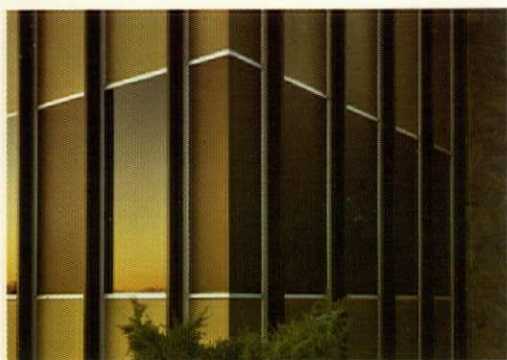


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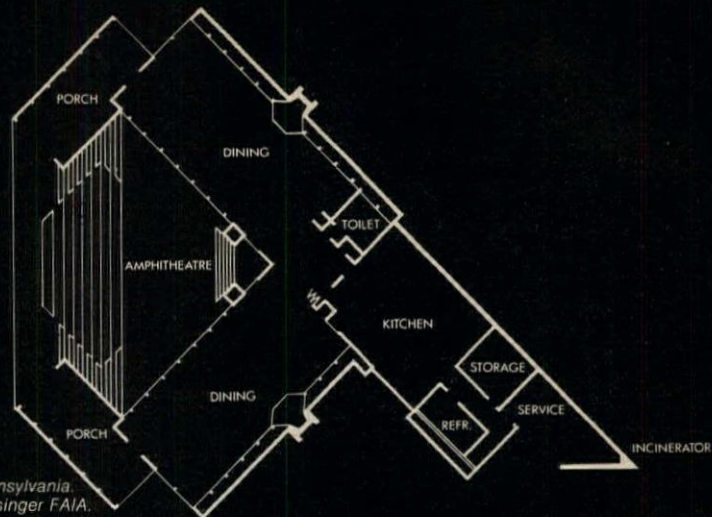
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AIA JOURNAL

MAY 1972

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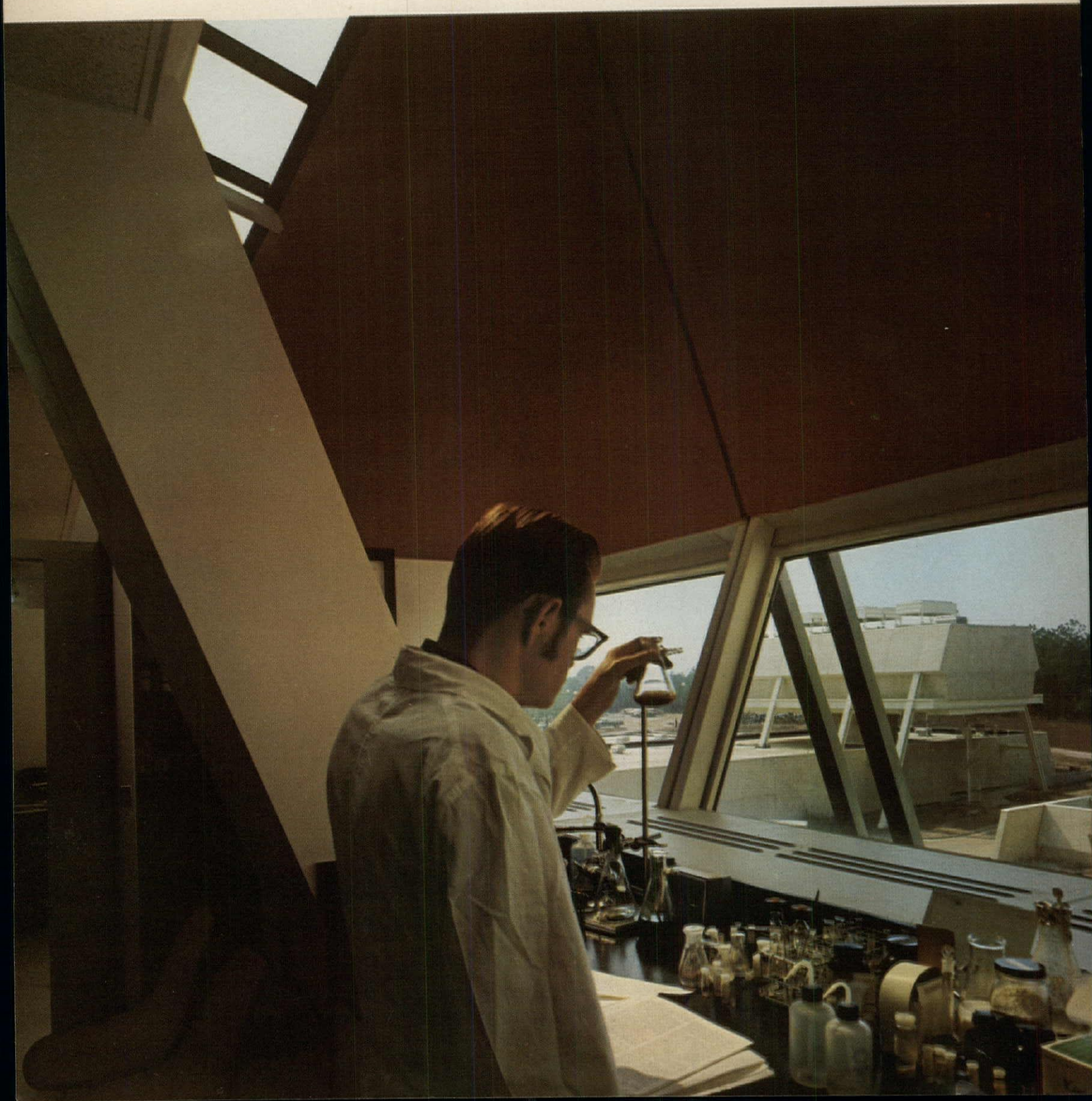
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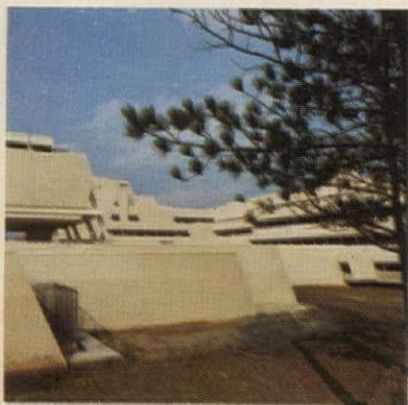
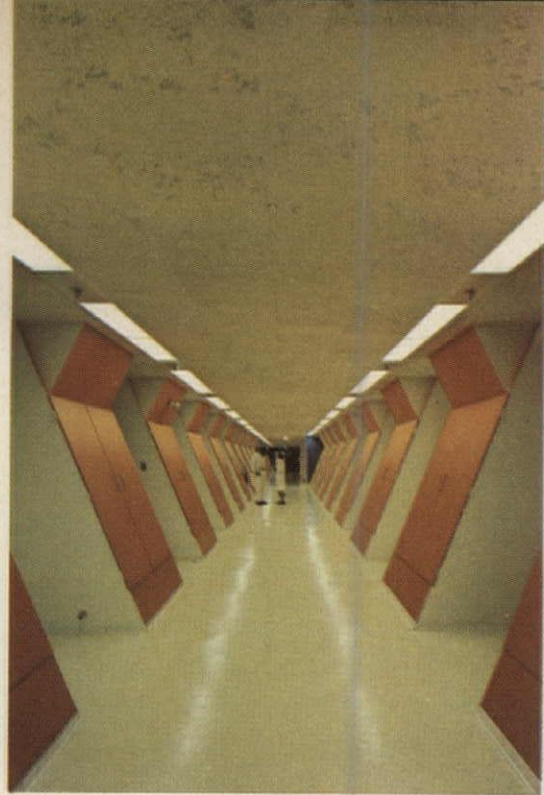
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VOL. 57, NO. 5

Architect uses
sloping steel columns to
give building rugged,
dramatic effect





To make the new headquarters and research building of Burroughs Wellcome Co. seem like a natural extension of the ridge on which it is located, Architect Paul Rudolph used sloping steel columns in a geometric, modular design.

The structure, located in Research Triangle Park near Raleigh, North Carolina, combines the functions of corporate headquarters and research facilities.

The sloping steel columns, set at a 22.5-degree angle, help to make the building seem to be an upward extension of the ridge. The steel-framed irregular ends of the structure were designed to facilitate incremental expansion in all directions in future years.

Geometrical modular units are also a unique part of the design. The large skylights and inward-slanting windows made possible by this design allow light to flood deep into the interior.

The completed building will house about 450 employees, and will contain 300,000 sq ft of space. Besides research facilities and offices, there will be a cafeteria, auditorium, library, and a lobby three stories high.

Steel columns sloping 22.5 degrees are a major feature of the design. The columns rest on a system of footings and tie-beams in which the vertical load is transferred directly to the soil through the footing.

The Burroughs Wellcome Co. building was designed by Paul Rudolph, New York. Structural engineer: Lockwood Greene Engineers, Inc., New York. Steel fabricator and erector: Peden Steel Company, Raleigh, N.C. General contractor: Daniel Construction Company, a division of Daniel International Corporation, Greenville, S.C. Bethlehem Steel supplied 3,100 tons of ASTM A-36 structural steel.

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comment and opinion

INTERPROFESSIONAL COOPERATION AND INTERACTION: Two events which have gone relatively unnoticed in the professional press since the beginning of the year could result in the development of a permanent basis for understanding and constructive collaboration among architects, engineers and landscape architects. In a statement issued by Oscar S. Bray, chairman of the Interprofessional Council on Environmental Design (ICED) he notes "with concern the increasing need for architectural, engineering and landscape architectural registration boards to resort to litigation in response to allegations of unlawful practice in these three fields. Such cases often involve only questions of jurisdiction of practice and have little or no bearing upon the public health, safety or welfare."

The frequency of these jurisdictional questions may partly be the result of inconclusive language in the definition of the three professions in the registration laws. This problem is now being studied by a joint committee of the National Council of Architectural Registration Boards (NCARB), the National Council of Engineering Examiners (NCEE) and the Council of Landscape Architectural Registration Boards (CLARB) which comprises the Interprofessional Council on Registration (ICOR) as well as by ICED. The newly formed council is composed of the president, president-elect and a general liaison of each body, thus providing a full representation of the three professions in the design field having state registration requirements. The state boards in each case have responsibilities within a well-defined area. This includes agreements among boards, coordination with their respective professions on legislative matters, and the developing and conducting of examinations for licensure.

ICOR member Ronald Allwork, FAIA, of New York City has made these pertinent observations: "A number of states include in their laws or regulations 'Standards of Responsibility' or a 'Code of Conduct.' Their purpose is to protect the public interest; they do not necessarily duplicate the ethical standards of professional societies. But some that now exist are evidently not considered to be well conceived. The law enforcement committee of NCEE reports, for example, that where such standards have been adopted in a state, 'the law enforcement score indicates that conduct rules are so vague, ill-defined and lacking in standards that both the profession and the board shy away from dealing with these.' The Wisconsin Examining Board of Architects, Professional Engineers, Designers and Land Surveyors has developed rules which, among other things, deal with conduct. These are now in effect and have been adopted by the above committee as a model. Rules and regulations should deal only with the professional conduct which is directly related to the protection of the public health, safety and welfare. The development of guidelines for such codes or regulations will be initiated by ICOR."

Allwork also points out that "definitions of practice contained in the various state laws are the subject of continuous debate between architects and engineers. Lately, the landscape architects have also become involved. . . . In the simplest terms, what is sought is a statement that each architect, engineer or landscape architect shall undertake only those phases of a project for which he is competent by virtue of education and experience."

With today's environmental problems demanding the best individual and collaborative performance, it is vitally important that every barrier to interprofessional cooperation and interaction be eliminated.

ROBERT E. KOEHLER

ACKNOWLEDGEMENTS

17—Jim Dallas, except for two right-hand photos in lower rows
17 right, lower row—Joseph W. Molitor
18, 19, 20, 21 left, 22—Jim Dallas
23—Joseph W. Molitor
24 right—Wolfgang Wiese
26 through 30—Peter Fink
32—Ezra Stoller
33—George Cserna

34—Balthazar Korab
35—David Hirsch
36—Hedrich-Blessing, all but below
36 below—R. C. Ellingsen
37—Ezra Stoller
38—Eric Sutherland
39—Kurt Blum
40—Morley Baer
45, 46, 47—Charles R. Conley

NEXT MONTH

How the profession might cut electrical consumption substantially is suggested by an architect in the leadoff presentation—and one that is bound to draw fire from a number of sources. Among these, in fact, is the illuminating Engineering Society which, in an article that follows, takes issue with some of the proposed ways of saving in the area of lighting. Our intent in publishing the two pieces is to promote a dialogue between the professions which to a degree can control energy consumption and, at the same time, foster greater interest among architects in the overall subject.

Other features in June:

- A look at a nine-member firm in Albuquerque that combines arts and crafts with architecture in responding to the desires of its clients, many in places far remote from the metropolitan region—another in our continuing series of Practice Profiles.
- Some pointers by an engineer and consultant on swimming pools to help the architect familiarize himself with the design problems peculiar to this area, including a list of suggested sources of information.
- A study of a schoolhouse designed to become a generator of community activity and a real part of its neighborhood.
- A description of the National Clearinghouse for Criminal Justice Planning and Architecture at the University of Illinois.

ASIDES

It was encouraging, indeed, to learn that President Nixon and Canadian Prime Minister Pierre Elliott Trudeau have signed the Great Lakes water quality agreement—"the first time two nations have undertaken such a joint effort to solve an environmental problem," as one writer put it.

One reason we editors are so elated by it all is that the June 1969 AIA JOURNAL carried a 32-page section devoted to the subject: "The Great Lakes: The Tie That Binds," preceding the combined convention of the AIA and the Royal Architectural Institute of Canada held in Chicago. At that time we wrote, "Any cleanup campaign should involve an international commitment for which some able machinery must be established. To repeat one author: 'You can't clean up half of a lake.'"

The section not only drew lavish praise from scores of readers but the contents had wide publicity, ranging from a full-page article in a large metropolitan daily to a spot on CBS News.

Well, that machinery we referred to three years ago has been put into motion. Under negotiation since last fall, the agreement proposes standards for the lakes and envisages a vast program of construction of sewage treatment facilities in both Canada and the United States.

While the pact contains no cost figures at this time, the program is expected to approach the \$3 billion mark. The US, as the major polluter, will pay about 90 percent of the total—\$2 billion coming from federal, state and local governments and up to \$1 billion from industry. □

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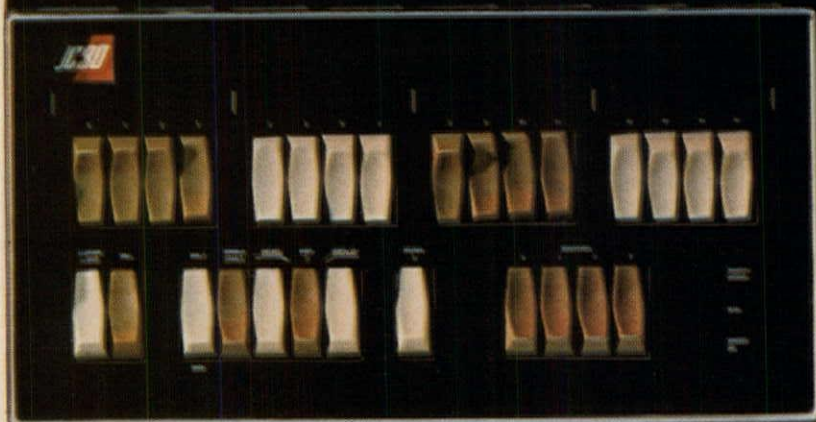
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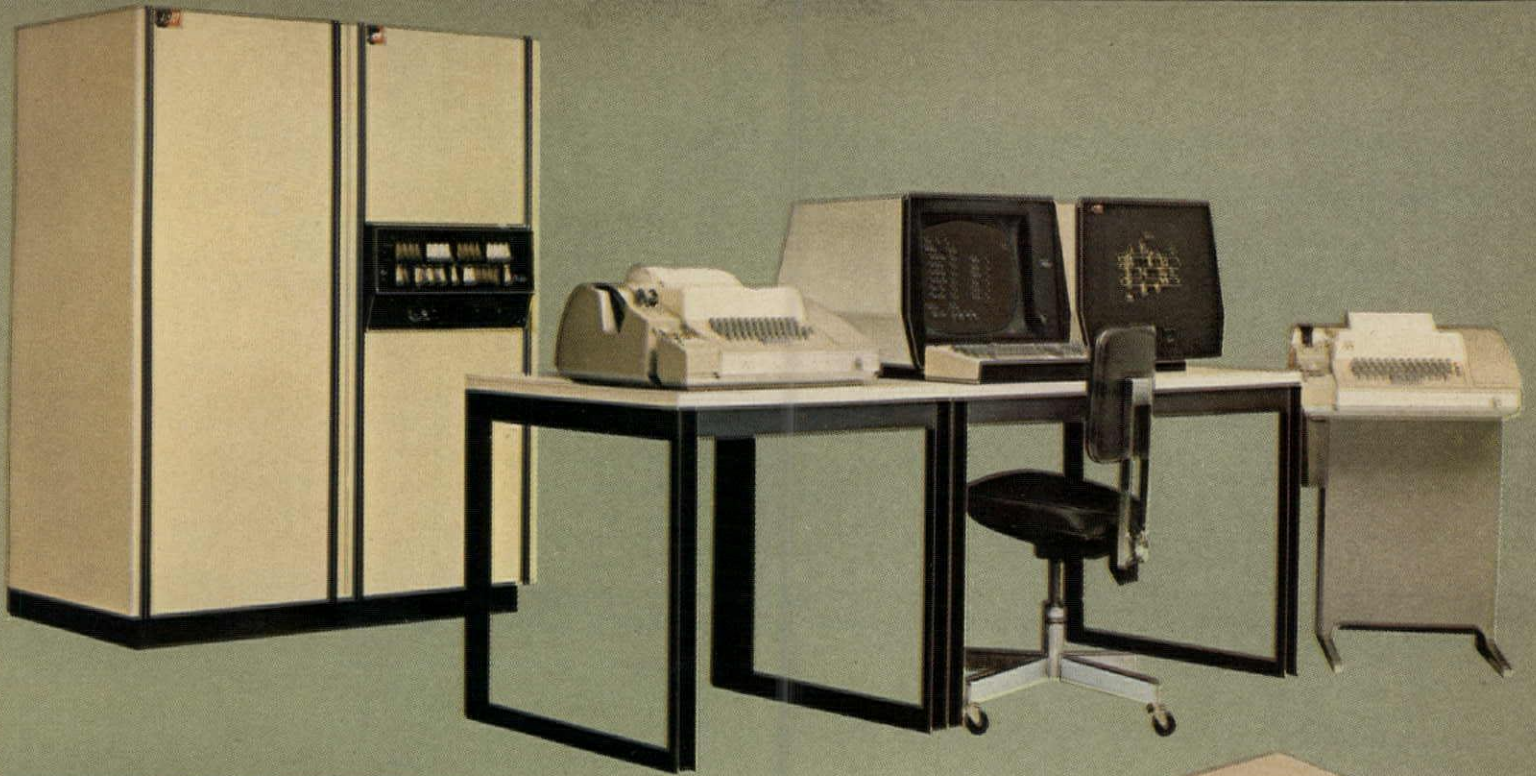
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Breakthrough Welcomes First Occupants; Committee to Analyze Guide Criteria

In Kalamazoo, Michigan, the first Operation Breakthrough homes now have occupants. Secretary George Romney of the Department of Housing and Urban Development welcomed the first families to move in their new homes in March, and appropriate dedicatory ceremonies marked the occasion. Romney has predicted that two-thirds to three-fourths of all housing in the US will be factory built or will use prefabricated components by 1980.

Operation Breakthrough is the national demonstration program launched by HUD in 1969 to modernize the American housing industry and to remove barriers to volume-produced housing (see AIA JOURNAL, Mar. '71).

The Kalamazoo Breakthrough site, called New Horizon Village, features a large assortment of housing units including townhouses, garden apartments, medium and lowrise apartments and single family homes. The seven producers who have erected 245 units are Levitt Building Systems, Inc.; Hercoform Marketing, Inc.; F.C.E. Dillon, Inc.; Mate-

rial Systems Corp.; National Homes Corp.; Republic Steel Corp.; and Inland-Scholz Housing Systems, Inc. The developer of New Horizon Village is the Kalamazoo Breakthrough Housing venture, a joint effort of Bert L. Smokler & Company and National Corporation for Housing Partnership. Site planner is the Perkins & Will Partnership of Michigan.

In March the Building Research Advisory Board announced that it had formed a Special Advisory Committee at the request of HUD to analyze the possible impact of the Operation Breakthrough Guide Criteria on the daily operations of the building industry should the criteria be used beyond and outside Operation Breakthrough. BRAB's committee will analyze the general content and nature of the guide criteria. By meeting with the various industry groups that have submitted comments to HUD, the committee will try to identify areas of concern and conflict and develop recommendations for resolving the points at issue.

Highway Trust Fund Replacement Asked; Exposition, Conference Set for May

The AIA has been giving attention to transportation problems facing the nation and has proposed that a Community Development Fund replace the present Highway Trust Fund. Speaking for the Institute before a Congressional subcommittee recently, Archibald C. Rogers, FAIA, of Baltimore said that the community fund would be "a funding source at the federal level that would not only be multimodal in the transportation sense, but would be available to provide public infrastructures of all kinds necessary to sustain a high quality of urban and rural life."

Rogers told the members of the House Public Works subcommittee on roads that "the days of single purpose categorical grants are numbered. General and special revenue sharing or block grants are the public funding mechanisms of the future." He said that the Community Development Fund would be used to create and repair the public infrastructure of roads, sewers, water mains and power and utility lines; would provide planning and capital monies to state and metropolitan governmental units; would be flexible allowing local political units to assign priorities; and would be supportive of local metropolitan planning and development agencies.

Meanwhile, plans are going forward for Transpo '72, the United States International Transportation Exposition to be held at Virginia's Dulles Airport, May 27-June 4. It is expected that over 300 exhibitors will participate, including about 60 foreign countries.

On May 30-June 1 the 14th Highway Transportation Congress will take place in Washington, D.C., at the Statler Hilton Hotel. The theme of the congress is "Highways: Everyone's Transportation System." Special arrangements are being made for those attending the congress to go to Transpo '72.

Fellowship Conferred upon 79 Members

Fellowship in the AIA is conferred upon a corporate member if he has been a member in good standing for 10 years prior to his nomination and if he has made notable contributions to the advancement of the profession in one or more areas. The investiture of members who have been elevated to the College of Fellows is always an AIA convention highlight. Seventy-nine corporate members have been advanced to fellowship in 1972 (see listing, p. 50). *continued on page 52*

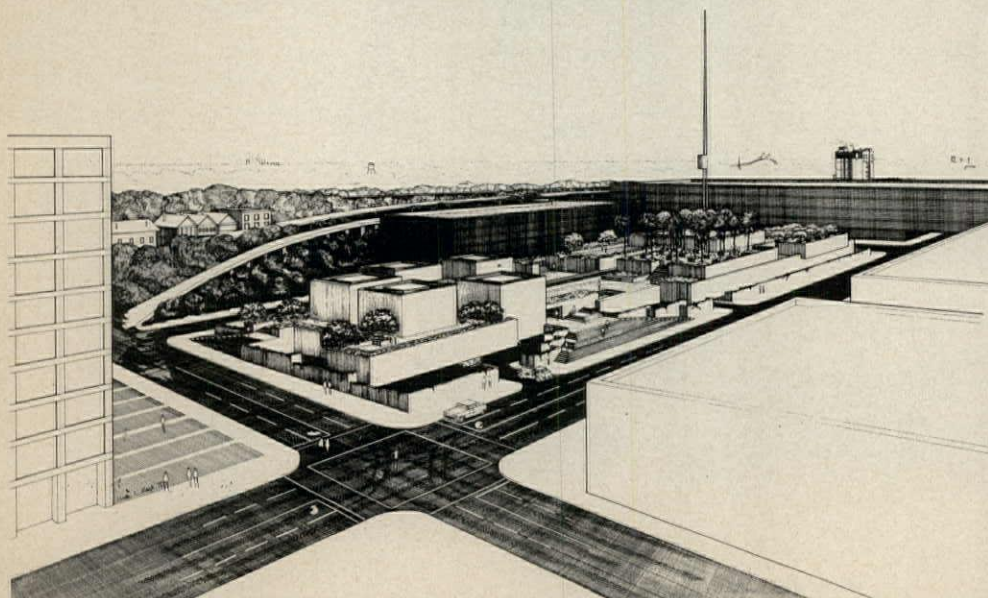
Jacksonville Voters Approve Police/Court Facility, Subject of Design Competition

In March, voters in Jacksonville, Fla., approved the \$9.5 million bond issue to construct a police administration complex to replace a 45-year old structure on Liberty Street. Present police offices are scattered around the city.

William Morgan, AIA, of Jacksonville received the first award in a design competition for the complex. The jury praised the design's special features, such as "the simplicity

of circulation between the court and police functions . . . and the variety of internal spaces created by penetrating volumes."

The architects want the new building to "avoid the stigma of overbearing authority," and they plan a contemporary structure with the upper portion having a parklike setting with shrubs and palm trees. As the jury stated at the time the award was made, "We sought a design which projected a feeling of friendliness and openness which is so needed in developing a greater receptiveness to the criminal justice system."



Conversion of roof of a low profile building for use as an urban park wins jury's applause.

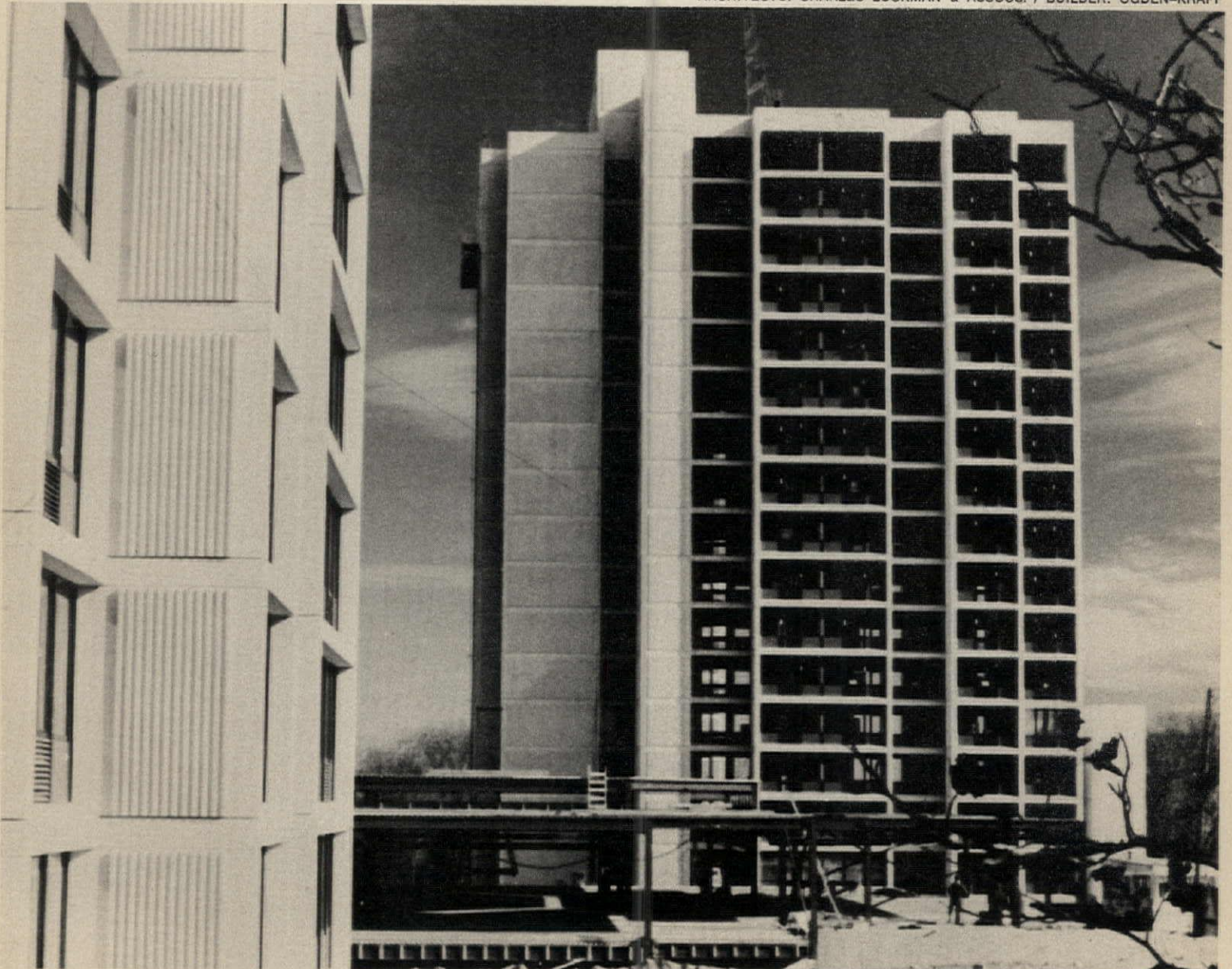


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Toward Excellence in Design

by MARIA F. MURRAY

Director, Awards Programs

Probably nothing is more gratifying to either a young practitioner or to the principals of a well-established firm than to have a project selected for a design award by professional peers. To the young architect, this is an indication that he is creating good design; to the older firm, it is indicative that its reputation for excellent work is continuing.

The AIA Honor Awards program is one of the more significant aspects of the Institute's endeavors as a national organization of architects. Originated in 1949, the program falls under the purview of the Commission on the Environment.

The program is open to American architects for building projects in this country or abroad. The Honor Awards encompass any improvement designed and built by the submitting architect, including parks, plazas and other urban design, as well as remodeling and restoration of old structures. Premiated buildings are eligible as well for a Bartlett Award which is bestowed upon those structures that provide ready accessibility for the handicapped and the elderly.

Each jury member is selected by the AIA Board of Directors with recommendations made by the Commission on the Environment. Jurors feel a tremendous sense of responsibility, studying each submission carefully to make positive that the project is well designed, functional and at home in its environment.

The sense of responsibility of an Honor Awards jury is evidenced by an incident that happened at one of the meetings a few years ago. At the end of the second day, a particular submission was studied and restudied, with slides shown and discussed at length. Finally, the project was rejected. The following morning, one member of the jury went over the reject pile, picked up the submission binder and said, "Let's talk about this one again." Obviously, he was bothered. So it was all rehashed with the result that the project won an Honor Award.

Five years ago, the AIA Design Committee recommended a ruling that was adopted by the board: Before a project not familiar to at least one member of the jury could receive an Honor Award, it must be visited. The visitation process has been helpful in the wise selection of Honor Awards. Jurors feel considerably more assured that the right decision has been made if they have actually

seen the project, walked around it and "experienced" it.

One process of the Honor Awards program has been questioned many times. Would it be possible to have the entire group of submissions screened prior to jury meeting? Such a procedure would save time and work on the part of the jury. But who would do the screening? In fairness to each submission, the jury itself must review each one. As difficult as it is for five busy architects to study some 500 entries each year and to give each his individual consideration, that's the way it is and should be, and certainly is the method desired by the entrants.

The Institute sponsors awards programs in cooperation with other organizations, including the American Library Association, the American Association of Junior Colleges, the Nonprofit Housing Center, the American Association of Medical Clinics, *House & Home* and *American Home* (Homes for Better Living awards), the Naval Facilities Engineering Command, the Bricklayers, Masons & Plasterers International Union (Louis Sullivan Award for Architecture, the newest of all) and the Reynolds Metals Company. There are three programs with the last-named organization: the R.S. Reynolds Memorial Award, an international program; the Reynolds Aluminum Prize for Architectural Students; and the R.S. Reynolds Memorial Award for Community Architecture.

There is some confusion, especially on the part of the general public, regarding the differences between an awards program and an architectural competition. We define an awards program as one where honors or prizes are awarded for projects already completed. A competition exists when two or more architects, at substantially the same time and under the same conditions and with knowledge of the competitive situation, comply with an owner's request to submit designs for his building requirements in vying for a new project. A definite code has been established for both the Institute's awards programs and competitions. Different members of the AIA staff administer them.

Each and every one of the AIA awards programs is not only successful but effective. Why? The answer is that each time a project is premiated, it sets an example. Excellence in design is encouraged. And, after all, that is what the AIA is all about. □



Reedland Woods School, Tiburon, Calif. Architect: Ron D. Young, Cupertino, Calif.

Corte Madera Branch, Marin County Library. Architects: Smith Barker Hanssen, A.J.A., San Francisco, Calif.



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Industrialized Housing, HUD's Operation Breakthrough prototype site, Kalamazoo, Mich.
Housing Systems Producer: Hercoform Mktg., Inc., Wilmington, Del.
Architects: Armstrong & Salomonsky, Ltd., A.I.A. Richmond, Va.



Remember when most American public buildings derived their design and impressive bulk from classical architecture? Here are three examples of contemporary civic buildings that have lost the austere, impersonal "institutional look"—due in large measure to the use of California redwood plywood. But its warm, natural visual appeal is only the beginning of redwood plywood's virtues. Its clear heartwood face veneers are resistant to decay and the erosive effects of weather. It will take and hold a wide variety of finishes longer than any other wood. And its low flame-spread value established by Underwriters' Laboratories, Inc., allows redwood plywood

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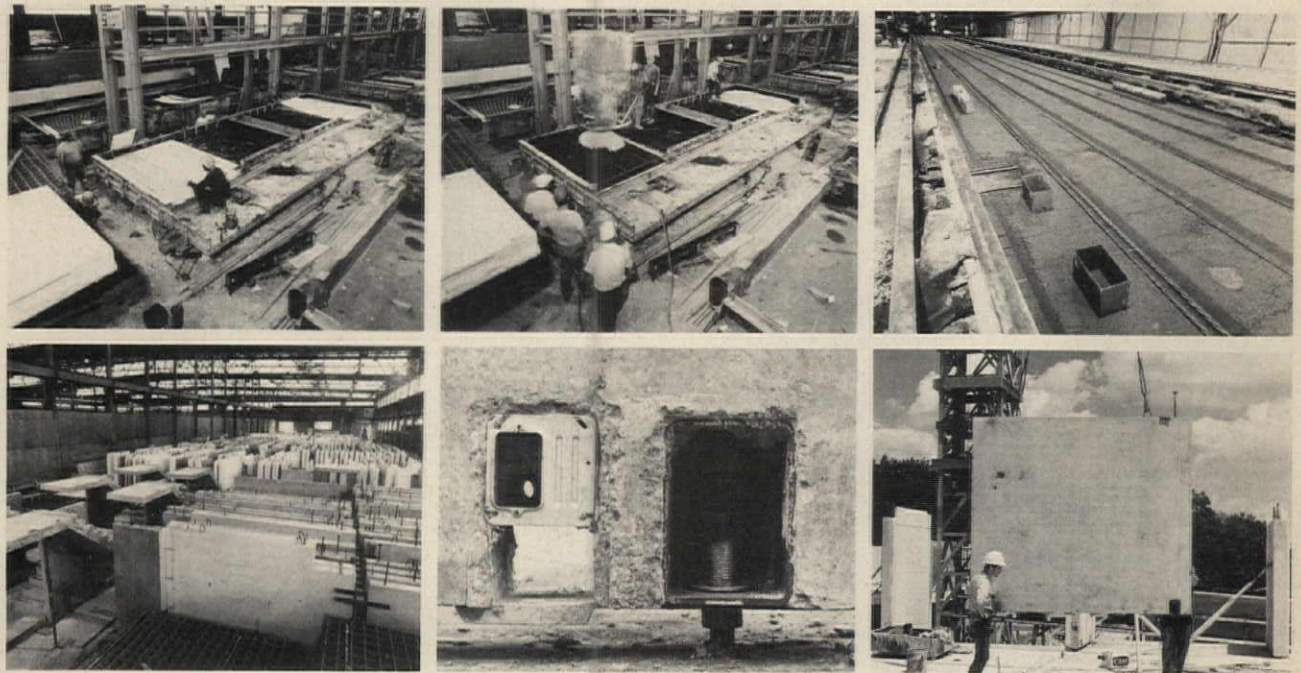
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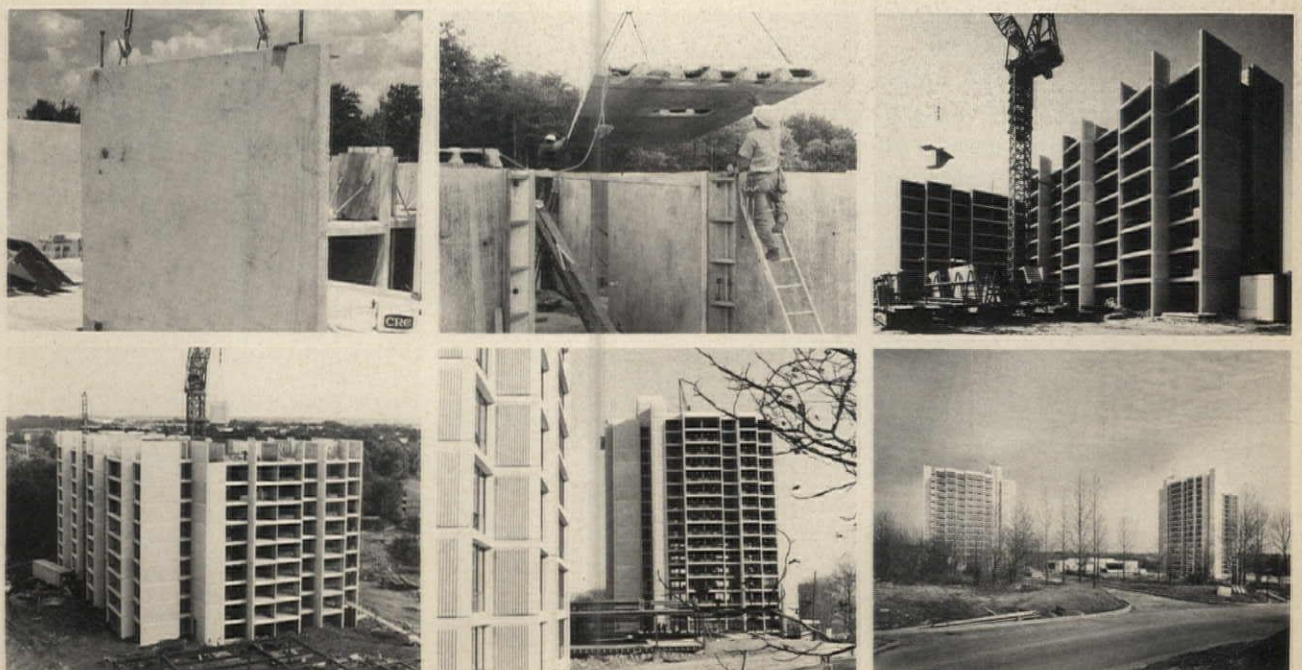
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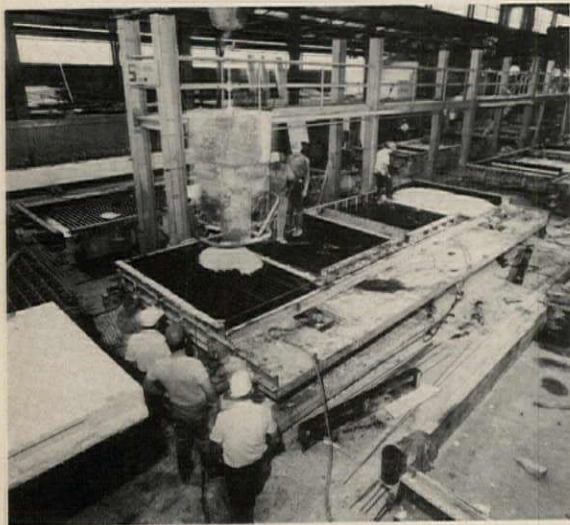
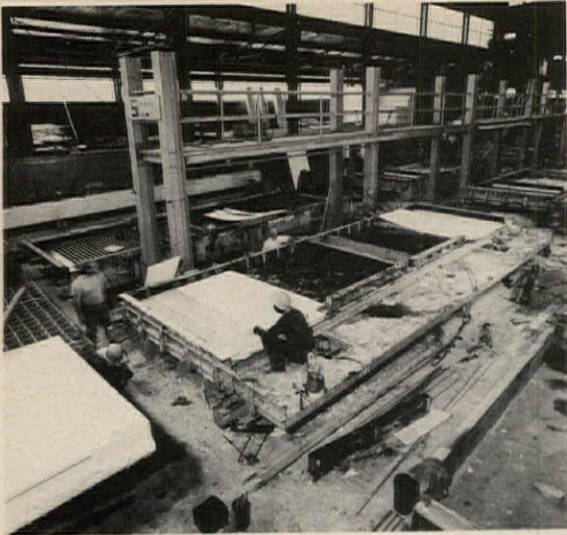


Can Systems Building Be Better?

by JAMES M. LUCKMAN, AIA

Can it be quicker, reduce construction cost and still enhance design? Yes it can, maintains an architect who has tried, but in order to be proficient you've got to know what you're doing.





Styrofoam insulation is positioned on top of concrete in a wall panel (a third layer is reinforced concrete and serves as the components' structural element). Workers pour finish layer of concrete in a wall form. Tension cables and penetration forms are positioned in floor slabs.

"Systems" is a buzzword in the building industry. But like most buzzwords the term, as used by the industry, is more sound than meaning.

The architect is as guilty of indulging in the systems rhetoric as any other member of the industry. The profession's cocktail party circuit abounds with experts who are "into" the new technology. With due respect to the profession, however, our firm's extensive research into building systems revealed that a large number of construction projects promoted as examples of new systems were in reality using conventional construction methods. And many others launched with great fanfare had to be rescued during construction with conventional techniques.

Systems projects in general basically suffered from two major problems:

1. Key members of the building team failed in planning and coordination, working as a free-wheeling gang of experts rather than disciplined members of a controlled joint effort.
2. Systems rather than design held the upper hand. Systems must enhance design, not detract from it. Our objective must be better buildings, not just quicker and cheaper structures.

Based on this analysis, our firm developed its own systems strategy, placing the highest priority on two primary criteria: 1) establishment of a complete, closely knit project team even before preliminary planning has begun; and 2) selection of team members who are committed to architectural excellence.

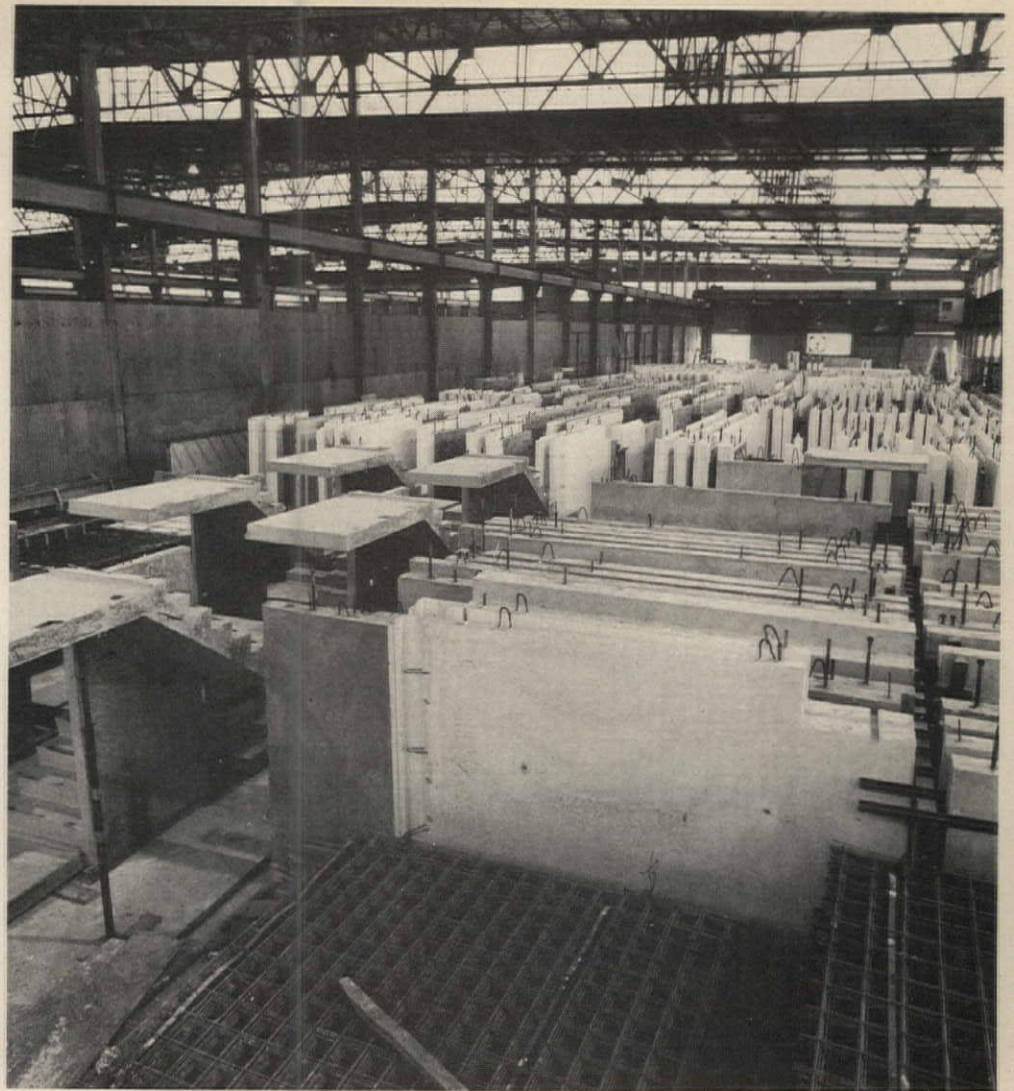
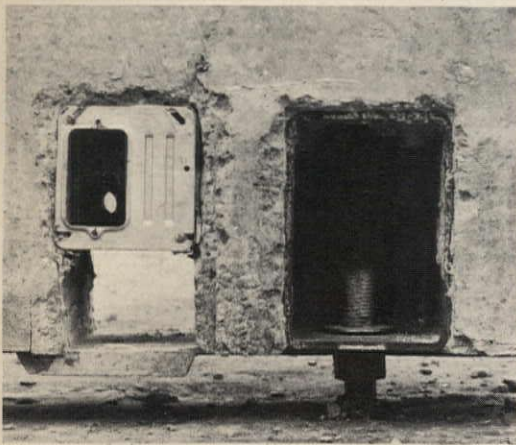
The construction system alone does not make a building system successful. It is, rather, the total process that results in the mechanized production of a building: careful integration of planning, design, manufacturing, site operations, financing, marketing and management.

Our management believed that it was this total process we should concentrate on. We did not become involved with construction gimmicks or fads which did not meet our standards for a workable building system.

For almost 10 years our firm felt that systems technology was not advanced enough to warrant major applications. We had employed movable interior and exterior wall systems in many projects, such as for example the Veterans Administration Hospital in San Diego (see *AIA JOURNAL* April '70). However, it was not until 1969 that we launched a detailed research program of the industrialized building process. At our management's mid-year meeting we set aside funds for an in-house, in-depth study.

Specifically, our research demonstrated that there is a critical need for a systems approach to housing of all kinds and also that generally, the most effective systems were being used in Europe. The United States experience had been sketchy, to say the

Mr. Luckman is chairman of the board of directors and chief executive officer of Charles Luckman Associates with headquarters in Los Angeles, as well as president of the Ogden Corporation.



Connection box, nut and bolt connection and electrical receptacle are cast in place at factory. Components, which are erected on arrival, are stored at factory in ample supply ready to be shipped whenever needed, thus eliminating the need for storage space at the jobsite.

least, and our government's efforts in research and support, though interesting, were small and limited. "Operation Break-through" and various government-sponsored plans in school building systems had given some valuable information but were still a long way from meeting the needs of a growing population.

Finally, process, not product, is the key. We came to the conclusion that for building systems to work well, five basic criteria had to be met:

1. All stages of the building process have to be integrated.
2. Production must be continuous. A large volume market must be assembled by a combination of government and private initiative or by either separately.
3. Products must be standardized. Both public and private groups related to the industry must work on product compatibility, dimensional coordination, testing and certification, performance and information standards. Building code standardization efforts currently underway must be continued and must move toward performance-oriented codes.
4. Work must be highly organized. Management and scheduling techniques must be developed and refined to control all aspects of the building process. Computer technology is now available and in use for this purpose. Careful analysis should also be made regarding the ratio of on-site versus factory assembly, including the aspects of component transportation and hoisting.
5. Manual labor must be replaced by mechanized manufacturing

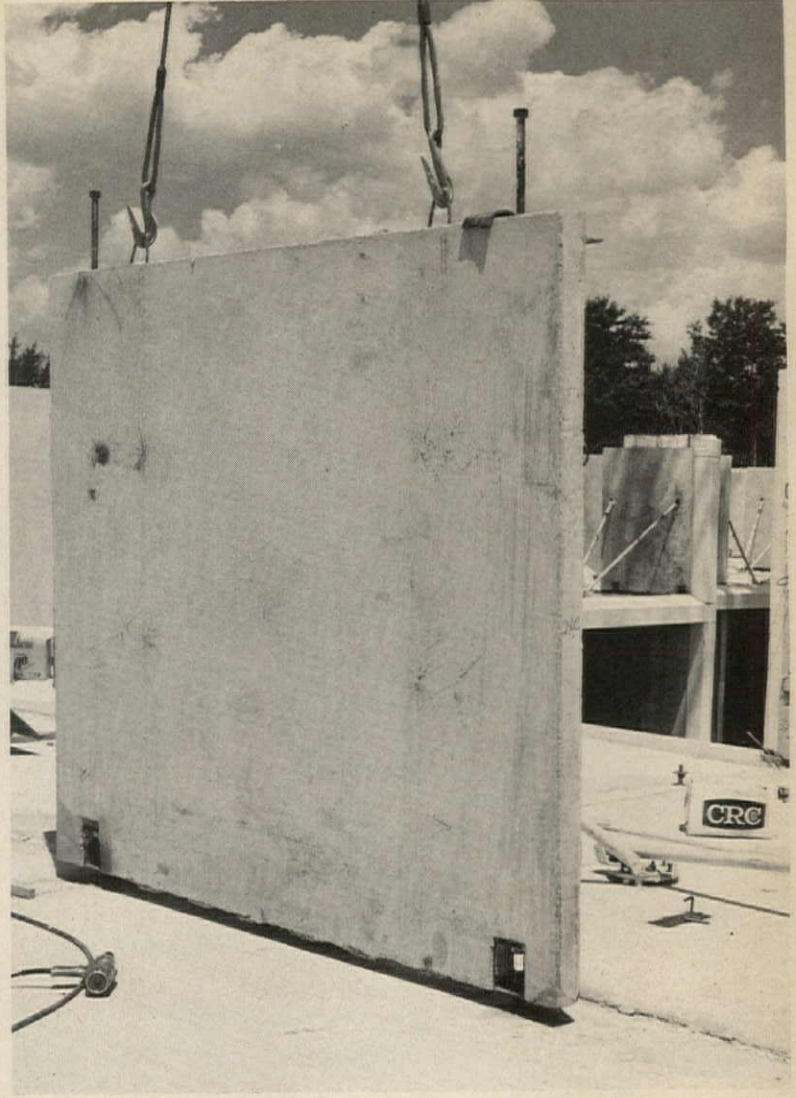
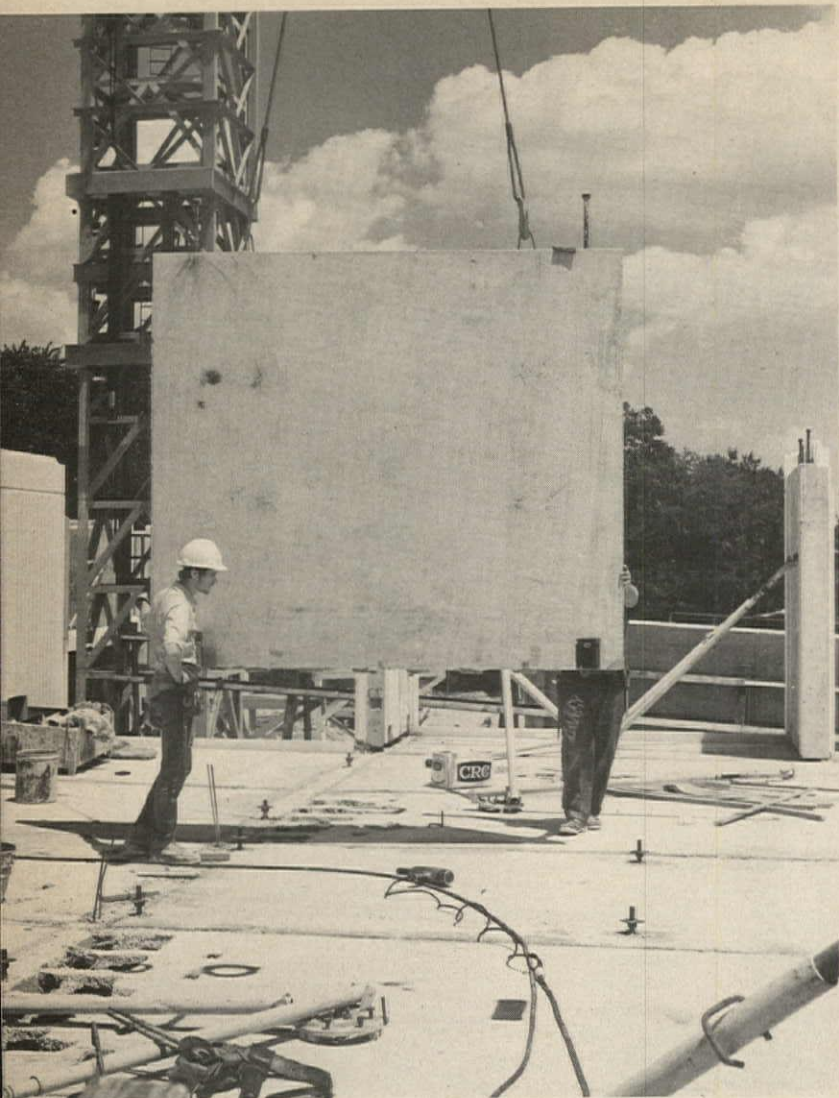
and a high degree of capitalization per worker must be reached before any real gain can be made.

We also concluded, as have many others, that research and experimentation must be increased and organized. It is obvious, therefore, that the building industry must establish appropriate research and development efforts. A national clearing house should be established which will process all government research, establish testing and certification procedures for the new technology, and collect research data.

These basic philosophies guided our approach to systems. The careful, slow method appears to have paid off.

During our research period, we were fortunately able to join Ogden Development Corporation, our real estate development affiliate, as it established its own research program in student housing. As part of this work, Ogden Development hired Charles Luckman Associates to plan and design a prototype student living center. We assumed that this might some day be implemented with building systems, so our design reflected a modular scheme.

Ogden Development's study of existing student housing and extensive interviews with both students and college housing officials revealed that both groups unanimously preferred facilities that would meet changing student lifestyles. There is a demand for more privacy and a desire for more opportunities in self-expression in individual accommodations, as well as for more flexibility in food service. At the same time, housing officials in-



Interior wall panel is lowered into place to be connected to protruding bolts in floor/ceiling panel in story below; steel box will receive bolt end which is in place within connection box at bottom of panel. The crane hook remains in place until spider brace is attached.

indicated that they preferred the services and expertise of a private developer who would design and construct the buildings and be committed to controlling costs and meeting time schedules.

With the research completed, our firm began evaluating specific building systems that would satisfy our criteria. Ogden Development was now busy trying to sell its student living center apartment concept. The two research programs provided the background for the next event. It's here that we got lucky.

In the fall of 1970, Ogden Development formed a joint venture with Frederic G. Krapf & Son, Inc., of Wilmington, Delaware, general contractor, and entered a student housing design competition at the University of Delaware.* The joint venture hired Charles Luckman Associates to prepare the design documents. This resulted in a conventional concept in steel but based upon our modular research prototype.

The University awarded the commission to the Ogden Development-Krapf-Luckman team but made a major change: It

*This was an open design competition, to which the University of Delaware invited all interested teams to submit proposals by running a number of advertisements in general and trade media. Before issuing the invitations, the university hired an architectural firm to develop criteria for the design and construct competition including performance specifications on items like maximum and minimum standards, etc. Interested teams had eight weeks to submit proposals; there were no limits on the number of teams or types of responses. Proposals were evaluated in light of the performance criteria by a panel of judges including independent architectural and engineering consultants hired by the university and by the university president's advisory committee, which consists of university vice presidents. The university reserved the option to reject any or all of the submissions.

had found a more preferable site for the student living center. However, it asked the joint venture to retain the design concept in this new location. The joint venture in turn proposed that in the process of reconsidering siting, it restudy the entire design and propose amendments for the school's review. The university agreed to the request.

Fred Krapf, head of the Krapf firm, told us that the Bison System* was available in the area and encouraged us to examine it and consider it for the project.

As a result of our research, we were familiar with this system—a fact that played a key role in our eventual decision. We had several critical questions to resolve about it before we would propose its use at Delaware. Our design team visited London to inspect the system during fabrication and on completed jobs. After detailed analysis we determined that problem areas could be resolved.

If we had not completed our research prior to the University of Delaware submission, we probably would not have considered the Bison System seriously. Time and lack of understanding would have been against it. We selected a flexible version of Bison's slab and bearing wall system for study. It appeared to provide the greatest opportunity for meeting the owner's needs, and had no foreordained measurements. Its basic

*Produced by Strescon Industries, Baltimore.



Hollow-core floor/ceiling unit is guided into place; loops of reinforcing steel bar exposed at its end will be placed over steel dowels cast in walls; the wooden forms are used while concrete in the joints is drying. A precast one-story high stair unit is being installed.



components are precast concrete bearing walls and prestressed concrete floor slabs.

In addition to the basic panels we designed precast concrete stair and spandrel units, aluminum and glass window wall sections and kitchen units for the apartment towers. The one-story commons building remained a steel frame structure, but with more time we would probably have used the system with this facility as well.

The university agreed to the substitution of the precast concrete system for the steel frame, new room plans, furniture design (won on a bid by Jens Risom Design Inc.) and other minor changes. The result is that approximately 40 percent of the students at the University of Delaware Center will be housed in one-bedroom and 60 percent in two-bedroom apartments. The units feature individual living rooms, kitchenettes, bathrooms and bedrooms rather than traditional dormitory sleeping/study rooms surrounding communal areas. This gives students more privacy and, since nothing but bathroom and kitchenette appliances are built-in, it offers a great chance for self-expression in decorating. Each tower is served by three elevators.

In early spring of 1971 we began pouring foundations on the site. The two towers are among the first in the US with completely precast concrete wall and floor/ceiling units. The advantages of the system include:

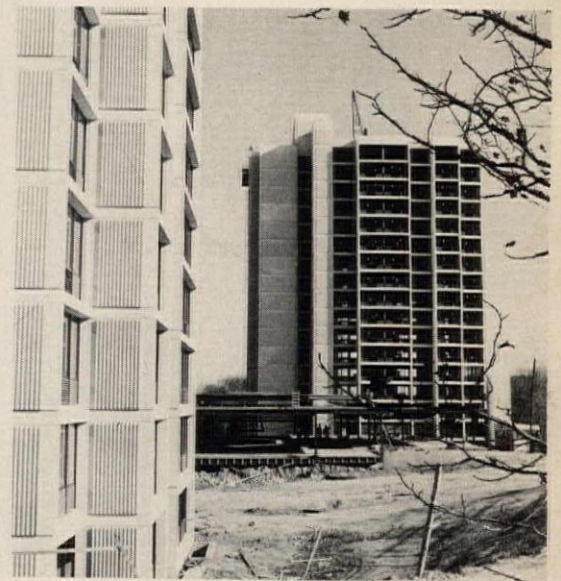
- more flexible interiors through column-free construction

- reduction of on-site construction time (the buildings went up at the rate of one floor a week)
- reduction of overall labor requirements generally and field labor costs specifically
- better acoustics (more than 90 percent of the apartments are separated by 7-inch thick concrete walls)
- easier maintenance
- opportunity to use a more economical utility system (all-electric is more economic in this particular part of Delaware)
- finer finishes on the factory-poured concrete units
- possible future changes in the technique and scope of preparing working drawings.

But everyone's most insistent question is about money. Will building systems really reduce overall project costs? Although the final figures are not in—the buildings are still under construction—we estimate that the reduced construction time, labor and financing costs will mean immediate savings for the university.

The individual precast concrete units were manufactured in Baltimore and trucked to the site. Approximately two weeks' work, or two floors, were stored on the site at one time. The largest panel used is an interior wall at the elevator well, 20 feet long. It weighs about 10 tons.

Ten-ton tower cranes lift the precast sections into place. After vertical wall units are installed, they are topped with floor planks which are penetrated wherever chases and ducts for



An exterior wall panel goes up and, finally, the white sand and concrete University of Delaware Student Living Center is topped out.

mechanical and electrical systems are needed. The wall and floor units are tied together with various systems of interconnected dowels and loops especially designed by our firm. The joints are insulated with a solid coil of styrofoam and grouted.

Construction requires no scaffolding. Small spider braces hold wall units in place until the grout is hard. They are then removed and used again on subsequent floors. Alignment of walls and floor is verified at every floor using a transit.

Because the system requires a smaller work crew than conventional construction, comparative labor costs are reduced. As lower floors are completed, installation of the metal window units starts. At the same time, electrical and mechanical equipment is installed inside the building and final interior finishing touches are completed.

Design and construction of the wall units provide an interesting example of the system's potential: External walls are a form of sandwich. The inner skin is the structural element and is reinforced concrete. The outer layer is architectural concrete and, in the case of the Delaware project, is a white sand and cement that gives a permanent exterior finish. Between the two concrete layers is thermal insulation—a layer of styrofoam. The two concrete wall outer components are linked by stainless steel ties that pass through the insulation. As they emerge from the factory, interior wall surfaces are ready to be treated with textured paint or paper. Once erect, floors are ready for final trim.

The result is improved interior temperature control and more effective acoustic separation created by the 7-inch thick reinforced concrete walls between rooms. The floor panels, with 8-inch cellular decks, include an acoustic bottom that becomes the prefinished ceiling of the room below.

Another advantage of this system is that interior finishing of both towers can proceed regardless of weather. Consequently, construction schedules are reduced by as much as 25 percent from conventional methods. The two towers went up at the rate of one floor a week.

We believe that the system will have many applications to other kinds of housing such as low, middle and luxury income apartments and hotels. Our experience with the Delaware project indicates that repetition of the building system in other projects will lead to significant changes in the techniques and scope of the preparation of an architect's drawings.

First of all, schematic drawings will tend to be more detailed than is the current practice of many architects. Working drawings, on the other hand, may well represent less bulk; they focus more on building system details such as for instance the dowel and loop system in the Delaware project. Instead of a large roll, the construction documents may be an 8½x11-inch loose-leaf notebook.

Our firm's experience at the University of Delaware indicates that the systems team designer must follow some basic



The \$10.5 million center is about completed, a year after the pouring of foundations began. The towers went up at a rate of one floor a week.

guidelines to give the systems project a fair chance for success. First, he must make sure that his initial conceptual ideas are based on a clear understanding of the project's economic considerations including the availability of building components to the site, topographic and soil conditions, legal constraints and labor and assembly capability in the area.

The client's requirements must be expressed in an architectural program that is realistically transformed into a three-dimensional horizontal and vertical floor plan that includes all furniture and service requirements. The designer's detailed schematic solution will become the basis for a first complete cost estimate. An independent list of trade-offs should be prepared at the same time, first for alternate component systems and performance criteria, then for alternate client requirements if the budget is unrealistic. A careful step-by-step analysis of the estimate breakdown by the entire team will immediately indicate where the "fat" is and where the trade-offs can be made. At this stage, there may be a strong indication not to use industrialized construction.

The team designer must be concerned with speed of construction, the standardization of components, repetition, minimal labor operations and the logical sequence of assembly at the site. He should continually coordinate mechanical and electrical features with the architectural and structural design in order to make his trade-offs before the esthetic form of the building is "frozen."

With this approach the team designer will fulfill his mission of providing his services within the constraints required of a functioning system's team. Design will be enhanced by the system, not destroyed.

In reality, the team effort means literally daily coordination and cooperation. The systems team designer must design *with* the other team members. This is not in the classic tradition of the architect, who more normally designs and then lets the engineering consultants, the owner and the contractor and the ultimate user react to the design.

If systems is truly the way of the future, and our firm believes it is, then there can be no "sides," no accusatory fingers saying, "Cost is your problem," or "We just design and are not responsible for building."

If a successful project is the goal, which it must be, and systems is the tool, which it should be, then a team approach is the means and, as in all evidence, success will and should have many authors.

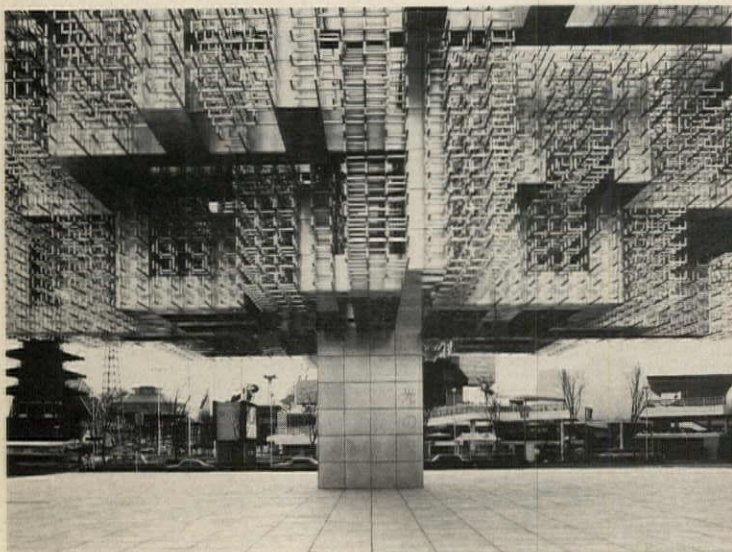
We believe the Delaware project represents a successful case history for the use of building systems, one that will serve as a model for the future. It is a project where the architect played a leading role and, more importantly, was responsible for putting together a unique team of developer, general contractor, system manufacturer and architect in order to accomplish the client's objectives. It all began with a research program. □

For the second year in a row, an architect from Zürich has won the R. S. Reynolds Memorial Award. This year's top project was the focal point of the Swiss exhibit at Expo '70 in Osaka.

A design called "Radiant Structure" by its architect, but which became known during Japan's Expo '70 as the "Tree of Light," has earned for Willi Walter a \$25,000 honorarium and an original piece of sculpture. Administered by The American Institute of Architects, the 1972 R. S. Reynolds Memorial Award drew 138 submissions, "many of which were of such high quality as to make the task of judging them exceedingly difficult," in the eyes of the five-member jury.

The airy, open structure created "an oasis of warmth and relaxation in otherwise busy surroundings." There was no planned circulation or specific entrances or exits. People could move freely about under the spreading branches and on the plaza which contained the Swiss exhibits.

Supported by a reinforced concrete foundation, the trunk of the structure was prefabricated steel, erected on site, faced



with glossy anodized aluminum rolled sheet panels and branches of bright extruded aluminum tubing with 60,000 cemented or riveted right-angle joints. It measured 180 feet across and 72 feet in height.

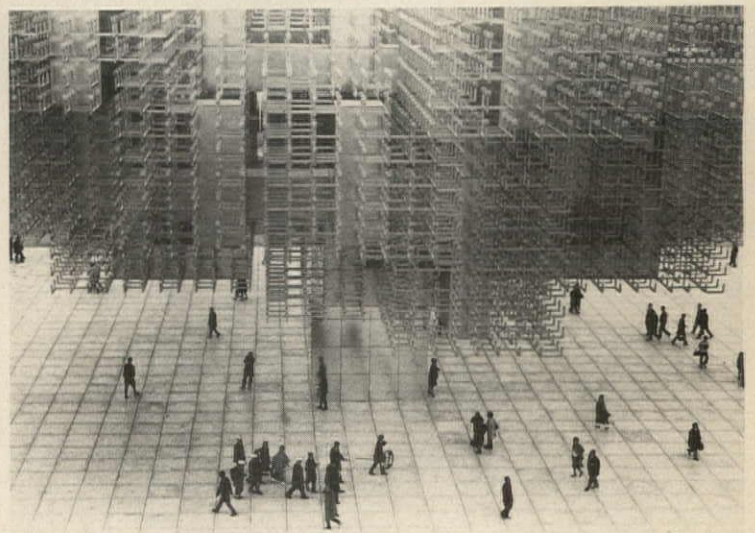
The aluminum branches carried 32,000 bulbs, each with a diameter of nearly 6 inches. In the evening, the lights were switched on in stages to the accompaniment of music.

The jury said it felt strongly that "the use of a minimum of basic aluminum components, skillfully integrated with a structural steel-aluminum clad skeleton, was effectively carried out to a very imaginative conclusion. The structure opens new windows for this material."

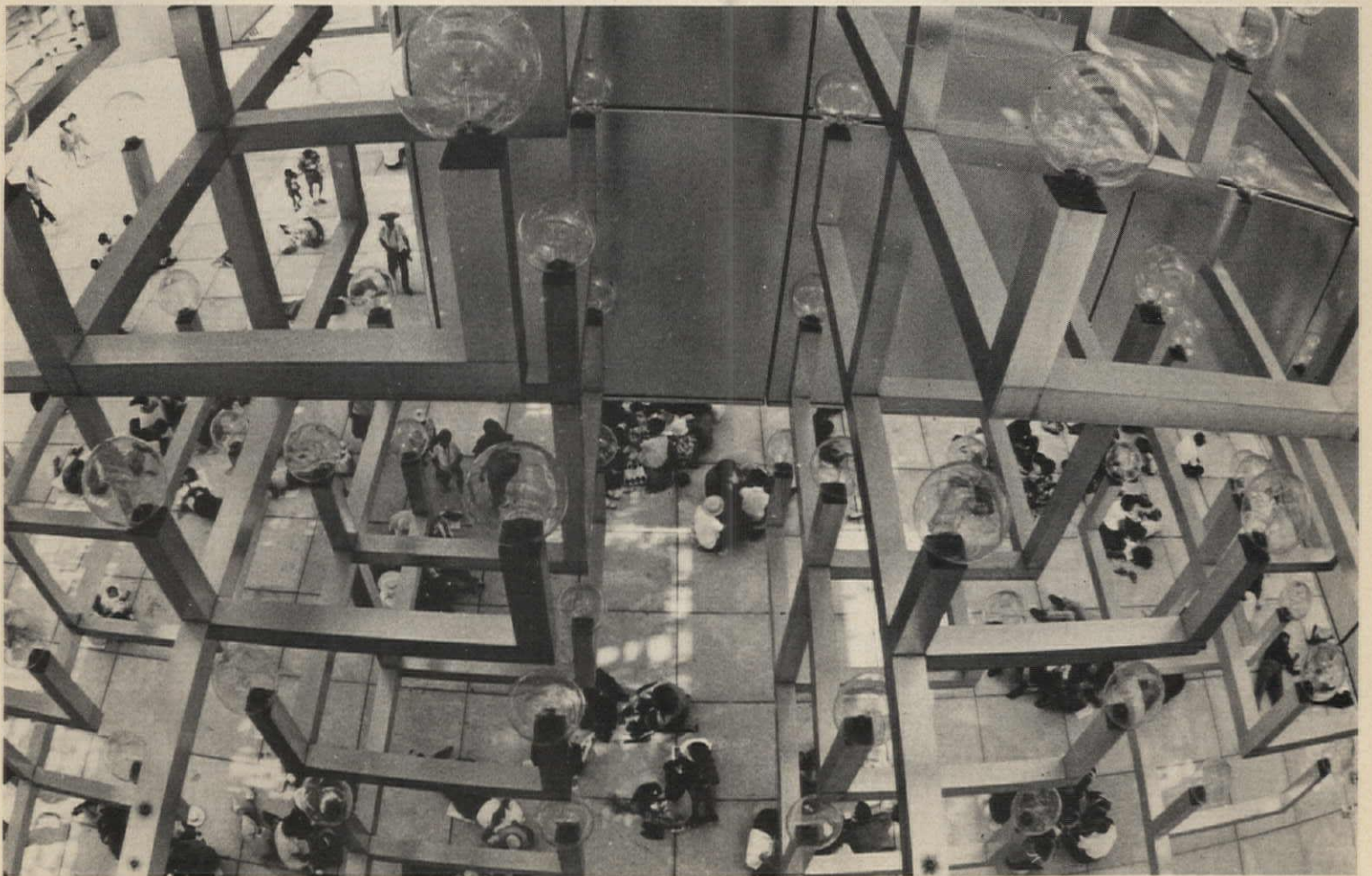
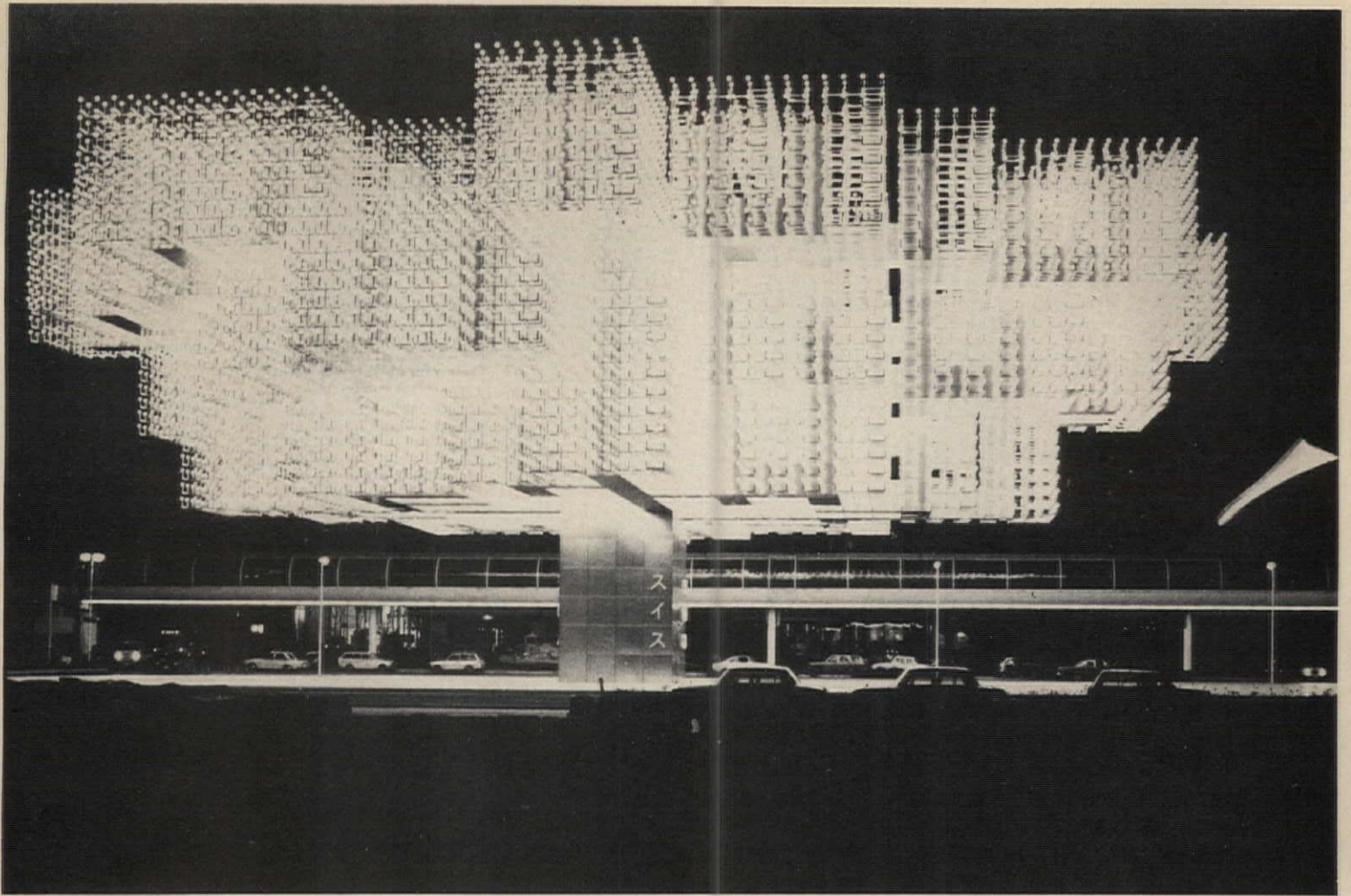
The jurors consisted of Chairman Robert F. Hastings, FAIA, immediate past president of the Institute; Jean Paul Carlhian, AIA; Frederick J. Bentz, FAIA; Walter W. Custer, professor of architecture and planning, Swiss Federal Institute of Technology in Zürich and one of the three architects of the 1971 premiated factory project; and Anton (Kip) Eder, architectural student from the University of Idaho.

Walter, the 44-year-old winner this year, has operated his own office in Zürich since 1963, concentrating on the design of housing developments, apartment buildings and business complexes. For a time he was employed by two American architectural firms: Gilboy, Bellants & Clauss in Philadelphia and Schubart & Friedman in San Francisco. □

'An Oasis of Warmth and Relaxation'



Cool air blown from lower parts of the structure, whose lamps carry a total of 1.28 million watts, gives relief from the oppressive summer heat in Osaka. Plaza also contains an exhibition building to the right.



"Radiant Structure" is made up of assembled units weighing up to 5 tons each and fitted at ground level before being lifted into position.

REFRACTIONS



The Work of Peter Fink

Peter Fink's work is of interest to architects not because he takes pretty pictures of buildings, but because he takes photographs which belong *in* buildings. Why should his photographs be hung as one would hang a painting? The answer seems to be that in whatever genre, they are decorative. They are also imaginative. His refractions are made with a highly selective eye. "It is," the photographer says, "somewhat the process of isolating very special moments, but moments which others have shared. It is that quality which gives the photographs their validity." Author of *The New York I Love* and *The San Francisco I Love*, Fink uses his photographs to interpret the city and its architecture—adding his own particular creative dimension to an art form.

Refracted Images

by ANNE HOWARD BAILEY

There are many ways to describe refractions, the name given by photographer Peter Fink to his new and unique series involving provocative and evocative images of buildings.

Webster's Seventh New Collegiate Dictionary defines refraction as: "Deflection from a straight path undergone by a light ray or energy wave in passing obliquely from one medium (as air) into another (as glass) in which its velocity is different." This definition describes the physical technique which stimulates the photographic image, but it falls far short of delineating the combination of vision, craftsmanship, inspired eye and talented hand which combine with a fragmentary and momentary phenomenon of light and mass to produce Fink's unusual and haunting interpretations of modern man's glass and concrete structures.

The impetus for his refractions came from an assignment Fink received to photograph a collection of New York City buildings. Reluctant to merely record on film the towering structures which in recent years have so



changed the face of Manhattan, the camera artist sought a new approach which would be a testament to the architectural masses and an interpretation of them in terms of the worlds of light, air, mass and shadow that they inhabit.

The time of day, the angle of light, the surface and substance which catch the refraction, the camera's eye and the artist's own personal vision combine to make each refraction unique in itself. Each is totally individual: a masterpiece of a moment in time. The image can never be repeated because it will never arrange itself again in the same way.

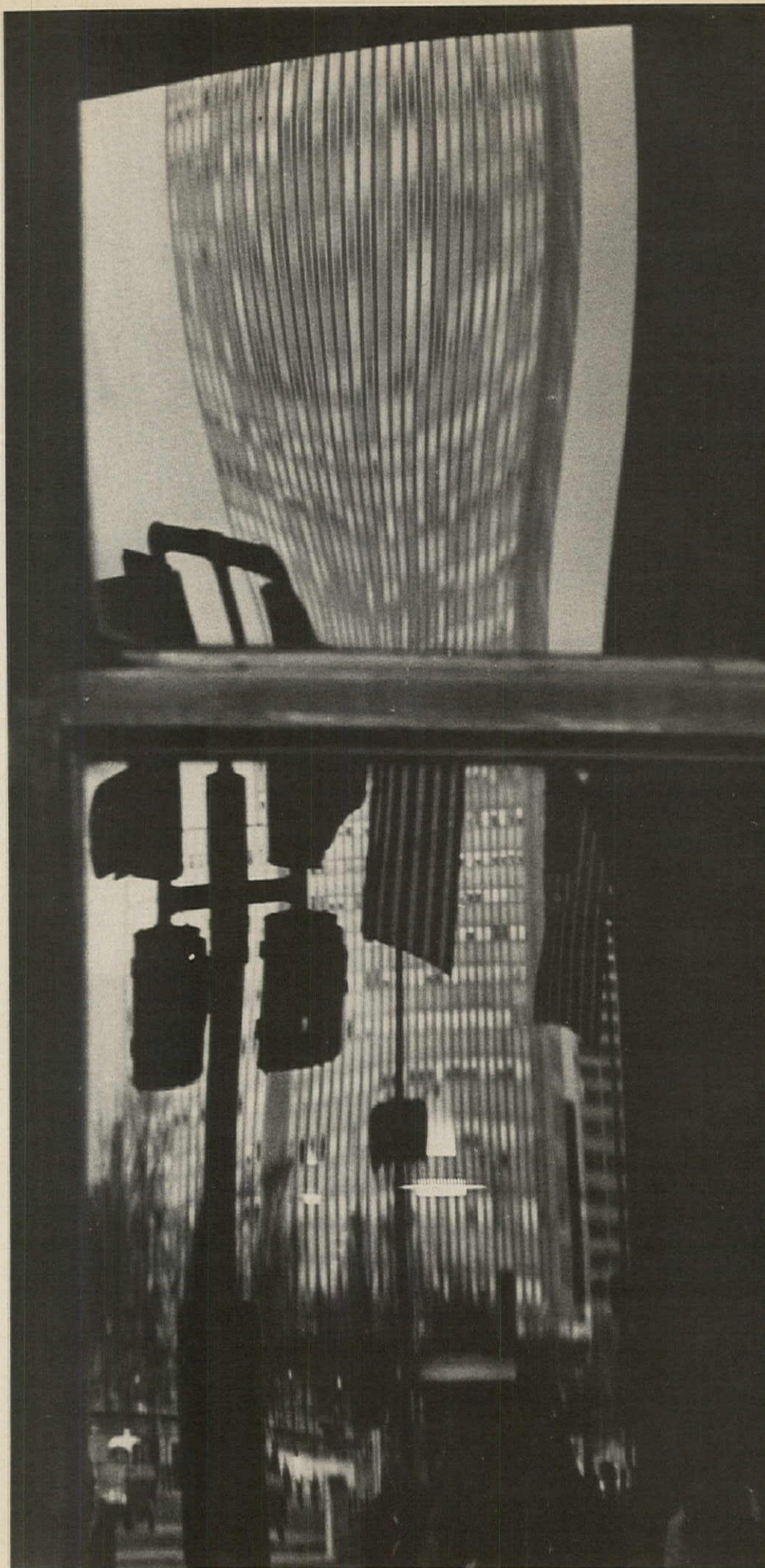
Fink's remarkable excursion into photographing architectural refractions is a logical, creative step from the broad spectrum of photographic exploration that has made him one of America's most noted photographers.

Fink's range of photographs is broad in human terms as well as in geographic ones. He goes from childhood to old age, from innocence to wisdom, portraying various moods and emotions, situations and peoples. In black and white and in color, Fink has photographed well-known personalities as well as unknown children, street scenes and rural life, cities and deserts, nature and architecture.

The American Federation of Art commissioned Fink to document the Greek and Roman ruins in North Africa, after which he had a one-man show of his work. Other Fink photographs taken in Istanbul, Amsterdam, Rome, Mexico, Tunisia, Hong Kong and other corners of the world have been exhibited internationally and are part of the permanent collections of the Museum of the City of New York, the Metropolitan Museum of Art, and the Museum of Modern Art, also in New York City; the Art Institute in Chicago; the Phoenix Museum of Art in Arizona; and the Bibliotheque Nationale in Paris, France.

Summing up Peter Fink's refractions, we borrow again from a dictionary definition: "The action of distorting or its results; also a distorted or imperfect image." The viewer, struck by the fascinating and near hallucinatory images caught by Fink's camera, must conclude that in the act of producing "an imperfect image" he has achieved a close to perfect work of photographic art. □

Miss Bailey is a professional writer whose career encompasses television, radio, newspapers, periodicals and a history book. For the past few years, she has concentrated on opera librettos, her most recent credit being the critically acclaimed "Trial of Mary Lincoln," National Educational Television Opera's first commissioned work for TV.



Reflections on Refractions

by PETER FINK

For some reason, I work best when the client throws the problem in my lap and leaves it entirely up to me. I think this is what started me on my new technique of refractions.

A well-known advertising agency asked me to take three outstanding photographs related to architecture in New York City. There were no strings. I could use plane, helicopter or whatever medium I felt would produce the most unusual effect.

Even though I had photographed a great number of buildings and had always been interested in architecture, I was perplexed when I approached the problem. In our way of life today, everything seems so much the same and so stereotyped. I have found this to be true in the matter of dress, but I never realized it existed in architecture. In the past, it seems that everyone built a house or building with individuality because we yearned for something unusual and different.

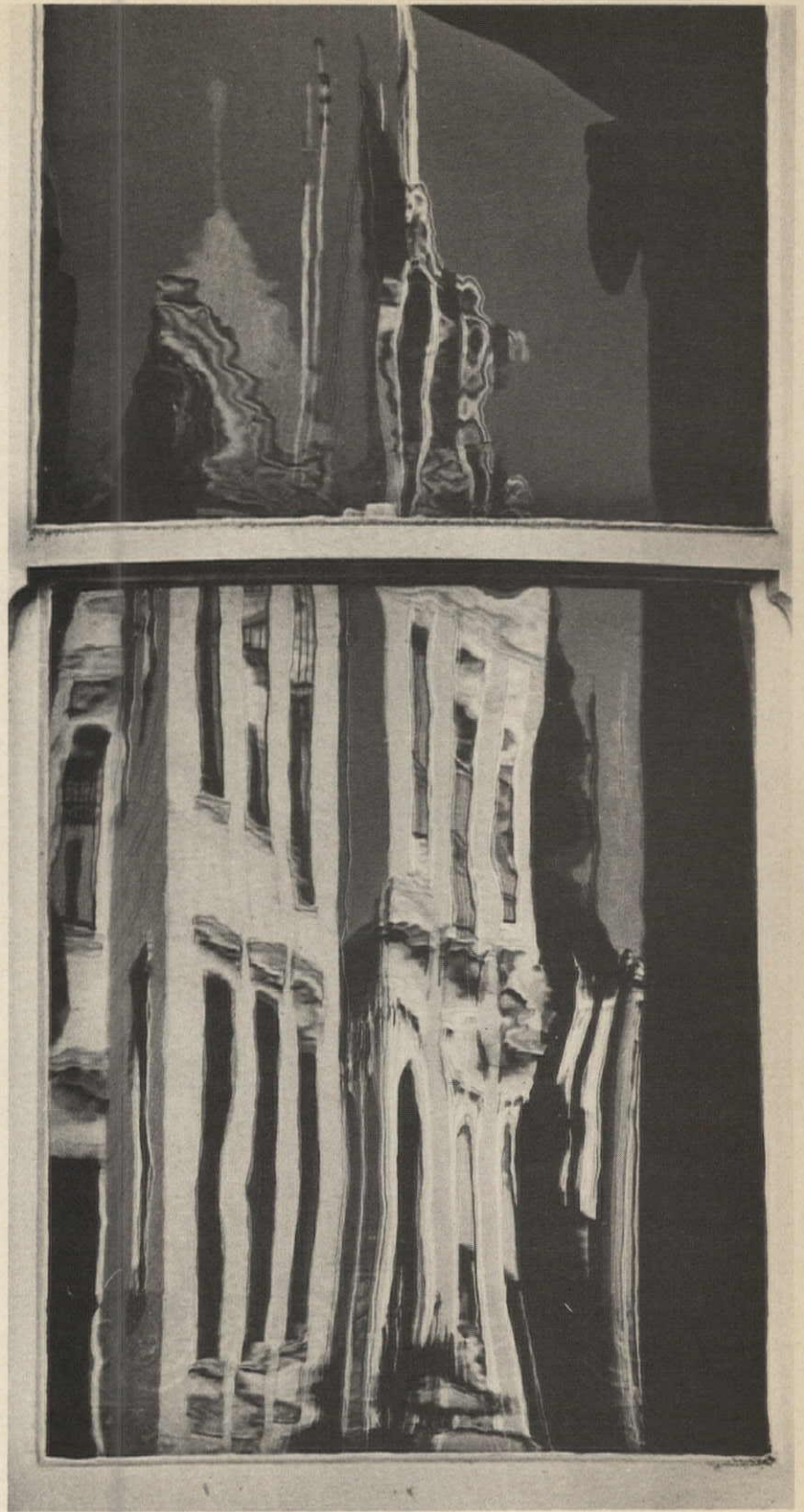
I am told that because of the cost, everything must be more or less basic or the same: structure, doors, windows, etc. This makes

for rather uninteresting architecture. When I first moved to The Dakota in New York City, I was aware that no two windows in this old building were exactly the same; no two fireplaces were alike. The design in the floors varied from room to room. Today the cost of such a building would be prohibitive; moreover, there are few artisans left with that quality or imaginative and artistic talent.

I became despondent after spending a great deal of time prowling around the city, looking for the unusual and imaginative. One clear cold Sunday, I found myself retracing my steps on Park Avenue. The stage was set

—the sun was in perfect accord and the air was terribly clear, which is a rarity today. And I found the most beautiful pattern of a building which fascinated me no end. The image was over a block from where I had envisioned the pattern in the glass of a newly finished building which in itself was most uninteresting. I wondered if it were possible for the camera to catch this image within another building and at that distance.

Should I focus on the building itself or on the image within the building which appeared to me as impressionistic art form? How does one measure the light at such a





distance and then measure it within the glass whose areas are broken up in uneven patterns? It was a mystery to me, and I spent the better part of the day experimenting with this exciting problem.

Now whenever I am in the neighborhood, I never miss looking for the exact picture I saw that Sunday. But it is never the same. It never repeats itself. The time, the light and the clarity of the air are never reproduced.

I have wondered how to explain what the eye and the camera captured. I have a number of friends who are ophthalmologists, and they are as amazed as I am. They started out with the thought of calling these photographic images "reflections." But they are not reflections. Actually they are results of the phenomenon of the way the light refracts the subject as it passes through the medium of glass and the position that the photographer assumes at the moment of the photograph. The image is changed by even a slight movement of a fraction of an inch. Therefore, the photographer must use a very sharp focus and assume the correct position in or-

der to achieve exactly the photograph that he sees and wants.

I found myself in the middle of the street trying to establish the image which I felt was the most attractive or which had the most interesting patterns. It isn't just a happening; it is the actual visual experience that produces the refracted image that pleases the eye and makes an exciting photograph.

Time and again, I go back to find other refractions, and sometimes I am lucky and it proves worthwhile. I wonder if the impressionists, the artists who followed the pointillist school and the early abstract painters didn't have a similar excitement when they painted in their various forms, deviating from the traditional manner of painting. The pop and op artists can recreate similar things, but in the refractions this is all done by the act of nature playing with light and the human eye and the magic of the camera.

Renoir, Picasso, Dali and other artists were well versed in the academic way of painting before they experimented with new forms of expression and techniques of paint-

ing. One must always begin with a well-founded background.

Refractions is a whole new medium in photography. With earnest applications, it will become more interesting. It is not a happenstance. First, they all must be in very sharp focus. Nothing is done in the darkroom to achieve the unusual effects. You and the camera must do all that. I personally do not believe in trick photography.

The finished photographs are much more pleasing when blown up from 10 to 20 feet tall and placed as architectural units—as forms of decoration in lobbies of buildings, in foyers, in offices, etc. Already they hang in private collections next to modern paintings—and hold their own very well.

Too many people worry about the camera, the lens and the materials with which they work. To me the most important factor in photography is the art of seeing. Since no two people see the same way, the art of photography presents a wide gamut of interest even though the subjects are the same. It is subjective creativity that makes it an art. □

Report of the Jury

At its first three-day sitting, the 1972 Honor Awards Jury examined 470 entries, selecting 24 projects to be visited. At its second meeting, after each of the nominated projects had been seen by at least one juror, nine were selected for Honor Awards.

The award-winning projects speak eloquently for themselves and testify to a high level of achievement. But one may well wonder what became of the other 461 entries, and more particularly why such a large proportion of the preliminary selections were eliminated after visitation. Was it because information submitted in the entry portfolios was so inadequate or misleading that a reliable preliminary judgment could not be made? Or was it perhaps because the unfavorable response of any one juror to a building he visited was allowed to override the prior judgment of his colleagues?

Henry N. Cobb, AIA
Chairman

Gerald L. Allison, FAIA

John G. Dinkeloo, AIA

Harry M. Weese, FAIA

Harry C. Wolf, AIA

Milton L. Grigg, FAIA
Adviser

Antonin Aeck
Student Representative

The answer to both of these questions is no. The actual cause of the low survival rate after visitation was simply that the jury agreed to give a number of "borderline" cases the benefit of the doubt by visiting them. In the housing category, for example, although the jury's initial review did not uncover any clearly outstanding entries, four projects were selected for visitation on a "let's take a look" basis. But on-site inspection confirmed weaknesses that had already been identified from photographs, and the projects were eliminated in the final round. It is pleasant to be able to report, however, that one of the other dubious projects, after visitation by two jurors, went on to win an Honor Award.

The possibility that a jury may be unduly influenced by the judgment of one of its members who has personally seen a project is often cited as a weakness in the visitation system. This year's jury did not find this to be a real problem. By way of example: In the final selection process, one of the entries received only a single favorable vote—that of the juror who had visited it.

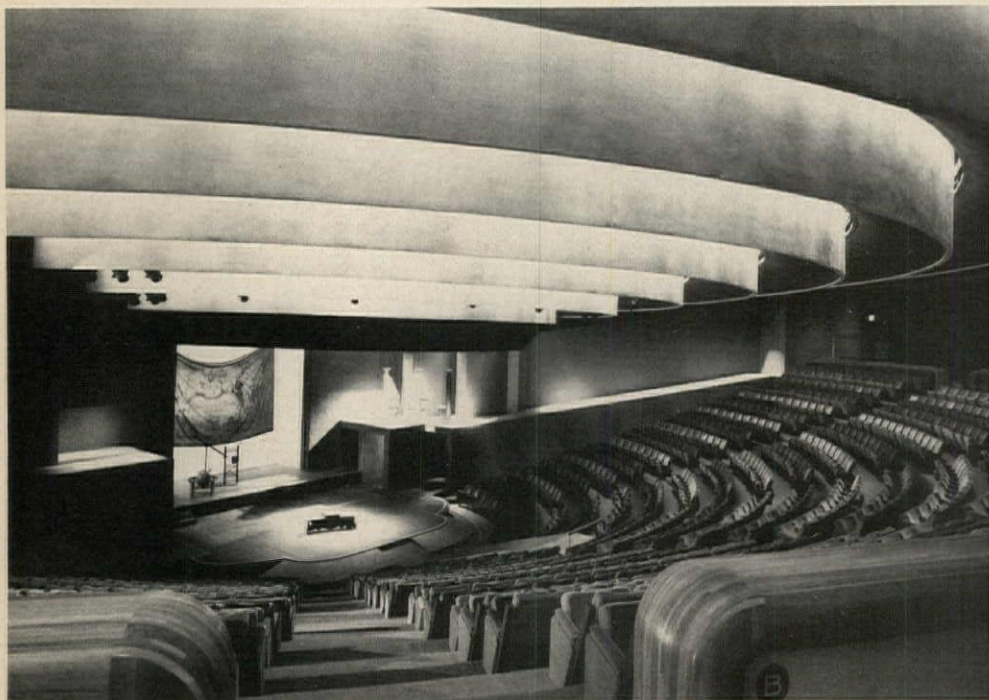
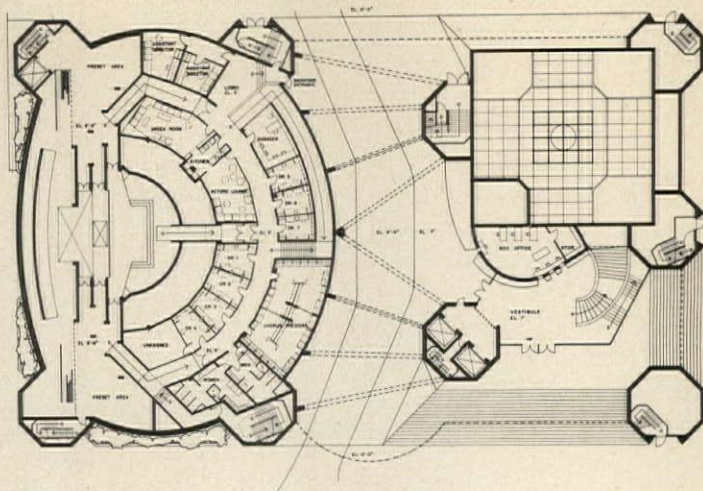
On one point all Honor Awards jurors from this and past years can surely agree: Serving on the jury is an exhausting experience and one in which objectivity of judgment is often threatened by fatigue—physical, mental and emotional. This year's jury gave much thought to this problem, and one proposal emerged which we believe would significantly improve the jury process. We recommend that in future years the entry portfolio have a transparent cover (or perhaps no cover), thus exposing to view the first page, which should be required to contain not written material but a display of several characteristic photographs for instant recognition. This improved format would save countless jury man-hours which are now devoted to a frustrated flipping of covers and pages in an effort to locate mislaid submittals. There is no doubt that with such a large number of entries to be judged, some

Honor 1972 Awards

do get passed over just because of the mechanical difficulty of recalling them to the jury's attention at the appropriate moment in its deliberations.

In any realistic appraisal of the jury system, one must admit that it is not humanly possible for jurors to pursue with equal vigor both of the implied aims of the Honor Awards program: 1) everything that has distinction should be recognized; and 2) everything that is recognized should have distinction. This jury, like most of its predecessors, has chosen not to compromise the latter goal in an effort to achieve the former. Thus we do not pretend that there are only nine good buildings among the 470 entries submitted to us; but we do assert that the nine we have selected for award are very good indeed. This is, and in our view ever will be, the central credo of the Honor Awards program. □

Bartlett Awards: Three of the nine premiated projects, as indicated on the pages that follow, also have been selected to win the Bartlett Award, created four years ago to emphasize that architectural barriers can be eliminated without deterring from good design. The jurors note, in citing the three: "The use of elevators and ramps and omission of stairs, where possible, allow these buildings to be accessible to the handicapped. In addition, the provision of proper restroom facilities, public telephones and drinking fountains make these structures usable by all. The efforts are a tremendous contribution to the betterment of man's environment." The program is sponsored jointly by the President's Committee on Employment of the Handicapped and the Institute. The jury was composed of: Chairman Wm. Baltzer Fox, James F. Hilleary and Edward H. Noakes, all members of the Potomac Valley Chapter AIA. □



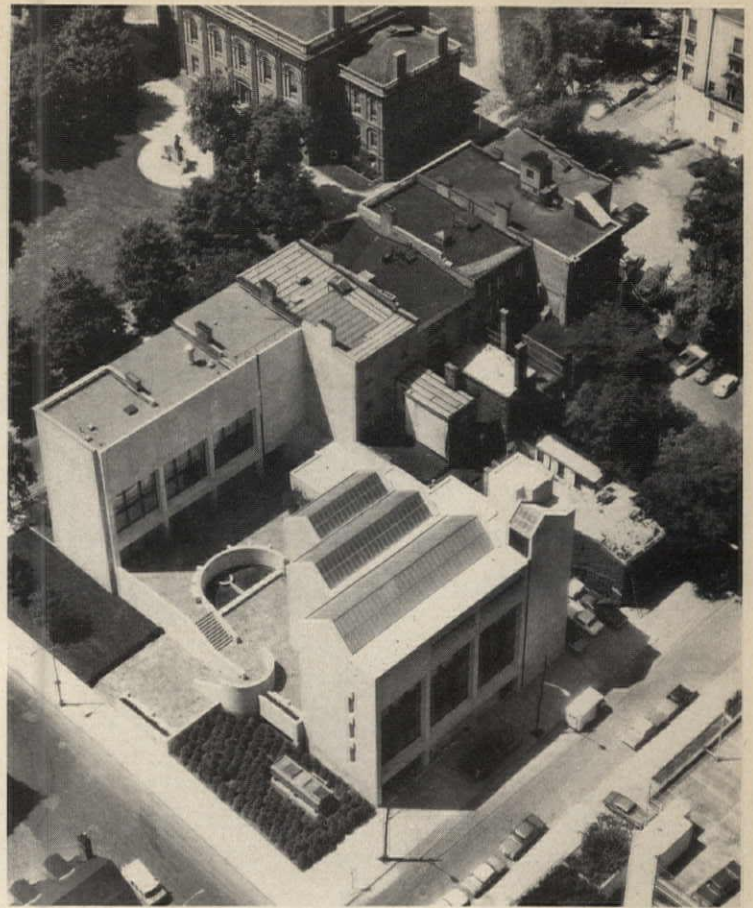
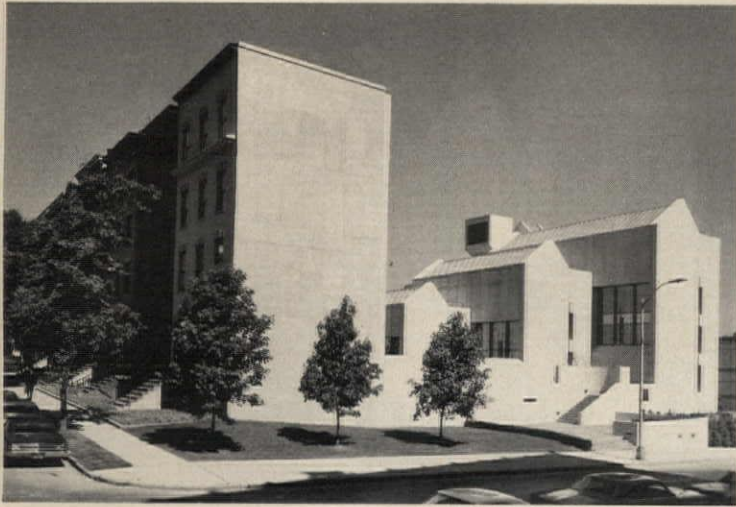
ALLEY THEATRE
Houston, Texas

ULRICH FRANZEN & ASSOCIATES

Associate Architects for Supervision: MacKie & Kamrath; **Structural Engineers:** Weiskopf & Pickworth; **Mechanical and Electrical Engineers:** Cosentini Associates; **General Contractor:** W. S. Bellows Construction Corp.

The problem: to build two theaters for an existing repertory company in an urban setting and as part of a previously designed civic center complex; to design one larger theater with 800 seats and a multispace stage and a smaller one with 300 seats for in-the-round viewing; to provide common backstage, box office and administrative facilities for economy. Said the jury: "Inside and out, a brilliant theatrical event and a striking work of architecture. Faced with intimidating surroundings, the architect has responded with a bold and confident plastic expression that gives this building a memorable presence on the urban scene. The interior spaces have been skillfully designed to enhance the excitement and ceremony of theatergoing."

BARTLETT AWARD

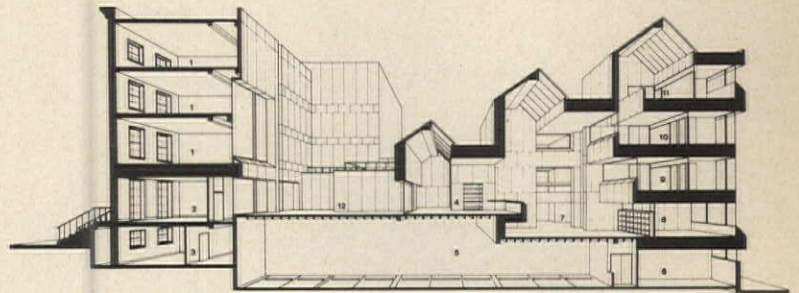


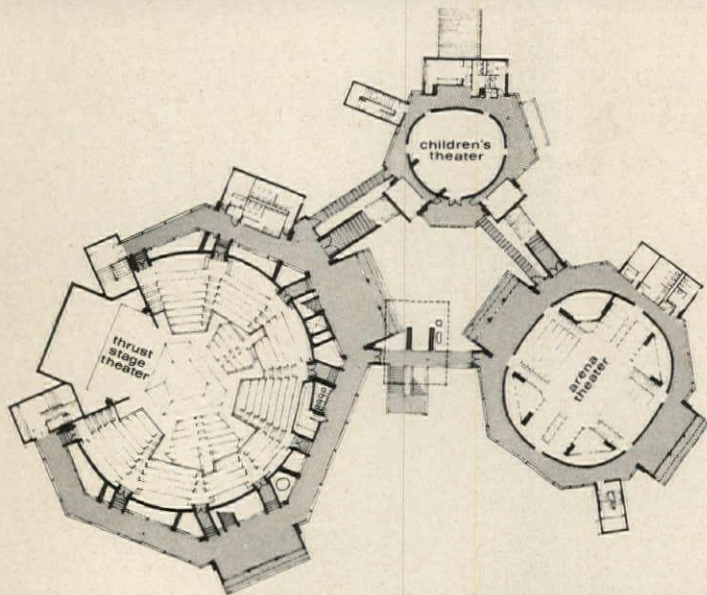
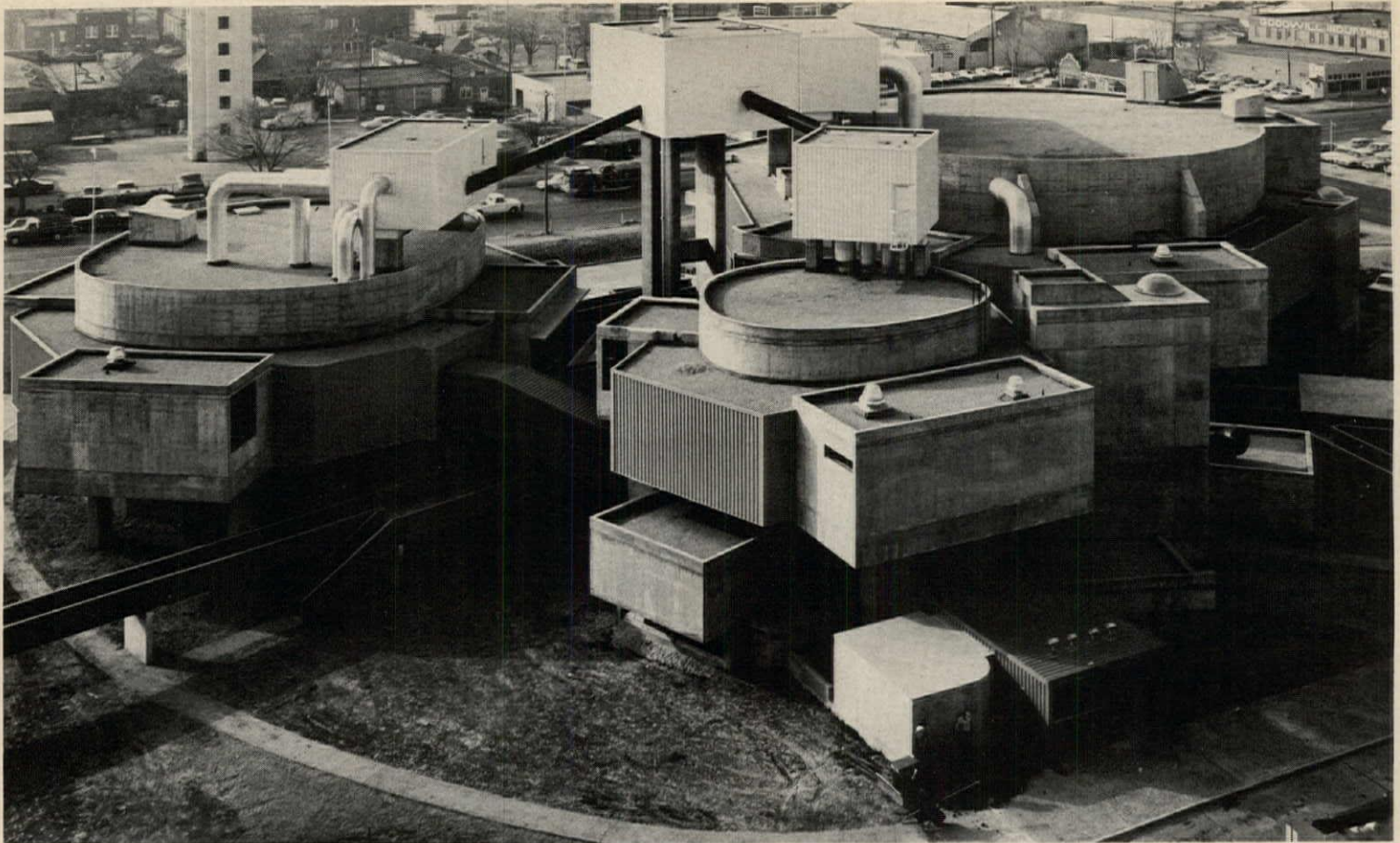
NEW YORK STATE BAR CENTER
Albany, New York

JAMES STEWART POLSHEK &
ASSOCIATES

Structural Engineers: Aaron Garfinkel & Associates; **Mechanical and Electrical Engineers:** Benjamin & Zicherman Associates; **Landscape Architects:** Johnson & Dee; **General Contractor:** MLB Contractors, Inc.

The problem: to save from demolition existing 19th century houses and convert them to contemporary use; to erect a new structure behind the restored houses, linking it with them; to design a functional facility for a state bar association with reception area, library, offices, conference and workrooms; to provide a multilevel terrace atop a garage between the old houses and the new building. Said the jury: "A happy blend of historic preservation and imaginative design. Especially notable here is the way in which the restored 19th century houses and the new structure complement each other in form, scale and material. The old and the new have been so sensitively joined that each retains its own integrity yet is enriched by the presence of the other."





MUMMERS THEATER
Oklahoma City, Oklahoma

JOHN M. JOHANSEN, FAIA

Structural Engineer: Rudolph Besier; **Mechanical and Electrical Engineer:** John L. Altieri; **Stage Designer:** David Hays; **Landscape Architect:** Thomas Roberts; **General Contractor:** Harmon Construction Company.

The problem: to site a theater for a private repertory company in conformance with a central business district master plan rather than existing environs and with building access in all directions; to provide facilities adaptable to many types of theater production and activities; to design for simultaneous productions which function independently and yet depend upon mutual support services and administrative controls. Said the jury: "The architect is in full command of his own personal vocabulary and has employed it with great skill to create a superb and non-sensical theatrical instrument, despite the exuberance of its forms. The whole complex works beautifully. More than that, it is an extraordinarily fresh and provocative work of architecture—rational, but wonderfully witty; mechanistic but joyfully humane."

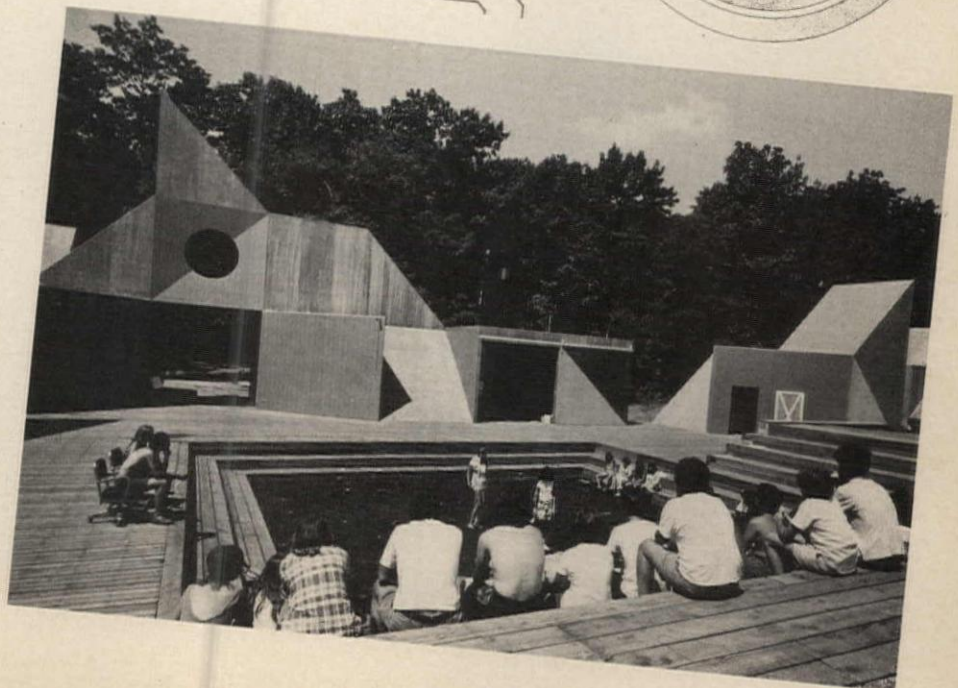
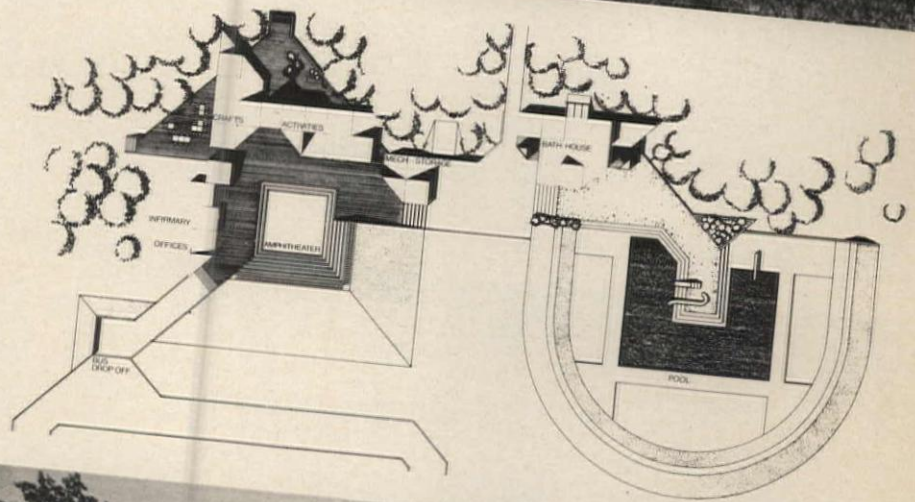




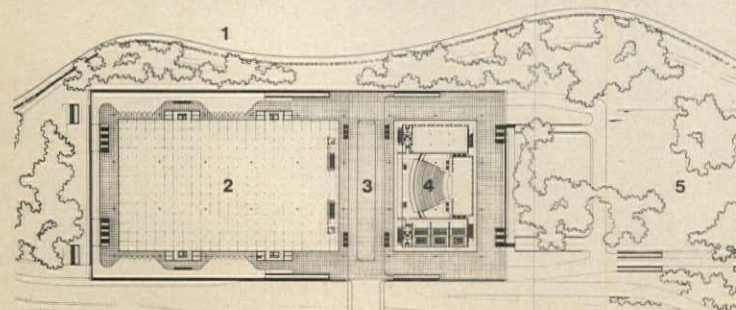
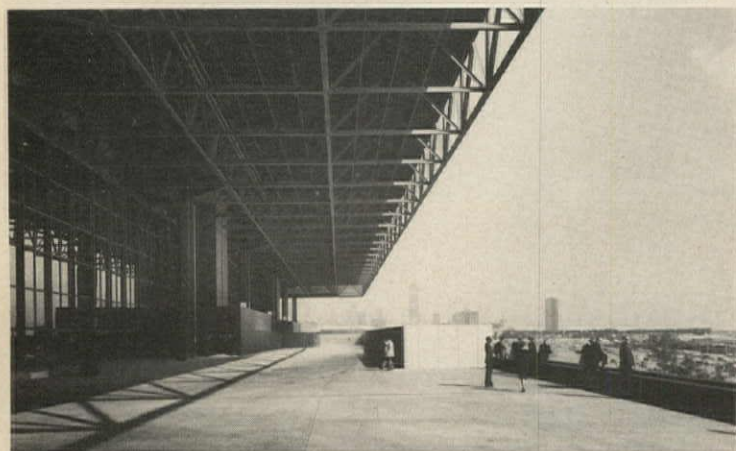
YM-YWHA DAY CAMP
Mt. Olive, New Jersey

**CLAUDE SAMTON &
 ASSOCIATES**

Structural Engineer: Robert Silman; **Mechanical and Electrical Engineer:** Robert Freudenberg; **Landscape Architect:** Don Richardson; **General Contractor:** Miller & Nelson.



The problem: to design a day camp facility for 400 boys and girls on a 32-acre site; to include indoor/outdoor spaces to be entirely closed in bad weather; to include in the facilities a central bus-stop area, an amphitheater, offices, infirmary, conference room, workshop area, swimming pool and bathhouse and large storage spaces for athletic and crafts equipment. Said the jury: "A spirited but unpretentious setting for the varied activities of a children's summer day camp. The buildings are skillfully sited at the edge of a wooded campground. Flexibility and informality are achieved by the use of sliding barn doors and by the indoor/outdoor continuity of wood decking. The bermed amphitheater provides an attractive gathering place for group activities while unobtrusively screening them from the nearby road."



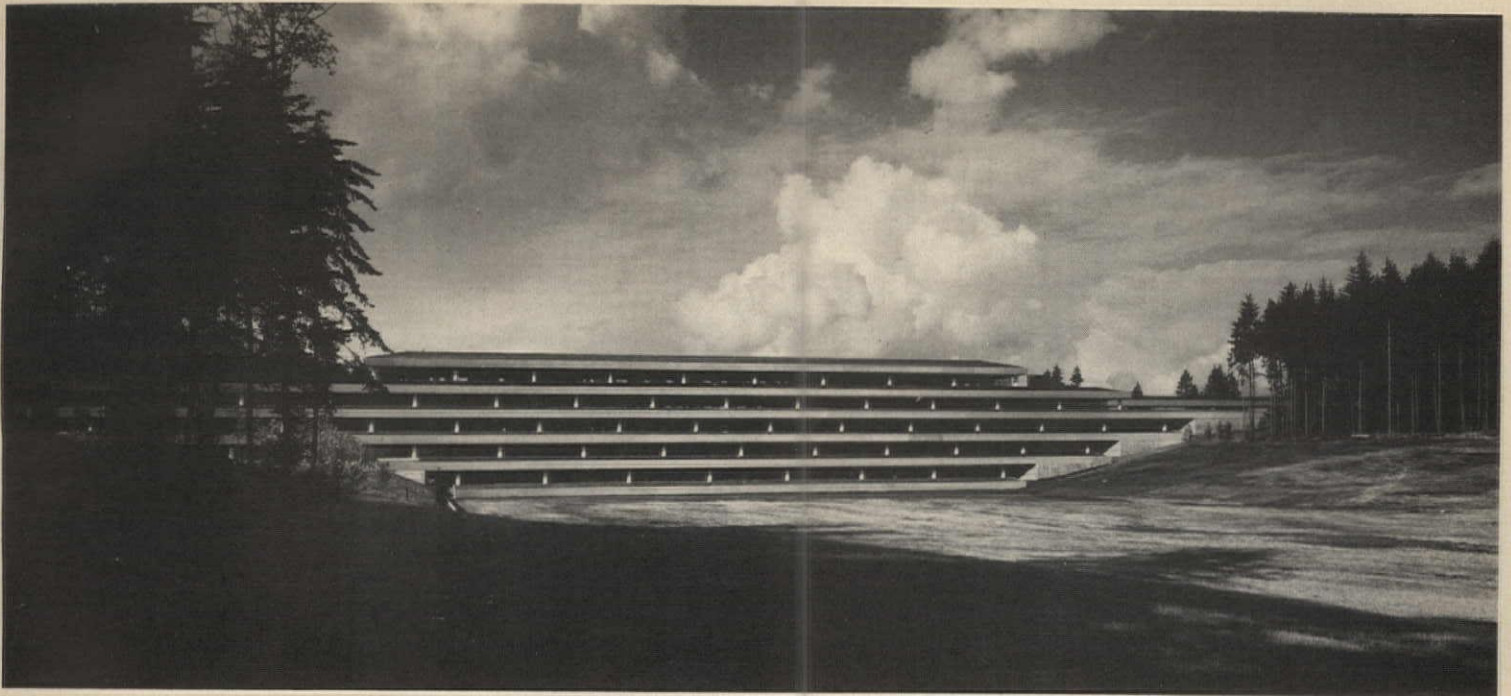
MCCORMICK PLACE ON-THE-LAKE
Chicago, Illinois

C. F. MURPHY ASSOCIATES

Partner in Charge: Gene R. Summers, AIA; **Structural, Mechanical and Electrical Engineers:** C. F. Murphy Associates; **Landscape Architects:** C. F. Murphy Associates; **General Contractor:** Gust K. Newberg - Paschen Contractors.

The problem: to reconstruct a severely fire-damaged building with expediency; to enlarge the prime exhibition area to 600,000 square feet; to incorporate as much of the existing structure as possible into the design. Said the jury: "An exemplary work of civic architecture. Here at last is a convention/exhibition center which achieves more than mere accommodations. This huge structure ennobles the vast throngs, the great events, the myriad facilities so gracefully sheltered beneath its hovering roof. In keeping with the Miesian spirit that inspires it throughout, the building is impeccably planned, elegantly proportioned, handsomely detailed."

BARTLETT AWARD



WEYERHAEUSER HEADQUARTERS

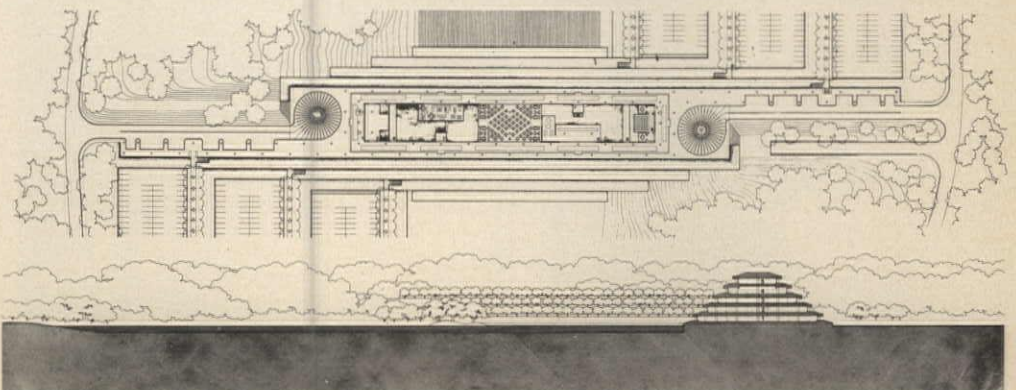
Tacoma, Washington

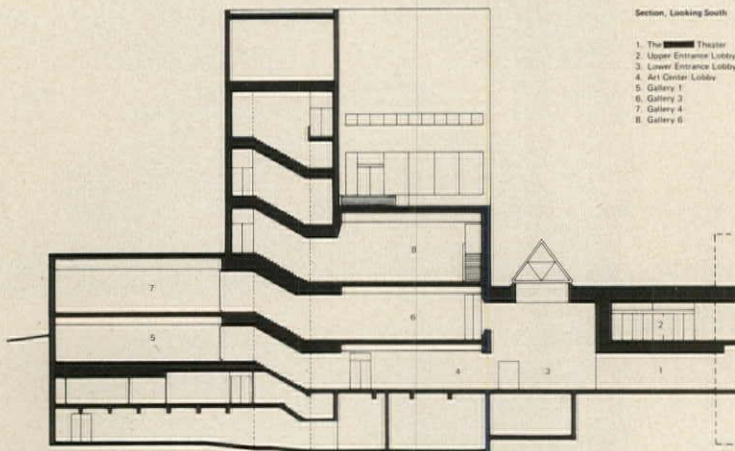
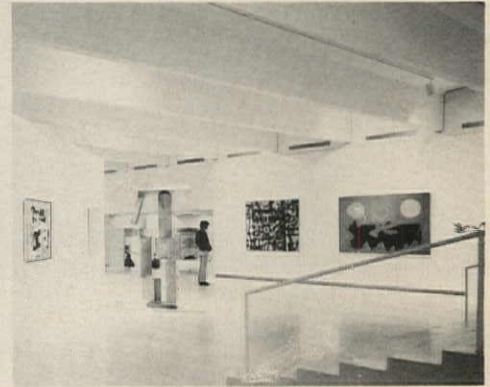
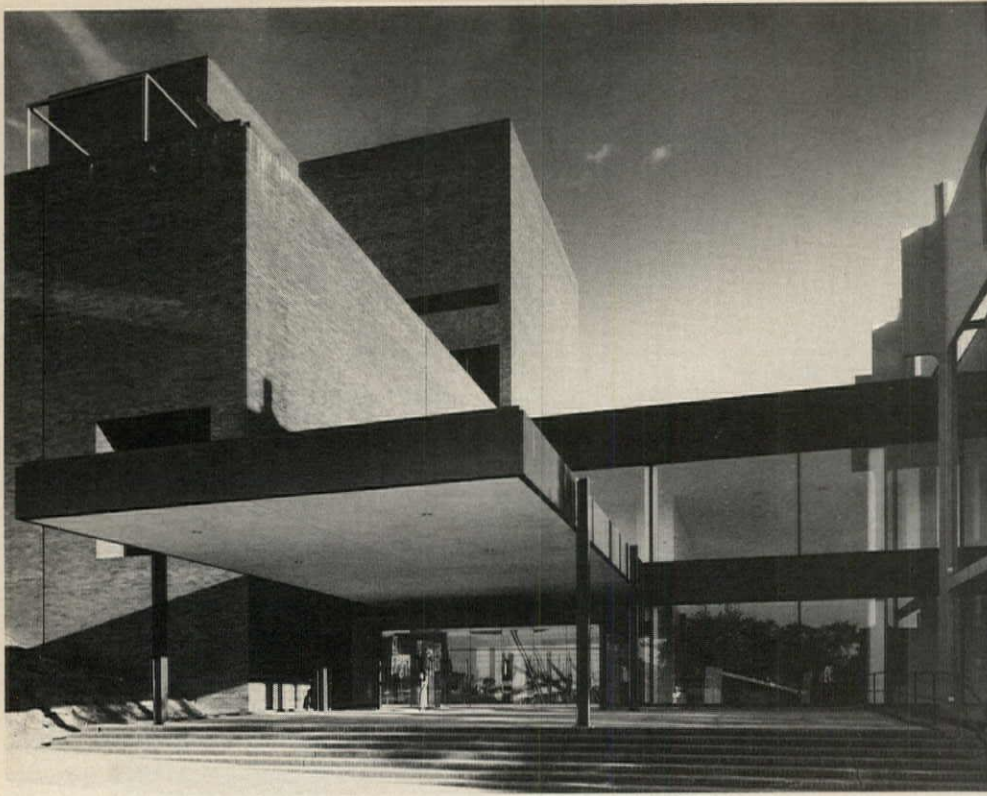
SKIDMORE, OWINGS &
MERRILL

Space Planner: Sydney G. Rodgers Associates, Inc.; **Structural, Mechanical and Electrical Engineers:** Skidmore, Owings & Merrill; **Landscape Architects:** Sasaki-Walker Associates; **General Contractor:** Swinerton & Walberg Company.

The problem: to design a headquarters office building on a wooded, semirural site adjacent to a major freeway; respond to the owner's commitment of the entire building to open office landscape so that all employees work in a new and freer relationship with each other; to provide for privacy through carefully controlled acoustics, space planning and interior design. Said the jury: "Landscape and building almost become one in this low-lying structure which gracefully bestrides a swale between two wooded hills. The architects have achieved this admirable symbiosis by disposing all of the required office space on a series of stepped, ivy-planted terraces that comfortably accommodate themselves to the changing contours of the land while at the same time minimizing the volumetric presence of the building. The theme of transparency and horizontality is further enhanced by deeply recessed glass walls installed without vertical mullions. The handsomely furnished interiors constitute an exemplary model of open office planning and design."

BARTLETT AWARD





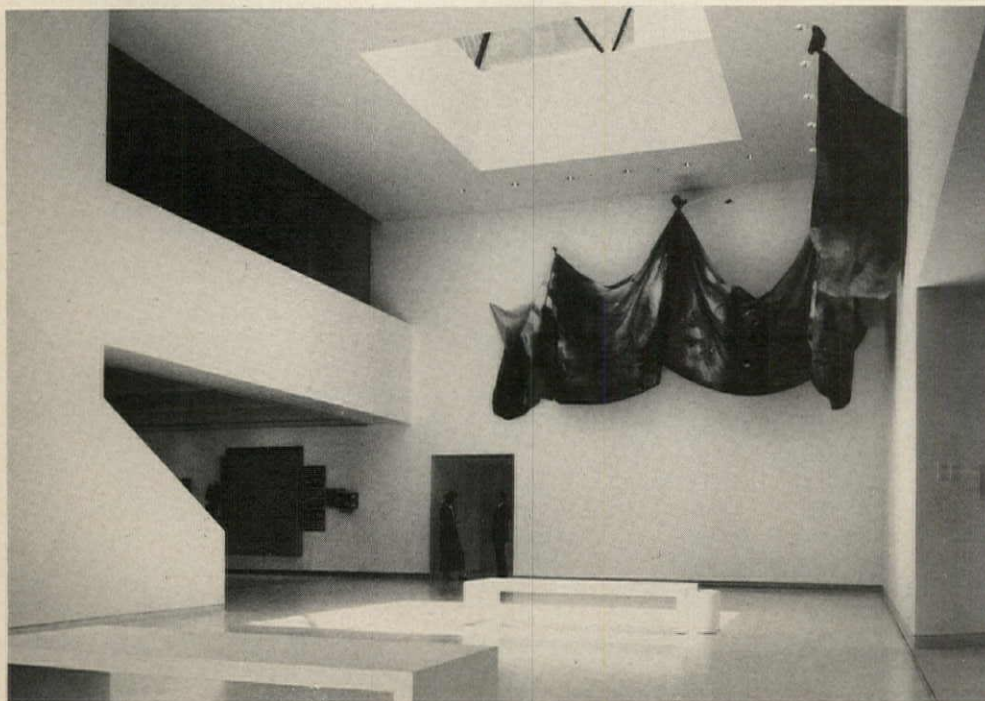
WALKER ART CENTER

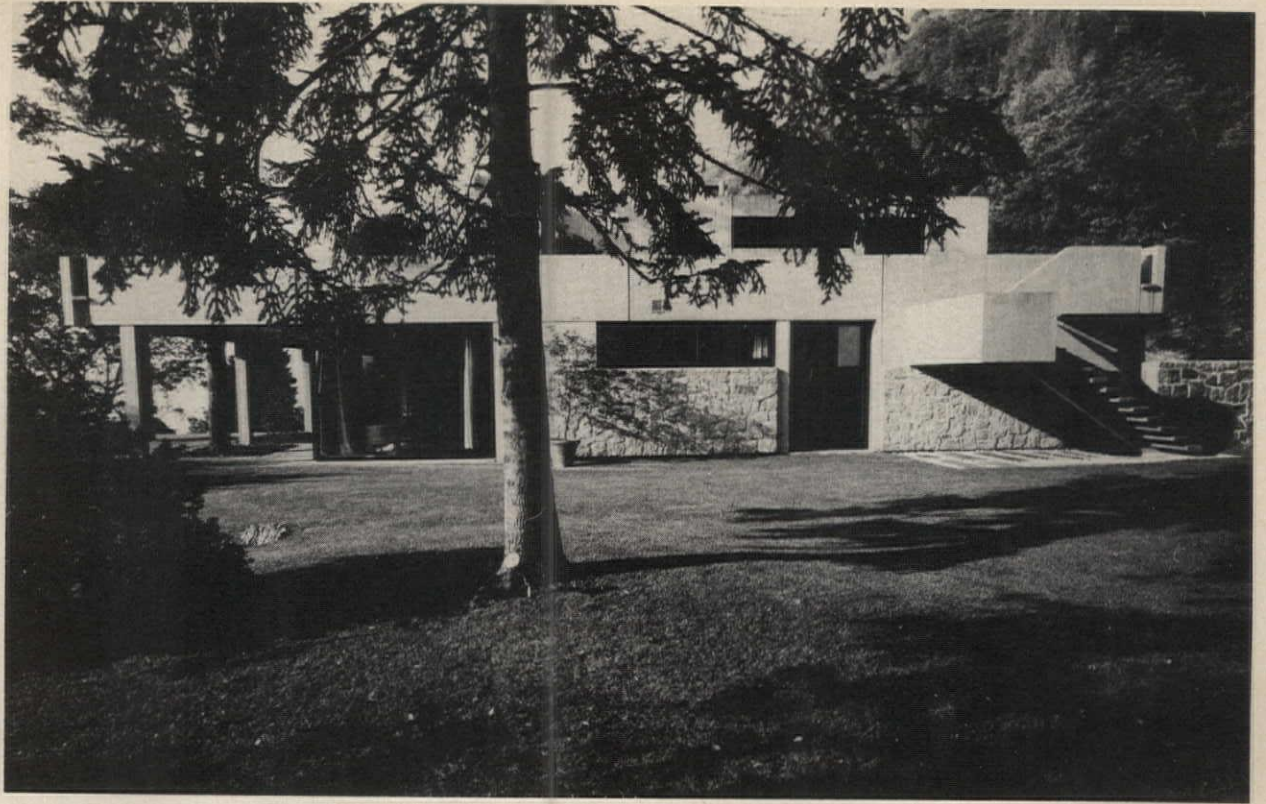
Minneapolis, Minnesota

EDWARD LARRABEE
BARNES, FAIA

Structural Engineer: Paul Weidlinger; **Mechanical and Electrical Engineers:** Gausman & Moore; **General Contractor:** Naugle-Leck Construction Company.

The problem: to replace an existing art gallery built during the '20s; to design the new building to share a main entrance and lobby with a theater built a few years before; to increase gallery space by 50 percent and provide two auditoriums; to assure a high degree of flexibility in lighting the seven galleries using almost no daylight; to design above gallery level a space for sculpture exhibits on three open-air roof terraces with the top level containing a public restaurant. Said the jury: "In this small, ingeniously planned museum, architecture unassumingly but effectively serves the arts of painting and sculpture. The organizing scheme of the building—a helical sequence of galleries terminating in a series of rooftop terraces—has been executed with admirable restraint and economy of means. Here is a quiet eloquence that derives from the rigorous development of a conceptual theme, coupled with the disciplined excision of superfluous rhetoric."





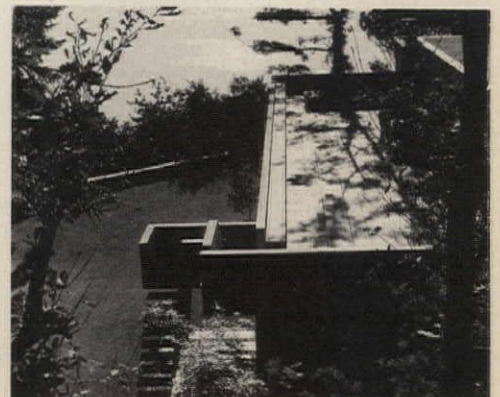
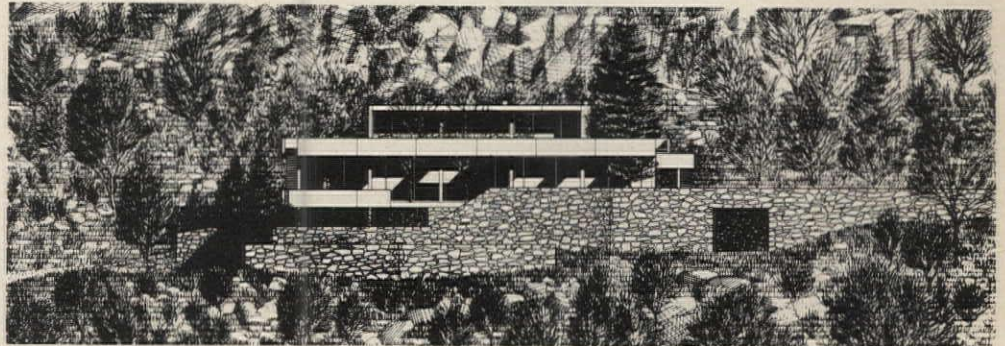
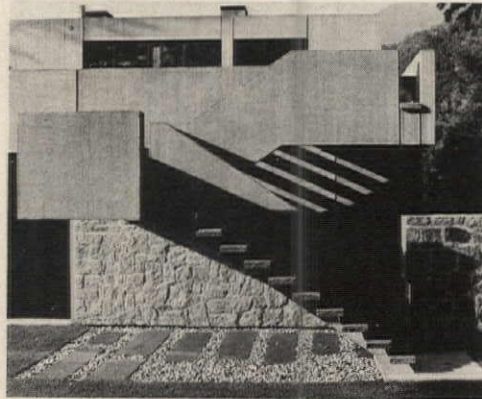
KOERFER HOUSE

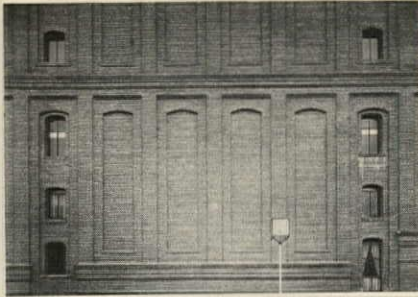
Lago Maggiore, Switzerland

MARCEL BREUER &
HERBERT BECKHARD

Structural Engineer: René Meyer; **Mechanical and Electrical Engineers:** Sulzer Brothers.

The problem: to design a house on a rugged hillside, terracing both house and land to provide usable outdoor areas and overcome the steep incline; to build on the hillside above the house a swimming pool pavilion opened to the sun by four large skylights; to emphasize the beautiful and sweeping view of the lake below. Said the jury: "This superb house commanded the unreserved admiration of the jury. The hand of a master is everywhere evident: in the elegant simplicity of plan and section; in the wonderful rapport between terraced volume and hillside site; in the subtle blend of openness and intimacy of space; and above all in the robust splendor of material and detail. This is everything that a great house should be—a work of art marvelously enriching the art of life."





ICE HOUSES I AND II
San Francisco, California

**WURSTER, BERNARDI &
 EMMONS, INC.**

Structural Engineers: G.F.D.S. Engineers;
Mechanical and Electrical Engineers: G. L. Gendler & Associates; **Landscape Architects:** Lawrence Halprin & Associates; **General Contractor:** Dillingham Construction Co.

The problem: to provide wholesale showroom space for manufacturers of interior furnishings while at the same time preserving the unique character and atmosphere of two historic ice house buildings dating from 1914; to retain the exteriors, typical of the construction in the area at the period, close to their original form and leave the interiors as much intact as possible. Said the jury: "In restoring these 60-year-old cold storage warehouses and converting them to showroom use, the architects have successfully preserved the austere dignity of the original structures. A multilevel bridge of glass and steel complements the rustic brickwork of the buildings it joins while modestly suggesting the presence of a new life within."





The substance of this education and research point of view is drawn from the preliminary report of the AIA Department of Education and Research to the AIA Planning Committee, which is already beginning to give shape and character to the 1973 Institute program.

The improvement of man's physical environment is the goal of everyone. It is clearly the special goal of The American Institute of Architects and the practitioners whom it represents and serves.

To achieve this improvement, the AIA has focused its talents and resources into two arenas: public (external to the profession) and professional (internal).

The Institute is properly placing great emphasis on the public arena, in influencing legislation which affects the environment and the building industry, creating a better public image of architecture and architects, and recommending philosophies and strategies related to future national growth and re-growth to the nation's policy makers.

The Institute must also focus a good share of its resources on the internal arena—toward the development of a competent and creative profession capable of performing at the highest level to improve man's physical environment.

The AIA Department of Education and Research functions almost exclusively in the internal arena and views the following as crucial needs of the architectural profession:

1. The development of a renewed professional focus on the essence of the architectural discipline—design; the strengthening of design and problem-solving processes, skills and basic knowledge.

In the past several years, the focus of the profession and the AIA has been on the development of business management skills and knowledge. The Institute also has the responsibility to lead the profession toward a strong parallel focus on design.

2. The development of a new professional focus on man's relationship to his physical environment—increasing the architect's knowledge and skills related to the social and behavioral effects of physical design on man.

The focus of the profession and the AIA has been on research and development of the building and engineering sciences. The Institute also has the responsibility to lead the profession toward a new parallel focus on the human sciences.

3. The development of a new attitude within

Looking Ahead in Education and Research

by JAMES E. ELLISON

the architectural profession—a view of the profession as a learned society.

A learned society is built on a solid base of knowledge and skills which can be used by all of its members. There is precious little evidence of architects sharing personal experiences and experiments or understanding the need to add to or draw advantageously from the base of knowledge and skills. Although some progress has been made, the Institute has the responsibility to influence and change the attitudes of its members with regard to these concerns.

In a learned society, the total education process is viewed by its members as a continuum. Members of the architectural profession do not hold that view; a situation which is made worse by the fact that the processes of education, internship, registration, continuing education and research are, in fact, independent and disjointed in our profession. Some progress has been made; the Institute, in concert with its affiliated organizations, must work toward the goal of a truly continuous educational process and a profession with a positive attitude of always seeking new knowledge and developing new skills.

Learned societies are composed of members who build upon the base of knowledge and skills at the heart of their discipline, and members who have an active involvement at the edges of the discipline, where there are overlaps with other fields. In the architectural profession, some progress has been made; the Institute has the responsibility of recognizing and encouraging this breadth as

well as depth of involvement of its members in their pursuits in both education and practice.

Thrusts of the department must be at the heart of changing positively the architects' attitudes and focuses, and building new traditions, skills and knowledge bases. Additional specific goals for each of the department's principal thrusts are: pre-education, technician training, education, registration, research and continuing education.

Pre-Education

This thrust includes career development and environmental education activities. Effective environmental education reaches all students, kindergarten through university, and results in a more knowledgeable and sensitive general public. Thus environmental education operates in the public arena—affecting tomorrow's clients and policy makers—and in the professional arena—creating the early bases of knowledge and skills for future environmental design professionals.

Specific objectives in pre-education are to:

- Develop a new awareness of and sensitivity to all facets of man's relationship to his physical environment in the current and future generation of students.
- Realize improved base of knowledge and skills related to the physical environment and its problems for use at an early age by all students.
- Integrate environmental education issues and considerations in every level of education, kindergarten through university.
- Entice the best and most promising students into environmental design careers, particularly architecture.
- Develop a full awareness in young students and the general public of the full nature and relevance of career opportunities in architecture and the complete range of options available in the technician and professional architecture schools.
- Realize an architectural profession composed of members who have the skills and tools to promote architecture and engage in environmental awareness activity on a broad scale.

Progress: A new AIA career document is being prepared. The AIA Handbook Chapter 4 is being updated. The Association of Collegiate Schools of Architecture, the National Architectural Accrediting Board and the New Jersey Society of Architects are providing other useful career documents.



Limited distribution of the AIA *Environmental Education Guidebook* was helpful in establishing Institute credibility in environmental education and in exposing architects and school teachers and administrators to a vast array of environmental education resources. The AIA has also supported the development of environmental education materials for specific educational levels by Philadelphia's GEE and Dallas' Pratt, Box, Henderson & Associates. The 1970 AIA Student Scholars actively nurtured widespread student interest in environmental education.

Future activity: Our career material is still inadequate. In conjunction with ACSA and NAAB, the AIA must circulate better information about career choices and special opportunities and options in technician and professional schools.

By focusing on the GEE environmental education project in its advertising program, the AIA has raised the interest and expectations of the general public related to the Institute's environmental education activity, and therefore must begin to serve as a clearinghouse for environmental education activities and resources. The AIA must make every attempt to promote the development of a fully integrated set of environmental education resources for every educational level by architects and others, and promote the integration of these resources in real teaching and learning situations by sensitizing school teachers to the physical and natural environmental issues and concerns. Clearly the AIA can promote this activity, but it cannot be expected to fund it alone.

However, the Institute must be in a position to generate a great deal of grassroots environmental awareness activity by scores of AIA members and architectural students. The Institute must nurture this widespread involvement by providing learning packages and other resources for use by individual architects, chapters, schools and students, and by providing opportunities for the sharing of resources, activities and interests by environmental education activists.

Technician Training

Specific objectives of this thrust are to:

- Recognize and certify two-year institutions which are providing top-quality training programs for architectural technicians.
- Develop a broad recognition and status

within the architectural profession for the technician movement.

- Develop an understanding in the profession of the wide range of knowledge and skills held by graduates of AIA-approved technician training programs.
- Produce and accept qualified technicians into practice who are capable of freeing the professional's time, thus increasing his capacity to provide improved and expanded services.
- Realize a direct and strong link between schools and practicing professionals on the local level.

Progress: The basic AIA Technician Training Program report was published in 1968. It set guidelines for the establishment and recognition of the technician movement and schools offering training curricula. Now, an informal accreditation procedure is about to be published—the AIA "approval procedure" for qualified two-year technician programs. ACSA has begun to acknowledge both two-year technician schools and preprofessional "feeder" schools by offering them membership and involvement in the association.

Future activity: The AIA must continue to promote its approval procedure and must provide better resources and continuing assistance to the schools, with the help of ACSA. In time, a better mechanism needs to be developed for accomplishing the transfer of "feeder" graduates into professional schools of architecture. At present, too many two-year students with limited personal abilities set sights too high: toward professional schools. This is the result of the existing low status of the technician in architecture. The thrust of the AIA must be toward establishing a firm status and an enticing role for him.

Education

This thrust involves the processes of professional education, internship and accreditation. The specific objectives are to:

- Establish a strong curricular focus on design/problem-solving knowledge and skills.
- Establish a new curricular focus on business and real estate and management.
- Establish a strong curricular base in architecture, environmental design and other universitywide disciplines, oriented toward the relationships of man to his physical environment and with input from all of the interdisciplinary elements including the human and engineering sciences.
- Establish a clear and effective working

framework which interconnects all facets of education, recognizes it as a continuum and coordinates all of the organizational efforts of the five affiliated groups in the profession (AIA, NAAB, ACSA, NCARB and Associated Student Chapters).

- Establish credibility for the concept of professional and educational activity melded in a clinical approach.
- Promote research activity integrated in professional curricula.
- Promote continuing education activity by professional architectural schools.
- Realize active practitioner/educator/student interaction on local, regional and national levels.
- Establish, recognize and promote special thrusts of professional schools.
- Develop interschool, school-to-profession and school-to-student information exchange mechanisms.
- Develop a broad range of resources and teaching and learning aids to be shared by all of the schools.
- Develop methods for increasing the teachers' abilities to teach.
- Increase the number and quality of educators and program administrators.
- Increase student and professional scholarship and fellowship opportunities.

Progress: In 1971, the Assistance to Schools Program, although slow to start, demonstrated that one of the best AIA strategies for providing educational guidance is on a school-by-school basis—tailored help for a special identifiable problem. This kind of activity must continue. Many of the stated objectives can be met on this basis, without the necessity of a major financial outlay for the AIA. ACSA has begun a major "learning packages" program for the schools. It will draw upon the existing resources among the schools.

The AIA/ACSA Teachers' Seminar series has been notably successful in increasing the knowledge and skills of educators, as well as focusing on new thrusts which the AIA and ACSA consider important. The thrusts of the past four years are worth noting:

- 1968/Montreal: new building and management systems, industrialization processes.
- 1969/San Francisco: advocacy—the clinical approach in architectural education.
- 1970/Pittsburgh: research as an aspect of architectural education.
- 1971/Miami: design and problem-solving methodologies.

With a pair of very generous grants from the Department of Housing and Urban Development, ACSA undertook a study resulting in guidelines for a public service (or clinical, socially relevant) approach in architectural curricula, and the AIA and ASC conducted one of the most meaningful student forums ever held, with an orientation toward similar topics. The AIA has provided meaningful support to ACSA, NAAB and ASC as well as to the Five Presidents' Conference (continuing meetings of the officers of the five affiliated organizations). The Department of Education and Research and ACSA have also produced informational surveys of the schools and serve jointly as a clearinghouse for information related to the schools and their offerings and special thrusts.

Future activity: The AIA must continue its successful assistance to school activities. This includes advising on locations for potential architectural schools. The AIA must undertake a national study of resources and needs in architectural education and the locations of and demand for new schools of architecture to meet future needs for architects and environmental design professionals. A 1971 AIA convention resolution supports this claim, as does the feedback from assistance to school teams. Currently there is a great void of statistical information and commentary on all of this.

A truly comprehensive education clearinghouse must be created in the consolidated AIA/ACSA/NAAB headquarters operation. Accurate and comprehensive statistical information and commentaries on current and future school resources and activities must be provided to career-conscious students, the schools and the profession. The AIA Department of Education and Research must be able to project accurately national needs in architectural education and create AIA programs to meet those needs.

There is a need to study new methods of handling internship activity and new concepts of integrating professional, educational and research activity in a clinical arena; to expand teacher training activities; and to develop programs to train competent architectural school administrators.

The concept of providing teaching and learning packages and resources to the

Mr. Ellison is administrator of the AIA Department of Education and Research.

schools needs to be expanded. ACSA's program, funded by the American Metal Climax Foundation, Inc., is limited to sharing the existing resources of the schools and needs to be complemented by additional AIA programs which produce packages based on the wealth of expertise outside the schools. The AIA should use its involvement in this program to provide new focuses in schools (business and real estate development, construction and office management, etc.); emerging concerns of the profession which the schools are not now equipped to handle.

The AIA must also continue the regular AIA/AIA Foundation and the AIAF/Ford Foundation Scholarship Programs and seek additional sources of scholarship funds.

Registration

Specific objectives of this thrust are to:

- Realize a working understanding among all environmental design professions as to the boundaries of practice of each.
- Realize reasonably uniform statutes in the 55 jurisdictions governing the practice of architecture.
- Develop an overall attitude toward education as a continuous process through and beyond registration.
- Develop the most responsive examination mechanism possible for judging minimum competence to practice architecture.
- Develop mechanisms for post-registration recognition of architectural specializations.

Progress: NCARB is in the process of developing the new examination procedure. The AIA has been very active in the Inter-professional Commission on Environmental Design deliberations on practice definitions of architecture and other design professions, and NCARB has developed legislative guidelines in an attempt to align the statutes of all 55 jurisdictions. The AIA participated in the legislative guidelines program by financing a massive study of existing statutes.

Future activity: The AIA must continue to monitor NCARB progress on the examination procedure and to work in ICED toward more adequate definitions of the practice of environmental design professions. The AIA should also help implement the legislative guidelines program by assisting the states in making appropriate legislative changes. This should include providing legal assistance in preparing detailed analyses and recommendations for legislative action in each of the 55 jurisdictions plus assistance in reviewing

draft legislation prepared in each of these jurisdictions.

Inasmuch as there is great interest in the concept of post-registration recognition of architectural specializations, the AIA should begin to study strategies, concepts and implications of such recognition.

Research

The specific objectives of research are to:

- Increase continually—qualitatively and quantitatively—the architects' factual knowledge about man's relationship to his physical environment.
- Legitimize urban/environmental research with federal policy and funding agencies.
- Develop a new emphasis on people-oriented research (behavioral and human sciences related to man's physical environment).
- Expand the profession's research capability, its design and problem-solving skills and its knowledge of the design process.
- Increase funded research activity in the profession.
- Increase the flow to and from the profession's research data base.
- Change the profession's attitude toward and use of research; architects must begin to recognize the research opportunity in day-to-day activity and in each new project.
- Develop a professional attitude and habit of sharing new knowledge and skills.
- Recognize research as a professional role equal to that of the designer.
- Integrate research activity in professional architectural schools.

Progress: Since re-establishment of the Institute's Research Program in 1970, a state-of-the-art research survey has been conducted, building the base of research information at AIA. This forms the beginning of an AIA information system. As a part of the total survey activity, the Smithsonian Institution's Science Information Exchange system has been searched. Also, European research stations and universities have been visited. The AIA has collected additional research bibliographies and individual abstracts and has conducted the annual Architect-Researchers' Conferences.

To create more visibility for research within the profession, an award category has been established, as have two scholarships: the AIA Research Scholarship and the William H. Scheick Research Fellowship.

The AIA and ACSA have completed a study of federal sources of research funds.



The AIA is establishing a computerized information system for architectural schools.

Future activity: Major research needs should be identified as a result of the "constraints to building conference" and other activities now being planned to follow up the first report of the AIA National Policy Task Force. There exists a matrix of constraints that must be eliminated before the goals of the task force report can be achieved. A number of these constraints will require extensive research into their causes, nature and methods of elimination, research to be undertaken outside the AIA but with AIA encouragement. In addition, a number of programs will become apparent for undertaking by the new AIA Research Corporation, formerly the Urban Design and Development Corporation. The Institute should also work within the Five Presidents' Conference to 1) establish a professional niche for architectural researchers; 2) establish and accredit research curricula in schools of architecture; and 3) increase the number of Ph.D. programs in architectural schools. The Institute must maintain liaison with other professional organizations to assess their research activities and to form useful coalitions on legislative affairs; work toward the publication of a research journal; and expand the continuing research survey and information services.

The AIA Research Conference must be continued and others added to increase the profession's awareness of and involvement in research, as follows: 1) a Research Legislators' Conference, to bring together congressmen who can influence research legislation and to sensitize them to the need for research in the urban and man-environment fields; 2) an Architectural Deans' Conference, aimed at bringing together deans of architectural schools to develop and improve the research capabilities of the schools and the profession; and 3) Mini-Conferences on Research Subjects to make known the state of knowledge of specific issues and to point to needed areas of research, such as housing needs of the elderly and special school facilities for retarded children. Each will produce a state-of-the-art monograph and research prospectus.

The successful AIA Research Advisory Panel must continue to provide interdisciplinary input and guidance for the AIA Research Program, and to provide important links with an interdisciplinary field of researchers and research groups.

Continuing Education

The specific objectives of continuing education are to:

- Expand architects' skills in design and problem solving, business development, office and construction management and all other aspects of architectural practice.
- Expand the architects' information and knowledge base related to all aspects of architectural practice and the emerging concerns of the relationships between man and his physical environment.
- Realize a full flow of information and skills between architects and to and from the bases of knowledge and skills of the profession.
- Improve the architects' learning and knowledge-sharing habits.
- Recognize continuing education as an integral part of the education process.

Progress: The development, expansion and acceptance of the new AIA Continuing Education Program has been ahead of schedule. The Architectural Training Laboratories¹ are designed to provide new and expanded skills to architects, related to particular thrusts viewed by the membership and the Institute leadership as vital to improved practice performance. The RAP audio-cassette subscription series² is designed to provide new knowledge to architects.

A recent membership questionnaire has provided useful guidance in establishing priorities for the continuing education program. The reference service, designed to make architects aware of other continuing education resources and events available from all other sources, was initiated in 1971, then dropped due to other priorities.

Correspondence courses, "group dynamics" laboratories for area coordinators and AIA staff members and component executives, and in-depth audio-cassette and other multimedia learning packages are expected to be developed beginning this year.

¹ Architectural Training Laboratories are not traditional passive lectures but active hands-on skills discovery and development sessions conducted by national experts on the individual lab subjects. ATL's are currently being presented all over the country. Seventeen topics are now available in a constantly growing menu of office practice-oriented ATL's.

² RAP (Review of Architectural Periodicals) is for architects who don't have time to read. It is a monthly AIA service, bringing to subscribers the most current and most useful practice-oriented information to be found in some 30 architectural and engineering journals. RAP will also contain notices of new in-depth single-subject cassettes which the AIA will begin to produce later this year.

Future activity: More extensive development work is needed in all of these continuing education formats. The program must begin to lead the profession into new spheres of involvement and new depths of expertise in existing involvements. A tradition of continuing education must be established; this has never before existed in the profession.

Continuing education resources must continue to expand in 1973. There should be additional architectural training laboratories, a continuation of the RAP cassette subscription series, an increased diversity in other multimedia packages for chapter or individual use.

The reference service should be reinstated to provide architects with constantly updated information on all continuing education resources available from all sources.

As the continuing education program expands, the information problem will also grow. The Institute must establish a new responsive system for disseminating current information and research data—on demand—to practitioners, to make accessible to members the knowledge base of the profession. Although such a system has not been designed, several models are being studied.

The Continuing Education Advisory Council has been experimenting with a new format of meeting in grassroots locations around the nation, involving continuing education activists and area coordinators in the meetings, and stimulating committee members (steering group plus members) to create local and regional continuing education workshops to build interest in the national program and provide input to the national council and continuing education director. This is a potential model for other national committees.

Outlook for 1973

Specific 1973 program and project proposals have already been submitted to the AIA Planning Committee to confront directly many of these issues and support fully the AIA's educational and research objectives.

But clearly all the issues cannot be faced and all the objectives met this year, or next. Time and AIA dollars will not permit that to occur. The AIA Department of Education and Research is confident, though, that significant progress is being made and can continue toward the overall goal of developing a competent and creative profession, capable of contributing greatly to the improvement of man's physical environment. □



A Concert Approach to Problem Solving

by ANNE P. TAYLOR AND JOHN R. PETERSON, AIA

In an era which stresses ecology and environmental education, a classroom should stimulate interest, awareness and perceptive skills. Here's how an interdisciplinary team from Arizona State University tried to find the right character for such a classroom.

College students with a desire to test their newly acquired knowledge are often caught in a generation gap. Educational institutions seem determined to maintain their hold on the authoritarian standards of the academe. Sometimes college preparation tumbles into irrelevant and meaningless exercises of theory, without practical involvement.

Perhaps architectural education is a candidate for such criticism when students must solve problems and design theoretical buildings year after year, without any realization of construction. Further, they can gather no real evidence as to the success or failure of their designs, and so are working in a near scientific vacuum as far as feedback is concerned. Their drawings and models are critiqued by juries of professors who sometimes disregard the process of accumulating background material and judge only the end product. They too have no concrete evidence as to the potential success or failure of the students' work.

Architectural educators are exploring the possibilities and values of research as a tool for more intelligent design. The designer/researcher can obtain empirical results by assessing man's behavior through his sensory and verbal interactions in his environment. Some work of this kind has already been executed by behavioral scientists who have recorded the individual's reactions to color, noise, physical activity and inactivity. But

little has been done to assess the effectiveness of existing buildings in order to use this information for further modification of later designs.

Recently a cross-disciplinary project was executed at the Arizona State University among the college of education, the art and architecture departments, the college of home economics and the bureau of testing. It involved designing a classroom environment to reinforce and enhance a predetermined curriculum for four- and five-year-old children and studying their sensory experiences with design. The elements of line, color, form, space and texture were presented as 19 separate concepts.

For 16 weeks, 20 children were involved in the experimental program in the prototype environment. Twenty-two other children took part in an identical program in a control environment (an average classroom) in the nursery school of the College of Home Economics. Findings showed that the experimental environment fostered gains in the children's overall esthetic quality of art products and in their concept formation with the elements of design. There was no significant difference in their ability to make critical esthetic judgments.

Ten fifth-year design students from the College of Architecture, Professor John R. Peterson, fifth-year faculty members and Dr. Anne Taylor collaborated on the prepara-



The organic environment is designed for wet or dry sand play and water experiences and is used to teach art concepts, textural differences, reflection, etc.

tion, study, design and construction of the prototype classroom, built in the College of Education at the university.

It is known that close cooperation between architect and educator makes for better school buildings. But oftentimes nebulous specifications such as "flexible space" are the only curricular description given an architect for a certain classroom.

In this case, curricular objectives were proposed to the architectural students.

The Approach

The following procedure, which extended over a six-week period, was used to assist the design students in establishing an appropriate frame of reference about art learning processes and knowledge of early childhood education:

- Investigation of resource material in child development. The team viewed a video tape on Piaget's observations of children and the

characteristics of each developmental state. Discussions followed and individual readings were made by members of the team.

- Review of key literature in cognitive development concept formation and esthetic development.
- Seminars with personnel working with young children to discuss development and learning styles of five-year-olds.

Dr. Taylor visited Palo Alto, California, Denver and St. Louis to observe and evaluate various efforts to improve classroom environments and to develop curriculum materials for esthetic education.

Ten kindergartens and day-care facilities were visited by the team; architectural students found in varying degrees that classrooms were scaled for adults and that only play objects were within a child's scale. The total volume of the room was often not fully utilized, especially the ceiling area, and there was little color. There were few possibilities for the child to change his environment; the means available for the teacher to change it or to create a stimulus within it were limited. There seemed to be a reliance on objects and toys injected into the environment for instruction and exploration.

The students spent many hours with the children in their classrooms. However, the outstanding event was a picnic field trip to the studio of Paolo Soleri, which allowed students to interact and relate to the children in an unusual architectural environment out of context with the familiar, everyday world of the average child. This experience was recorded by motion pictures for later evaluation by the young designers. A thorough study of the users, in this case the four- or five-year-olds, was made in order to understand their eye levels, scale, kinesthetic and tactile reactions of the day.

The Design

After a thorough study of child development, initial preliminary designs were made and critiqued. Ultimately four environments, to be housed in one space, were planned. Evidence found by Luther W. Pfluger and Jesse M. Zola ("A Room Planned by Children," *Young Children*, Sept. '69) shows that children prefer manipulative toys in a classroom but don't care for tables and chairs. Using these findings, it was decided not to have such stable furniture.

The microenvironments would not be movable within the room or transportable to other classrooms. However, they were designed for future adaptation to collapsible structures and with the possibility of coordinating many designs of instructional materials, based on curriculum objectives.

Dr. Taylor, formerly on the staff of the College of Architecture and the Art and Education Departments, Arizona State University, Tempe, is now research associate in art education, Southwestern Cooperative Educational Laboratory, Albuquerque, New Mexico. **Mr. Peterson** is principal in the firm of Environmental Planning Consultants, Tempe, and associate professor of architecture at Arizona State.

The environmental components could be described as follows:

The organic area. A 12x12-foot contoured space with two round sandboxes, one for wet, one for dry sand play, and a water fountain with a recirculating pump, surrounded by a fur-padded platform for sitting, climbing and resting.

The soft environment. A 12x12-foot space with large and small round pillows of a shaggy, soft fabric, pastel carpeting, and a lowered ceiling plane of stretch fabric, allowing the children to delineate subenvironments within the area.

The multilevel isometric environment. A 12x12-foot place for climbing, sliding and playing with two- and three-dimensional shapes and forms, and with a level above the floor for children to experience an untraditional perspective.

The multilevel hard-edged environment. A 12x12-foot black and white space with mirrors (on which children can draw with magic markers) on four interior surfaces, making a person standing in the middle experience infinite space.

The space-frame and open central area. An open, fluid space bounded by the four environments described, containing a 12x12-foot space frame with flat, lighted surfaces for art activities and other play and which can be elevated to the ceiling plane by a system of pulleys when not in use.

The Implementation

After one semester of intensive study and preparation, construction began. At the end

of two months Dr. Taylor, two learning facilitators and one videotape operator (who controlled ceiling-mounted cameras for visual evidence of children's interaction with the environment) could start the study, which took in 16 sessions of two-hour play periods in the prototype environment with a volunteer population of 20 children.

The purpose of the study, from which descriptive and experimental data was extrapolated, was to determine the effects on five-year-olds of such an environment and on the overall esthetic quality of their art products and their concept formation, and to determine if such an environment aids in their ability to make critical esthetic judgments.

The videotape data helped assess the patterns of the subjects as they interacted with certain selected stimuli. Systematic counting of children's preferences of individual microenvironments was made. Frequency counts of responses made from the videotape formed the basis of the analysis and appraisal of selected aspects of the experiment.

Two remotely controlled cameras mounted on the ceiling provided the means for acquiring the data. Wide-angle zoom lenses were used to allow coverage of the entire room. A systematic sampling was made for 30 seconds every five minutes during each session when the cameras scanned the room. When spliced, these scans totaled two hours 24 minutes.

Based on this research, it was concluded that the perceived preference of the children was the organic environment with wet and dry sand and water. The soft environment was the second preference, the isometric the

third, and the hard-edged the fourth. They had a free selection in the total environment at all times.

Data such as this could enhance the development and construction of similar environments. It revealed that the subjects in the prototype environment did indeed show gains in the overall esthetic quality of their art products and their concept formation with the elements of design.

Presently the study is being repeated with a non-English-speaking population to assess the effects of the prototype environment on language development of four-year olds.

In summary, several benefits have been derived from this research:

1. Architectural students became involved in determining the solution to a very pragmatic and real problem.
2. They obtained empirical feedback for their designs and the effectiveness of the environment as a teaching tool in and of itself.
3. They participated in a cross-disciplinary effort at the university level to produce a unique contribution to classroom planning.
4. They learned much about child development and in a way helped to determine educational curriculums, learning patterns and instructional strategies.
5. Thousands of education students visited the prototype environment and were inspired to change existing classrooms, many of which were devoid of visual stimuli.

The value of the experience seems to support the thesis that lumber and paint is a small price to pay for a functional, well-designed environment. □

In the soft environment, teachers don't have to talk about soft—children can wriggle through soft pastel-colored pillows and soft textures. The important thing is that the curriculum becomes the design determinant for the architect.





What's Happening in Architectural Education

Campus Notes. Columbia University federal contract funds of \$13.8 million were cut off in February by the Department of Health, Education and Welfare after rejection of its affirmative action plan. Eleven other educational institutions have experienced similar cuts; compliance officials believe that thousands of others receiving billions in federal monies are not complying with their Office of Economic Opportunities commitments.

Students at the Massachusetts Institute of Technology and neighboring schools are authors of a Congressional report on national land use policy. Senator Henry M. Jackson (D-Wash.), chairman of the Senate Committee on Interior and Insular Affairs, has sent the report, prepared for the committee, to members of Congress and others interested in the pending national land use bill.

The report, "Papers on National Land Use Policy Issues," was begun in the spring of 1970 with students and faculty at MIT and other universities in the Boston area, including Boston University, Tufts University and the Woods Hole Oceanographic Institution. The project was created as a vehicle for students and faculty to become involved in an interactive fashion with members and staff of the Senate Interior Committee and the Congressional Research Service on a major issue of national importance, according to

professor Carroll L. Wilson of MIT's Sloan School of Management, project director.

Cornell University has established a field of graduate study in regional science, designed to prepare students to study the economic and environmental problems of modern society. The field has been developed in conjunction with the center's Regional Science Research Training Program.

The University of Oregon's Center for Environmental Research is conducting a pilot project in conjunction with the local AIA on reviewing and abstracting research articles from 40 periodicals, reports in the center's library and from books. The publication, "The Oregon Architectural Research Bulletin," includes abstracts up to 200 words.

The School of Architecture and Urban Planning, University of California, Los Angeles, is seeking to broaden its outlook and community involvement and is now naming professionals from various fields as well as academic and business leaders to its board of visitors, which will suggest ways for the school to participate in urban innovation.

The University of Wisconsin has started training of environmental journalists through an interdisciplinary master's degree program. So far, 18 specialists have been turned out and again as many are currently enrolled. The program attracts young biologists with a flair for writing and journalism graduates who want to know more about environmental issues. Beyond the academic schedule, the program sponsors an annual summer communications institute for professional resource managers from federal and state conservation agencies. Staff members help edit a new national journal of research and development in conservation communication.

Paul L. Blanton, AIA, associate professor of design architecture at the University of Idaho, has become head of the university's Department of Art and Architecture.

Gordon B. Varey, AIA, will become chairman of the Department of Architecture at the University of Washington in September. Varey has been on the permanent university faculty since 1967 and is now associate professor in design and the history of construction technology.

George Anselevicius, dean, School of Architecture at Washington University, has been appointed consultant to the Office of Foreign Buildings Operations, the Department of State.

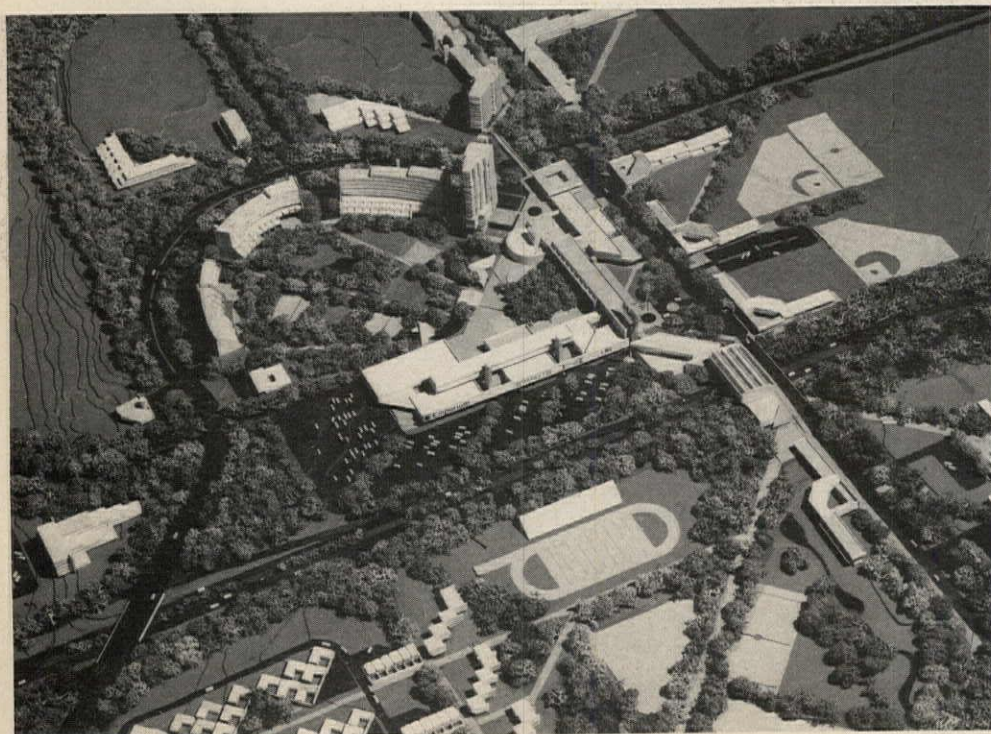
John W. Dickey has become head of the College of Architecture's Urban and Regional Planning program, succeeding Alan W. Steis, who is now assistant dean for environmental and urban systems.

Adam W. Herbert Jr. is joining Virginia Polytechnic Institute's College of Architecture as chairman for the graduate program in urban affairs. He is presently assistant professor of public administration and urban affairs, University of Southern California.

Continuing Education. Independent Study of the University of California Extension and the Department of City and Regional Planning, University of California, Berkeley, offers the following courses in its Lifelong Learning series, which is also a correspondence system: Urban Planning Analysis, Theory and Methods; the Growth of Cities and the Development of City Planning; the Planning Function in Local Government; and (for fall) Planning Implementation and Programming. The fee per course is \$250. For further information, write to Warren W. Jones or Bula Maddison, Dept. CP, Independent Study, University of California Extension, Berkeley, Calif. 94720.

Fellowships, Awards, Grants. Two awards in architecture and one in environmental design are among the Rome Prize Fellowships for 1971-72. Richard Bartholomew of Philadelphia and Grover E. Mouton II of New Orleans were recipients in the former category; Robert Kramer of Newton Center, Massachusetts, in the latter. The three are now in Italy where they have a year's free residence and studio and free use of the library and other facilities of the American Academy in Rome. The fellowships carry \$4,500. Jurors for the annual award were: architecture, Robert Venturi, AIA, chairman; Walker O. Cain, FAIA; Theodore J. Musho, AIA; Warren A. Peterson, AIA; and Hugh Stubbins, FAIA; environmental design: Edmund N. Bacon, FAIA, chairman; Michael Rapuano; and Conrad L. Wirth.

A student team in the Department of Architecture, University of Arkansas, has been awarded a \$13,240 National Science Foundation grant to study the mobile home; what sort of community it develops; and the effect of mobile home parks. □



Portfolio submitted by Bartholomew to the American Academy in Rome included plans for the 2,700-acre Lysander New Community, New York, for which he was project director of master planning for two years while working with the architectural firm of David A. Crane & Associates.



Headquarters, New York State Bar Association, Albany, N.Y.

Architects: James Stewart Polshek and Associates, New York, N.Y.

Photographer: George Cerna

TCS ... and a "lesson in civilized architecture"

"The headquarters of the New York State Bar Association," as a most distinguished critic recently wrote, "is an object lesson in how to build intelligently, sensitively and well . . . In a happy alliance, the lawyers and the architects, James Stewart Polshek and Associates, have preserved a row of handsome 19th-century town houses and incorporated them, not as a false front, but as a working part of a completely and strikingly handsome contemporary complex built

behind them. The words that come to mind are skill, imagination and taste, qualities not encountered too often on the urban scene."

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Peace-of-mind secrets revealed

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Top Honors in 1st Plywood Design Awards Go to Two Houses, Library in California

Two California architects have received top honors in the first Plywood Design Awards program sponsored by the American Plywood Association. The program recognizes projects which "demonstrate design excellence and significant structural or esthetic uses of softwood plywood."

William Logan, AIA, of Neil Noll, Mike Lee Associates in Palo Alto was presented a \$1,000 first award in both the single-family



Both Logan houses are settled among Holland grass at Pajaro Dunes on Monterey Bay.

and vacation-home categories for two free-form plywood beach houses. Douglas Barker of Smith, Barker, Hanssen in San Francisco received the \$1,000 first award for the Corte Madera Regional Branch of the Marin County Public Library (see AIA JOURNAL, April, p. 44). No first place award was given in the multifamily category.

The awards program was judged by three professionals: James DeLong, AIA, Los Angeles; Donald Wm. MacDonald, AIA, San Francisco; and John H. Howe, Minneapolis.

AIA's First Black National Officer Gets Citation Honoring Late Whitney Young

Robert J. Nash, AIA, of Washington, D.C., has been awarded the first Whitney M. Young Jr. Citation by the AIA. It is named in honor of the late leader of the National Urban League who challenged the architectural profession to assume its responsibility to the social issues of today in an address he made at the AIA convention in 1968. The citation is given to an architect or architecturally oriented organization "in recognition of a significant contribution toward meeting this responsibility."

Nash has long been involved in seeking answers to the problems of the inner city community and has consistently expressed the concerns of the underprivileged. He is serv-

ing his second term as national vice president of the AIA, the first black architect to be elected to national office. He has served the Institute in many capacities, including chairmanship of the Task Force on Professional Responsibility to Society and cochairmanship of the Human Resources Council.

Senate Denies Funds for Final Planning As West Front Controversy Continues

The Senate by a vote of 50 to 45 has rejected a proposal that would have permitted spending without Congressional approval up to \$2 million in previously appropriated funds for final plans for the extension of the West Front of the US Capitol. Congress will now be able to debate and decide upon issues which have been raised in the controversy.

On March 8 the Commission on the Extension of the Capitol had directed George M. White, FAIA, Architect of the Capitol, to proceed with final plans to extend the West Front by 80 feet. Opposition was drawn from many sources by those who think that the West Front should be preserved for historic, esthetic and economic reasons.

Following the Commission's decision, the AIA issued a statement saying, "We deplore the decision of the commission to destroy the last portion of the original walls of the Capitol. The AIA refuses to accept this decision as irrevocable; we intend to make every effort to prevent the destruction of part of the nation's heritage."

The Senate has now approved the annual legislative appropriations bill that contained prohibition of West Front expenditures. The measure allows, however, for monies to be spent on preliminary plans without action by Congress. The bill now goes to a House/Senate conference. Senator Ernest F. Hollings (D-S.C.), who has been active in obtaining the West Front expenditure ban, called for a new set of preliminary plans in order that public hearings may be held.

Landmark Gubernatorial Directive Issued, CSI's Uniform System in Use by Agencies

Governor Nelson A. Rockefeller recently sent a letter to all New York State agencies, corporations and authorities with a responsibility for design, planning and construction directing them to adopt the Construction Specifications Institute's *Uniform System of Construction Specifications*. He stated that he had made this decision upon the recommendation of the New York State Council on Architecture, its interagency Architecture-Construction Information Committee and his Business Advisory Committee on Management Improvements.

"It is expected," wrote Governor Rockefeller, "that use of the standard format will mean greater accuracy of bidding, improved control of project development and greater use of time-saving techniques while enabling improved cost accounting. Overall, use of the CSI format will permit realization of greater efficiency in project development."

The New York State Council on Architecture was charged with the responsibility of working with state agencies to effect the necessary specifications format transitions.

The council, legislated in 1966, was established to bring about more efficient solutions to design and construction problems within the state government as well as to the building industry. Chairman George A. Dudley, AIA, and Executive Director John P. Jansson, AIA, reached a decision nearly four years ago to utilize and establish the CSI format for all state building projects and state financed construction.

Jansson says, "It is difficult at this time to estimate the time and money that will be saved by the uniform system. It is certain, however, that once full implementation of this program has been established, it can result in well over hundreds of thousands of man-hours saved per year in all segments of the building industry in New York State." It is now the council's intention, comments Jansson, "to move toward the utilization of the CSI uniform system for data filing and eventually construction cost accounting."

It's a Happy Birthday to Yellowstone, Beginning of National Park System

A hundred years ago on March 1, President U.S. Grant signed a bill which set aside more than 2 million acres of what was then Wyoming and Montana Territories "as a public park or pleasuring ground for the benefit and enjoyment of all the people." And so it was that the unique American concept of national parks was born, an idea which has since been emulated by more than 50 nations.

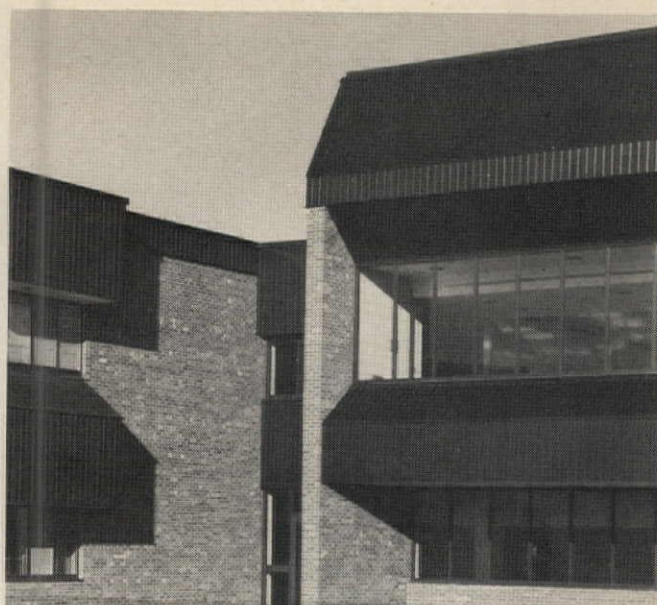
A birthday party was held in Washington, D.C., to celebrate the formation of Yellow-



Old Faithful and Cape Hatteras stamps are first two of eight in the centennial series. Latter is unique in that blocks of four 2-cent stamps combine to complete a design, yet each is an entity.

stone National Park, the first of 36 parks and eight seashores (see AIA JOURNAL Jan. '71, p. 18). Sponsored by the National Parks Centennial Commission, a banquet brought together over 1,200 people—government officials, representatives of conservative orga-

continued on page 54



Cheney Fascia Panels and Gravel Stop of aluminum in matched bronze enhance appearance of Ithaca's new junior high schools.

Twin junior high schools in Ithaca, New York, designed by Anton J. Egner & Associates, were selected for display in the exhibition of school architecture at the 1972 convention of American Association of School Administrators and will be included in the AASA 1972 school building filmstrip.

Boynton and DeWitt Junior High Schools feature a learning center for individualized study surrounded on two floors by clusters of academic teaching stations that can be subdivided, rearranged or used as open teaching areas.

More than 38,000 square feet of Cheney No. 100 Fascia Panels and Type 4 Gravel Stop of aluminum, with a special matched bronze color, were specified for these two schools. Stewart & Bennett was the general contractor for the Boynton School, and the roofing contractor was Kenneth C. Guy. For the DeWitt School, Streeter Associates, Inc. was the general contractor, and Charles F. Evans Co. the roofing contractor.

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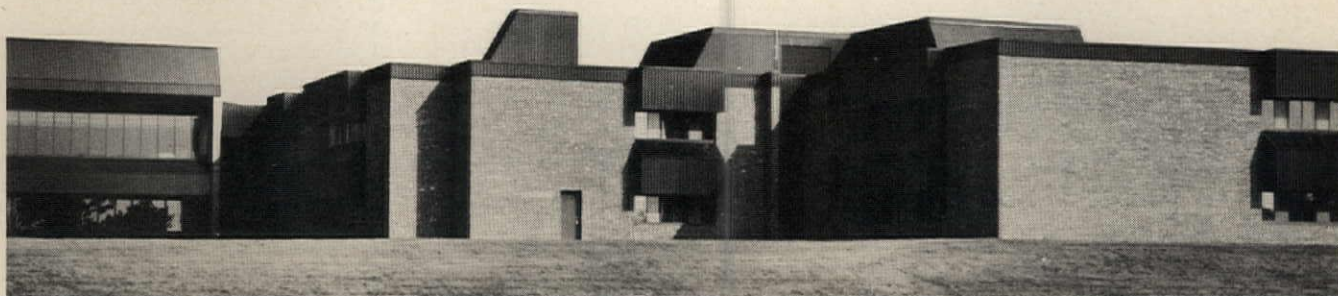
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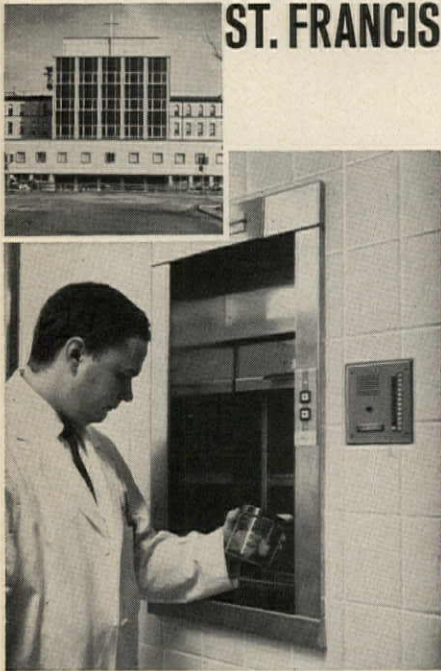
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outlook from page 52

nizations and employees of the National Park Service.

Department of the Interior Secretary Rogers C. B. Morton told the guests that paradoxically a good thing had been overdone: There are too many conveniences, too many roads, too many automobiles, too many facilities, too many people (see Letters to the Editor, April). Morton declared that cars will be banned from certain areas in some parks and that a computer reservation system for campsites will be used to eliminate overcrowding. "We will no longer allow architecture and economics to develop our land like Topsy," he declared. Naturalist John Muir once said that parks were "fountains of life" for "tired, nerve-shaken, overcivilized people." And as the *New York Times* commented editorially recently, it is for the people "to help keep unpolluted these magnificent 'fountains of life'."

Other events in 1972 to celebrate the historic national parks concept will include a National Parks symposium this month at Yosemite National Park and the Second World Conference on National Parks in September at Yellowstone and Grand Teton National Parks, Wyoming.

Congressional Leaders Attend Meeting, Address 340 Architects and Engineers

The 340 architects and engineers attending the fifth annual Public Affairs Conference sponsored by the AIA and the Consulting Engineers Council which met in Washington, D.C., in March heard Senator Edward M. Kennedy (D-Mass.) call for the creation of a totally new city. He also supported the AIA's opposition to the extension of the West Front of the US Capitol.

"Let the nation's architects design and demonstrate . . . a citizens' city," Kennedy said. "Clean air and clean water; rapid, reliable and even comfortable mass transit; computerized health services and educational systems available to all . . .; underground-utilities . . .; public safety systems which use modern technology to assure safe streets and safe homes."

Senator William Proxmire (D-Wis.) assessed the Administration's price and wage control policies. He called for a guaranteed reasonable mortgage rate to spur housing activity.

Representative Jack Brooks (D-Tex.) asked architects and engineers to mount a bipartisan effort to convince Congress that competitive procurement of their services on federal projects would not be in the best public interest. Representative Kenneth Gray (D-Ill.) explained a revolving construction fund for federal building, saying that such a fund would reduce the construction backlog of government buildings which are authorized but not yet funded.

Seminars featuring Congressional panelists and specialists met to discuss such topics as housing, transportation, land use, etc. The status of pending legislation on these topics was presented by House Majority Leader Hale Boggs (D-La.) and House Minority Leader Gerald R. Ford (R-Wisc.).

Department of Community Development Supported by the AIA as Sound Move

The creation of a federal Department of Community Development is supported by the AIA. Speaking for the Institute before the House of Representatives Committee on Government Operations, Executive Vice President William L. Slayton, Hon. AIA, said that "placing all community development functions in one administrative agency is a sound and essential move, long overdue."

Bill H.R. 6962 which would create such a department around existing Department of Housing and Urban Development programs would incorporate as well the Federal Highway Administration from the Department of Transportation, the Economic Development Administration from the Department of Commerce and the Rural Electrification and Farmers Home Administrations from the Department of Agriculture, and also other scattered programs throughout the federal government.

Innovative Educator, Administrator, Architect and Professional Leader

For more than 20 years, Walter B. Sanders, FAIA, was a member of the faculty of the University of Michigan School of Architecture. Known for his innovations in architectural education, he was the initiator in 1969 and chairman of the university's professional doctoral program in architecture, the first of its kind in the nation.

Professor Sanders died on March 19, after an extended illness, at the age of 65. Born in Ann Arbor, he was educated at the University of Illinois and the University of Pennsylvania. Prior to becoming associated with the University of Michigan, he taught at Columbia University and Pratt Institute, served as associate editor of *American Architect* and *Architectural Forum* and was in private practice in New York City.

In addition to being a dedicated teacher and talented administrator, Sanders was a member of the AIA Board of Directors, 1968-71, and served also on a number of the Institute's national committees. He was a past secretary of the Michigan Society of Architects.

Besides maintaining his own practice, Sanders was a design consultant to the firm of Albert Kahn Associates in Detroit.

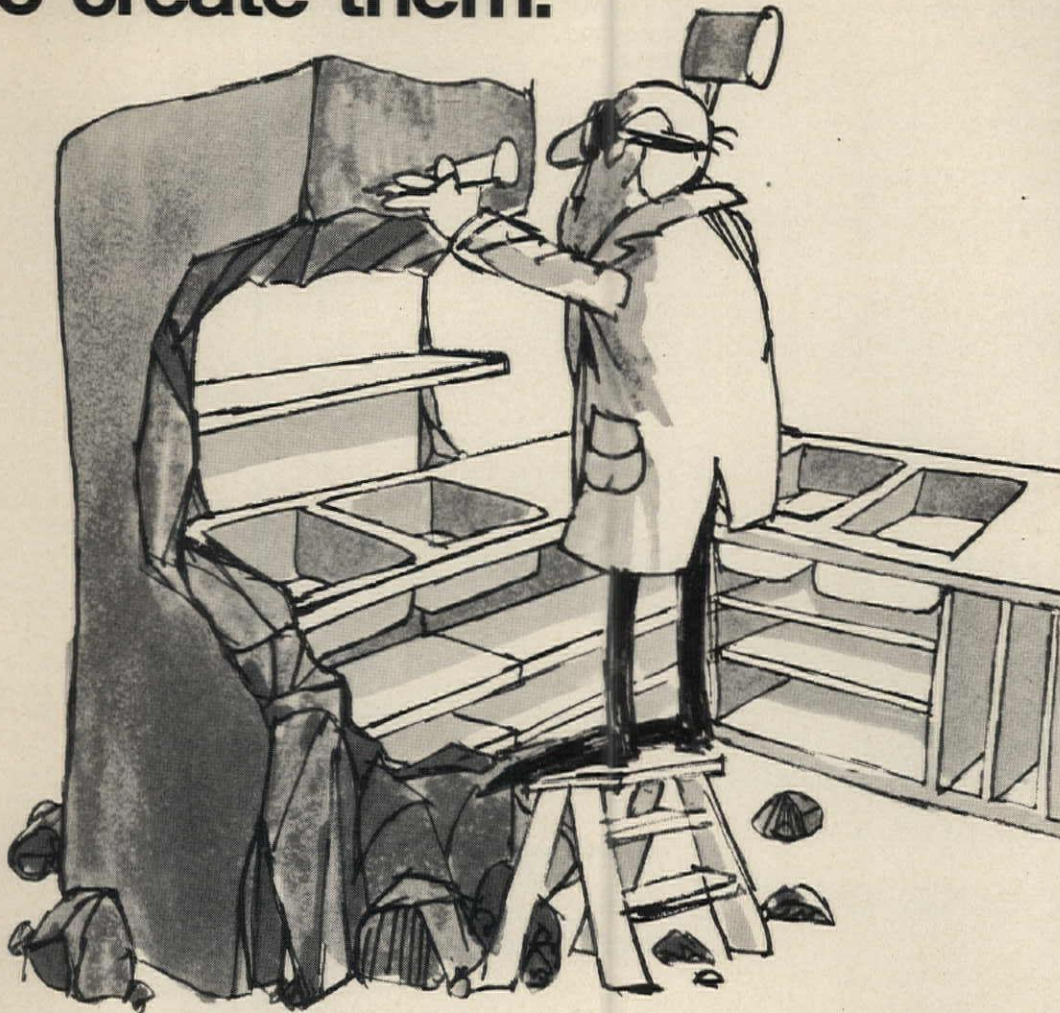
Classicist in Architectural Tradition

A direct descendant of Peter Stuyvesant, Frederic Rhineland King, FAIA, spent most of his life in practice in New York City. After studying architecture in Paris, he joined the firm of McKim, Mead & White and subsequently founded the firm of Wyeth & King. He was the architect of many private homes; a wing for the Phillips Gallery in Washington, D.C.; and an addition to Barnard Hall at Barnard College.

The architect died on March 20 at the age of 84. Trained in the classical tradition, he served as a consulting architect for public buildings in Washington, D.C., and for churches in New York and Newport, R.I.

continued on page 56

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■ **The Housing and Urban Development Act of 1972** (S3248) has been passed by the US Senate. It provides \$3 billion a year in block grants to be distributed to local governments for community development. Seventy-five percent of the funds would be reserved for 267 metropolises of at least 50,000 people.

■ **Max O. Urbahn, FAIA**, president of the AIA, has been elected chairman of the board of directors, New York Board of Trade.

■ **A new journal, Computers & Structures**, hopes to provide a medium for the rapid communication of information concerning

the applications of computers to the solution of scientific and engineering problems related to hydrospace, aerospace and terrestrial structures. Subscription rate is \$45 per year from Pergamon Press, Ltd., Headington Hill Hall, Oxford OX30BW, England.

■ **A computer graphics project** completed for Skidmore, Owings & Merrill of San Francisco is described in the booklet *Computer Graphics: An Emerging Tool in Architecture and Urban Design*. Original source data and perspective view drawings are presented along with a history of the project and a description of how it was carried out. Dynamic Graphics, Inc., 2150 Shattuck Ave., Berkeley, Calif. 94704, offers free copies.

■ **David Olan Meeker Jr., AIA**, has been appointed deputy mayor of Indianapolis. He will oversee the Model Cities and Community Services programs and will be responsible for community development as a whole, according to Mayor Richard G. Lugar. Meeker's past governmental experience includes membership on the Plan Commission, director of Indianapolis' Model Cities program and director of Metropolitan Development, one of the six "cabinet" positions in the city's government.

■ **Overwhelming endorsement** of the AIA's revised standard subcontract form (A-401) was given at the first annual convention of the American Subcontractors Association. A presentation was made by Bernard B. Rothchild, FAIA, a member of the AIA Documents Board.

■ **Charles E. Peterson, FAIA**, of Philadelphia has been honored by two British organizations, having been elected a Fellow of the Royal Society of Arts and an honorary corresponding member of the Conference on Training of Architects for Conservation.

■ **Research papers** presented at the joint AIA architectural researcher conference and the Environmental Design Association conference in January are contained in the two-volume *EDRA/3: AR/8*, available for \$27.50 from Don Conway, AIA, Director of Research, AIA Headquarters, 1785 Massachusetts Ave., N.W., Wash., D.C. 20036.

■ **Colors and designs for terrazzo** are outlined in a recommended reference work, *Terrazzo Data*. It is free to architects from the National Terrazzo and Mosaic Association, Inc., 716 Church St., Alexandria, Va. 22314.

■ **Insulation** offers many possible cost reductions in home and apartment construction according to a guide to the proper installation. Use and benefits are discussed in "Insulation Manual: Homes/Apartments," available for \$3 from the NAHB Research Foundation, Inc., P.O. Box 1627, Rockville, Md. 20850.

■ **Steven P. Papadatos, AIA**, of New York City has been honored by the National Remodelers Association for the design of a Texaco Service Station in Greenwich, Conn. The association has awarded the station both its Northeast Regional Award and its Grand National Contractor of the Year Award.

Deaths

- ANTHONY J. AMENDOLA
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- EARL T. HEITSCHMIDT, FAIA
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- BENJAMIN W. HERTEL
Grand Rapids, Mich.
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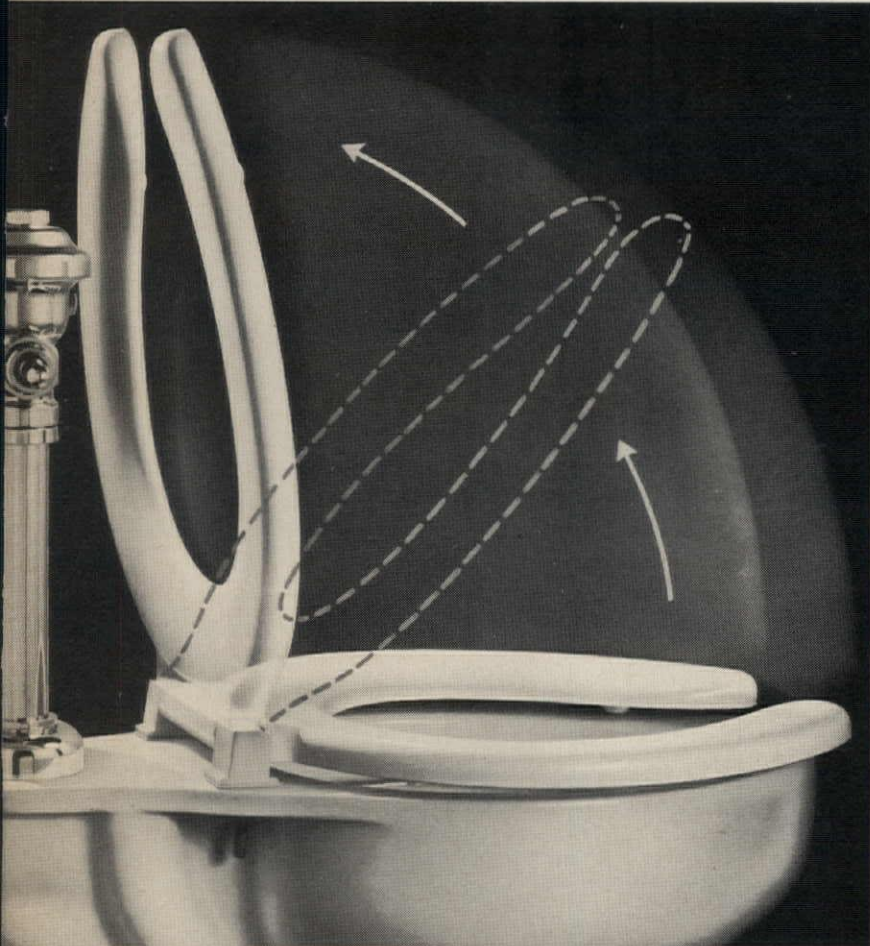
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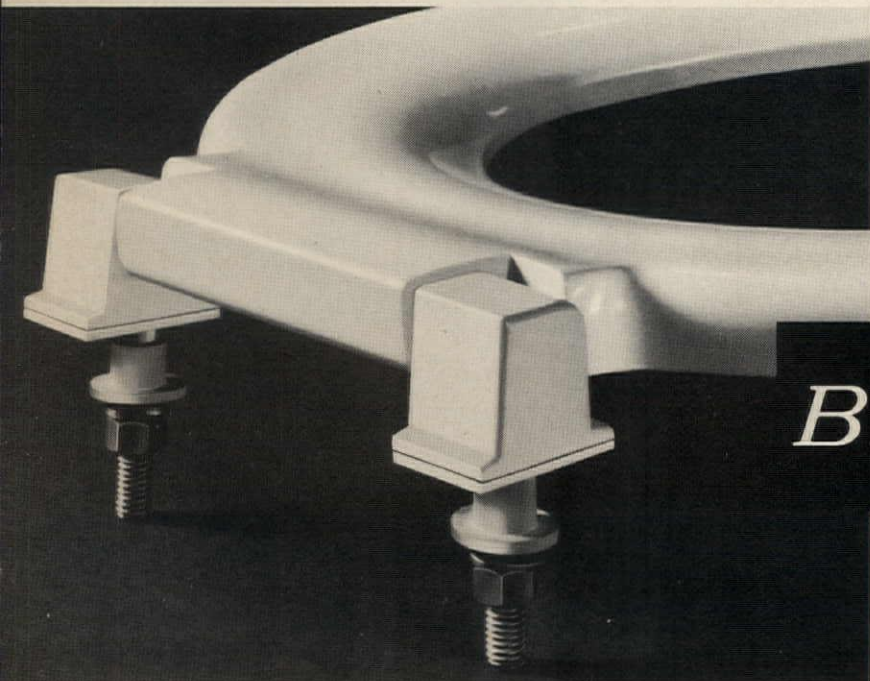
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books

Building a New Town: Finland's New Garden City, Tapiola. Heikki von Hertzen and Paul D. Spreiregen. Cambridge: MIT Press, 1971. 234 pp. \$13.95.

Tapiola, the new town outside Helsinki, Finland, has probably excited more comment, generally favorable, than any other new town built in Europe since the end of World War II. Many of the reasons for this worldwide attention come through clearly in this handsome volume. The quality of the book is enhanced considerably by the extensive number of photographs and planning maps, all reproduced with great care.

Although the book is essentially a case history of the planning and building of a new town, it is more than that. It also sets the Tapiola experience in the context of universal efforts to develop policies to guide urban growth. Toward that end, the authors attempt—successfully—to establish the relevance of Tapiola for other countries' programs and to distill the essential conclusions or lessons of the experiment.

Heikki von Hertzen, the developer of Tapiola, is a Finn, a lawyer by profession and a man passionately committed to some fundamental ideas about the manner in which

the relationship of man to nature should be reflected in the building of communities for people. His portion of the book (two out of five chapters) is written in the first person. It presents an almost incredible account of persistence in a drive to acquire the land for Tapiola, to engage the resources of skilled teams of architects and planners in formulating plans for the town center and the four neighborhoods and to guide the development process to its completion. In two visits to Tapiola, this reviewer acquired not only admiration for the beauty and serenity of the visible city but also some understanding and much appreciation of the invisible city of values, human relationships and services.

Paul D. Spreiregen, AIA, addresses himself to the question of Tapiola's relevance for urban policy and town planning elsewhere. The final chapter, containing an assessment of the experience, was written jointly.

What then is Tapiola's relevance for urban growth policy in the United States? How valid are the assumptions that shaped its design and development?

It should be observed initially that the building of new towns does not in itself add

up to an adequate response to the problems raised by urbanization and the growth and concentration of population in metropolitan areas. The authors do not argue that this is true even in a country with as small a population as Finland.

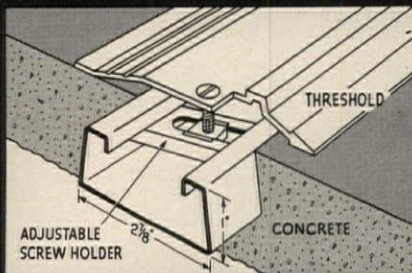
The issue in the US is vastly more complex and of much greater proportions. Some 50,000 new towns with populations equal to the 18,000 people who live in Tapiola, or 10,000 towns each equal in population to the 100,000 projected for Columbia, Maryland, would be required to absorb the population increase projected for the next 30 years. Currently, the Department of Housing and Urban Development has approved more than six projects under the New Communities Act of 1970 and has perhaps a dozen others under study. The number of new towns now in the planning and development stage and not in the federal financial picture is not known.

In addition to the task of building thousands of new towns, what happens to the quality of both the physical and social environments—an end to which von Hertzen and his associates directed extensive thought and effort—if mass production is attempted?

The task of guiding urban growth in this country is further complicated by the nature of the federal system. The federal government, for example, has no authority to condemn land, with some few exceptions, such as that granted to the Tennessee Valley Authority. That power is vested in the states.

continued on page 60

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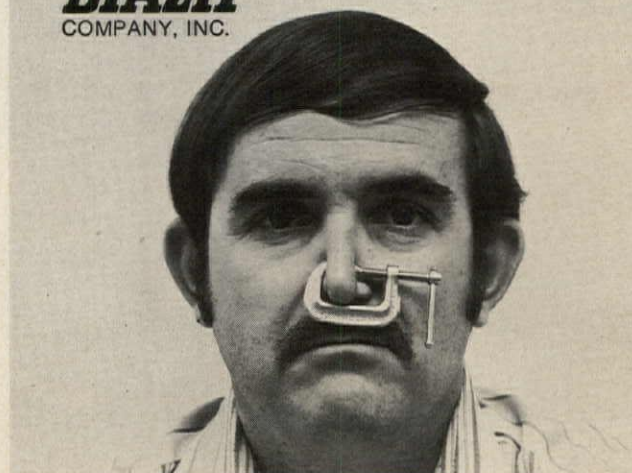
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Commercial/Institutional Buildings Top Award \$1,000: Douglas Barker (Smith, Barker, Hanssen, San Francisco). Project: Corte Madera Regional Branch of the Marin County Public Library, Corte Madera, California.



Residential/Single-Family Buildings Top Award \$1,000: William Logan, AIA, (Neil Noll, Mike Lee Associates, Palo Alto, Calif.). Project: House at Pajaro Dunes, Watsonville, Calif.

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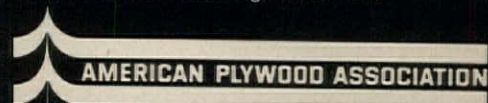


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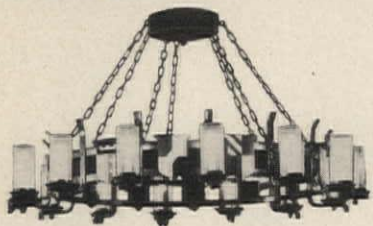


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books from page 58

Which states have adequate laws and mechanisms for acquiring and developing land in the interest of orderly growth? Perhaps New York State alone is equipped in terms of legal powers, policies and machinery to move. And it has moved imperceptibly to date.

Regardless of what kind of urban growth policies Congress may adopt in the future, it is clear that the bulk of the population growth in this country will follow present trends and occur in and around existing metropolitan areas.

Why then the excitement in this country about Tapiola or any other new town? Of the many insights that this splendid volume yields, the following seem most pertinent to our own national effort.

1. New towns must be part of regional planning, which in turn must be set in a national planning framework. The scope of planning must comprehend not only housing needs and community service but economic and social development as well. That is, the planning must reflect not only the needs of the people for whom the new town is designed, but also the plans, hopes, projections and goals of the region as a whole.
2. New towns planned for existing metropolitan areas, such as Jonathan and Cedar Riverside, need to fit into some conceptualization of the area so that their relationship to the metropolis will be harmonious and not simply impose further strain on an already sick city. One wonders what the ultimate impact of Columbia will be on the Washington-Baltimore corridor since that corridor has not been conceptualized even in planning studies. The "first generation" of new towns built in England after World War II largely addressed themselves to the task of relieving population pressure on London. The second and now the third generation of British new towns reflect a plan for urban growth for all of England, Scotland and Wales.
3. Even in the absence of established national or regional urban growth policy, individuals are not entirely helpless. Against the skepticism of government officials, business leaders and bankers, the building of Tapiola was accomplished. Since the prevailing attitudes in Finland were negative at the time, von Hertzen borrowed money on a two-month short-term loan from New York City bankers to acquire the land. To develop it, he assembled a coalition of organizations under the name of *Asuntosäätiö*, representing the complete range of political and social orientation in that country. "Lack of organization and leadership in urban planning," the authors of this book assert, "is our greatest handicap, not money."
4. The design of a new community will determine many later happenings. Some planners said that Tapiola's extensive green areas and flower gardens would be quickly destroyed by great numbers of children romping through them. Quite the contrary. Adequate room for young bodies to move and objects for them to manipulate have left Ta-

piola's beauty unmarred. In fact, there is little crime or vandalism in the city. Tapiola has only one policeman, and he is unarmed. Lack of space precludes attention to such other design issues discussed in the book, such as the need of an identifying profile, the composition of individual neighborhoods and the relation of one neighborhood to another.

5. Tapiola successfully mixes people of greatly varied economic and educational backgrounds in the same housing. "A university professor and a janitor live side by side. Only the size of the flat varies." Both benefit from the same careful attention to a humane environment. Both receive the same community services. Both have equal access to the rich variety of choices that the town provides. And, judging from conversations I had with residents of Tapiola, both are supremely content to have it that way. Columbia and Reston, Virginia, have both demonstrated that resident mixing of people of different backgrounds can be accomplished. Black people who can afford housing in either community find few problems with their white neighbors. Housing for low income people has not slowed the sale of high price houses. In each community, property values have steadily increased.

The building of Tapiola, like the building of Columbia and Reston in the US and the new towns in England, has laid to rest a number of fears and myths. In so doing, it has provided a uniquely attractive, serene yet lively town that engenders a rich lifestyle. This is perhaps Tapiola's greatest contribution to urban growth policy in the US.

EUGENE I. JOHNSON

Prefabrication: Structure and Elements. Jean Prouvé. Edited by Benedikt Huber and Jean-Claude Steinegger. New York: Praeger, 1971. 212 pp. \$25.

This book is essentially about industrialized architecture with the pioneering architect's own philosophy and the testament of his work as the undergirding. Copiously illustrated, it is pleasant to look through. But Prouvé's own words about a new architecture are inspirational. The text is in French, German and English. The editors are two Swiss architects.

Approach to Architectural Design. Arg Isaac. Toronto: University of Toronto Press, 1971. 112 pp. \$15.

The practicing architect and student alike will benefit from this book. The author states that the design process must begin by settling the initial design theme and the emotional responses for which the environment will be created. He discusses first the subject of human perception and then turns his attention to the design principles which are derived from that perception.

Systems: An Approach to School Construction. C. W. Griffin Jr. New York: Educational Facilities Laboratories, 1971. 96 pp. \$2.

A study of the open and closed building systems designed for Montreal and Toronto and the manner in which they evolved from the pioneering systems in California. There is information also on later developments in other states and cities. □

The reviewer is professor of education at the University of Georgia in Athens.

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letters

Architects in Government

Comment & Opinion on the architect in government in the October issue must have made many architects in government mutter, "What's the use?"

In essence, the announcement of prize-winning design work by California's Office of Architecture and Construction is coupled with a wringing of hands that private firms had not been involved.

Instead, I would have expected a delight in the breadth and many-faceted capability of the profession. I hope that business is not the overriding characteristic of our craft. More power to those architects in government who can produce fine work!

While deploring this California situation, at the same time a hat was tipped to a "new breed" of professionals in government. But it is not quite a new breed. For example, the National Park Service has been building award-winning structures for two decades which are designed by its own architectural staff. Also we have read in the JOURNAL pages of the fine work by TVA's architects.

The AIA recently created the Committee

on Architects in Government. I do not sense this new committee as a means of institutionalizing second-class professional status for government architects, nor do I believe it despite the editorial.

KENNETH C. ANDERSON, AIA
Fairfax, Va.

ED. NOTE: It appears to us that Mr. Anderson's views and the editorial are really in accord, saying the same thing in a slightly different way. We certainly applaud those architects in government who are bringing quality to their work, but we do question the amount of design which is being done on that level rather than by private practitioners.

Reflections on Aging

The more things change, the more they are the same. Reading in the January issue about the White House Conference on Aging, I was reminded of the results of similar sessions 10 years before. And even more remarkable, look how little progress has been made in attitudes.

ARYEH COOPERSTOCK
Assistant Director
Planning & Environment
National Capital Commission
Ottawa, Canada

Reminder to the Profession

I appreciate the words of AIA President Max O. Urbahn, FAIA, in the Institute Page for January.

For the past few years, too many have taken the liberty of partial definitions of the profession and its responsibilities. Urbahn's comprehensive statement supported by the history of the profession will be a reminder to us all of the obligations we share.

LOUIS A. OLIVER, FAIA
Norfolk, Va.

Correction

An item concerning Geoffrey Platt, FAIA, in the March Newlines contained an error. The corrected version is: Geoffrey Platt, FAIA, of New York City is the seventh recipient of the Medal of Honor for City Planning, given for his "distinguished contribution to the Plan of the City of New York and for his dedicated and continuing efforts in the preservation of the city's architectural and historic heritage." Initiated in 1939, the award is a joint effort of the New York Chapter and the Brooklyn Chapter of the AIA, the Metropolitan Section of the American Society of Civil Engineers and the New York Chapter of the American Society of Landscape Architects. Platt is the first architect to receive the honor.

The AIA JOURNAL encourages expressions of opinions from its readers but reserves the right to edit for length and style. Address letters to the Editor at AIA Headquarters.

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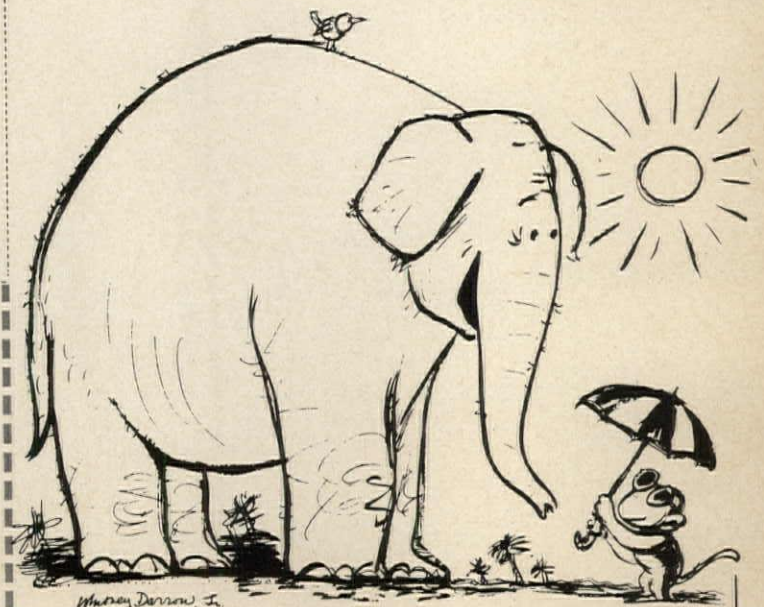
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have a skin like mine,
watch that sun."



American Cancer Society

events

AIA State and Regional

- May 18-19:** Virginia Chapter Spring Meeting, America House, Cape Charles, Va.
Aug. 25-26: Alabama Council of Architects Convention, Grand Hotel, Point Clear, Ala.

National

- May 21-23:** Color Marketing Group Meeting, Nevele Country Club, Ellenville, N.Y.
May 21-24: Theatre, Television and Film Lighting Symposium, Pick Congress Hotel, Chicago
June 2-4: Guild for Religious Architecture Regional Conference, Southern Methodist University, Dallas
June 15-17: ACSA Annual Meeting, Aspen, Colo.
June 21-23: National Exposition of Contract Interior Furnishings, Merchandise Mart, Chicago
June 28-July 1: NCARB Convention, Washington Plaza Hotel, Seattle

International

- May 27-June 4:** International Transportation Exposition, Dulles International Airport, Va.
June 17-22: International Design Conference, Aspen, Colo.
Aug. 21-26: International Conference on the Planning and Design of Tall Buildings, Lehigh University, Bethlehem, Pa.
Sept. 25-30: International Union of Architects Congress, Varna, Bulgaria

Competitions

- May 31:** Entries due, National Community Art Competition. Contact: National Community Art Competition, HUD, Washington, D.C. 20410.
June 1: Entries due, works in graphic form which relate creative interpretation to New York State. Contact: Mrs. Esther Twentyman, Art & Home Center, New York State Fairgrounds, Syracuse, N.Y. 13209.

Awards Programs

- May 30:** Entries due, Louis Sullivan Award for Architecture. Contact: Mrs. Maria Murray, AIA Headquarters, 1785 Massachusetts Ave. N.W., Washington, D.C. 20036.
May 30: Entries due, Nonprofit-Sponsored Low and Moderate Income Housing. Contact: Mrs. Maria Murray, AIA Headquarters, 1785 Massachusetts Ave. N.W., Washington, D.C. 20036.
June 30: Letters of intent to enter due, Energy Conservation Awards Program. Contact: Owens-Corning Fiberglas Corp., Toledo, Ohio 43659.

Tours

- July 5-Aug. 5:** European Traveling Summer School for Restorationists. Contact: National Trust for Historic Preservation, 740 Jackson Place N.W., Washington, D.C. 20006. □

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