

AIA JOURNAL



MARCH 1968

where is architecture going

SEQUOYAH

CARPET MILLS

**introduces the new "Andrew Carnegie"
carpet of Zefkrome E.S.P.*
for a great public appearance**

Zefkrome acrylic, Engineered for Superior Performance, creates the impressive new carpet for public places. The innovations in beauty and wear are unique to Zefkrome. Color: multichromes, a new concept developed for greater clarity and variety. Durability: Zefkrome has wear tests behind it of 2 million footsteps, equal to 54 years. It is stronger than other acrylics by as much as 50%.

Superior color retention: the color in Zefkrome lasts, and it's safe in sunlight, because it's locked in when the fiber is made. Superior cleanability: "Andrew Carnegie" carpeting returns to its original appearance after on-location cleaning better than any other acrylic carpet.

Dirt resistance: Zefkrome is a circular cross section acrylic fiber that doesn't hold soil the way other acrylics do. The new Sequoyah carpet is also moth and mildew proof. Everything about it adds up to quality. Please address all inquiries to: Chuck Purcell, Sequoyah Mills, Anadarko, Oklahoma



***Dow Badische Zefkrome E.S.P.
Engineered for Superior
Performance**

Zefkrome® is a trademark of Dow Badische Company
Circle 327 on information card

Specifications.

70% Zefkrome acrylic, 30% modacrylic.
1/8 gauge (Pitch rate .216)
8 1/4 tufts per inch
available in 12' and 15' widths
Colors: Natural (1), Avocado (6),
Red (7), Burnish Gold (8),
Aqua (11), Lime (26)

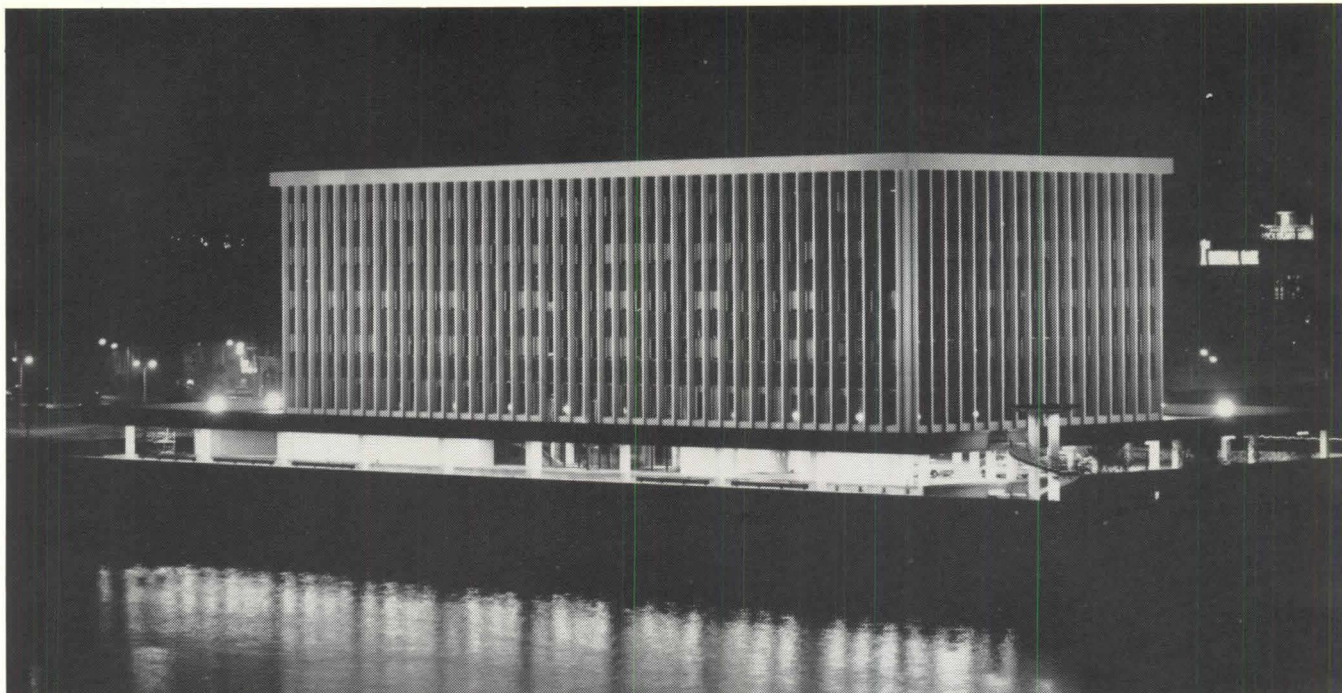


The Petitt Chair

If you need an extra chair, try this one. An extra twenty of them go nicely around a conference table. An extra six do well in the dining room. An extra one or two take any small area of space and make it suitable for sitting. Don Petitt's new chair is made of a continuous curve of walnut that delights the eye from every angle. Knoll Associates, Inc., Furniture and Textiles, 320 Park Avenue, New York, New York 10022.

Knoll International operates in 26 countries.





Outside and inside, the Modern Woodmen of America Building, Rock Island, Illinois, represents the best in materials, equipment, craftsmanship and design. Architect: Graham-Anderson-Probst and White. General Contractor: Priester Construction Co.

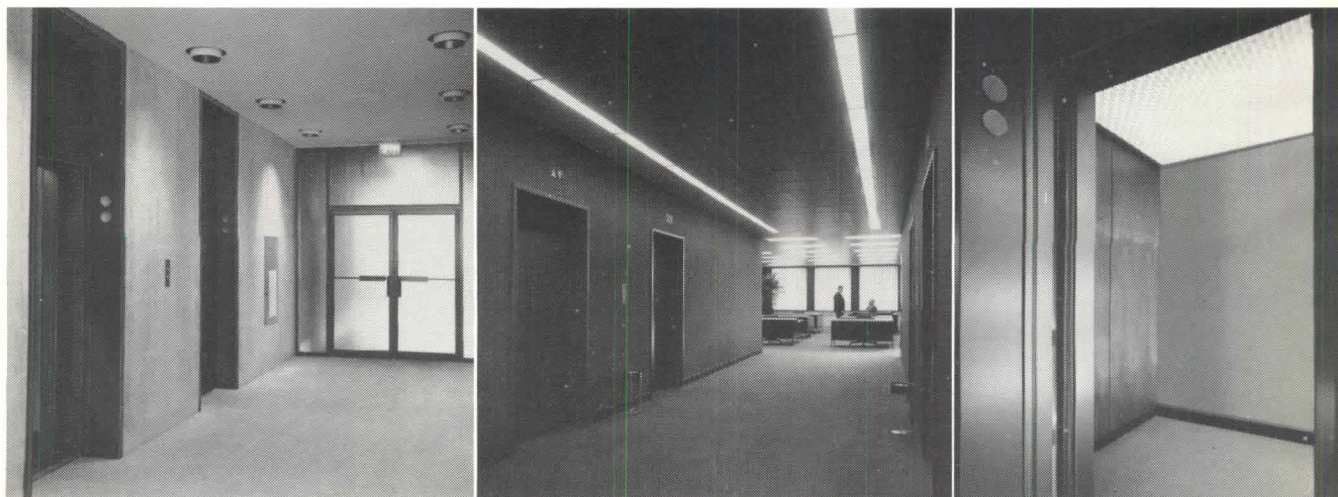
montgomery moves people in the Modern Woodmen Building on 4 High-Speed Elevators with ESP Measured Demand

ESP anticipates each demand for elevator service throughout the building . . . and positions the elevators in the system for immediate response. ESP automatically adjusts to the constantly changing pattern of traffic demand. This assures maximum utilization of each elevator in the system under every variation of traffic demand. Montgomery's Measured Demand Control with Electronic Sensor Programming provides the ultimate in elevator service, today. Montgomery Elevator Company, Moline, Illinois.

montgomery[®]
HIGH-RISE ELEVATORS

ELEVATORS/ESCALATORS/POWER RAMPS & WALKS

The cars, machinery and controls in this Montgomery installation provide the ideal combination of fast, smooth, comfortable elevator service for this nationally-known life insurance organization.





Americans will never lose their love for the Great Indoors

... safeguard their heritage with **Corbin Hardware!**

There's nothing that is seen and touched more often in the course of a day than doors and door hardware. So why shouldn't door hardware be both beautiful and functional? Ask any Indoorsman what make of hardware combines these features and he'll probably say "Corbin." It's a name he knows and trusts.

So specify Corbin. Accept no Corbin copies. *Insist* on Corbin hardware.

Send for an illustrated brochure on Corbin architectural hardware to: P. & F. Corbin, Division of Emhart Corp., New Britain, Conn. 06050



P. & F. CORBIN

DIVISION OF EMHART CORPORATION
NEW BRITAIN, CONNECTICUT 06050

distinction," while the bylaws in 1867 provided that "foreign architects, scientific men and amateurs of distinction" could be elected honorary members by ballot.

By 1877 the classification of corresponding member was added, encompassing "those Fellows and associates who may relinquish their practice and resign their membership" as well as foreign architects, civil engineers and other scientific men. These could be elected by the board, while honorary members from the latter three categories could be elected only by the convention.

A decade later the AIA incorporated a provision that an honorary member who engaged in active practice would not be so listed while in such practice.

The designation became more concrete in 1911 when it specified "any person not by profession an architect." That same year the term honorary corresponding member came into being to cover those architects not residing or practicing within the jurisdiction of the Institute. Today, foreign architects come under the category of Honorary Fellows, a term first used in 1954.

And so it has been down through the years to the present—and back to a lovely lady (and grandmother) who is perhaps known to just about everyone who has ever visited the Octagon.

Mrs. Day, whose husband was with the Department of the Navy until his death in 1957, joined the AIA in 1937 after a year in the office of the late Senator Warren Barbour (R-N.J.). Initially involved in the correlation by subject of past board and convention actions, she became secretary to Edward C. Kemper, FAIA, in 1946 and has held the same position with Edmund R. Purves, FAIA, and now William H. Scheick, FAIA.

Writing about her on the occasion of her 25th anniversary with the AIA, Executive Director Scheick on his page in October 1962 said, "Technically her tenure has not been continuous due to a 'leave' for the responsibilities of early motherhood. But she has been in the AIA picture for 25 years, enjoying the friendship and taking care of many matters for a wide circle of eminent members.

"We all join in expressing our admiration, affection and congratulations to Mrs. Day."

So on this, another happy occasion six years later, the AIA JOURNAL says ditto!

ROBERT E. KOEHLER

THE AMERICAN INSTITUTE OF ARCHITECTS

BOARD OF DIRECTORS

Officers

President

Robert L. Durham, FAIA*
Seattle, Wash.

First Vice President

George E. Kassabaum, FAIA*
St. Louis, Mo.

Vice Presidents

Robert F. Hastings, FAIA*
Detroit, Mich.

Samuel E. Homsey, FAIA*
Wilmington, Del.

Harold T. Spitznagel, FAIA*
Sioux Falls, S.D.

Secretary

Rex Whitaker Allen, FAIA*
San Francisco, Calif.

Treasurer

Dean F. Hilfinger, FAIA*
Bloomington, Ill.

Executive Director

William H. Scheick, FAIA

* Members of the Executive Committee of the Board.

Directors

(Terms expire 1968)

Gulf States

Dan C. Cowling Jr., AIA
Little Rock, Ark.

Michigan

Philip J. Meathe, AIA
Grosse Pointe, Mich.

Middle Atlantic

David N. Yerkes, FAIA
Washington, D.C.

New Jersey

Jules Gregory, AIA
Lambertville, N.J.

Northwest

Robert B. Martin, AIA
Lincoln City, Ore.

South Atlantic

Bernard B. Rothschild, FAIA
Atlanta, Ga.

(Terms expire 1969)

California

Cabell Gwathmey, AIA
San Francisco, Calif.

Central States

Rex L. Becker, FAIA
St. Louis, Mo.

Florida

H. Samuel Krusé, FAIA
Miami, Fla.

Illinois

Jack D. Train, AIA
Chicago, Ill.

Pennsylvania

G. Harold W. Haag, FAIA
Jenkintown, Pa.

Texas

George F. Harrell, FAIA
Dallas, Tex.

(Terms expire 1970)

East Central States

A. Bailey Ryan, AIA
Louisville, Ky.

New England

Philip W. Bourne, FAIA
Boston, Mass.

New York

Max O. Urbahn, FAIA
New York, N.Y.

North Central States

Joseph H. Flad, AIA
Madison, Wis.

Ohio

Joseph Tuchman, AIA
Akron, Ohio

Western Mountain

Sidney W. Little, FAIA
Tucson, Ariz.

HEADQUARTERS

1735 New York Ave. N.W.
Washington, D.C. 20006

Executive Director

William H. Scheick, FAIA
Secretary to
the Executive Director
Mabel Day

Department of Institute Services

Administrator

J. Winfield Rankin, HON. AIA
State, Chapter

& Student Affairs

Raymond L. Gaio

Convention

John R. Carlson

Membership

Maureen Marx

Awards

Marie F. Murray

Department of Public Services

Administrator

M. Elliott Carroll, AIA

AIA JOURNAL

(See previous page)

Governmental Affairs

Philip Hutchinson Jr.

Maurice Payne, AIA

Information Services

Neal English

Librarian

George E. Pettengill, HON. AIA

Hospital, School

& Theater Programs

Marilyn E. Ludwig

Department of Professional Services

Administrator

Frank L. Codella, AIA

Education & Research

Benjamin H. Evans, AIA

James L. Haecker, AIA

Professional Practice

Leonard Mayer, AIA

Urban Design

Andrew F. Euston Jr., AIA

Technical Programs

Thomas R. Hollenbach, AIA

Department of Business Management

Controller

W. G. Wolverton

Chief Accountant

Ronald Panciera

Purchasing & Maintenance

Harry D. Jones

The above is intended to facilitate communications between the membership and the AIA Headquarters and is not a complete staff listing.



GET RID OF HARLEM?

1,765 acres to dream about. The East and Central Harlem slums. 307,000 people call it home. How would you rebuild it? With low-cost housing? And keep Harlem a ghetto? Or include luxury towers? Perhaps a cultural center to push integration? Economically feasible? And about unemployment. (Up to 100% higher than the national rate.) Would you tackle that with an industrial complex? The possibles. For a new

...and beautiful...Harlem. What are they?

We want to stimulate some thinking on the plight of America's cities. So we're inaugurating the Eaton Yale & Towne Urban Design Fellowship. To help architects reach for the answers. The award, to be administered by the American Institute of Architects, will provide for one year of graduate study in urban design at an American university and a follow-up tour

of urban developments abroad.

It's not the whole solution. Not by a long shot. But it is a practical assist. During 100 years we've never stood for ugliness in anything we've made. Now, as we start our second century, we can't stand for it in anything.

YALE
THE FINEST NAME IN
LOCKS AND HARDWARE



Circle 343 on information card

AIA JOURNAL/MARCH 1968 7

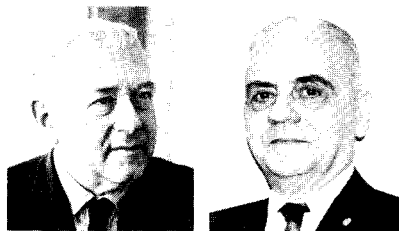
Newslines

Gold Medal Goes to Breuer Who Joins Mies, Gropius; Other Honors Made Known

Some three decades ago they came from Europe, Bauhaus men, all. And now all three will soon possess the highest honor The American Institute of Architects can confer: the Gold Medal.

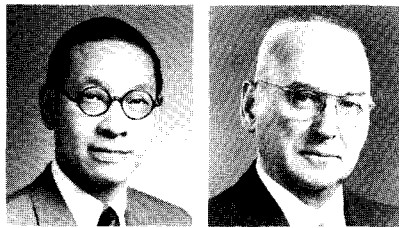
Walter Gropius received the medal in 1959; Ludwig Mies van der Rohe in 1960. This year the honor goes to Marcel Breuer.

The Gold Medal will be placed on Breuer, 66-year-old native of Hungary who entered the United



Breuer

Gambaro



Pei

Murphy

States in 1937 and became an American citizen in 1944, at the Institute's convention in Portland/Honolulu, June 23-29.

Breuer is the 34th to win the AIA's most coveted tribute, inaugurated in 1907 and awarded, simply, "for achievement in architecture." He is the first American so honored since 1962 when the medal was conferred on Eero Saarinen posthumously.

Selected to receive other AIA awards at the convention were:

James Gambaro, FAIA—Kemper Award.

I. M. Pei & Partners—Architectural Firm Award.

The Graham Foundation for Advanced Studies in the Fine Arts—Citation of an Organization.

Paul Grotz—Industrial Arts Medal.

LeMessurier Associates—Allied Professions Medal.

Jack Lenor Larsen—Craftsmanship Medal.

Gyorgy Kepes—Fine Arts Medal.
Ernest Braun—Architectural Photography Medal.

Philip Will Jr., FAIA—Special Citation of Honor.

Kemper Award-Winner Gambaro of New York has been in continual service to architecture for 43 years. The award is given for significant contribution to the Institute and profession.

I. M. Pei & Partners, also of New York, was selected to receive the Firm Award for "continuing collaboration among (the firm's) individuals," constituting "the principal force in consistently producing distinguished architecture."

The Citation of an Organization—the award will be accepted by Charles F. Murphy, FAIA, Chicago, organizer and president of the Chicago-based Graham Foundation—is given "for achievement in any field relating to architecture or planning."

Industrial Arts Medalist Paul Grotz is managing editor of *Architectural Forum*, a magazine he has served as art director for some 30 years. The medal cites excellence in several fields, including typography.

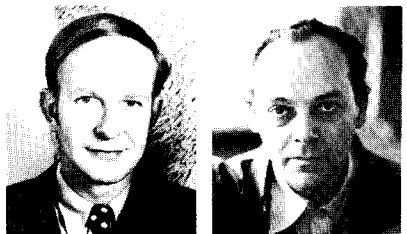
LeMessurier Associates, winner of the Allied Professions Medal, has worked with distinguished architects on many complicated projects. The Boston organization of structural engineers was recognized for "sensitivity to architectural goals" and for its own "technical excellence."

Jack Lenor Larsen, Craftsmanship Medalist, is a New York designer and hand crafter of fabrics



Grotz

Braun



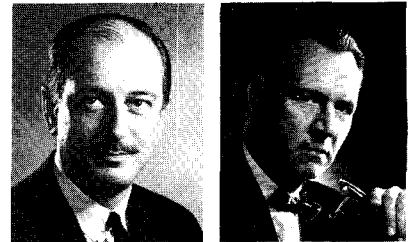
Larsen

Kepes

and consultant, through his Larsen Design Studio, to major architectural projects.

Gyorgy Kepes, Fine Arts Medalist, established the Center for Advanced Visual Arts at MIT and is currently a professor there.

He is being honored for his work showing "evidence of ability not



LeMessurier

Will

only with time-old materials for artistic expression but also with newly invented materials in a brilliant and technically competent manner."

Kepes is well known for his murals and glass designs for major public buildings.

Photography Medalist Braun, of San Francisco, has been cited for the sympathy he has shown projects he has photographed and for his use of the human figure adding "an excellent sense of scale and a feeling of delight and humanness."

The Special Citation of Honor for Will, a partner in the Perkins & Will Partnership of Chicago and a past president of the Institute, is for his service and leadership during his term as president: 1960-62.

Breuer, who like Gropius and Mies van der Rohe is a Fellow in the Institute, studied and taught at the Bauhaus in the 1920s.

In 1935 he moved his practice from Dessau to London, and in 1937 he was invited to teach at Harvard. He taught at Harvard until 1946, the year New York became the headquarters of his firm, Marcel Breuer & Associates.

Chas. Luckman Associates Acquired by Corporation

The Charles Luckman Associates architectural firm has been acquired by Ogden Corp. The latter, meanwhile, has established the Ogden Development Corp.

Charles Luckman, FAIA, president of CLA, has become a mem-

Continued on page 11

Introducing a whole new generation of buildings by Butler.

The sky's the limit.

Maybe you're designing a shopping center. Or an auto showroom. Or a municipal building. It doesn't matter. Whatever you're designing, look to Butler for a fresh, new palette of structural and visual elements.

The New Generation of Buildings by Butler offers more freedom of expression and greater advantages in construction than ever before.

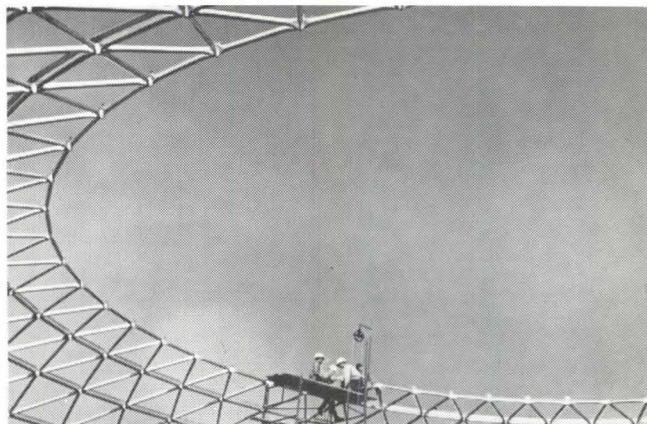
With these four interrelated systems, even the most striking low-rise designs are more practical. More economical. Here's why—All new-generation buildings have one thing in common. They're computer-proven solutions made up largely of standardized components. So you and your client still get all of Butler's advantages. A low-cost way to build without compromise in design approach; a faster way to build; single-source responsibility; guaranteed costs; predictable performance and value; earlier occupancy; and better investment return.

And within the four systems you have your choice of seven factory-made curtain walls in excellent low-lustre earth colors, and four outstanding roof systems.

Do us a favor this year and take a close look at The New Generation of Buildings by Butler. Write: Architectural Systems Department, Butler Manufacturing Company, at the address listed below.



Sales Offices and Builders Nationwide
BUTLER MANUFACTURING COMPANY
7601 East 13th Street, Kansas City, Missouri 64126



TRIODETIC® New structural system makes domes, barrel vaults, exotic shapes more practical and economical.

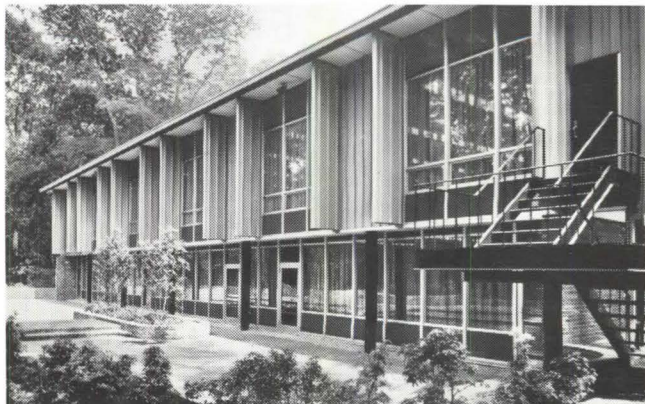


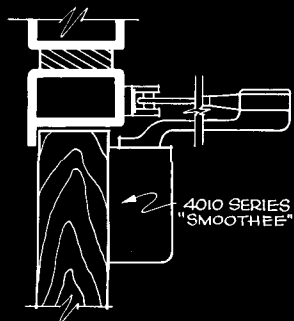
SPACE GRID® A structural/mechanical system with high performance environment, maximum space flexibility.



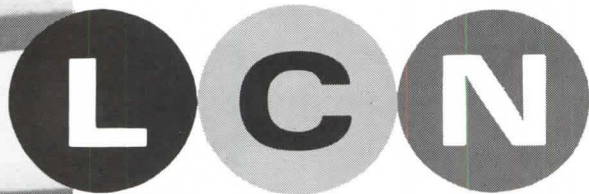
LANDMARK™ Contemporary system with decorative fascia and a horizontal profile. Modern appearance with economy.

WIDESPAN™ Butler's original rigid frame line. The system with wide choice of components, high performance, low cost.





Typical manner of installing LCN
"Smoother" Door Closer of the
4010 Series.



It's easy come, easy go, with LCN Closers

Architects point to six ways Closers help buildings function better: 1. Closers provide privacy. 2. Closers reduce noise. 3. Closers inhibit the spread of fire. 4. Closers control traffic flow. 5. Closers prevent accidents. 6. Closers contribute to orderly appearance. After forty years of making nothing but door closers, LCN has perfected the art. The clean lines of the Smoothee[®], shown in the photo, have been imitated but not matched. In power, in smooth performance, LCN "Smoothees" are the standard of the industry. They're guaranteed for five years. For interior or exterior doors, LCN Closers offer you more—at lowest long-run cost. Write for catalog.

LCN CLOSERS, PRINCETON, ILL. 61356
A Division of Schlage Lock Company
In Canada: LCN Closers of Canada, Ltd.

PHOTO: King County Medical Service Corporation, Seattle, Washington;
Grant, Copeland & Chervenak, AIA and Associates, Architects.

368

Circle 301 on information card

Newslines from page 8

ber of the board of Ogden Corp. and president of Ogden Development Corp., headquarters of which are in Los Angeles.

CLA will continue to operate with its present organization and corporate entity, including all of its present officers and board of directors.

Ralph Ablon, president and chairman of Ogden Corp.—a conglomerate operation involved with shipbuilding, scrap metal, foods, transportation planning, hospital equipment, etc.—said that "in determining upon our entry into the real estate development field we concluded that an architect, if qualified, would be the ideal leader of the development team."

He said that to Ogden, real estate development "must include the responsibility for coordinating the economic and sociological research; the planning, architecture and engineering; equity and permanent financing; the supervision of construction and the coordinating of leasing."

Luckman said members of CLA "have great enthusiasm for the opportunity being afforded to us by the Ogden Corp. to expand and diversify the services which we can render to our clients.

"To meet the projected demand for the physical facilities needed by our exploding population, there will be required a marriage of imagination, capital and management skills. By 'imagination' I mean the creative entrepreneurship needed to combine bricks and mortar with land, to create an income-producing asset whose value is greater than that of the components."

Luckman said CLA will take advantage of Ogden's experience in computerized operations, systems analysis, communications systems and transportation planning, and "thus add substantially to the services offered to all of our clients."

Scheuer Honorary Member; AIA to Cite Four Others

US Rep. James H. Scheuer (D-N.Y.), longtime supporter and initiator of legislation to further design and environmental causes, has been made an honorary member of the AIA. He is one of five persons to be so honored this year.

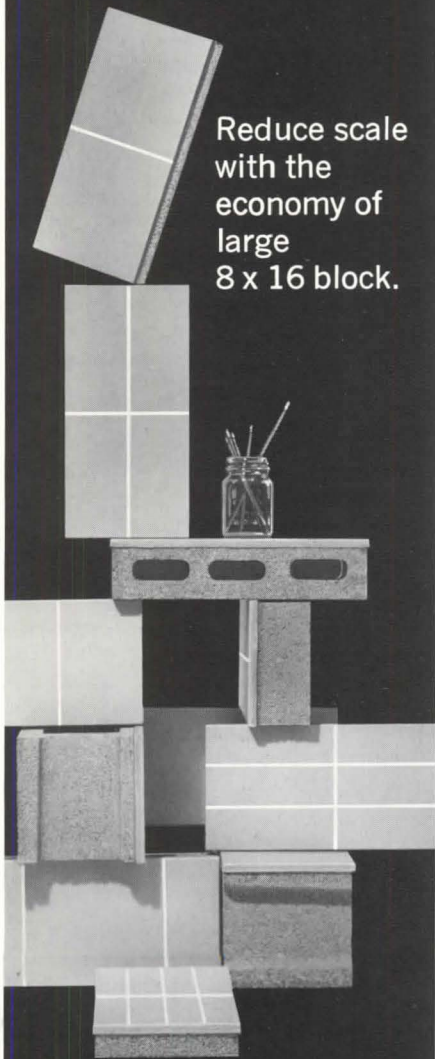
The tribute was bestowed upon the representative of the Bronx' 21st District by Institute President Robert L. Durham, FAIA, during the Jan. 30-31 Joint Legislative Af-

VARIATIONS ON
A THEME:

Spectra-Glaze®

SCORED glazed concrete UNITS

Reduce scale
with the
economy of
large
8 x 16 block.



Ⓢ Cataloged in SWEET'S

® Reg. U.S. Pat. Off., Canada
& other foreign countries by
THE BURNS & RUSSELL CO.,
P.O. Box 6063,
Baltimore, Md. 21231

Circle 358 on information card

fairs Conference in Washington, D.C. The conference was held by the AIA and the Consulting Engineers Council.

Scheuer is a member of the House Education and Labor Committee. Legislation initiated by Scheuer and passed during the 89th Congress includes an amendment to the Equal Opportunity Act to provide jobs for hard-core unemployment in public service fields, and amendments dealing with supplementary educational centers, education construction programs and student loan programs. He was a consultant on housing and human rights problems to the late President Kennedy.

Others to receive honorary memberships—to be conferred at the AIA convention in Portland/Honolulu June 23-29—are:

John W. Gardner, recently resigned secretary of the Department of Health, Education and Welfare; J. Irwin Miller, chairman of the board of Cummins Engine Company, Inc.; Mrs. Mabel S. Day, secretary to the executive director of the AIA; and Maurice Lavanoux, managing editor of *Liturgical Arts*.

Gardner, in a consultant's capacity, has returned to the Carnegie Corp. in New York, which he headed as president before taking the cabinet post.

He has served at various times as consultant to the Air Force, Department of Defense, the White House and the US delegation to the United Nations.

Gardner edited the late President John F. Kennedy's book *To Turn the Tide* and has written two books himself, *Excellence* and *Self-Renewal*. In 1964 he was awarded the Presidential Medal of Freedom, the highest civilian honor in the country.

Business and community leader Miller developed his own company, Cummins, of Columbus, Ind., into a major and diversified producer. (Cummins' employees, numbering 4,000 in 1957, now total 13,000.)

Indicative of his efforts to relate business and government is his establishment of the Cummins Engine Foundation to instigate renovation and development in Columbus. The foundation pays design costs if the townspeople obtain top architects for public building. Columbus as a result is notable for its outstanding works of architecture.

Mrs. Day has been a staff member at the Institute since 1937. She has held her present position—secretary to the AIA executive

director—for former directors Edward C. Kemper, FAIA, and Edmund R. Purves, FAIA. She is well known to present and past AIA officers, directors, committeemen and visitors to the Octagon.

Maurice Lavanoux is one of the five people who in 1928 founded in



Scheuer, right, receives honorary membership from President Durham.

New York the Liturgical Arts Society and has since served as its secretary as well as editor of its publication *Liturgical Arts*.

Lavanoux spent 12 years working in architectural offices in New York and Boston and has lectured before some 200 academic audiences in the US, France, England and South Africa.

Dues Rise Is Discussed; Biggest Convention Item

The chief item of internal business at the June 23-29 AIA convention in Portland/Honolulu will be the proposed increase in Institute dues.

Supporters of the increase maintain it has been made necessary by increased responsibilities, challenges and opportunities. First Vice President George E. Kassabaum, FAIA, told a Grassroots meeting there is "much more to do than we have ever had to do before."

The increase to be voted on in Portland would raise regular dues from \$50 to \$75 a year. There would also be increases in first-year (from \$20 to \$25) and second-year (from \$30 to \$50) memberships.

Grassroots sessions in Washington, St. Louis and San Diego discussed the dues proposals and the AIA program expansions they are intended to finance.

The Unfinished Business pages of this and last month's issues of the AIA JOURNAL are also given to the subject, and next month's issue of the magazine will carry an article by Kassabaum on the proposed program expansion along with a report on present income and expenditures.

Continued on page 15

provocative



Within an undersea complex, nestled on a continental shelf, take an imaginative glimpse into what a corporate headquarters might look like in years to come.

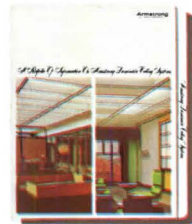
When will we see such an area? Certainly not tomorrow. But that distinctly individual Armstrong Luminaire Ceiling System can be installed today. As many installations have already proved, this ceiling system gives you unique advantages in solving current problems, plus the flexibility to meet future ones.

Its benefits start with the convenience and savings of a single installation that fuses together the functions of air dis-

tribution, lighting, acoustical control, and rated fire protection. It also gives you unlimited design possibilities in a completely flexible arrangement of the lighting modules and flat panels.

For functional flexibility and efficiency, you have two methods of uniform air distribution to give you a range of from 1 up to 8 cfm per square foot. Choose completely draft-free distribution through the ceiling panels or an alternate method of distribution through linear diffusers concealed in the ceiling's suspension system. In lighting, this system gives you from 30 to well over 200 fc using fewer lamps than conventional fixtures to achieve any given level, with fewer replacements and less wattage. All this has been combined with superior acoustical control and rated fire protection.

The Armstrong C-60 Luminaire Ceiling System gives you the future's performance standards today, frequently at substantially lower costs than more conventional methods. A packet including application-engineering data, installation instructions, and guideline specifications will show you how. Write Armstrong, 4203 Sage Street, Lancaster, Pennsylvania 17604. Or for more technical data, Circle 211 on information card.



CEILING SYSTEMS BY
Armstrong

FOR CORROSIVE WASTES...



SPECIFY A **GSR**® **FUSEAL**™ DRAINAGE SYSTEM

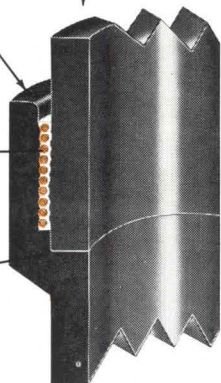
THE "INSIDE" STORY

GSR FUSEAL fittings and polypropylene pipe offer a unique combination of physical and chemical properties for safe handling of corrosive wastes.

Precision-molded GSR FUSEAL fittings assure perfect fit and easy assembly — available in all standard configurations.

Plastic-sealed resistance coil applies heat to the interface between pipe and socket — fuses 95% of socket area.

Exclusive countersink socket design assures easy seating of pipe — prevents melted plastic from obstructing pipe line.



90 SECONDS of controlled heat — applied by the exclusive, patented GSR FUSEAL PROCESS — joins GSR FUSEAL polypropylene fittings and pipe into a leakproof, distortion-free, homogeneous unit. Add the superior chemical resistance of polypropylene and the certainty of this improved joining technique — and you have the ideal method of handling corrosive wastes.

The GSR FUSEAL PROCESS applies exactly the right degree of heat for exactly the right time — right where it is needed. An electrical resistance coil, imbedded in polypropylene to form a fusible collar, imparts a "full circle" of heat to fuse the interface between pipe and socket.

The exclusive design of GSR FUSEAL fittings makes it almost impossible to seat the pipe improperly or misalign the joint. In the rare event of a misalignment or a leak, the GSR FUSEAL PROCESS "forgives" the mistake. Detailed operating instructions are included in GSR FUSEAL Brochure, Form FS101 available on request.

Pipe corrosive wastes the modern way — with GSR FUSEAL Fittings and polypropylene pipe joined by the GSR FUSEAL PROCESS. Write today for complete information. R. & G. SLOANE MFG. DIV., ATLANTIC RESEARCH CORP., 7606 N. Clybourn Ave., Sun Valley, Calif. 91352.

GSR® **FUSEAL**™ JOINT FUSION PROCESS

PLANT, WAREHOUSE AND SALES OFFICE: Fairfield Crescent, P.O. Box 625, West Caldwell, N.J. 07006 • Tel. (201) 228-1100 □ WAREHOUSES AND SALES OFFICES: 5144 West Idlewild, Tampa, Fla. 33614 • Tel. (813) 884-2576 □ 3216 Brinkerhoff Rd., Kansas City, Kan. 66115 • Tel. (913) 371-0412 □ 4918 East 154th Street, Cleveland, Ohio 44128 • Tel. (216) 587-0515 □ 3224 Peachtree Road, N.E., Room 218, Atlanta, Georgia 30305 • Tel. (404) 233-6205 □ "IN CANADA" CANPLAS INDUSTRIES LTD. (Reg. User) □ New Westminster, B.C. • (604) 526-2855 □ Toronto, Ontario • (416) 749-3818

Competitive Negotiations, Sitis Picketing, Weigh Large at A-E Conference

Sitis picketing and a threat that architects and engineers may be forced into price competition negotiations for federal construction commissions were key issues at a recent architect/engineer legislative conference.

Held in the nation's capital and attended by more than 300 A-Es, the conference was aimed at getting the professionals better acquainted with legislation and—more importantly—with their legislators.

There were a couple of startling revelations.

Particularly intriguing was the comment by Robert F. Keller, general counsel of the General Accounting Office, that GAO this year intends to "undertake considerably more investigations involving federal procurement practices in the construction industry." Up to now GAO's concern has been with the interpretation of 6 percent fee limitation statutes on federal work and the question of price competition—there has been no suggestion the government is being shortchanged.

Systems on the Hill: Then there was the report of Rep. F. Bradford Morse (R-Mass.) underlining the federal government's spiraling interest in systems management.

Morse has introduced legislation seeking a national study of the application of systems techniques in solving urban and social problems.

Government and Congressional figures occupied most of the Jan. 30-31 program held jointly by the AIA and the Consulting Engineers Council.

Keller discussed GAO's pending requirement for competitive negotiations—which will go into effect if Congress fails to clarify the federal procurement statute.

He insisted that price would not become a dominant factor in contract negotiations. But Rep. Jack Brooks (D-Tex.) was not so sure. Brooks, chairman of the House Government Activities Subcommittee, said, however, that he agreed with GAO's goal.

A Fact of Life: And he even told the A-Es that competition is "a fact of life" and that as long as the rules are fair and in the public interest "you have no basis for complaint."

But he supported traditional negotiation procedures which separate discussion of fee from discussion of relative ability to render the

desired services. Price competition, he said, would not further the goal of quality projects at reasonable cost, the GAO goal.

What Brooks and his subcommittee want, it appeared, is the widest range of A-Es from which to draw for a government project—and the highest quality of services at reasonable fees.

Brooks said he is working closely with the GAO in seeking resolution of differences. He predicted that his subcommittee would shortly "achieve a satisfactory conclusion of the problem."

A Bill Less Severe: Rep. Charles E. Goodell (R-NY) reviewed sitis picketing legislation that he is sponsoring. The Goodell bill would permit construction unions to strike building projects, but it contains a number of safeguards. It would, for example, forbid product boycotts.

The bill, he said, points up the shortcomings, as far as the construction industry is concerned, of HR 100, another sitis picketing measure feared by many architects and engineers who believe it places too much power in the unions' hands.

Goodell said his measure, HR 9669, stems from the realities of both the construction industry and politics. Goodell conceded, however, following a spirited question-and-answer period, that "I can only assume that architects and engineers oppose common sitis picketing in any form."

\$1 Billion in Securities To Fall in Case of Shock

It looks like a balancing act, that freestanding bank vault—said to be the world's first—in Montreal.

The 3,000-ton vault rests on two slender pillars. It is designed to topple safely to the ground in event of earthquake or bomb attack.

Designed to topple in trouble.



The two-story vault is intended to keep securities, figured to approach \$1 billion, safe from just about anything short of a market crash. Entrances from the Edifice Banque Canadienne Nationale's second and third floors lead to the windowless vault. These are secured by two-feet-thick stainless steel doors which are sealed electronically.

NSPE Honors BART; Report on System Made

With engineers, the San Francisco Bay Area Rapid Transit System is tops for 1967.

BART was the No. 1 choice of 10 specific engineering projects selected by the National Society of Professional Engineers.

An NSPE announcement said the \$1.2 billion system was cited "as representing outstanding progress toward solving a major problem that exists throughout the country. It was hailed as a planned attempt to deal constructively with the need for public transportation in congested areas. . . ."

More than two-thirds of the 75-mile system is under construction, and 80 percent of the overall design is complete, according to a status report of Parsons Brinckerhoff-Tudor-Bechtel, general engineering consultants for the project.

The Trans-Bay Tube, underwater route between downtown San Francisco and Oakland, is 50 percent complete. The tube will be 2.8 miles long.

The Berkeley Hills Tunnel, second largest construction project in the system, is 78 percent complete.

Architectural design has been completed on three of the system's 37 passenger stations and most of the rest will be completed or nearly completed during this year.

Target date for completion of the system is 1971-72. The status report made no measurement of current progress against that completion time.

Is Turnkey Overstressed? AIA to Frame Position

The Department of Housing and Urban Development may be depending too much on turnkey in its efforts to provide housing for low-income families.

This was a concern expressed by AIA members who attended a six-

Continued on page 20

Cabin Crafts Carpet of Acrilan® Gets

ACRYLIC

Studies show that carpeting is no more conducive to bacterial growth than traditional hard-surface floors. In fact, one hospital discovered that its carpeted areas averaged significantly *lower* staph colony counts than its uncarpeted areas!

Donald Welch, Administrator of the impressive Florida Sanitarium and Hospital in Orlando says, "We spent quite a lot of time in research before making the decision to use Cabin Crafts to carpet patient rooms. And every report that I've ever seen anywhere indi-

cates that carpeting is equally as safe as any hard surface flooring . . . *if not safer!*"

Mr. Welch goes on to say, "Carpeting makes patients feel more at home. Too, it's physically safer; patients are less likely to slip and fall on carpeting."

More and more, hospitals across the country are becoming aware of the health advantages of carpeting; the acoustical and aesthetic reasons for carpeting are obvious.

Architects: Powell, Edge & Willson, Palm Beach, Florida/ Interior Designers: Rablen-Shelton Commercial Interiors, Inc., Ft. Lauderdale, Florida



Above, a patient room; one of forty in the new South Wing which features CABIN CRAFTS Cimarron carpeting of Acrilan® for wall-to-wall quiet. Comfortable? "Like home," say patients. Safe? Absolutely! Studies show that a well-maintained carpet is as clean and as staph-free as a well-maintained hard-surface floor! The room also features such conveniences as a telephone, a TV set, plus a panel which allows the patient to operate each control from bed.

The Florida Sanitarium and Hospital was founded in Orlando in 1908 by the Florida Conference of Seventh-day Adventists.



Clean Bill of Health at Florida Hospital

Why Cabin Crafts? According to Mr. Welch, it was simply "more beautiful." The evidence: CIMARRON of Acrilan® acrylic shown here as it's found in 40 patient rooms in the new South Wing. Also, he added, the hospital was able to get the carpet at a price that was "well within the budget."

Cabin Crafts has a complete line of contract/commercial carpet; details are as close as your telephone. When *you* specify, make it Cabin Crafts.



The patient admitting area is shielded from the general lobby by a colorful partition. Patients awaiting admission appreciate the privacy.

For immediate information, telephone CABIN CRAFTS' Contract Information Services, collect, at any of the following numbers: Dalton: 404-278-1100/New York: 212-684-5200/Chicago: 312-644-2136/San Francisco: 415-861-3144/Los Angeles: 213-627-5888/Dallas: 214-741-6378. Be sure to ask for the Contract Information Services Manager. If you'd like material sent, just clip the coupon below.

CABIN CRAFTS will be happy to supply you with more information on carpet of Acrilan® acrylic. Mail this coupon to CONTRACT ADV. DEPT. FS.

Cabin Crafts
Dalton, Georgia 30720



NAME _____

FIRM _____

TITLE _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Cabin Crafts makes the contract carpet that makes specifying easy.

CABIN CRAFTS



An administrative atmosphere of pleasant contemporary dignity and elegance fills the Board Room. The carpet: CABIN CRAFTS Cimarron.

Noise that used to accompany the dinner carts is no longer a problem in this beautifully carpeted corridor in the new South Wing.





OUTSIDE BEAUTY

***WITH THE SAME
INSIDE SAFETY***



You can choose from a variety of attractively styled outside lever handles when you select Reed exit devices. Combined with the inherent beauty of the flat-bar design of Reed devices, these handles have been designed to complement the crisp clean lines of today's modern entrances.

Reed exit devices themselves add only a simple horizontal line to the appearance of the door. Completely avoids the drooping crossarm necessary with all other devices. Blends well with aluminum glass doors or serves as a smart accent on solid doors.

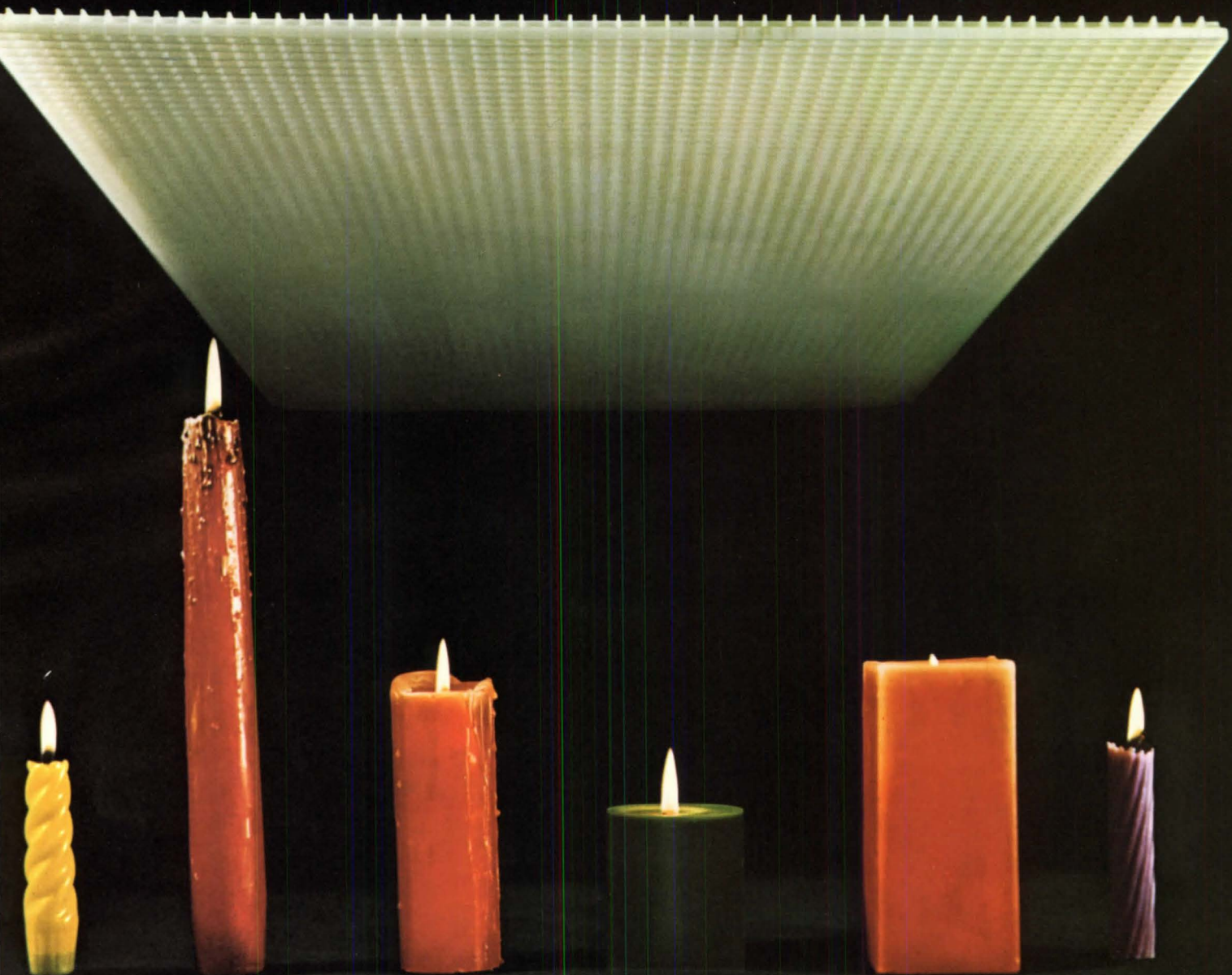
You also have safe dependable exit devices. The exclusive Reed design features direct crossarm operation of the latch bolt. There's nothing to bend, bind or fail. And operation is in the same direction of travel as traffic. It's straight through, not down, for straight-thru-safety.

Consider Reed exit devices for your next job. Get dependable safety and beauty.

CONTACT YOUR REED REPRESENTATIVE FOR MORE DETAILS



REED DOOR DEVICES
Box 58, Wood Dale, Illinois, 60191



Lo-Brite 55° Louver cuts off glare without cutting down footcandles

A few years back, lighting levels were just a shadow of their present selves. Intensities keep creeping up—and with them new problems in glare control.

But now—lay on the lumens! Free up the footlamberts! The new American Lo-Brite 55° Louver abruptly cuts off glare and increases diffusion—with-

out noticeable loss of light transmission efficiency. The cell design does it (see inset), not only confining brightness but enhancing the quality of illumination dramatically.



Cell of new Lo-Brite 55° Shielding Louver (l.) is smaller than conventional louver cell (r.) with 45° shielding. Greater number of smaller cells means better light diffusion; higher ratio of cell depth to width gives better control of brightness.

Want to see a sample? Simple. Write American Louver Company, 7700 Austin St., Skokie, Ill. 60076.

The LO-BRITE 55° LOUVER by
American Louver Company

city series of conferences which HUD conducted to explain the program that Secretary Robert C. Weaver has termed "an ingenious approach to getting low-rent public housing built more quickly and more cheaply than ever before."

The conference-attending architects were not so sure. They expressed the worry that the government, and many in the building industry as well, may be putting too much emphasis on a single process that requires time for experience and refinement to determine its effectiveness.

Meantime, a task force made up of members of the Institute's Board of Directors is in the process of developing an AIA stand on turnkey.

As part of its effort, the task force on turnkey seeks information from architects who have done or are doing turnkey projects. This information will be used in framing the AIA stand.

Turnkey allows a private developer to build on his own site to his own plans and specifications. The completed housing is then sold to the local housing authority.

Turnkey II provides for private

rental management of the property also and is being tried in three cities. And being tried in North Gulfport, Miss., is Turnkey III—a pioneering effort toward home ownership under public housing. (The tenant earns equity by doing the maintenance work and making cash contributions. He can become the owner in from 13 to 21 years.)

The survey of AIA members who attended the HUD conferences found many architects expressing reservations about the business and contractual relationships between HUD, the local housing authorities, contractors, developers, design architects and supervisory architects, as well as the design quality under the program.

Funds Drive Hits the Top; Building Program Advances

The funds campaign for a new AIA headquarters building and a restored Octagon House has reached a successful, million-dollar conclusion.

Basic concepts for the redesign of the headquarters building are being developed, meanwhile, as research for the Octagon's restoration nears completion.

Pledges and contributions to the drive totaled \$1,001,040, reported G. Harold W. Haag, FAIA, campaign chairman. Expenses have amounted so far to \$24,867, leaving a net of \$976,173 and meaning that the campaign's cost is only 2½ percent of the sum collected. The campaign was not run by professional fund raisers.

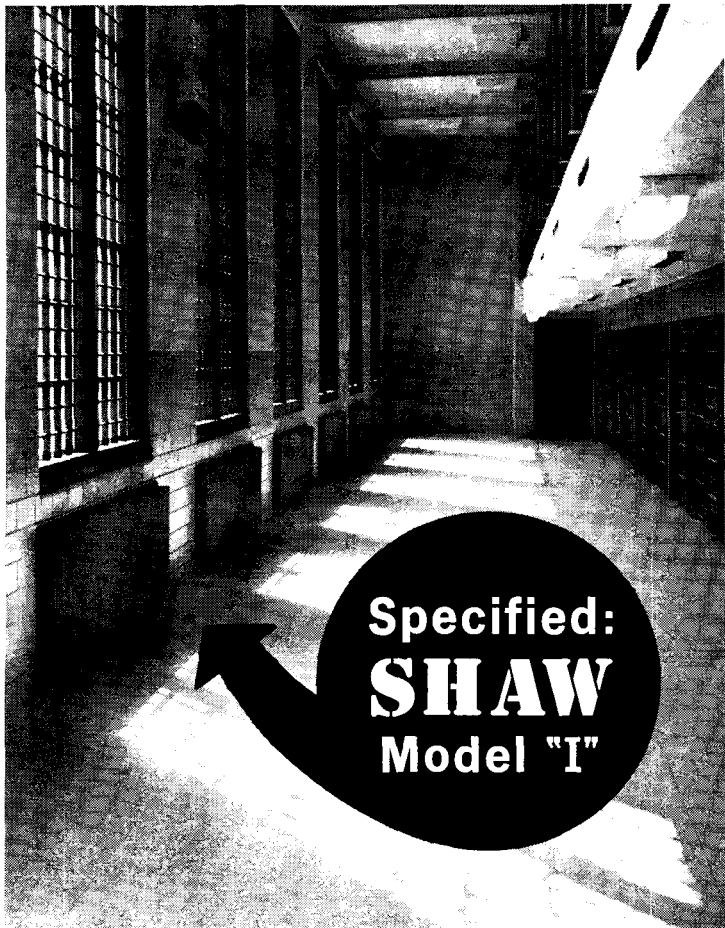
About 45 percent of the membership contributed—two-thirds through cash contributions and the remainder through pledges. Institute President Robert L. Durham, FAIA, commended contributing members and said that remittances are still being received even though the goal of \$993,500 has been reached.

Durham urged members who have not yet contributed to do so.

The architects for the \$4 million headquarters, Mitchell/Giurgola, Associates, have met with the Committee on Institute Headquarters to discuss conceptual ideas. A meeting with Washington's Fine Arts Commission is expected soon.

It was the commission that turned down a previous design as being incompatible with the Octagon House and Garden.

Continued on page 26



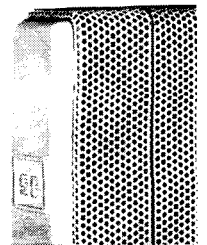
BECAUSE: Shaw Model "I" PanelVectors are specifically designed to solve penal institution heating problems...

Penal institutions, hospitals, churches, colleges and similar buildings are ideal structures for Model "I" PanelVectors. They are especially built to meet specifications created by particular area heating, strict sanitary requirements and unusual installation conditions.

Model "I" PanelVectors offer permanent, unified construction and simplified, rigid installation that conforms to the most demanding standards for strength, cleanliness and safety codes.

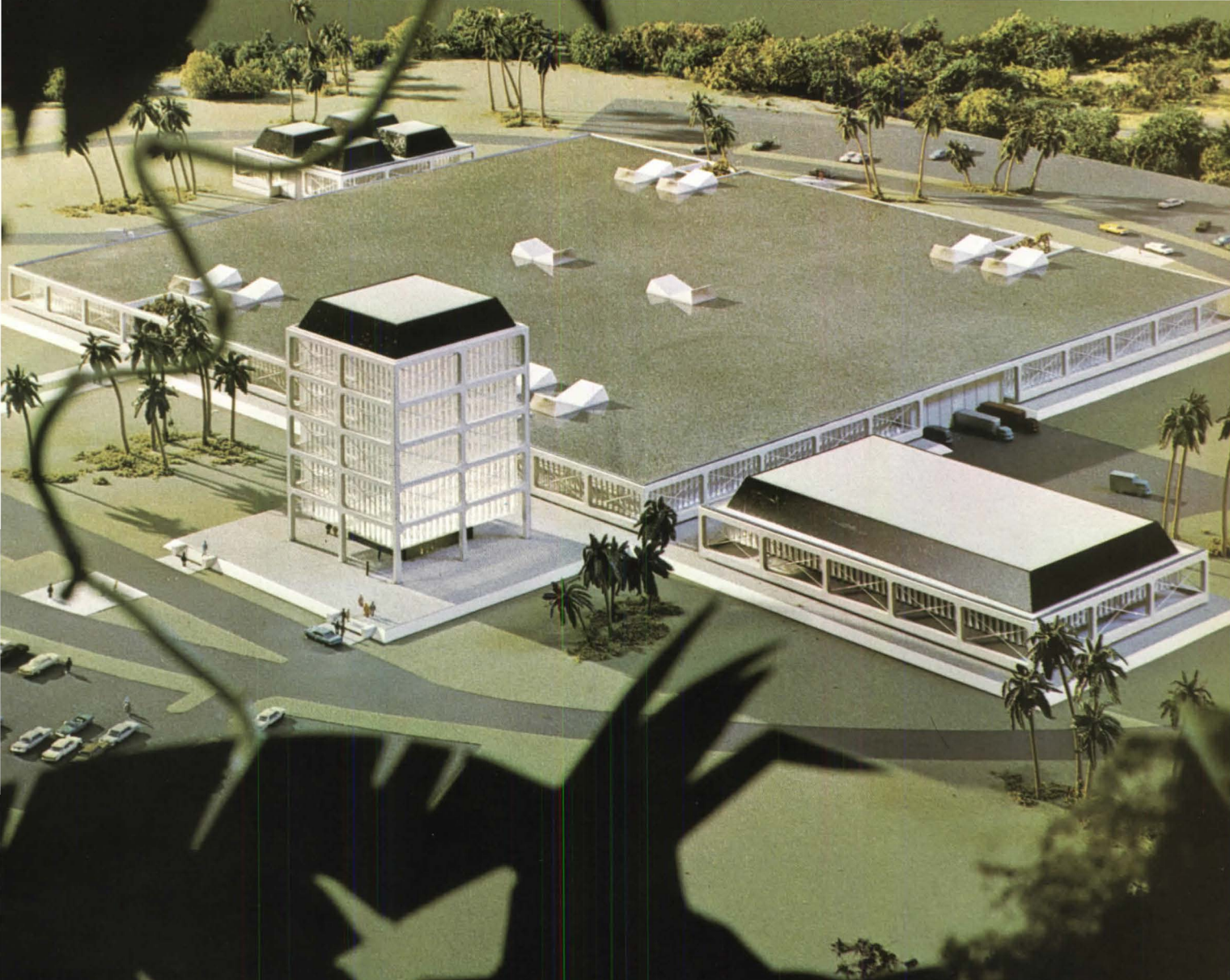
Experience gained throughout the years in cooperation with institution administrators, architects and engineers makes Shaw-Perkins your best source for compact, indestructible radiators that give years of trouble-free service. Write today for further information and exact specifications.

Perforated metal panels provide a constant flow of convected warm air that results in low surface temperatures... safe to touch. The attractive covering also prevents foreign objects from being inserted into interior of radiator... no large grill openings. All Model "I" PanelVectors are factory dipped in grey primer that often serves as a final finish.



SHAW PERKINS MFG. CO.

Properly Designed Room Heat Distribution Equipment
P. O. Box 285, West Pittsburg, Pa. 16160



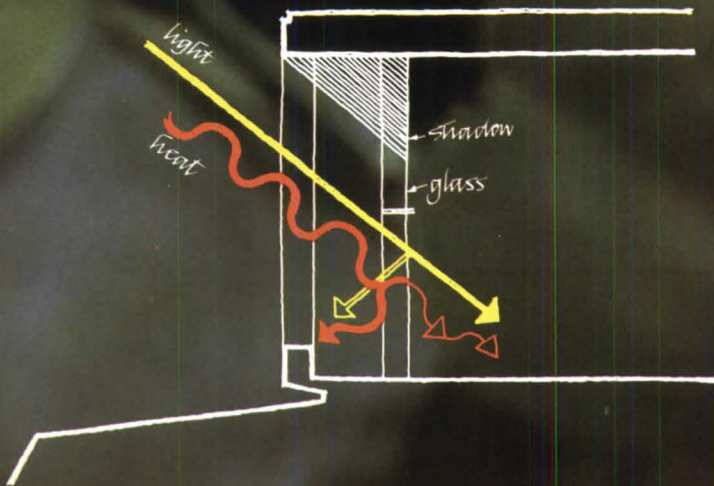
William Hamby, A.I.A., specifies "outer space" glass for plant in Florida

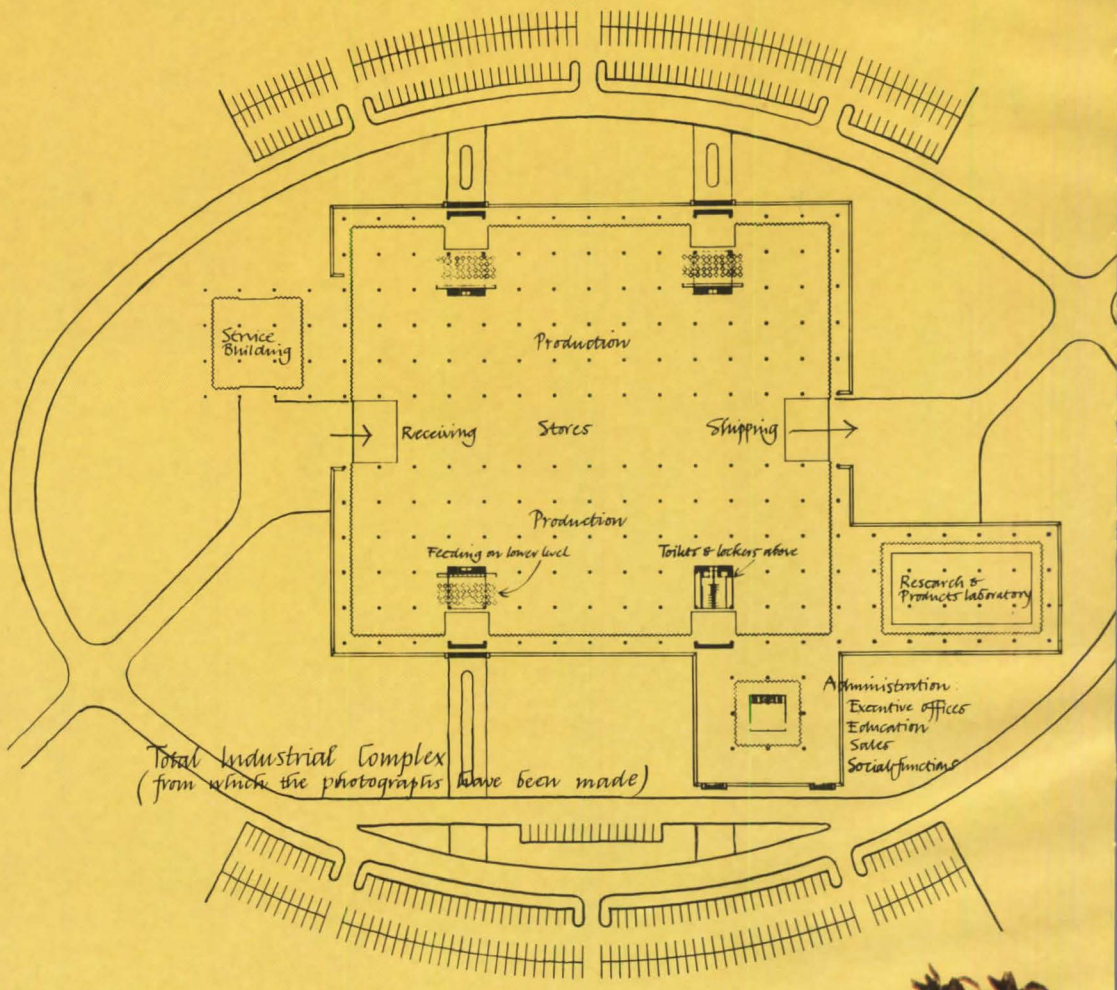
How do you design an industrial complex with lots of windows for a semi-tropical location yet help employees keep cool? You use a new special-performance glass fabricated by Libbey-Owens-

Ford. It's Thermopane® insulating glass with Vari-Tran™ chromium alloy coating on the inside surface of the outboard light. The unit controls the transmission of light and heat almost any way you want it to. It's available in sizes up to 50 sq. ft.

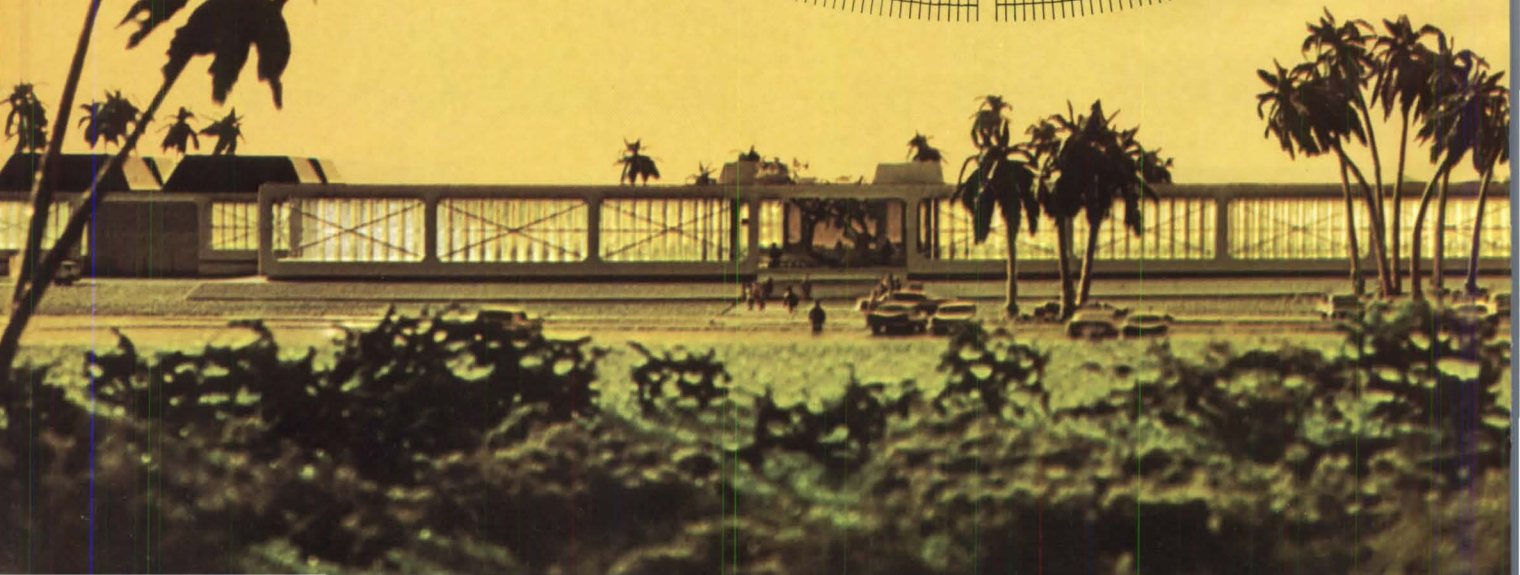
Vari-Tran is made by a continuous vacuum-coating process called *StratoVac*. Lines of glass are air-locked through a series of chambers to reach a vacuum like astronauts find 125 miles straight up.

Here in "outer space", we vaporize metallic coating materials by electronic bombardment and direct their atoms and molecules onto the surface of the glass to form precise, micro-thin coatings. So we can control the transparency or reflectivity





Total Industrial Complex
 (from which the photographs have been made)



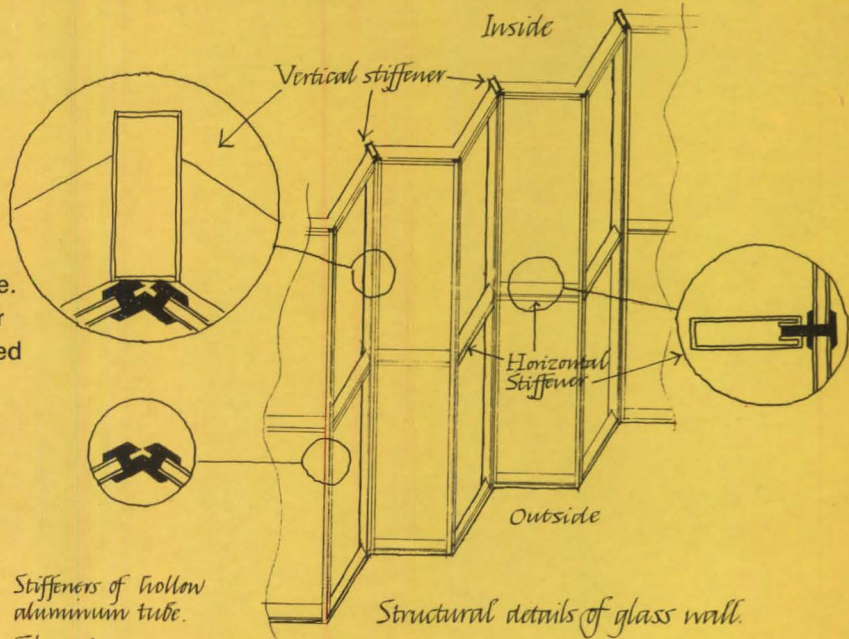
of our glass at will. To block ultraviolet rays. Block infrared rays. Make air conditioning even more efficient by reducing inflow of sun heat. Architect William Hamby of Fordyce, Hamby & Kennerly, New York City, would use Thermopane made with Vari-Tran coated glass in this hypothetical structure in Florida. Floor-to-ceiling windows set back from the perimeter of the building with fixed fenestration are indicated.

The building, itself, would be a frame of precast concrete, stressed for high-wind loadings. A white gravel roof with one inch of standing water helps heat control.

The basic design is a modular concept which could be the first element of a small plant, the units of an industrial park, or parts of a large industrial operation.

Each unit would have its own entry and eating area. Above eating areas would be mechanical equipment and rest rooms. This concept effectively divides a large manufacturing or warehouse operation into smaller units and provides a smaller group to supervise.

Whether you are designing a structure for tropical or other climates, determine the kind of glazing you'll need early in your planning. L·O·F makes a particular kind of glass for every purpose in Open World design. Refer to Sweet's Architectural File or call your L·O·F Glass Distributor or Dealer listed under "Glass" in the Yellow Pages. Or write to Libbey-Owens-Ford Glass Company, 811 Madison Avenue, Toledo, Ohio 43624.



Stiffeners of hollow aluminum tube.
Glass in neoprene gaskets.

Structural details of glass wall.



L·O·F glass for Industrial Plants

POLISHED PLATE GLASS

Parallel-O-Plate®, 13/64", 1/4"

Parallel-O-Grey®, 13/64", 1/4"

Parallel-O-Bronze®, 1/4"

HEAVY-DUTY PLATE GLASS

Parallel-O-Plate®, 5/16" to 7/8"

Parallel-O-Grey®, 3/8", 1/2"

Parallel-O-Bronze®, 3/8", 1/2"

LAMINATED SAFETY PLATE GLASS with

Vari-Tran™ Cr Coating, 1/4", 3/8"

HEAT ABSORBING FLOAT, 1/4"

ROUGH PLATE (Regular, Grey, Bronze and Heat Absorbing)

INSULATING GLASS—Thermopane®

Regular or with Vari-Tran Cr Coating

SPANDREL GLASS—Vitrolux®

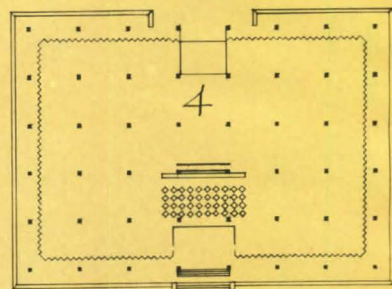
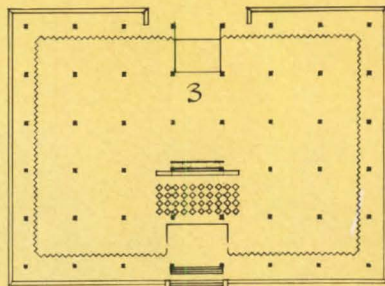
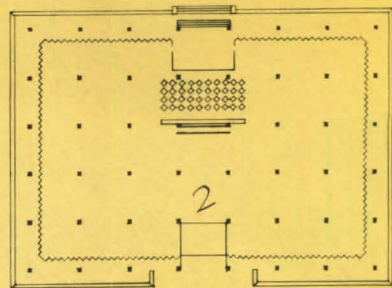
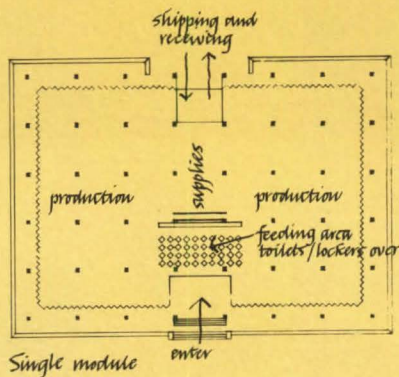
Vitreous colors fused to back of heat-strengthened glass

HEAT-TEMPERED GLASS—Tuf-flex®

Doors and sidelights

WINDOW GLASS

PATTERNED & WIRED GLASS



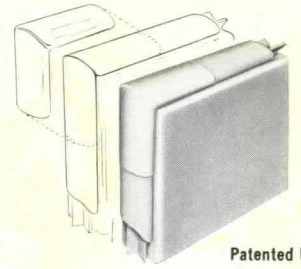
Four module industrial park. Spaces between buildings on modular grid.

Libbey-Owens-Ford Glass Co.

Toledo, Ohio



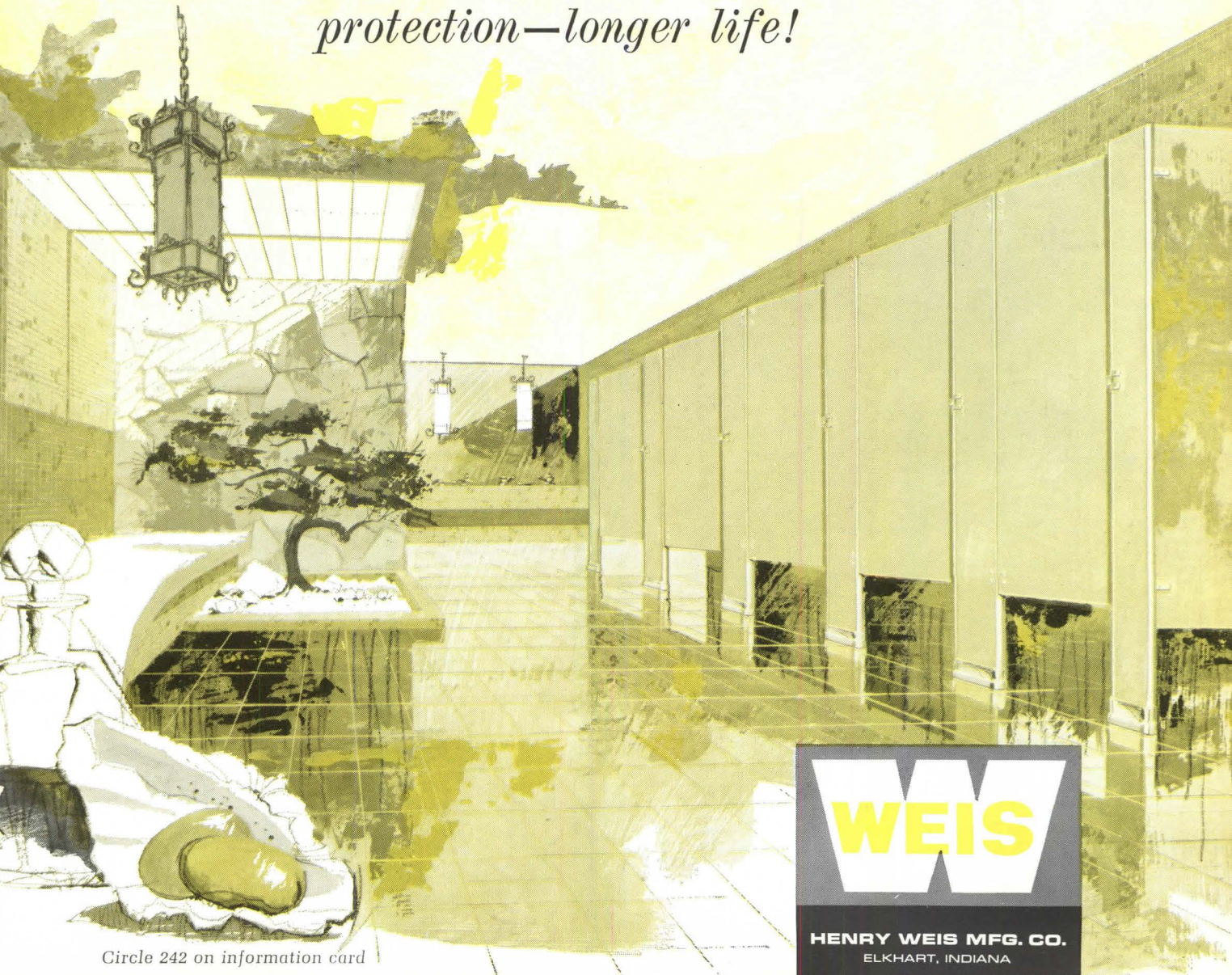
Why cover the corner when you're going to paint it?



Patented U.S.A.

Every exposed corner of every Weis toilet compartment — partition, door and stile is capped with a stainless steel corner reinforcement. Eliminates destructive welding, brazing and grinding which removes protective zinc coating.

*Another Weis idea for greater
protection—longer life!*



Circle 242 on information card

Octagon restoration architect J. Everett Fauber Jr., AIA, is hopeful that the \$350,000 restoration of the house can get underway at an early date.

The funds drive is to cover the cost of this work and offset the \$678,000 cost of the Lemon Building next door to the present headquarters. This building will be razed along with the headquarters to provide the site for the new building.

BRI Expands Outlook; Lines up Conferences

The Building Research Institute, whose future last spring seemed anything but rosy, will kick off its 1968 conference schedule away from home base in Washington, D.C.

The March 27-28 meeting in Chicago on factory-manufactured modules in building construction—"The Case for Instant Space"—is one of three special conferences to be held this year.

The sessions to be held in the Conrad Hilton Hotel will mark the first time in about nine years that BRI, an independent organization,

has sponsored a conference outside of the nation's capital.

The two other special conferences will be devoted to housing for developing nations and air rights.

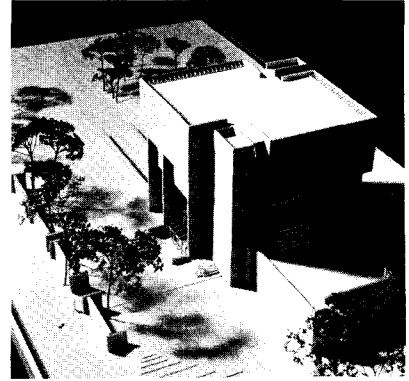
BRI President Gershon Meckler of Atlanta said the organization's "long-term and time-tested format to develop building research dialogue and building technological dissemination" will be intensified and broadened by the establishment of 1) new technical orientation and programming procedures, 2) a membership advisory committee, 3) the BRI Press, 4) an Awards and Honors Forum.

Serving with Meckler, who is vice president of Environmental Systems Corp., are Benjamin H. Evans, AIA, director of Education and Research Programs for the AIA, and Dan. E. Morgenroth of Owens-Corning Fiberglas Corp., Toledo, both vice presidents; and Rudard A. Jones of the Small Homes Council, Urbana, Ill., treasurer.

BRI, which has moved its offices to 1424 16th St. N.W., got a new lease on life in June when the membership defeated for the second time a proposal to consolidate its activities with those of the Building Research Advisory Board.

Young Architect Winner In Indiana Competition

The first AIA-sanctioned competition in Indiana has been won by a 32-year-old architect who re-



Model of Birkey's winning design.

cently opened his own offices in South Bend.

He is Melvin D. Birkey, AIA, who thus receives the commission for the competition project, a new building for the College of Architecture and Planning at Ball State University in Muncie.

A \$1.3 million ceiling was placed on the building in the competition that drew 40 entries.

Necrology on page 30

You're not boxed in with Aerofin!



COUNT ON GREATER DESIGN FREEDOM WITH AEROFIN COILS—THE VERSATILE COMPONENT OF "BUILT-UP" SYSTEMS.

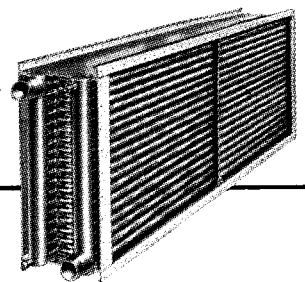
Whether it's *heat* or *cool* — *reheat* or *preheat* — today's Aerofin coil applications permit a whole new spectrum of design approaches to the conditioning of air.

Close-fin spacing produces optimum heat exchange capacity in a remarkably *compact* area. SMOOTH-FIN design coils score high in acoustical performance

— even when teamed with high duct velocities. And they mount readily in the tightest duct configurations.

Want greater design freedom and dependable performance from a wide range of chilled water, steam, direct expansion, booster SMOOTH-FIN coil applications? Call Aerofin the *specialist* on your *special* problem.

Type C Chilled Water Cooling Coils



AEROFIN CORPORATION

Lynchburg, Virginia 24505

Aerofin is sold only by manufacturers of fan system apparatus. List on request.

AEROFIN OFFICES: Atlanta • Boston • Chicago • Cleveland • Dallas • New York • Philadelphia • San Francisco

IMAGINATIVE USE OF STANDARD LOCK-DECK® SOLVES UNIQUE ARCHITECTURAL PROBLEM...

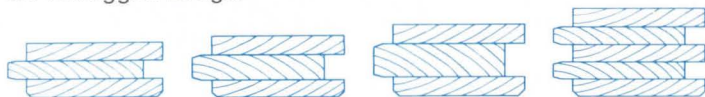


News from *the Potlatch Timberline*



Architects: Dickson and Dickson, A. I. A.

Lock-Deck® decking was specified as a primary building material for this dramatic lodge—part of a year-round toboggan run—because of its structural strength, insulation properties, aesthetic appeal and design flexibility. The curved walls, flooring, decking, sloped and pitched roofs are all made of Potlatch Inland Red Cedar and Idaho White Pine Lock-Deck decking. For more information about this unusual structure, write for a special Architectural Report on Toboggan Lodge.



Lock-Deck is available in 4 thicknesses and 2 face widths, Electro-Lam® beams in all sections up to 162 sq. in., lengths to 60'.

For details see SWEET'S Architectural File 1c|Po

Circle 332 on information card

When a new kind of window doesn't need painting, can't rust or corrode, has the insulating value of wood, and looks like this installed, it makes you wonder...



Washington Club Inn, Virginia Beach, Virginia, features 40 8-foot Andersen Perma-Shield Gliding Doors that give each guest a sweeping ocean view. Architect: Evan J. McCorkle, Virginia Beach.

Is it overstatement to suggest that new Andersen Perma-Shield™ Windows and Gliding Doors might be perfect? You'll have to be the judge of that.

They do combine treated wood and a sheath of rigid vinyl to create the most maintenance-free, best insulating windows ever.

Then consider these advantages for you and your client:

No painting. Handsome, rigid vinyl won't need it. Yet it takes paint readily. Looks great indefinitely.

Low maintenance. They're virtually maintenance-free. Armor-like finish won't pit. Won't corrode. Won't need rubbing down. Won't rust. Resists scratching.

Andersen's unique groove glazing eliminates all face putty problems.

Welded insulating glass means there are no storm windows to wrestle with and two fewer glass surfaces to maintain.

Stainless-steel hinges and special-finish operator and locks are specially designed for long life.

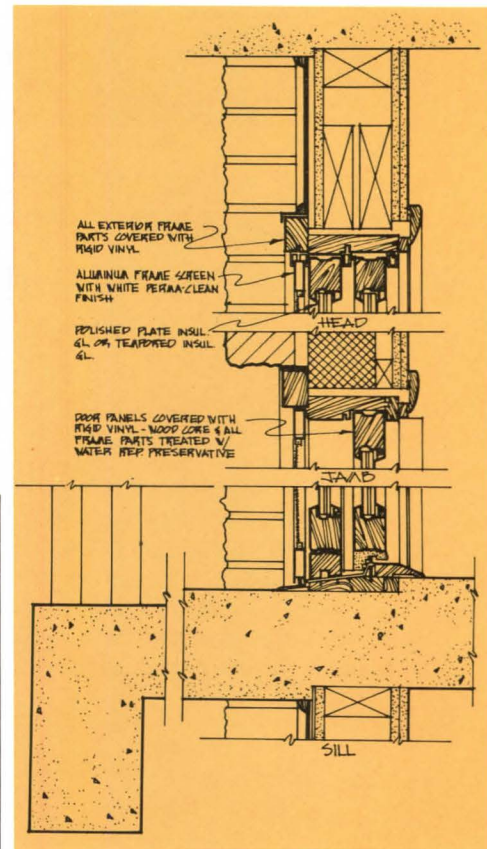
High insulating value. All the insulating superiority of the best quality wood windows!

Easy to install. They're always square and true... with the dimensional stability of the finest wood windows. Won't twist out of shape. Won't stick or bind.

Extra weathertight. Wood and vinyl work together to minimize heat loss, check condensation and sweating.

And rigid vinyl is manufactured to the same close tolerances that have made Andersen designs famous for weathertightness for over 60 years.

could this be the perfect window?



Many sizes. Casement, awning, and fixed types, single or multiples . . . 26 basic sizes for you to choose from. Gliding doors come in three sizes. You have excellent design freedom with this stock unit selection.

Perfect windows? You decide. See the full Perma-Shield line at your Andersen Distributor's showroom.

Circle 255 on information card

"I'm a perfectionist. I would like to know more about Andersen Perma-Shield Windows and Gliding Doors."

Andersen Corporation
Bayport, Minnesota 55003

- Arrange a demonstration in my office.
- Rush full details.


Name _____

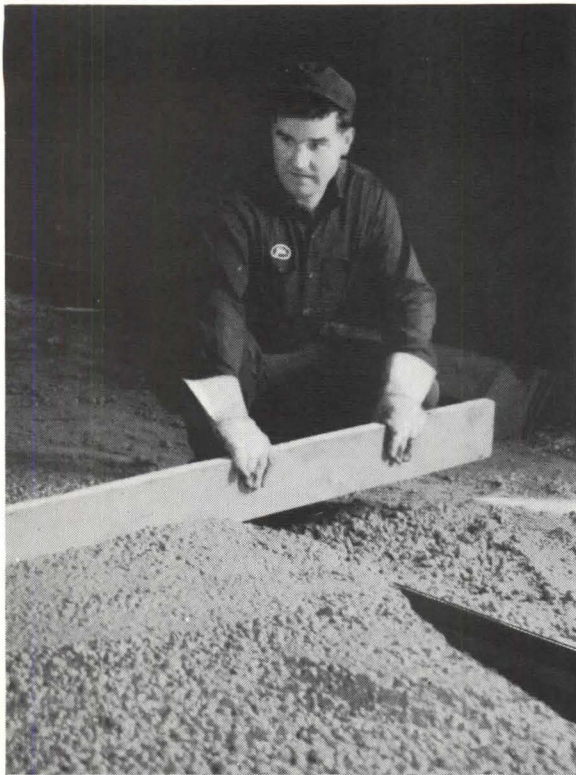
Firm _____

Address _____

City _____ State _____ Zip _____

AIA-38

New
Andersen
Perma-Shield™
Windows 
Created by Andersen for the
low-upkeep building



PREMOULDED TONGUE AND GROOVE JOINTS

*provide a form and screed support
... saves time and dollars.*

Development of the 1/4" thick Premoulded Tongue and Groove Joint provides a joint material that not only functions as a full-depth expansion joint and gasketed key-joint, but is also rugged enough to be used as a form and screed support. Consider how much time and labor this could save you in the construction of industrial and commercial floor slabs. Functionally, Tongue and Groove Joints provide a gasketed keyway to take up the flexing action of adjoining concrete slabs. This keyed-joint action assures maximum efficiency in load transmission to help keep the slab at a level grade even under the heavy loads of constant industrial traffic. Sealtight Tongue and Groove Joints are economical and easy to install . . . they are waterproof and will not extrude.

1/4" Thick Premoulded Tongue and Groove Joints Provide a Form, Screed Support, Full-Depth Expansion Joint and Gasketed Key-Joint—all In One.



Bare concrete to concrete key-joints will soon spall under flexing action caused by heavy industrial traffic.



Tongue and Groove Joint provides a "gasketed" key-joint to take up flexing action and eliminate spalling at the joint edge.

Write for complete information . . . request Catalog No. 247



W. R. MEADOWS, INC.

15 KIMBALL STREET • ELGIN, ILLINOIS 60120

W. R. MEADOWS OF GEORGIA, INC.
4765 Frederick Drive, N. W.
Atlanta, Georgia 30336

W. R. MEADOWS OF CANADA, LTD.
130 Toronyk Drive
Weston, Ontario, Canada

Circle 262 on information card

Necrology

JOHN K. ANDERSON
Buffalo, N.Y.

ERMES BRUNETTINI
Verona, Pa.

WESLEY W. CHORLTON
Belleville, Ill.

WILLIAM T. COX
Houston, Tex.

EDWARD OSSIAN EKMAN SR.
Providence, R.I.

JOHN J. FLAD, FAIA
Madison, Wis.

FRANK GRAD
Newark, N.J.

MAURICE CECIL KEYS
Lawrence, Kan.

W. A. LACERENZA
Brooklyn, N.Y.

H. ABBOTT LAWRENCE
Portland, Ore.

F. CLIFTON PEARCE
Scranton, Pa.

CHARLES L. PINCU
Pittsfield, Mass.

CHARLES U. PROUT
Clinton, Iowa

THEODORE ROGVOY
Detroit, Mich.

W. A. SIEGEL
Hamilton, Ohio

DONALD G. SMITH
Miami, Fla.

CHARLES A. VILLANO
Newark, N.J.

LEONARD A. WAASDORP, FAIA
Rochester, N.Y.

EINAR E. WETTERSTROM
Livonia, Mich.

Members Emeritus

FREDERICK STANLEY ALLYN
Newport Beach, Calif.

WILLIAM G. DORR
White Bear Lake, Minn.

LOUIS R. GOLLNICK
Chicago, Ill.

ERNEST GREENBERG
Detroit, Mich.

EDWARD JULIUS HANDLOSER
Ashland, Ky.

CARROLL W. HARDING
Eastchester, N.Y.

WALTER V. MARSHALL
Ann Arbor, Mich.

RAYMOND MATHEWS
Clearwater, Fla.

CHARLES CARSTEN PLATT
Asbury Park, N.J.

J. T. RATHER, FAIA
Houston, Tex.

AUGUST REULING
New York, N.Y.

WILLIS A. VOGEL
Toledo, Ohio

EDWIN D. WAGNER
Akron, Ohio

SELIG WHINSTON
Cape Coral, Fla.

Hospital care... People need a lot. Medusa White Terrazzo hardly any.



There's a lot of elegance in this hospital lobby. And it's enhanced by the terrazzo floor made with Medusa White as the matrix.

□ Terrazzo with Medusa White

requires a minimum of care over the years, does not indent and is easy to walk on and look at.

□ Terrazzo contractors and Medusa have worked well together

for 60 years. They're still at it. Ask your Terrazzo contractor about Medusa White or write Medusa at P.O. Box 5668, Cleveland, Ohio 44101.

ST. ALEXIUS HOSPITAL, Elk Grove Village, Illinois • Architect: Frank Serpico Associates, Elk Grove Village
General Contractor: M. A. Lombard Co., Alsip, Illinois • Terrazzo Contractor: Roman & Co., Stickney, Illinois.



MEDUSA PORTLAND CEMENT COMPANY
White and Gray Portland Cements • White, Gray and Custom Color Masonry Cements • "CR-85 Series"® ChemComp® Cements



Announcing a new college design by American Seating: The nylon "800 Series"

If you're looking for the latest, most practical innovation in college furniture, you just found it: A new nylon chair that resists cracking, fading, scratching, even cleans itself!



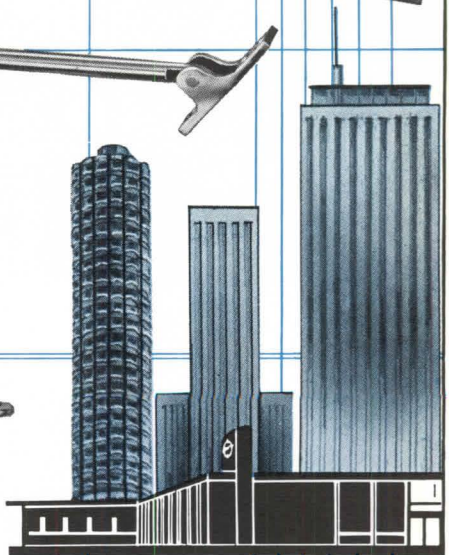
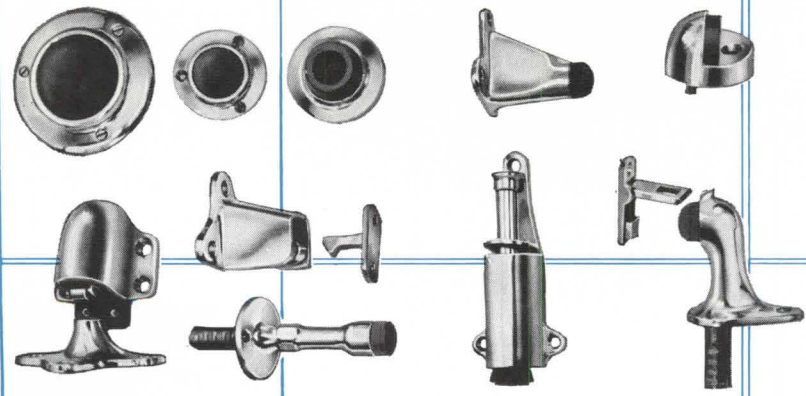
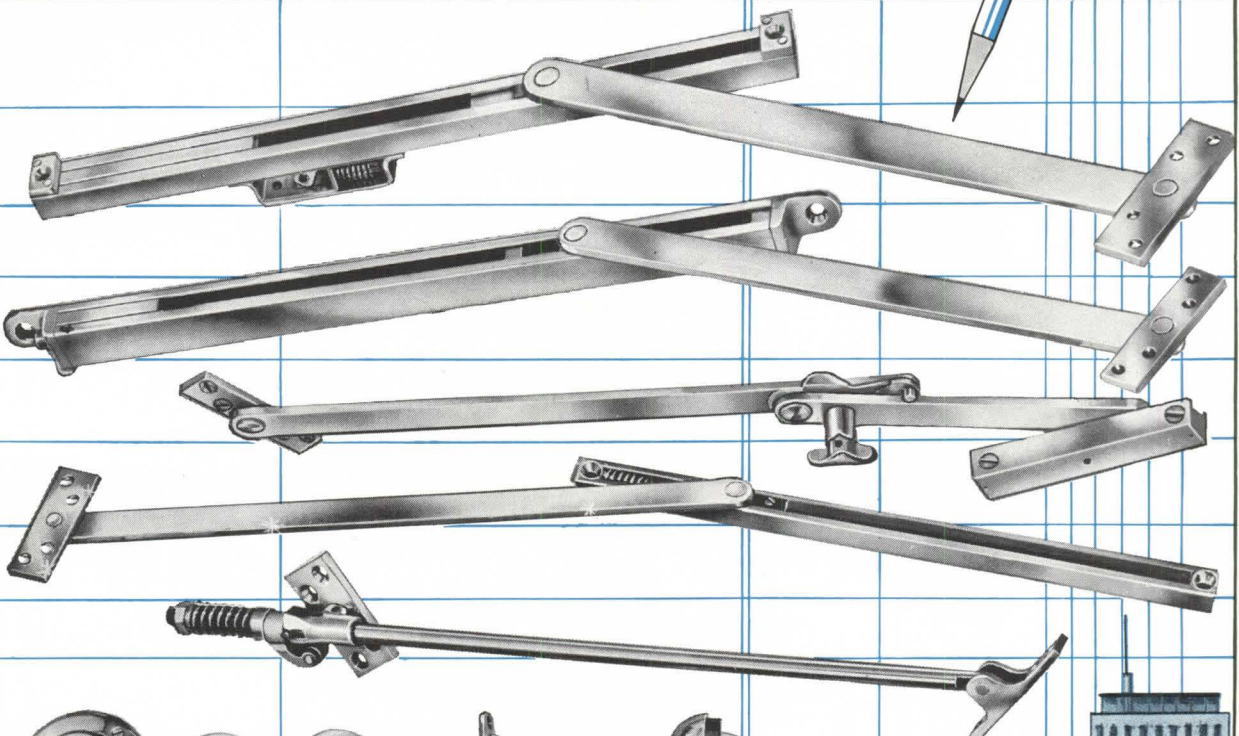
High styling and almost indestructible molded construction distinguish American Seating "800 Series" lecture room furniture. **The series introduces a dramatic, and exclusive, new seating material—molded nylon.** In addition to a variety of mounting options, the new chair comes in a broad choice of opaque impregnated colors that refuse to fade. Excellent body support is molded in with adult comfort in mind. And it's easier to get in and out of, because of its smooth non-static nylon surface. For more information on this exciting new line, call an American Seating Educational Equipment Specialist, or for a copy of American Seating's new College and University Catalog describing the new "800 Series," **write on your letterhead to: American Seating Company, Department AJ-648, Grand Rapids, Michigan 49502.**



GJ's VARIETY OF DOOR CONTROL DEVICES MEET EVERY BUDGET REQUIREMENT

The cost and function of GJ devices vary, but *never* do they deviate from a set "quality" standard. No device is made with inferior workmanship or materials to meet a price.

It's always good judgement to specify GJ throughout, for regardless of price you can always be certain of this set "quality" standard.



To limit the door's swing and hold doors open, insist on GJ.



GLYNN-JOHNSON CORPORATION / 4422 North Ravenswood / Chicago, Illinois 60640

relax



New Sturgis 1700 Line chairs only *look* expensive.

Slim. Smart. With hidden hardware and a metal back support that's neatly contoured and concealed inside the upholstery. Plus special flat spring suspension in the foam cushion to provide comfort and prevent wrinkles.

Price? Surprisingly low. If you're searching for a chair bargain that doesn't look—or feel—like one, send for a color brochure on the Sturgis 1700 Line. The Sturgis Company, Dept. AM-111, Sturgis, Michigan 49091.



Circle 341 on information card

MAHON
IS IDEAS
in building
products

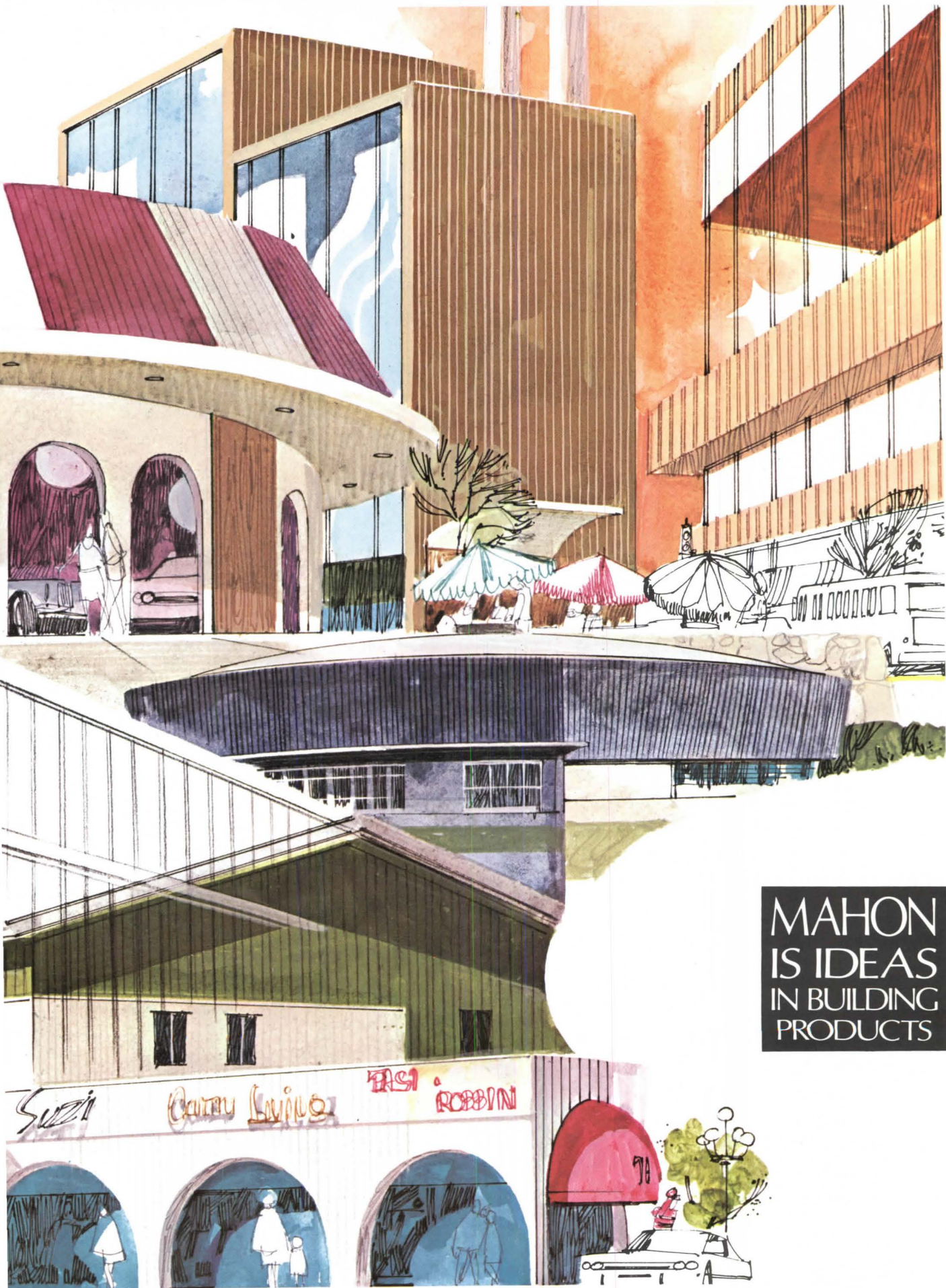
TAKE THE
DULLNESS
OUT OF
FUNCTIONAL
with
colorful,
insulated
wall panels
from MAHON



Never has it been so easy to take a functional design and lift it out of the ordinary. Insulated wall panels from Mahon—strong, durable, bright wall panels—add the reality of color, the dimension of truth to everything you do.

And when you specify Mahon, you can be confident that you are recommending a superior product that is economical, easy to apply and manufactured to give your buildings many years of lasting beauty. For complete information, write The R. C. Mahon Company, 6565 East Eight Mile Road, Detroit, Michigan 48234.





MAHON
IS IDEAS
IN BUILDING
PRODUCTS



UNFINISHED BUSINESS

BY WILLIAM H. SCHEICK, FAIA
Executive Director

Plan for a Growth Investment

President Durham used this page last month to tell you that the Board of Directors proposes 1) a vigorous expansion in major areas of the Institute's professional development programs and 2) an increase in corporate dues to finance this growth.

He asked me to produce facts on what the AIA does for its membership and information about proposals for greater services.

At the Grassroots meetings I presented a 36-page, six-year review entitled "Dividends and Services for Your Investment in AIA." First Vice President Kassabaum presented analyses of expenditures for this time span. The response to these reports was most gratifying. The chapter presidents let us know that they are convinced of the productivity and value of Institute services and pleased with evidence of good management. Many asked for publication of the reports.

This we will do in the next issue of the JOURNAL. This page is inadequate for the full story, so I use it to give you a broad overview of the corporation (AIA) in which you invest for profitable return.

In today's economy even the largest architectural firms are small business units affected by the problems of a competitive economy. The strength and growth—indeed, the life of the profession—depend on a unified, continuing and collective effort through the only national mechanism available: The American Institute of Architects.

The leadership of the AIA at every level is now fully cognizant of the growth, turmoil and aspirations besetting society with a tidal-wave force for change in its physical environment. We who must respond to man's aspirations for his environment are caught on the very crest of this wave.

Since 1957, then, the Institute's leaders have debated, planned, experimented and acted to make of your professional society an instrument for professional development. Its overriding objective is to increase constantly and dramatically the abilities of its members to

meet the new challenges and grasp the new opportunities of this era.

The complicated task sets up demands which increase as the profession grows and the complexities of practice multiply.

Our master plan recognizes three major thrusts to be kept forceful and in reasonable balance by the Institute if the profession is to prosper as a dynamic, growing, enterprise:

1. *The development of architects*—as the means to the development of our product: architecture.
2. *The development of public services*—the equivalent of market development to create a greater demand for our product.
3. *The development of the AIA*—as the sound, progressive "corporation" behind the product.

Following is a breakdown of each major thrust into the segments which identify the primary continuing programs of the AIA. All of these have the benefit of manpower from commissions, committees and staff. All are supported by dues and other regular income. Most of them generate projects supported by supplemental dues or other special allocations. The dollar figures represent the expenditure for each area of activity in 1967.

Development of Architects

Design—esthetics, urban design, housing and historic architecture, \$76,150.

Practice—administrative and business aspects of practice, \$250,500; production and technical aspects of practice, \$81,660.

Future of Architects—education and research, \$181,120; architectural students, \$37,315.

Development of Public Services

Government Sector, \$64,835.
Private Enterprise Sector, \$42,560.
The Public, Press and Schools, \$147,230.

Development of the AIA

Basic Services, \$87,935; *Information Services to Members*, \$194,170; *Liaison*—national and international organizations, \$24,030.

The figures mentioned do not include the national convention and the JOURNAL, both of which make major contributions to all three areas of development.

The products and services resulting from these continuing programs and projects provide the membership with a vast array of tools for practice, professional information and public support produced through the resources of the national organization.

These dividends take strictly tangible form in such products as the standard contract documents, the book on urban design, liability insurance, or the movie "No Time for Ugliness." Or they produce broader but less tangible benefits through such activities as research in education, technicians training or influence upon legislation.

The figures given indicate which programs have received greatest emphasis. They also disclose segments of activity judged by the board to be inadequately supported. Planning for the use of new funds anticipates strengthening these programs which are of increasing importance to the profession as it prepares to meet greater responsibilities.

The April JOURNAL article will set forth a full accounting of the services rendered.

It will also show why and how the board proposes to use new income to expand the services in urban design, housing, public relations, government relations and the education of architects, and add a new in-depth news coverage of national developments significant to the profession.

The board manages the Institute in the sense that dues are an investment by every shareholder, whether he is in practice as principal or employee of a small or large firm, or otherwise pursuing a career in architecture.

Today's investor likes to put some of his funds into the stocks of a "growth corporation." We continue to recommend the future-oriented AIA as a growth situation. After all, its growth and yours are inseparable. □



* Of course it's a Haws drinking fountain

... a beautiful drinking fountain shouldn't be too obvious. Agreed? Carefully-sculpted to enhance your ideas ... clad in the native splendor of cast stone (five colors, two finishes). The Haws Model 30 outdoor drinking fountain stands exquisitely in harmony with its setting ... any setting. A fountain? It could almost pass for a work of sculpture. Yet this sly harmonizer is incomparably rugged—a fountain for all seasons, kid-proof, weather-proof, freeze-proof! Write **Haws Drinking Faucet Co., 1441 Fourth St., Berkeley, Calif. 94710.**


The drinking fountain that looks better than a drinking fountain—Haws Model 30 in vivid stone.

Circle 235 on information card



DRINKING FOUNTAINS

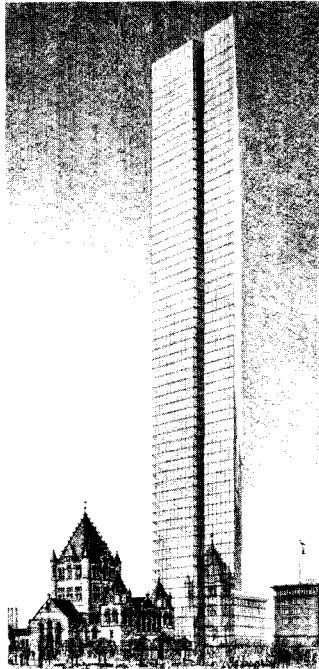
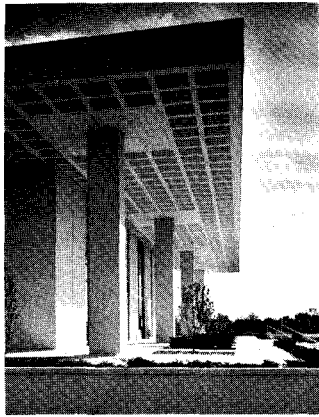
Bright idea



Bradpack lavatories—new pre-assembled stainless steel wash centers. Specify Bradpacks for bedrooms, nurses' stations, examining rooms, first aid rooms, clinics. For motels and dormitories. For food handling areas. For public wash-rooms. Wherever you want the installation economies of complete, pre-assembled wash centers. Choice of three models: lav section only or full length unit, both with famous Bradley foot control; or hand controlled unit with wrist blades for wheel chair patients. All are delivered ready to connect and use. Standard and optional features to cover all applications. Bradpack lavatories. Bright ideas—sanitary ideas—from Bradley! See your Bradley representative. And write for latest literature. Bradley Washfountain Co., 9109 Fountain Blvd., Menomonee Falls, Wisconsin 53051.

from Bradley!





Where Is Architecture Going?	42
Efforts are underway to find the answer	
Angles in Architectural Photography	53
Straightforward statements should have priority	
Back to the Drawing Board!	61
No-punches-pulled comments from a noted critic	
'Deferential' Modernity in Rebounding Back Bay	64
Is change tradition—or tradition changing?	
Beyond the Gallery Walls	67
Fun-and-easy minicourse in the art of building	
Association of Collegiate Schools of Architecture	69
A professor's proposed curriculum reforms in architectural education; a fictional panel's probing of various approaches to design solutions	
Detroit and Architecture	88
For both, ways must be found out of their plights	
The Ford Lights up Again	94
A national shrine reopens as a living theater	

where is

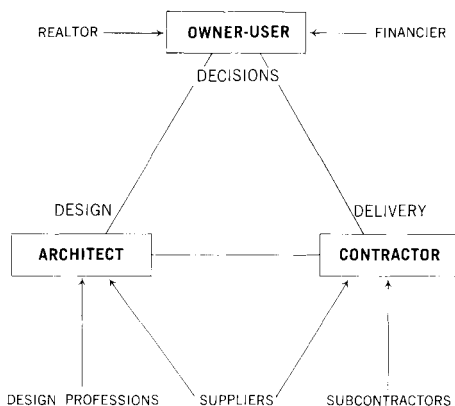
architecture

going?

Where is architecture going? Any answer has to beget contextual questions. Where is society going? And of more direct pertinence: Where is the creative process going? Indeed, it seems necessary to ask, where has it been and where is it now? The functions required to initiate, conceive, make feasible, finance and construct anything that is built constitute the creative process for the man-made environment. Until very recent times, three principal parties performed in the creative process of building. Other members of the building industry have played sup-

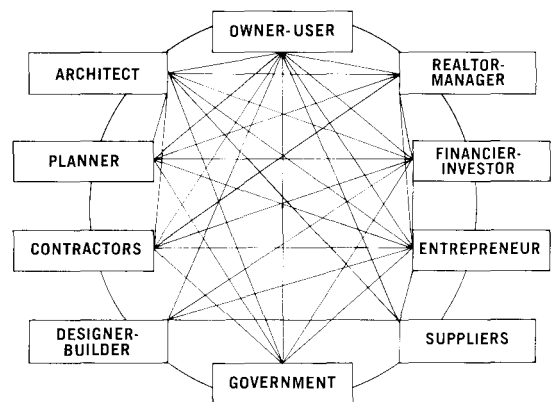
Former "bystanders" have broken up the old triumvirate by taking on the roles of principals in the creative process in a wide variety of combinations, depending on the origin, nature, scope and complexity of building projects. The owner-user is often a collective entity (a corporation or public body). Often the ultimate owner-user is not even in the picture when an investor or entrepreneur takes on the role of owner, at least until the project is built. Architects, planners and engineers work as creative teams but their talents may be replaced by the design-construct-

THE CLASSIC TRIUMVIRATE



porting roles with lesser responsibilities. The creative process still works in this fashion for a great volume of projects, but in many cases new combinations of principals are doing the job as indicated by the diagram in the next column.

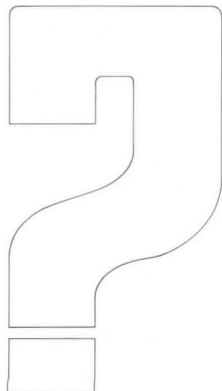
CHANGING PRINCIPALS IN CHANGING ROLES



tion organization which produces a package for the owner. Contractors and subcontractors still perform their classical roles unless replaced by others. Feasibility is paramount to realization, and the realtor-manager or the entrepreneur of-

ten takes the leadership in the decision-making processes associated with feasibility. Government affects the process through legislation, enabling acts or subsidies and often is in the role of owner. Large corporations (some the suppliers of building products) are newcomers in terms of the role they perform by putting cash flow or capital into large-scale projects which they dominate with systems management know-how. The "3-Ds"—Decision-Design-Delivery—are the essence of the total creative process. What is the most effective combination of principals in

MOVING UP TO THE 3 D'S



the process to integrate the 3 Ds? The principals seek the answer. Will architects expand their capabilities beyond design in order to play a more vital role in the future? Architects, increasingly, ponder the question.

As the basis for its analytical work, the Committee on the Future of the Profession of The American Institute of Architects has produced a new concept of the *creative process for man-made environment*. This is a greatly expanded version of the older concepts of "the building industry" which are patently obsolete for comprehending the behavior of the complex building economy of our times.

The creative process embraces all of the functions which take place—from the initial decision making through design to final delivery—in creating anything that is built, and identifies the parties engaged in these functions.

The committee's concept of the creative process is regarded as a significant contribution to better comprehension of building by all who have examined it. The future of the profession seems to depend upon the ability of architects to participate more effectively in phases of the process which most architects have neglected.

A meeting at Virginia's Airlie House last year attended by 10 nonarchitects and 13 architects achieved exploration of expert opinion—a necessary prelude to organized analytical studies. There was much discussion of the creative process and the forces and trends that operate within it. The digest that follows is the first byproduct of the work of the committee, which began its exploratory task in the fall of 1966 with examinations of its goals and means to attain them.

The nonarchitect participants are men who have a big stake in the creative process, an overriding interest in its future, and who were intrigued with the idea of exploring it with the AIA.

The editors' selections offer our readers the gamut of the discussions, from broad predictions to meaty specific opinions on current trends. The substance of the conference is being probed deeply for the continuation of the committee's study.

Early in the game the committee found that studying the future is becoming a kind of science in itself; that new techniques of forecasting are being evolved for the "soft sciences" by experts who pioneered in projecting the future for the space-age sciences. Reliance upon *opinion* has been replaced with surer methods of analyzing the forces and trends which

shape the future in any field of endeavor.

Two participants in the conference were invited because of their expertise in the methodology of future studies—Dr. Olaf Helmer of the Rand Corporation and David C. Miller of Communication Service Corporation. Their fresh look at the creative process proved to be highly stimulating.

Since September 1967, Committee Chairman Gerald M. McCue and Miller have analyzed the conference transcript as preparation for further studies which the com-

mittee began programming in January 1968.

Three major areas of the subject have been delineated: 1) the future in the context of broad societal changes; 2) the future in the context of change in the creative process itself; 3) the future in the context of change within the architectural profession.

The exploration will attempt to employ the methodology of future studies (e.g., the Delphi Technique of survey) to develop forecasts for the AIA.

WILLIAM H. SCHEICK, FAIA

restlessly dwells. No one pattern can be identified as best; experimentation with many patterns is going on continually.

Additional patterns appear certain to unfold, and there are perils, too. Process could be overstressed to the detriment of product, i.e., we could become so focused on how to work together in complicated arrangements that the objective, the product, might well be slighted.

The architect's role in these complicated arrangements awaits definition. But the architect does prefer to think of himself as a decision maker—and on levels quite different from those assigned in the original triumvirate.

Motivations, Like Money: The inner motivations of creative process participants are varied. The prime motivation of many is money.

Economic return is hardly an illegitimate goal, but it is necessary to cite this motivation in order to understand why various groups take differing positions when issues of importance are on the line.

It is far more a matter of fact than of taste that no few buildings are of such utter mediocrity as to be worse than ugly. The builders of the banal have a single objective: maximum return. It is suggested that architects who put pencil to paper to design for what clients motivated only by the fast buck demand are prostituting their profession.

The Big, Big Builders: Some large concerns—oil firms are notably among them—are entering the housing field with holdings of 5,000 acres instead of the 500 that we were used to, and with management know-how and deep financial resources.

The motivation of these firms is largely to put cash to work. They can buy up builder organizations which never had enjoyed the capability of operating on such a grand scale.

The Irvine Ranchers and kindred big spread operators work on the basis of low profit per unit but adequate return on their total investment.

Operating similarly are the big producers, the Alcoas and the GEs. But the big systems (systems in the sense of management science) corporations are holding back—they will watch the efforts at Reston and Columbia and

THE CREATIVE PROCESS

The architect, the owner-consumer and the constructor; the architect, serving one, working with the other. That classic triumvirate, though greatly modified in the past decade or so, remains grooved in our thinking.

It is, however, a notion incommensurate with the fact that for some time the architect has frequently discovered himself as but one of many specialists in the creative process. This is what is happening.

What has always been the case, by and large, is that the architect has been confined to a particular segment of the creative process. In the 3-D version of the creative process—Decision, Design and Delivery—the architect's area of function has been viewed as within the middle term. It remains within the middle term in a somewhat more elaborate word sequence—Initiate, Render Feasible, Conceive, Finance and Construct.

One of Many: Found along with the architect in the creative process today is an array of specialists that includes the real estate man, the planner, the economist, the contractor and the subcontractor.

It may be necessary to re-define the roles of the many participants in the total process for building the man-made environment. However, it is first necessary to examine present trends in these roles and to question the participants' varying motivations.

Moreover, it is necessary to weigh external influences, both technological and social, which

might modify or redirect trendings in roles played and procedures exercised in the creative process.

Point of Responsibility: Today's owner-consumer may place the chief responsibility for the project's outcome at one of several points in the line-up of participants in the creative process. Also, in many cases, the participants become part of the management organization and there is a regrouping of roles.

The methods and the groupings which come into being reflect pretty much the nature of the problem and, to some degree, the nature of the project's initiator.

The initiators are often those who previously did not come into view until sometime later in the history of the project. A gen-

"The acceleration of social and technical change which we all face is going to bring major changes in our environment, and the question to which we address ourselves is whether the persons presently involved are adequately prepared, and whether they will change their roles as they meet the obligations which are ahead."

McCUE

eral contracting firm now forms an alliance with a financial group to undertake a project, for example. Indeed, financial organizations are sometimes the sole initiators. And we are seeing the emergence of materials suppliers as initiators.

No One Pattern: It is well to remind ourselves of the kind of flux in which the creative process

Irvine Ranch and profit by the lessons taught the pioneers.

For Their Own Use: Many of the larger buildings going up today are for owner use rather than investment. Business, government and institutions are building for themselves.

The percentage of buildings constructed for investment reasons is sinking to all-time lows.

Additionally, some concerns build for image-making purposes. Others are not building but are

“Why hasn't the computer played a greater role in the building industry? Computers have only scratched the surface as far as this industry goes. Their most significant use has been in programming, scheduling, some costing, very little estimating and some very basic design work such as structural design.”

IBM's McKINLEY

hoarding land—such as one railroad company, for example—because they see a promising speculative picture shaping up.

And still others are simply branching out. Take some of the airlines that are starting now to get into the motel business, the car rental business, etc. Indeed, all of the airlines might one day be operating on a total transportation basis.

How's That Again? It is true that much of the motivation is to put some thing, or somebody, to work. The constructors want to put themselves to work. The financial groups want to put their money to work. And the materials suppliers want to put their products to work.

But nevertheless, other motivations are evident. Though sometimes fumbling, attempts are being made to realign and reorient the participants in the creative process, and a motivating force, substantially, is to “get the job done”—to rebuild the cities and construct housing for the poor. At times the motivation is selfish but there is a social spinoff—as with the downtown interests worried that their investments will erode away with any decline of the central city.

These efforts are noteworthy in our time and possible indicators of whole new approaches in the future.

We are looking for ways in which the private sector can serve the public interest, in which

PARTICIPANTS IN THE CONFERENCE

Building Economics Data

George Christie
Chief Economist
F. W. Dodge Corp.
New York City

Real Estate Economics

James C. Downs Jr.
Chairman of the Board
Real Estate Research Corp.
Chicago

Corporate Owner-User

David O. McKinley
Director, Design and Engineering
IBM Corp.
White Plains, N.Y.

Entrepreneur-Contractor

Joseph H. Newman
Vice President
Tishman Research Corp.
New York City

Real Estate Management

Anthony J. Peters
Executive Vice President
Cushman & Wakefield, Inc.
New York City

Finance-Investment

D. Clair Sutherland
Executive Vice President
Chairman, General Finance
Committee
Bank of America
San Francisco

Government

Thomas McGrath
General Counsel
John Zuccotti
Special Assistant to
Under Secretary
Department of Housing and
Urban Development
Washington, D.C.

Futures Studies

Olaf Helmer
Senior Mathematician
Rand Corp.
Santa Monica, Calif.

David C. Miller
Director, Futures Studies
Communication Service Corp.
San Francisco

AIA Committee on the Future of the Profession

Gerald M. McCue, AIA
Chairman
San Francisco

Robert W. Cutler, FAIA
Vice Chairman
New York City

Louis de Moll, FAIA
Philadelphia

Robert L. Durham, FAIA
Seattle

Sam T. Hurst, FAIA
Los Angeles

David A. McKinley Jr., AIA
Seattle

Charles M. Nes Jr., FAIA
Baltimore

William H. Scheick, FAIA
Washington, D.C.

AIA Education Research Project

Robert L. Geddes, FAIA
Philadelphia

AIA Staff

M. Elliott Carroll, AIA
Frank L. Codella, AIA
Andrew F. Euston, AIA
Wm. Dudley Hunt Jr., AIA

the government can take advantage of private management expertise. The walls separating institutions are breaking down.

Not Only Institutions: What is more, there is a sharing of the techniques among institutions. It is something to watch.

Surely any adoption by the building industry of industrial technology's means could result in industrialized construction. Surely the adoption of industrial management's methods and sophisticated tools—including the computer, of course, which has yet to make a major dent in the building industry—could have astounding influence on the ways of the creative process.

Those Other Techniques: What is to happen, moreover, is more

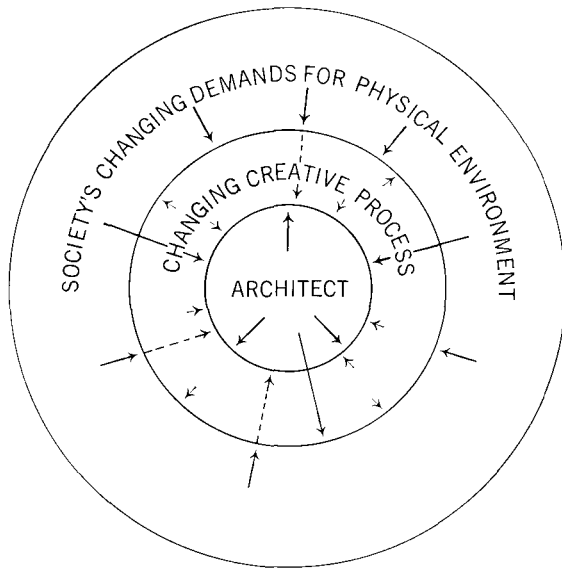
prone to foretelling, for we are amid methodological abundance.

The methods of futures studies are several and they include such techniques as mathematical modeling, gaming, scenario writing and simulation modeling in addition to the Delphi Technique, a questionnaire procedure involving expert opinion that is gathered, refined—and which channels itself in a given direction—after a couple rounds of opinion-gathering.

Nothing Magical: It amounts to an analysis of probabilities and of the trends they indicate, of problems to be encountered and of measures to solve them. Where to mine that to be assayed?

First, from within the people. What are their needs and wants,

FORCES SHAPING THE ARCHITECT'S FUTURE



The future of the architect is being affected by trends and forces for change in three major areas: Society, the Creative Process and the Profession of Architecture itself. Society is in a state of change. The needs and desires of modern man for his physical environment are being shaped by societal changes which span the spectrum from affluence and dazzling scientific progress to the deprivation and chaos behind the urban crisis. Societal changes exert forces upon the creative process and strike through to architecture where the design of the environment is conceived. The Creative Process is in a state of change in response to the social and economic forces acting upon it from without and technological and competitive forces from within. The Architect, functioning for society and within the creative process framework, is affected by changes in both. But in a positive sense, the profession responds with its own will to shape its destiny and exert its force for change upon the creative process and upon the fulfillment of society's needs for its environment. To forecast the future of the profession, then, one must examine the forces at work in all of these areas and plot their trends. These will be indicative of the tasks the profession must undertake to develop its role as required by its own concepts of success.

their attitudes and mores, and their aspirations? Next, to the things of the people, to their governmental, technological and scientific instruments, to their economic, political and social mechanisms, and to their cultural and social blankets.

The GM of Building: Ever since World War II, it is suggested, everyone in the building industry has been trying to be its "General Motors." Architects, through the comprehensive services concept, have not been inconspicuous in this connection.

Architects, at the same time, sometimes confuse their "enemies" with their "friends." Friendly are the responsible entrepreneurs, the financiers, owners and consultants; they want the architects to do well. Not so friendly

are the big concerns in large-scale enterprises; they see architects as desirable but expendable cosmeticians.

But the picture is not black and white. Some large concerns are engaging topnotch architects—for some of the "new towns," for example.

Playing the Architect's Role: Many large owner-consumers now play part of the architect's role through design and engineering offices. Parts of the realtor's role and the financier's role are also played.

Many have design review teams and systems for evaluating building performance along with the designs prepared by outside professionals.

Savings are realized but not because of any incompetence on

the outside professionals' part. Savings come because the in-house team knows what its company wants.

Package in the Picture: Doing business with a package dealer has its drawbacks, it is conceded. If the owner has certain in-house capabilities, however, these can be neutralized and the package dealer used to advantage.

The package deal, users of the arrangement say, has an advantage in time and seems to have merit in cost.

Quality and architectural integrity might suffer but in some buildings—such as an out-of-the-way storage facility—these factors might well be expendable.

The package dealer knows the materials available and the techniques fitting industrial construction. He has been using them constantly and he capitalizes on this experience. He can begin construction before plans are completed because, it is said, "the profit motive is all in one pocket."

Architectural firms most inclined to decry the package dealer, it seems, are becoming more and more interested in the negotiated contract. They are bringing in the contractor during the design phase and getting him to perform certain technical services which the builder performs in the package arrangement.

Differences Elsewhere: A comparison with the contracting procedures of Europe might be interesting. There the quantitative survey system is used and some of the problems of the award system are averted.

If a vacuum exists in the time-cost-management aspects of construction, then someone has to fill it. The architect? Many architectural firms in Canada are working as construction managers as well as architects. This

"This is the 35th anniversary for me of attending meetings sponsored by the AIA and others in which it was disclosed this building industry is badly fragmented."

DOWNS

nation's architects could become so involved. Is it contracting?

Not if there is no guarantee of price. Architects are free to run all the subcontracts and oversee all labor forces as long as they are not signing a contract to produce a product

for a set dollar figure, and as long as they are functioning professionally on a fee basis.

Changes in the traditional bidding process are also implied by current trends and needs in the industry. One possibility is a blending of negotiation with bidding practices.

Some New Approaches: Seen in emergence are some new approaches in terms of process. Some see the need for an all-at-once approach to replace the traditional sequential routine in which the project moves from Discipline A to Discipline B and so on down the line.

This would entail a total, far more dynamic effort enlisting the input of materials suppliers, architects, engineers, planners and, in fact, all performers in the project planning.

Seen also is a greater need for flexibility even during the construction period, of having some means of making changes the desirability for which is belatedly revealed.

Much wider adoption of the systems approach is also forecast. Not to be confused with "building systems," this is a four-stage approach involving the assembling of data, the setting of objectives, the fixing of alternative means of reaching those objectives and, finally, the clear presentation of these alternatives and the selection of superior options.

Demands Grow: Projects are making more and more demands on the participants in the creative process. Thus more disciplines are being enlisted, and at least one is being created.

Rising to leadership in some projects is a performer who has been called the consulting contractor. He is the mobilizer and coordinator of the disparate talents and orientations of the participants. He plays a role viewed by some as having been born from sheer necessity.

Another Specialist: The get-it-done attitude that is the stamp of some of today's undertakings is frequently tied to a disposition to get it done through a systems approach, with the teamwork led by the consulting contractor, or team manager.

In this atmosphere a much larger role is given the information specialist.

Information is power, it is said, and any of the participants in the creative process who has at his

fingertips all the key information will be the influential one. He will change the existing patterns and roles of a fragmented industry.

Disdaining the Pants: All too often in the past reliance was placed on seat-of-the-pants judgments, and the information specialist found himself excluded. The future is likely to change this situation drastically.

Time will also add new members to the creative team, for the team manager will draw on all relevant disciplines including some not now commonly linked to the creative process.

Who Will Lead? And it appears certain that a wider range of brainpower will be introduced to the creative process. Whether architects are capable of marshaling this kind of human resource is conjectural.

The leadership in mobilizing and directing multidisciplinary efforts was not seized by anyone

"I would say the architects are the most logical ones to really manage a project because they have designed it, they are the ones who are responsible to the owner and they are the ones who have to see that what was designed comes out in the actual construction."

PETERS

until the consulting contractor stepped into the void.

Indeed, it is open to question whether architects should even attempt to provide all the team talents. Seen is a fundamental conflict of interest in an architect's doing a market study for a client while standing to benefit from the client's decision to go ahead with the project.

No matter who pulls the team together, however, one thing seems abundantly clear: The team must have the highest level of capability and objectivity possible in each of its members.

Not Making the Team: Many large concerns today are convinced that no single organization can solve the problem of urban blight. Some of them are trying to have team arrangements with the federal government supplying the capital. But architects are not being invited in for the early strategy phase of their planning.

Construction Forecast: The volume of construction will without a doubt continue to rise and by the century's end run at a level twice that of today. This much

seems assured. But what is not certain is the form this construction activity might take.

One prospect: That urbanization will overrule suburbanization. Another: That a greater proportion of building activity will be in the residential market. A third: That much greater emphasis will be placed on rehabilitation.

As for data, what is really needed is more information dealing with small areas, with neigh-

"We know really very little in terms of cities themselves or standard metropolitan statistical areas which are most often combinations of counties. We know relatively little about central cities as opposed to outlying areas. It seems to me this is where the whole problem lies." CHRISTIE

borhoods instead of counties. Very little is known about the central cities as opposed to the outlying areas, for example.

More and Better Data: Also needed is more census-type data rather than continuing activity information. Virtually nothing is known about demolitions since 1960, or about population mobility, one of the truly critical pieces of missing information.

What is also needed along with more and different data are more useful analyses of the information that is gathered.

Big Money Refrains: Big business and big money might be interested in the creation of real estate but not in the owning of it.

The money shortage of the last couple of years in residential construction has not been as much a dearth of money as the fact that mortgages are simply not attractive as a genuine investment plan.

Buildings are being built for use, to get products used, for image-making and other reasons. Utility companies are pushing total energy concepts and are very much in the picture.

Not Attractive: But for sheer investment, real estate is not attractive. Real estate investment is long-range and what happens if in the 13th year of a 25-year program blight sets in and the investment is imperiled?

With this a definite possibility in our fast-changing cities, it is understandable why investors shy away from real estate. Besides, and again largely because of our rapid rate of change, investors want to move with the tides, to

airline stocks one day and women's hose the next.

New Towns or No Towns?

Some of the utilities and product manufacturers are deeply enmeshed in new town enterprises.

Do the new towns constitute a durable trend? Indeed, are there any new towns? Not, some say, if the definition of a new town has it as a place where the trash man sleeps as well as works.

Nevertheless, in scale many of these projects are on the new-town level. And the new town movement—again in the sense of the magnitude of these undertakings—shows a potential for acceleration.

Rich and Poor: So far at least, there has been little done in or out of new towns for the lower portion of the housing market. No truly large-scale activity is underway to alleviate the poor housing conditions in the blighted areas of our cities.

This is the lower third of the housing market. The upper two thirds get the attention. Still, the capacity to consume to be tapped within the upper, affluent third is grossly underestimated.

At present there is not a single truly luxurious hotel in the country, and if there were—even with a minimum rate of \$50—it would fill to capacity.

The Gulf Widens: While the affluent's power to consume is an interesting concept in itself, it becomes all the more intriguing in light of the poverty problem.

For even with the amelioration of poverty the gap between the

"Owners, entrepreneurs, investors think of themselves as the 'doers' in the building industry, but some are also playing the role of thinkers. They are more willing to experiment and be progressive than is realized and are willing to write off occasional experimental failures which are inevitable when pioneering." NEWMAN

haves and the have-nots, a gap that is distinctly relative, would continue to widen and worsen as the rich got richer. Tensions heighten and expectancy anxieties become acute.

A Belief System: Will continued urbanization take place or is this a figment of a "belief system"—of a persistence in believing old concepts quite independent of the interests and patterns of contemporary Americans?

As the rate of change quickens, belief system entrapment increases accordingly.

It appears certain, however, that future construction will see a shift toward more residential activity. This is of significance to the entire building industry since homebuilding is a key segment within the construction industry. Without a base of housing there cannot be the shopping centers, office buildings, etc.

Nonbuilding Work: There is also forecast an increase in nonbuilding construction activity, in water, sewer and transportation systems, etc. Much of this work will be publicly initiated. But private involvement in construction will be—and is—much sought after.

Housing Market Research: An absence of market research in housing has caused bad situations to repeat. Builders and financial institutions are to blame for some careless overbuilding.

Some materials producers have contributed also in guaranteeing credit to builders when credit was not warranted.

Where Government Fits In: The government has a profound effect on the creative process. FHA policies have revolutionized the housing industry. Government taxation and depreciation policies have had an impact on commercial buildings. Government has produced large-scale urban renewal projects along with public housing. Government is active in hospital construction, college housing programs, etc.

HUD's concept of innovative politics might well yield programs of even greater significance.

Despite the stress on innovation, however, HUD in the early days of its Model Cities program failed to call on the doers, including the architects. Yet when it comes time to implement plans the doers are turned to, and the doers sometimes find the plans unworkable.

Innovative Politics: Nevertheless, HUD Under Secretary Robert C. Wood's "politics of innovation" includes heavy stress on the private sector. Wood feels each city is unique, that there can be no blanket solutions. He believes no single agency can solve urban problems. And he says that the public sector needs the help of private groups.

The whole thrust of Model Cities is teamwork, it is said, and,

hopefully, architects, financiers and others are being involved in the program.

Also in HUD's thinking is the belief that the big boom in construction will take place in the 1970s, and that the remaining years of this decade should be used to develop solutions, especially in housing.

Will Model Cities bear fruit by the 70s? Yes, considerable evaluation will have been made, on both the physical and social sides, by the fifth year of the program.

Changes in Programs, Roles: The Neighborhood Facilities program was begun in 1964 with an authorization of some \$12 mil-

"This is what the Model Cities program is. It is really not a nationwide program for the solution of all the nation's problems. It is a demonstration program, attempting to develop innovative ideas, attempting to respond to what we would call the politics of innovation." ZUCCOTTI

lion for, in the main, recreational facilities. Its orientation was quick to change, however, and in just two years was transformed in outlook from a house for recreation to service systems and even multiservice systems.

Such systems work approximately like this: If you have a day care center for the children of poor mothers, you have freed those mothers for employment. You train the mothers so they can get jobs. One system leans on another, so to speak, but the important thing is to have all systems intermeshed for total solutions.

Urban, Building Research: Forecasts in urban affairs should cover the next three decades, but there are handicaps in projecting solutions to future problems.

To name four major ones: 1) Construction projects often become political issues and become mired in obstructionism; 2) The civil rights problem remains unsolved and prevents solution of environmental problems; 3) Authoritarian planning lacks the authority to implement; 4) Political procedures are inadequate for present-day problem solving.

Demonstrated results are needed to overcome obstructionism and to show the way toward more effective government procedures. Efforts in this vein have been ridiculously small, however.

Nailing down the Needs: For anything to be successful it must first respond to the needs and aspirations of man. Research must deal with human elements in the creative process so that designers will have these objectives before them and will not attempt to superimpose solutions which disregard human values.

New kinds of measurements must be taken and so far, the type of professional capable of measuring does not exist. Not only is an information specialist needed but an evaluation specialist also.

If in a project we develop a number of alternatives, we must be able to measure the results of each in terms other than return on investment.

Start with People: You start with the people, their needs and wants, and you proceed to systems (transportation, water, etc.) and then to structures (houses, churches, etc.). The systems and structures are affected or controlled by constraints and these constraints—economic, political, technological, etc.—are numerous.

But if the constraints can be minimized, the problems can be solved. This can be accomplished only with a creative program. And then there must be a method of evaluation, demonstration and continual feedback.

HUD's R&D Program: Limited though it may be, HUD now has within its organization a research, evaluation and development capacity.

This program is seen as promising great benefits, one of which is an influence in bringing together the various disciplines involved in the creative process. In its initial year, however, HUD was spending less than 10 percent of the amount the government was pouring into agricultural research.

A Research Proposal: Needed is a national urban laboratory with central data collection facilities and run, possibly, by a non-profit organization.

Experimentation could be done in the laboratory before it is tried out on the cities. In the laboratory you can get some tangible results in the space of a year. For a few million dollars considerable guidance can be had from such research.

An organization of this kind could collect data and carry out forecasting studies. It could do

market studies and, in short, perform all of the studies no single sector of the industry could reasonably be expected to undertake.

Another function of the organization could well be the application of operations research to the creative process.

Some Major Urgings: The National Committee on Technology, Automation and Economic Progress, created as a special commission to the President, made recommendations of interest to the building industry and one was that the government ought to get into research in housing and community development to the same extent that it has in agriculture.

Another was that the government provide incentives to tool up for advanced production techniques in housing, and a third was that the government take the lead in pressing for modernized building codes. Fourth and finally, the committee said that if new construction techniques cause labor dislocations, the government might explore the costs of a subsidized system of retraining, severance and retirement programs.

Research—Who Does It? Should we not first be concerned with who is going to do the research rather than what kinds of data are required?

Even if a national Urban Development Research Institute is established, it should not be looked upon to carry the entire burden.

Indeed, if government should undertake a hardware-oriented route, a second or third instrument would be imperative in order to have social planning and design objectives acknowledged.

Industry frequently has shown a lack of concern for these objectives, and in the universities there is little tradition in architectural research. Historians get research grants, but not architects.

The architectural schools have no history of proven research effort to make them look like a good risk; moreover, their beginning efforts are so modest as to look unrespectable to those agencies that are used to handling multimillion-dollar requests. They do not want to bother with a couple of thousand dollars.

Hope in Another Form: But a more effective procedure at the university level might be an interdisciplinary one—an environmental or ecological approach involving many disciplines. One such

university research effort has been generously funded by the Department of Health, Education and Welfare.

Other federal sources might be explored. The National Aeronautics and Space Administration, in order to sustain support for its program, fosters spinoff benefits to other technologies. Architecture has sought to plug into this program but with limited benefit thus far.

In any event, members of the profession contribute a service to both the public and their peers when they become involved in whatever research opportunities present themselves.

Should the profession collect data and do research? Yes, but in conjunction with HUD, it is urged. On the other hand, it is submitted that what the profession ought to do instead is determine its own needs and promote the input of these needs in existent data banks (such as those at Penn State, the Smithsonian and HUD's Urban Doc in New York).

Of Greatest Influence: The nature of the problems to which participants in the creative proc-

"We can compare building or environmental processes with a space-age team effort. More must be known specifically on the several processes if projections are to be undertaken. An awareness of future is necessary and the interdisciplinary approach must be fully analyzed." MILLER

ess for the man-made environment address themselves could be influenced by broad social forces to a degree surpassing the workings of the process itself. The increase in leisure time and the increase—or decrease—in mobility; such things as these.

The AIA committee wants to see societal trends analyzed as they specifically affect the physical environment.

On the question of mobility, for example, there are those who believe that cybernetics will negate the need for mobility, while there are those who foresee an increase in mobility but in different portions of our daily lives, during leisure rather than business hours.

Trends to Be Noted: Societal trends have to be reckoned with, trends in urbanization, communications, technology, resource limitations, automation, the role of business in society, the role of

government in society, greater gross national products, larger industrial complexes and labor's role in society.

There is, some quarters contend, a growing social consciousness. It is argued that people are far more ready—sometimes insistently so—to engage in effective long-term planning with societal needs in mind, and in this context, it is said, architects have a distinct opportunity and a heavy social responsibility.

Some evidence suggests that the entrepreneurs of industry are beginning to be much more receptive to social needs. There is a greater realization that by taking into consideration social needs they are benefitting themselves in the long run.

They have come to realize that if they keep their eyes on the betterment of society as a whole, instead of fixing only on next year's profits, long-run profits will be higher. If this seems a trivial thing to say now, it was not trivial to say a mere decade ago.

In a Broader Context: A key question is whether society itself is changing, and if so, will it continue to undergo alterations in its mores, values and symbols?

What are our needs and wants? To dwell for a moment on the distinction between needs and wants, consider the situation of the world's highest-paid industrial worker.

He brings home \$110 a week. If he has four children, he is poor. His needs are less than his wants and, depending on how much he is exposed to television or to elements of dissatisfaction, he needs more than he has and he wants more than he needs.

Simply a Matter of Deciding: The US poverty problem could be solved. As John Kenneth Galbraith has said, it is simply a matter of willing its solution, not of how to solve it.

Entwined with poverty is the ghetto, and with the ghetto the race issue. The Negro ghetto is a challenge that must be met with urban planning and political innovation. It is a ghetto that cannot be compared with those of 50 years ago whose immigrant inhabitants met with far less difficulty in rising above their adverse circumstances.

Largest Factors: The race problem is the largest factor in the physical dispersal of the American community. And, if the life

of the central city Negro ghetto is to be extended, whites will continue moving out to the receding suburbs.

There are indications that urban sprawl will be curbed, nonetheless, and if a movement along this line does take hold urban design concepts will acquire added importance.

This is to suggest caution against the embrace of central city planning concepts that have long been cherished and which may now be irrelevant to the people's interests and movement patterns.

Proximity to the Job: Suppose, for example, the three-day weekend becomes the standard for Americans. Would this not be expected to reduce the urgency of the need for living close to one's work?

Changes in leisure aspects could have far-reaching ramifications. More leisure time is certain to mean more pads in the country.

Or Is It Necessarily? It is in the city, after all, that things happen and will continue to happen. The city is attractive to leisure time spenders, or why else are the downtown bars, cultural centers and parks filled and the forest preserves empty?

It is in the city that our efforts are likely to be focused in the shaping of the second America. Clear signals that this is so are seen in the creation of a Department of Housing and Urban Development and the quickly following establishment of a Department of Transportation.

Yet it appears at the moment that American people are not exercised over the condition of their cities. Some popular interest is shown in air pollution, yes, and

in transportation, to a lesser extent.

But not in housing. The country is just not as excited over housing as it is over the issue of crime in the streets.

Investment Withdrawn: The lowest one-third of the housing market could well be withdrawn from private enterprise and socialized.

Private enterprise now erects the housing for this market portion and would continue to do so. But in terms of investment there is the prospect that private money will not be injected. Rent

"The civil rights problem stands up as an unsolved major problem which prevents solving the environmental problems of the city."

HELMER

subsidies, public housing and other devices will fill the gap.

The Role of Technology: It is said that technology has no purpose other than the improvement of the human condition. If this is so, human requirements must be defined, goals set and attainment routes delineated.

Experimentation in urban planning is difficult, costly and time-consuming. Therefore, pseudo-experimentation, or simulation, may be necessary. In simulation, a city is described on paper and the impacts of numerous developmental actions are forecast by various disciplines. You have, in effect, a city of speeded-up growth.

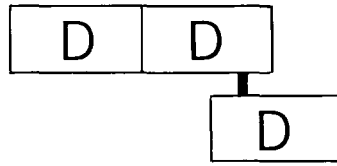
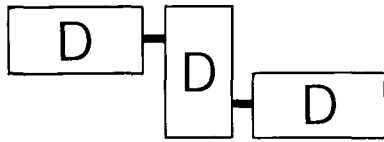
Information—and more relevant information—must be obtained, however. The social scientists, the statisticians and the demographers must answer the questions on human requirements and aspirations.

THE PROFESSION

As we redefine the roles of the participants in the creative process, it becomes imperative that we redefine or re-establish the role of the architect if it is to have significance in the truly professional sense. There is no need to dwell on the fact that his activities have changed immeasurably over the years from that of the homogeneity of a state employee in the days of Egypt and

Rome up to the multifaceted concern for the total environment that exists today, whether in practice, business or government.

Who Carries the Ball? At this point in time, then, we can no longer simply talk about "the architect" but rather the range of relevant roles to be played by those persons who want to become involved with building projects. What this means, of



Decision, Design and Delivery, under the classic triumvirate concept, are separate entities. In recent times, however, architects have preferred to think of themselves as participants in the decision-making processes. Now there is sentiment among architects and others in the creative process for integrating the three Ds.

course, is that the architect is only one of many specialists in the creative process, and supposedly the most logical person to deal directly with the overall project as team captain. Yet the question is raised whether he can continue to fulfill this role in the future.

It must be recognized that in certain situations the participants in the process become part of the management organization, resulting in a regrouping of roles. And in the regroupings, we come up with such combinations as design, engineering and construction; design, engineering and programming; planning, economic feasibility studies and programming, to name a few. So the methods and the groupings which arise have to do with the nature of the problem and, to some degree, the nature of the organization of the person who initiates the project.

That Matter of Fees: What is happening to the architect in the face of this emerging teamwork? Is he getting less and less of the pie? Thus the discussion turns to fees. For the architect is faced with ever-expanding tasks and with the evaluation of alternatives, but the fee schedule as currently structured does not reimburse him for such activities.

Yet everyone agrees these tasks must be done. But when we look at some of the front-runner projects today, we find that the total percentage of professional fees expended definitely is more than what the architect would have commanded originally to perform all the services he said should be done. Why is this so?

Answers are not forthcoming, but it also is agreed that monies spent for professional fees are being spread over a much wider group than they have been in the past. And it brings up the matter of the construction manager who is bringing together the manpower; he has found a problem that needs solving and he is fill-

ing the vacuum. Is the architect qualified?

One owner believes that his design and engineering department has more capability than architectural firms in this area and that it can control the project better from a scheduling point of view. Another opinion holds that the architect is the most logical one to manage the project.

After Vietnam: If peace were to come tomorrow releasing money for urban development, would architects be ready for the task? This is more than a rhetorical question, for it is obvious that many practitioners shy away from low-income housing and rehabilitation even though such projects offer unlimited opportunities for public service, not to mention professional fees.

The architect must keep pace with the consumption standard from the richest right down to the poorest guy on the street. If he is to play a significant role in the planning and building process, he must be willing to participate in any number of team arrangements; he cannot restrict himself to the simplest model of the owner-architect-contractor relationship.

Tying the Package: As we look at the initiators of the building process, we see there are many legitimate liaisons among the participants involved. It means that the whole question of the package dealer in certain aspects might be put in another frame of reference. And it suggests the idea of architects working with builders and with fabricators—in some cases as employees of the respective organizations with performance requirements as a kind of communication between them.

One warning: There is danger that as the architect expands to become more involved with such activities as economic feasibility studies and with such persons as the social scientists he may suffer a dropoff of competence at the technical end.

The Creative Artist: Is the architect thinking too much in terms of urban planning at the expense of his next building? Perhaps he should not take the whole burden upon himself but instead remain the creative designer who has to join a team on which entrepreneurs, sociologists, economists and all others are a part.

House Calls for Architects: Getting on to the subject of housing, the profession is reminded that it has lost touch with the public, having limited itself to a small elite. Architects must get back to the mass of the people. Why can't they sit down and consult with house clients for, say, \$7 an hour? But no, architects respond, "We won't talk to you unless you pay us a 10-percent fee for the whole works."

Is there any way for architects to become a respected part of the suburban tract development? It is explained that many of these developers become "amateur land planners," and if they lay out a tract, quite a few of them get a minimum amount of architectural assistance.

Working for Uncle Sam: Still another area in which the architect is becoming more and more involved is government. The Neighborhood Facilities program is a good example. Here he is being asked to develop a structure that will house the service system, be it a rehabilitated store, a new building or possibly more than one. In any event, the architect must be concerned with his design at the same time that the multiservice system is being planned by the people.

Furthermore, he must help educate those who are affected so that they understand what is happening to their physical environment in much the same way that the lawyer instructs the poor. Yet there are those who feel the architect is being dealt out of the initial planning, that he is being assigned a secondary role.

Enters the Computer: The emerging techniques study and others have attempted to assess the impact of the computer on architectural firms. But what is needed above all else is the capability of analysis in some centralized source. Most practitioners do not have the capacity or inclination to engage in basic research, so just the existence of a data bank itself probably would not meet the need. In addition to data gathering, another immediate concern is computer programming. Since all segments of that industry are interested in selling their hardware, they are eager to assist in the latter.

Materials catalogs could be put in the computer. If an architect wanted to know about elevators, for example, he could literally be put in touch with every manufacturer by pushing a few buttons. The cost, of course, is another matter. Government and materials suppliers themselves both have a role in such operations since they will have to be subsidized in the beginning.

The Information Gap: Computers are only one part of the total research picture, an area that is so sadly lacking in architecture (and the building industry). It is the only field in which there is not a system whereby information the practitioners have learned becomes useful and re-used by their successors.

One architect sizes up the situation: The man enters practice; he is expected to go from scratch. Twenty-five years from the day he enters, maybe he will be reasonably good. His son enters; he starts from scratch. Nothing is written down. We have been doing this for how many generations now?

The least the profession can do at this moment is to develop the data already garnered and see that it is available to the libraries, not only for students but for practitioners as well.

In this regard, architects are looking for some way to find expression by means of which their services can be directed more toward needs and long-term problems than toward immediate effective demands. Architecture does not have, for example, a parallel to the medical profession as it relates to the hospital—no place where research is done, where internship can occur, where needs which are not im-

mediately profitable to the rendering of the service can be met.

A beginning is seen in the attempt to create institutes of urban studies, but presently these are poorly financed and their emphasis is not coming from architecture. And unless architects develop more participation in them, their focus will continue to be directed toward planning.

Back to the Campus: All of this can be put into some kind of perspective by looking at the students. They are leapfrogging over the profession in such areas as computers. They are motivated to become something else than classical architects. They are being trained in nontraditional ways. So maybe they will not be the architects as we know them today, but they will be the design profession tomorrow.

A Retooling Job: The significant thing is that the students have not learned the constraints, while the practitioners sit on their duffs and act as though they learned everything in school. And so we are wont to ask: Can the profession retool itself now to learn how to handle problem solving—and this means combinations of solutions through systems approaches, mathematical bases, etc.

The retooling process, of course, has to start in the schools. For instance, are we ready to identify *management* as a degree in architectural education? Such a degree would be of a graduate nature, coming after the "core" education. And what about those students who now flunk out because of lack of design talent but may have abilities worth developing for the profession?

There is a need for interdisciplinary education, and after the students have completed their formal education, they might spend six months or a year interacting with professionals in related fields.

All of this, it is indicated, leads us to think there will be an increased fragmentation in what we call the architectural profession. In fact, we may be faced with a complete fragmentation and with new names for what we hope will continue as architectural roles.

And so the bright young graduates are turning to government, to sociology, to large-scale planning; they are showing concern for the big things, perhaps at the expense

of the detail, the design, the performance of the individual building. One educator sees the students in universities primarily interested in three areas: technology, social concerns and responsibilities, and urban problems.

An Indictment: Architectural schools have never stressed one area of responsibility: development of a scholarly understanding about where the field is going and, in so doing, encouragement of newcomers to join the ranks.

"I think the architectural profession is here to stay. I am speaking as an owner. We need your profession to provide the leadership in the creative process and to provide service in whatever field you can without limitation. There is no possibility that we can do without you." IBM's McKINLEY

The profession, while it may have a right to be upset by the schools, has never demanded excellence from them.

Furthermore, it has never felt any responsibility to help sponsor research at the university level. The profession must get involved: These things can work at the grassroots level.

But all is not lost. We can condense or compact the time required to teach the design of buildings and spend the remaining time devoted to new specializations or research and other scholarly pursuits. Students already are learning to do competent building design more quickly than ever—more competent structurally and functionally but not necessarily more satisfying esthetically or sociologically.

Where Are We Going? Once the design process has been more clearly defined, the other disciplines can more completely be absorbed into the educational process. Both the schools and the profession must join forces in developing a whole new approach to education and in raising the sights of the profession in the next decade.

Only in this way can we prepare architects for greater participation and involvement in community affairs. For in the final analysis, it is the architects themselves who will decide whether to simply perform the services for which they are commissioned or to develop a competence and a dedication for leadership. □

Angles in Architectural Photography

BY JULIUS SHULMAN

For a considerable time I have pondered the matter of photography as it pertains to the communication of architecture. It seems to me that what we need is more accurate and objective photo presentations of building designs. It becomes tiresome to see page after page in architectural journals with busy and disturbing graphic images.

Not that I want every building to be photographed in a one-point perspective. What I suggest is that wherever possible, the accurate, real design—in other words, the architect's true statement—be conveyed by the camera.

I have been just as guilty as any other architectural photographer in using—or misusing—the wide angle lens and taking pictures from improbable angles for effect and drama. At this point in my career, I have decided to approach my sub-

The author: Mr. Shulman, Los Angeles-based photographer with a worldwide clientele, has worked with architecture for nearly a third of a century. Author of numerous articles on photography and of the book *Photographing Architecture and Interiors*, he presently is working on a textbook series, *A Primer of Architecture*, an introduction of the subject to the young aimed at developing their consciousness of community involvement.

jects a little more thoughtfully and wisely. This involves first of all preclusion of tricky, wide angle lens photography. As I have become more objective in my work, I have begun to dislike the illusions they create.

I am not denying the value of the wide angle lenses. It is true that there are times when it is necessary to get close and literally *under* a building in order to establish scale and relative propor-

tion of spatial volumes, while a normal lens requires moving back from the building, with the result that the perspectives are flattened out. For interior photographs the wide angle lens is a very necessary tool, but again, must be used with care.

The first responsibility of the photographer is accuracy. Only when he has given a true impression of the architect's statement should he allow himself to become playful and "create" with lenses and angles, giving a structure an elasticity possible only when handled this way.

The question arises, how good can we make a building look? Too often people who have seen a photograph of a building become shocked when they see it in reality. A photograph taken with a normal lens will reproduce the architect's statement more faithfully.

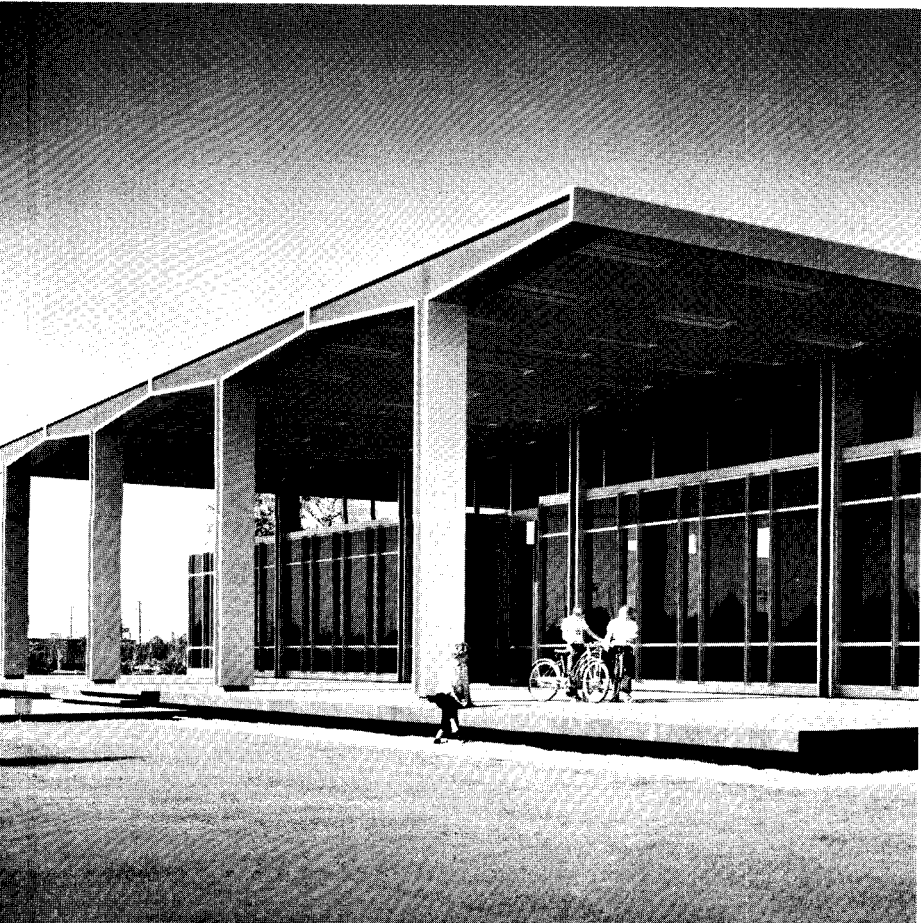
Now, about angles. What we want is to show the building as closely as possible to the way it is seen by the human eye. This does not mean that we must be confined to a series of head-on, sterile views. But I will contend that a strong, one-point perspective photograph taken with a normal focal length lens is almost the only way to produce an accurate perspective and scale.

In many instances the lines of a structure as indicated on a photograph do not recreate an accurate perspective. For this reason cameras used in architectural photography have adjustments so that "corrections" can be made. Therefore, even though a camera position on an exact one-point perspective (on dead center) is not always possible, the moving of the camera back into a position parallel with the plane of the area being photographed restores a visual feeling of perspective and angle. The aim, then, is to prevent a converging of architectural lines in any distorted sense.

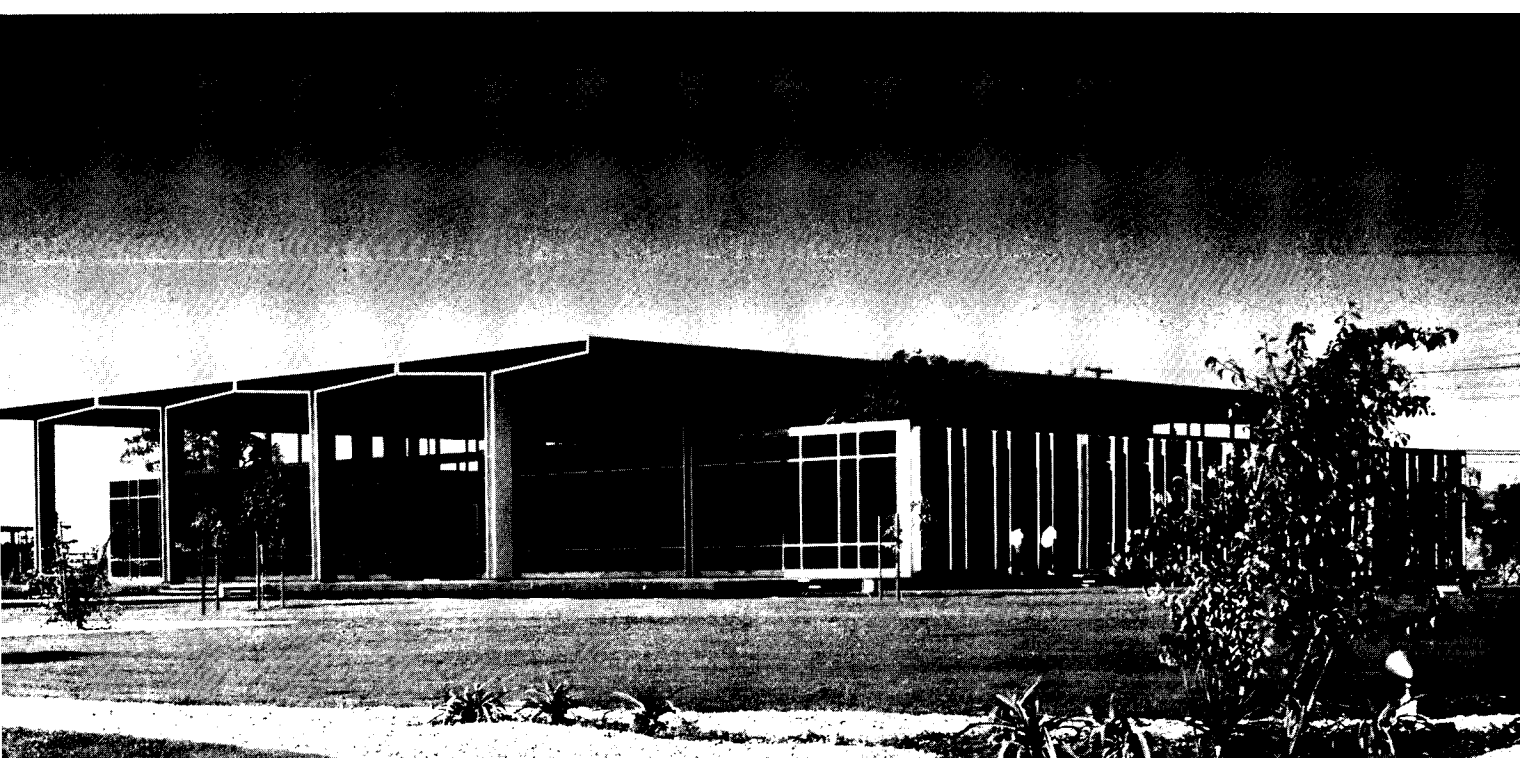
My points are shown on the following pages.

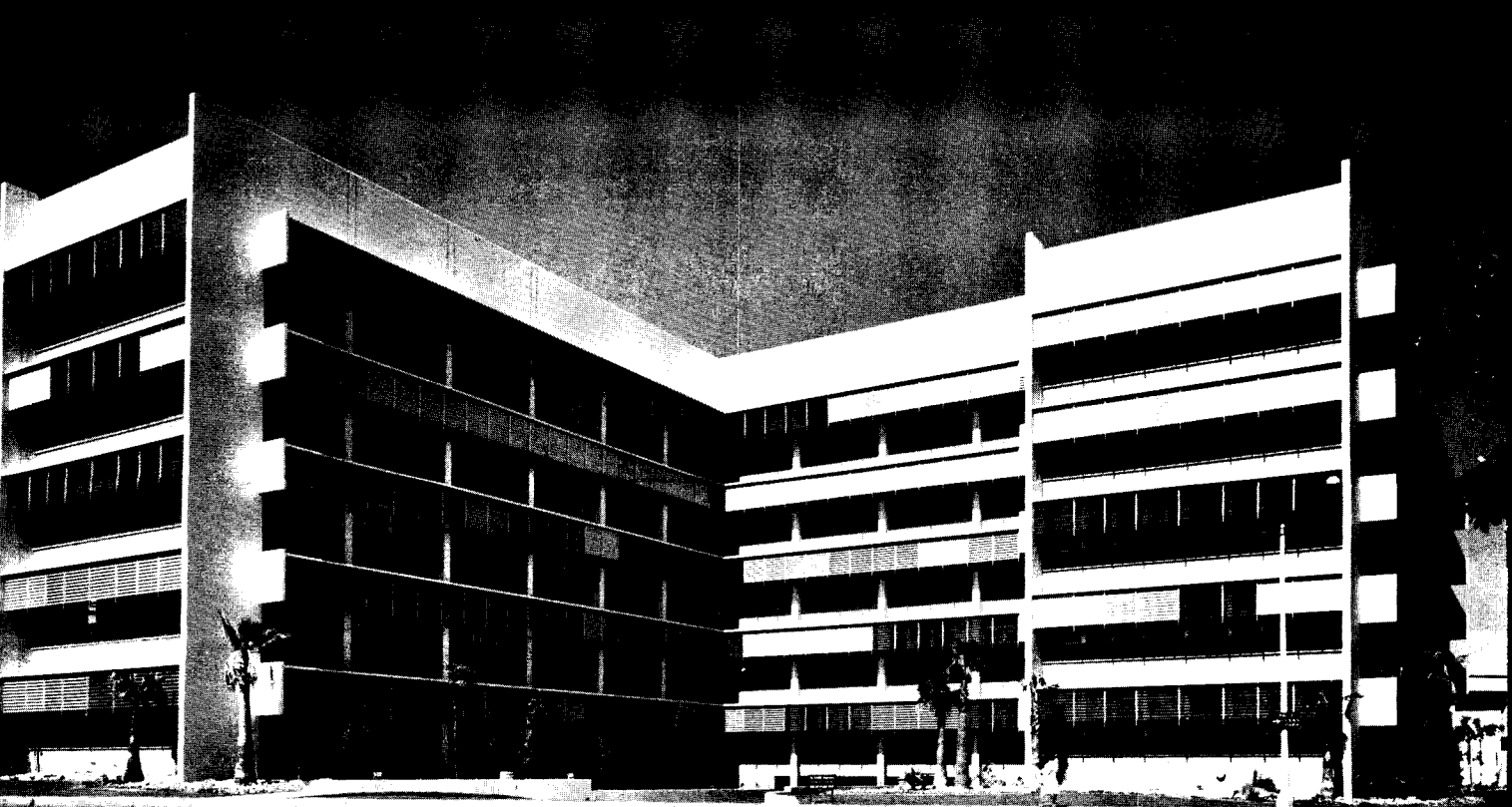


◀ **When the Camera Lies:** Headquarters of the Hunt Food Corporation and adjacent library, Fullerton, California, by William L. Pereira & Associates. The wide angle, "three quarter" view exaggerates the short side of the building and is misleading if not accompanied by more realistic views. The same is the case with photo below of the library, which echoes the main structure. The scales and perspectives of the buildings as shown here are dramatic and would be favored by the majority of architects and editors. My own feeling is that if the architect shows a straightforward, exact representation simultaneously, he may take the liberty to express a feeling or an impact which in reality exists only when you see a building from a special angle.



A Truthful Interpretation: The design elements of the Hunt Food building and the library as they actually are. All of these photographs are, of course, examples of choices, but the photographer who is apt to be carried away in his search for so-called dramatic effects should not neglect that objectivity is required for good architectural interpretation. The architect and the photographer should use good judgment and evaluation in selection of camera angles and lenses. Both of these photographs were taken far enough away to allow the use of a 121-mm. lens, barely wider than normal for a 4x5 camera. ▶





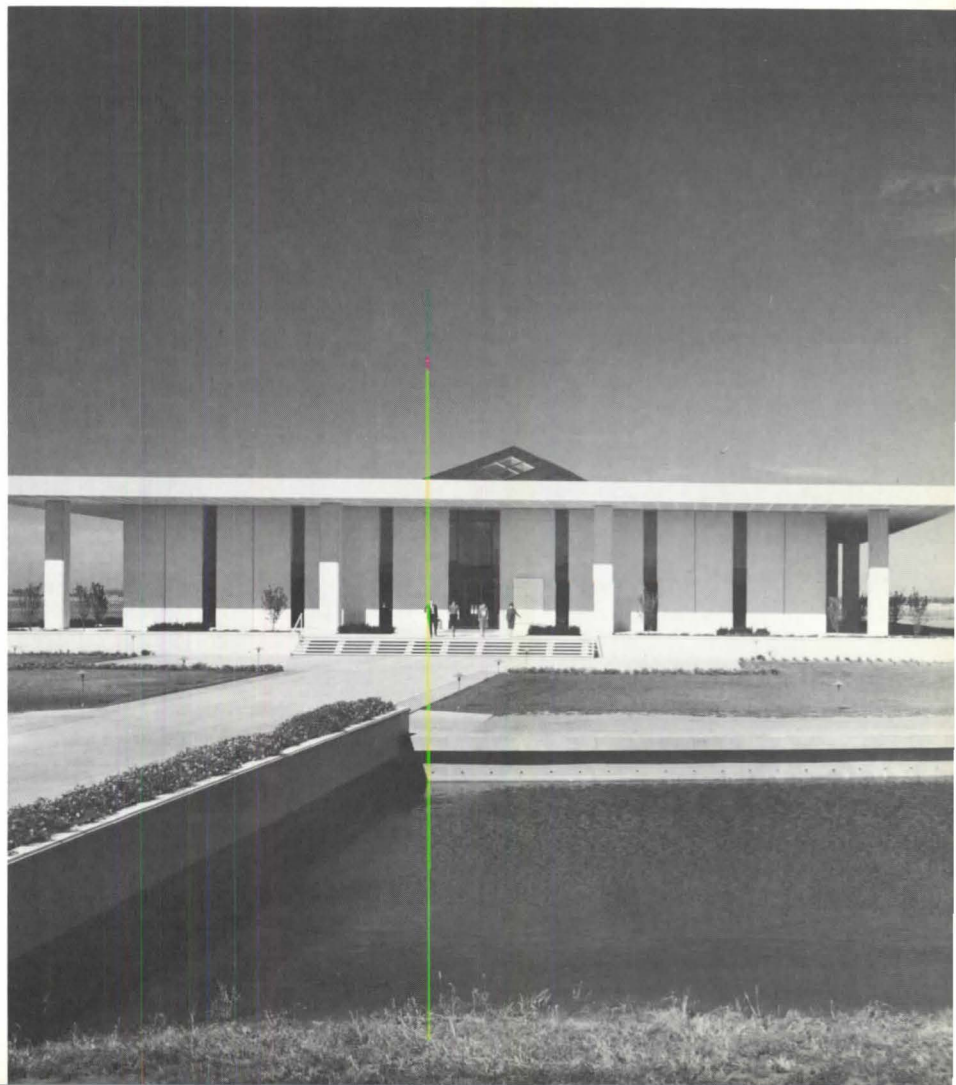
◀ **Care with a Wide Angle Lens:**

These are two decidedly different graphic impacts of the Rand Corporation building in Santa Monica, California (Allison & Ribble, architects). Upper photo gives the objective and accurate scaling of the proportions. Bottom photo expands the perspective without necessarily distorting the image of the building, but it favors it with an elasticity possible only through this type of photography. However, both pictures are valid and can be construed as a demonstration of two different ways of looking at the same building.

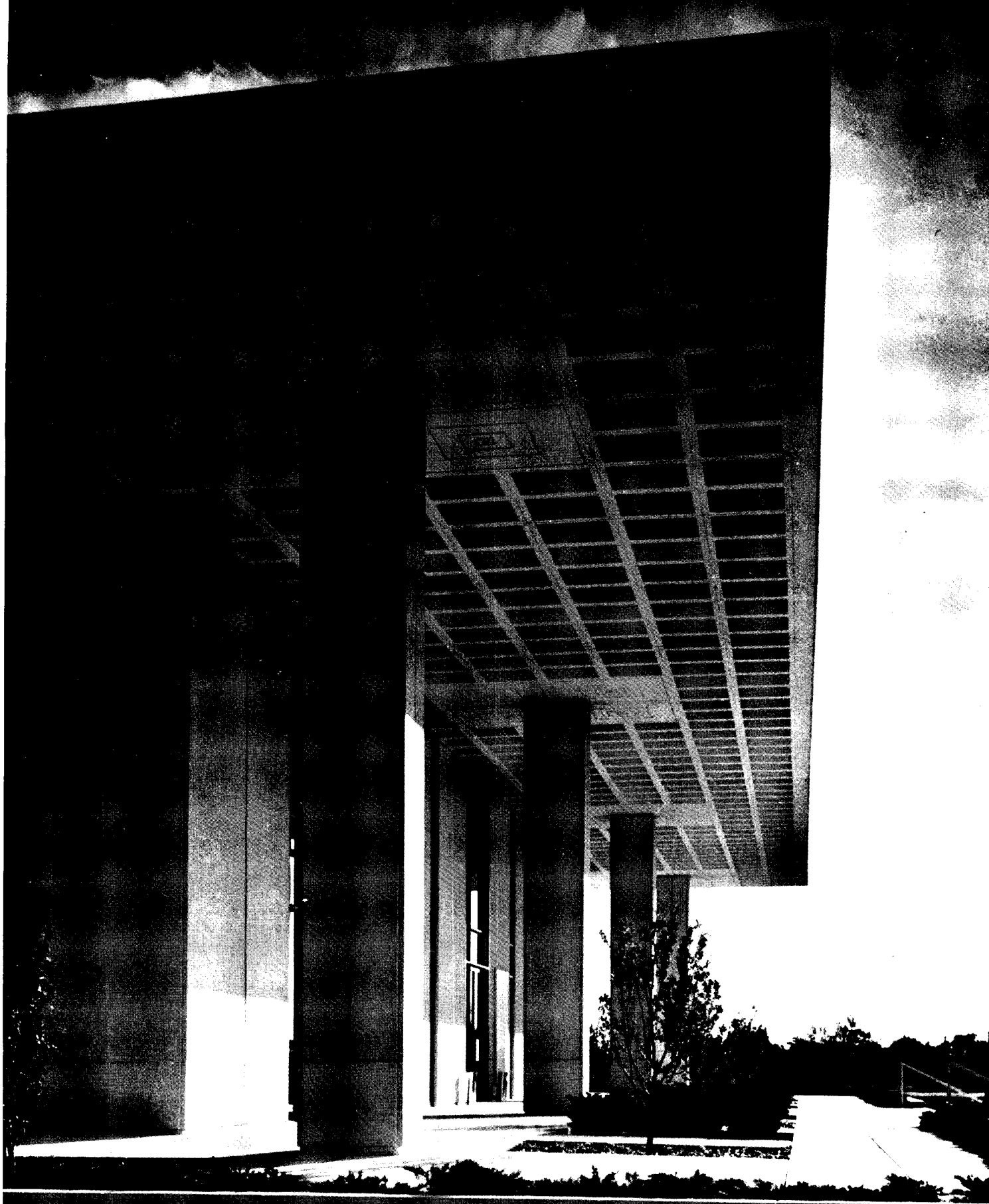
Correction, Not Fakery: The Stuhr Museum, Grand Island, Nebraska, by Edward Durell Stone, FAIA. The photographs clearly show what correction can do. Both views are equally useful since one is a direct approach and the other illustrates the water. With camera correction it was possible to restore the horizontal line of the roof even though the camera was off to one side. The purpose is obvious. If we allowed the line to run downhill it would be disturbing visually as well as architecturally. ▶

Controlling the Camera: The pictures of the Stuhr Museum on the following pages show what happens when corrections are made to recreate parallel lines. To produce the effect in picture at left, the camera back was swung until it was parallel with the roof line. Most architects, I'd say, would prefer the exaggeration of photo at right, but when I sent the two photographs to Gerre Jones of Mr. Stone's office, he wrote me:

"My preference is for the corrected view in this case. I say 'in this case,' because I feel that certain buildings do lend themselves to the 'distorted' or 'uncorrected' treatment. We have a shot or two of the Hartford Gallery of Modern Art in which I believe the picture is improved by some distortion of the building lines. My personal opinion on the Stuhr shots is that the roof becomes a little too overpowering in the distorted version."









Controlling the Action: Interior photography requires the same care as exterior picture taking. Frank Lloyd Wright once denounced photographers for trapping themselves in corners. A head-on view of a scene avoids such visual "trapping." These photographs of the main executive floor of the First National Bank in Reno (interior design by Emily Novak) could have been taken with the camera more to the side to emphasize the window wall, which is just what a previous photographer had done. To allow the ceiling and wall lines to become diagonals also was disastrous; there is enough action in the strong diagonals and perspective of the window wall. The result of the head-on approach is restrained dignity.



Reversing the View: The camera has been swiveled 180 degrees in this view to show the bank's entire main executive floor in its true proportions. The "correction" here is not completely true; there is a slight angle to the ceiling, but the idea of correcting with camera manipulation is to eliminate any uncomfortable feeling and distorting qualities. Both these photographs were taken with a lens recording the actual perspective. A wide angle lens would have given more width, but it would have created a long, tunnel-like effect and would have reduced by half the height and width of the back wall. Photographers would do well to resist the temptation to get "more" in a photograph. Note the careful placement of the human figures, how they create a quality of occupancy and scale. People placed too close to the camera cause distortion—their heads tend to loom so high that they appear to be touching the ceiling. □

Architectural Criticism. Nominations of civic projects for oblivion or restudy—one in a series of articles from the *St. Louis Post-Dispatch* written to increase the public's visual perception of the city's environment which has won for the author the AIA's initial Architectural Critic's Citation.

Back to the Drawing Board!

BY GEORGE McCUE

The show of public interest in the rival plans for redevelopment of the nine blocks between the Eads and Veterans Bridges is, in itself, one of the best results of this competition. The discussion has been articulate and addressed to significant points; it arises from deeply felt concerns about what is good for the area, good for the city and good for the people who will be visiting the St. Louis riverfront.

The city's proposal to dispose of Union Market has generated another round of spirited discussion. This has gone well beyond any matters of the niceness and picturesqueness of sidewalk

The author: Mr. McCue, art and urban design critic for the *St. Louis Post-Dispatch* (this article reprinted from the February 5, 1967, edition) for more than a decade, is a frequent lecturer and contributor to professional journals. An Honorary Member of the Institute, he won first prize in the newspaper category of the AIA Journalism Competition in 1958 and 1959 and second prize the following year as well as citations from the College Art Association in 1958 and 1966.

fruit stands, and has raised questions of urban management: Don't we need market facilities when people are being asked to move downtown? And how about the city's role as landlord—taking market revenue for general-fund purposes while letting the source of revenue get rundown? One letter writer declared that he could see an uncomfortable analogy between this kind of operation and that of the slum landlord. He was referring to the much-deplored practice of taking profits without maintenance and then seeking to unload the property on an urban renewal project.

Democratic procedures involve the same hazards in urban planning as in politics or any other area in which many voices are raised. There is constant risk of being seduced by the charming, the spectacular, the quickly advantageous and more readily grasped alternative.

The notion that a city could or should be a work of art has a hard time bridging the gap between the unity of art and the heterogeneity of cities. The more nearly a city approaches overall unity and harmony, the more likely it is to reflect the dominance of a powerful authority.

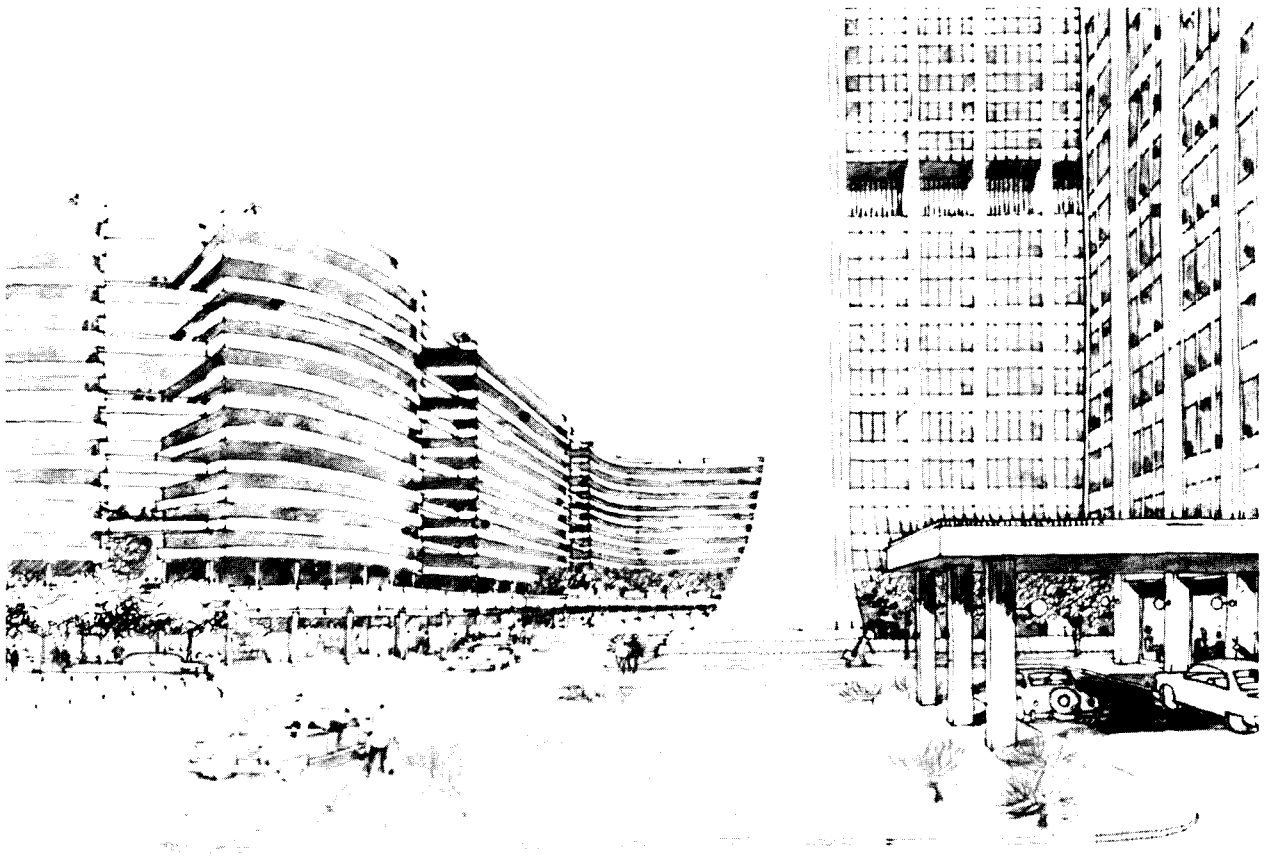
This can be the authority of one architect who has complete charge of a new city from the beginning, as in Oscar Niemeyer's Brasilia; it can be a planner who rearranges an old city, such as Baron Haussmann in the Paris of Napoleon III; it can be a ruler with the capacity for grand conceptions and with the engineers and builders to carry them out, such as Pope Sixtus V, who had much to do with the plan of modern Rome.

Or it can be the authority of the public's consciousness of its civic identity. In this country, the public, with its urban renewal statutes and ordinances, wields a city-shaping power greater than that of any potentate. Its combination of legal, political, social, economic, commercial, technical and, with luck, artistic resources is able to do literally anything to a piece of land to increase its value to the community.

It is necessary to delegate all these aspects of the public authority to acceptably expert agencies, but the public's role as client and patron requires that it pay attention to the direction they take and certainly to be dubious of the proposition presented with a this-is-it finality.

The public's consciousness of its civic identity is a powerful influence on unity in the physical plan and in the use of resources, and on the harmony of the way it all looks and works. Harmony doesn't mean uniformity; it is more like a sense of consistency and appropriateness. This emerges from the community's long experience with itself, and this is the realm in which the public can develop its own expertness.

On the points of consistency and appropriateness with the St. Louis identity, the following projects, all with conceptual merit but with present strong indications of unsatisfactory outcome,



River Center by Schwarz & Van Hoefen—brutal scale, questionable mixtures, unresolved traffic density.

are nominated for return forthwith to the drawing boards of their designers:

River Center—This nine-tower total redevelopment plan for the riverfront, between Eads and Veterans Bridges, is already headed for restudy on the point of building heights, which the National Park Service has said we will have to hover around 275 feet or face official trouble.

If replanning the heights means a scaling down of the whole proposal, this would be a welcome improvement. The plan now gives the impression that the main criterion for what went into it was the kind of unit that qualifies for maximum federal and other aid, including rent subsidies and 100 percent loans. Why housing for the elderly on the riverfront?

The two towers proposed for the very edge of the river are simultaneously the most exciting features of the scheme and the most undesirable for this historically public site. In its proposal to park some 5,000 cars, the plan raises questions of truly awful vehicular traffic on narrow side streets and the levee, which would interfere with, if not paralyze, its use by pedestrians. Architects Schwarz & Van Hoefen's own renderings show *brutal scale* of buildings on their platform plaza. Their colossal center tower flares at its base in a touch of arbitrary decor that gives it somewhat the effect of a 1948 Cadillac upended and standing on its tail. Why allow fins, so thankfully dead and

buried in automobile design, to be dug up by architecture?

This could be a good plan, and there is merit in the idea of high-element punctuation points at the boundaries of the Jefferson Memorial area.

Laclede's Landing—This plan by Hellmuth, Obata & Kassabaum to rehabilitate the between-bridges area, an alternative to River Center, seems to be highly favored by the public. The idea is excellent, but its presentation to the City Plan Commission was miserable. The sponsors failed to show details of what they expect to do or how they would do it. They have talked vaguely about history and old-town flavor, but have not shown how these abundantly promising ingredients can be made into a financially and esthetically workable redevelopment.

Frank Pierson, who on his own initiative built a wonderful bar in one of the shabbiest buildings on the levee, has done more to show the rejuvenative possibilities here than the whole Laclede's Landing presentation. He installed some iron columns, two gaslights and a fine doorway at the entrance, put an authentic antique bar and some magnificent chandeliers inside and demonstrated how the magic works.

Stan the Man—Sculptor Carl Mose, formerly of St. Louis and now living in Alexandria, Virginia, was commissioned to do a heroic bronze of the great Cardinal batter. Sponsors: the St. Louis

members of the Baseball Writers' Association of America. Site: the north plaza of Busch Memorial Stadium. Photographs of the plaster model indicate that St. Louis is in danger of getting still another cigar store Indian to add to the many in Forest Park and elsewhere.

There is little evident feeling of muscle, or even of anatomy; the coiled spring of Musial's body in its familiar cocked-bat position, which he demonstrates in the accompanying photograph, is torpid in the overweight sculptured figure. Musial's fans will want a good representation, and posterity will want a good sculpture; from this treatment, neither is going to get either.

Nominated for Oblivion—The city's proposal to get rid of Union Market. Let's put its income into rehabilitation, do some promotion, clean up the hideously shabby bus terminal and the upstairs garage, replace the tattered Sixth Street awnings with decent canopies and acclaim it as a civic asset.

"Flight," the fiberglass abstraction by George McNulty, proposed for a landscaped triangle at the intersection of Waterman, DeGiverville and Laurel Streets in the West End, and turned down by the Landmarks Commission (applause). This was a laudable activity, on which neighborhood youngsters worked some 200 hours under McNulty's direction, and the result is now on display at Garavelli's Restaurant, 301 DeBaliviere Avenue. It is meager in concept, dingy in finish, unrealized in form, underscaled for the site and unlikely to last long in an outdoor installation. It would displace a good magnolia tree.

Stan the Man by Carl Mose—neo-cigar store Indian.



EXCERPTS FROM OTHER ARTICLES IN 1967

For the Old-and-New Laclede's Landing Riverfront Plan (one of several on this topic), January 15:

The two proposals for reviving the nine blocks between the Eads and Veterans Bridges, and extending from Third Street to the river, present St. Louis with tantalizing opportunities for fortifying its "image" and adding to its attractions.

The plans are in such strong contrast that they present clear-cut choices: total demolition with a completely new "city within a city" of nine tower structures on a platform base; or a combination of new and old that mixes historical atmosphere with contemporary, but generally small-scale, buildings on the existing levee slope.

The proposal for complete redevelopment is River Center, sponsored by the River Center Redevelopment Corp., headed by Morton R. Bearman. Its architectural and land use design is by Schwarz & Van Hoefen, with Arthur E. Klein as development consultant.

The other is Laclede's Landing, sponsored by the Levee Redevelopment Corp., headed by Fred M. Switzer, with architects Hellmuth, Obata & Kassabaum in charge of planning.

Such a development plan is public because it would be carried out under federal, state and city urban renewal regulations that involve the taking of land and putting it to new use. It also involves tax relief, municipal services and questions of the highest and best use of land. In this case, the land is in the downtown area where "highest and best" means not only "the most profitable use likely to which a property can be put"—the definition used by real estate appraisers in a purely economic application—but also has to do with the enrichment of community life.

The main points of the Laclede's Landing plan argue persuasively for its adoption, and the plan is hereby enthusiastically acclaimed, with a few reservations.

Cuteness Hits the Historic Scene, May 21: The constantly vexatious question of how old and new can live together in peace and harmony in the city environment is no sooner resolved happily in one place than it erupts in another. The conditions may vary somewhat, but it's always the same old question. As the city gets bigger in scale, harder to consolidate as a civic image and subject to unusual pressures, proposals that are intended to be answers to the questions sometimes balloon into grotesque and even comical contrivances.

In St. Louis, the proposal is to provide, for tourist transport along our bank of the same river, a mutant vehicle consisting of an imitation antique streetcar body on a bus chassis. □

Sweeping changes are planned for Boston's Back Bay. An addition to its famed library, new high risers, a thorough face lifting are some of the things to come and also, it appears likely, a highly controversial Hancock Tower. The 790-foot shaft that would be Boston's tallest and would flank Copley Square and Richardson's Trinity Church has aroused the opposition of a number of Boston architects. Officials of the John Hancock Mutual Life Insurance Company and the City of Boston last month reached an informal agreement to accommodate the project through a zoning amendment, obviating the need for an otherwise required zoning variance.

'DEFERENTIAL' MODERNITY IN

That brickyard of a city along the Charles more and more becomes a curiously engaging mix of the mellow and the vibrant.

It was less than two decades ago that John Hancock Mutual Life Insurance Co. built a 26-story office building in the Back Bay and this was supposed to be the beginning of the "New Boston." Perhaps, but Boston remained essentially a two-dimensional city, at least until the Prudential Insurance Co. erected its Back Bay tower.

Now, the Back Bay may get an even taller shaft. John Hancock may this summer begin construction of a 60-story tower to stand guard alongside H. H. Richardson's Trinity Church in Copley Square.

Indeed it would do more than guard the church; it would reproduce it. With its highly reflective skin, the Hancock building would in a real sense give Boston two Trinity Churches.

John Hancock Place is the newest of three contemporary designs complementing the variegated architecture of Copley Square.

Contemporary concepts when applied to Boston, so exceptionally rich in cultural and historic

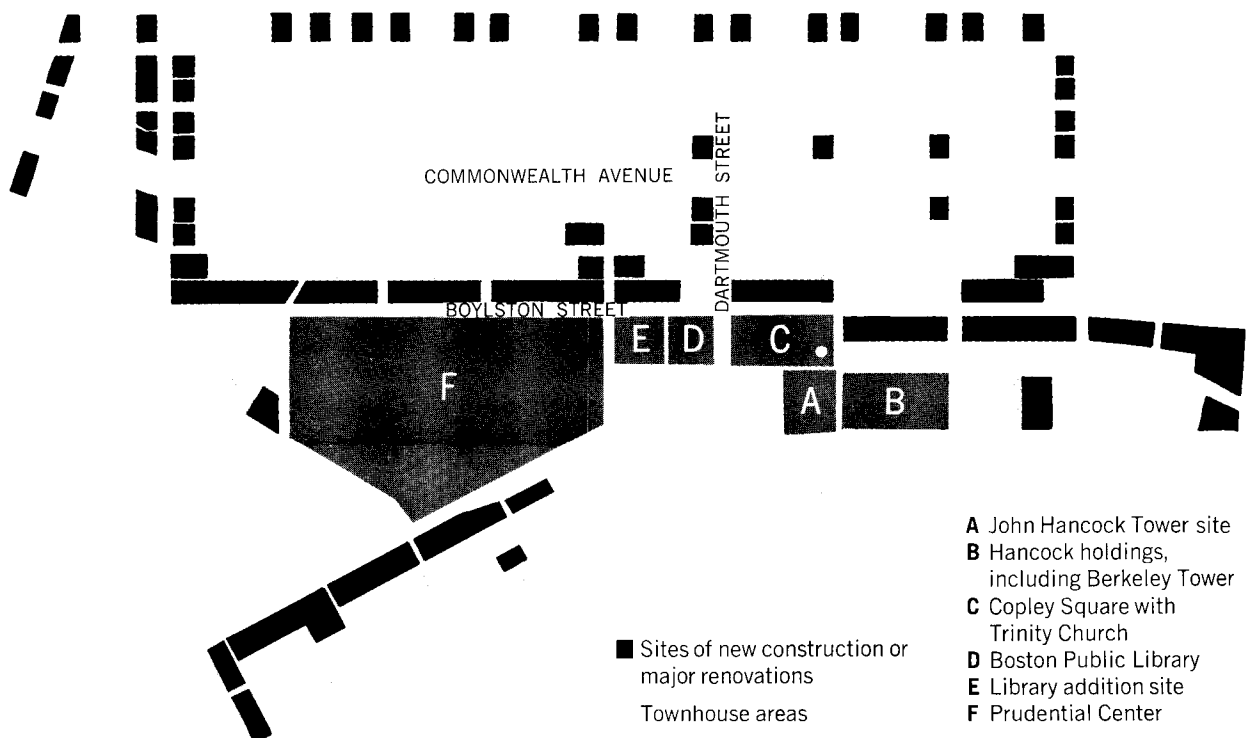
heritage, are invariably intriguing and this is particularly true with Hancock Place.

The problem, said the architect, Henry N. Cobb, AIA, of I. M. Pei & Partners, embodied "in a classic form the challenge which inexorably confronts us in cities today, to achieve harmony between the totally disparate scales of building which characterize the old and the new in our urban civilization.

"Especially in Boston . . . it is important that we provide for the burgeoning needs of commerce in such a form as not to destroy but rather to enhance the role of those existing buildings and open spaces which constitute a most precious inheritance from the city's past."

In planning Hancock's office expansion (providing more than 3 million square feet), three urban design objectives were paramount. Cobb, founding partner of the Pei firm, said the objectives were to:

- Complement the distinctive profile of the existing Berkeley Tower while bringing it into a more harmonious relationship with its immediate neighbors, Trinity Church and Copley Square.



REBOUNDED BACK BAY

- Enhance the role of Trinity Church as a major sculptural event on the urban scene and strengthen its position at the center of gravity of the Copley Square area.
- Create in concert with the existing Berkeley Tower, Trinity Church and Copley Square, a family of buildings and open spaces endowed with a distinct and lively personality—a focus of urban activity and generator of further growth in the Back Bay area.

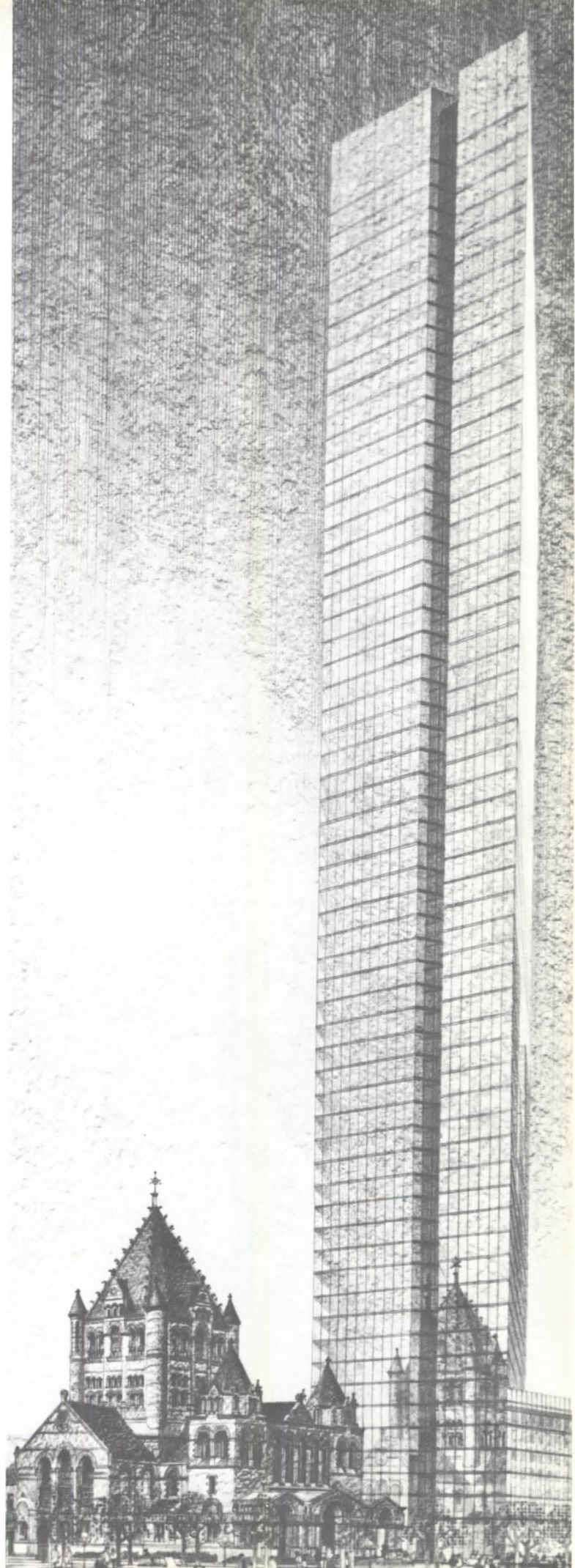
The new tower, then, was to show a “deliberate deference.” Cobb, who is Boston-born (his great uncle, Edmund M. Wheelwright, designed the Harvard Lampoon Building in Cambridge and the Longfellow Bridge spanning the Charles River) explains the concept behind the glassy, rhomboid-shaped shaft:

“Through the power of its gesture and the directional character of its geometry, combined with the tautness and reflective quality of its envelope, the new tower acts as a foil to both of the highly sculptural buildings which it faces. The diagonal orientation of the tower shapes Hancock Place as an antechamber to Copley Square, and particularly enhances the setting of Trinity Church by inviting its participation in the new open space formed between the Hancock home office buildings.”

The Hancock company's holdings in the vicinity of Copley Square embrace 5½ acres. More than half this site is at present occupied by Hancock buildings, including that 26-story Berkeley Tower with its memorable pyramidal roof.

Fifty-one percent of the Hancock Place acreage is laid out as landscaped open space. The \$75 million program calls for razing the eight-story Clarendon building, which occupies part of the site, on completion of the new tower in 1971. The area available for immediate construction borders on the Square directly opposite the south transept of Trinity Church.

“Though it powerfully shapes the urban scene,” Cobb said, “the John Hancock Tower is not aggressively self-centered but seeks to respond sympathetically and indeed shows a deliberate deference to its surroundings. We deem this to be its most important quality as a building; for therein we assert our conviction that the



transformation of scale which is inevitable in the future growth of cities can be accomplished without destroying all those values which, by giving us a sense of continuity with our city's past, enrich the quality of urban life."

Architecture and Elegance on the Flats

The tower would join the \$22 million addition to the Boston Public Library, being developed by Philip C. Johnson, FAIA, and the competition-winning plan for the new Copley Square mall by landscape architects Sasaki, Dawson & Demay.

In the past century, Copley Square has gracefully assimilated a dramatic blend of contempo-



For a unified look, no more variegated additions.

rary, Renaissance, Romanesque and Gothic buildings into a harmonious architectural tapestry. The Boston Public Library, cited by The American Institute of Architects as one of the best American buildings of the 19th century and designed by McKim, Meade & White, defines the western boundary of Copley Square.

Richardson's Romanesque edifice, a church in the round presenting changing shapes from different vantage points—as would the new Hancock tower—is supported by 45,000 wooden piles driven into its man-made site.

These supports must be kept wet to avoid rotting. At one time a small boat was floated in the church's basement. When the boat touched bottom, water was pumped into the area. Today an automatically controlled water level system protects the pilings.

Indeed, with bedrock lying at depths of up to 150 feet, foundation planning for the Hancock building received heavy emphasis. The building's lightweight skin of glass and anodized aluminum would reduce foundation costs. As for that water table problem, John Hancock said special precautions are planned to maintain it during construction.

Sophisticated and Honest Joint Planning

The whole 300 acres of the Back Bay is fill material brought to what were tidal mud flats and salt marshes a century ago. Boston was growing and room had to be had.

Elegant Bostonians displaced the legendary foot-high croakers and wildlife which had scat-

tered to safer breeding grounds. Back Bay became crowded with fashionable and handsome townhouses. In time these turned into rooming houses. Institutions moved in, scurrying students took the place of staid promenaders and parked cars spilled over from empty lots. Was the area ripe for urban renewal? Not Back Bay.

Appropriately, a plan for the renovation and future development of the area produced by the Back Bay Council, a group representing residents, businesses and institutions, in collaboration with the Boston Redevelopment Authority, neither relies on federally aided urban renewal nor calls for extensive public spending.

Instead, the city will show its faith in the area by making \$3 million worth of public improvements including plantings and pavings—and in turn have its tax base strengthened by a projected \$325 million in private investment. Of this, housing tops the list with \$125 million, then comes office space with \$95 million and air rights development with \$60 million.

A substantial part of the total goal is committed already. Those who support the plan predict that the future will see a new flowering of the Back Bay as a handsome residential neighborhood, a desirable shopping area and a solid business community. With this upsurge of activity townhouse owners are doing just what the planners hoped for, heaving to and restoring their properties.

The cooperation of the Boston Redevelopment Authority and the Back Bay Council is an example, it is said, of sophisticated and honest joint planning. Business, residential and institutional interests, which sometimes had been in conflict, joined to form a subsidiary group: the Back Bay Planning and Development Corporation.

The corporation raised the funds and engaged outside consultants to find a way to spur building activity. Two years' study resulted in the 10-year plan, which also calls for preserving that undeniably Back Bay "feeling."

The rationale of the urban design concept for the Back Bay was a kind of enclosure approach. Taller buildings would be placed around the periphery and in areas already occupied by insurance companies—but not in the residential areas.

The Back Bay's design challenge was also helped by the recent creation of the Back Bay Architectural Commission whose members are appointed by Boston's mayor. The commission must review and approve all proposed changes of exteriors in the residential sections.

The legislation that brought the commission into being is unique in that the architectural controls it imposes over the area were prompted by a desire for a high quality of overall design and not simply for historic preservation. □

Beyond the Gallery Walls

How one small art museum is helping the public develop an architectural awareness.

The architects, housewives, journalists, artsy young students and curious old ladies who were assembling on the West Front terrace of the nation's Capitol on a bright, spring mid-morning were not the usual tourists; they were about to participate in an architectural tour of the Mall.

Most of the group were members of the Washington Gallery of Modern Art, sponsor of the tour. This day their guide was Nathaniel Owings, FAIA, of Skidmore, Owings & Merrill, chief architect of the Mall restoration and chairman of the President's Temporary Commission on Pennsylvania Avenue.

Owings first briefed the group on the total concept of the Mall and then directed them to the Library of Congress where the models of the Mall and proposed Pennsylvania Avenue Plan were on exhibition. Aboard minibuses proceeding to the Washington Monument, Owings expounded eloquently on the variety of architecture on the Mall, both existing and projected. The tour ended by the Old Smithsonian where each member received a marigold plant as a token of Washington's beautification effort and, perhaps, of an enlightening day.

There were other such days, and more lie ahead. For the small urban gallery, still in its formative years, has launched an architectural program unlike any other in the country. To start it took a mixture of common, small-scale ingredients: stringent funds (a matter of circumstance in this case), careful planning and publicity, a desire to develop on the part of the average citizen an increased environmental awareness, and a few generous architects to help carry it out.

The idea sprang from a luncheon conversation between two friends: one a WGMA staff member, the other the wife of a local architect. An architectural program should be established, they suggested, as a natural extension of the art gallery to heighten the artistic sensitivity of patrons beyond gallery walls, out into the built environment. Was not the goal of the gallery to make peo-

ple more aware of art—form, space, color, composition, material and the logic behind its purpose and execution? An architectural program would enhance such visual and intellectual experience and kindle it on an everyday level, via streets, homes, stores, offices and parks.

The proposal was carried from the luncheon table to the gallery's board table, where it was voted on and accepted. A steering committee was organized which included an architect, an architectural critic, a WGMA staff member, an art consultant and other persons directly involved with the politics and problems of urban design. With its professional and public experience, this committee was able to envisage the total scope of the program, its potential use to the community and

Owings on the Mall tour: a personal guide, an eloquent speaker.



the citizens' interpretation of it. And with these things in mind, the committee began its solid workings.

Timely projects and events were selected as subjects, with emphasis on the city but also including points of interest in the metropolitan area. Leading authorities directly involved with these subjects were contacted to participate as speakers. Invariably, they responded with reciprocal enthusiasm and agreed to propound their knowledge free of charge (although in appreciation, WGMA presented each speaker with one year's honorary membership). As events shaped, three approaches seemed appropriate: walking tours, symposiums and bus tours, such as the "Grand Design" tour of the Mall.

The plan was that "complex elements of the city would be taken singly," reflects Nicholas Satterlee, FAIA, a WGMA board member who was instrumental in planning the architectural program. "Or, simpler repeat elements would be shown by several examples: great spaces, parks and squares, cupolas, steeples and spires. Each would be brought out by the mechanism best suited to it—by walking tours for closely strung elements, bus tours for elements farther apart or by symposiums to expose something projected but not yet seeable in three dimensions."

Visual aids were an invaluable boost to the program. First, a well-designed leaflet which aroused the interest of members and stated explicit details about the events was sent to WGMA members. Most were illustrated with architectural renderings and plans of the projects under discussion. Reprints of pertinent articles were distributed; and whenever possible, borrowed architectural models, drawings or maps were displayed at the origin of the tour. The cost for these materials was usually defrayed by the events' admission charges, ranging from \$1 to \$5 per person.

The mixture of small-scale ingredients had risen to a large-scale project which required expanses of lengthy planning and intricate or-



At Reston: learning principles behind the new town projects from design firm representatives.

ganization. By spring of 1964, the program seemed ready to test.

The first event was a combination walking and bus tour of the Southwest urban renewal area of Washington. Speakers included members of the National Capital Planning Commission, the Commission of Fine Arts and The American Institute of Architects, who answered such questions as "What is the principle behind urban renewal?" and "Does the total environment create a neighborhood as part of the federal city or a town within a town?" Participants were able to develop their own close-up views of the Southwest project, and a sympathetic local press set the anticipative tone for future events.

But there were also difficulties on the first tour. Sound equipment was inadequate, transportation facilities were limited and members even had to be turned away at the bus doors. In general, the organization had to be improved.

Encouragement reigned, however, and other events were scheduled for ensuing fall and spring Satur-

days, with technical problems being solved along the way. Walking tours illuminated for the members such projects as Moretti's Watergate apartments, the controversial location of the Kennedy Center for the Performing Arts and the new Pan American Health Organization Building designed by Roman Fresnedo Siri. Each event had a unique slant. A tour through the Pension Building, the Patent Office Building and the Tariff Commission Building, for example, was treated as a view of three historic buildings in their modern use; and a tour of Washington's parks entitled "Squares, Circles and Triangles" was a study of the areas based on those geometric shapes.

The bus tours included a visit to Reston, Virginia's new town; a look at Washington's great parks (including lunch at the famed Meridian Park with its Versailles gardens and fountains); and an all-day trip to Baltimore to view the city's new architecture, highlighting the Charles Center Building designed by Mies van der Rohe, FAIA.

The third type of program—the symposium—has concerned itself with such relevant topics as the Pennsylvania Avenue Plan and the proposed rapid transit system for Washington. The speakers usually chose to illustrate their lectures with slides, models, maps, photographs and drawings; and a question-and-answer period provoked fruitful discussion.

One of the most dynamic programs that the gallery sponsored, however, took place by neither foot nor bus nor podium, but by boat. On a glorious September morning in 1964, a Potomac River boat tour was held aboard a hydrofoil and was so well received, in fact, that a repeat session in the afternoon became necessary.

The tour, which covered the waterfront from Alexandria to the palisades above Georgetown's Key Bridge, included speakers from the Department of the Interior and from the architectural and planning professions.

Remarkable above all else was the multifaceted nature of the excursion. Nearly everyone of the 80 persons aboard had something different to contribute, and all aspects of the waterfront—historic, topographic, etc.—bloomed under the informal discussion. In a highly favorable article in the *Washington Post*, the tour was described as "five unusual tour guides rocking a boatful of select sightseers with some unsettling insights into the

problems of Washington's waterfront gateway."

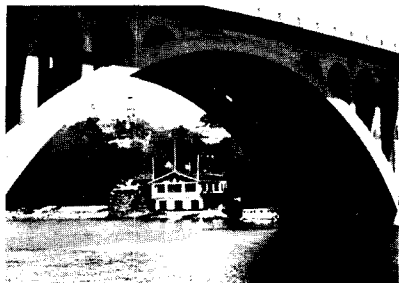
As a whole, the WGMA program was an unmagical plan nearly anyone could follow. Though Washington is admittedly richer in varied talents than many cities of its size, the potential for systematically uniting in a common interest the experts and the aware people of a community exists in every city. With concentrated planning and not even any funds, it could work. And the benefits? Evidenced by the WGMA experience, the gallery profited from increased stature in the community by expanding its program, and some citizens gained firsthand knowledge about the architecture of their city.

Personal contact and participation is always maintained for the members because the number of tour participants is kept small. As for the speakers, they are being tapped for their favorite subjects, and, very simply, they love talking about them. This bringing together of knowledgeable local professionals to talk about their fields is rather like turning the gallery into a small, lively, personal university.

Such education, moreover, is highly meaningful everywhere, as is any effort to make people more aware of their surroundings and to heighten their responsiveness. The need for constructive environmental change in the drastic deep of an urban crisis, as well as a knowledge of what structural changes have already been affected, must be recognized by the public. WGMA, in its own simple and beautiful way, is broadening the recognition.

LEAH B. JACKSON

Potomac excursion: the Georgetown waterfront, a view under Key Bridge.





Editor: Donlyn Lyndon, AIA, School of Architecture and Planning, Massachusetts Institute of Technology, Cambridge. **Contents:** What Architectural Schools Expect from Sociology by Robert Gutman; MIT's Lofty Practicum by Donlyn Lyndon; The Death of the Beaux Arts by Murray A. Milne and Charles W. Rusch.

1. More effective procedures must be developed for organizing the use of sociology in the curriculum of schools of architecture. Too often the sociologist is brought into the design studio after the decision already has been made to which his expertise and perspective might have proven useful. Often the sociologist is invited to a "crit" session or jury and is expected to comment on a proposal without a chance to study the program or to familiarize himself with the thinking of students and faculty. These difficulties arise for all consultants invited to the studio, but the problems are more acute for sociologists than engineers because they know less about architecture.

2. All schools should establish intensive research programs designed to improve our understanding of the relations between architecture and social organization. It is worthwhile to initiate a variety of experimental courses and special arrangements for studio collaboration within the schools. These can serve as mechanisms which will stimulate the productivity of architectural researchers: Faculty members will be encouraged to be more productive because of the exchange of information and criticism with students; availability of these courses in the curriculum will impress upon students the importance which the schools ascribe to social research endeavors.

3. The schools should widen the spectrum of issues which are discussed in the curriculum and to which sociology and the other social sciences are potentially relevant. Schools do not now adequately acquaint the students with current problems in the organization of the profession, with the considerable concern among architects about their social role and with the realities of the design-building process. Seminars on professional practice and building economics are generally taught by practitioners who, despite their experience, provide the student with a partial, unrepresentative and biased view of the problems of architecture and building in American society. These seminars should be supplemented by an academic/scientific appraisal.

4. Educational programs should be inaugurated which will prepare sociologists for the specific task of collaborating with architects and other professional designers. The training which sociologists now receive in most centers of graduate education often incapacitates them for this role. The student of sociology is encouraged to think of himself as a seeker after thorough, firm, objective and incontrovertible knowledge about social phenomena. The institutionalization of this view of sociology, to the exclusion of other conceptions of responsibility, inhibits the sociologist from taking a speculative leap into the future and makes him reluctant to deal with problems about which research is inconclusive. To be truly helpful, the sociologist must learn to make reasonable "guesses" of a predictive sort—to assume the kind of risk that the architect takes when making decisions based on incomplete knowledge.

To make sociologists effective design and building team members, graduate programs must have studio courses where sociology and architectural students work together on problems of programming and design. In this curriculum, representatives of the two disciplines could learn to understand the opportunities and constraints imposed by their respective traditions and social roles, while they are still young and open-minded enough to modify conventional points of view and transform prevailing professional self-images.

ROBERT GUTMAN

What Architectural Schools Expect from Sociology

BY ROBERT GUTMAN

The curriculum reforms suggested by Professor Gutman result from a study directed toward three principal questions: How does architecture influence human behavior and social organization? How are the problems of the built environment viewed and influenced by the culture and social organization of the architectural profession and by the schools of architecture? How might sociology contribute to architectural practice and design education?

Material for this study was gathered principally through discussion, observation and teaching in two schools of architecture—one in England, one in the United States—during 1965-66. Following are some of Professor Gutman's observations regarding the present use of sociology in architectural schools.

THE EDITOR

Courses in the Field of Sociology

One way in which English and American architectural students are given an acquaintance with the theories, the methods, the research findings and also the ideology of sociologists is through lecture courses taught primarily by professional sociologists. These courses are of four kinds:

1. Courses in general sociology which survey the field, familiarize the student with issues and principles that claim the attention of scholars in the discipline or otherwise provide an introduction to basic sociology. These courses are usually taken during the freshman or sophomore year in college, while the American student is fulfilling his liberal arts distribution requirement. Architectural education in England is founded on the

The author: Mr. Gutman is a professor in the department of sociology and the Urban Studies Center at Rutgers University.

tradition of the arts and crafts movement which in the last century encouraged the proliferation of many training centers outside the university structure. These schools offer little of what we recognize as general education and consequently students do not often have an opportunity to take any work in sociology. At Cambridge and the Bartlett and in the many other schools now developing within or becoming incorporated into the universities, courses in general sociology are available to undergraduates in much the same way as they are in this country.

2. Courses in subfields of sociology which deal with social institutions or communities that cor-

respond to the types of buildings or built environments which the student will design when he becomes a practitioner. An example of a course on social institutions is one in the sociology of the family. Such a course typically discusses cultural variations in family structure among societies and within the same society; the functional needs of family life and anticipated changes in family structure over the next three or four decades. The sociology of the family is considered a relevant subject because a good part of the student's career may be taken up with the design of large housing schemes. Students interested in the design of schools, colleges and universities sometimes study the sociology of education, etc.

Architectural students, with rare exceptions, do not exhibit great interest in the social organization of rural communities but many of them are enrolled in courses dealing with the sociology of cities, suburbs and metropolitan regions. Urban sociology, or some course with another title which incorporates much of the subject matter of the field, is a *required* course now in several schools of architecture in this country, and therefore the sociological subject most frequently studied at present. The content of courses in urban sociology, it is assumed, will prove helpful in the design of particular building types such as houses; but its principal justification has to do with preparing students for work as urban designers and city planners.

3. Courses in subfields of sociology which focus on the unresolved organizational problems of American society or which concern themselves with the fundamental trends of modern society likely to give rise to problems in the future. Student attention to courses of this kind reflects the continuing emphasis in the architectural tradition to make buildings which express or otherwise reflect the dominant trends of society.

Architects believe it is important to understand the principal future thrust of society and the general direction of social change. The architect then tries to adopt a stance toward design problems which signifies this direction. Many of the notions about building form associated with the modern movement can be read as an effort to encapsulate the principal themes of early 20th century society within a conceptual ideology regulating building design. Thus the ideas about building form advocated by Marinetti and Sain' Elia were regarded by them, and by their audience, as an expression of a civilization in which motorized means of transportation were transforming the fundamen-

tal social bases of urban life; or the design esthetic of Gropius or Mies, each in a different way, can be interpreted as an impulse to highlight the industrial basis of contemporary social structure.

One can easily imagine that in our setting the futurists, members of the German Werkbund or the followers of *de Stijl* would turn to courses in technology and culture, or industrial or urban sociology, as sources from which they could generate design theories.

A similar search for sociological knowledge relevant to the formulation of a design philosophy in our own time is represented by the interest of architectural students in sociology courses with subjects such as the culture of poverty, race relations, mass culture, communications and sociological linguistics.

It is usually true of the three kinds of courses I have described so far that the student himself bears the burden of extracting their implications for design and building problems, or he does so with the help of other architectural students attending the course. This is so because, for the most part, these courses are not taught by sociologists who have much interest in or familiarity with the problems of the architectural tradition; often they are positively hostile to it.

The general sociology and the institution-oriented or problem-oriented courses are directed primarily to students who major in sociology, the architectural students enrolled usually form a minority of the class. Interestingly enough, I have found that extrapolating the significance of sociology for design problems is also a problem for students in English architectural schools, even though the sociology courses offered are taken almost exclusively by architectural students. According to what their directors and professors have told me, the difficulty arises because of the serious shortage of sociologists in England who are sympathetic to or familiar with the specific intellectual requirements of design education.

4. Sociology courses which attempt to fit the literature on the perspectives, theories and research findings of sociology to issues raised within the framework of the architectural tradition, and to discuss these issues in the manner and in the sequence in which they arise for the architect during the course of the design process. This fourth kind of course, now being given in a few architectural schools, is directed at the need of architectural students in particular. The content seems to be concentrated in the fields of town planning and housing sociology; except that in one English architectural school, there is a lecture course concerned with special professional problems of the architectural practitioner, taught from the perspective of the sociology of occupations. The courses dealing with housing sociology, as

distinguished from courses in the sociology of town planning, are recent innovations. The instructors are equally divided between individuals formally trained as architects or planners who have schooled themselves in sociology and persons trained in sociology who have developed an interest in or knowledge of architecture.

The Use of Sociology in the Design Studio

Sociologists are beginning to be used widely in this country and in England to help students think about their work and execute it in studio and laboratory classes. They consult in a variety of ways. In many schools, a member of the sociology department is asked to serve as an occasional juror or to participate in "crit" sessions from time to time. A few schools are experimenting with the use of sociologists as regular members of the studio staff, although usually the sociologists participate less frequently and have lighter instructional duties than the studio master or laboratory supervisor.

The syllabus of the studio class is undergoing experimental change like every other aspect of architectural education today. In many schools, there is greater interest than ever before in the problem of programming, and an effort is being made to incorporate concern for programming theory and technique in the work of the studio.

My observations and interviews suggest that sociologists are consulted about three types of problems with respect to the studio program:

1. Sociologists are asked to help articulate the latent values and goals of an hypothetical client or building user and to order these goals into a system of priorities. In the hands of a critical and sophisticated studio master, a program inevitably raises questions about the goals and aims implied by the social activities or organizations which the building is supposed to shelter.

Take the case of the design of an off-campus continuing education center for a school of business administration. These centers have emerged so recently that their directors, and the architects they have appointed, are especially confused about the general purpose this kind of facility ought to serve. Should it, for example, create an atmosphere which is "other-worldly," deliberately designed to segregate the middle-level managers who form its student body from the concerns engendered by daily office routine? Or is it better in terms of the effectiveness of the continuing educational process for the facility to reproduce the turbulent environment in which managerial decisions often are made? Questions of just this sort, involving institutional goals, individual career aims and educational policy, were put to me by the students and staff in a graduate studio in Britain. Other sociologists tell me that they have

been expected to deal with similar issues involving the articulation of latent organizational goals when called upon to consult with students. Apparently, it is assumed that sociologists will be generally familiar with a wide range of modern organizations and the difficulties they face, and that sociologists are especially proficient in recognizing and evaluating the goals which are implicit in these activities.

2. Sociologists are expected to aid students and staff in determining the degree of rationality inherent in the client's organization of his activities. Architects who are reasonably confident that they appreciate the purposes of a client or user will nevertheless believe that the task of program development forces them to debate the adequacy of the client's existing social organization as a means for achieving these purposes. Students, for example, assume that they can recognize the legitimacy of a university client's curriculum goals or the general purposes of university instruction, but they will often question the organization of residential facilities proposed for a new college or university (a very common studio problem today).

While visiting an American school, I found myself engaged in a lengthy discussion with advanced undergraduate students about the relative merits of off-campus and on-campus accommodations. These issues can become exceedingly complex, involving not only consideration of the comparative advantages of the dormitories exhibiting different degrees of propinquity to the instructional and social facilities of the college but also questions about how these advantages may differ according to the sex of the students, their age and position in the class structure of the college, the major field of study, etc. It is not unusual for sociologists to be invited to comment on issues of this sort; indeed, this is one of the areas of environmental sociology that already exhibits a tradition of research investigation.

3. Sociologists are assumed to be competent to judge the validity of a schedule of accommodations, or any similar document in which the client or the architect sets forth spatial requirements. Students tend inevitably to be exercised about the validity of the spatial requirements assigned to a variety of social activities and functions. Among students in English schools, these questions take the form of doubting the validity of the space standards recommended in publications of the various central government ministries, especially standards for schools, housing, hospitals and universities. Students rarely assume that the standards are too lavish, but they often wonder whether the standards may not seriously underestimate the space needed for performing essential human functions.

American students are puzzled about similar matters, but since there is no public mechanism for institutionalizing standards for spatial requirements, the questioning of these subjects among the Americans covers a wider range of possibilities and is framed more often in vague terms and according to obscure criteria.

In the schools of both countries, however, there is a tendency to submit these issues to the scrutiny and advice of the sociologists. Of the three aspects of program development in which sociologists are now being used, it is this one—the determination of space standards required by different activities—where the use of sociology is now most common.

In addition, schools which still are not exercised over the need to improve the programming capacity of their students nevertheless call upon sociologists to help in the design phases of studio work. Here, there are two issues on which the recommendations of sociologists are assumed to be relevant:

1. The sociologist is sometimes called upon in the design studio to help students become aware of the value implications of their proposed schemes, to help decide the weight which should be assigned to these values and to rank the values according to their social importance. Issues of evaluation arise also when the sociologist is consulted about problems of the program, so let me make clear the difference between issues of evaluation in the context of the program and in the context of design.

The sociologist who is consulted during the design phase usually is not asked to help the student understand the goals implicit in the client's social organization. By the time the sociologist is called in, the students and their instructors have more or less made up their minds about what is good or bad, appropriate or inappropriate, in the aims which the client has set for himself. As the students see it, the problem for them is to propose a building scheme which will provide the client with the amount and quality of space he requires. They turn to the sociologist in the hope he can aid them in making a judgment about whether their proposals are likely to enable the client to achieve his goals; they also ask the sociologist to help them unravel the puzzle arising from the fact that a single design scheme may appear to achieve several goals simultaneously, some of which may be incompatible with each other.

A case from my own experience at an American school will illustrate this use of sociology. I was asked by a studio master to advise a fourth-year class about the schemes they had developed for a mass-housing project to be introduced into a run-down, largely Negro neighborhood of a small American city.

The students already had decided that the housing should be domestic and low-rise in scale, but they were hung up in considering the implications of different proportions of private, semi-private and public open space within the project. Some students proposed that each two-story dwelling unit be provided with the maximum amount of private, fenced space which the plot would allow; other students wanted to reduce the area of private space but provide for a large central area, among the dwelling units, which would be accessible only to the residents of the project.

Still another group was proposing all three kinds of space, including a public area which would be regarded as usable by the residents of the surrounding slum dwellings.

Whose interests was it most important to serve through the design solution? Allocating the open space almost exclusively to private use presumably would maximize the interest of individual dwelling owners. To devote a large proportion of it to semiprivate use, or specifically public use, would indicate an architectural intention to be responsive to the needs not only of the project community but also to the demands of the city as a whole—at least those residents of the city in the area surrounding the new housing.

The students were asking me, as a sociologist, to guide them in their decisions about whose interests to serve and the importance which should be assigned to these inevitably competing interests.

2. In the design phase of studio work, sociologists are often expected to estimate or predict the probable effects of design schemes on social organization and behavior. The difficulty students exhibited in deciding whose interests should be served arose from their confusion about whether, and to what degree, the interests would be competitive. This, in turn, reflected their confusion about how residents within the project, and in neighboring projects, would behave once the buildings had been constructed.

For example, suppose the scheme eventually chosen included both private and semiprivate space but did not allocate space for use by persons not resident in the project. To what degree would the residents of the surrounding neighborhood feel deprived because their recreational facilities were inferior to those available in the new project? If they did feel deprived, would the neighbors be given an opportunity to join in the use of the space? Would this usage pattern be established cordially, as a result of social interaction and friendship relations between project residents and families already in the neighborhood? Or would it take the form of an invasion by the neighbors in opposition to the wishes of families in the project?

These questions were of intrinsic interest to the students, but they considered them especially relevant in view of what the answers would imply. If the usage pattern was likely to be established through a procedure agreeable to the residents of the new project, it would suggest that the values and goals of the project were not incompatible with those of the neighborhood; if the neighbors were likely to invade the project, then the interests of project residents and neighbors probably were competing interests. In the latter event, students would have to reconsider the fundamental viability of the design scheme, including their decision to provide private and semiprivate but not public spaces within the area.

The capacity of the students in this fourth-year class to state the question in terms of the behavioral consequences of separate and distinguishable elements of the housing environment was testimony to their already sophisticated understanding of the relations between architecture and social organization. In many cases, when the sociologist is invited to the studio, he finds that the students describe their schemes in terms of such features of buildings as size, density or geometrical form. He is queried about the relationship of these features to equally general characteristics of social life such as "community spirit" or the residents' "sense of belonging." It is usually impossible to give any useful advice when the issues are phrased in this global fashion.

The Architect's Expectations

What do these comments together reveal about the expectations which faculty members and students of architecture have of sociology? I put the question this way because I want to devote the remainder of my remarks to a consideration of the difficulties which were reported to me and which I observed in my visits to the schools. A convenient way to comprehend these difficulties is to look at them in terms of the inability or reluctance of sociologists to conform to four categories of expectations.

1. Students and teachers turn to the sociologist in the hope that his subject matter will enable them to resolve ethical and evaluative issues which arise in studio work. A typical example is the case previously cited in which students were concerned about the value implications of the decision to provide semiprivate and public spaces. Ethical questions also arise from the differing needs of clients and users or whenever the scheme involves a decision about the relative significance of individual and public requirements for building.

It appears that students and faculty are more concerned about these issues now than they were in the 19th century school or even during the

heyday of the modern movement. The moral, political and intellectual self-confidence which enabled architects in the past to prescribe specific utopian solutions to the problems of civic disorder, family life, industrial chaos and urban blight has diminished. Like the members of most other professions and disciplines, architects are now ethical relativists, confused about what is good or bad for man, for the community and for society. They turn to the sociologist in the hope that his discipline has somehow been spared this form of demoralization. The architect expects the sociology teacher to be able either to prescribe the values which buildings should express or to provide him with an efficient and foolproof method through which such prescriptions can be developed.

It is no wonder that architects who look to sociologists for a way out of this dilemma should be disappointed in their encounter. Sociologists are generally no more competent at prescribing the values which ought to govern specific design decisions than are architects. The breakdown in ethical absolutes and the decay of traditional morality are endemic in modern intellectual life; whatever factors are responsible for the situation have influenced architecture and sociology to an equal degree.

However, the knowledge and experience of sociologists may be useful to architects confronted by problems involving decisions about goals and values. The subjects which the sociologist studies and the way in which he approaches them has made him competent to introduce useful refinements into discussions that otherwise are dominated by crude versions of ethical relativism.

For example, sociologists are more skilled at noticing the value implications of design schemes than the designers themselves usually are; and their collaboration in the work of a design studio, therefore, often results in a scheme which is elaborated more fully.

Design students who are subject to sociological criticism usually are better able to defend the positive features of their schemes than students who have been allowed to formulate them through the traditional approach to studio work. Sociologists also are generally much more conversant with social class and cultural differences with respect to values and norms than are architects. This knowledge is useful to the designer. Although an awareness of class differences does not by itself dictate a specific solution to a studio problem, it often can help students to be more realistic about the range of values and goals within which a suitable choice can be made.

2. Architects expect the sociologist to have firm convictions about the character of society in the future. The future is usually defined to mean

the period between the present and 60 years hence, on the assumption that the buildings the students design are expected to endure at least this long. An interest in a future of this duration has two sources: In part, it represents the traditional ambition of the architect to evoke through the form of his building an emotional response which will enable the user to cope with the general demands of some future social organization; it also reflects a realistic, matter-of-fact concern for producing buildings which will meet the requirements of later generations of inhabitants.

Architects in the schools complained to me that they did not find many sociologists who were interested in helping them to understand the social trends that would be determinative of building design in the future. Even students who chose courses such as those on the culture of poverty or communications, with the thought that the lectures or discussions would have a futuristic bent, reported disappointment. To the degree that sociology has become committed increasingly to "empirical" research, it has had to focus on present-day events and to study social facts which are directly and immediately observable.

Unless schools of architecture can capture the interest of those sociologists within a teaching department who share a historical orientation to society, it probably is advisable for students concerned with future social trends to enroll in courses taught by historians (at least until the historical approach again becomes more prevalent within sociology).

I would like to make two additional comments with regard to the perennial interest of architecture students in the future of building and society. One is to repeat Maldonado's comment that the obsessive interest in the future among architects often represents a way of evading confrontation with the problems of building and the architectural profession in contemporary society.* Two, architects and students of architecture should come to terms with architectural history in a more positive way than they do at present. There is a considerable revolt in the schools against the teaching of architectural history; but it seems to me that this is hardly necessary and certainly is not good.

What is wrong with architectural history is not its interest in the past but rather the aspect of past building that has been its major study. Its concern has been too much with the surface of building, too much with esthetics, too much with the concepts of *Raumgestaltung* that the German architectural historians, beginning with Wölfflin, made so influential.

*Tomás Maldonado, "The Emergent World: A Challenge to Architectural and Industrial Design Training," *Ulm: Journal of the Ulm School for Design*, 12/13 (March 1965), pp. 2-10.

The architectural history which will prove relevant to the problems of the field and the profession in our own day is the history of building technology and the history of building considered as a programmed response to the changing social demands of an evolving urban and industrial society. To undertake this task is really the responsibility of the architectural tradition itself, not of the sociologist.

The third category of demands which the architect addresses to the sociologist is probably the most important from the point of view of the designer and is also the demand which is now made most frequently within the schools: *The architect wants information about the social organization and behavior patterns of potential users*, with particular attention to what these users will need in the way of amenities and other artifacts of the built environment. Sometimes, as in the case of the housing scheme described earlier, this expectation is formulated in terms of wanting the sociologist to forecast the behavioral or organizational consequences which follow from specific features of design schemes.

This expectation develops because many students and faculty members who have wrestled with the problems of ethical relativism have decided that the best way to deal with value issues is to adopt the version of democratic theory now very popular among city planners. Crudely stated, the theory argues that experts cannot and should not ordain what is best for the users. This decision should be left to the citizens themselves and expressed either through the electoral process or by utilizing mechanisms such as the citizens' participation committees now established under urban renewal programs.

According to the theory, it is the architect's responsibility to present potential users with a variety of alternative designs about which the users then express their preference. The sociologist is regarded as a critical actor in this kind of decision process. It is his job to indicate in a preliminary way to the architect the types of schemes which future users are likely to need or to want. Once the alternative designs have been prepared and presented to the potential users for their consideration, survey research conducted by sociologists also can help the architect discover the designs the public prefers and the social, emotional and intellectual bases for their preference.

Teachers often wish to learn more about the kinds of spaces users need and how space will influence behavior, for very practical reasons growing out of their own professional experience as architects. They have discovered how difficult it is to write good programs for complex modern building types and they also can recall frequent instances in which even responsible, well-thought-

out schemes nevertheless resulted in dissatisfied users.

Faculty members have become convinced that the architect with a conventional training simply does not know enough about the needs of clients and consumers. They expect that the information which the sociologist has acquired about user requirements will compensate for the deficiencies in traditional architectural education.

Given the intellectual stance of contemporary sociology, the legitimacy of the architects' demand that sociologists contribute useful guesses about the social consequences of design proposals must be acknowledged. Sociology's capacity to match these expectations, however, is still limited; until quite recently the discipline has not conducted much research on user requirements.

Although the lack of a research tradition in this area is an obvious explanation for the absence of meaningful information, this point is often ignored by the student and teacher of architecture. The architect tends to assume that the questions he asks can be answered on the basis of general sociological theory and research. Unfortunately, the variables which are involved in an attempt to understand the spatial requirements implied by social activities or the reverse, how space influences behavior, are highly specific and unique. These variables belong to an ontological realm which has not traditionally entered into the body of data collected by sociological research.

To state the issue in the terminology of anthropology, the phenomena which interest the architect belong to the realm of *material* culture whereas most sociological research on contemporary society has concentrated on the significance of the *nonmaterial* culture.

In emphasizing the special ontological status of the variables involved, I do not intend to put the blame for failure to consider these variables on the shoulders of the architect. Furthermore, the sociologist often believes or pretends that he can be of help to the architect when, in fact, the literature of the discipline does not justify this pretense. A sociologist who takes this position thereby reveals his ignorance of the nature of architecture and the built environment, and the way in which the consideration of this environment demands a totally new approach to social research.

The physical and spatial character of the phenomena which properly are the concern of architectural sociology suggest that the enthusiasm in many schools of architecture and among many practitioners for using sociology is unwarranted—unless it is based on a serious awareness of how intellectually difficult it is to bring these two fields together at the present time. The frustration of some architects is already leading them to turn

away prematurely from collaborative efforts with social scientists.

Although the expectations of architects cannot in general be met, one hopeful development is the research literature emerging now which does prove useful for the design of specific kinds or aspects of building problems. The research deals with subjects such as the design of dormitories and other university residence facilities, site plans for suburban developments, the layout of kitchens and the organization of office units.

As this list suggests, the subjects studied do not constitute a unified body of knowledge; and there is little indication that they fit into an overall strategy for research accomplishment. These are major deficiencies which must be corrected if a comprehensive body of theory and knowledge relating to user requirements is to be achieved. Nevertheless, many teachers and students in the schools have found the existing literature helpful in enabling them to dispell conventional notions about what kind of scheme is appropriate. They also report that the literature provides a base from which to launch effective critical discussions of design ideas.

4. The final category of expectations is the desire many schools have expressed for sociologists who will train their students in how to conduct research into user requirements and client needs.

This demand reflects the architect's belief that social research courses can give the student an intellectual key which will unlock the mysteries of social architecture. It is assumed that students equipped with an understanding of research techniques will be themselves better able to resolve many of the difficulties which now exist in the study of programming and in the conduct of the design process.

Sociologists associated with architectural schools are eager to train students in social research techniques. Indeed, many feel that progress in environmental sociology can be achieved more expeditiously by training architects to conduct social research than by educating sociologists in architecture.

It should be realized, however, that knowledge of research techniques cannot by itself yield answers to the fundamental questions which continue to obstruct our understanding of the influence of architecture on social organization. As in the case of other technologies, social research technology is effective only when the aims it is supposed to serve are clearly defined. With respect to the problems of environmental sociology, this means that a concise theory specifying the significant spatial and social variables and the nature of their possible interrelations must be developed or acquired coincidentally with a knowledge of research methodology. □

MIT'S Lofty Practicum

Early in the fall term, the architectural drafting rooms at Massachusetts Institute of Technology were designated a "Space/Use Workshop and Experimental Area" in which students were allowed and encouraged to build for their own use (subject to supervision by a committee composed of one student, one design instructor and one representative of the physical plant).

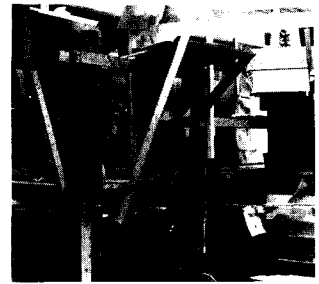
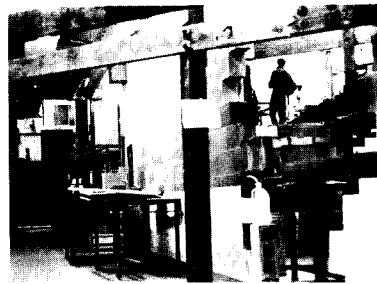
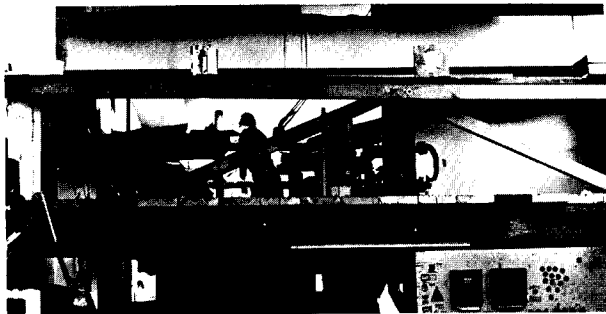
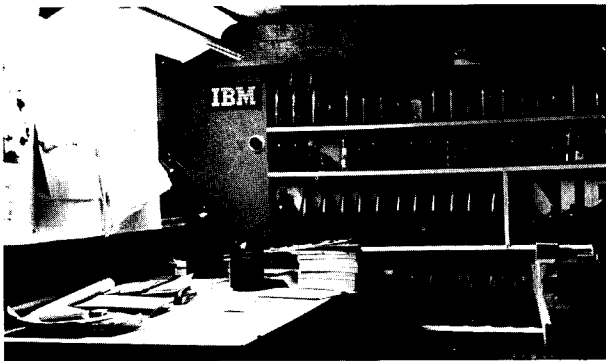
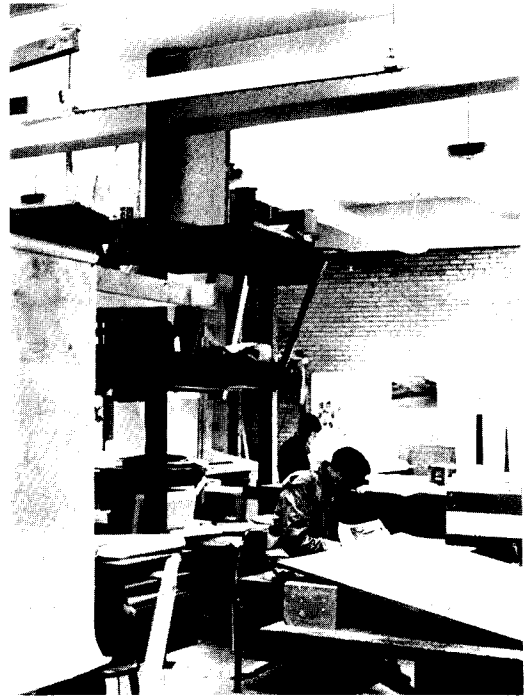
Within three weeks the spaces had been transformed from segregated studios to a demolition site to an interweaving complex of lofts and dens with a string of mezzanines built from salvage timber. Within these spaces each student laid claim to his own particular territory—some crowded between light fixtures on the mezzanines; some sheltered by posts, walls and head-caressing beams; and others standing clear in the remaining pockets of high space.

The use of these structures, their impact on class organization, their cost and the procedures for building and maintaining them, were subject to study during the year. The accompanying photographs sample the spaces, their construction, their use—and their havoc. DONLYN LYNDON





By tearing down corridor walls and adding subsidiary structures, the MIT students have changed a group of cellular classrooms into a loose community of working places. Mezzanines in the high studios divide them in unexpected ways, providing additional usable areas. Within this expanded range of spaces, group "crits," individual study and improvisation each find a comfortable place. Floors, desks, models, drawings, clutter, clothing and memorabilia merge in an encompassing envelope of unmistakable identity. During the year, students have continued to adjust and elaborate their spaces as they have seen new possibilities resulting from their own actions in building and living within these structures. These possibilities could not have been perceived in project drawings pinned to a wall, then shelved.



The Death of the Beaux Arts

THE CAL-OREGON EXPERIMENT IN DESIGN EDUCATION

BY M. A. MILNE AND C. W. RUSCH

Four years have passed since the publication of Christopher Alexander's *Notes on the Synthesis of Form*. And already the book has gone through two printings and been translated into Italian and Japanese. In its most basic form, it presents a method for aiding the designer in systematically structuring physical design problems. Interestingly enough, it has been criticized both by what might be called the "traditional right" and the "new left" of architectural education. The former accuses the method of being partial in that it addresses itself primarily to the functional side of

The authors: Mr. Milne is assistant professor of architectural design at Yale University, and Mr. Rusch is a Fellow in the Center for Advanced Study, University of Illinois, Urbana.

the problem and neglects the esthetic and culturally symbolic aspects of architectural solutions—an aspect to which the traditional right gives primary emphasis. From the other side, the "new left" attacks the method as systematically unreliable since it does not contain the rigor of scientific method. In fact, it is said that Alexander's method cannot deal objectively with the "true" complexity of design problems. Subjective judgments still must be made in the face of uncertain or incomplete information.

Perhaps most interesting is the criticism that comes from within, from those that are experienced in the method's use. The method is described as "too tedious," "too time-consuming" and "incapable of sustaining motivation over long periods of required analysis." These criticisms have led to the situation where many who are experienced with the method are moving away from it to less rigorous approaches (including Alexander himself). At the same time, interest is high among others who are undergoing their first exposure to the original approach.

In practice, the method encompasses six phases. First, the problem is defined by an explicit list of boundaries or constraints. Second, the intended behavior of all systems (including human) within the problem space is defined by a list of requirements. Third, a judgment is made about each pair of requirements to determine whether the solution to one relates in any way to the solution to the other. Fourth, the resulting interaction matrix is analyzed by computer decomposition programs into a hierarchy of reasonably independent subsystems which, in theory, constitute small coherent design problems. Fifth, a diagrammatic solution is found for the requirements in each subsystem. Finally, the diagrams are developed into architectural schematics and preliminary drawings.

In the fall of 1965, Charles Rusch, teaching a third-year class at the University of California at Berkeley, and Murray Milne, teaching a fifth-year class at the University of Oregon, used this method on the same year-long design problem. This study was financed in part by a grant from the graduate section of the University of Oregon and by the AIA Education Research Project and became known as the "Cal-Oregon Experiment." A full report on the results of the experiment is now in preparation, but the following fictional interview was contrived by the *Journal of Architectural Education* to answer some of the questions which often arise at this time.

JAE: How can you claim this is a valid teaching tool if, as many critics say, it does not result in "good design"?

Cal: First, it should be stated that there have been no projects actually built using this method, so this criticism must have been leveled at either incompleting "research" projects or at student work. I suspect that in the hands of a competent designer the results would be quite acceptable.

Oregon: It should be pointed out that unlike "traditional" designing, most of the effort is spent at a stage of analysis which occurs well before

the solution has any physical form. But it is encouraging to find that when we evaluated my students' final architectural solutions, they had one thing in common: They all "worked," i.e., they all solved the initial requirements. True, some of the designs were judged elegant and some were judged ugly, but this was mainly a function of the student's previously acquired ability to handle the visual or graphic aspects of design. I happen to believe this is a facility that all of these students should have "acquired" before they reached fifth-year design.

Cal: I think supposed lack of "good design" reflects the fact that the products of this approach have been unconventional by normal architectural standards. The functional reasons for the form to be one way or another are so strong that they have so far overridden the more traditional visual criteria, massing, balance, proportion etc.

Oregon: I would disagree slightly. I think the architectural forms which my students produced appeared to be fairly ordinary and conventional. I believe this is a result of all the time that was spent on the more salient analytical issues which tended to re-order the student's values away from the zap-pow-giggle school of architectural form making.

JAE: Your answers so far have been directed at criticism from the right. The critics on the left are not concerned with the way buildings look. They are saying that the results produced are functionally inadequate or naive. I remember hearing the remark that one study for which you had listed 160 requirements probably needed 3,000-5,000 to "cover" it adequately. Would you characterize your solutions so far as being functionally or behaviorally inadequate?

Oregon: Yes, I think it's fair to say that all the student work produced to date has faults. We're not happy with any phase of the method, especially that concerning requirement writing.

Cal: The number of requirements by itself is not reflective of coverage. You also have to look at the level of generality of the statements. For example, I could write one requirement that would cover the whole functional realm merely by stating, "Everything in the building should function correctly." Obviously, this is not too useful. On the other hand, we could write 6,000 requirements at the level of door closures, but the problem becomes unwieldy. Instead, we write at the level we think makes a difference to the form.

Oregon: In retrospect it seems obvious, but it took us a long time to realize both that it would be impossible to write all the requirements for any problem and that it is unnecessary to do so. This is because information is added at every phase of the process and need not all be stated at the beginning. The information which must be

stated is that which makes this particular problem nontypical and that which could later be used as a criterion for evaluating the success of the final architectural solution.

JAE: Another general criticism is that the solutions produced are overspecified, that the forms tend to become almost inflexible in their attempt to fit the behavior precisely.

Oregon: That's a valid criticism insofar as we are living in the midst of change. When the behavior patterns change, the form is then obsolete. I agree there have been times when we have become too cute and too highly particularized, but the opposite approach dodges the issue by settling on completely unspecified spaces that can be used for any purpose, such as Mies' "absolute space." Lack of flexibility is not a fatal flaw of the method but simply indicates that up to now we have not been able to deal with this issue at the requirement phase.

Cal: I'm not against flexible spaces or absolute spaces when they are called for, as they would be in a production plant layout, for example. But remember, our job is specifying form to fit behavior patterns. We try to do this by determining the range of behavior patterns, which underly desired or anticipated activities, and design quite specifically for them.

JAE: Let's turn to criticism from within the method. On September 30, 1966, at the Massachusetts Institute of Technology Building Design Conference, you made a joint statement in which you asserted that everyone you knew who had worked with this method had decided that he would just as soon never work another problem. You said that this occurred even among those who believed the approach was essentially sound. In your statement you mentioned tedium as being the principal culprit.

Oregon: First, let me say that I think this is really serious. If you have a great method for solving problems and no one will use it more than once, it's not going to be very effective. Problem-solving techniques must be equally suited to the problem solvers as to the problems. But to answer your questions, I think the difficulty is as much a function of architectural temperament and educational expectations as anything else. Architects have not been trained as scientists, and they don't expect their work to have that character. They have been trained to start designing near the end of a problem, and their first preliminary designs offer motivational satisfaction to keep going.

Cal: Contrast that situation with working for three or four solid months on analysis with no "on the board design" work to show for your efforts. Three or four months of analysis may not seem like much to a scientist, but it can be deadly to an architect. However, this situation is chang-

ing in two ways. The method is being changed to fit the man, and architectural education is more and more training students in scientific techniques. Because of the latter change we will probably draw a somewhat different type of student into our schools in the future, and he will have a different image or expectation of what an architect does. But this is a little beside the point; boredom and tediousness should be cut out of scientific work as well.

JAE: How is the method being changed to be less tedious?

Oregon: In general, the more we understand about the method, the less tedious it will seem because there will be fewer blind alleys and less wasted effort. I have found that the more confidence the students have in the instructor and his material, the higher will be their motivation. We have also made some obvious improvements such as writing computer programs with better man-machine communication.

JAE: All right, let's turn to the so-called Cal-Oregon Experiment. Did you have any particular difficulties getting the problem underway?

Oregon: In most design courses, the problem is stated in terms of the expected solution type. But in problems which have no prototypical solutions, we came up with the idea of defining the problem by means of a set of boundaries. They specify arbitrarily what is beyond the scope of the problem—the things the designer cannot modify. In this experiment the problem was initially defined in terms of the same boundaries at both schools. As additional boundaries were added to the list of each school, the two problems began to change slightly in character, and, in fact, the two problem spaces began to migrate away from each other. Fortunately there was enough initial commonality to keep the two problems from becoming completely disengaged, but this did indicate to us that architects, without the influence of a client's arbitrary decisions, will attempt to redefine the problem in line with their preferences.

Cal: I think the issue of boundary migration is an artifact of the classroom situation. Classroom problems can be initiated either by tightly constraining them or by leaving them open and unstructured. It is hard to present problems that represent a compromise between these extremes because either you're willing to accept someone else's categories and definitions, or you're not. If existing categories and constraints are accepted, the danger is run of unwittingly accepting existing preconceptions and being unable to break free of existing stereotypes. If no boundaries are established, then—because the classroom is an artificial situation—the problem can keep expanding almost without limit in a desperate search for "natural boundaries."

Oregon: The educational aspect of this paradox is that on one hand, the method purports to encourage innovation by not accepting *a priori* assumptions about the solution, but, on the other hand, it must ultimately constrain the *solution* space in some way in order to avoid the ever-expanding nature of the boundaries of artificial problems. The only way to resolve this conflict is to establish at the beginning of the problem a few fixed, and admittedly arbitrary, boundaries. Then, as the problem runs its course, further insight is gained and the full complement of boundaries begins to emerge by agreement among those who are involved with the problem.

Cal: In fact, there is some educational value in defining a problem in initially vague terms. This forces the student to spend some time redefining and clarifying the problem, making it more likely that he will recognize and challenge its fundamental assumptions and limitations. In this way, he exposes to observation many of his own preconceptions. But you can't dwell very long in this vagueness without slipping into the expanding boundary situation. We found it best to encourage the student to move beyond problem definition soon after he became involved in it and begin requirement writing instead. The list of requirements will help to clarify further the boundaries of the problem.

JAE: Are there other phases of the method that you found inherently troublesome?

Oregon: Diagramming is the phase which is most difficult to make rigorous or systematic. A diagram is supposed to be a graphic representation of the solution to a small, reasonably isolated subset of requirements. We realized too late that very few solutions can be represented in a purely graphic mode, and those that can are usually at different levels of scale, which makes it extremely difficult to combine subsolutions. Fortunately the students find this the most satisfying stage because it fits most closely their image of what architectural design is.

Cal: The problem is that there is just no adequate diagrammatic language or, more importantly, there is no set of diagrammatic symbols which have been agreed upon or standardized. So each student develops his own notation, and he is the only person who completely understands what he means when he uses it. At present, diagrams don't work as communication, but they are useful as a personal record of the student's decisions.

Oregon: Both of our classes began with a partial list of crude symbols which they had internally agreed upon. The problem was to find symbols which were rich enough in meaning—yet precise enough to avoid ambiguity. We were only able to develop a tiny symbol vocabulary. You can imagine how frustrating it would be to try to

BOUNDARIES

Overall boundaries for problems need to be established to identify the limits of possible changes in the system.

- Face-to-face communication is essential among students and between students and faculty.
- The university shall exist as an organizational (i.e., administrative) as well as physical (i.e., architectural) reality.

- Faculty will continue to conduct most classes in conventional forms (i.e., large lectures, discussion classes, seminars, laboratories, etc.).

- Most classes will meet at scheduled times for specific duration.

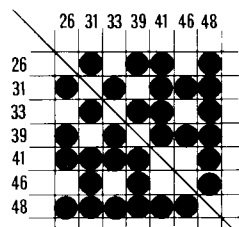
ELEMENTS

These elements represent some of many subsets of requirements as established by the computer decomposition of the program.

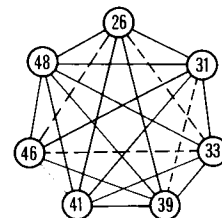
- ②6 Students who can observe good studiers may pick up good study habits.
- ③1 Students study in small groups or seminars for effective information exchange on a specific topic.
- ③3 Socializing presents a valuable opportunity for idea exchange between students.
- ③9 A greater number and diversity of people are brought together in public places that are located near to or are noticeable from a thoroughfare.
- ④1 Spontaneous discussions between students with similar interests and problems provide an invaluable learning experience.
- ④6 When students have specific questions about course work, they would like to be able to reach their instructor quickly for clarification.
- ④8 Students believe they would study between classes more often if they could find convenient locations.

CLUSTER

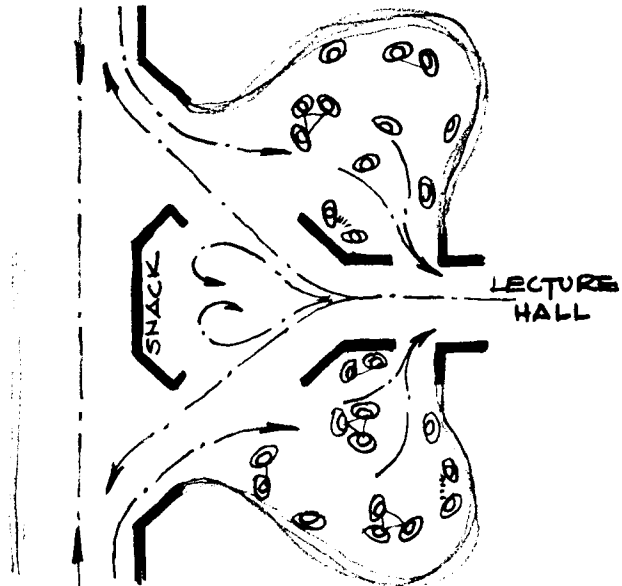
The relationship of elements is shown first in an interaction matrix and second in a cluster of requirements.



Interaction Matrix



Requirement Cluster



SOLUTION DIAGRAM

This is an example of the type of form proposals made as a result of the interaction study. This subset is defining a kind of "forecourt" located between the entrances to the large lecture halls and the main circulation routes of the campus (halls or walkways) the inner half of which contains the kind of furniture that will encourage informal discussion or casual study, and outer half contains vending machines and open space in which groups can stand or through which large numbers of people can move easily. The entrances to the lecture hall are arranged to provide rapid egress of the class in session, encouraging them to move to the outer half of the forecourt, with sufficient space so that stationary stand-up conversation cliques do not block the flow of traffic. Students arriving early for the next class will find it convenient to move to the inner half of the space and wait there to enter the lecture hall through the small side doors as soon as the flow of outgoing traffic subsides sufficiently. It is assumed that students would take advantage of free time before their class begins to come to this study

space, have a cup of coffee and engage in social or class-related discussions with other students who are taking the same course, perhaps even having the opportunity of clarifying a point which was confusing in the previous day's assignment. The professor would be obliged to use this same means of entry and egress and so could be 'trapped' by students who have specific questions. Undoubtedly the more enthusiastic professors will be found here talking with a circle of students long after his lecture is over. It is also assumed that other students (and possibly instructors) who pass this space would be drawn in for relaxation or refreshment and might even become involved in social conversations or some other form of idea exchange. This solution reduces (but does not eliminate) the need for large study halls in places like the general library. The way this space will be utilized when lectures are not in session in the evening, remains to be considered (it is assumed that this issue will be resolved when this form-tendency diagram is combined with others as it works its way up the design tree).

communicate a subtle and complex idea if you only had a 10-word language. This is the major reason why we are having so much difficulty with diagrams.

Cal: The best solution we can recommend for this dilemma is to include a verbal solution-statement as a part of each diagram.

Oregon: Incidentally, an article in the December *Journal of Architectural Education* suggested a way of selecting an appropriate mode of representation or a symbol system for any given content. It pretty well summarizes the dilemma we're describing.

JAE: What do you think are the skills acquired in this course as compared to a more conventional architectural design course?

Cal: Two kinds of skills are acquired: problem-solving skills the individual uses when working alone and skills the individual uses when working with groups. The individual skills are mostly connected with precision of one sort or another. The beginning phases demand precision in defining the problem and its boundaries, precision stating what is required of the solution, precision regarding those statements themselves. The last is essentially a verbal skill, demanding that the problem requirements be precise in several ways. For example, each statement must be made at the proper level of abstractness, it must be independent of the other statements in its physical implications, it must avoid including the specification of solution elements in the statement itself, and it must consist of the proper balance between fact and judgment. The next phase, the interaction phase, develops an ability to make fairly exact judgments. When he is required to make thousands of interaction judgments within a few days, the student becomes familiar with the various categories or levels of judgment, and the difficulties inherent in making judgments consistent to established criteria. It has been our experience that the student emerges from the course as a much more disciplined thinker than he was when he entered it. This is one of the main reasons why we are so impressed with this method as a teaching tool.

Oregon: As for group skills, the method itself does not demand group effort, but the course was taught that way primarily to make more efficient use of student time and effort, although we don't know whether such efficiency was really accomplished. Working together forced the students to a level of clarity of communication that is not demanded of students working alone. It also forced them to accept and consider other points of view and thus to expand and clarify or even compromise their own. The group effort in general was more successful in the analytic phases of the problem than in the final architectural de-

velopment phase. Information gathering and analysis are fairly objective, and consensus as to what is right or important to do comes relatively easily. When the decisions become more and more judgmental and subjective, however, the group effort begins to break down and becomes quite difficult and frustrating. Much time and effort is wasted arguing questions of judgment or opinion, and leadership becomes concentrated in the hands of a few rather than many. So at the final architectural development phase each student was allowed to develop his own solution, which reduced, but in no way eliminated, some of the problems of group work.

Cal: There are good reasons why students, especially architectural students, dislike group work, but nevertheless this appeared to be one of the most valuable aspects of the total learning experience. It demonstrated to us the fact that group effort breaks down only when objective decision criteria disappear.

Oregon: In the end, the complaints about group work were infrequent, and in my class' final report, there appeared such comments as "The group work was a valuable part of the course. It is the only time I've examined every item in a design problem in such exacting detail." Or another: "The output of our group was of better quantity and *quality* than that of any other group I've worked in. Part of the credit for this goes to the strict analytic aspect of Alexander's method." These comments illustrate that one reason why the group effort was successful was because of the apparent or implied objectivity of the process. It is doubtful that group work would have been nearly as successful if a more subjective product had been permissible.

Cal: Do you always carry those quotes around with you?

Oregon: They comfort me in moments of doubt.

JAE: Apart from these skills you say the students acquired, what concepts do you think are more extensively covered in this type of course than in others?

Cal: In addition to the issues of problem definition and boundary migration mentioned earlier, the students in this course must come to grips with the nature of environmental structure and the nature of the design process which attempts to create that structure. We found that the method provides an excellent framework for learning about the environment and design. For example, just by being forced to state explicitly the functional and behavioral requirements of the problem and then to derive physical form from them, the student cannot help but achieve some understanding of the relation between environmental structure and function. He begins to see the environment as a network of physical relations.

Oregon: Another issue the student must face in the course concerns the concept of multiple levels of the organization. This method gives him a procedure for decomposing a huge complex problem into a number of small, reasonably independent subproblems. Because all the issues involved in these subproblems are explicitly stated, he can deal with them fairly efficiently. The method then gives him a strategy for combining these sub-solutions. It is an exciting moment when the student first grasps the concept of the relational structure of an environmental design problem.

Cal: By grappling with issues such as these, the student begins to develop an understanding of design itself, both as a general concept and as a process composed of specific phases. Design problems are by their very nature on the frontier of problem solving. Many, if not most, of the variables in any particular design problem are unclearly understood. Because of this frontier aspect, attempts to become more systematic about design can only make the *process* more explicit, the character of the problems will not change.

JAE: You seem to be implying that students are not concerned with these issues in more conventional design courses.

Cal: I don't mean to be. The point is just that this method seems to require an explicitness of procedure that leads to a depth of thought on these and other general design issues which we have not observed in other courses. But they are important issues to every designer because if he can't resolve them, they can lead to confusion and wasted effort in his work.

JAE: You mentioned what you consider some of the benefits of such a course. Are there also costs? Were there learning experiences that your students missed by not taking the corresponding normal design course?

Cal: The most significant trade-off the students made in taking this course was in giving up a semester of on-the-board design for a solid semester of analysis. Thus, while there was an overall gain in analytic experience, there was a corresponding loss in traditional design experience. Our feeling is that at worst this was a temporary setback that will be made up—not a true loss. Naturally, the course need not be taught the way we did it nor placed in the curriculum the way it was.

Oregon: Also, most students come out of the course with an extremely strong functional bias. On the positive side, a concern for function promotes disciplined thought, the search for objectivity of evaluation criteria, insight into the form-function relation, etc. But on the negative side, some of my students were left with the impression that functional analysis and organization is all there is to architecture. To use Norberg-Schultz's categories of architectural responsibil-

ity—physical control, functional frame, social milieu and cultural symbolization—most of the effort is spent on the functional aspects of the problem with the social aspects partially mixed in. Physical control was tacked on toward the end with little opportunity to affect the functional relations of the solution. Cultural symbolization is almost totally ignored (only because we have not yet learned how to write requirements for it) and consequently just “happens” at the end in an often visually disastrous way. Most of the students eventually realized that, in spite of all the analysis, many details of the architecture form are not determined by the analysis. In fact, the requirements and the final form diagram are silent or indifferent to many of these aspects of form. This whole approach can go only so far in producing architectural reality. It is for this reason that we recommend that the course be *process-* rather than *product-*oriented, at least until ways are found to broaden the scope of the approach.

JAE: We've talked about many of the general criticisms leveled at the method, about the difficulties you've had in teaching it, about the skills and concepts it helps develop within the student, about some of the costs and benefits of its use in a design course. What impact do you think the teaching tool will have on the future of architectural education?

Cal: I think we have shown that this particular approach to design can have great value as an educational tool. We think that it demands, and hence develops, in the student a rigor of thought process, a disciplined approach to thinking, that is extremely beneficial to the student's education. Further, this rigor is developed particularly in regard to the design process, and the student becomes quite self-conscious about that process. He is required to clearly separate and distinguish among the various phases of the design, and he must articulate the issues on which design decisions are based, exposing them to rational consideration. I think that such self-consciousness of process is essential to the student's developing ability to design.

Oregon: The question which remains is whether there are people on the faculties of schools of architecture who are disenchanted with the present system of design education and who are capable of making a meaningful change in that system. For those people, the Cal-Oregon Experiment has shown that there is at least one other alternative that is more meaningful and more efficient than the old beaux-arts apprenticeship method of design education which really has not changed since the 19th century.

Cal: Don't you think such an antagonistic statement will upset a lot of fine old teachers?

Oregon: I hope so. □



NO EQUAL

Von Duprin 66 series. The *original* stainless steel devices. And still unequalled in design, quality and engineering. Rim, mortise lock and vertical rod type. See your Von Duprin representative or write for detailed catalog material today. Compare for value by any standards. There is no equal.

Von Duprin

Von Duprin, Inc. • 400 W. Maryland St. • Indianapolis, Ind.
46225 • Von Duprin Ltd. • 903 Rue Simard • Chambly, Que.





***For the man who
doesn't specify
interior fire protection
equipment everyday.***

If you haven't had the time... and don't want to take the time... to become an expert Interior Fire Protection Equipment catalog reader, then our new catalog is designed for you. It is clear, concise, yet with full details on the complete Potter-Roemer line.

We don't take the full credit. Many of your busy engineering colleagues helped by telling us what was needed. The result — you spend your time figuring out the job, not the catalog.

Send for your free copy today.



POTTER-ROEMER, INC.

2856 Leonis Boulevard, Los Angeles, California 90058

Fire Hose Cabinets, Hose Racks, Extinguishers, Valves and Standpipe Systems.

EXCLUSIVELY KIRSCH

NEW
*Ripplefold*TM

The unique drapery carrier system that eliminates pleats, buckram and pins; cuts installation and maintenance costs—yet holds draperies in gracefully precise ripple-like folds.

Ripplefold is understated styling at its best. The clean-lined undulating folds make simplest fabrics look luxuriously full — or help dramatize richer textures and designs. Ripplefold is ideal for business and institutional interiors — but equally appropriate and practical for home use.

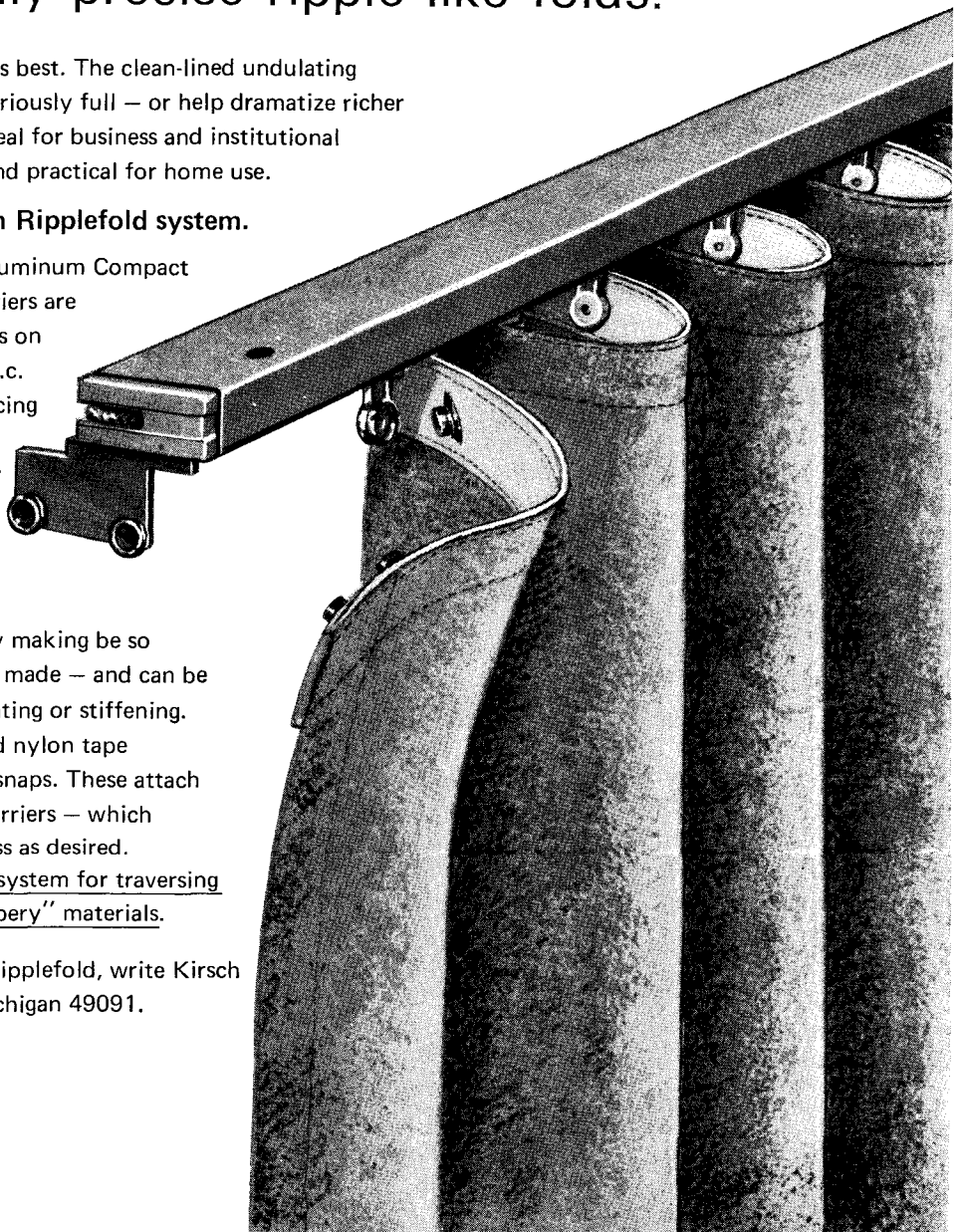
Basic facts about the new Kirsch Ripplefold system.

The track is dual channel extruded aluminum Compact Architrac. Self-lubricated plastic carriers are joined with braided nylon cord. Snaps on the Ripplefold tape are spaced 4¼" o.c. and fullness is determined by the spacing between the snap-carriers. Ripplefold "stack back" is comparable to regular pleated draperies . . . exact stacking width can be pre-determined.

Simplifies drapery making

Never before could successful drapery making be so simple. Ripplefold drapery panels are made — and can be cleaned and press — flat, without pleating or stiffening. Just sew on the permanently stiffened nylon tape which incorporates the spaced metal snaps. These attach to matching snaps on spaced nylon carriers — which are furnished for 60% to 120% fullness as desired. Ripplefold is an especially successful system for traversing bamboo, matchstick and similar "drapery" materials.

For full information on new Kirsch Ripplefold, write Kirsch Company, Dept. AN-368 Sturgis, Michigan 49091.
Trademark, Kirsch Co.



Kirsch
DRAPERY HARDWARE

For windows people care about

Detroit and Architecture

Robert F. Hastings, FAIA, an Institute vice president, shares his concerns about his city and his profession at the annual conference of the New England Region AIA.

My city is Detroit and my profession is architecture.

My city has gone through a terrible riot on 12th Street. It is crying for answers and leadership. My profession is also going through a period of turbulence. It, too, is crying for answers and for leadership.

You have heard what happened in my city last summer. Forty-two people died. There was looting, burning, shooting. There were more than 4,000 arrests and 1,600 fires. Damages ran between \$300 and \$400 million.

The riot on 12th Street was the release of the have-nots' pentup feelings of hate, frustration and hopelessness.

We have been doing a lot of soul-searching since 12th Street, examining possible solutions offered.

We were told we had a model program for the underprivileged.

Neighborhood groups such as the West Central Organization in the 12th Street area were encouraged to express their concerns to the public and the city's government.

Our state has recently created a State Housing Development Authority for the purpose of serving low- and middle-income people.

The governor and the mayor established the Detroit Tomorrow Committee in an attempt to understand the underlying motivations of those who took part in the riot, and to build a better, more comprehensive society in Detroit.

People Want a Part: From 12th Street we have come to learn that people—regardless of how low their social, economic or political status—are demanding a meaningful role in their cities.

We as architects have been guilty of developing plans for our cities which meet the needs of traffic and utilities and which create the relationships between buildings and spaces—but we haven't been planning for people.

Our cities must be planned *with* people, not just *for* people.

There is a great leadership vacuum in our city at this time. We bystanders have suddenly become aware that along with our political and business leaders we must play

a meaningful role in recreating a city where we can live in pride.

Detroit is actually a city of industrial miracle-makers. The secret is to reach the miracle-makers and to convince them of the importance of rebuilding their city and of relating themselves effectively to its every element—not merely to the controlling political and economic elements.

For Detroit, constructive answers, responsible leadership and, above all, *action* is needed now.

A Similar Upheaval: My profession is going through a similar period of upheaval. At a time when we are experiencing building explosions in our cities, our responsibilities in the areas of programming, research, time, costs, guarantees, building materials and systems and methods are changing daily. There is a tremendous shortage of manpower; the time required for creating structures must be cut.

We in the creative process for the man-made environment are searching for answers:

- Research projects by agencies such as the General Services Administration, the Department of Health, Education and Welfare, the Department of Housing and Urban Development and the National Bureau of Standards are examples of the efforts being expended by our government to find better ways of creating environmental structures.

- Private clients are participating in new approaches to construction programs—leaseback, design and build, among others—in addition to the traditional owner-architect-contractor triumvirate.

- Large cooperations are undertaking the building of entire cities.

- The American Institute of Architects alone has spent \$250,000 within the last decade in searching for answers to the changing demands on the building industry, trying to evaluate the changing requirements of our clients and seeking to adjust our professional services accordingly.

Questions Are Asked: There is a leadership vacuum in the building industry. Traditionally, architects have been the leaders. However, questions are being asked: Is the leader the design-and-build man? the manufacturer? the planner? the engineer? the management consultant? Or is the leader still the architect? □

We must recognize that society is demanding a single leader for the building industry: one who will be responsible for reducing the time gap from conception to completion; who will be responsible for construction costs and for management of the process.

Society is also demanding that the planning of our cities be done *with* the people.

Will our profession respond positively to these demands?

If we choose a business-as-usual course we will be saying that we don't want to be the leaders in a total creative process, that we prefer to retain our smocks and berets and serve the entrepreneur, the government or the financial people.

Gray Flannel, Too: If we are to be the leaders of the building industry, we must also wear our gray flannel suits and step up to the problems of the total creative process—in decision making, in design, in delivery. We must restructure our professional and educational processes, our professional society.

Encouraging progress is being made. However, I am terribly concerned that the majority of us has not been listening to what the leaders of our profession have been telling us. We have insisted that we continue to be designers of buildings and that others assume the responsibilities for feasibility, finance and construction.

There are many programs that the Institute can and must implement in order to make it possible for us to fulfill our leadership role. Each member is going to have to spend much more time and money to prepare himself for this position. We must also be constantly sensitive to the demands of the society we serve.

Answers Will Be Found: I am confident that action will be taken, answers will be found and leadership will come forward—both in my profession and my Detroit.

I am thoroughly convinced that if we are willing to *roll up our sleeves* and spend time, energy and resources in solving the problems of our cities and our profession, we will give leadership to the building industry and make it possible to recreate Detroit and our other festering cities and make of them places in which our sons and daughters will be proud and happy to live. □

Dry-film finishes, the microthin miracles

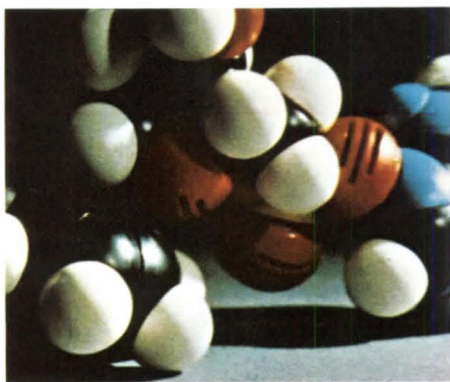
It's not hard to believe that modern chemistry can produce microthin plastic films tougher than any paint. But it is rather hard to believe that a polyester film can be produced that is more than twice as resistant to rubbing wear as high-pressure laminate—and that a polyvinyl fluoride can be unsurpassed in stain resistance. Yet these are facts.

Molecules used as building units.

In both polyester and polyvinyl fluoride films, the process of extruding the film arranges the molecules in a definite structural order. And that is the secret of the microthin miracles.

If you applied the same material in liquid form, the molecules would be randomly placed and you would get no better wear-resistance than with paint. Essentially, this is the difference between a pile of bricks and a brick wall.

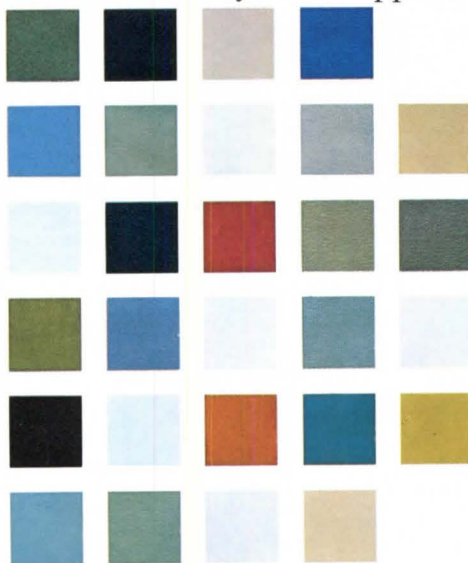
This physical structure has another important advantage. Preformed films have fewer surface flaws to collect dirt and stains or



increase the action of solvents and acids. So these films are exceptionally easy to clean—soap and water is usually enough. They are also highly resistant to most common staining agents, alcohol and germicidal detergents. As a result, maintenance costs are significantly reduced.

Protection for hardwoods.

Clear films allow wood grain to show perfectly—revealing the natural beauty of fine hardwood. They also protect hardwoods in high-wear locations. For interior applications U. S. Plywood supplies



hardwood paneling, doors and partition panels with Permagard®, which is our trademarked name for plywood surfaced with clear films. These products are recommended for use in high traffic areas of dormitories, hospitals, schools, motels and the like.

U. S. Plywood also makes solid-colored paneling and doors surfaced with Permacolor®. The outer layer of Permacolor is a clear ½-mil film of polyvinyl fluoride laminated to an 8-mil film of colored polyvinyl chloride. This overlay gives a lightly embossed colorfast finish which is highly wear-resistant and easy to clean. Permacolor is available in 28 colors.

For exterior applications U.S. Plywood also surfaces doors, panels and siding with a 2-mil opaque, pigmented film of polyvinyl fluoride. This coating on doors and panels is called Vigilant®; on siding,

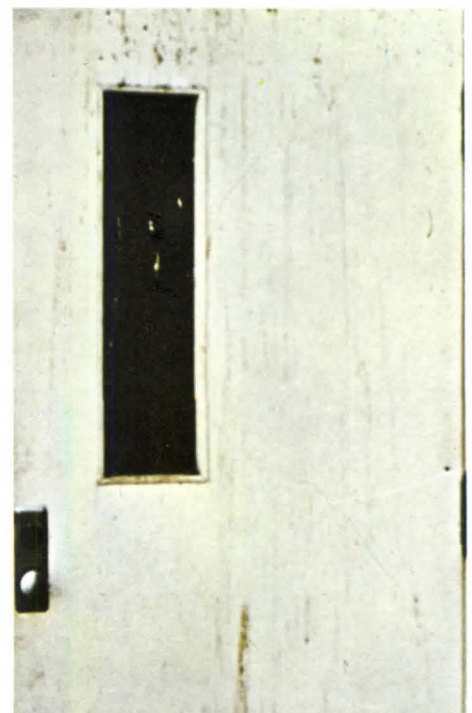
PF-L.® It is available in 11 colors. Vigilant is also recommended for interior use in swimming pool areas, showers, toilets and other areas requiring constant cleaning with harsh cleaning agents.

No aging.

All these films are laminated to wood substrates with adhesives under heat and pressure. This is necessarily a factory process, which cannot be duplicated in the field. The preformed films undergo no further change during application, so there is minimum shrinkage after application.

These films are highly resistant to cracking, checking and crazing, resulting in a new class of materials of a higher order of durability.

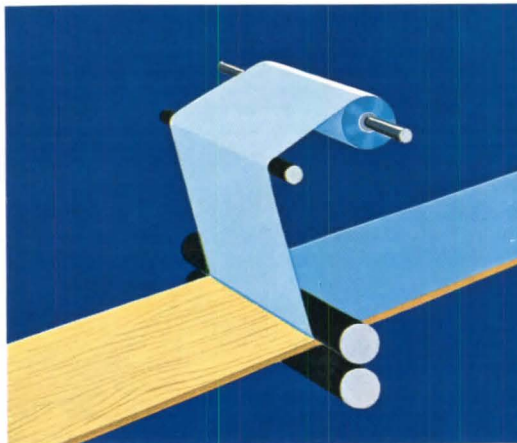
Equally important is the fact that sunlight resistance is considerably enhanced.



Three dry-film finishes from U.S. Plywood.

Vigilar—A 2-mil opaque, pigmented film of polyvinyl fluoride is available on Weldwood® Exterior-Interior doors, paneling, partitions for use in hospitals, showers, toilets, swimming pool buildings, etc., where frequent cleaning with harsh detergents and germicides is common practice. Vigilar is also available on siding products under U.S. Plywood's trade name—PF-L.

Permacolor—A ½-mil film of clear polyvinyl fluoride laminated to an 8-mil film of colored polyvinyl chloride, Permacolor is a cleanable finish which is wear- and stain-resistant—and colorfast. It is lightly embossed. It will not flake, peel or chip. It is available in 28 standard colors on interior doors, paneling, partition panels, casework parts and fire-retardant products.



Permagard—A clear 3-mil polyester film which is an ideal cleanable finish for Weldwood custom-designed hardwood paneling and doors. Also available toned to change the natural color of the wood while retaining and enhancing the grain pattern.

Custom prefitting and machining. Paneling, doors, case goods, shelving and fire-retardant products can all be supplied precut to blueprint specification. A wide variety of custom machining is available: edge banding, edge rabbeting, tongue and grooving, dado, square edge, bevel, miter, and miter and shoulder.

For full details, drawings and assistance with specifications, call the Architects' Service Representative at your nearest U.S. Plywood Branch Office.



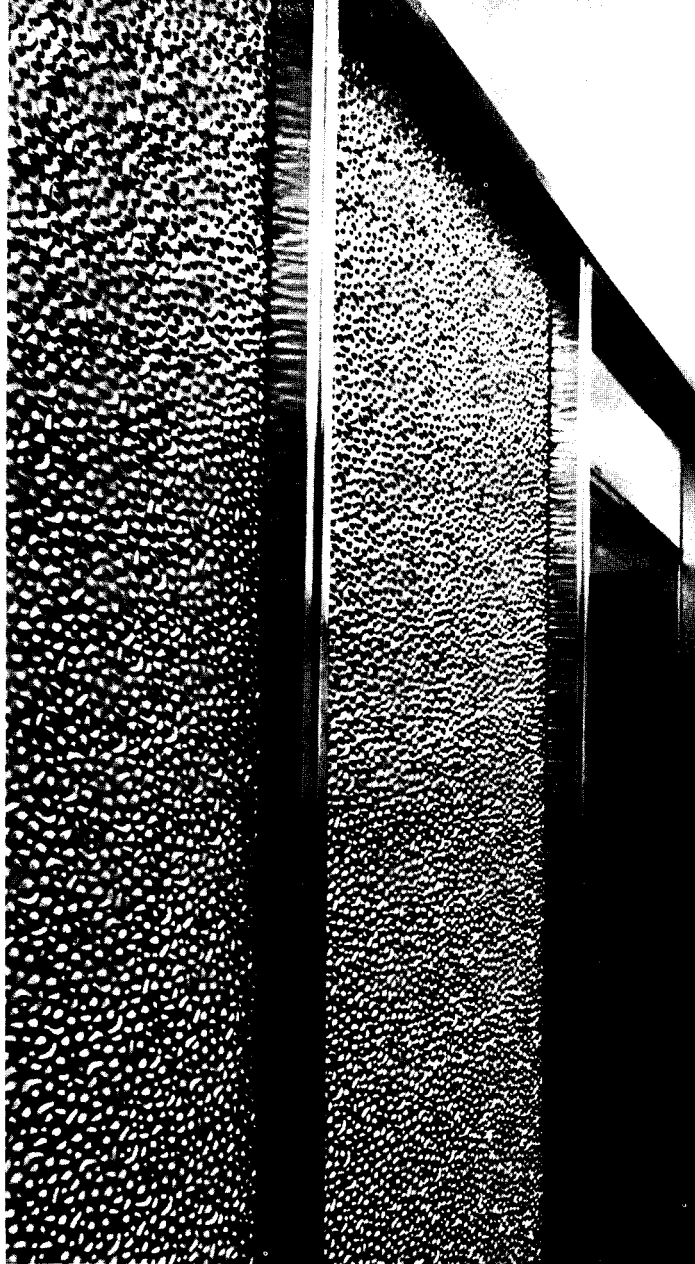
U.S. Plywood
A Division of U.S. Plywood-Champion Papers Inc.
777 Third Avenue, New York, N.Y. 10017

**Performance Chart of
U. S. Plywood Dry-Film Finishes and Comparable Service Materials**

Test	Weldwood Permagard (Interior)	Weldwood Permacolor (Interior)	High Press. Laminate (Interior)	Weldwood Vigilar (Exterior)	Enamel (Exterior Type)
Accel. Aging by Humid-Dry Cycling ASTM D2571-67T	Outstanding No checking or Cracking	Outstanding No checking or Cracking	Excellent Crazes at 12-15 cycles	Outstanding No checking or Cracking	Satisfactory Checks at 12-15 cycles
Tape Adhesion ASTM D2571-67T	Excellent No Damage	Excellent No Damage	Excellent No Damage	Excellent No Damage	Excellent No Damage
Hoffman Scratch Test	Excellent 500 Grams	Excellent 600 Grams	Outstanding Over 1000 Grams	Excellent 600 Grams	Satisfactory 200-300 Grams
Taber Wear CS-17 Wheel 1000 Gram Load Fed. St'd FS141-A (6192)	Outstanding 3000 Cycles/Mil	Satisfactory 500 Cycles/Mil	Excellent 800 Cycles/Mil	Excellent 450 Cycles/Mil	Satisfactory 150 Cycles/Mil
Resistance to Color Fading NEMA LD1-2-06	*Outstanding Exceeds NEMA requirements by over 1000 hours	Outstanding Exceeds NEMA requirements by over 1000 hours	Excellent Exceeds NEMA requirements by over 200 hours	Outstanding Virtually fade-free	Satisfactory Exceeds NEMA requirements by over 100 hours
Resistance to Staining NEMA LD1-2-05	Satisfactory Stains 7 out of 29 agents	Outstanding No staining	Excellent Stains 2-4 out of 29 agents	Outstanding No staining	Satisfactory Stains 9-12 out of 29 agents

*Rating refers to clear finish only—substrate will have normal wood color change.

Note: Performance ratings should be compared only to the finish(es) shown in the adjacent column(s) in same category.

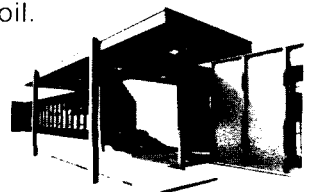


The Un-spoiler.

Rigid-Tex® stainless does more than just unify this building. The two flush-to-the-pavement panels epitomize restraint in design. They harmonize. They highlight. But, besides this, Rigidized textured metal has economy. Since Rigidizing strengthens metal, lighter gauge stainless can be specified; making it far less costly to fabricate and install. Finally, Rigid-tex

is virtually maintenance free. Slash it. Scuff it. Dent it. Stain it. Mar it. Scratch it. It's not easy to do. And, the Rigid-tex always looks new. That's because the surface is three dimensional and the unique texturing process has strengthened it over and under; clear-through. It's difficult to spoil. That's why we call it The Un-spoiler. Compare Rigid-tex in stainless,

brass, bronze, copper, aluminum, and mild steel; solid or perforated; sheet or coil.



Merritt Industrial Park Bldg. #2, Fishkill, N. Y.
Architect: Louis Battaglia, A.I.A.
Fabricator: American Bridge.

For free working samples, write/wire/call.



RIGIDIZED METALS CORP.
662 OHIO STREET, BUFFALO, N.Y. 14203
TELEPHONE 716 856-9060

Architectural Awards



Whitesboro Senior High School
Whitesboro, New York

“This school building represents a good compendium of the best standard thinking of today. The massing of the forms is impressive, and the handling of the materials is pleasingly restrained.”

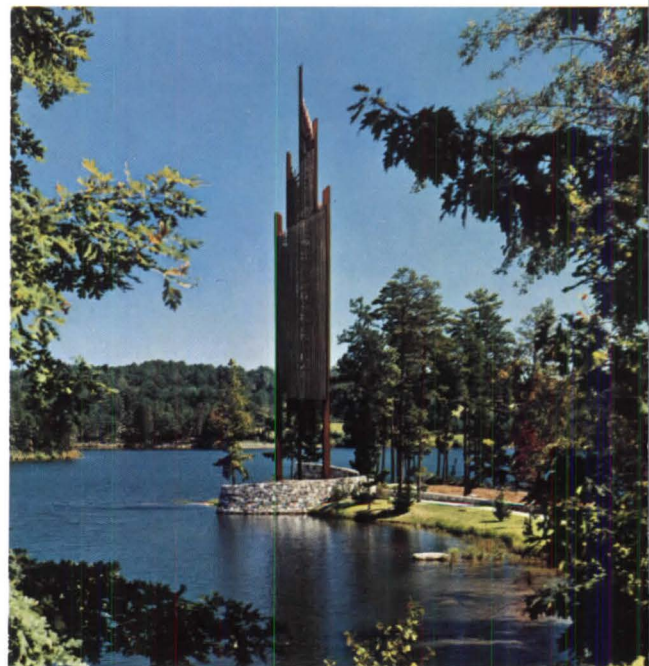


Washington & Lee High School Gymnasium
Montross, Virginia

“The main body of the building is very finely designed. The exterior reveals its purpose and is a wonderful expression of what happens in the building. The result is an extraordinarily honest design.”

Carillon
Stone Mountain, Georgia

“The Carillon is appealing—it suggests a baroque organ and seems a suitable expression of the purpose of the building. It fits nicely into its setting, and the color that is achieved by the exposed ‘weathering’ steel will contribute to its effectiveness. The materials, steel and wood louvers, have been left in their natural form; they will age well together. This is really an attractive piece of architectural sculpture.”



of Excellence-1967

American Institute of Steel Construction



Ford Motor Credit Company Office
Dearborn, Michigan

“ This is a very precise, carefully detailed building; it seems to belong to the modern age of computers. It has a rugged and massive quality but achieves a good deal of elegance at the same time. There is a restrained use of the materials—steel, glass and masonry. ”



Westchester Tuberculosis and Public Health Association Office
White Plains, New York

“ This small office building has been handled elegantly, but with a certain monumental quality. The architect is to be complimented on his reserved use of materials. The building is wonderfully designed, and wonderfully proportioned, and achieves great simplicity. ”

JURY OF AWARDS:

Henry J. Degenkolb,
H. J. Degenkolb & Associates, Engineers,
San Francisco

Robert L. Durham, FAIA, *President*,
American Institute of Architects, Durham,
Anderson & Freed, Architects, Seattle

Robert F. Hastings, FAIA, *President*,
Smith, Hinchman & Grylls, Associates, Inc.,
Detroit

Walter Sharp, *Director*,
Tennessee Fine Arts Center, Nashville

David N. Yerkes, FAIA, *Director*,
AIA Middle Atlantic Region, Deigert and
Yerkes and Associates, Architects, Washington, D.C.

Whitesboro Senior High School

Owner: Board of Education, Whitesboro Central School, Whitesboro, New York. *Architect:* The Perkins & Will Partnership and Frank C. Delle Cese, White Plains, New York. *Structural Engineer:* Wiesenfeld & Leon, New York. *General Contractor:* Funda-Austin Construction Corp., North Syracuse, New York. *Steel Fabricator:* Gouveneur Iron Works, Inc., Gouveneur, New York.

Washington & Lee High School Gymnasium

Owner: Westmoreland County School Board, Warsaw, Virginia. *Architect:* Stevenson Flemer, Eason Cross, Harry Adreon, Associates, Architects, Washington, D.C. *Structural Engineer:* Milton A. Gurewitz Associates, Washington, D.C. *General Contractor:* L. C. Mitchell, Fredericksburg, Va. *Steel Fabricator:* Bristol Steel & Iron Works, Inc., Richmond, Virginia.

Ford Motor Credit Company Office

Owner: Ford Motor Company, The American Road, Dearborn, Michigan. *Architect:* Skidmore, Owings & Merrill, New York. *Structural Engineer:* Weiskopf & Pickworth, New York. *General Contractor:* F. H. McGraw and Company, Hartford, Conn. *Steel Fabricator:* Unit Steel Corporation, Dearborn, Michigan.

Westchester Tuberculosis and Public Health Association Office

Owner: Westchester T.B. and Public Health Association, White Plains, New York. *Architect:* Joseph Roth, A.I.A., Yonkers, N.Y. *Structural Engineer:* Martin Kopp, Great Neck, N.Y. *General Contractor:* Skogsberg Construction Co., Inc., White Plains, New York. *Steel Fabricator:* Westchester Steel Products Co., White Plains, New York.

Carillon

Owner: Stone Mountain Park, Stone Mountain, Ga. *Architect & Structural Engineer:* Robert and Company Associates, Atlanta. *General Contractor:* Foster and Company, Atlanta. *Steel Fabricator:* Golian Steel & Iron Company, East Point, Georgia.

Structural steel for all five of these award-winning structures was supplied by Bethlehem Steel Corporation.



BETHLEHEM STEEL

BETHLEHEM STEEL CORPORATION, BETHLEHEM, PA.

The Ford Lights up Again

When Stephen Vincent Benet's play "John Brown's Body" opened in Washington, D.C., on February 12, it was more than a usual presentation of the Civil War epic. In addition to the occasion being Abraham Lincoln's birthday, the site was Ford's Theatre where the President was slain 103 years ago.

The notorious theater, opened to the public for the first time since the tragic night of April 14, 1865, has undergone a restoration which took three years and cost \$2.7 million. Today the building stands as a living memorial to the nation's 16th President: "to failure and success, humor and melancholy, triumph and tragedy, purpose and indecision, joy and suffering, hope and despair—all the content of both life and art which were part of Lincoln," in the words of Vice President Hubert H. Humphrey at the January 21 dedication ceremony.

The restoration process was meticulously faithful. The furnishings are either original items or exact reproductions based on photographs by Matthew Brady, famed Civil War photographer, and on other contemporary pictures and drawings.

The furnishings are simple and cheerful, from the white lace curtains and gold brocade draperies to the cherry-red velvet-covered railings. Chairs, wallpaper, lights, the most minute details—everything has been chosen for its authenticity.

A more basic phase of the restoration included the installment of a new fire-resistant timber roof; the piling, underpinning and bracing of

all walls; the exterior rehabilitation of the west wall; and the excavation of the basement (where the 200 items of Lincoln memorabilia are now kept) to a depth of 15 feet below the original level. Smoke vents and fire curtains were added, and supplementary fire-proofing treatment was given to the roof and trusses.

The idea for the restoration began in 1945 soon after a young US senator from North Dakota, Milton R. Young, arrived in Washington. During the recent dedication, he recalled his coming with great anticipation to view Ford's Theatre and his subsequent displeasure over what he found.

"I was greatly disappointed," Senator Young said. "I had expected to see a theater much the same as it was during Lincoln's time."

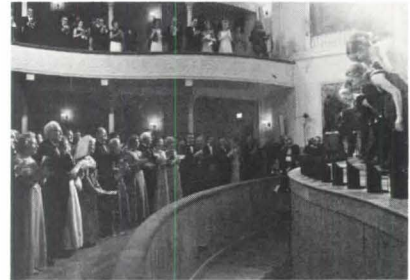
The building had fallen into disrepair and was sold to the federal government and altered for use as an office and storage area. In 1933 it was transferred to the National Park Service which converted the first floor into a Lincoln museum.

The Senator set about the task of appropriating money for the first study of possibilities for restoration. He introduced the first joint resolution in 1946 which directed the Department of Interior to estimate the cost. It wasn't until 1960, however, after two more resolutions and the submission of the Interior Department's report, that \$200,000 was provided to conduct further historical and architectural research for the restoration.

Many disappointments followed, Senator Young observed. "After

the first resolution . . . it took nearly 10 years of effort on the part of many dedicated people to secure the \$2 million in construction funds from Congress."

The funds were finally made available in July 1964, and in November of that year the theater was closed and the restoration process,



"Cabinet Night" performance.

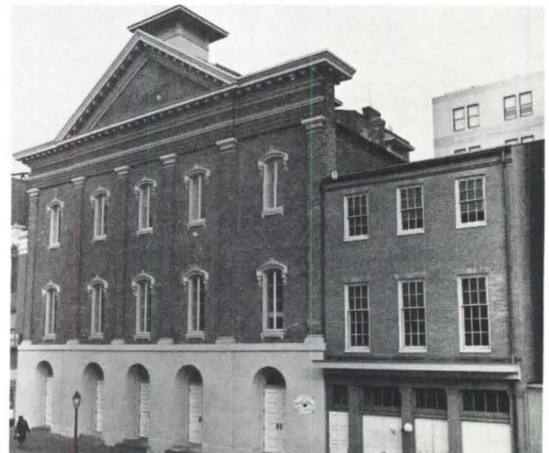
under the direction of the National Park Service, was begun.

Meanwhile, the Ford's Theatre Society, a nonprofit organization, was formed to handle the responsibility of putting on plays popular in Lincoln's time as well as new plays which slant back to the noted figure.

Although the society has so far received a \$250,000 grant from the Lincoln National Life Insurance Company, an equal amount is needed to support in residence the currently performing National Repertory Theatre group.

The troupe, which will perform in the 740-seat theater through May, is featuring in alternating repertory Shakespeare's "The Comedy of Errors" and "She Stoops to Conquer" by Oliver Goldsmith as well as the opening production of "John Brown's Body." □

Ford's Theatre, as it looked in 1865 following Lincoln's assassination and as it stands restored today.





**The only thing about concrete block
that is without variety is its quality...**

SEE OTHER SIDE

Isn't it time you made block your specialty of the house?



Replete is the only description for concrete block.

There are now more shapes, sizes, colors and textures to stir your imagination than ever before. Even the traditional standard shapes are constantly being used in new and creative residential designs (see front side of page). Distinctively different wall patterns may also be created by projecting units from the wall.

Concrete block offers you a resplendent range of *special* block shapes and textures, too.

Split block—with its unique, crag-carven texture (above). *Slump* block—with its innovative adobe face. *Concrete* brick also entertains smart home designs—with a delightful assortment of solid colors, pleasing pastels and striking blends that provide the homeowner with more color advantages. *Screen* block—its snowflake variety of web designs provides room dividers and outdoor fences with a rare new decorative climate.

Block is rich in other built-in qualities, too. Complete fire-safety that gives new homes a priceless protection second to none. Also extremely high sound absorption and abundant self-insulation for year 'round comfort and savings.

Isn't it time you discovered why concrete block is so easy to live with?

NATIONAL CONCRETE MASONRY ASSOCIATION • 2009 14th Street North, Arlington, Virginia 22201

Please send me, without charge or obligation

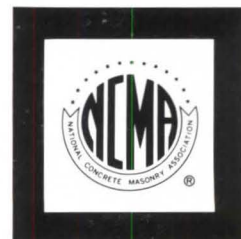
- General information on concrete block construction Wall design ideas with concrete block Technical data on concrete block construction

NAME _____

COMPANY _____

STREET _____

CITY _____ STATE _____ ZIP _____



To seal, protect and beautify terrazzo, specify Hillyard Super Onex-Seal®



Seals new terrazzo for protection during construction

DESCRIPTION: An ester-type penetrating sealer that may be buffed to provide a hard, wear-resistant lustrous finish. For terrazzo, thinset terrazzo, seamless and other masonry surfaces.

SPECIFICATION AND HOW TO APPLY: Floor must be thoroughly cleaned and free of stains. Agitate material until uniform. Apply in thin even coat with lamb's wool applicator. Let dry, not to exceed 20-30 minutes until pressure of the fingers pulled across the surface produces a squeaking sound. Buff each coat after application to provide greater lustre. Apply second thin coat and buff.

COVERAGE: 600 square feet per gallon first coat, 900 square feet per gallon second coat.

TECHNICAL DATA: NVM—10.5% minimum. Film properties: Drying time—45 min. maximum; Appearance—free from particles—semi-transparent; Tackiness—none; Water resistance—no loosening of film, no removal of gloss. General Appearance: Color—light, shall



Makes final clean-up fast and easy—

contain no pigments or dyes; Odor—non-objectionable at any time; Viscosity—heavy-bodied liquid mixture.

GUARANTEE: When applied in accordance with manufacturer's directions, it is guaranteed to meet all claims made for it in the proper sealing and finishing of terrazzo floors.

EXCEPTION: For white terrazzo or other white masonry floors, specify White Onex-Seal.

MAINTENANCE: Sweep daily with a Super Hil-Tone treated dust mop (do not use an oily mop dressing). Buff periodically. When floor is soiled, clean with Super Shine-All, a neutral chemical cleaner. Traffic lanes may be patched in and buffed to blend in with the rest of the floor. Reseal as needed depending upon traffic and kind of use.

APPROVALS: This is the type of a penetrating seal recommended for use by the National Terrazzo and Mosaic Association. U/L listed relating to fire hazard and slip resistance.



For floor beauty that helps gain acceptance.

REFERENCES: Hillyard A.I.A. File 9
Terrazzo 1968
Sweets Architectural File
Spec Data Sheet
Available

Free follow-up "job captain" service protects your specifications. A trained Hillyard Architectural consultant will gladly consult with your specification writers on proper, approved procedures and materials for the original treatment of any type floor you specify. Write, wire or call collect.

HILLYARD
FLOOR TREATMENTS
ST. JOSEPH, MISSOURI, U.S.A.
TOTOWA, NEW JERSEY
SAN JOSE, CALIFORNIA
IN CANADA: CALGARY, ALBERTA
SARNIA, ONTARIO



The most widely recommended and approved treatments for every surface

Books

Hagia Sophia. Heinz Kähler. New York: Praeger, 1967. 75 pp. \$16.

"Heaven on earth, throne of the loveliness of God, seat of the Cherubim, the second citadel of Heaven, creation of the hands of God, the marvelous miracle, the pride of the whole earth, beautiful and more than beautiful."

Thus Hagia Sophia, that truly awesome architectural masterpiece which still is the pride of Istanbul, was described by Niketas Chroniates hundreds of years ago. When the church was consecrated on December 27, 537, the Emperor Justinian cried out, "Praise and worship to the Almighty who held me worthy to complete such a work. Solomon, I have outdone thee."

This book is about the life and fate of Hagia Sophia, the Church of the Holy Wisdom. Kähler, director of the Institute of Classical Archaeology at the University of Cologne and a scholar of Roman architecture, considers every aspect of the church—its history, its physical, architectural and artistic aspects as well as the ritual and ceremony performed within it. He quotes many contemporary writers and thereby creates added interest in a structure that had a tremendous emotional impact upon the emperors of Byzantium and their people.

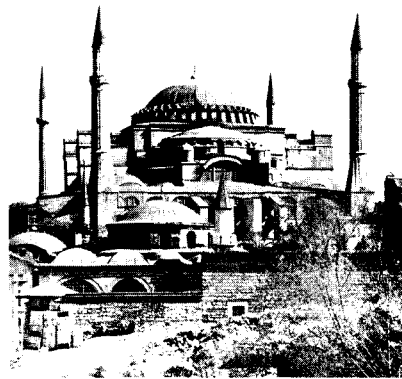
There is a chapter on the mosaics, the only part of the church not perfectly preserved, by Cyril Mango, an authority who has spent many years in research and study on the subject. Executed over a period of eight centuries, the mosaic decoration was "affected not only by successive restorations of the building but also by religious upheavals and by the changing use to which various spaces of the church were put."

Therefore, Mango examines the decoration in historical sequence in order to impart an understanding of it. The work of restoration still goes on, and Mango states that some of his views may be altered by further study. At any rate, some of the most magnificent masterpieces of Byzantine art are there in Santa Sophia.

Hagia Sophia's history as a church ended in 1453. By quoting contemporary writers, Kähler gives a vivid picture of the final events. One of them tells how the Turks

came and plundered the holy pictures and the priceless treasures of the church. The multitude of people who had congregated in the church, hoping thereby to be saved, were either imprisoned or killed. The fate of the church seemed sealed.

Dukas, who witnessed some of the events, writes: "The Sultan came up to the great church, dismounted from his horse, and, upon entering, was outraged by what he saw." He struck the Turk who was



smashing the marble flagstones and said: "For you the treasure and the prisoners are enough. The buildings of the city fall to me."

The structure was saved, and even today we are in the debt of the Sultan Mohammed.

The translation by Elyn Childs is admirable. There is a bibliography and over a hundred plates, some in color. MARY E. OSMAN

Creative Control of Building Costs.

Edited by William Dudley Hunt Jr. New York: McGraw-Hill, 1967. 239 pp. \$14.50 list price, \$11.50 to AIA members when ordered from Documents Department, AIA Headquarters.

If architects are at all serious about providing comprehensive services which include as one of the program requirements construction cost control, they are either following practices outlined in the AIA's latest "how-to-do-it" book or they had better pick it up and act accordingly.

Editor Hunt, who is publisher of the AIA JOURNAL which adapted some of the material in its pages last year, has organized a group of informative chapters, each written by a different architect or other authority on construction costs, into a remarkably coherent book of instructions with surprisingly little duplication. The title *Creative Control of Building Costs* is a particularly apt description of the subject covered.

As Charles M. Nes Jr., FAIA, states in the preface, "All the other books about the costs of constructing buildings have been concerned with the estimation of costs or with some other tool or process of cost control. This book takes as its premises that cost control is an intrinsic part of the creative design and construction process, that costs can be *controlled*, not just *estimated*, and that cost control, as an integral part of the design process can actively contribute to the creative process that produces good buildings."

The book details such subjects as building costs—their determinants, their relation to the life of buildings and their legal aspects; and various techniques and systems for cost control, covering the enclosure method, quantity surveying and estimating, value engineering, the critical path method and computer cost analysis.

The section entitled "Getting Costs Under Control at the Beginning" consists of data on budgeting probable costs and exercising control during schematic design.

The final part deals with control during three periods: design development, construction document preparation and construction itself.

The book carefully establishes the case and the conditions necessary for controlling construction costs. Where the reader is told "how," the instructions are so clear and the procedures prescribed so simple that no architect could fail to see the potential. The book ably fills a void in the practitioner's education.

The only additional information architects might desire is a chapter on where to find informed and interested people to carry out this service in architectural offices.

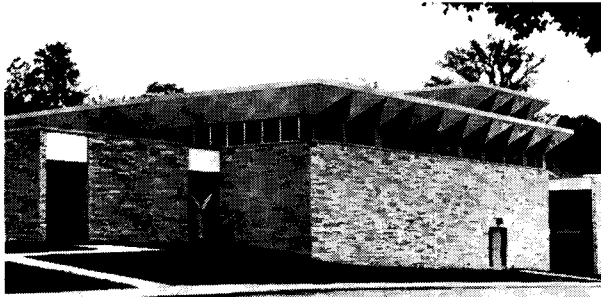
JACK D. TRAIN, AIA

The Art of Greece: The Age of Hellenism. T. B. L. Webster. New York: Crown Publishers, 1966. 243 pp. \$6.95.

Webster, professor of Greek at University College, London, and author of many books on Greek art and literature, discusses sculpture, painting, mosaic work, terracottas, masks, coins and book illustration in this comprehensive work on the art of Hellenistic man.

He shows also how architecture and town planning developed with the advances made in mathematics and engineering and how the architecture serves to reveal a great deal about the spirit of the age.

Continued on page 100



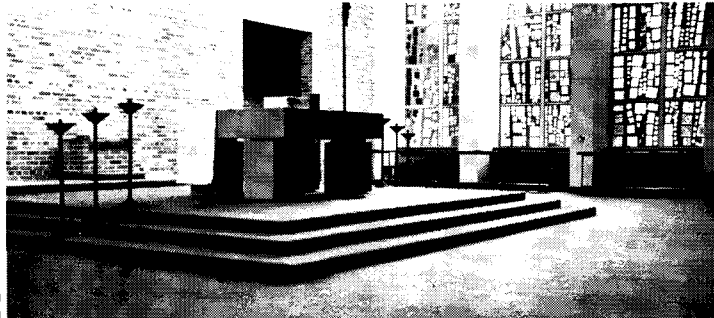
The beautifully architected St. Anthony's Catholic Church, Niagara, Wisconsin.

The place:

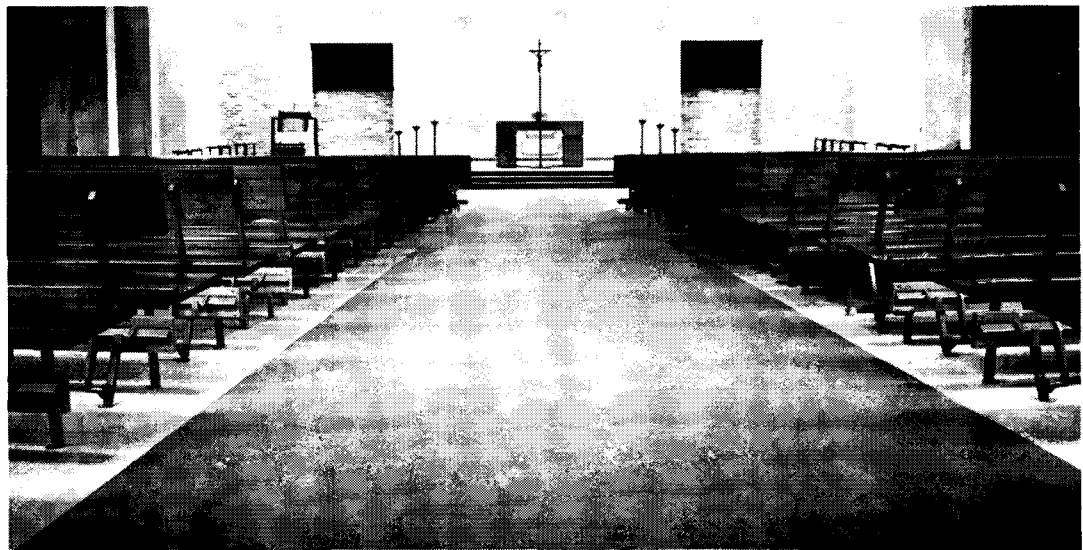


Mr. George Bielefeldt
The White Store,
Green Bay, Wisconsin

The man:



The carpet:



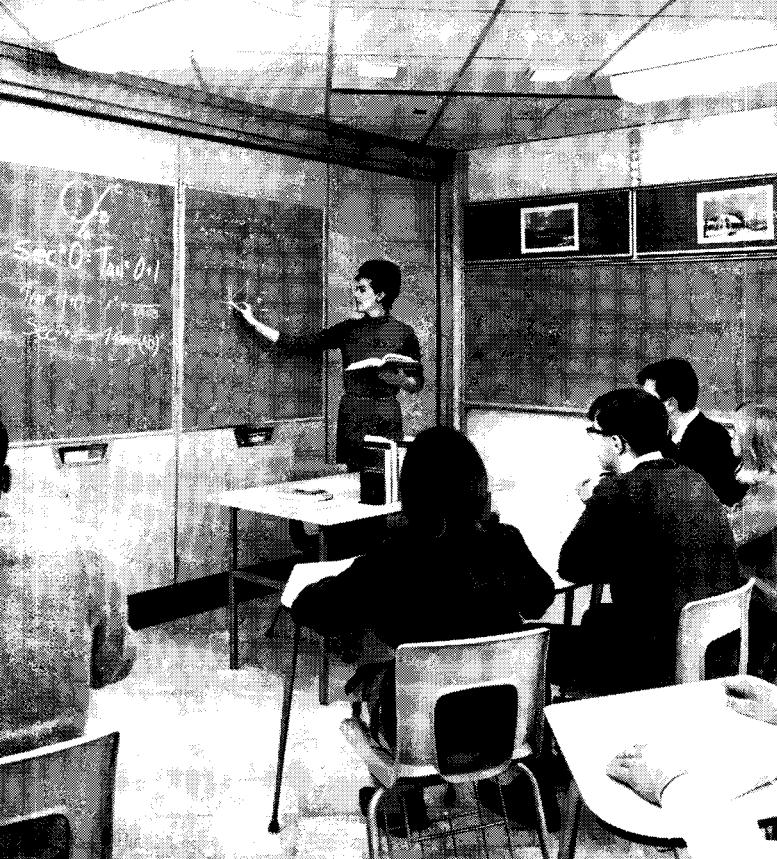
Bigelow: Installed throughout most of the church, Bigelow carpeting has proved practical as well as attractive.

Why do dealers like George Bielefeldt specify Bigelow? Because they know that for every bank, hospital, church, hotel or commercial building, Bigelow has or can custom-create the perfect carpet. We've done it since 1825. Our carpet counselors will give you all the help you need in solving

any kind of carpet problem—at no charge. Simply call your nearest Bigelow sales office. Or for a colorful, free brochure on commercial carpets, write Dept. A, 140 Madison Avenue, New York, N.Y. 10016. Find out for yourself why

people who know buy Bigelow ↗

Bigelow sales offices are located in Atlanta, Boston, Chicago, Cleveland, Dallas, Denver, Detroit, Los Angeles, Minneapolis, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco, Seattle.



Books from page 98

Technology in Western Civilization. Edited by Melvin Kranzberg and Carroll W. Pursell Jr. New York: Oxford University Press, 1967. 2 vols. \$27.50 boxed; text edition \$8.50 each.

In this collaborative work, many scholars attempt to relate technological developments to other aspects of man's culture. Its aim is to link the history of technology with economic, cultural and social factors. It looks backward and also peers into the future, dealing with the challenge of space.

There are two volumes in the set. The first is concerned with the emergence of our modern industrial society from the earliest times to 1900, with emphasis placed upon the period from 1750 to 1900 when England was the leader. Volume II focuses upon 20th century developments with this nation's industrial leadership underscored.

Both volumes have sections in them on matters relating directly to architecture. Two chapters in Volume I are by Carl W. Condit who writes informatively and tersely on buildings and construction from 1830 to 1880 and from 1880 to 1900.

In Volume II Eduard Farber has contributed a chapter on "Man Makes His Own Materials," and Melvin M. Rotsch has written two chapters, one on "Building with Steel and Concrete" and one on "The Home Environment." Among the other sections associated with architectural development is one on "Land Use and Resources" in which urban and regional planning are discussed.

This is not to say, however, that the chapters mentioned here specifically are the only ones of real relevancy to the architect. Virtually every topic covered in Volume II is of import in his daily life and work, from automation to man's conquest of outer space. Technology, as one contributor comments, "lies at the center of the 20th century and its dilemmas."

Urbino: La Storia di una Città e il Piano della sua Evoluzione Urbanistica. Giancarlo De Carlo. Padova: Marsilio Editori (American distributor: George Wittenborn, New York), 1966. 296 pp. \$17.50.

Urbino is an old Italian city founded, says Pliny the Elder, by the Umbrians in the sixth century B. C. It has witnessed a great deal of history in the comings and goings of such peoples as the Celts, the Etruscans, the Romans and the Gauls. And Mussolini. Every invader left cultural deposits and added shape to the city, and everything has been woven together into a complex urban continuity.

The problems are manifold, however. We are told that the beauty and coherence given the old medieval city by Renaissance architects and planners have been degraded by mediocre developments since World War II. For such reasons as "difficulties caused by the political situation, a complete involution of purpose, and lack of courage and imagination," there has been a decline "beyond all limits of recovery."

The Urbino Reorganization Plan proposes to do something about the matter, however, and "to give Urbino and the region in which it lies a system of planning which will enable it to take its place once again in the modern world." Not only does the plan seek to ensure the beauty and continuity of the historical center of the city but it is hopeful its aims will raise the standard of living, eliminate

BRUNSWICK



No. 1 NAME IN SCHOOL EQUIPMENT

MOVABLE SEATING
FIXED SEATING
DESKS/TABLES
CABINETS
LIBRARY/ RESOURCE CENTER FURNISHINGS
CHALKBOARD/ DISPLAY SYSTEMS
FOLDING WALLS
GYM SEATING
PORTABLE STAGES

Help stamp out lazy walls

Brunswick Folding Walls are *working* walls. They open easily . . . close easily . . . give you sturdy, rigid walls that'll stand up to heavily used chalkboards, tackboards, and pass doors. Install one for simple space division. Install two, three, four, or more to turn cafeterias into classrooms, classrooms into seminar rooms. With Brunswick Folding Walls you're free to design flexible facilities that can be changed quickly and conveniently as the area need changes. Need sound control? Our Acoustic Folding Walls make adjoining areas seem rooms apart. Write for more information.

It's never too early to let us help with your planning. (It's never too late, either.)

For ideas, for information, for problem solving . . . feel free to contact Brunswick. We're tuned in to what's happening on the educational scene—and we'll be happy to help you. No cost or obligation.

Brunswick Corporation / School Equipment Division
2605 East Kilgore Road / Kalamazoo, Michigan 49003



© 1967 BRUNSWICK CORP.

◀ Circle 348 on information card

depressed areas, halt housing deterioration and "spread and improve the advantages of the urban life."

The plan here presented is of interest to American architects and planners because the problems of Urbino are, to a degree, the problems of all historic cities. They all have the same complex struggle between preservation of the past and provision for the future, and they all face the grave responsibility of causing loss to civilization if plans are not carefully structured.

One does not have to read Italian to get a great deal from the book. The captions to the many photographs, maps and plans are in English, and there is an English summary at the end.

Graphic History of Architecture. John Mansbridge. New York: Viking Press, 1967. 192 pp. \$9.95.

Drawings and diagrams rather than photographs are used in order to give three-dimensional presentations and to make comparative studies more easily grasped in this visual textbook on the history of architecture.

In many instances the drawings of comparative plans and elevations spread across facing pages so that the student can visualize the transitional features from one architectural style to another. For example, Greek and Roman theaters are on facing pages, and one can see at a glance the similarities and differences.

Attention is paid to technical knowledge and building materials available at each stage of architectural history. There are some 2,000 drawings of buildings, plans, elevations and details. The author has provided also brief introductions, maps and timecharts.

Mansbridge, for many years a teacher in the School of Art at Goldsmiths' College, London, spent years in the preparation of this volume, and his devotion to painstaking research is evident. He has produced a singularly interesting approach to the history of architecture. It is only when he reaches the 19th and 20th centuries that the book seems crowded with information compressed into too tight a space.

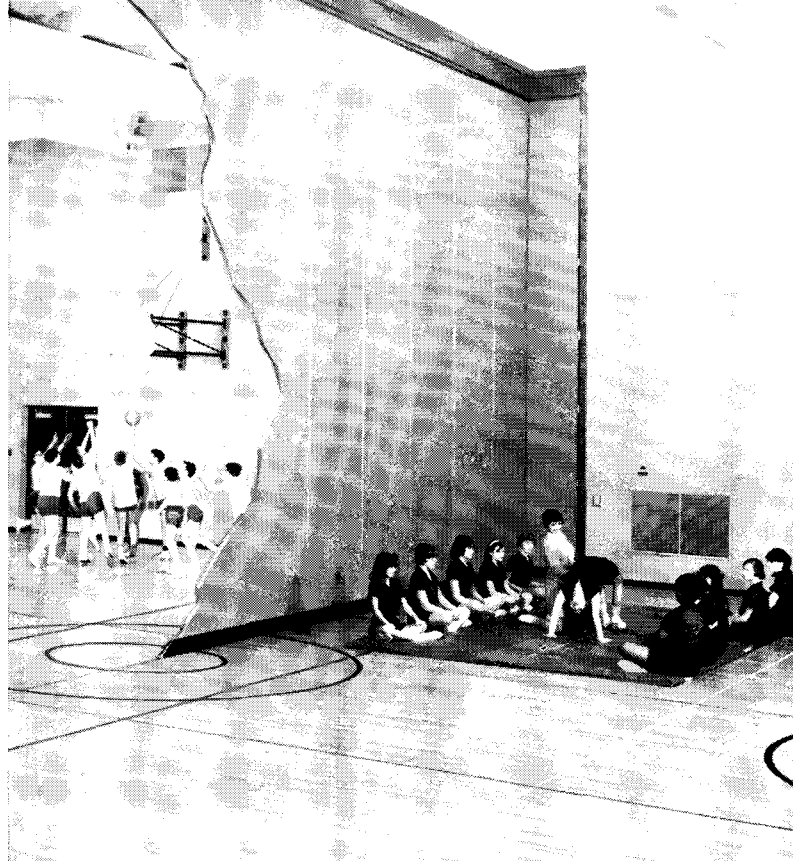
Old Buildings, Gardens and Furniture in Tidewater Maryland. H. Chandlee Forman. Cambridge, Maryland: Tidewater Publishers, 1967. 326 pp. \$12.50.

Chatty and informative is Forman's story of the civilization that prevailed in early Tidewater Maryland as evidenced in its architecture, gardens and household items. The author is an architect, archaeologist and enthusiastic historian who writes in a thoroughly delightful manner. The book is one of a projected series on Tidewater Maryland's architectural heritage, its predecessor being *Tidewater Maryland Architecture and Gardens*, published in 1956.

In the present work Dr. Forman gives his reader interesting material on life as it was lived in early Maryland. He tells us about the cooking utensils, the chamber pots, the trundle beds, the wallpaper, the working tools. There are also detailed accounts of particular structures, and with it all a myriad of photographs and drawings.

The architectural inheritance we should cherish but which is so often carelessly thrown away is Dr. Forman's primary concern, and those who would know of it and protect it and preserve it are again in his debt.

Circle 348 on information card ►



Put a wall to work today

Lazy walls can make a school lazy. Brunswick Folding Walls make things happen—give students and staff a facility that can be changed immediately to meet changing area needs. Brunswick's Folding Walls are sturdy, *working* walls . . . easily opened, easily closed (manually or electrically). You can have them with chalkboards, tackboards, even pass doors. There's a size for every need—a finish for every decor. You say you need sound control? Check into Brunswick Acoustic Folding Walls. They have a way of keeping sound in its place. Write for more information.

It's never too early to let us help with your planning. (It's never too late, either.)

For ideas, for information, for problem solving . . . feel free to contact Brunswick. We're tuned in to what's happening on the educational scene—and we'll be happy to help you. No cost or obligation.

Brunswick Corporation/School Equipment Division
2605 East Kilgore Road/Kalamazoo, Michigan 49003



© 1967 BRUNSWICK CORP.

BRUNSWICK



No. 1 NAME IN SCHOOL EQUIPMENT

MOVABLE SEATING

FIXED SEATING

DESKS/TABLES

CABINETS

LIBRARY/ RESOURCE CENTER FURNISHINGS

CHALKBOARD/ DISPLAY SYSTEMS

FOLDING WALLS

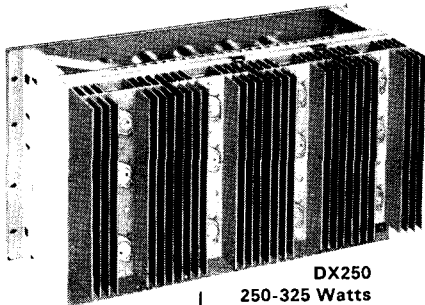
GYM SEATING

PORTABLE STAGES

PROFESSIONAL SOUND *by*

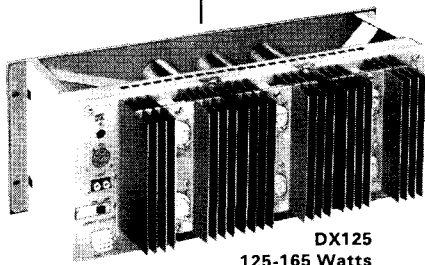


THE **DX** SERIES
All-Silicon Solid-State
Professional Amplifiers



DX250
250-325 Watts

Dynamic Excellence **Zero Defect Parameters**



DX125
125-165 Watts

Where high power amplification is needed for industrial or commercial applications...where dynamic and faithful reproduction is a requirement...where unflinching, continuous performance is imperative...today's logical choice is a RAULAND DX Series Amplifier...

with the exclusive
5-YEAR WARRANTY
and individually registered
Certificate of Performance



ask for

COMPLETE SPECIFICATIONS

For detailed specifications of the RAULAND DX Series Professional Amplifiers, write us on your letterhead. We specialize in working with architects and consulting engineers. Write today for full information.

RAULAND-BORG CORPORATION
3535-L Addison St., Chicago, Ill. 60618

Circle 304 on information card

Directory of Schools of Architecture. Helen T. Schneider, compiler. East Orange, N. J.: New Jersey Society of Architects, 1967. 113 pp. \$1.

The third edition of this highly useful directory contains information not readily available from any other source. It includes facts about each school's admission requirements, the kinds of degrees awarded, with length of time required; and the costs per year.

The present edition of the directory includes for the first time details about scholarships available to the architectural student. It lists accredited and provisional schools of architecture as well as member schools of the American Association of Collegiate Schools of Architecture.

The essay on "Architectural Education Today" by Bernard P. Spring, AIA, director of the Research Center for Urban and Environmental Studies at Princeton University, is a concise and helpful survey. The New Jersey Society of Architects is to be commended for making the directory available and it is hoped that every career counselor in the US will have a copy.

Perspectives for Architecture. Georg Schaarwachter. New York: Praeger, 1967. \$10.

The significant processes in perspective drawing are interpreted in this book. Explanations are given clearly and in detail so that the user of the book is led in easy stages from elementary forms and techniques to the complex problems in perspective. Explicit information is given regarding materials and instruments. Theories of perspective are surveyed: the birds-eye view and the wormseye view, shadows, reflections, three-dimensional frameworks.

The student is led from simple work with such instruments as the T-square and ruler to the use of complex tools and the mastery of perspective for such complicated problems as the presentation of spiral staircases and cross vaults.

The wish of the author is to give the architect an essential tool. But he hopes for even more: "Perspective drawing is only an ancillary tool for the architect. But perspective insight, the ability to 'see every aspect' of a design, to grasp the definitive and the subordinate viewpoints—precise vision, in fact—this is part and parcel of the art of building, to which perhaps this book may contribute." □

Circle 100 on information card for listing of publishers whose books are reviewed.

ARCHITECTS with NEW YORK STATE

STARTING SALARIES*

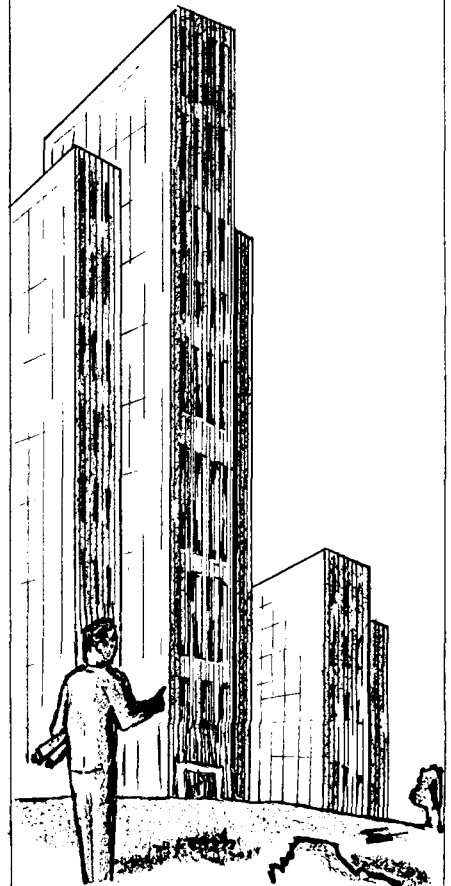
\$13,500

\$10,895

\$8,825

*Salary Increases Anticipated

Applicants must have at least two years of appropriate experience. The two higher level positions also require a Registered Architect's license.



WRITE: NYS Dept. of Civil Service,
R-556C, Albany, N.Y. 12226

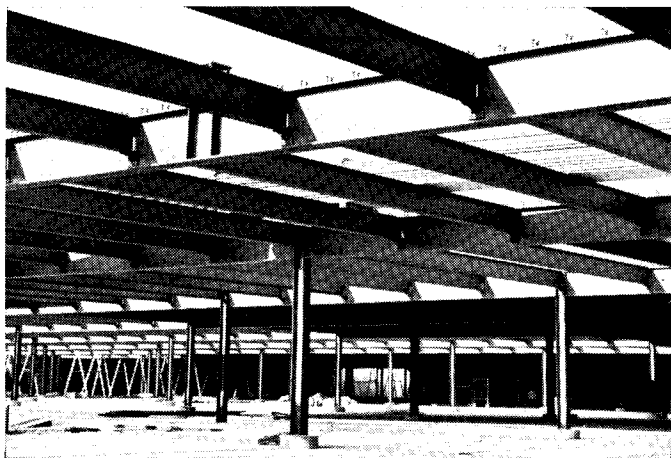
Circle 264 on information card

design in steel saves \$80,000 on two-deck parking garage



Two designs were prepared and bid simultaneously on this parking garage in Decatur, Illinois. The first used a reinforced concrete frame for the upper deck, the second used a steel frame.

The structural steel design won at a bid price of \$1,160,000—\$80,000 less than reinforced concrete. This translates as a saving of \$111 per car for the 725-car garage—\$1,710 per car for concrete and \$1,600 per car for steel, including demolition and site preparation costs.



The garage is a rectangular shape 400' x 321'. The second level consists of 32' x 28' bays using composite beams and girders of A36 steel. Columns are A36 steel. Field connections were made with ASTM A325 high strength steel bolts.

For more information on our construction products, contact the USS Construction Marketing Representative through our nearest sales office or write United States Steel, P.O. Box 86 (USS 5222), Pittsburgh, Pa. 15230.

USS is a registered trademark.

Owner: City of Decatur, Illinois
Architects: Engineering Service Corporation
Structural Engineers: The Engineers Collaborative
Steel Fabricator: Mississippi Valley Structural Steel



United States Steel

Calendar

National

- March 27-28:** Building Research Institute Conference on Totally Manufactured Building Modules, Conrad Hilton Hotel, Chicago
- April 16-17:** American Society for Testing and Materials Seminar on Standardization, ASTM Headquarters, Philadelphia
- April 22-24:** National Conference on Religious Architecture, Statler Hilton Plaza, Miami Beach, Fla.
- April 23-25:** Building Research Institute Conference on the Office Building, Mayflower Hotel, Washington, D.C.
- April 27:** Southern California Edison Company Architects and Engineers Forum, Statler Hilton Hotel, Los Angeles
- May 6-10:** Society of Plastics Engineers Annual Technical Conference, Americana Hotel, New York City
- May 7-9:** Consulting Engineers Council Annual Meeting, Statler Hilton Hotel, New York City
- June 23-26:** American Society of Landscape Architects Annual Meeting, Sheraton-Brock Hotel, Niagara Falls, Canada
- June 23-29:** AIA Annual Convention, Portland Memorial Coliseum, Portland, Ore., and Ilikai Hotel, Honolulu (June 28-29)
- July 20-27:** Central Pennsylvania Festival of the Arts, Pennsylvania State University, University Park

AIA Regional and State Conventions

- March 13-15:** Michigan Society of Architects, Hotel Ponchartrain, Detroit

- March 30:** Pennsylvania State Association Seminar, Hershey Motor Lodge, Hershey, Pa.
- April 4-6:** Middle Atlantic Region, Greenbrier Hotel, White Sulphur Springs, W. Va.

AIA Committee and Related Meetings (At the Octagon unless otherwise noted)

- March 15-16:** Historic Buildings
- March 18-20:** Executive Committee
- March 20-21:** Reynolds Memorial Award Jury
- April 22-24:** Board of Directors, Grove Park Inn, Asheville, N. C.
- May 16-17:** Administrative Committee

International

- March 31-April 3:** International Conference on Cities in Context, Notre Dame University, Ind.
- May 20-24:** Inter-American Conference on Materials Technology, Convention Center, San Antonio, Tex.
- June 16-21:** International Federation of Landscape Architects Congress, Bonaventure Hotel, Montreal
- June 16-22:** International Design Conference, Aspen

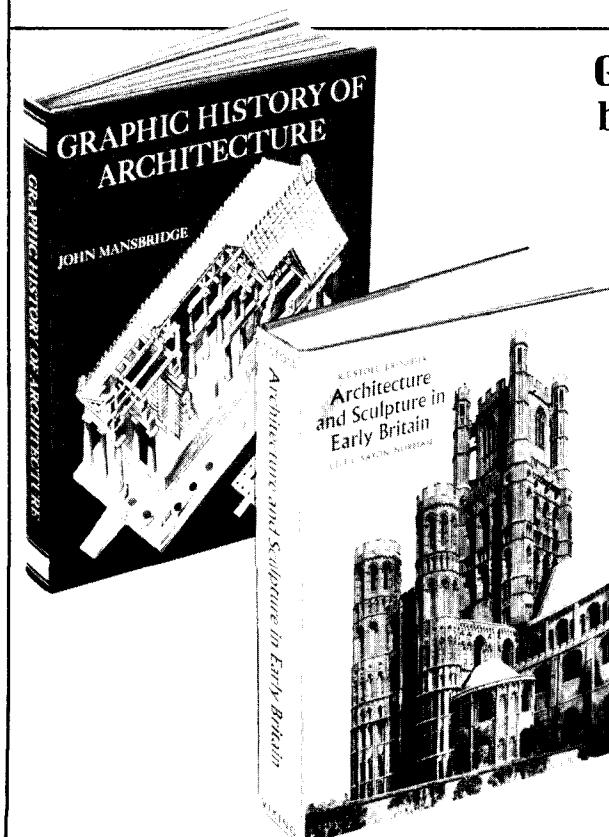
Awards Program

The Liturgical Conference (preliminary plans and completed churches). Contact: Architectural Competition, 2900 Newton St. N.E., Washington, D.C. 20018. Submissions due May 1.

Tours

- Greek Settlements Through the Ages, July 6-13. Organized by the Athens Center of Ekistics. Applications must be sent to the ALFA Tourist and Travel Agency, 35 Voullis St., Athens 118, by May 6, with a deposit of \$52.50 (first-class hotel) or \$42.50 (third-class hotel). □

Architectural reference books...from VIKING



GRAPHIC HISTORY OF ARCHITECTURE by John Mansbridge

The use of plans, elevations, and cutaway and isometric drawings reveals the changing patterns of Western building styles over the centuries in this comprehensive encyclopedia of architecture. "... an absolutely marvelous book... Mansbridge... has packed more relevant information into his drawings and diagrams than will be found in most voluminous encyclopedias."—*Library Journal*
182 pages, 2000 illustrations 9" x 12" \$9.95

ARCHITECTURE AND SCULPTURE IN EARLY BRITAIN

by Robert Stoll · Photographs by Jean Roubier

"Handsomely printed in gravure, and replete with numbered descriptions, history, map and index, the book covers Celtic, Saxon and Norman times, introducing us to abbeys now used as parish churches, and providing strangely moving closeups of early sculpture. Ireland as well as Great Britain is given notice."—*Louisville Courier Journal and Times* 8¾" x 12½" \$18.50

ORDER COUPON

THE VIKING PRESS, Dept. AI-3
625 Madison Avenue, New York, N.Y. 10022
Please send me the architectural reference book(s) whose title(s) I have checked below:

- GRAPHIC HISTORY OF ARCHITECTURE @ \$9.95
 ARCHITECTURE AND SCULPTURE IN EARLY BRITAIN @ \$18.50

Enclosed is check or money order for \$_____ in full payment.
(Please include sales tax where applicable.)

Name _____
Street _____
City _____ State _____ Zip _____

A winning design uses Buckingham[®] Slate...naturally

Richard R. Moger, AIA used the natural beauties and textures of Buckingham[®] Slate flooring to achieve contemporary style and feeling in the living areas of the Rouse House. This distinguished job was first Honor Award winner in the AIA Homes For Better Living Competition 1967 and was granted the 1967 Record House Award. Interior or exterior, consider the many practical and esthetic uses of Buckingham[®] Slate in your designs. Information in SWEETS and STONE Catalogs.

Photo by
David Hirsch

BUCKINGHAM-VIRGINIA SLATE CORPORATION

1103 EAST MAIN STREET • RICHMOND, VIRGINIA 23219 • TELEPHONE 703-643-8365

Letters

The Imperial Game Tumbling Down

EDITOR:

Starting in 1916 it took about four years to build Frank Lloyd Wright's Imperial Hotel; demolition was to have been accomplished in about four weeks.

From the window of my eighth-story room in the "New" Imperial last December, I saw the steel wrecking ball swing from 8 a.m. to midnight and walked through what was left of the grand public areas, their furnishings having been stripped. Outside, front loaders lifted the debris into trucks which hauled it away for landfill.

The hotel's furnishings were spirited away by the management to a Nagoya department store and sold as second-hand goods. Within 45 minutes everything was snapped up at cheap prices, Peacock chairs going for a dollar each.

The pros and cons of preservation will not be discussed at length here. On simplest terms, if an Imperial had stood on Central Park South, privately owned, three stories high and more a motel than a hotel, it would have disappeared 20 years ago.

This is hardly the point. Wright designed everything for the Imperial: an earthquakeproof structural system, foundations, carved stonework, various bricks, copper cornices, floor patterns, stained glass doors and windows, heating and lighting elements, grills, hardware and, as already mentioned, all of the furnishings.

A local committee to preserve the structure fought a losing battle and had, as demolition got underway, too few yen to move the entrance section to a city park as its members had hoped.

Our press rightfully sounded the clarion well in advance: Huxtable of the *New York Times*, Von Eckardt of the *Washington Post*, the AIA JOURNAL and all of the architectural press warned.

Our architectural establishment, comprising the affluent foundations, schools, councils, fellowships, museums and leagues remained silent and offered no action or funds to take the parts that were there for the taking. The taking consequently was done by the front loaders, off for landfill.

Frank Lloyd Wright's great achievement will be seen from now

on only through photographs. The tragedy of the Imperial is not that it has come down but that nobody stepped forward with funds sufficient to save anything. For \$20,000, or about the cost of a foundation boardroom, we could have preserved a heritage.

EDGAR TAFEL, AIA
New York, N.Y.

How's That Again?

EDITOR:

Re the "AIA-ACSA Teachers' Seminar" in the ACSA section in December: Are C. W. Rusch and S. M. Silverstone expounding about the conceptualized framework of an orthographically formulated decomposition of an analog iconically topological as indeterminate from the adjacency of the vehicle of representation for the interaction of conducted cyclically evocatives sensory inputs; or are they rather referring to the sensory input of evocative conducement of the interaction for cyclical adjacency as an indeterminate vehicle of representation for the iconic analog of topological modes which were formulated orthographically for the decomposition of a conceptual framework?

DONALD W. THALACKER
Berkeley, Calif.

ED. NOTE: Reader Thalacker must be familiar with the handy device reproduced below, developed by New York architect Smith and recommended to the JOURNAL by his colleague, Gustave R. Keane, AIA.

Professionals and Unions

EDITOR:

As a practicing architect and former employee of a number of firms, it has been my opinion for a few years that the great battle over unionization would have never begun if architects had given some serious thought to the word "professional."

Just exactly what is a professional? I would postulate that he is any person you can trust to do a good job, one who has pride in his work, one that does not need detailed rules and regulations to make him work.

If architects can trust their professional employees to do a competent job on a project, why can't they also trust them to produce profits for the firm? In other words, instead of complaining about inadequate fees, why doesn't every architectural office institute a profit-sharing plan for all technical and professional employees? I am convinced that this would immediately alleviate the union problem and help to increase the overall profit of the firm.

WALTER S. LINCOLN
Glencoe, Ill.

A Government Architect Speaks

EDITOR:

I have read "When a Practitioner Goes Public" by Robert Berne, AIA, in the January issue. His strong

HOW TO BE AN ARCHITECTURAL INNOVATOR

or 1,000 Guideposts to the Patter-Oriented-Process for Slogonized Architectese

Directions:

1. Choose any three digit number.
2. Find the word corresponding with each digit.
3. The three words should indicate an architectural innovation.

Column 1

1. Architectural
2. Team
3. Computer
4. Field
5. Behavior
6. Group
7. Resource
8. Realistic
9. Value
0. Creative

Column 2

1. engineered
2. articulated
3. coordinated
4. correlated
5. modulated
6. directed
7. integrated
8. controlled
9. oriented
0. programmed

Column 3

1. designs
2. planning
3. projects
4. environment
5. schematics
6. processes
7. systems
8. concepts
9. structures
0. assemblies

Example:

The number 007 produces the slogan "Creative programmed systems". With no reference to James Bond, this should suggest an architectural innovation. If it doesn't, try another number. If after three trials you don't succeed, give up and go back to the draughting board. You're not geared for innovation!

Acknowledgments:

The author of the Patter-Oriented-Process for Slogonized Architectese cheerfully acknowledges his indebtedness to the pioneering work of defense planners, educators, and consultants.

R. Jackson Smith, A. I. A.

position on professional qualification of government architects is one that I support.

As a government architect called upon to function with topflight A-Es and as a member of the rating panel of the Interagency Board of the US Civil Service Examiners, I find myself with views quite similar to those of Mr. Berne.

J. WALTER ROTH, AIA
*Chief Architect
 National Park Service
 US Department of the Interior*

Furniture, Fabrics and Fees

EDITOR:

We talk a lot about comprehensive services, but I question whether we always give our clients full measure. Take the area of furnishings, for example. This is a service that clients are glad to get and for which they are willing to pay.

Yet there is confusion in the minds of many practitioners even though the subject is being explored in seminars and by professional magazines such as the JOURNAL (see the section on interiors, Nov. '66). The smaller offices, in particular, are unaware of the magnitude of the furnishings potential in relation to their own work.

An architect does not have to go into the furniture business to help meet the client's needs; however, he does have to know how to organize and present his recommendations.

Furniture manufacturers that recognize the sales opportunities through architectural offices have salesmen calling on the practitioners. Some in the past refused to cooperate with architects, thinking that by so doing they would harm their established retail outlets, but that concept is being realized as a fallacy.

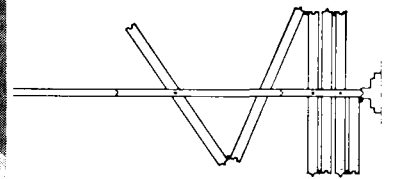
Owners that have furnishings budgets of from \$10,000 in a small building to \$500,000 or more in a large one are not going to retail stores to do their buying anyway. They will purchase through competitive quotations on similar separate items within the overall specification prepared by the architect.

Opportunities for greater professional service, and correspondingly greater financial rewards, continually knock at the very doors which we ourselves are designing.

CHARLES D. FAULKNER, AIA
Chicago, Ill.



SPECIFY
Beauty in
Sound
Control-
Easy
Operation
with the



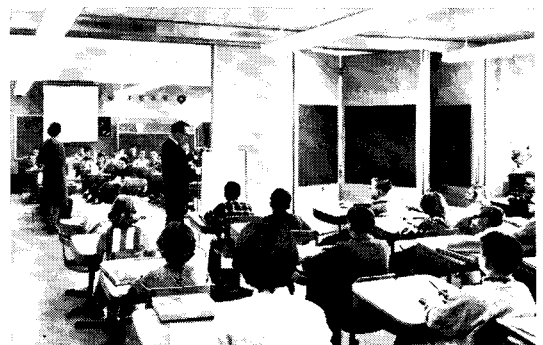
Richards-Wilcox
INCOMPARABLE 380
OPERABLE CLASSROOM WALL

There's nothing quite like it . . . even a 90 lb. teacher can open or close the 380 effortlessly.

Because the 380 is all mechanical, maintenance is negligible. There are no motors or electrical fixtures, no pneumatic or hydraulic operation, no floor bolts or floor track.

As for sound control, there is no match for the 380. A mere turn of the actuating lever and there is a tight perimeter seal at top, bottom, and sides.

The 380 creates a new dimension in classroom space and flexibility, allowing teachers to enlarge or reduce space many times daily. It makes the modern technique of team teaching easier.



WRITE FOR BULLETIN F-266 TODAY



T.M.

Richards-Wilcox
MANUFACTURING COMPANY

223 THIRD STREET • AURORA, ILLINOIS 60507



ONE OF A KIND

a new weapon against illegal entry

Every Sargent Maximum Security lockset is an original. Neither the key nor the lock cylinder is ever used again except by the rightful owner. Every installation is proprietary.

The key that operates this lock can't be copied on conventional key-duplicating machines. The lock cylinder is highly pick-resistant. U. L. Listed for burglary protection. For full details, see your Sargent distributor, or write: Sargent & Company, 100 Sargent Drive, New Haven, Conn. 06509 • Peterborough, Ontario • Member Producers' Council



SARGENT® MAXIMUM SECURITY SYSTEM

PART OF A COMPLETE LINE OF ADVANCED ARCHITECTURAL HARDWARE



As much as we've tried, we can't get all of our know-how into a catalog. Basic data, yes. And plenty of information to specify products under most conditions. In fact, our catalogs have won awards for their helpfulness.

But, *nothing* can replace the practical knowledge of an Inland sales engineer. He can apply to a design problem the experience he has gained from hundreds of other related projects, plus valuable background from fellow sales engineers he meets regularly in conferences.

Inland sales engineers are highly trained specialists who can help the professional architect and engineer by offering counsel on the application of Inland products to all forms of construction; on the selection of the most economical types, or the relationship of Inland products to other elements of a building which may need coordination.

Your Inland man won't solve all your design problems, but he'd like a chance to help you on your next project involving steel floor, roof or wall systems. For his name and/or for one of our carefully compiled catalogs, write Inland Steel Products Company, Dept. C, 4127 West Burnham Street, Milwaukee, Wisconsin 53201.

We've got a supplement to Sweets.

*Every building
starts with ideas.
Inland can help you
with new ideas
in buildings.*

**Inland
Steel
Products**



New Books for Members— Specs, Profits, Urban Design

And other important architectural books at greatly reduced prices for AIA members.

PRINCIPLES OF SPECIFICATION WRITING. By Harold J. Rosen. A new, completely up-to-date, organic system by the Chief of Specifications, Skidmore, Owings & Merrill and endorsed by AIA. List, \$16.50;

Member Price, \$13.75.

THE ECONOMICS OF ARCHITECTURAL PRACTICE. Based on research by Case and Company, Inc. and the AIA Task Force on Cost of Architectural Services, this new book contains information vital to every practicing architect; Income; Operating Expenses; Profits. Tables and charts compare data for offices of various sizes, by building type. List, \$6.00;

Member Price, \$4.80.

THE RESTORATION MANUAL. By Orin M. Bullock, Jr., AIA. The handbook for architects doing restoration or preservation projects. Also a must for those who simply care about their heritage. List, \$8.50;

Member Price, \$6.80.

THE URGENT FUTURE. By Albert Mayer, FAIA. Experience, concepts, policies and imaginative ideas for the future of the environment, and its people, housing, cities and regions, by a leading architect and planner. List, \$16.50;

Member Price, \$13.20.

CREATIVE CONTROL OF BUILDING COSTS. Edited by William Dudley Hunt, Jr., AIA. A book based on a new idea—that building costs can be controlled and that this control can be creative. Included are determinants of building costs; the enclosure method; quantity surveying; estimating; value engineering; critical path method; and computer cost analysis; budgeting and maintaining control. List, \$14.50;

Member Price, \$11.50.

Urban Design: THE ARCHITECTURE OF TOWNS AND CITIES. By Paul D. Spreiregen, AIA. History, basic principles and techniques, sketchbook, urban esthetics, government programs and comprehensive role of urban design. Illustrated. List, \$12.50;

Member Price, \$10.00.

COMPREHENSIVE ARCHITECTURAL SERVICES. Edited by William Dudley Hunt, Jr., AIA. Analysis, promotion, design and planning, construction, supporting and related services. List, \$8.00;

Member Price, \$5.00.

UNIFORM SYSTEM FOR CONSTRUCTION SPECIFICATIONS, DATA FILING AND COST ACCOUNTING: Title One, Building. Specification outline, product literature and project cost accounts filing system. List, \$6.50;

Member Price, \$5.00.

OPPORTUNITIES IN AN ARCHITECTURE CAREER. By Robert J. Piper, AIA. For students 14 to 18 years old. A valuable recruiting tool. Cloth-bound: List, \$2.95;

Member Price, \$2.35.

Paperback: List, \$1.65;

Member Price, \$1.30.

1967 AIA MEMBERSHIP DIRECTORY. Alphabetical listing with addresses. Industry Price, \$25.00;

Member Price, \$2.50.

AIA ARCHITECT'S HANDBOOK OF PROFESSIONAL PRACTICE. Vinyl-covered three ring binder, containing 30 official AIA contracts and forms and all revised chapters. List, \$15.00;

Member Price, \$12.50.

AIA SPECIFICATION WORK SHEETS. Thirty-four model specification sections with sources of standards and bibliography. Three-ring, vinyl-bound, to match HANDBOOK. List, \$20.00;

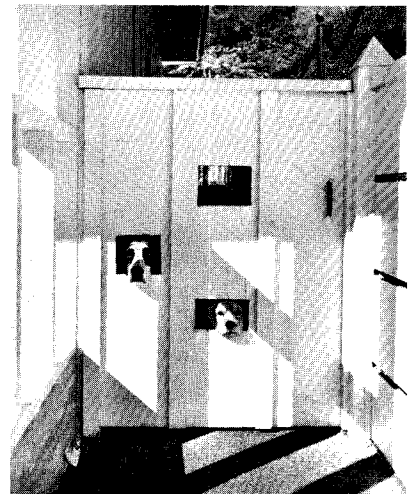
Member Price, \$17.50.

Asides

Next Month: HemisFair is the 1968 meeting place for disparate cultures—the “confluence of cultures” in the phrase of officials of the international exposition which opens in April. “Confluence” is a good word, for it suggests that wonderful river meandering through the host city of San Antonio. The story of the fair told in context of the river and the city offers some good lessons in urban design.

Another headliner next month is the initial publication of the Institute's official position on housing—one that will encourage members of the architectural profession to combine their construction know-how with definitive social objectives. It leads off a special eight-page section which incorporates a half-dozen viewpoints on the issue.

A Funny in Focus: Julius Shulman takes his photography seriously as revealed in this issue by his pic-



torial presentation on telling the architectural truth with the camera; he has a lighter side, too, as revealed by this photo.

Bonus for Bookworms: Beginning with this issue, we are offering to our readers a mimeographed listing of the addresses of all publishers whose books are reviewed in the current AIA JOURNAL. It is available simply by circling No. 100 on the Architects Information Service card and is prompted by a growing number of inquiries for such data, particularly in those cases where the publisher is not a commercial organization. R.E.K.

TO: The American Institute of Architects, Documents Division
1735 New York Avenue, N.W., Washington, D. C. 20006

Please send me the books checked above at the **AIA Member Price.** Books will be shipped postpaid if full payment is enclosed with order. Orders under \$5.00 must be accompanied by full payment.

Enclosed is \$ _____ Bill me

NAME _____

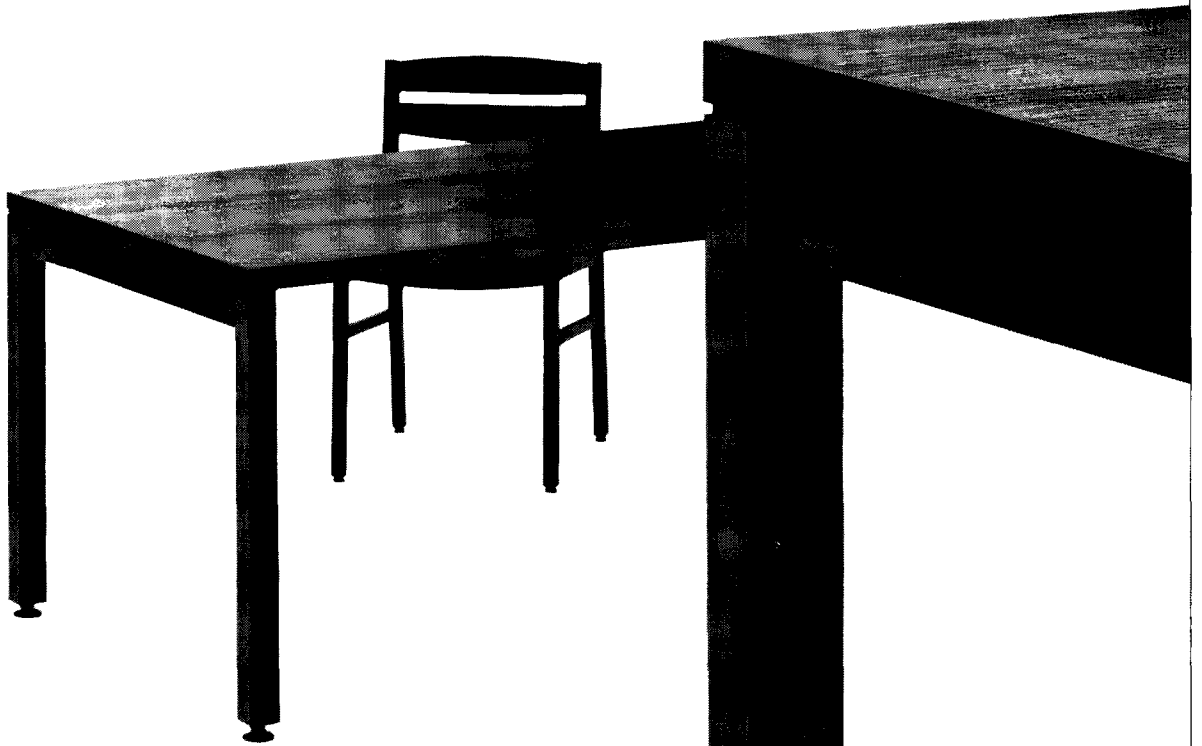
ORGANIZATION _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Circle 250 on information card

PHOTO & ART CREDITS: Pp. 12, 16—Mel Chamowitz; 63—United Press International; 94—Cecil W. Stoughton.



A library designed for today *and* tomorrow demands classic simplicity and enduring craftsmanship in library furniture

... that's NORDRA 900

Styled in either American black walnut or hard white maple, all-wood NORDRA 900 offers the same *complete* range of matched and co-ordinated pieces included in all Sjöström series. Study tables, carrels, tables, chairs and card catalogs . . . circulation desks in many arrangements, and Sjöström-designed NORDRA Lounge Furniture.

Countless functional features attest Sjöström's intimate knowledge of library needs.*

Compare NORDRA 900 furniture with any other. A critical examination of structural details will prove that you cannot compromise on value.

Be sure to see NORDRA 900. Though a look may convince you, only time will prove its true superiority.

** For example, a choice of card trays that are the ultimate in style and convenience. New wood trays give greater card capacity, have improved follower and rod-locking arrangement; or there is the one-piece tray, molded of unbreakable plastic, light in weight, with the rod-knob flushed into the non-marring surface of the tray-front.*

SJÖSTRÖM USA

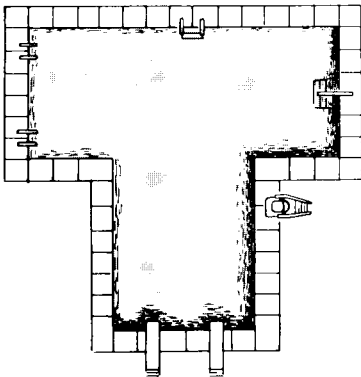
LIBRARY AND SCIENCE ROOM FURNITURE
1717 NORTH TENTH ST., PHILADELPHIA, PA. 19122



NORDRA 900



**gives you
MORE
than Quality
Pool
Products**



Each year more and more architects have discovered that Paragon is more than a prime source of quality pool products. Whether you design commercial, institutional or residential pools, our expert engineering staff can make practical suggestions for application consistent with fresh, new ideas that constitute the modern pool facility. As innovators and manufacturers of hundreds of quality pool products, we stand ready to supply you with specific engineering data, specification sheets, and scale drawings. And we'll even develop custom fabrications!

Obviously, this broad service can make a meaningful difference at your drawing board — and at the construction site. Just drop us a note and check our 1968 Sweet's Architectural Catalog File insert 36c/PAR. It can be an excellent reference source. Additional copies available on request.

Paragon Swimming Pool Co., Inc.
Dept. AIA
Pleasantville, N.Y. 10570

Mfrs. of Quality Pool Products
Please send me a copy of Sweet's Arch. Catalog File 36c/PAR.

NAME

ADDRESS

CITY..... STATE..... ZIP.....

Circle 302 on information card

Architects Information Service

To order single copies of items listed: Circle number on card that corresponds to number beside each of the listed items you want. Send no money now. The charge, if any, for a single copy is noted for each item, and you will be billed for this amount. **Minimum billing for reprints is \$1.**

Current Issue Reprints
single copies free

- 1 Where Is Architecture Going?—p. 42
- 2 Angles in Architectural Photography—p. 53

Previous Issue Reprints
single copy prices as noted

- 17 Liability Insurance—6 pp.; 25¢
Down-to-earth look at the architect's status
- 102 Visual Benefits of Polarized Light—6 pp.; no charge
A review of criteria
- 103 Cities: What's the Matter?—32 pp.; 75¢
A roundtable discussion by 33 experts
- 104 Expo 67—16 pp.; 50¢
A Canadian architect's critique
- 105 Planning the Powder Room—3 pp.; 25¢
A workability tour of an impenetrable area
- 106 Art/Architecture—13 pp.; 25¢
 - *Art as an Architectural Element*
 - *A Few Thoughts and Criticisms*
 - *A Bank as an Art-Architectural Patron*
- 107 Practice Profile: Pancoast/Ferendino/Grafton of Miami—6 pp.; 25¢
An unusual contract with a school board
- 109 Designing a Church: An Act of Risk—3 pp.; 25¢
Appraising today's religious symbols

- 111 How to Make the Most of Your Models—3 pp.; 25¢
A clever photographic technique

- 112 An Architect's Sketchbook—8 pp.; 25¢
Drawings from Japan and India

- 113 The Immediate Environment—36 pp.; \$1
Seven viewpoints on the architect's role and responsibility in housing

To order manufacturers' technical data: Circle number on card that corresponds to the number beneath or beside each product advertisement for which you wish additional specific printed technical data sent to you. Information will be sent from the appropriate producer.

- 114 The Big Ground Wave—5 pp.; 25¢
Challenge of supersonic travel

- 117 Adventures in the Pursuit of Excellence—5 pp.; 25¢
A review of the controversial Bard Awards

- 118 "Let's All Go Down to the Jail and See Andy Warhol"—4 pp.; 25¢
Finding room for the arts in resourceful communities

Special Offers

- 33 AIA JOURNAL subscription information and prices. For registered architect rates, see subscription card.
- 34 Binders for AIA JOURNAL, information and prices
- 35 AIA JOURNAL Annual Index, 1967, single copy free
- 36 Reprints in quantity, information and prices
- 39 The House and Its Design, slide kit sponsored by the AIA and United States Savings and Loan League, information and prices
- 40 Clearinghouse for Federal Scientific and Technical Information, subscription price
- 41 Uniform Plans for Stock Schools, annotated bibliography
- 42 Special book offers to AIA members, information and prices; just published *Creative Control of Building Costs; Specification Work Sheets; Architect's Handbook of Professional Practice; 1967 Membership Directory; Comprehensive Architectural Services; Urban Design; Uniform System for Construction Specifications, Data Filing & Cost Accounting; Opportunities in an Architecture Career*
- 43 1966 Design Award Program (HEW-AIA-EFL), brochure of higher education facilities



**How to plan a computer room
that's flexible enough to handle the next generation
(and the next and the next and...)**

Design with Liskey computer room support materials. Start with Liskey Elaflor, the only elevated flooring offering the total design flexibility of three grid systems, four panel types. No need to substitute or compromise, Liskey gives you free choice to solve your problems best. ■ Then add Data-Aire air conditioning, the modular system designed expressly for computer

rooms. Use Liskey Spacemaker *movable* partitioning and get ultimate flexibility for enlargement, rearrangement, and modification. And modern Liskey aluminum railing is the finishing touch for platform edges, ramps, or to define work and traffic areas. ■ A complete Liskey support system means complete flexibility to handle growing systems, next-generation computers, and

all the changes that are bound to come in this dynamic area. See our section in SWEET'S or write for our AIA file of detailed specifications.



LISKEY ALUMINUM, INC.
Box 580, Glen Burnie, Md. 21061
740 W. 190th St., Gardena, Calif. 90247

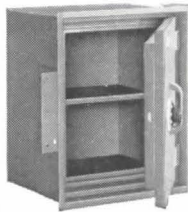
SPECIFY SCHWAB VAULT DOORS AND SAFES

There's a UL* approved Schwab safe or vault door for every security need.



Vault & File Storage Room Doors: UL* tested one half hour to six hour doors for any size vault or file room. Relocking and emergency escape devices are standard. For special requirements, our custom service will provide prints and estimates to your specifications.

Wall Safes: Here's economical fire and theft protection for any home or office. Door is recessed for concealing behind panel or drapery. Easily installed.



913-RW

Floor or Wall Safes: Ideal security chest for a service station, theatre, or other establishment that receives cash after banking hours. Flush installation concealed by rug or mat. Removable combination dial. Insurance reductions.



F-912

Write for complete information.

*Underwriters' Laboratories, Inc.

96 years specializing in security equipment.

SCHWAB

Schwab Safe Co., Inc., Lafayette, Indiana

Circle 318 on information card

116 AIA JOURNAL/MARCH 1968

◀ Circle 287 on information card

Advertisers

Aerofin Corporation	26
Richards & Weiss, Inc.	
American Institute of Architects, Pub. Div	110
American Louver Company ...	19
E. Lindsay & Assoc., Inc.	
American Seating Company ...	32-33
Ross Roy, Inc.	
Andersen Corporation	28-29
Campbell-Mithun, Inc.	
Armstrong Cork Company, Building Products	13
Batten, Barton, Durstine & Osborn, Inc.	
Armstrong Cork Company, Floor Division	118-Cov. 3
Batten, Barton, Durstine & Osborn, Inc.	
Bethlehem Steel Corporation ..	92-93
Van Brunt & Co.	
Bigelow-Sanford Company	99
D'Arcy Advertising Co., Inc.	
Bradley Washfountain Company ..	40
Hoffman-York, Inc.	
Brunswick Corporation	100-101
Garfield-Linn & Co.	
Buckingham-Virginia Slate Corp.	105
Beatley-Riddick Assoc.	
Butler Manufacturing Company.	9
The Griswold & Eshleman Co.	
The Burns & Russell Company ..	12
Marc Smith Advertising Agency	
Cabin Crafts Incorporated	16-17
Liller Neal Battle & Lindsey, Inc.	
Dow Badische Company	2
Norman, Craig & Kummel, Inc.	
Eaton, Yale & Towne, Inc.	7
Fuller & Smith & Ross, Inc.	
Elkay Manufacturing Company.	4
The Biddle Company	
Emhart Corporation, P & F Corbin Division	3
Wilson, Haight & Welch, Inc.	
Emhart Corporation, Russwin Division	117
Horton, Church & Goff, Inc.	
Glynn-Johnson Corporation	34
Edwin E. Geiger, Advertising	
Haw's Drinking Faucet Company	39
Pacific Advertising Staff	
Hillyard Chemical Company ...	99
Ayres & Assoc., Inc.	
Inland Steel Products Company	109
Hoffman-York, Inc.	
Johnson Service Company ...	Cov. 4
Hoffman-York, Inc.	
Kirsch Company	87
Aves Advertising, Inc.	
Knoll Associates, Inc.	1
Chirug & Cairns, Inc.	
LCN Closers	10-11
Alex T. Franz, Inc.	
Libbey-Owens-Ford Glass Co. ..	21-24
Fuller & Smith & Ross, Inc.	
Liskey Aluminum, Incorporated	115
Emery Advertising Corp.	
R. C. Mahon Company, Building Products Division	36-37
Gray & Kilgore, Inc.	
W. R. Meadows, Incorporated ..	30
Trnka Advertising, Inc.	
Medusa Portland Cement Co. ..	31
Will, Inc.	

Montgomery Elevator Company.	2
Clem T. Hanson Co.	
National Concrete Masonry Association	95-96
The Harpham Company	
New York State Department of Civil Service	102
Paragon Swimming Pool Company, Incorporated	112
Taube-Violante, Inc.	
Potlatch Forests, Inc.	27
R. G. Williams Co.	
Potter-Roemer, Incorporated ...	86
Reeds and Farris	
Rauland-Borg Corporation	102
George Brodsky Advertising, Inc.	
Reed Exit Devices	18
Connor-Sager Assoc., Inc.	
Richards-Wilcox Manufacturing Company	109
Connor-Sager Assoc., Inc.	
Rigidized Metals Corporation ..	91
Russell Baker, Inc.	
Sargent and Company	108
Hepler & Gibney	
Schwab Safe Company	116
Caldwell, Larkin & Sidener-Van Riper, Inc.	
Shaw-Perkins Manufacturing Co.	20
Charles P. Evans	
John E. Sjostrom Company	111
Richardson, Thomas & Bushman, Inc.	
R & G Sloane Mfg. Div., Atlantic Research Corp. ...	14
Dan Ebberts and Co., Advertising	
The Sturgis Company	35
Ketchum, MacLeod & Grove, Inc.	
United States Plywood Corp. ...	89-90
Young & Rubicam, Inc.	
United States Steel Corp.	103
Batten, Barton, Durstine & Osborn, Inc.	
The Viking Press, Inc.	104
Mogul Baker Byrne Weiss, Inc.	
Von Duprin, Incorporated	84-85
Caldwell, Larkin & Sidener-Van Riper, Inc.	
Henry Weiss Manufacturing Co.	25
Ash Advertising, Inc.	

SALES OFFICES

Los Angeles 90057: 2801 West Sixth Street, [213] 388-2286; Johnny Johnson, District Manager.

San Francisco 94105: 417 Market St., [415] 982-9537; Jerry Nowell, Gene Watts, District Managers.

Atlanta 30305: 3108 Piedmont Road, N.E., [404] 233-6729; Morgan Pirnie, Harold Brown, Charles Reynolds, District Managers.

Chicago [Northfield] 60093: Room 103, 540 Frontage Road, [312] 446-4844; Charles A. Ullrich, Lorraine Ullrich, District Managers.

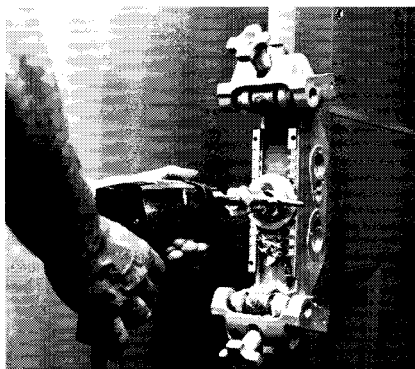
New York 10017: Thirty East 42nd St., [212] 697-5393; Lee Kent, Eastern Sales Manager; Jack Morton, A. E. Fountain, District Managers.

Dallas [Richardson] 75080: 507 Copper Ridge, [214] 235-3456; Stanley T. Poag, District Manager.

Washington, D.C. 20006: 1735 New York Ave., N.W., [202] 393-7050; Henry E. Kleiner, Business Manager.

The 7 minute mortisemaker.

This new Mortise Lock Installation Kit provides a controlled precision installation at greatly reduced cost. It is the first to completely prepare a wood door for lock, front and trim. There's no longer any chance of misalignment or inaccurate drilling when installing a mortise lock. This insures smooth lock operation and less maintenance. Mortisemaker* also eliminates the



potential of damaging the door when highly skilled craftsmen are not available.

And everything you need comes in a compact kit. Get details now! Write Russwin, Division of Emhart Corporation, New Britain, Connecticut 06050. In Canada — Russwin Lock Division, Belleville, Ontario.



Armstrong offers the widest variety of resilient floors. The best is the one that suits your design.

Midway Park Elementary School, Euless, Texas. **Architect:** Woodard and Associates, Euless, Texas. **Interiors:** Glenn and Cecille Hargrave, Dallas, Texas. **General Contractor:** Herman Smith & Company, Euless, Texas.



At this elementary school,
the best floor is
Imperial Modern Excelon Tile.

Design and color are the outstanding features of the Midway Park Elementary School. The architects designed the building fully "in the round", and interior designers filled the classrooms with color—no two exactly alike, yet all related.

For classroom flooring, they wanted a variety of color, yet a subtle spectrum. They needed flooring that would stand up to the heavy traffic and punishment that school classrooms produce. And they wanted flooring that would fit the budget.

They specified Imperial Modern Excelon (vinyl-asbestos) Tile for all the classrooms. To achieve the subtle color shifts, they used 6 of the 11 Imperial Modern colors available.

They could count on the tight-mottled graining of Imperial Modern to conceal scuffs and heel marks for a long time.

And good as it looks, Imperial Modern Excelon has the same low price tag as Armstrong Standard (through-grained) $\frac{1}{8}$ " Excelon. Through-graining, by the way, means the

pattern goes all the way through each tile to last the life of the floor.

Your next project? Whatever your requirements, there's an Armstrong floor to suit them, and a flooring specialist to discuss them: your Armstrong Architect-Builder-Contractor Representative. You can depend on the discussion being objective. With the world's largest line of resilient flooring backing him up, he makes recommendations that best suit your needs. Call him next time you're considering a floor specification. Or write: Armstrong, 503 Sage Street. Lancaster, Pennsylvania 17604.

SPEC DATA, IMPERIAL MODERN EXCELON TILE Tight-mottled graining through thickness of tile. Available in 9" x 9" and 12" x 12", $\frac{1}{8}$ " or $\frac{3}{32}$ " gauge. Excellent durability and ease of maintenance. Installation above, on, or below grade. Excelon and Imperial are registered trademarks of Armstrong Cork Company.

VINYL FLOORS BY

Armstrong



Another breakthrough in
building systems management...

A computer interface to link Johnson control centers with any standard computer!



Johnson has bridged the last gap in total Building Systems Management — a computer interface for new Johnson T-6000 environmental control centers! With it, you can hook up the T-6000 with any single-purpose or multiple-purpose computer.

This means you can increase the already matchless performance of T-6000 control centers by adding such computer functions as programming, data interpretation, decision-making, systems analysis, preventive maintenance scheduling, and optimizing. Our computer interface offers important new opportunities for many buildings to improve efficiency and cut operating costs.

When you build or modernize, take advantage of Johnson's distinctive "management by exception" concept of Building Systems Management. Write for details about the Johnson T-6000 solid state control center, now available with computer interface.

