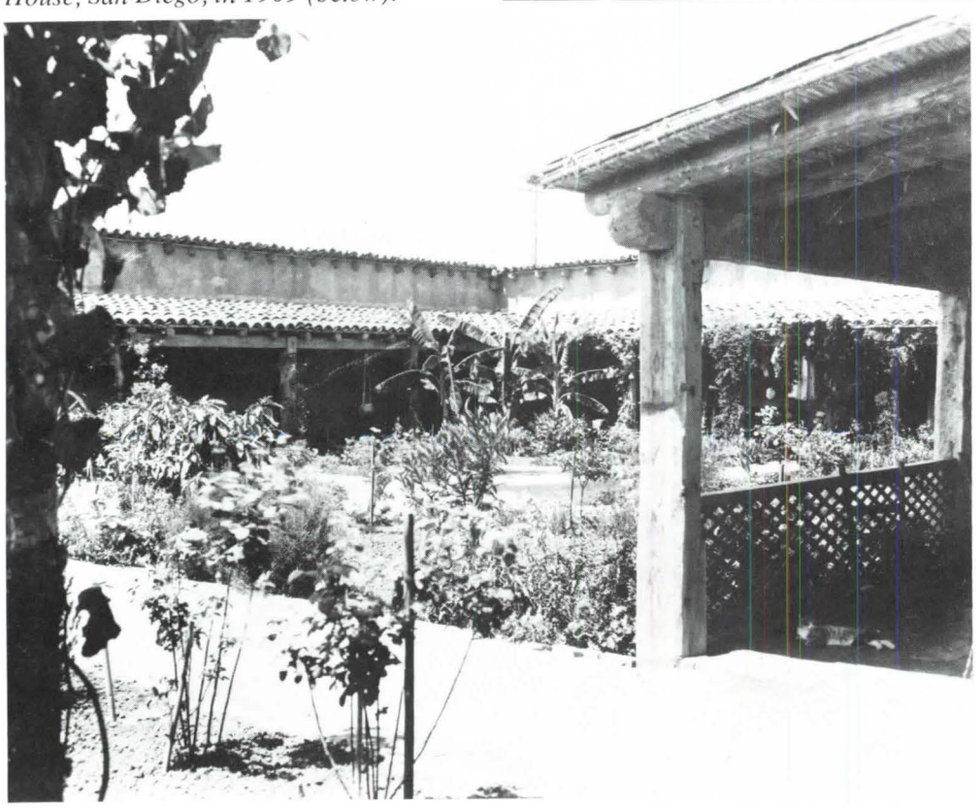
Uncovered in the four-year whirlwind of research was a towering, though physically tiny, figure and an historically important architectural career. Morgan knew discrimination abroad at the Ecole des Beaux-Arts, but never lacked supporters. She was encouraged by California architects Bernard Maybeck and John Galen Howard, and by prominent French architects Marcel de Monclos and Benjamin Chaussemiche.

Throughout the 42 years she practiced, a seemingly endless line of clients—individual and organizational—availed themselves of her talent and dedication. Unlike many of her early modern colleagues, Morgan worked without a break until cerebral arteriosclerosis clogged her brilliant brain, forcing her to retire. She lived for 11 years and died on Feb. 2, 1957, shortly after her 85th birthday.

In 1900, when Morgan was completing her arduous training at the Beaux-Arts, a San Diego woman entered the field of architecture by a totally different route. Hazel Wood Waterman (1865-1948) began a long exchange with her eventual mentor, Irving J. Gill, as a client. Waterman and her husband commissioned the 30-year-old architect, yet to become San Diego's most influential early modernist, to design a small residence for them and their three children.

A trained landscape painter, Waterman took an active part in the design and construction, infusing the house with a personal and regional charm. Gill was impressed with Waterman's comprehension of what architecture entails. In the next two years, Waterman continued to develop her architectural viewpoint, writing about her own and other San Diego residences, and about the ruined Spanish missions.

Hazel Waterman restored Estudillo House, San Diego, in 1909 (below).



In 1904, her husband died, leaving his widow, then 39 years of age, a mortgage, small holdings and three children to educate. Waterman remembered Gill's advice that if she ever needed work, she should try architecture, and enrolled in a correspondence course in architectural drafting. When she learned to do ink tracings on linen, as was the custom, she was given work to do at home by the Hebbard & Gill firm. Continuing to take courses, her job responsibilities expanded.

Her son, Waldo Sprague Waterman, says that the first residence his mother designed was the Alice Lee house, completed for Hebbard & Gill in 1905. "Miss Lee was a friend of my mother. She asked Gill to allow my mother to carry out the whole job, and just let him supervise the job and be architect in fact, with my mother doing the work."

The exact nature of the employee-employer arrangement is uncertain. It is interesting, however, that Esther McCoy notes in *Five California Architects* that in the Lee house Gill's design approach had changed. She writes: "The exterior was entirely of stucco, the form more compact and the roof lower in pitch. . . . He was moving toward the adobe forms of the mission builders who had neither the time or the tools to be other than frank."

In 1906, Waterman started her own practice with a residence for Alice Pratt, and for the next 23 years she designed houses and small buildings for institutions, primarily in San Diego. One of her best-known works is the restoration of the Estudillo House, a state monument in Old Town San Diego. Commissioned in 1909 to restore the ruined house, then called Ramona's Marriage Place, Waterman arranged the one-story adobe in a U-shaped plan, with the old *cocina* facing the rear garden. She had adobe bricks made according to old methods and fired on the site. Rough-hewn timber was brought from a nearby forest for the ceiling beams. The house (since expanded) was long reputed to be the finest restoration in the state.

From 1910 to 1911, Waterman worked on the Wednesday Club, a woman's literary and social meeting hall. The one-story flat roof, with the half-story over the meeting hall, was repeated in the La Jolla Women's Club building, designed by Gill in 1914. Other outstanding buildings credited to Waterman are the Cottage for Babies (1912) and the administration building for the Children's Home in Balboa Park, San Diego (1924-25). The last commission on Waldo Waterman's list of his mother's work was dated 1929.

Usually, Waterman worked at home

alone. During busy periods, she rented space and hired assistants. On several jobs, her daughter Helen, a 1914 graduate of the University of California school of architecture, collaborated with her. Waterman was a resident at the Berkeley City Women's Club, designed by Julia Morgan, when she died in 1948 at the age of 83.

Another distinguished early modern San Diego architect was Lilian J. Rice (1889-1938). Like most of her colleagues in the 1920s, she aimed to rework the features of Mediterranean architecture into a modern southern California style. Her most significant work was on a community 30 miles north of San Diego.

First with her employers, Richard Requa and Herbert Jackson, and then on her own, Rice implemented the master plan for a 8,650-acre planned and architecturally controlled community, one of the first designed for the automobile: Rancho Santa Fé. She was largely responsible for the civic center plan, the first shops and apartments, the inn, the administration building, the service station, the garden clubhouse and the school and library. As head of her own office, she designed dozens of the community's early residences and headed the art jury that passed on the design of every building constructed. Few California architects have been offered as wide and uncluttered a testing ground for their concepts, and few can claim as harmonious and convincing a communal statement as Rice achieved at Rancho Santa Fé.

When Rice was 17, in 1906, she enrolled in the new architectural school at Berkeley. In 1910, she became the second or third woman to receive an architectural degree from that school.

Back in the San Diego area, she worked on her own, and for other architects, including Hazel Waterman and Requa & Jackson. Her career took a definitive turn in 1922 when Requa & Jackson sent her to Rancho Santa Fé to serve as on-site architect. Samuel Hamill, FAIA, one of Rice's students, remembers working with her at Rancho Santa Fé the year the project began. He says: "Miss Rice was a very responsible person. She simply meshed with the Rancho Santa Fé program and was satisfactory to both sides. Since the distance from San Diego was so great and the fees were so insubstantial, it seemed sensible to turn the entire operation over to her."

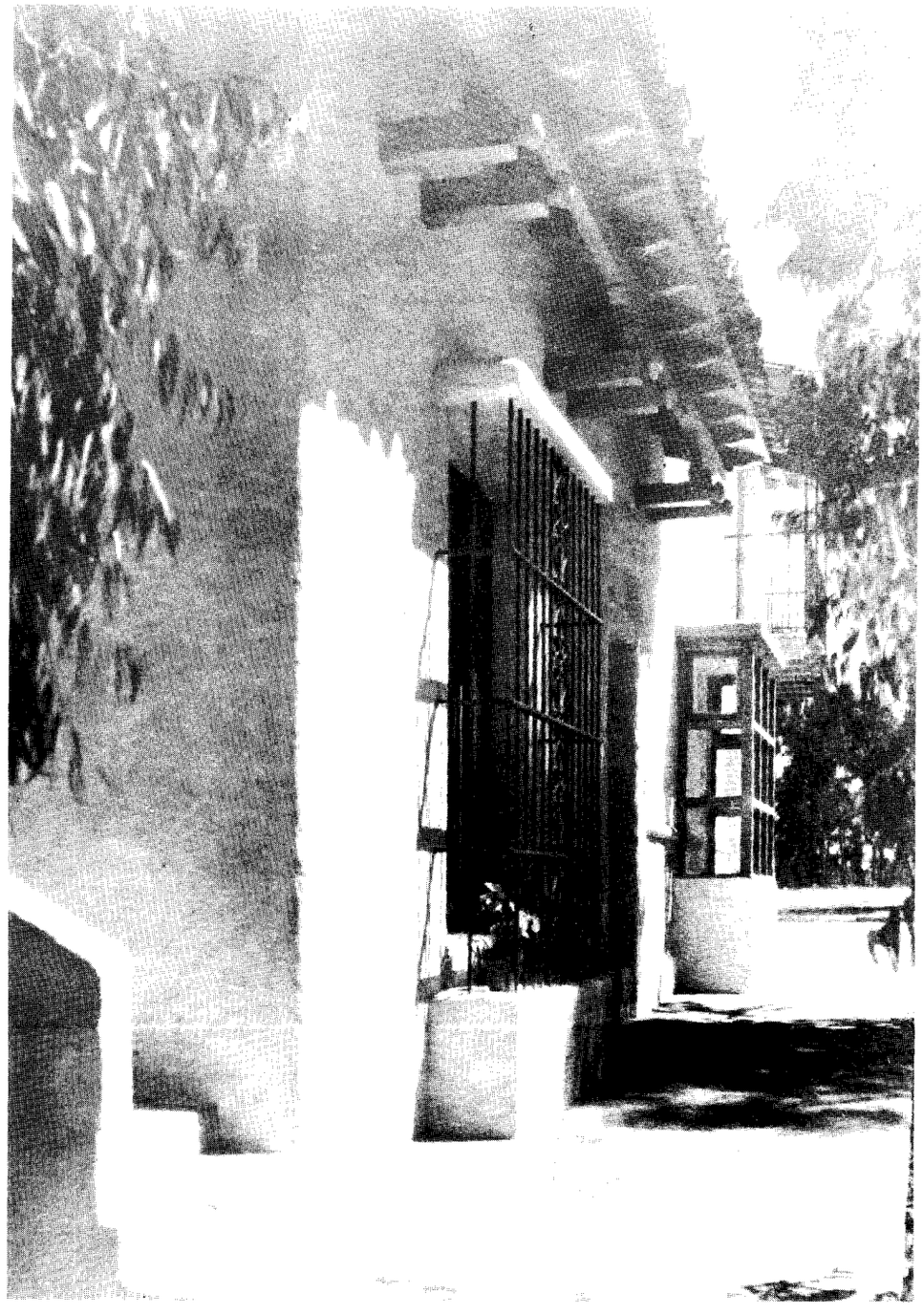
Hamill's memory of her is also worth noting: "She was an extremely appealing person. As a conversationalist, she always held up her end, but was a good listener. That's probably why she got along so well with her clients. She worked very closely with them, and was always sane, calm and extremely warm and thoughtful. Architecture was like a calling to her, and she gave it all she had."

Of her works, the *AIA Guide: San Diego* includes the ZLAC Rowing Club (Mission Bay, 1932), remodeled in the 1960s by Sim Bruce Richards, AIA, and the Robinson house (La Jolla, 1929). Both are wood frame construction, with sensitive treatment in the exposed beams, paneling and staircase details.

Olive Chadeayne, AIA, a 1926 alumna of the University of California school of architecture, who worked with Rice from 1935 to 1937, recalls: "Jobs in progress included the San Dieguito Union high school, the Sweetwater Valley elementary school and several Rancho Santa Fé houses."

In 1937, Rice learned that she was fatally ill with cancer. She completed the work on the boards, and she quietly put her papers in order, and closed the office. Rice was 49 when she died the next year.

Lilian Rice was designer of Rancho Santa Fé homes and shops (below).



Edla Muir was architect of the Rex house, Mandeville Canyon (above).

Edla Muir (Lambie), AIA (1906-1971) learned her skills as an apprentice to an imaginative master craftsman. Her vocational training was long and thorough, and its outcome was proficiency. In some ways, she transcended her master, as gifted, hard-working apprentices often do.

When Muir was 13, she spent the summer of 1919 working in the newly opened office of John Byers. Byers, then a language teacher, had recently built for himself an adobe house, with the help of itinerant laborers from Mexico. The house almost immediately brought him clients as well as praise from California architects.

Muir continued to work in the office after school hours and during vacations until she was graduated from high school in 1923. From then on, she worked full-time. Herbert Andree, who wrote a master's thesis on Byers, states: "Byers was fortunate to have Edla Muir as his competent assistant to run the office and take charge of the design while he was away."

After Byers became a registered architect in 1926, the office ceased doing construction work. As an architect, he drew as clients affluent professionals and motion picture business people who wanted residences in the new exclusive tracts then opening in Santa Monica, Brentwood, Pacific Palisades and Beverly Hills. During these years, Byers and Muir designed in a wide range of architectural styles, producing beautifully executed structures. In 1934, Muir passed the architectural licensing examinations; for another eight years, she stayed with Byers as his associate. Then, after a World War II hiatus, she started her own office in West Los Angeles.

On file at the University of California, Santa Barbara, art galleries are drawings of more than 200 projects Muir completed from 1946 to 1968. Except for an occasional shop or small restaurant, she worked entirely on residences. Muir achieved her most widely acclaimed works in the modern style. The John Rex house (Mandeville Canyon, 1949) and the Russell Law house (Malibu, 1956) have been published widely. Both houses, horizontal and ground-hugging, are constructed of rough-sawn redwood and glass and fit unobtrusively into the surrounding terrain.

Muir was married to Clyde Lambie and had a son named Alex. Working from childhood until shortly before her death in 1971, she designed hundreds of houses. Many were of the caliber that made southern California domestic architecture noteworthy.

Lutah Maria Riggs, FAIA, was born in 1896. She has worked in Santa Barbara since 1921, almost without a break. While contributing buildings that have reinforced the community's reputation for "gorgeous" architecture, she has also strived to preserve the seaside city's natural beauty and historic landmarks. At 80, she has two assistants, work on her drawing boards and civic meetings to attend downtown.

She was educated in Beaux-Arts eclecticism at the University of California's school of architecture. For nine years, she worked for George Washington Smith, California's master of Mediterranean revival. During World War II, she designed movie sets in any required period of architecture. After the war, she was the partner of Arvin B. Shaw III, trained at Yale in the international style. Riggs has made use of a variety of architectural styles, but is pinned to none. Her own house, designed in 1926, is Andalusian, Mexican colonial and Riggs, she says. "Each assignment

presents its problem," she says. "I aim to solve them the best way possible, and also provide enough beauty to lift the spirit."

Soon after her graduation from the university while she was working briefly for Ralph D. Taylor in Susanville, Riggs saw some photographs of George Washington Smith's work and decided to return to Santa Barbara to work for him. The first time she asked for a job, Smith turned her down. When she tried again, he confessed he had not wanted to hire a woman, but agreed to give her a trial.

David Gebhard in *George Washington Smith (1876-1930): The Spanish Colonial Revival* comments on Riggs' role in Smith's office: "From the moment of her entrance into the Smith office until Smith's death, there was no letdown in the quality of the work which emanated from the office. There can be no question that Miss Riggs' presence in the office had much to do with sustaining the remarkably high quality of Smith's production."

When Smith died, Riggs formed a year-long partnership with fellow employee William Allan Horning to complete the office's works-in-progress. She practiced alone from 1931 to 1942, and with Arvin Shaw from 1946 to 1950. Since 1951, she has been on her own.

A few of the works that earned her a reputation for design excellence in Santa Barbara are: Lutah Maria Riggs residence (1926), Allen Breed Walker residence (1938), Baron Max von Romberg residence (1938), Alice Erving residence (1951), Plow & Angel Pub (1955), Vedanta Temple (1956), Wright S. Ludington residence (1956), C. Pardee Erdman residence (1959) and the second Ludington residence (1974).

In 1960, Riggs was made an AIA fellow, cited for excellence in design and service to the profession; she was selected in 1967 as a *Los Angeles Times'* woman of the year, the first woman chosen for achievement in architecture. At a recent panel discussion on Los Angeles architecture, A. Quincy Jones Jr., FAIA, said: "We seem to have forgotten what an architect such as Lutah Maria Riggs taught us years ago: how to design a house for southern California."

The experience of California's early women architects was exceptional, as these brief profiles show. A few California women have followed in the footsteps of their pioneering predecessors, but hardly the number that might be expected. Nearly 75 years after the first California woman became an architectural practitioner, the number of women architects in the state remains negligible. The Northern California chapter/AIA lists 643 registered corporate members, 16 of them women. The Southern California chapter has 850 corporate members, including 10 women.

Why California women have not maintained their early lead in American architecture is still an unanswered question. Future studies are likely to cite as deterrents such national forces as the evaporation of pioneer feminist zeal, the Great Depression, World War II and the post-war baby boom. Shifts in emphasis in California from small town to urban life, from individual to large corporate enterprise and from regional to national architecture will also figure—particularly where these changes undermined the training and launching ground of these pioneer women architects: the small distinguished architectural office. □

The work of Lutah Riggs includes the 1962 Hutton home in Montecito.

Influences, Positive and Negative, On Women Entering the Profession

A survey finds that 'encouragement for women to become architects is a scarce commodity.' By Rosaria F. Hodgdon

The growth of social and environmental consciousness of the late '60s and early '70s, coupled with the wish for creative self-fulfillment released in women by the impact of the feminist movement, has stimulated women's interest in architecture. The number of women entering the profession, however, has not matched the intensity of the interest. Women are discouraged from choosing architecture as a career and from full participation after the choice is made. This factor of discouragement seems to rise as young women progress from early family life and high school toward college and professional training. Encouragement for women to become architects is a scarce commodity.

I was provided with the opportunity to study one particular aspect of the experience of women in architecture—the pattern of attitudes and opinions which affect career choice, performance in the profession and designer self-concept—as a result of the West Coast Women's Design Conference, held in 1974 at the University of Oregon's school of architecture and allied arts. Much of the data for the study was gathered through a survey which included both case study and statistical information. The sample consisted of 129 women professionals and students in architecture and environmental design; the respondents came primarily from the Northwest and ranged in age from 18 to 55. The results are described in my monograph *Factors in the Career Choices of Women in Environmental Design,* upon which this article is based.

At the heart of the study was the question, "Why are there so *few women* architects?" Answers in the past have ranged from the comment, "Women are not equipped intellectually or emotionally to enter architecture" (made by an architect to a respondent in the survey) to Ethel Charles' "No reason seems to exist why women should not practice architecture, except that they have not practiced it before." Recognizing that reasons of this sort lie in entrenched societal attitudes, however, does not take us very far. At what point in the life of women architects and prospective architects are the influences for or against a career in architecture strongest? Who exerts them? These were the questions around which the study revolved.

The answers proved to be complex and to involve not only the external situation (uninformed counselors, paternalistic professionals, sexist instructors), but also the internal condition (the private psychology of the women themselves, responding to subtle or overt "messages" from outside). The effects of discouragement in its many forms upon a woman's self-confidence and, consequently, her ability to perform as an architect, proved of paramount importance in helping to explain why women in architecture have been few and have been consigned to ancillary roles.

The results of the study suggest that discouragement is one of the major obstacles to women becoming full-fledged members of the profession. (For a confirmation of this point of view, *see* Harriet Rochlin's article on page 38, which shows that when social conditions were favorable and established professionals fully encouraged women, several outstanding women architects emerged and flourished—Ed.)

Family and high school influences: Open discouragement does not begin in childhood. To the contrary, the great majority of respondents in the study reported that their parents had supported them in their career goals, although often with the tacit understanding that a woman's principal life work should consist of marriage and motherhood. The message, though ambiguous, was by no means discouraging.

By the time they got to high school, most women in the study had become aware that society places definite obstacles in the path of their access to the profession, offering strong incentives to follow more traditional paths.

"My folks were ahead of their time. . . . I was raised without realizing that there . . . would be problems doing what I liked. When I encountered resistance to my studying architecture, I was totally unprepared for it. . . . It hit me all the harder." (Architectural student.)

Answers to a series of questions aimed at probing into the attitudes of third parties (teachers, counselors, peers) toward professional careers for women, especially in architecture, made it obvious that the same young women who had been told at home that they could be whatever they wished to be received a different kind of advice in high schools and colleges, and were often steered toward more "acceptable" directions.

"I was discouraged from going to a 'good college.' It was suggested that I go to a junior college." (Architect.) "I wanted to be an architect, but I was talked into being a home ec teacher." (Architect.) "Architecture was my first choice, but I was diverted by high school teachers and counselors." (Student in environmental design.)

'Architecture was my first choice, but I was diverted by high school counselors.'

Only 32.7 percent of the respondents reported receiving any encouragement from counselors toward a course of study not typically female-oriented—the lowest of all categories in the study. These findings concur with those of Beatrice Dinerman: "Unfortunately, high school and college counselors, far from encouraging more women to enter architecture, have had a negative influence. In raising the question with a representative sampling of female architects, close to two-thirds reported receiving no encouragement whatsoever from either professional counselors or faculty members. In

Ms. Hodgdon, a registered architect who has practiced in Boston, now teaches design, urban issues and construction documents at the University of Oregon's school of architecture and allied arts. She holds an architectural degree from the University of Naples, Italy.

fact, over half of this group was actively discouraged from choosing architecture as a career, with sex representing the determining factor in virtually every case."

There were also indications that high school guidance counselors were not very helpful in advising students who expressed a wish to choose an architectural career. Respondents reported that the counselors demonstrated a lack of comprehension of what architecture is all about and could not make assessments of natural abilities or make recommendations concerning educational prerequisites.

"The junior high counselor told me I had an aptitude to be an architect or a car mechanic." (Architectural student.) "What I really wanted to do was design furniture, but the . . . counselor . . . did not see the difference between interior design and industrial design." (Architectural student.)

Discouragement from career guides, architectural schools and especially practitioners.

One architect related that she had recently participated in a panel discussion before a conference of Texas high school girls' counselors and college deans of women. "They told me that they knew very little about our field. They were knowledgeable on traditionally women-filled jobs: nursing, teaching, cosmetology, secretarial jobs, homemaking—about our field they know practically zero."

The combination of preconceptions about appropriate roles for women held by guidance counselors, and the lack of information about architecture available to them, constitutes a costly negative factor in the professional activity itself.

Career information documents: High school counselors rely for their knowledge of specific professions to a great extent on statistical and trade information, using as sources the Bureau of Labor statistics, chambers of commerce and professional organizations such as AIA. Obviously, statistics alone would make it clear that architecture has not been a woman's profession, and counselors quoted in the study seemed to have interpreted this to mean that women should continue to steer clear of architecture.

In addition, a careful survey of career information material has shown that existing career publications present grossly oversimplified or distorted descriptions of architecture. The following quote is from the *Encyclopedia of Careers and Vocational Guidance:* "The Greeks are considered the first to have beautified architectural harmony (sic) . . . The Parthenon . . . was a major influence on Byzantine architects. . . . Architects usually work in ventilated, well-lighted offices. . . ." This will serve to make my point. The preparation and dissemination of well-founded, up-to-date information about architecture is of the utmost importance if gifted young women and men are to be attracted to the profession. Existing career documents are a source of confusion.

The influence of the practicing professional: Professionals in the field have had by far the strongest negative influence on women's career choices. More women in the study have been discouraged from pursuing a career in architecture by practicing professionals than by any other advisers consulted. Evidence is substantial. The feeling that architecture is man's territory is made explicit by prominent professionals in private conversations and public statements. These statements range from the well-known reference in a former career pamphlet, "I cannot, in whole conscience, recommend architecture . . . for girls," to the more recent comment of a Western architect, "On my part, I wouldn't hire a woman." These attitudes are echoed repeatedly in the advice addressed to many respondents in the survey by men practicing architecture. All evidence indicates that the profession has been active, not merely passive, in attempting to exclude women.

I found one exception in the survey. Fathers who are architects or are in related fields were the most supportive of their daughters' architectural career choice (87.5 percent of fathers quoted). Does this mean that design professionals who know a young woman as a person, and not as a statistic or a stereotype, do not hesitate to recommend architecture to her? It is an intriguing thought.

Architects have a significant influence on those contemplating careers in the field. More women in the study sought guidance from practicing architects than from any other advisers (architects were asked 42.4 percent more times than the next highest category). Although the discouragement factor shown is high (30 professionals advising against respondents' entry into architecture and 17 in favor), the point needs to be stressed that architects have been consulted often. The solicitation of advice from this source is natural and expected, but the impact of negative advice cannot be overemphasized.

The conceptions and misconceptions of the profession communicated by architects in practice carry great weight with young women seeking advice about a field in which published information is rare and often unreliable. Practicing architects carry the principal responsibility for guidance of young persons thinking of entering the profession. It is essential that the advice given be founded on substantive considerations and practical experience, and that the advisers be aware of the danger inherent in perpetuating stereotype attitudes.

Schools of architecture: Women students in architectural programs reported deeply felt and repeated experiences of discouragement from male instructors, administrators and students. One woman architect provided this summary of the attitudes of many male instructors and of their effect on the woman student: "Teachers and professionals did not actually tell me to go home, but by not taking me seriously made it very difficult for me. (It's hard to work efficiently when you are angry.)" Evidence from the study showed women's deep disturbance with their experience in architectural schools. A most common complaint was that the respondents' work was not taken seriously, echoing the statement above. Findings show a steady and widespread pattern of both overt and subtle discouragement, which confirms my own observations during five years of teaching in architectural design programs.

Importance of self-concept in design: Previous studies have described the direct effect on students' performances of preconceived confidence in their ability on the part of their teachers. The damage to women students' potential for learning, for self-realization and for growth in professional competence is especially grave in architecture because of the central element in architecture—design—and its unique learning enviromnent—the design studio.

The quality of esthetic expression is not objectively measurable; hence, one's concept of self is constantly on trial. Development of design competence is at the same time a very personal and a very social development—personal because solutions to given problems are based on individual values, and social because one must depend on constant communication with others in design development and communication. Emotional composure is required, for stress can severely limit a student's ability to achieve that almost complete focus on the whole mind that design demands.

Women 'feel their motivations questioned and qualifications doubted.'

Design is thus an activity in a learning process dependent upon a growing understanding of one's self as a participant in the process. Progress relies on the reciprocal network of social and cultural

judgments. A break in the system of communciation caused by emotional stress, personality clashes, negative cultural attitudes, social snobbery or discrimination serves to effectively separate the individual from the learning process.

Schools of architecture are often alien —in some cases hostile—places for women. Women are there in extremely small numbers; they feel their motives questioned and their qualifications doubted. The schools are male-oriented, and training is for a male-dominated profession. Given these factors, in combination with the singular characteristics of studio instruction and the requirements of growth in the design process, women generally experience conditions that are inimical to an evolving self concept and to developing competence in design.

Professional practice: The circumstances of the design studio are duplicated in the office. In both settings there are instances in which men sincerely encourage and support women, and several respondents mentioned such instances. One respondent told me: "I was discouraged (most of all) . . . by a man who had donated his time to go back to high school (for career day). . . . I just knew this was it. I was 16 at the time."

I have experienced similar occurrences myself and can vouch for their impact. In spite of these instances, for the majority of women and in the majority of the cases, entrance and success in architecture have required enormous perseverence and psychic costs.

Beatrice Dinerman reported in 1969: "Female architects are unified in their observation that women architects, to be accepted, must be exceptionally competent, possess an extreme degree of perseverence and stamina, work twice as hard, be gifted with both a thick skin and a sense of humor, and exhibit an excellent disposition in their working relations with others."

The situation has not changed perceptibly since then, nor is it unique to architecture. Mary Gardiner Jones, a vice president of Western Union, is quoted in a recent issue of *Business Week,* describing why, in spite of 15 years as an anti-trust lawyer and her appointment as a federal trade commissioner, she was never made a partner in a law firm: "This was partly, she concedes, because of a difficult personality . . . but mostly . . . because she was a woman. 'A man with my background would have been hired, and they would have chalked him up as a character, because there is always room for a character in a big firm, but they won't give a woman that tolerance.' " Women in architecture are subject to handicaps of a different nature. They have a low visibility and are outsiders in a field in which individual progress depends on recognition and on group acceptance and communication.

The number of women architects remains small. A set of psychic barriers, evident in the instances of discouragement I have described, serves as a major restricting influence. These psychic barriers are rooted in customs that make no sense; in the light of present social and political beliefs, such customs appear increasingly arbitrary, but they persist as effective myths in architecture.

I am not aware of any rational statements as to why women should not practice architecture. Certainly, considerable evidence in the study indicates that women are penalized by stereotypes sustained only by outmoded social customs and professional exclusiveness. The tenacious "gentleman's club" ethos—

Changes in the process of design won't automatically 'work in women's favor.'

grounded on the passé mystique of designer egotism, assumptions of personal creative autonomy and the artifice of design—affords examples of professional defensiveness and a type of practice that does not fit with the contemporary design process.

The myths persist, but evolving practice does not support them. Pressures to enlarge their involvement in the social process relative to design decisions are compelling architectural offices to change design procedures. A design process may be reviewed by a wide variety of participants—public, political and private—since design development itself has become crucial in coping with uncertainty and incompletely perceived needs. Architects acknowledge this when they refer to "design teams" and when they meet with citizens groups and building committees. But the anachronism of the "bold statement" by the willful creator is an enduring nostalgia, at the heart of the power struggle in which women, penalized by the secondary social status, are usually the losers.

Summary: Changes taking place in the design process do not mean that fuller participation by women will follow as a matter of course. For example, the changes toward open design procedures have not worked in women's favor as we might expect. Societal conventions even now do not accord to women access to certain levels of decision making in public spheres. As Susan Torre put it, "women as form givers" to "civic and business enterprises" have not been "assigned any place."

The need for change is recognized, not only by women but by professional organizations. The AIA/Association of Collegiate Schools of Architecture teachers seminar in 1975 and the AIA task force on the status of women are examples of willingness to initiate action. Much of the burden of implementation, however, has been placed on women. The president of AIA asked women, in effect, to act as role models when he suggested that they "accept the task of creating greater awareness among various sectors of the public . . . by participating in career days, lecturing to college classes and related activities. . . ." Given the small numbers, low visibility and isolation under which women work, it is unrealistic to expect them to accomplish this major task. The presence of more women architects is needed.

Although office practices and attitudes are obstacles to women's participation and advancement in architecture, education is the point at which the deadlock must be broken. Education, as Elizabeth Tidball has pointed out, depends upon the presence of role models: ". . . The development of young women into career-successful adults is directly proportional to the number of role models to whom they have access. . . ." In architecture, the pattern of discouragement must be broken by the introduction of role models. Men must assume part of the responsibility of serving as role models for young women who want to become architects. This can be accomplished in a number of different ways.

In the design studio, women must be given appropriate recognition in their intentions of following full professional careers and their motives must be accepted as worthy of regard. Women should be able to expect straight, critical help—being singled out for exaggerated attention can amount to the same thing as being embarrassingly passed over. Either extreme precludes the kind of constructive attention which is vital to student development in design.

I have three specific recommendations to offer:

- There must be a change in the content of information about the profession. Recruiting and advising of women is hampered by misleading career documents.
- More women must be brought into architectural programs. An increase in women students is directly dependent upon the placement and acceptance of women faculty, particularly in design.
- The crucial change on which all the rest hinges is in the mode of perceiving the role of women in architectural education and of responding to their presence in the studio and, consequently, in the offices in which they will be employed. □

The Rediscovery of Public Markets As Nuclei of Neighborhoods

Once shunned as uneconomic, they are coming back to life in cities from Seattle to Boston. By Ann Satterthwaite, AIP

The public market is making a comeback. Considered inefficient as marketing systems in the '50s and '60s and unproductive sources of revenue from prime downtown land, markets are providing transfusions of life for sterile downtowns in many U.S. cities. People have come to value their noises, smells, colors, bustle and, most of all, the one-to-one contact between buyer and seller.

The best public markets are more than cosmetic attractions for tourists and suburban dwellers. They are meeting shopping needs of people in close-in neighborhoods. And in many cases they are providing something of what is lost when pristine office plazas, tasteful signage, uniform street furniture and underground shopping arcades replace pushcarts, delicatessens, old shops, news stands and inexpensive ethnic restaurants. In fact, some of the most successful redevelopments have been the most modest, those that have maintained their original flavor and least disrupted the community.

Pike Place Market in the north end of downtown Seattle is a good example of this modest, respectful approach. Perched on a cliff above the docks and railroad tracks, and overlooking Puget Sound, it is a rambling structure with several floors of stalls, shops, bars and restaurants linked by ramps, passageways and stairs.

The market was founded 70 years ago and success came quickly. In 1911, it attracted an estimated 300,000 customers a month and was expanded to meet the needs of more than 1,000 farmers selling at 240 stalls. It continued to prosper until the 1950s when much surrounding farmland was yielding to suburbs and industry, and supermarkets and frozen foods were changing marketing habits. By 1957, only 56 stallholders remained, and the neighborhood was in decline.

In 1968, the Seattle city council approved a plan to transform the market area: A 3,000-car garage would be topped by a new market and around this would be arranged hotel and apartment towers and a plaza. News of the plan aroused public concern, out of which emerged a citizens' group, Friends of the Market, which drafted a petition to change the concept from demolition and clearance to rehabilitation and preservation. Friends of the Market proposed a seven-acre Pike Place Market Historic District, a plan which was approved by the state advisory council and won approval of Seattle voters in November 1971. The market has been placed on the National Register of Historic Places.

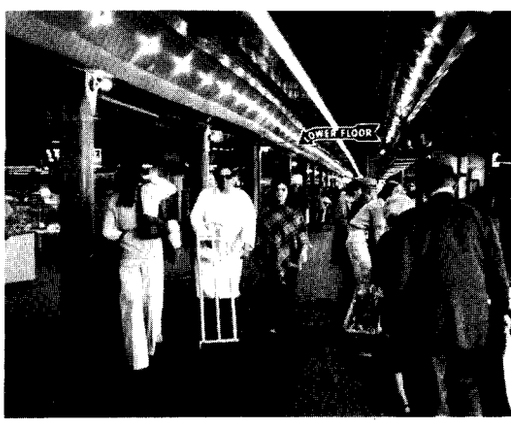
What was innovative about this historic district was its purpose: not to protect an architectural gem or to preserve an historic site, but to continue the existing uses within the market and to maintain the social environment of the market district, which also provides housing for a community of low-income residents. These residents, in turn, contribute to the life and character of the market.

An authority has been set up to rehabilitate, preserve, restore and develop structures and open spaces in the historic district. To maintain its function as a workplace, the authority is establishing low rent policies to protect small merchants.

Architect George Bartholick, AIA, planned the renovation so as to "retain the social environment and the functions of the market, the mix of merchants and market users, from panhandlers to uptown university shoppers." He refrained from imposing big-concept design "solutions," because he believes such work is

Ms. Satterthwaite is a planning consultant, lecturer and writer in Washington, D.C., whose special interest is historic preservation.

Seattle's Pike Place Market in the early '40s (left) and today (below).

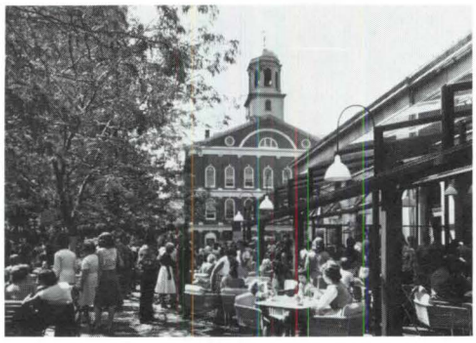


successful "if the market community is barely aware of any changes when the job has been completed."

The approach has been different in Boston, where Quincy Market has undergone a transformation from a wholesale facility to a profitable retail center for a revived waterfront. It is a 500-foot-long 1826 Greek Revival building, the centerpiece of the Faneuil Hall Markets (*see* Nov. '76, p. 10) adjacent to the new city hall.

The exterior was restored to its original appearance. Inside, however, the colonnaded first floor was redone in a creamy white and enlivened with a profusion of carefully designed signs to identify the 12 prerenovation merchants who have returned (at old rent scales for three years) and their many new neighbors. There are restaurants, raw bars, ethnic food counters and other vendors of frozen yogurt, home baked goods and the like. Care has been taken to avoid "arty, sentimental, and second-rate reproductions of 'antique' signs," according to the tenants' design criteria manual. The atmosphere is that of a bustling, chic, high-priced market.

Quincy Market has proved to be a magnet for the carriage trade suburbanites, tourists and downtown office workers



at lunchtime. Architect Benjamin Thompson, FAIA, in charge of the renovation, says: "The important task was to pull together the heart of Boston and, most particularly, to provide in a natural way the functions, service and dynamics that had long been missing from the city core."

Lancaster, Pa., has shown what can be done in a smaller community. King George II's charter for the borough of Lancaster set aside land granted to the city in 1730 for an open-air market. That site still serves the same function, although since the 1750s Center Market has been housed in several structures.

The building it now occupies was constructed in the 1880s from plans of an

Boston's Quincy Market (above) and Lancaster's Center Market (right).

English architect, James Warner. In its day, the building was admired for its graceful Romanesque lines, its efficiency, its good use of natural light and ventilation and its sanitary facilities.

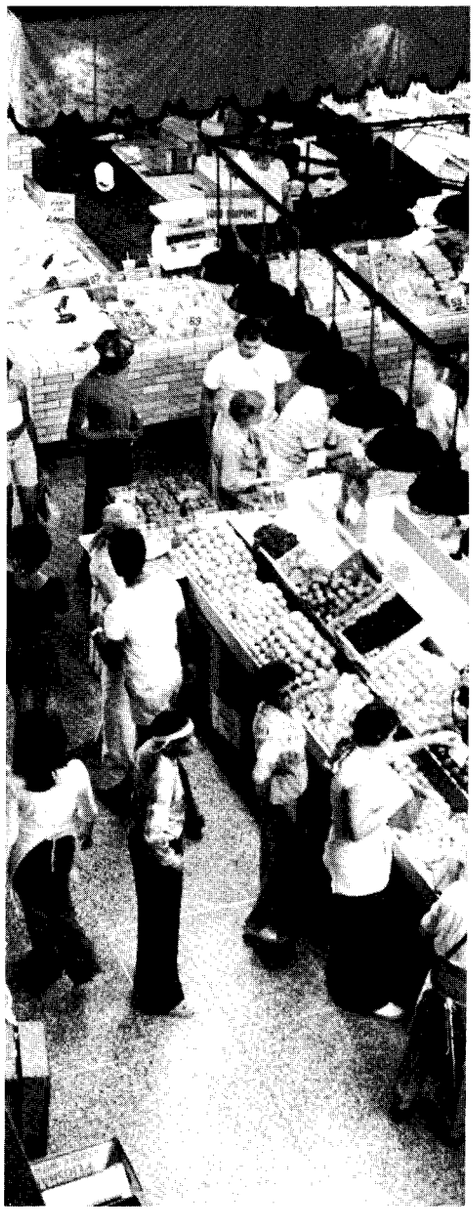
Lancaster, the center of the Pennsylvania Dutch farming country, took a hard look at its public markets in the 1960s and recognized their importance to the community. Center Market was seen as an economic and social magnet, requiring renovation and deserving landmark status in a proposed historic district.

Architect S. Dale Kaufman, AIA, who has since died, planned the renovation with a minimum of changes, principally upgrading lighting, heating, ventilation and sanitary systems. The market was kept open during the remodeling, part of which was done by stall holders and volunteers.

In announcing that the Center Market project had won a HUD design award for 1976, Lancaster Mayor Richard M. Scott said that increased market sales and larger downtown crowds on market days indicate that Center Market is the "keystone in downtown revitalization."

Baltimore has been the only city in the country which has kept a system of markets. Today, Baltimore is capitalizing on markets as assets to its neighborhoods, maintaining more than 1,500 stalls in eight markets located in the downtown section and in close-in neighborhoods. Each market has its own ethnic flavor.

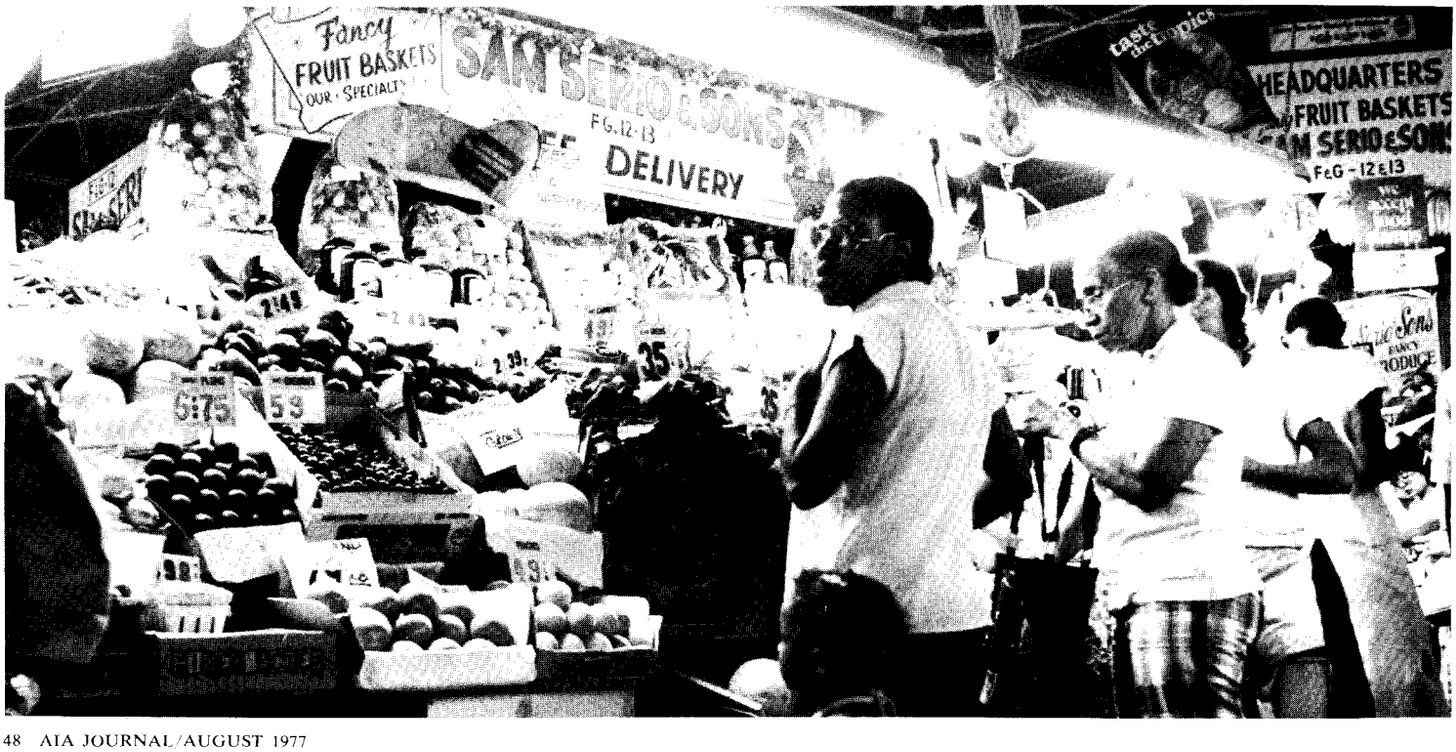
Baltimore's markets have experienced support in times of trouble. Centrally located Lexington burned to the ground in 1959 and Broadway was extensively fire-damaged the next year; both were rebuilt at the insistence of merchants and citywide patrons. For Hollins Market, patrons donated material and labor to replace broken windows. City hall has renewed its support of markets and surrounding commercial districts through a bond-financed program which has set aside $4 million for public rebuilding and $3 million for 7 percent, 20-year loans for private improvements.



Baltimore's centrally located Lexington Market on a busy Saturday afternoon.

Renovations of working markets in Seattle and Lancaster, reuse of a market building in Boston and ongoing support of a market system in Baltimore represent a turnaround in urban planning from a decade ago. What many considered blighted, outdated and inefficient in the 1960s have proved to be popular, even chic, in the '70s. But there are pitfalls. Upgrading can easily lead to uptowning: A place can easily stop functioning as a working market and become an amusement center—kitsch for the rich, as a Boston newspaper put it. A restraint is called for in market renovation, and even a realization that sometimes it is better to leave things alone. The natural inclination of the designer to impose a sense of order and cleanliness, for example, may provide a neat, stylized market, but it can also kill an essential part of a market—its earthiness and real-worldliness.

In many cases, the renewal efforts have originated with the people who work in and use markets and not with city halls, urban redevelopment agencies, realtors, bankers, planners or architects. Recent efforts prove that renovations call for different individual approaches, but in each case the functioning of the market, needs of the merchants, desires of the shoppers and the market's role in the neighborhood and city are fundamental concerns. An architect who understands and responds to these concerns can reinforce the qualities a market contributes to urban life. □



The Architectural Graduates of The 1970s: Where Are They Now?

Among a sample surveyed by ASC/AIA, only a little over half have found work in architectural firms. By Ella Hall

A survey conducted by the Association of Student Chapters/AIA of 702 alumni who have graduated from architectural programs since 1971 shows that less than 5 percent are unemployed and not in school.

However, only 51.8 percent are working in traditional architectural practice, as defined by the National Council of Architectural Registration Boards (NCARB). Another 21.9 percent had jobs related to architecture, for which NCARB may allow partial credit, such as working for engineers, federal contractors, landscape architects, government agencies and as teachers of architecture.

Nearly a fifth of the respondents (19.3 percent) were in jobs not directly related to architecture, defined as those for which NCARB gives no credit. These ranged over some 100 occupations, from jewelry design to television production. Ten percent of the respondents were continuing education either full or part-time.

The ASC survey, entitled "probing architectural career opportunities," was funded by the National Endowment for the Arts and the Graham Foundation for Advanced Studies in the Fine Arts. The study included graduates from 68 schools all over the United States. Some have NAAB accredited programs, others have nonaccredited curricula and the remainder are junior colleges.

Over half of the survey respondents were between ages 25 and 29, while approximately 30 percent were over 30 years of age. Women comprised 15 percent of the sample, a far higher proportion than their numbers in the architectural profession. More of the respondents in the 20- to 24-year-old age group reported that they were either continuing their education or were unemployed than did older graduates. A larger number of single graduates than married graduates were either unemployed or were continuing their education.

The Bachelor of Architecture degree was the highest obtained by over half of those surveyed, and the study showed a strong correlation between B. Arch. graduates and employment in traditional architectural practice. Graduates of four-year programs were most heavily represented among those who were continuing their education.

ASC's study focused on the group in the "gray area" working in jobs which receive only partial or no credit at all from NCARB. By examining case histories reported on questionnaires, ASC attempted to identify some of the "alternative career opportunities" chosen by architecture graduates.

One graduate reported that he is a successful manager of a New England construction company. He commented that since the number of students now in architectural schools is nearly equal to the number of architects in practice, "many more job opportunties must become available—opportunities which allow for experience credit toward licensing." Another graduate who chose to work in construction is a dedicated missionary who at the time of the survey was a construction supervisor for a religious complex in Missouri, and expressed satisfaction with his chosen work.

Because jobs in traditional architectural practices were in such short supply when she graduated, explained a woman respondent, she decided to accept a teaching position. Although she hopes to become a registered architect in time, she said she has no regrets about having chosen an alternative along the way. She added that she thought architectural school is a good preparation for many things and that graduates from architectural programs shouldn't feel obligated to become architects if it isn't what they finally decide they want.

An alternative career found by one young man who graduated from architectural school was banking and administration. He said that his architectural training helps him evaluate and inspect property for construction loans.

A New York City architecture school graduate with a love for dance used her architectural training to become a scenic designer for a theater company. Another graduate who is a toy designer today said he chose architectural school not as preparation for a job, but to learn a disciplined approach to work. He suggested that schools of architecture broaden their concepts of what an architectural professional is and what his or her curriculum should include.

In a similar vein, another woman graduate said she believes that architectural education provides the best foundation for learning all forms of design. Afraid that she would starve if she insisted upon going into architectural practice after graduation, she took a job as a discotheque and lighting designer, and feels that a thorough knowledge of lighting will help her create "marvelous spaces, surfaces and textures."

A man who left architectural school to become a flight instructor and then a flight engineer attributed his change of professional goals to misleading and inadequate counseling in architecture school. As a student, he said, he had no realistic understanding of the architectural profession.

Another graduate, whose main interest was the ministry, used his architectural training to obtain a job in construction while studying for the ministry. He said he went to architectural school only because he did not know what he wanted to do with his life when fresh out of high school.

Still another architecture graduate is now training to become a television producer, and said that his four years of broad architectural training, with exposure to a wide range of subjects and people, were good training for his chosen field. He added that "architects have got to become more involved in everyday life. They have brains like everybody else but tend to use them only in limited ways."

They are in a wide variety of fields ranging from contracting to teaching to toy design.

Profiles like the above tell us what some of the alternative careers are that architectural graduates are pursuing, but they do not adequately answer the question, "Why are so many of the graduates surveyed by ASC choosing fields that are relatively new to architects?"

The answer may be that there aren't enough traditional architectural jobs to go around. It is also possible that an education in architecture encourages people to be creative and search for new alternatives. One conclusion that should be drawn from the fact that so many graduates are choosing new fields is that the profession ought to broaden its concept of itself to include and reward alternative careers in architecture. □

Ms. Hall, past president of the Association of Student Chapters/AIA, directed the study described in this article.

A System of Profit Planning as a Tool For Management of Architectural Firms

The purpose is 'to annually plot a course and continually assess where you are going and how you are doing.' By Douglas A. Bevis

Profit planning today is crucial for design firms, given the current economic environment and the eroded profitability of the profession. But it is a much maligned subject, traditionally obscured by endless reams of reports and printouts tucked away in files. This process confuses and alienates principals of firms both large and small. The result is a turning away in frustration, leaving the numbers and the helm to financial specialists. Many a plan is formulated only to be filed away immediately in the financial archives.

Yet profit planning need not be obscure and dull. It can and should be a meaningful expression, directly and immediately useful in the day-to-day management of a firm and its projects. A profit plan of some sort is essential. Without it, the practitioner can hardly be considered to be in control of the business.

My intent in this article is to clarify and to simplify profit planning for the practitioner. While applicable to firms of all sizes, the format presented is oriented primarily towards the needs of small and medium-sized firms. The emphasis is on a clear, concise approach for easy communication to your design colleagues and to those who budget and control projects.

Simply stated, profit planning is a management tool formalizing the firm's financial objectives. Though merely one of many such tools, it has numerous applications in the management of a firm: project, overhead and officewide budgeting; cash flow planning; setting billing rates; manpower planning; organization and leadership within the firm. The objective of profit planning is to annually plot a course and then to continually assess and communicate *where you are going* and *how you are doing.*

It is a circular process. First, identify current costs; second, establish a profit goal; third, total costs and profits to generate a fee structure; and fourth, compare this with the dollar amount of work which has been or which is expected to be contracted. The cycle then repeats as you compare the work contracted to the initially assumed levels of labor, overhead and profit, and it continues until an equilibrium is reached, expressing your optimal plan for the coming year.

The approach in The Sample Profit Plan* (Figure 1) differs somewhat from that in the AIA's 1968 book, *Profit Planning in Architectural Practice.* First, outside consultants are subtracted from Gross Fees, leaving Net Fees. Only those fees related to (i.e., earned by) the firm's own labor dollars should be considered in the plan. Second, all labor costs are grouped together and classified as either project-assigned labor (Direct Expense) or unassigned labor in Overhead.

Apart from these differences in definitions, the format adopted greatly increases the usefulness of the plan by focusing directly upon the relationship between firmwide profit planning and individual project budgeting. The one-page plan does the following:

- Identifies and categorizes all costs and profit assumptions;
- Translates these into an Income Statement for monitoring office and project performance;
- Expresses the Income Statement in "Time Card Ratios" directly applicable to both office and project budgeting.

For simplicity in analyzing a firm's cost structure, the minimal number of categories should be used. Each cost is (1) either labor or other cost, and (2) either assigned to a project or unassigned. But what relationship between these categories is most useful as a format for effective profit planning? The suggested approach is to examine the firm's cost structure with just five line items as per Figure 1:

Figure 1

THE SAMPLE PROFIT PLAN

	TOTAL	DIRECT EXPENSES	OVERHEAD		number of people	pay rate/ hour	hours/ year
PRINCIPALS' DRAW	$ 49,920			=	2	x $ 12.00	x 2080
80% project assigned		$ 39,936					
20% unassigned			$ 9,984				
TECHNICAL SALARIES	132,580			=	10	x $ 6.37	x 2080
86% project assigned		114,064					
14% unassigned			18,516				
ADMINISTRATIVE SALARIES	20,000			=	2	x $ 4.80	x 2080
40% project assigned		8,000					
60% unassigned			12,000				
1. TOTAL LABOR	202,500	162,000	40,500				
2. NON-REIMBURSABLES	16,200	16,200					
3. OVERHEAD	137,700		137,700				
4. NET PROFIT (before tax)	129,600			$ 129,600			
5. NET FEES	486,000	178,200	178,200	129,600			

INCOME STATEMENT:		TARGET %	TARGET TIME CARD RATIO
NET FEES	$ 486,000	100.0	3.00
– DIRECT LABOR	162,000	*33.3*	1.00
– NON-REIMBURSABLES	16,200	3.3	0.10
GROSS PROFIT	307,800	63.4	1.90 gross profit ratio
– OVERHEAD	178,200	36.7	1.10
NET PROFIT (before tax)	129,600	26.7	0.80

NOTE: An entirely hypothetical example for a firm with a staff of 14 people.

**All terms capitalized in the article are terms contained in or related to Figures 1 and 2.*

Mr. Bevis is an architect with Skidmore, Owings & Merrill in Chicago.

(1) Total Labor (gross pay for all staff, including Principals' Draw);

(2) Non-Reimbursables (project-related expenses which by contract are not reimbursable by the client);

(3) Overhead (all other expenses: general & administrative, payroll burden, contingency);

(4) Net Profit (before tax).

The sum of these four items equals:

(5) Net Fees (gross fees minus the major outside consultants equals total fees billed which are related to the firm's labor effort).

Any dollar amount under each of these five items falls into one of three subtotals: (1) Direct Expense, which is all project-assigned costs; (2) Overhead or Indirect Expense, and (3) Profit.

The approach of Figure 1 is preferred because it provides the minimal elements necessary to formulate an Income Statement isolating Gross Profit (i.e., project performance) and Net Profit (i.e., total office performance). When expressed as target ratios (based on total Direct Labor dollars equals 1.00) the Income Statement can be used both as a model and as a monitoring device for project and office budgets. Ratio analysis is the vital direct linkage between annual profit planning and day-to-day management.

The steps in formulating a profit plan for your firm using the format of Figure 1:

(1) The entire upper third of the plan is for identifying and categorizing labor costs—the key element. Summarize staff costs by using average hourly pay rates for your technical and administrative staff, and by assuming a set hourly draw for all principals. The draw should equal 50 to 65 percent of the minimum acceptable remuneration for the principals' time, investment and risk.

(2) Estimate the percentage split between project-assigned (Direct Labor) versus unassigned labor (in Overhead) for each staff group. For principals, it is assumed that 80 percent of each 40-hour week is assigned to projects, which would be about 50 percent of all principals' time when unpaid overtime is included.

(3) Estimate Overhead and Non-Reimbursable expenses, based on past records and changes planned. Reimbursable expenses are not considered since they are billed right back to the client.

(4) Set a profit goal including contingency, bonuses or profit sharing as applicable to your firm, and the remaining 35 to 50 percent of the principals' minimum acceptable remuneration.

(5) Formulate an Income Statement from this structure.

(6) Express the Income Statement in ratios. Also shown are percentages of Net Fees, if preferred. However, use of ratios is recommended. These ratio items should be based on 1.00 equals project-assigned Direct Labor dollars.

Figure 2

ORIGIN OF RATIOS

	ACTUAL 1968 NATIONAL*	ACTUAL 1974 FLORIDA**	EXPECTED	TARGET USED
NET FEES	2.46	2.26	2.63	3.00
– DIRECT LABOR	1.00	1.00	1.00	1.00
– NON-REIMBURSABLES	0.07	0.10	0.10	0.10
GROSS PROFIT	1.39	1.16	1.53	1.90
– OVERHEAD	1.15	0.94	1.10	1.10
NET PROFIT (before tax)	0.24	0.22	0.43	0.80
	Recent performance of the architecture profession		Improved performance expected via profit planning	Extremely optimistic target one strives to attain

* The Economics of Architectural Practice, AIA, 1968, Pages 9-15; firms with $150,000 to $500,000 in Net Fees.

** The Economics of Architectural and Engineering Practice in Florida, FAAIA/FICE, 1974, Figures II-1, II-2, and II-3, architecture firms only.

The Sample Profit Plan "target" is based on a Time Card Ratio of 3.00 to 1.00—i.e., 3 x Time Card or 200 percent markup. However, the focus should be not on the numbers, but rather on the *relationships* established by the plan. The material is designed to provide a financial and managerial model for profit planning in design firms of all sizes. The numbers and ratios, the financial structure and the profitability in The Sample Profit Plan are entirely hypothetical. This is not intended to be used as an actual plan for any firm to replicate.

'The firm's financial description should parallel the true nature of the business.'

The Net Profit and the Net Profit Ratios in the plan are extremely optimistic, as shown by the comparisons in Figure 2. The performance of the design professions in recent years has been one of eroding profitability. Planning efforts should seek to foster an understanding and a reversal of this process.

The "expected" performance is much more realistic than the extremely optimistic "target" performance in Figure 2. Philosophically you may object to setting an unobtainable goal, in which case you could make Figure 2's "expected" performance your "target." This is perhaps a wise choice for industrial corporations with standard costs and inventoried products. But this approach is not appropriate in the design professions where project costing is so difficult, and where business is so cyclical. In any case, the assumed profit is and should be heavily laced with contingencies so that any shortfall in profit performance will *not* have to come out of the Principals' Draw. Alternate targets should be examined. But the only meaningful profit target is the one you set for yourself.

The plan is constructed using raw payroll costs as the labor portion of Direct Expenses. If preferred, a Direct Personnel Expense (DPE) model can be developed simply by transferring payroll burden from Overhead to Direct Expense. This reduces the multiplier or markup required to achieve the same profit level.

That profit planning can be presented in such a concise fashion speaks to the special nature of professional service firms whose sole products are the time and skill of professional staff members. But the absence of an effective planning format has too often obscured the basic issues. Accountants and auditors are most attuned to the financial structure and needs of capital-intensive industrial clients. Their use of such models in professional service firms is inappropriate. Instead, practitioners should require that auditors set up and monitor the firm in accordance with The Sample Profit Plan so that the financial description of the firm will parallel the true nature of the business. This will increase the practitioners' effectiveness, whether they are nego-

'Monthly reviews must monitor actual performance relative to budgeted costs and ratios.'

tiating fees with clients or negotiating a line of credit with bankers. In such cases, a thorough understanding of a sound business plan is essential.

The Figure 1 model is equally applicable to firms of all sizes and configurations. Endless detail and sophistication can supplement the model without distorting its fundamental soundness. However, whether your financial controls are manual or computerized, sophistication or complexity for its own sake should be avoided. Keep it simple and stay in control of your firm.

Formulating the plan in dollars and ratios is merely the first step. Making profits requires that the plan be implemented effectively. As Figure 3 illustrates, fee and cost responsibility must be assigned to specific individuals. The approach used should depend entirely upon the type of organization, and the style and capabilities of key personnel.

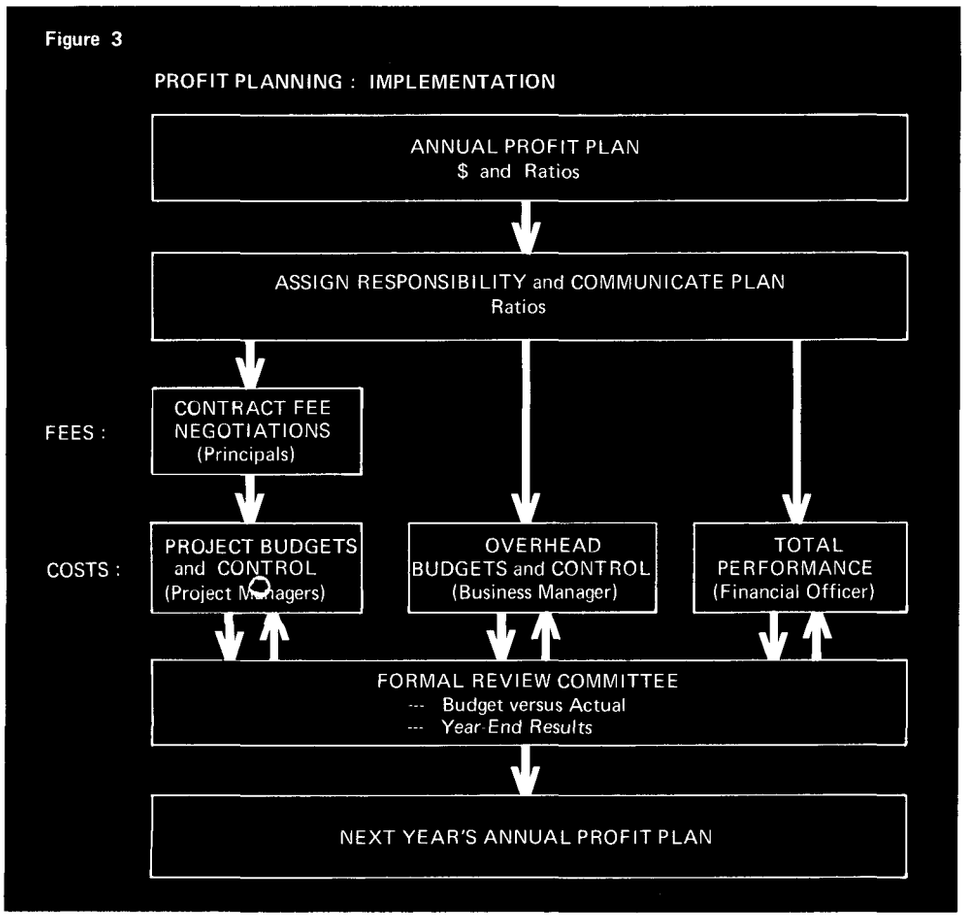
The plan's implications for design projects is communicated in terms of Gross Profit Ratios relative to project-assigned Direct Labor. At this stage, the simplicity of the ratio concept becomes crucial. Each project team need only understand that for each Direct Labor dollar expended, a Gross Profit amount as determined by the ratio must be generated. If all meet their targets, then in the aggregate the firm will be on target at a given level of Net Fees and Overhead.

A formal monthly review must be conducted to monitor actual performance relative to budgeted costs and ratios. The performance of project managers is evaluated based on the Gross Profit Ratio. Gross Profit, not Net Profit, identifies *project* performance. Gross Profit considers only those costs which the project staff can control. Do not try to allocate Overhead to each project—a fruitless and arbitrary process.

A business manager monitors actual Overhead costs and a project manager monitors each project. Officewide, Net Profit is determined by the financial officer. In small firms, a principal will monitor all of the above. But even so, the distinctly different nature of each of these management functions should be considered.

Profit planning need not be mysterious. The most fundamental requirement is that the plan be simple enough to be communicated in a single page, as in Figure 1, and therefore *useful* in day-to-day budgeting and project management. The emphasis must be on *communicating, not calculating.* If the plan does not tell key designers *where you are going* and *how you are doing,* then the plan and the planning process should be re-examined. □

Figure 3



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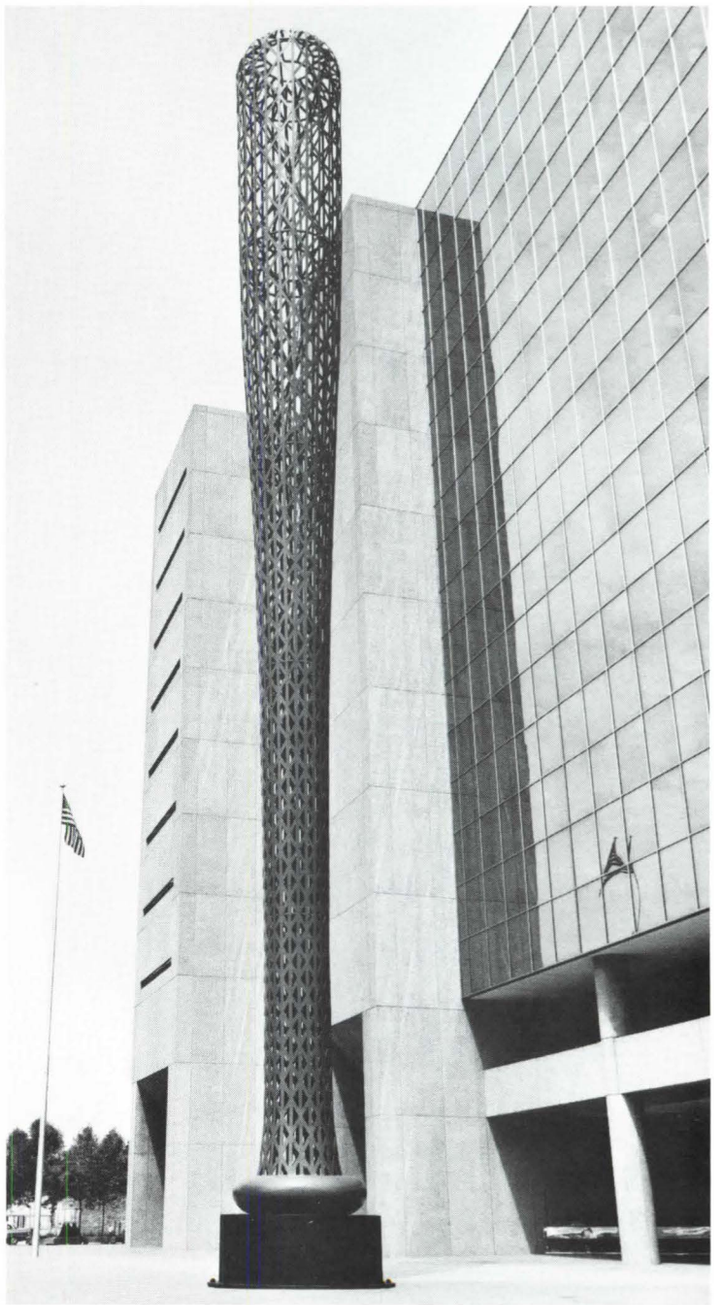
If your firm can benefit from a better E&O program, let us go to bat for you. Have your broker give us a call.

*Engineering News-Record; May 19, 1977



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The results are in.

Grueling, independent tests by Bowser-Morner Testing Laboratories—using National Bureau of Standards performance criteria for built-up roofing systems—have proven what we've been saying all along:

When it comes to thermal shock performance, our Fiberglas* Perma Ply-R built-up roofing system is superior to conventional systems.

As defined by the National Bureau of Standards, "The Thermal Shock Factor (TSF) is an indicator of the roof membrane's ability to withstand the normal temperature changes of its environment. Values of the coefficient of expansion, tensile strength, and load-strain modulus can be used to calculate the TSF."

The heart of our system is the unique, inorganic Perma Ply-R felt. It works two ways to give the system its strength.

First, when daily temperature changes cause a roof to expand and contract, Perma Ply-R is the best reinforcement it can have. That's because the Perma Ply-R felt is made of strong, continuous strand glass fibers. So its physical strength characteristics are similar, both longitudinally and transversely.

Second, Perma Ply-R helps create a monolithic roofing system. The strongest kind of system there is. The reason: Perma Ply-R is a porous felt. So it meshes totally with the bitumen.

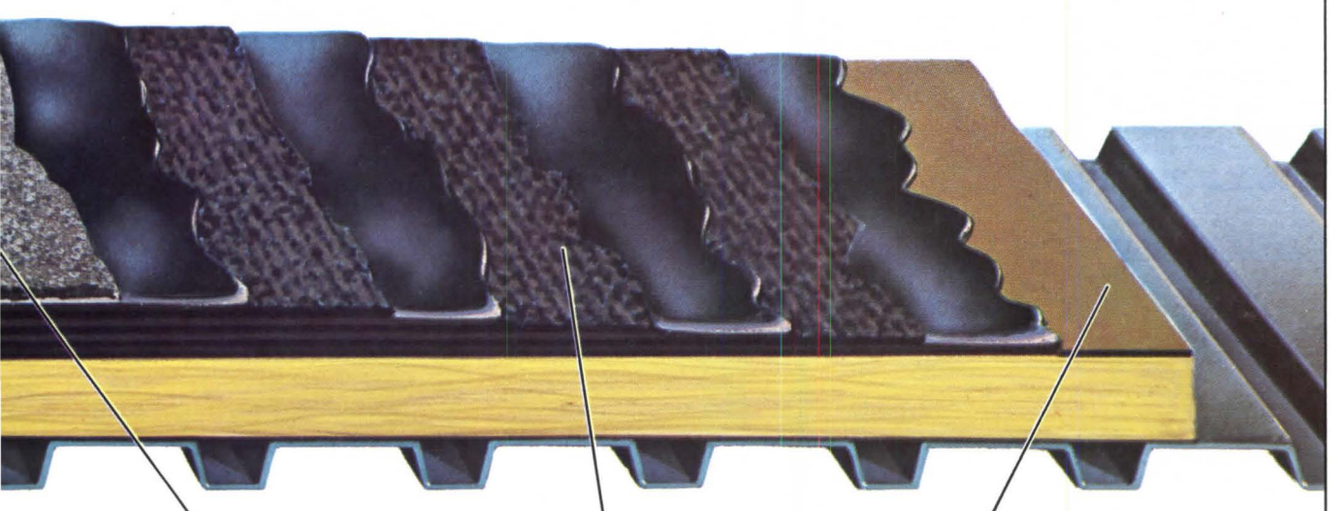
What does all this mean to anyone who's faced with specifying a built-up roofing system?

Simple.

Properly installed, our Perma Ply-R system minimizes the possibility of splitting, blistering, and internal deterioration of membranes. It has the potential to outlast any other BUR system money can buy.

If you want to see the "Thermal Shock Performance Comparisons," please contact your local Owens-Corning representative or write: M.I. Meeks, Owens-Corning Fiberglas Corp., Fiberglas Tower, Toledo, Ohio 43659.

They've got the test results that prove every word.



Our Perma Cap surfacing sheet combines two materials: Fiberglas—so it's tough, won't warp or rot. And inert, non-combustible white ceramic granules that reflect sunlight and help minimize thermal shock.

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Our Fiberglas roof insulation has its own Fiberglas reinforced asphalt cover. So the bitumen can be applied directly to it, making the insulation an integral part of the membrane.

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Circle 14 on information card

Saarinen from page 37

"Now, I realize fully that there are some objections to this mode of corporate life. I approached IBM with somewhat similar suggestions. They turned me down, even if it would have saved Tom Watson money. General Motors also did not wish to go along with this. They never told me quite why. Their objections, as well be yours, are that legs of Western civilization simply are not used to sitting on the floor. This is all tommyrot. In six months people would have developed the ability, and they could think with joy about the muscles they would never have used if they were not working for Deere & Company. Then the argument will go: Yes, maybe so, but what about visitors? Quite frankly, for them you may have to provide an occasional chair. But not for all visitors. A large percentage of your visitors come from the ranches of the West and there they have a way of kneeling and leaning on one leg. Thus a large percentage of occasional chairs for visitors could be eliminated. It really boils down to keeping six or eight chairs around for the Wall Street people when they come to look you over. They are not very flexible and their joints creak.

"I feel confident that you'll be sympathetic to this whole approach. After all, you were brought up in California, and California owes so much to the Far East.

"Now I've outlined my thoughts about the furnishings for the special areas, and as you see, they are in conflict with your suggestions. I hate the word compromise, but I suppose there's nothing else to do but try to hammer out one of those.

As ever,
Eero"

Perhaps it could be said that this friendship between architect and client was too cozy. Certainly it was pleasant. But it was also exciting, on both sides—a very necessary quality, it seems to me, in architecture or any other business that is worth the doing. We wanted a very good building that would honor our people and our site, enriching both, and a structure that might somehow suggest the character of the John Deere company as we had lived it.

A test section of steel serves to dedicate a tree to the architect.

In order to convey my thoughts to Eero in writing, I sent him a letter 20 years ago, in 1957. Here's what I said: "Dear Eero:

"Although you and I have discussed our building project in some detail on several occasions, I believe that it may be appropriate for me to set down on paper a few fundamental ideas that could be helpful to you in creating a new headquarters for Deere & Co.

"First, let me say that I have no preconceived ideas as to the specific design of our new buildings. I believe creation of the forms and relationships of these buildings is basically your responsibility.

"At the same time, I believe it is our responsibility at Deere & Co. to do all we can to help you create building designs which will be in harmony with our functions and traditions, and also be indicative of the objectives and progress we envision for our future.

"The men who created this company and caused it to grow and flourish were men of strength—rugged, honest, close to the soil. Since the company's early days, quality of product and integrity in our relationships with farmers, dealers, suppliers and the public in general have been Deere's guiding factors.

"In thinking of our traditions and our future, and in thinking of the people who will work in or visit our new headquarters, I believe it should be thoroughly modern in concept, but at the same time, be down to earth and rugged.

Sincerely,
Bill"

Now, let's ask, what was Eero after? At about that time, Saarinen made a speech which revealed, perhaps, what he wanted in all his buildings. He said, ". . . This is a new kind of civilization in which the artist will be used in a new and different way. The neat categories of bygone days do not hold true any longer. His job requires a curious combination of intuition and crust. . . . Our architecture is too humble. It should be prouder, more aggressive, much richer and larger."

Just a week after our board of directors voted the appropriation for construction, Eero died suddenly when he was only 52 years old. Our building was completed 36 months later in 1964. It has since aged very well. The steel has darkened against the elements, and now almost matches the wet stems of the trees. Eero liked the trees, too, especially a broad spreading oak near the main entrance that he went to particular effort to save. We have moved a part of the test section of the Cor-Ten steel to a spot near that tree and inscribed it in memoriam to our architect. It reads:

"Eero Saarinen, Architect
While selecting the site for these buildings Eero Saarinen was impressed by the trees he found here. This oak was his favorite. Today it is gratefully dedicated to his memory.
William A. Hewett, Chairman
Deere & Company, June 5, 1964"

Let me turn briefly to the subject of the John Deere building program as it has evolved during the years since we engaged our *first* independent architect, because, you see, we *do* engage independent architectural firms now.

Since 1955, Deere & Co. has put into construction a total of 61 buildings—including completely new structures, major renovations, large new wings on old buildings and the like. And we are pleased with the buildings we are getting. We all know that most people need something tangible to live by and work by, something visible—especially when we realize how many people spend more waking hours in their places of work than they do at home. For me it is deeply rewarding when our employees bring their families and friends to see where they work, with pride—and many of them do.

Among the buildings we have underway is the expansion wing of our Moline administrative center, in the site Eero planned for it. It is larger than he or we predicted, with an enclosed garden atrium. It is keeping faith with its paternity. The architects are Kevin Roche and John Dinkeloo. Eero also knew how to design an enduring architectural firm as well as buildings for the future.

The building gave the company 'an additional pride in what we were about.'

How can I sum up this client's story?

A few years ago I happened to read an application for an appointive position in our federal government. It was a long and comprehensive form, and although I didn't fill it out, I was curious about the type of information it sought.

In addition to the usual biographical questions, one query in particular caught my eye. It asked, "What is the most important thing you have ever done?" That kind of question really chops one down to size. Try it on your dinner partner next time the conversation gets dull.

But, seriously, I did wonder what I had accomplished in the past 63 years that was worth writing down on paper and sending to the powers that be in Washington. I showed the question to my wife and she quickly replied, "There's no doubt about the answer to that question. . . . The most important thing you ever did was to build that building with Eero."

All considered, I think she is right. Because it was an experience in which I became deeply involved and it greatly enriched my life. But beyond that, it added a new dimension to our business, a heightened style of going, an additional pride in what we were about. In many fundamental ways, it has raised the sights of all people both in and outside our community who in one way or another are affected by Deere & Co. □

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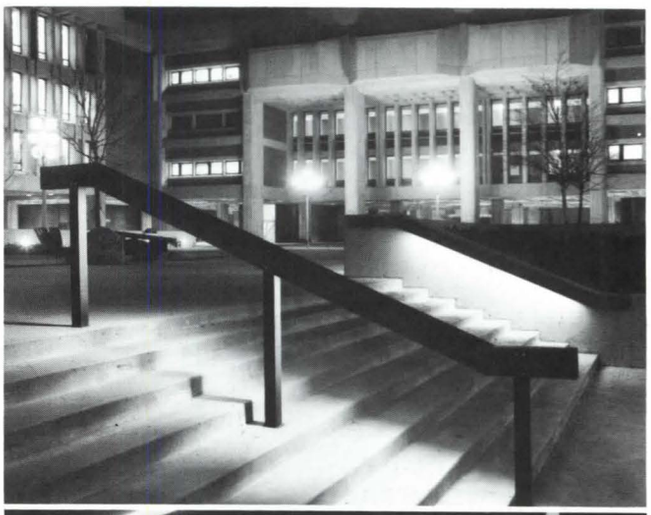
Long, low, linear light.

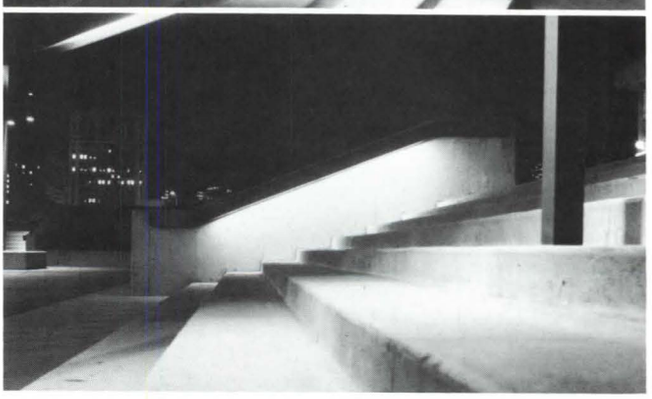
Sterner's Illuminated Rail-Lite is the ideal solution to stairway and walkway lighting problems.

LONG. For interior and exterior malls, pedestrian overpasses, stairways, path systems . . . wherever you need a uniform light source that can go the distance, consider Sterner's Illuminated Rail-Lite. It is constructed of heavy gauge extruded aluminum in one-piece sections up to 16 feet long. It can be mitered to change direction and go around corners. Also available non-illuminated to provide continuity of design throughout the project.

LOW. A Sterner Illuminated Rail-Lite puts the light right where you want it — down low, close to the steps or walkway — not up on top of a pole where it can interfere with the mood you have created. Available as free-standing or wall mounted railings. They satisfy OSHA requirements for safety and construction.

LINEAR. The usual solution to stairway and walkway lighting has been the use of standard step and riser lighting fixtures. But the light distribution from these fixtures is unsatisfactory because they create mere pools of light. The best solution is the linear light path laid down the entire length of the stairway or walkway by Sterner's Illuminated Rail-Lite.





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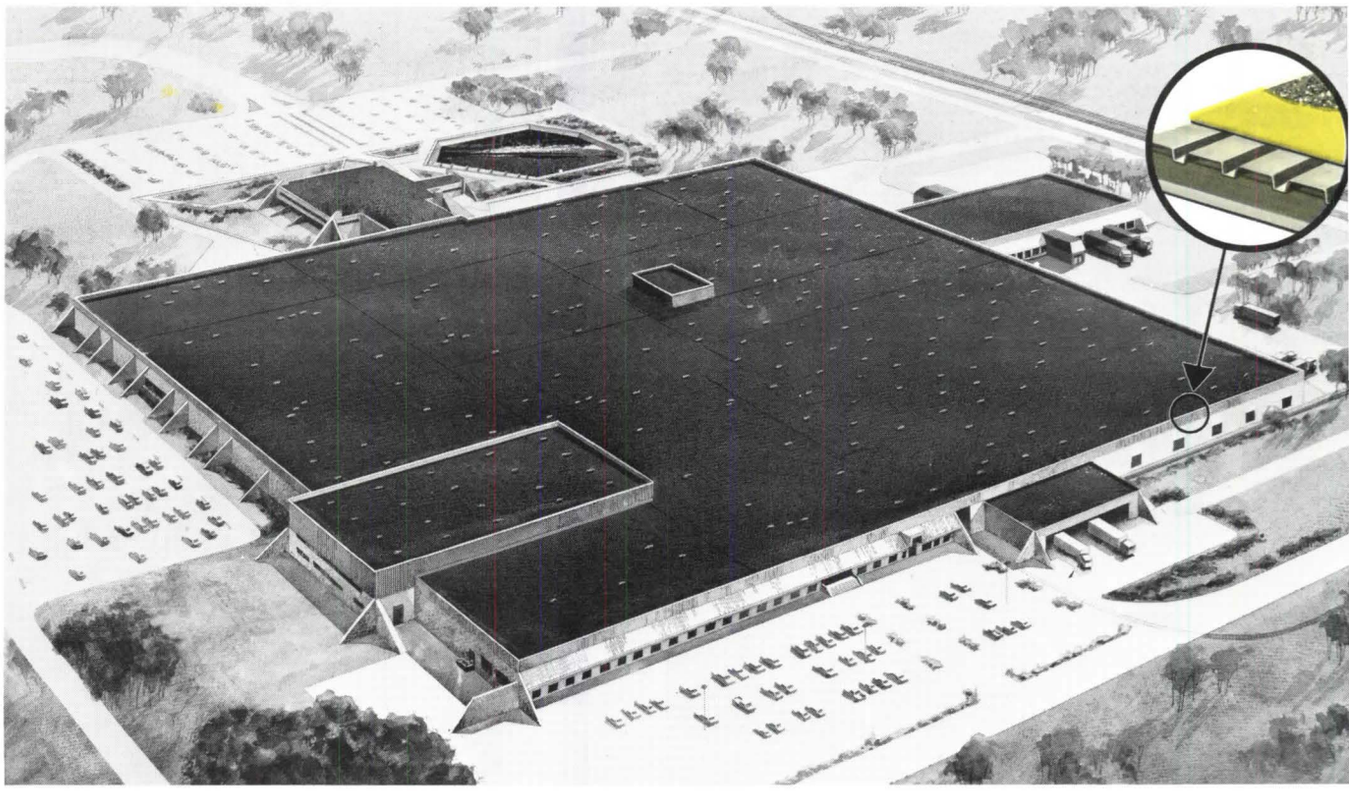
Circle 16 on information card

Insulation is

$1,849,996

Projected cost to heat and cool the 46-acre J.C. Penney warehouse for 20 years with only 15/16-inch Fiberglas roof insulation.



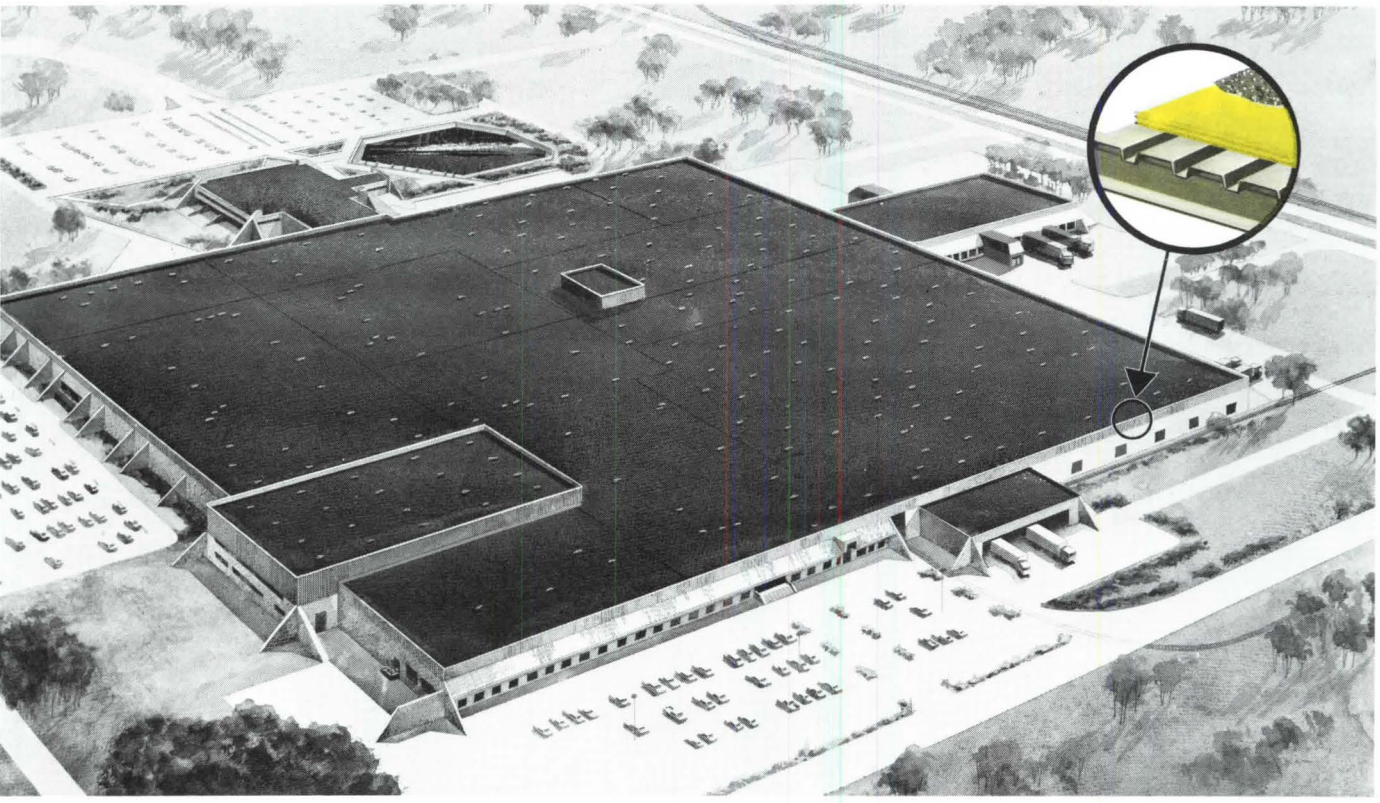
Owens-Corning Fiberglas roof insulation—the only glass fiber roof insulation on the market. Dimensionally stable. Retains thermal value. Easier and less expensive to apply than organic/mineral boards. For over 30 years, the *best* base for built-up roof decks.

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

cheaper than oil

$877,972

Projected cost to heat and cool the 46-acre J.C. Penney warehouse for 20 years with thicker 2¼-inch Fiberglas roof insulation. (After allowing for the added cost of thicker insulation!)



A remarkable savings of $972,024! With it, architect Paul Slusarev, Project Manager of the massive new J.C. Penney warehouse/office in Lenexa, Kansas, is helping to point the way for designers of schools, offices, stores, and other commercial buildings everywhere.

Saves money two ways

Using 2¼ inches of Fiberglas* roof insulation vs. a conventional thinner layer saves money two ways:

1. It saves on energy costs. Estimated savings per year, based on gas heating and electric cooling in Kansas City, Kansas, with a projected increase in energy costs at 7% per year and future savings discounted at 10% per year: $64,160—or $972,024 every 20 years.

(Due to present availability of natural gas, propane and fuel oil are used as additional fuels for heating, and as a result of using these higher-priced fuels, actual savings may vary.)

2. It saves on construction costs. The first cost of this energy-tight warehouse is actually lower than if a less efficient version had been built! Reason: the improved thermal performance of the roof permits use of less costly heating and cooling equipment. The savings are large enough to cover the added cost of the thicker roof insulation *twice* over.

Smart for re-roofing, too

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

Find out the recommended amount of Fiberglas roof insulation to use to save *your* clients money. Call your Owens-Corning representative, or write N.Y. Meeks, Owens-Corning Fiberglas Corp., Fiberglas Tower, Toledo, Ohio 43659.

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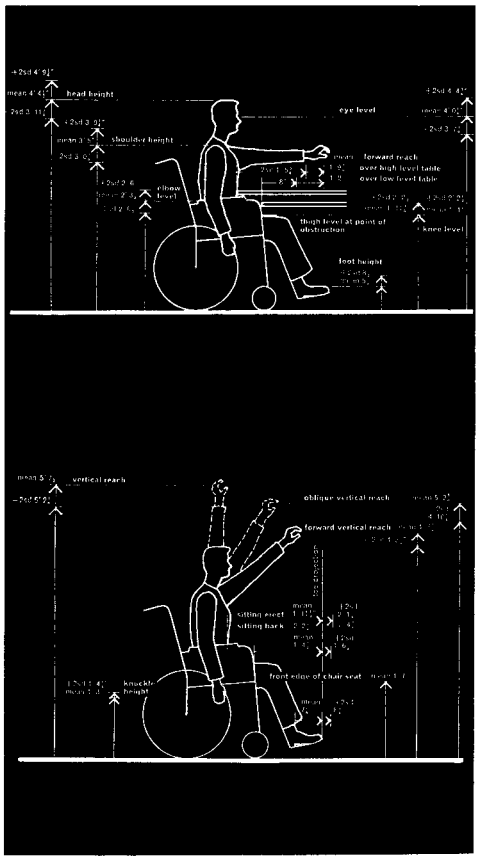
Designing for the Disabled. Third edition, fully revised. Selwyn Goldsmith. London: RIBA Publications, 1976. 525 pp. 20 lbs.

This third, fully revised edition again offers the architectural profession an unparalleled discussion of the design needs of people with disabilities. Displaying an uncommonly insightful understanding of the problems of disability, Goldsmith proposes the following definition of "handicap" as it relates to architecture: ". . . the cumulative result of the obstacles which the lack of suitable facilities in buildings interposes between the individual and his maximum functional level." In sensitivity to the pertinent issues, breadth of subject matter and depth of detail, this edition far surpasses other references available.

Like most books on the subject, this one gives a thorough analysis of individual design elements—anthropometric measurements, design details, fixtures, materials, hardware and so on. But it goes beyond this superficial level in several important aspects.

First, the design recommendations are accompanied by detailed explanations of functional considerations, giving the designer insight into the problem as well as into a possible solution. Second, it not only presents disjointed elements, but explores how they may be arranged into workable spatial layouts in institutions, public buildings and housing, This feature has obvious value as there are many examples of buildings today which have been built to code but which are unusable by people with disabilities, because the elements were assembled without consideration of their needs.

Finally, Goldsmith touches on the critical social issues involving disability and architecture—the real problems of which "architectural barriers" are only symptoms. Can the architect counteract discrimination against disability? How destructive are architectural barriers to the lives of people with disabilities? Is there still a need for institutional accommodation? Is personal independence for all people the goal of the designer? How does the architect resolve the question of fire



danger to people with limited functional levels? Where do people with disabilities fit into present day employment and education? The reader may disagree with the opinions presented, but the basic questions undeniably have been raised.

A main criticism may be that Goldsmith knows his subject too well. He is only too aware of the present monumental proportions of the physical, social and psychological problems brought on by disability. If anything, his contemporary, realistic view of the situation prevents his suggesting more innovative strategies for integrating people with disabilities into the environment at large. Designers may well look to Goldsmith as a pioneer and splendid resource in the field of designing for people with disabilities. But we must always be aware that existing solutions are not an end. This book should be used as a beginning point for creative minds to improve upon. *Michelle Morgan, past contributor of articles on designing for the disabled, is currently working in Paris.*

Property Development: Effective Decision Making in Uncertain Times. John McMahan. New York: McGraw-Hill, 1976. 432 pp. $16.

Readers looking for a general overview of real estate investment will find this book worthwhile.

McMahan begins with a brief review of the history of land speculation, real estate investment and population geographic moves from the period just after the American Revolution to the present. He gives some interesting facts about building-type-firsts, such as the skyscraper and the shopping center. As he comments, real estate development ground rules are changing rapidly.

In the second section, McMahan discusses the economics of real estate, going into population growth patterns, disposable income, labor and real estate related goods and services. Part 3, which contains the book's most useful chapters, discusses market demand and the feasibility of residential, commercial, industrial and mixed land uses and projects. Examples of competitive market serveys are of particular pertinence.

The fourth section on "Financing the Project" describes legal instruments, financing sources, debt and equity financing and investment. Several tables are given to clarify the text, the most definitive and helpful probably being the one on cash-flow analysis.

The following two sections cover generally the planning, design, construction, merchandising and management of real estate. This portion of the book may be informative to readers who have not been initiated into real estate, but it has little to offer the experienced. There is mention of the critical path method for scheduling construction, but other innovations, such as construction management, are not discussed.

Although McMahan's research of the history of real estate is commendable, increasing the reader's understanding of the industry as a whole, the only specifics offered for decision making (as promised in the book's title) are in parts 3 and 4. *Harry A. Golemon, FAIA*

Books continued on page 64

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For complete information, write Construction Products Division, W. R. Grace & Co., 62 Whittemore Avenue, Cambridge, Massachusetts 02140. In Canada: 66 Hymus Road, Scarborough, Ontario M1L 2C8.

GRACE

Circle 18 on information card

Books from page 62

Economic Integration in New Communities: An Evaluation of Factors Affecting Policies and Implementation. Helene B. Smookler. Cambridge, Mass.: Ballinger, 1976. 272 pp. $15.50.

This is one of seven volumes in the "New Communities Research Series," which grew out of a workshop held in 1974 to explore key facets of new community development in the U.S. Smookler's study looks at 15 new communities in an effort to isolate factors that help (or hinder) their socioeconomic integration, and some of its consequences.

The thesis of the book is that "housing for low- and moderate-income families can be designed, grouped and distributed in such ways as to break down middle-class hostility to it and to its occupants, while providing a better quality of life for the low-income families." The book, however, does not explore the effects of design or different ways of grouping housing in attempts to integrate according to racial and economic groups.

Smookler, first of all, found that the key to successful integration is a commitment on the part of developers to include low-income housing from the start, as evidenced in part by the fact that they did not conceive of or advertise their new communities to appeal *only* to higher-income consumers.

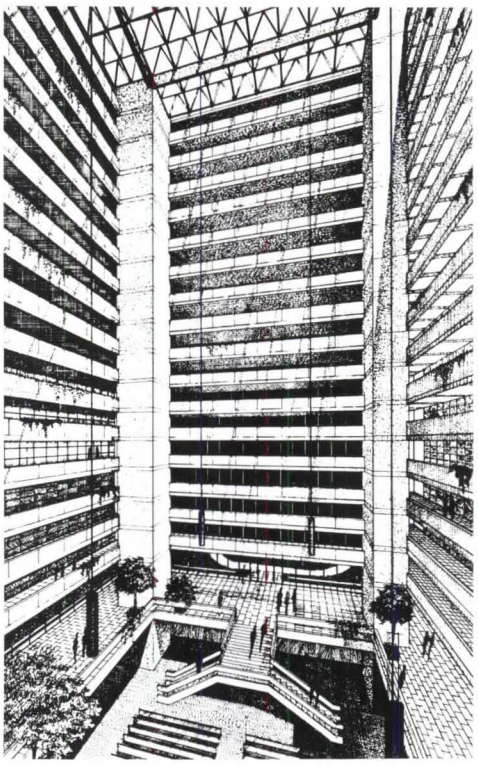
Proposals to integrate after a new community has taken form must come, notes the author, not from outsiders, but from members of the community itself. She found that it is easier to integrate racially than by class, and that integration was most likely to be opposed where real estate values were highest. Integration by race and income was more strongly opposed where people owned their houses (rather than renting), where no subsidized or low-income housing yet existed and where a premium was put on "status."

Smookler found that people living in subsidized units in new communities were happy with their move (usually from poor inner city neighborhoods) and, though physically segregated from their more affluent neighbors, did not appear to feel isolated. She also says that "in no case has the existence of subsidized housing adversely effected [sic] the housing market or property values in any of the communities."

Unfortunately Smookler pursues only a very few of the possible implications of these few conclusions. For a work of this length, the book falls somewhat short of what one might hope for in terms of substance and subtlety.

Presentation Drawings by American Architects. Alfred Kemper, AIA. New York: Wiley, 1977. 380 pp. $25.

Architectural drawings, says Kemper, are a tool, enabling the architect to explore a design problem and to arrive at solutions. Drawings are also a communications device, explaining the design to others and helping to involve the client in the design process. When graphics are of



high quality, they "communicate the architect's serious intentions to the client," and at the same time, they also "reinforce the dedication, discipline and pride within the design team."

All previous books on renderings, including Kemper's earlier *Drawings by American Architects,* have shown buildings in perspective. This book, divided into 20 sections to show many different presentation techniques used by various American architects, is the first, Kemper says, "to show the complete range of presentation phases . . . from conceptual sketches to schematics, to plans, to elevations, to the final perspective showing the overall picture."

Architecture Schools in North America. Karen Collier Hegener and David Clarke, editors. Princeton, N.J.: Peterson's Guides, 1976. 251 pp. $5.95.

Published jointly by the Association of Collegiate Schools of Architecture and Peterson's Guides, this useful directory contains a great deal of information in terse form. For each school of architecture such information is included as admission requirements; number of degrees conferred in 1975-76; a description of undergraduate and graduate programs and special activities; names of faculty members, and number of women, out-of-state and foreign students. Also included is a brief history of architectural education; listings of specialized, related and dual-degree programs; a complete faculty roster for U.S. and Canadian schools of architecture, and a list of schools of architecture worldwide.

Copies may be ordered prepaid ($4, postage included) from ACSA, 1735 New York Ave. N.W., Washington, D.C.20006.

Solar Heated Buildings: A Brief Survey. 13th edition. W. A. Shurcliff. Cambridge, Mass., 1977. 306 pp. $12 (if check accompanies order).

Shurcliff intends this to be the final edition of his survey of solar heated buildings. "No more! Too many solar buildings," he says tersely.

The survey describes briefly 319 houses, schools and commercial buildings that are partially or fully solar heated. The structures in the U.S. are arranged by state, alphabetically. A section follows on buildings in foreign countries.

The 13th and final edition includes 85 photographs, 79 of which are by Peter Hollander.

For orders of 12 or more copies, the price is $7 per copy, and Shurcliff promises an even lower rate for larger orders. His address: 19 Appleton St., Cambridge, Mass. 02138.

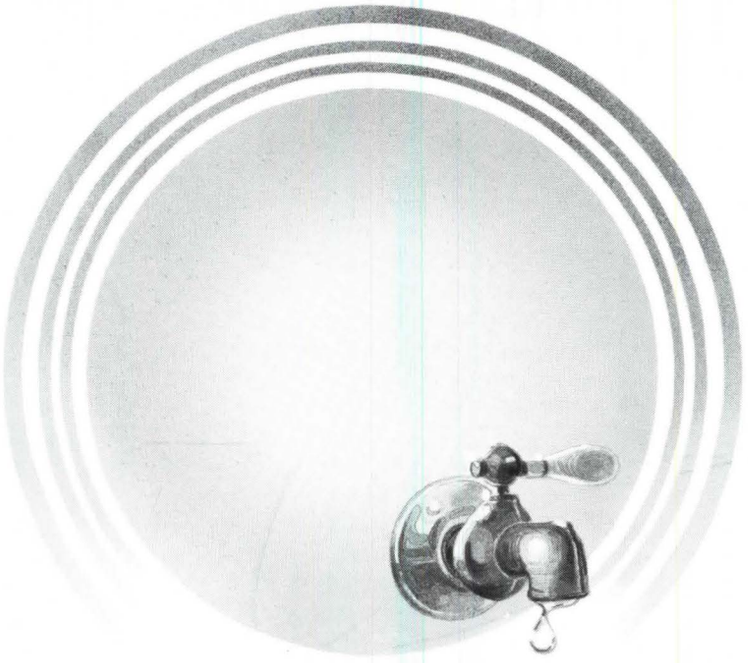
Converted into Houses. Charles A. Fracchia. Photographs by Jeremiah O. Bragstad. New York: Viking, 1976. 95 pp. $15.

For those looking for an alternative to living in ever more expensive, ever more ticky-tacky new houses stamped from cookie-cutter-like molds, this book is a find, and it is fun. With more than 200 excellent color photographs, it presents over 30 intriguing examples of what can be done to transform seemingly homely structures into superb homes. Some examples: a former chicken coop, firehouse, icehouse, water tower, Pullman car, cigar factory. And so on. Surprisingly, the majority of the conversions required little more than redecoration.

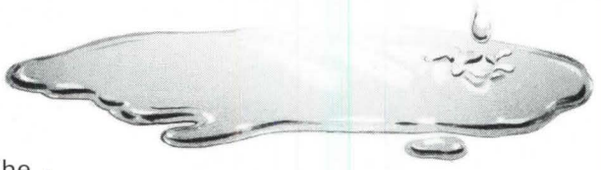
BOD File: A Resource Book for Designers and Illustrators. Edward Denny and Patricia Terrazas. Arlington, Tex.: Inner Image Books, 1976. 187 pp. $15. (Order from Association of Student Chapters/AIA, 1735 New York Ave. N.W., Washington, D.C. 20006.)

Human figures and automobiles are the scale generators to which people most readily relate, say the compilers of this book. Hence, these two components are the subject of the book, in which more than 1,500 human figures, drawn at different architectural scales, are presented, as well as drawings of automobiles. The user will be able to find quickly many figures (men, women, children and groups) and automobiles that can be applied directly to renderings. A real time-saver.

Books continued on page 66



HARNESSING SOLAR ENERGY WITHOUT USING THE MOST EFFICIENT ABSORBER PANEL AVAILABLE IS LIKE CONSERVING WATER WITH A LEAKY FAUCET, ISN'T IT?



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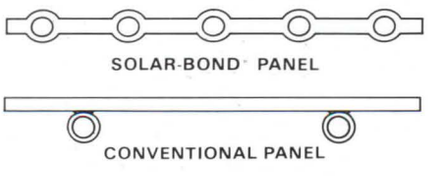

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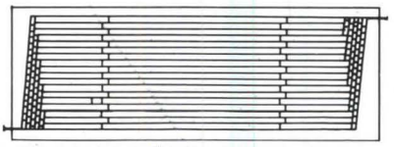

or brazed bonds or adhesive interfaces to impede heat transfer.

The results? Tests were run for Olin by Desert Sunshine Exposure Tests, Incorporated in which SOLAR-BOND® panels were mounted in standard collector "boxes" and collector efficiency determined. Competitive absorbers were mounted in the *same* boxes and collector efficiency again determined. The difference between collector efficiencies measures the efficiency advantage of SOLAR-BOND®. The graph shows the results of these tests.

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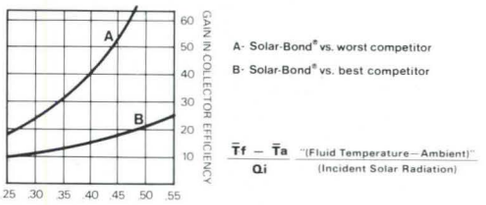

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Architects and Engineers: Their Professional Responsibilities. James Acret. Colorado Springs, Colo.; Shepard's Inc. (Box 1235, Colorado Springs, Colo. 80901), 1977. 449 pp. $40.

In an era of malpractice liability suits, this book is timely. Directed to architects and engineers and their lawyers, it gives comprehensive coverage to liability problems, with practical advice from the author, who is a member of the bar in California. He tells how to prepare for trial or arbitration, how to handle witnesses, how to select insurance coverage. The book covers liability for negligence and for intentional torts, liability arising from statute and from contract, liability developing from warranty law. There are also sections on such topics as persons protected, defenses, limitations and indemnity. The book uses the case method approach.

Planning and Building Facilties for Higher Education. Richard P. Dober, editor. Paris: Unesco Press (published in the U.S. by Dowden, Hutchinson & Ross, Inc., Stroudsburg, Pa.), 1976. 137 pp. No price given.

Developing countries set on building up their higher education often turn for financial and technical help to nations with well-established university systems. The problem with this approach, as the authors quite properly point out, is that such aid leads to facilities that "tend to be expensive, and sometimes they are more expressive of the culture of the donor country than of the culture which the institution is intended to serve."

As a counterbalance, this book seeks to provide a basic block of information that can be used by a country's higher education system administrators and policy planners as they embark on the planning and design process. The work begins with ways to make an initial assessment of need, and goes on to cover methods of conducting site selection, programming, design, bidding and (a bit lightly) construction contract administration.

The book deliberately furnishes no norms or standards for such things as area per function per student, net to gross area ratios, etc., and suggests instead that each nation or university system figure out its own (a second volume will tabulate typical standards from various nations).

The book is heavy with checklists, charts and proposed forms, and bears down especially hard on the need for setting up and adhering to a process (with the help of critical path or other activity-and-event precedence diagramming method). In this as in other areas, the authors merely present models and encourage departures as needed to fit each system's unique circumstances.

The authors have a great deal of international experience in the planning and design of educational facilities, and this is evident from the realistic approach to the facts of life of educational planning. To that extent, the volume is useful not only for administrators and architects in developing countries, but also for U.S. firms unfamiliar with the implied informational needs of overseas work. For domestic use, the book also has some value, because of its strong focus on process. *Stephen A. Kliment, AIA*

Pioneer Churches. Photographs by John de Visser; text by Harold Kalman. New York: Norton, 1976. 192 pp. $27.50.

More than any other kind of building, churches "stand as superb reminders of the social and cultural values of the pioneers," says Harold Kalman. "Without realizing it, they built a goodly part of themselves into their churches."

And in this handsome book, illustrated with 64 pages of full-color and 108 pages of black and white photographs, John de Visser comments from the photographer's perspective, saying that "one can visualize

entire regions by simply recalling where the churches are likely to be found." In New England, for example, they "sit like mother hens in the middle of their broods." On the plains, they "seem to stretch out of the land to rival the mighty trees."

Through text and photographs, Kalman and de Visser trace the development of religious architecture in North America. There are the stone churches of Quebec, the adobe missions of New Mexico, the white clapboards of New England, the brick churches of Virginia, the simple meeting houses of Quakers, the Greek and Gothic revival structures of the South and Midwest, the onion domes of Eastern Orthodox churches in Canada—all and more are described and depicted and viewed as a significant part of social history.

The Failure of Modern Architecture. Brent C. Brolin, New York: Van Nostrand Reinhold, 1976. 128 pp. $11.95.

In this short book Brent C. Brolin challenges the beliefs and results of what is broadly called the International Style. He disputes the tenet that the International Style, founded in a Western European country, is the universally accepted, correct and successful style for every culture in the world.

According to Brolin, the cultural sources of modern architecture are in the 19th century. Two of its sources are commonly accepted. First, the clean, simple style of modern architecture was influenced by a fascination with an unprecedented technology; second, there was a tremendous reaction against bourgeoise Victorian excesses, most notably displayed in 1851 at the Great Exhibition at the Crystal Palace. The International Style evolved not just because of utilitarianism; rather, it developed into a polemical "truth" which was, in fact, based on a visual taste that reflected modern technological society.

Brolin clearly indicates that the aspirations of the International Style were myths which merged taste with misguided sociological premises. Contrary to architects' hopes, most people still want land, large houses and single-family dwellings, and dislike highrise buildings. This is true not only in the West, and Brolin uses two case studies—in Yemen and Chandigarh, India—to illustrate how the sociological beliefs of modern architecture have failed elsewhere.

When describing the 19th century sources of modern architecture, Brolin occasionally indulges in sweeping social generalizations. He claims that modern architects were influenced by the appearance of machines because of their noble principles and design. He also maintains that the middle class became important tastemakers in the 19th century. He disregards the fact that most machines had an elaborate appearance. Furthermore, machines produced many of the abominable Victorian objects seen at the Great Exhibition and elsewhere in the 19th century. It was reaction to these machine-made products that produced the expensive handmade objects of the Arts and Crafts Movement. Inaccessible to the middle class, these objects were harbingers of Bauhaus design. Although exposing their modern materials, many of the iron and steel buildings and bridges were adorned with pseudo-Gothic ornament.

These are small complaints, however. Brolin's concise, clear writing, complemented by his marvelous illustrations, indicate the shortcomings of architectural expressions today. *David F. Nevens, University of Wisconsin-Milwaukee.*

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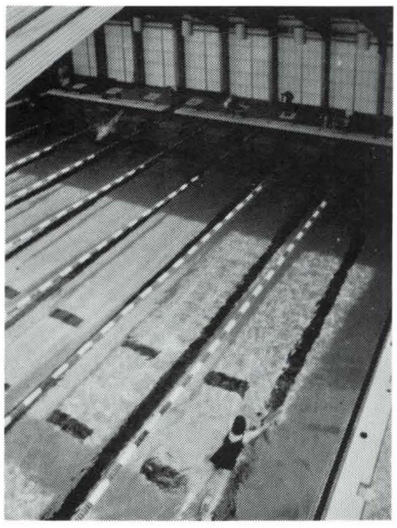
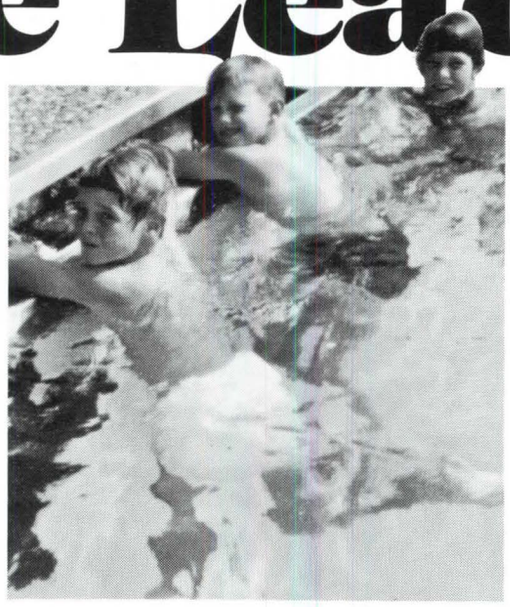
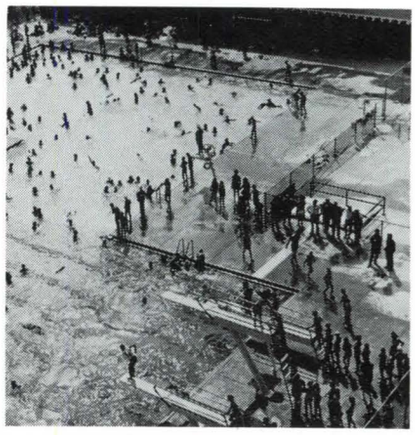
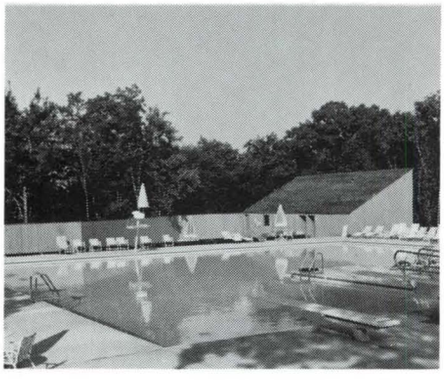
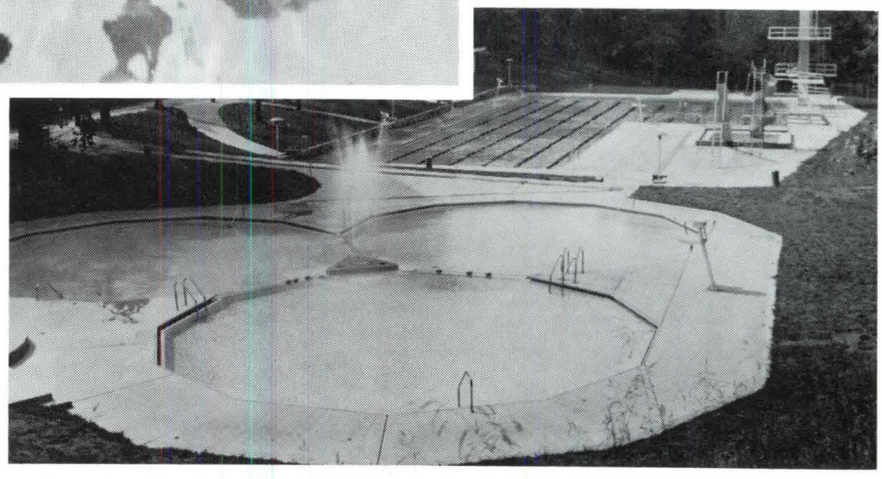
The Leader.











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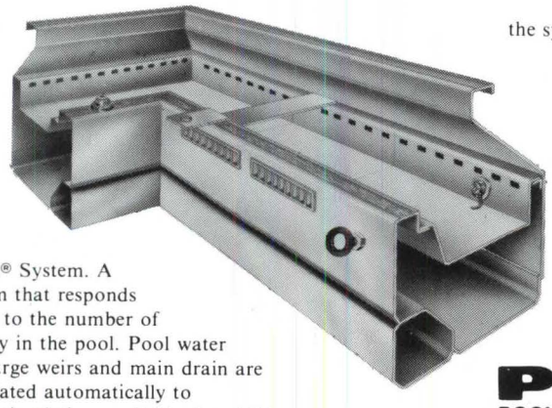

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Letters from page 2

persons working in neighboring buildings. The much-used glass facades reflect the neighboring site, but what about the sky and sun glare both inside and out?

In one recently premiated building, several times illustrated in magazines, the auditorium ceiling and seating slope down to the stage or speaker's stand, with the speaker silhouetted against a long window wall! Another recent advertisement showed a large drafting room with all the curtains drawn across the large window wall and all ceiling lighting in use.

I have visited one architectural school where the drafting areas are all situated in dark interior balconies.

The May issue shows the 1977 AIA honor awards. In many cases, they remind me of the frequent automobile ads—luxurious exteriors, white wall tires, push-button windows, etc. No mention is made of the driver's vision through the steering wheel or the important mechanical parts that affect the safety and comfort of the owner.

I believe it would be desirable for the awards juries to visit the buildings and interview the users and inhabitants. I wonder if many of the jurors have seen the John Hancock Tower in Boston and have viewed it in relation to the site and its neighbors—and the harm I believe that it has done to Copley Plaza and Trinity Church. *Donald S. Reed, AIA*
Cranston, R.I.

Dentistry versus Architecture: Recently, we had a 9th grader job-shadow a number of people in our office in order to write a report about a profession he is considering. The letter below received from him is self-explanatory. Where have we gone wrong? *Alan C. Helman, AIA*
Winter Park, Fla.

Thank you very much for letting me come visit and job-shadow your firm. It was very enjoyable. I've definitely made up my mind to become a dentist. No, I was just joking. Your grade average is still an A+ because I received an A+. Thank you very much for letting me come. I really did enjoy myself and learned a lot also. *Cliff Millikan*
Orlando, Fla.

Further Credits: Being an advocate of historic preservation and adaptive use, I enjoyed very much the article entitled "Surplus School Buildings: New Opportunities for Adaptive Use" in the April issue. I particularly appreciate the recognition given of Historic Boulder, Inc.'s efforts with respect to the Highland school (p. 59).

Although a founding member and past president of Historic Boulder, Inc., I cannot assume credit for the collective efforts of several individuals, notably Joyce Davies for negotiating the permanent financing with local banks; Warren Rovecth for the financial feasibility analysis, and Margaret Hansen and Jim Marsden for the preparation of remodeling drawings and construction supervision.
Gage Davis, AIA
Boulder, Colo.

Treaty Tower, Libby Dam: I commend the fine article in the April issue about the Libby Dam project, and the use of the superb photograph by Julius Shulman on the cover.

There is, however, one error. The competition for the Treaty Tower sculpture, which I was fortunate enough to win, had over 240 entries instead of the 20 stated.

It is interesting also to note that the granite bas-relief is considered the largest of its kind placed on a building anywhere in the world. It is also of interest to add that the sculpture was conceived in my former studio in Encino, Calif., enlarged in New York, carved in granite in Vermont and shipped to Montana where it was finally installed. It weighs over 80 tons. *Albert Wein*
Scarborough, N.Y.

Books from page 66

The Salem Handbook: A Renovation Guide for Homeowners. Anderson Notter Associates and Historic Salem Inc. Salem, Mass.: Historic Salem Inc. (Box 865, Salem, Mass. 01970), 1977.113 pp. $5.95.

This helpful guide is directed to homeowners in Salem, Mass., but it will prove useful as well to persons who want to renovate and properly maintain old houses.

There is an introductory brief survey of the stylistic features of old houses: 17th century, Georgian, federal, Greek revival, late 19th century, Italinate, second empire, late Victorian eclectic and Georgian revival. Architectural guidelines follow which give practical rules on siding, entrances, windows and blinds, trim, additions, modern details and color. The house's setting is then considered—streetscape, fences, landscaping and space for automobiles. A section follows on the maintenance of the house, covering such items as roofing, gutters and painting. There are also a home inspection checklist and suggestions about "books to guide you."

Planning Office Space. Edited by Francis Duffy, Colin Cave and John Worthington. New York: Nichols Publishing Co., 1976. 250 pp. $32.50.

The articles collected in this book were first published in the British magazine *Architect's Journal*. Intended for both architect and client, the book is a practical guide to office planning, whether the building is a new one or space in an old structure is being changed for greater efficiency. The coverage is comprehensive and thorough, ranging from the principles of office design to the placement of furniture. Some of the information is applicable only to the United Kingdom, such as the section on laws and regulations, but there is much information that is universal, making the book valuable for the American architect and his client. There are many photographs, plans and diagrams.

The Urban Nest. Anne-Marie Pollowy. Stroudsburg, Pa.; Dowden, Hutchinson & Ross, Inc., 1977. 162 pp. $17.50.

Cities and children can be compatible, contends the author of this book who is an architect and professor of environmental planning at the University of Montreal. "We claim to be a child-centered society. We claim to care about children's early experience, we claim to respond to their need for love," she writes. "But what have we really done about where and how children live?" Rarely, she says, do we ask the crucial question: What do children require from their environment?

Pollowy points to the inadequate research on child spaces—only the

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"planned" ones have been studied. Two major steps must be taken, she says, to provide environments that respect a child's life style. Part 1 of the book is devoted to the first necessity: "knowing and understanding" a child's development requirements. In this section Pollowy considers the physical growth and activity, the personal and social, and the intellectual and perceptual development of a child from infancy through middle childhood. She also discusses design implications.

The second requirement is to place this knowledge of a child's total development in relationship to the spatial environment. She examines the child's use of the residential setting and the near and far environment of his home. There is information as well on planned play spaces. And finally, Pollowy gives the reader a series of guidelines for new design and improvements that can be made in existing environments.

Drawings, plans, diagrams and photographs complement the text.

A Feast of Gingerbread; Pâtisserie Maison. Warwick and Beth Hatton. Montreal: Tundra Books, 1976. 96 pp. $4.95.

Now that society and architects are turning to renovating our cities, we will come more and more in contact with our Victorian past and those wonderful buildings which could always provide flexible spaces for new uses, or old ones, as love seats and sewing nooks.

Montreal possesses such a large, rich collection of end-of-the-19th-century homes that their study and preservation is a lesson for all North American areas concerned with this problem. The photographs in the book are exceptional and the text is a delight, particularly so the nuances in the parallel French translation by René Chicone, noted and witty professor of the University of Quebec's école des beaux-arts.

A less erudite observer might have written the English word "gingerbread" as "pain d'épices," correct French, but hardly of the mouth-watering kind as Chicoine's *pâtisserie maison.*

Yes, in either language, this is a tasty feast for the architect to polish up on our heritage. *Jeffrey Ellis Aronin, AIA*

Pythagorean Palaces: Magic and Architecture in the Italian Renaissance. G. L. Hersey. Ithaca, N.Y.: Cornell University Press, 1976. 256 pp. $22.50.

Hersey is a scholar, but he has the ability to write so that the layman catches his enthusiasm. In this book he examines Renaissance domestic architecture from the viewpoint of Pythagorean geometry. Dull? To the contrary.

Pythagorean geometry was the principal mathematical philosophy of Renaissance education. To the Pythagorians, Hersey explains, numbers were not only quantities but also qualities. Numbers had "fixed or predictable geometric psychological, moral and even personal natures." And the way numbers related to one another "was perceived according to cultural and social models." This attitude affected architecture's proportions, as well as distributions and dimensions. It affected the size of a volume, the number of windows, doors and columns and even their decoration.

Hersey analyzes architectural treatises and examines the geometric principles as applied to specific structures. He has chosen to concentrate on palaces rather than other building types, he says, because a palace "constitutes the sort of omnidirectional cubic grid that Pythagorean mathematics implies." The analysis could also be applied to other structures, such as churches.

The book is a contribution to intellectual history and will greatly interest architectural historians.

Wye Island. Boyd Gibbons. Baltimore: Published for the Resources for the Future by the Johns Hopkins University Press, 1977. 227 pp. $10.95.

Why do people look upon development "as a threat to their community's stability

and their own personal happiness?" This social history of a proposed plan for orderly growth examines this and related questions. People object, Gibbons says, for more than protection of the environment and fear of higher taxes. Rather, it is resistance to change "brought on by new people moving—or threatening to move—in." Two fundamental American prerogatives are in conflict, Gibbons says: "to keep one's neighborhood familiar and unchanging, and to improve one's life by moving on."

Located on Maryland's Eastern Shore is tranquil Wye Island. It is here that developer James Rouse, creator of the new town of Columbia, Md., wanted to build a waterfront village to save the island from unplanned subdivisions that have cropped up since the Chesapeake Bay bridge opened in 1952.

This is the story of Rouse's vision and of his plan for Wye Island. It is also a fascinating account of the "insiders and outsiders" who marshalled forces to oppose growth and development. Both sides of the conflict are presented in a chatty but revealing fashion. The outcome was that Rouse's project collapsed.

Now the state of Maryland may acquire Wye Island. "This much is certain: It will be little used by the public," Gibbons says. "People . . . are dead set against a park. Maryland intends only to lease the land for farming . . . and allow some goose hunting. But no landings, no campgrounds. No chickenneckers." Maryland is buying "to keep the new settlers out."

Mobile Homes: Alternative Housing for the Handicapped. St. Andrews Presbyterian College. Washington, D.C.: HUD, Office of Policy Development and Research, 1977. 48 pp. Free. (Request from the U.S. Government Printing Office, Washington, D.C. 20402.)

Researchers at St. Andrews Presbyterian College in Laurinburg, N.C., wanted to determine if mobile homes could be successfully adapted to provide independent living for handicapped persons. HUD provided four used, standard mobile homes for the study, and a group of disabled students was selected to live in the redesigned mobile homes for a trial period of six months. Each handicapped person lived with a nonhandicapped student.

Modifications had been made in the mobile homes, such as changes to kitchens and bathrooms and the installation of fire safety systems. Further modifications were suggested by the students on the basis of experience and particular needs.

From the information gained by the experiment, a fifth mobile home has been set up as a demonstration unit. The report is primarily devoted to this modified

Continued on page 74

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mobile home. There are brief comments about the features incorporated into the demonstration unit and many plans, diagrams and drawings for illustrative purposes. Many of the design modifications are not costly, and the report should serve to alert both the mobile home industry and consumers of this alternative and safe means of housing disabled persons.

Informal Directory of the Organizations and People Involved in the Solar Heating of Buildings. William A. Shurcliff. 3d edition. Cambridge, Mass.: The author (19 Appleton St., Cambridge, Mass. 02138), 1977. 243 pp. $9, plus $1 for shipment by first class mail.

AIA and the AIA Research Corporation are among the organizations listed in this directory of those involved in solar heating of buildings. Also included are federal government agencies, universities, solar architects, engineers and inventors, as well as solar home owners. The directory also includes organizations and persons involved in solar heating in foreign countries. It covers all aspects of solar heating—from invention and research to government promotion.

Bertram Grosvenor Goodhue: Architect and Master of Many Arts. Edited by Charles H. Whitaker. New York: Da Capo Press, 1976. 50 pp., 273 plates. No price given.

First published by the Press of the American Institute of Architects in 1925, this folio volume was edited by Charles H. Whitaker, then editor of AIA's JOURNAL. This reprint has an introduction by architectural critic Paul Goldberger. Goldberger comments that Goodhue's work "is still in need of proper critical treatment, which this elaborate volume does not provide." The book, however, "is a rich introduction to a remarkable body of work that, beyond the sheer visual pleasure it offers, underscores the vital lesson that . . . in the making of the best architecture, there are no rules. It is the buildings that matter."

Pneumatic Structures: A Handbook of Inflatable Architecture. Thomas Herzog. New York: Oxford University Press, 1976. 192 pp. $30.

Herzog says that architecture lags far behind other technical fields in the general application of pneumatic structures. Despite the fact that developments pertaining to membrane materials have been in existence since the 18th century, it is only in recent years that pneumatic structures were viewed in any way other than "pure engineering structures." Herzog says that "the majority of architects, true to their tradition since the 19th century, ignored the whole subject."

The theory of pneumatic structures is explained and design rules are given. A large portion of the book describes examples of pneumatic structures in this country and abroad. Final chapters are devoted to technical data.

This comprehensive survey of the state of the art contains more than 700 illustrations, plans, diagrams and tables. It is a basic reference document for architect and engineer.

Designing the Open Nursing Home. Joseph A. Koncelik. Stroudsberg, Pa.: Dowden, Hutchinson & Ross, 1976. 175 pp. $18.

"The situation is actually dangerous. In just two decades nursing homes have gone from being small converted dwelling units averaging about 26 occupants to campus facilities sometimes housing over 1,000 people," writes designer/teacher Koncelik. The "open" system advocated by him is ideally one that has at least as many apertures for getting out as for getting in. "The concept presupposes the wild idea that everyone not only wants to leave this level of intensive medical-supportive atmosphere but that they *will* leave it alive. This is a wild idea because not everyone will; but the attitude must be there in spite of the statistical realities. When attitudes change, so do the statistics," writes the author.

Koncelik provides background information on the elderly population and their needs and problems, together with design and planning recommendations for designers and other decision makers. He points out that the building boom in nursing homes of the last two decades was carried out "in ignorance." The recent decline in construction has provided a pause for assessing what has been accomplished, and has coincided with increased interest in research on the relationship of man to environment. Which is, of course, all to the good. Unlike some social science studies, which are riddled with jargon and view the world from the narrow vantage point of a single discipline, Koncelik's book derives from a broad base of knowledge and is written in persuasive prose.

An Adventure in Architecture. Norman M. Giller, AIA. Miami Beach, Fla.; Virgo Press, 1976. 248 pp. $12.50.

Architect Giller has had a rich and varied career, and in this book he writes entertainingly about many of his experiences. And he seems to have been everywhere. There are three chapters alone on "diplomatic architecture," in which he tells of his work on numerous projects in Latin America. The book is more than an autobiography—it is filled with Giller's observations on his philosophy of architecture. Illustrated with pen and ink drawings, many by Giller himself, the book will interest both the architect and the general reader. Architecture, he says, is a business, but it is also a "fun business. Yes, I reiterate, architecture is fun." He makes it seem the most rewarding career anyone could have.

Architectural Acoustics. Edited by Thomas D. Northwood. Stroudsburg, Pa.: Dowden, Hutchinson & Ross, 1977. 428 pp. $30.

Collected here are 30 papers reprinted from various technical periodicals on the techniques and theories of architectural acoustics and the subjective effects on people. Divided into four parts, the book covers the techniques and theories of room acoustics, the subjective aspects of room acoustics, the technique and theory of sound insulation and the subjective aspects of sound insulation. The papers vary from an essay by L. L. Beranek on the rating of acoustical control of concert halls and opera houses to one by R. F. Higginson on measuring techniques for airborne sound insulation in buildings.

An Introduction to Urban Patterns in Saudi Arabia: The Central Region. Mohammad Said Mousalli, Farid Amin Shaker and Omar Abdullah Mandily. London: AARP, 1977. Variously paged. $12.50, excluding postage.

Architects commissioned for projects in Saudi Arabia will be interested in this research report on traditional architecture and contemporary urban patterns in that country. It was written to provide foreign consultants with a visual survey to help them develop a better understanding of the indigenous architecture. With illustrations and brief text, in Arabic and English, the authors, members of a Saudi Arabian architectural and planning firm, describe the characteristics of the architecture, primarily residential.

The report is the 10th issue of *Art and Archaeology Research Papers,* which devotes its pages to recent research in the art, architecture and archaeology of countries in the Mediterranean, Africa and the East. For information, write Dalu Jones and George Mitchell, Editors, 102 St. Paul's Road, London N1 2LR, England.

Planning Physical Education & Athletic Facilities in Schools. Kenneth A. Penman. New York: Wiley, 1977. 443 pp. $13.95.

Although this book is intended as a textbook for a physical education course, it contains information useful to the architect. The first of its three major sections concerns general facilities planning considerations. The second part discusses indoor areas, such as locker room and shower areas, training room and health center. The third section is on outdoor areas, and here is advice on the design of playgrounds, football fields, etc. □

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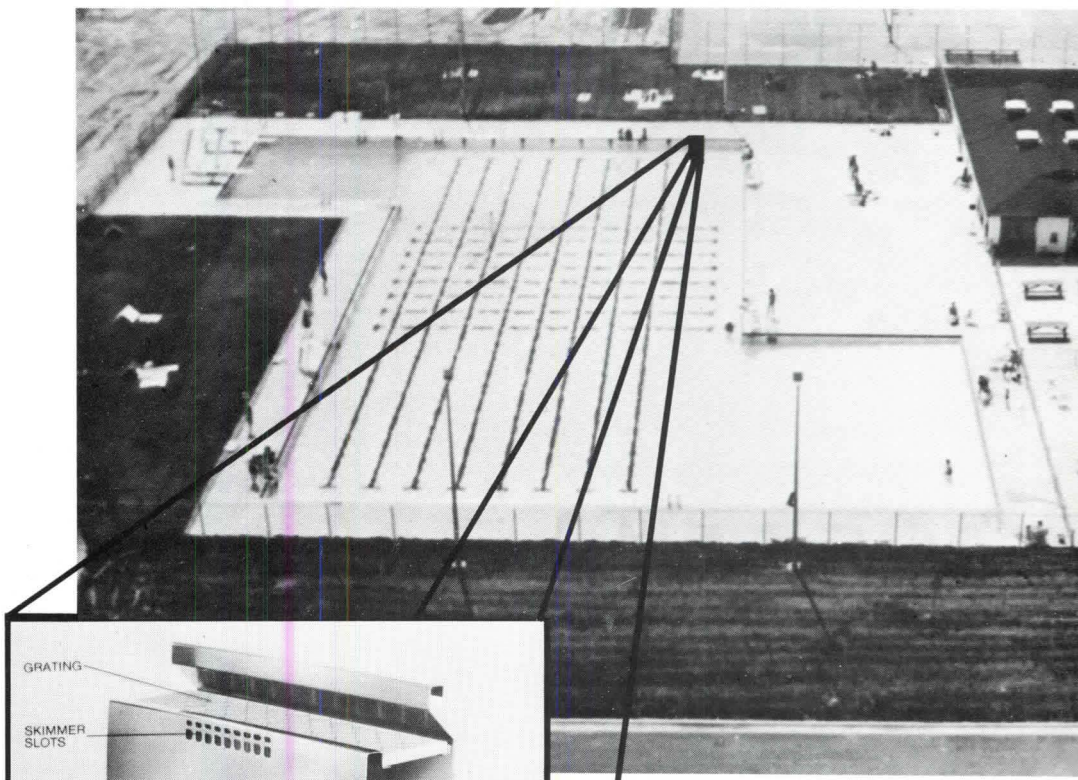

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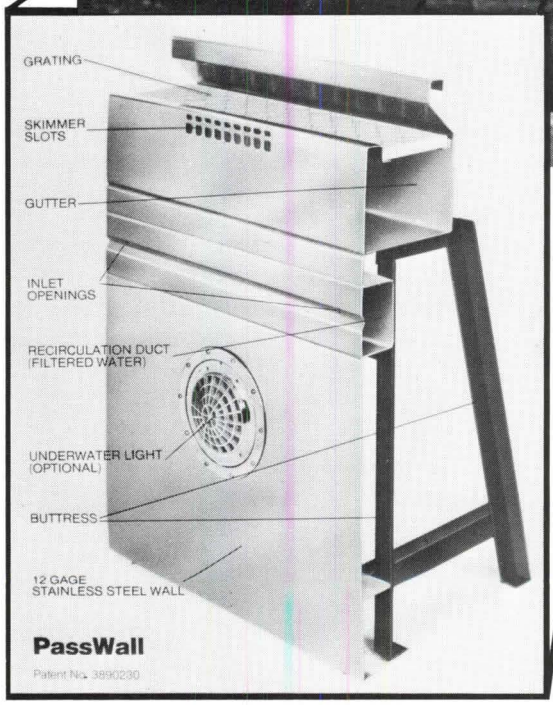

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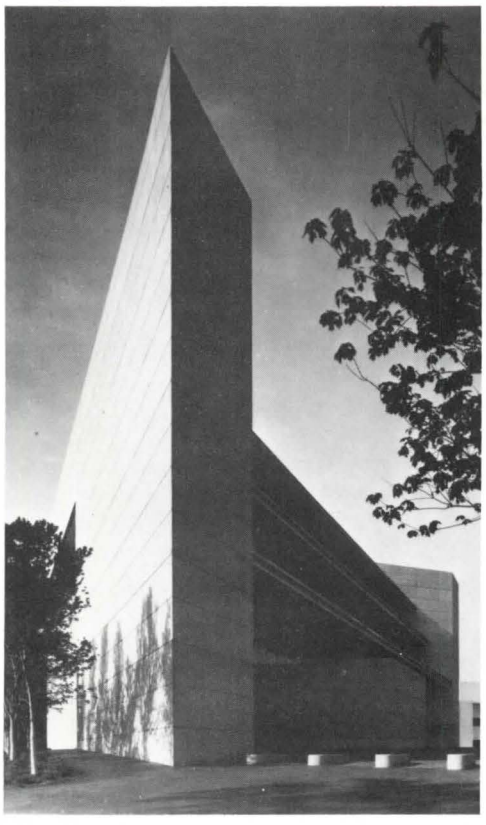

Buildings Cited for Use Of Reinforced Concrete

Six structures have won awards in the Concrete Reinforcing Steel Institute's third annual awards program. The awards recognize "creative achievement in esthetics, engineering, functional excellence and economy."

The 1976 award winners are:

- New North Community School, Springfield, Mass., designed by Perkins & Will, White Plains, N.Y.
- Woodruff Medical Center Administration Building, Atlanta, designed by Heery & Heery, Atlanta (photo above).
- Centre Square, Philadelphia, designed by the Kling Partnership, Philadelphia.
- Headquarters Building, Arapahoe Chemicals, Inc., Boulder, Colo., designed by A.M. Kinney, Inc., Cincinnati and Denver.
- National Bank of Commerce, Lincoln, Neb., designed by I.M. Pei & Partners, New York City.
- Gateway Plaza, Newport Beach, Calif., designed by Robert M. Thomas, AIA, Newport Beach.

Deaths

Read S. Barnes, Charleston, S.C.
Robert A. Bennighof, Los Angeles
Newton P. Bevin, New York City
Arthur J. Capelle, St. Petersburg, Fla.
Anthony J. De Pace, New York City
Frederick C. Gans, New York City
W. Hesse, New York City
Edwin A. Horner, New York City
A. M. Hyde, New York City
Earl H. Lundin, New York City
Frank P. McArthur, Prairie Village, Kan.
Edwin M. Read, Brockport, N.Y.
Emil Szendy, Hicksville, N.Y.
Arvid F. Tessing, Chicago
Wolcott C. Waggaman, Washington, D.C.
Louis S. Weeks, Cedarhurst, N.Y.

Eliot F. Noyes, FAIA: Founder and director for a time of the department of industrial arts at the Museum of Modern Art in New York City, Mr. Noyes was the recipient in 1965 of AIA's industrial arts medal. He died on July 17 at the age of 66.

Mr. Noyes was graduated from Harvard University's graduate school of design, where he studied under Gropius. He worked for a year for the Gropius firm before going to the Museum of Modern Art. In 1947, he started his own firm in New Canaan, Conn., also teaching at Yale University for three years. Design consultant for many large business firms, he also was the architect of pavilions for world fairs in New York City, Brussels and Montreal. He won an AIA honor award in 1957 for the design of his residence in New Canaan. During World War II, he participated in a project used in the D-Day invasion of Normandy.

Jean W. Cobb, AIA, AIP: An associate member of the firm headed by Arch R. Winter, FAIA, in Mobile, Ala., Mrs. Cobb worked on the master plans of such cities as Florence, Ala., Gulfport, Miss., Ferriday, La., Woodville, Miss., and Natchez, Miss. She was also associated on such projects as the urban renewal of Louisville, Ky., Mobile, Ala., and Shreveport, La.

Mrs. Cobb, who died on June 5, was campus architect for Kansas State University in 1953 and 1954, where her work included the design, development of working drawings and site planning for major campus buildings. In 1950, she had prepared the master plan for the expansion and development of the KSU campus, and in 1954, updated and expanded the development plan for Auburn University.

She held degrees in architecture from Kansas State University (1938) and Syracuse University (1940) and taught architecture at Auburn University (1955-58) and at KSU (1944-49). A member of the Institute's urban design committee for several years, she was also a member of the AIA R/UDAT team in 1973 for McMinnville, Ore. She served as executive secretary of the Auburn, Ala., planning commission in 1957-60 and as a consultant in the revision and updating of the city's master plan.

Newslines

The Fulbright Alumni Association has been formed and invites all former recipients of Fulbright grants to join. Roy F. Knight, AIA, acting director of the National Endowment for the Arts' architecture + environmental arts program, is secretary and a member of the board of the new association. He urges persons in the design community to join in "what promises to be an extraordinary opportunity for multidisciplinary and international scholarly and professional communication." For further information, contact: Fulbright Alumni Association, Box 1042, Bryn Mawr, Pa. 19010.

"A Design Guide: Long Span Steel Roof Structures" is the title of a new publication available from the American Iron and Steel Institute, 1000 16th St. N.W., Washington, D.C. 20036. The 59-page guide discusses design options offered by such systems.

Joseph Amisano, FAIA, of Atlanta, and **Richard A. Meier, FAIA,** of New York City, have been elected associate members of the National Academy of Design.

Dr. Robert C. Weaver, HUD's first secretary, has been appointed by Patricia R. Harris, current HUD secretary, as chairman of a task force to make recommendations on the future of the Federal Housing Administration.

"Sun rights" will be examined in a manual of policy and design to be prepared by Ralph Knowles, AIA, professor at the University of Southern California. He has received a $17,000 institutional grant from the National Endowment for the Arts for the project which will take a year to complete. The manual will suggest various architectural design concepts to take into account to assure a property owner's unencumbered access to the sun, while also presenting recommendations for maximum sun utilization.

Two panels on Alvar Aalto, discussing the late Finnish architect's work and significance, will be held Nov. 8 and 9 at the Institute of International Education, New York City. For information, contact: Edgar Kaufmann Jr., 535 Park Ave., New York, N.Y. 10021. The discussion will be held under the auspices of the New York chapter of the Society of Architectural Historians.

Charles E. McGuire, AIA, of Indianapolis, and **Robert W. Myers, AIA,** of Phoenix, have been invested as fellows of the Construction Specifications Institute.

continued on page 78

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Newslines from page 76

A new research tool for the construction team is now available from the Construction Specifications Institute, 1150 17th St. N.W., Washington, D.C. 20036. The first set of 50 "Technical Aid Series" documents provides information on a single building material or component, including manufacturers, standards, specification aids, publications and regulations. Among the subjects in the first set: soil compaction control, brick masonry and standard steel joists. Available only in sets of 50 individual units, the complete series will include over 300 units.

A three-inch pin-on button bearing a gold eagle, on Doric column—the AIA emblem—and including the word "architect" in the design, is now available from the St. Louis chapter/AIA. The chapter asks for a $1 donation for each button to benefit its scholarship fund. The button was the idea of architect Paul Henderson. Send orders to Betty Lou Custer, FAIA, St. Louis Chapter/AIA, 910 Olive St., St. Louis, Mo. 63101.

New chief of the building environment division, center for building technology, National Bureau of Standards, is Preston E. McNall, former director of engineering at Johnson Controls, Inc., Milwaukee.

"AIBC Forum" is the new official publication of the Architectural Institute of British Columbia. The magazine will be published 10 times a year. Address inquiries to: Brian Palmquist, Editor, *AIBC Forum,* 970 Richards St., Vancouver, B.C. V6G 1Z3, Canada.

A Cabinet-level policy group, whose members are expected to conduct a comprehensive review of federal programs that affect urban and regional development, has been formed by President Carter. Included in the group are the secretaries of HUD, Commerce, Labor, Treasury and Health, Education and Welfare.

C. Murray Smart Jr., AIA, has been named dean of the school of architecture, University of Arkansas. **Ronald Gourley, FAIA,** has been appointed dean of the college of architecture, University of Arizona, to assume duties on Jan. 1, 1978.

The role that lead plays in architecture is highlighted in a slide presentation available free of charge to architects from Lead Industries Association, 292 Madison Ave., New York, N.Y. 10017. It consists of 60 slides and a companion tape cassette.

An office of independent living for the disabled has been established in HUD. The office "will work to make HUD more aware of the housing and environmental needs of Americans with disabilities," according to a HUD announcement.

The Foundation for Interior Design Education Research has been given initial recognition by the Council on Postsecondary Accreditation as the accrediting body for interior design education programs at the two-year, three-year baccalaureate and master's levels.

Nancy Hanks, Hon. AIA, chairman of the National Endowment for the Arts, is the recipient of the Thomas Jefferson award of the American Society of Interior Designers, given "in recognition of outstanding contributions to the preservation of America's cultural and natural heritage."

Louis H. Sams of Columbia, S.C., assumed presidency of the Construction Specifications Institute on July 1. R. Stanley Bair of Houston is president-elect for the 1977-78 term.

Louis G. Redstone Associates, Inc., of Livonia, Mich., has received an award from the Michigan Foundation for the Arts for the firm's "pioneering promotion of the integration of the arts in buildings and the surrounding environment." □

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The Government Thrust—"Carter's Energy Program and The Building Team"

SESSION 2, Wednesday, Nov. 2, 10:30-Noon:
Solar Energy—"A Building Team Evaluation of Projects in Place"

SESSION 2A, Wednesday, Nov. 2, 10:30-Noon:
Profit Opportunities in the Cities

SESSION 3, Thursday, Nov. 3, 9:00-10:30 am:
The Challenge of Design for Energy Efficient Building

SESSION 4, Thursday, Nov. 3, 10:30-Noon:
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