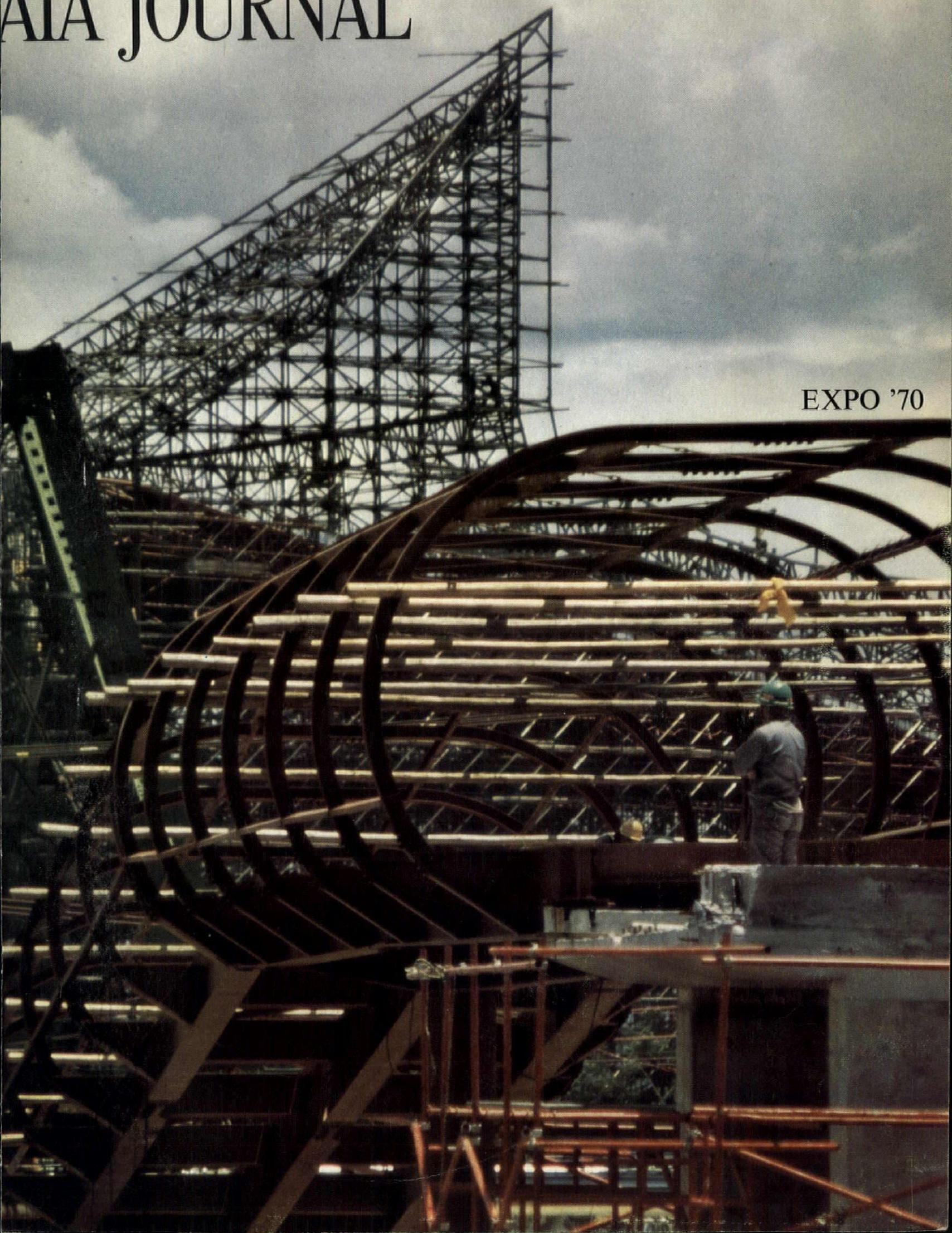


EXPO '70



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AIA JOURNAL

MARCH 1970

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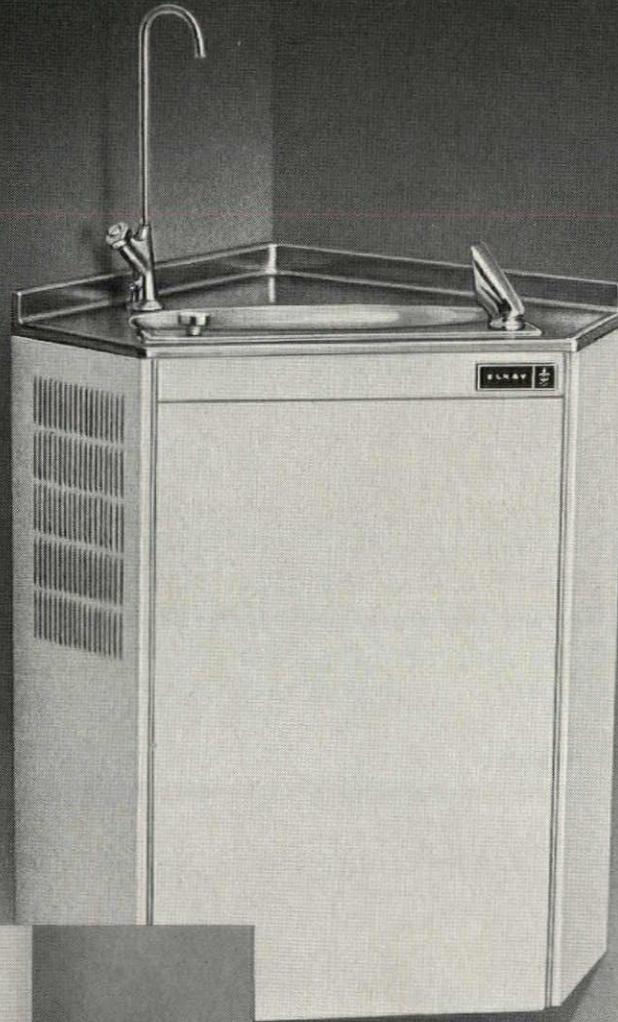
EXPO '70 under construction in Japan. Photograph by Gerald R. Brimacombe.

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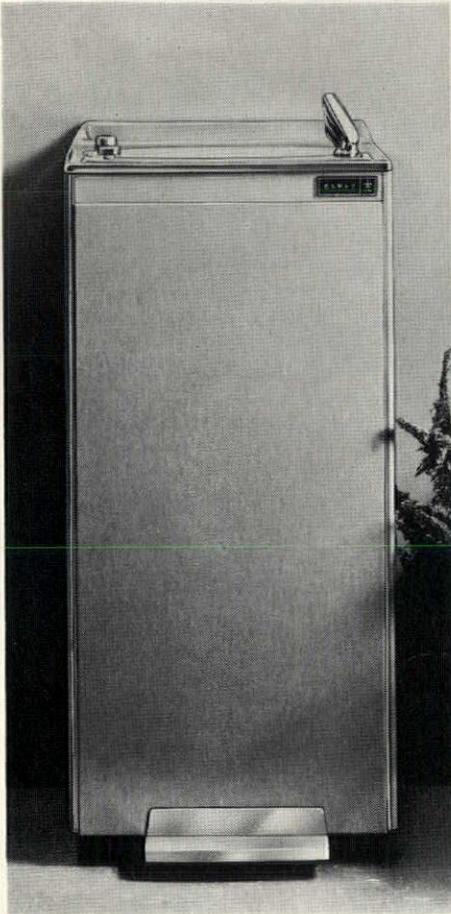
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VOL. 53, NO. 3

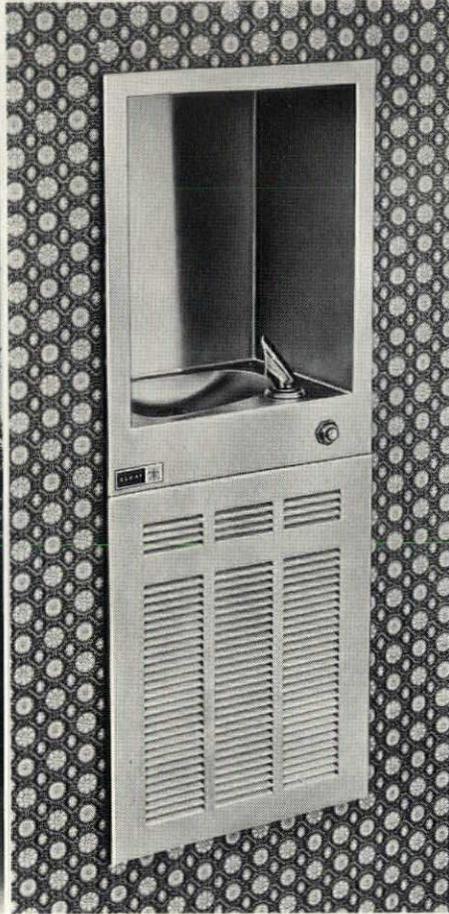
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comment and opinion

BIG D IN HOUSTON MEANS DESIGN: The competition for one's time and undivided attention at an annual convention of the National Association of Home Builders is nothing less than staggering—and the recent sessions in Houston were no exception. As reported in this month's Outlook, the more than 50,000 persons who were on hand during the five-day program could select from among such speakers as Secretaries Romney of Housing and Urban Development and Shultz of Labor, and Senators John Sparkman (D-Ala.) and John G. Tower (R-Tex.), just to name a few; from scores of workshops, seminars and tours; and from more than 500 displays (167,000 square feet).

With such statistics in mind, it must have been all the more gratifying to the AIA Committee on Housing that its program, "Better Design, Better Building, Better Profit," drew close to 1,500 attendees at its two showings. Through a combination of motion pictures, slides and even a bit of Charlie Byrd music, four architect-developer teams set out to demonstrate that good design simplifies the building process and means more profit. By way of introduction, Committee Chairman Jack C. Cohen, FAIA, told the homebuilders that his colleagues intended "to dispel the myth that architects don't carry their own weight." A rundown of the projects illustrates the scope of the presentation:

- A planned unit development (Montgomery Village, Maryland): Charles Lamb, FAIA, of RTKL, Inc., and Milton Kettler, developer
- A systems-built public housing project (Westminster Court, Boston): Carl Koch, FAIA (see AIA JOURNAL, Feb. '70, for his "A Philosophical Approach to Industrialized Housing"), and James Linehan, developer
- A townhouse and apartment project (Post Oak Park, Houston): Charles Tapley, AIA, and Bruce F. Moore, project manager
- A single-family homes community (Rinconada Hills, San Francisco): Donald Blair, AIA, of Compla and Sam Kaufman, developer.

Was the program successful? It appeared to be a winner, not only in terms of attendance but in the number of questions which moderator George Tsuruoka, AIA, subcommittee chairman, passed on to his panelists. NAHB Executive Vice President Nathaniel H. Rogg was moved to write, in part, to AIA President Allen: "The high caliber of the participants, the excellent project examples shown and the unique method of presentation utilized combined to yield a highly educational program."

This year's activity was a continuation of what began in 1969, marking the first time that the AIA had organized a session of its own under the housing committee's direction. Architects and planners as individuals, of course, have been involved in design workshops this year, as in the past, under such titles as "Meet the Professional."

But the design and planning aspects of the Houston sessions have not been the province of architects alone. Take J. William Brosius, a past chairman of NAHB's Institute of Environmental Design, for example. He took the podium, during an Urban Land Institute seminar, to discuss his master plan for Lake Linganore, a 3,200-acre recreational community near Frederick, Maryland. He has retained a microbiologist-ecologist and a professional forester to consult on land development; and he will commission an architect to design model homes that will make the best use of the slopes.

Little wonder, then, that each January more and more architects are packing their bags for Houston—to appear on a panel, to listen or to rub elbows with prospective clients. Perhaps that "Big D" we hear about in Texas does refer to design, after all, and not to Houston's neighbor to the northwest.

ROBERT E. KOEHLER

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12—Dome City Photographers, Inc.
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18—The Washington Post
28—Hedrich-Blessing
37—Thom Abel
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56—below, Louis Checkman
57—above, below left, Japan National Tourist Organization
58—above left, second from above right, below left, Japan National Tourist Organization
64—below right, Jack Laxer

NEXT MONTH

The jury for the first R. S. Reynolds Memorial Award for Community Architecture came up with Cumbernauld (AIA JOURNAL, July '67). Now the second is to be announced: an exciting new town, also abroad. A portfolio of photographs covering a variety of building types within the project will be accompanied by the official report of the jurors, all AIA Fellows: Chairman Daniel Schwartzman, New York; Jules Gregory, Lambertville, New Jersey; and George T. Rockrise, San Francisco, Institute vice president.

Also in April: One of America's best-known lighting consultants looks at uses of light and light sources in design; an architect for the Veterans Administration examines some innovative hospitals; a housing authority official asks the question, "Who Designs New York?"; and, in conjunction with the new Joint Committee on Education (primarily represented by the AIA and ACSA), the JOURNAL introduces a quarterly section devoted to Architectural Education—professional, continuing and public, and architectural technicians training. About the latter, we have more to say below.

ASIDES

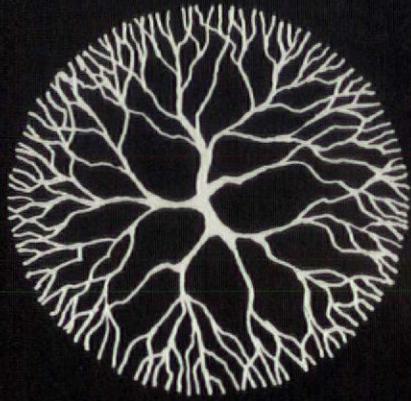
Architectural technicians training is one of a multitude of courses that a student can pursue in the two-year college, as this month's leadoff presentation points out. The AIA in 1966 assigned a task force the responsibility of developing a framework of operation to aid in the establishment of the new two-year program and the improvement of existing ones. The resulting proposed curricula, intended to mesh with existing educational patterns, is designed into three generic groups which must meet criteria in the area of understanding, knowledge and skills in 1) drafting, specifications and estimating, 2) graphic arts, models and reproduction, 3) administration, data processing and retrieval.

Schools offering architectural technicians' programs may be approved by a procedure set up by the AIA which operates through local and regional Institute organizations. This procedural policy will be published soon and distributed to the schools and AIA components.

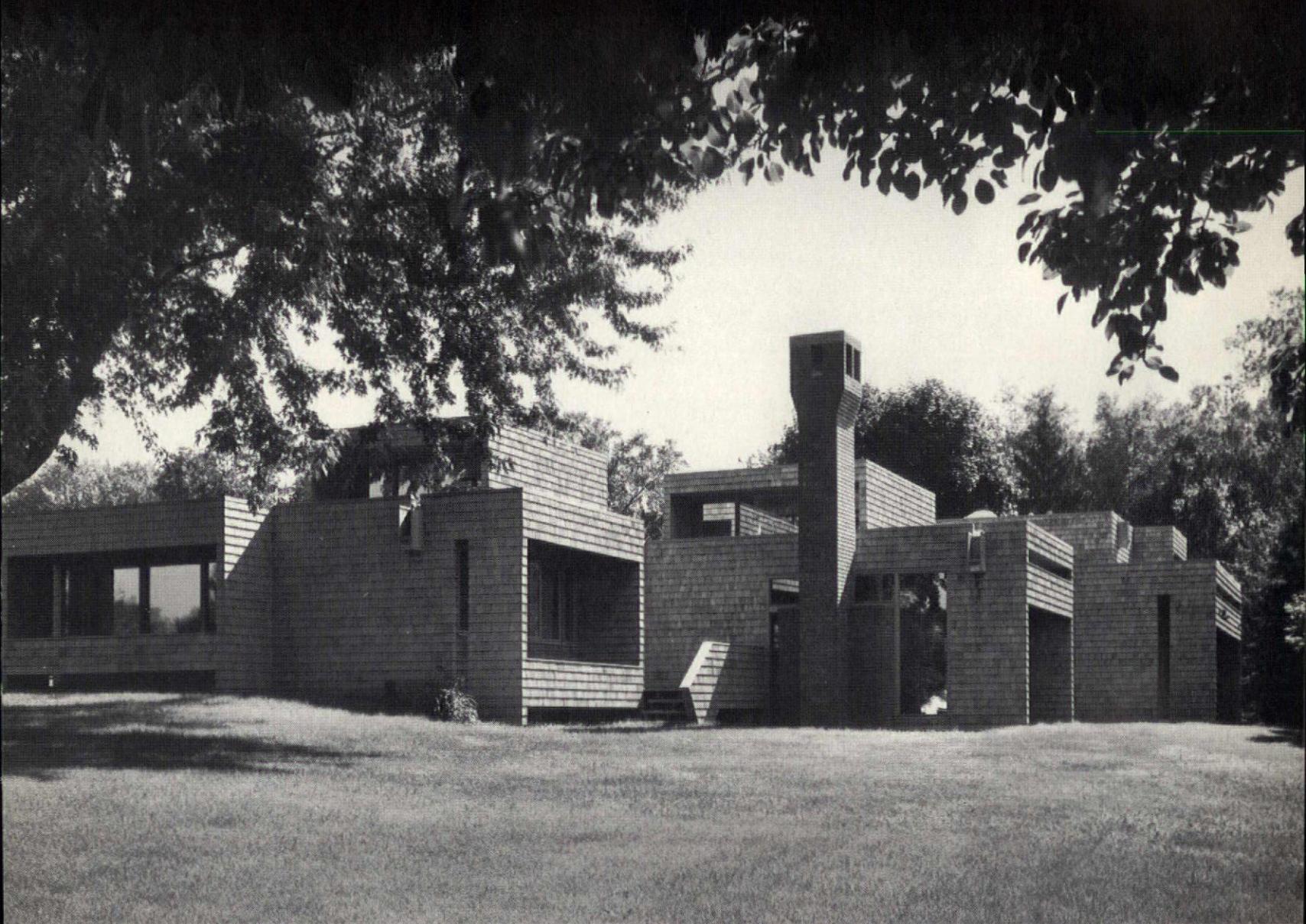
Getting back to the two-year institutions, it is interesting to note some statistics (in addition to the two charts on p. 36) which were included in the prospectus for the 1970 Community and Junior College Design Awards program, the results of which also are found in this issue.

In the fall of 1968, about 60 new two-year institutions opened their doors for the first time. This is a little over one new college per week. In order to keep pace with the need, it will be necessary to open an average of 83 colleges per year for the next six years.

As for overall enrollment in undergraduate higher education, the National Center for Educational Statistics set the figure for 1968 at close to 7 million. This is estimated to climb to 9.3 million in 1975, hitting 10 million two years later. For architects, significant figures indeed. □



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Certigrade Shingles, 16" — 5/2" Red Label grade. Architects: Parker Klein Associates.

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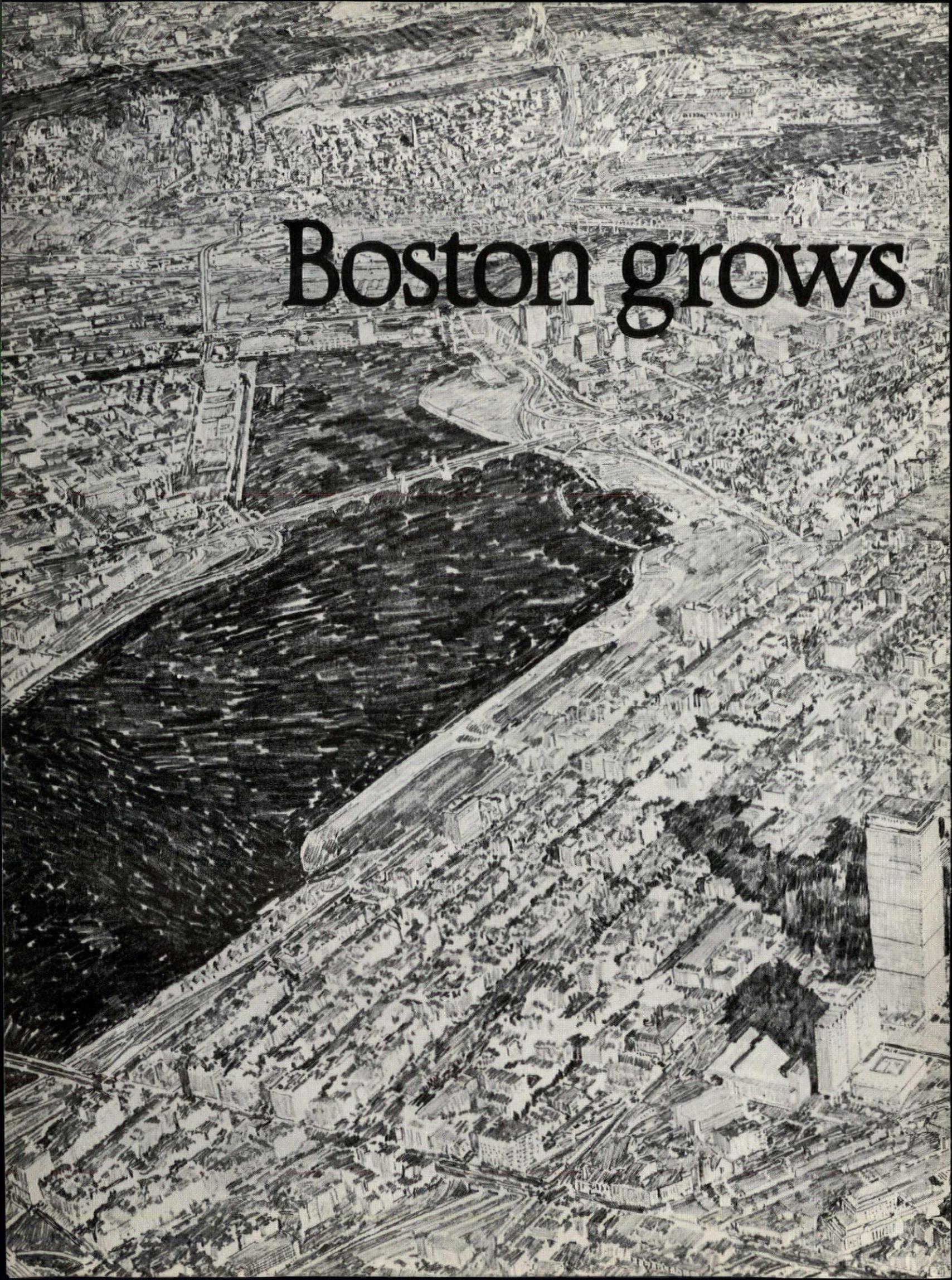
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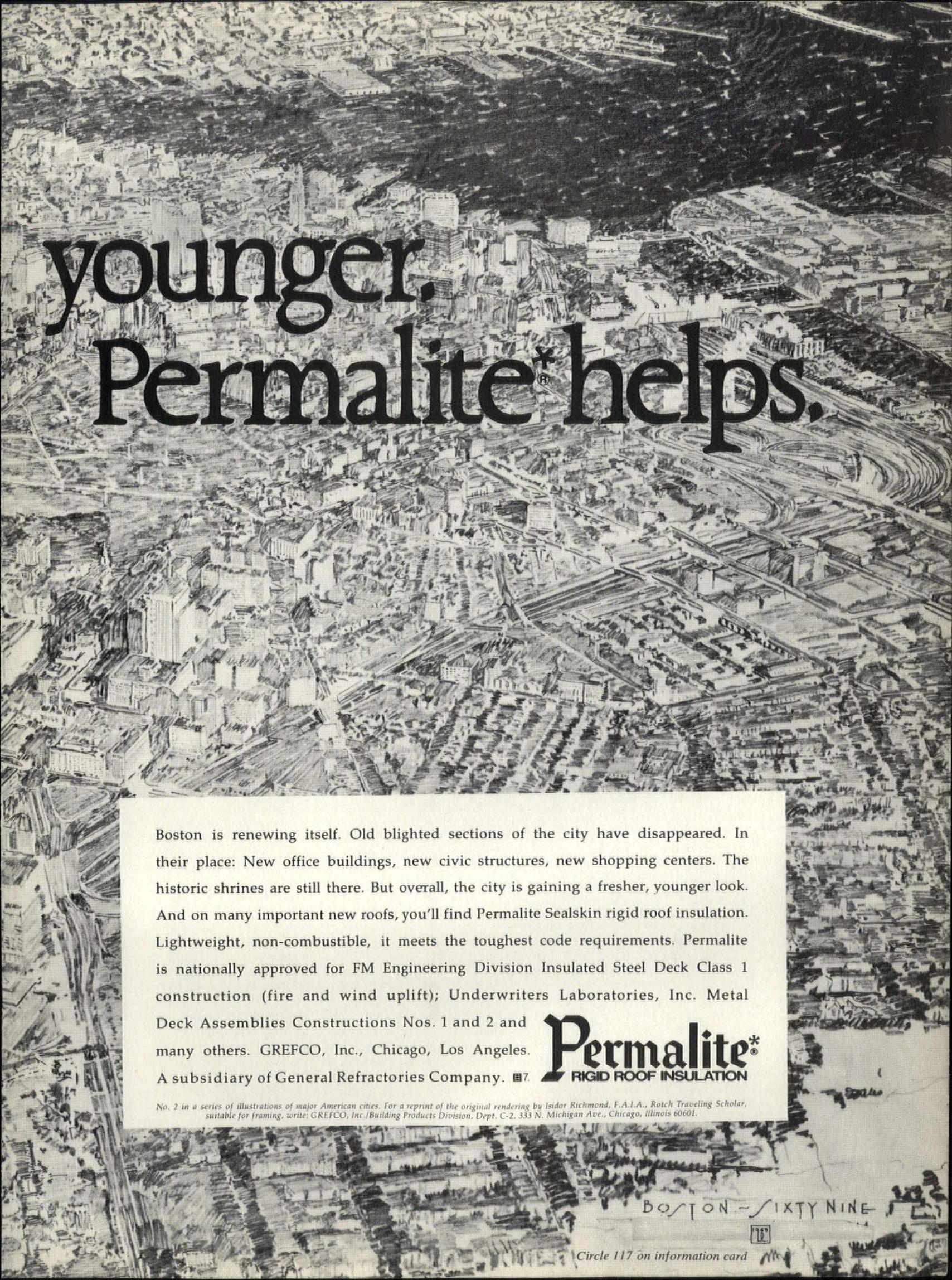
Red Cedar Shingle & Handsplit Shake Bureau

One of a series presented by members of the American Wood Council.

Circle 168 on information card

An aerial, black and white photograph of Boston, Massachusetts, showing a dense urban landscape. The city is built on a hilly terrain, with numerous buildings and streets visible. A large, dark, irregularly shaped area in the center-left of the image, likely a park or undeveloped land, contrasts with the surrounding built-up areas. The text "Boston grows" is superimposed in a large, bold, black serif font across the upper middle portion of the image.

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BOSTON - SIXTY NINE



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Homebuilders Get Promises, Promises, But No Immediate Relief Seen for Crisis

"For homebuilding, the '70s pose the greatest challenge in our history: We must double production of homes and apartments as the primary step toward the cure of America's urban ills," begins the newly adopted policy statement of the National Association of Home Builders.

"We can do this job, but we cannot get on with it hampered by mistaken national economic policies and the current incredible failure of government to establish proper priorities. Rather, these constitute a prescription for early disaster. The capacity of this industry to cope with the nation's housing problems will be seriously crippled if the attempt to contain inflation solely by 'tight money' is continued. The crucial question today is whether a major national resource—the homebuilding industry—can survive to continue its job of housing our people."

This is only the beginning of a lengthy statement accepted by the NAHB Board of Directors at its national convention in Houston—a convention that was a paradox if ever there was one. For despite the gloomy and pessimistic atmosphere in which the homebuilders met—and the consensus of the delegates was that there is no relief in sight—the January 18-22 sessions broke all attendance records (an estimated 55,000 in-

cluding all registrants), had probably the largest collection of "stars" to date (two Cabinet members, several US senators and congressmen and a display of other high government and industry leaders), and were accompanied by the biggest exhibition of building products ever assembled (more than 500 booths in the huge Astrohall).

The convention had yet another kind of drama when Acting President Louis R. Barba was called from Houston to the White House to confer with President Nixon on the housing crisis. The day-long round of conferences, first with Mr. Nixon and then with other top administration officials, was followed by a statement in which Mr. Nixon said: "I pledge that this administration will take every possible step to solve the most serious housing problem consistent with the overriding need to contain inflation. The housing of our people is and must be a top national priority."

Barba, the new NAHB head whose firm Barcon Associates operates out of Chatham, New Jersey, said his meeting with the President was one "of great consequence."

Yet, as the policy statement makes so clear, "Against this critical need and the Congressional expression of a national determination to meet it, actual national performance stands in bitter contrast:

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BETTER BUILDING,
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NAHB '70
Meeting America's Housing Goals



This sign points the way to the AIA-sponsored seminar, drawing nearly 1,500 builders in two showings (see Comment & Opinion).

- Housing starts in 1969 one-half million below the need for the year.
- Housing starts in early 1970 at a disastrously low rate with the prospect of falling further below the 1.4 million 1969 level.
- Interest rates and discounts at an unconsciously high level, disqualifying more thousands of families from improving their housing conditions or owning homes." (The statement included five other points.)

Housing and Urban Development Secretary George Romney, trying to ease some of the pain and frustration that prevailed in Houston, told the homebuilders that this administration is committed to developing a sound policy that will provide the framework within which the housing industry can work effectively to meet the nation's needs.

"We have a long way to go. The present housing shortage is grave, and the immediate outlook is not encouraging," the Secretary admitted. He went on to present a

continued on page 14

President's Firsthand Look at Pollution Spurs Great Lakes Region to Action

William Marlin, an occasional contributor to the AIA JOURNAL, was on hand to report the President's recent trip to Chicago as a follow-up to the Great Lakes section in last June's convention issue. His personal observations follow.

One reason why the great majority is so silent may be that it cannot breathe well enough.

Plainly worried about pollution of our air, water and land, and plainly determined to do something about it, President Nixon and most of the Cabinet went to Chicago in February to meet the governors of Illinois, Indiana, Michigan and Wisconsin in a historic confrontation of views and hopefully, a significant convergence of initiative.

In a "make no little plans" conference at the Field Museum of Natural History the President left us with two strong impressions. First, he had done his homework thoroughly (apparently someone has been placing the right books on the President's desk); and second, he intends to follow up on his call of mobilization in beating back the tide of environmental decay and indifference that is evident from coast to coast.

The President led off by listening to the governors who must live with pollution daily. Illinois's Richard Ogilvie proposed a Manhattan project approach to fight pollution. The other governors joined in for pushing for federal reviews of the antipollution laws and prosecution provisions which would be keystones of the administration's environmental package now before Congress.

The day before Mr. Nixon's arrival, the Chicago Chapter AIA called for a Great Lakes Region Authority to coordinate local, state and federal efforts to end pollution of our air, water and landscape. It further stated that "upgrading how men live, work, study, play, get around and get along is a complex problem, but how well we do this will determine the kind of environment we have."

The President's dramatic pollution push will strengthen four-state efforts already underway to focus on common problems. Just two weeks before the President's trip was announced, the Illinois Conservation and Planning League was established to give a policy-making, policy-influencing arm to the many professional and civic organizations in that state. Similar efforts are occurring in the three others, and a regional conference seems in the offing. It is at this point that the architectural profession should start professing it-

self and get in on the ground floor in shaping the initiatives.

Mr. Nixon also visited a waste treatment plant west of Chicago where he praised the modern equipment, promised enough money for communities to have the best facilities and then declined to drink a cup of purified water (not a bad idea since water tasting could well become the worst political headache since kissing babies).

On his way to the plant, the President talked to 500 or so school children who had turned out to see him land in the chopper. It was an instant teach-in: Nixon climbed on a car top and told them that pollution was a problem they should face too, and he kicked off three new R's for them to learn—Reform, Restoration and Renewal—which is to say environmental quality has now taken its place alongside God, mother and apple pie.

In the President's view, facing up to environmental problems and opportunities is not only a matter of survival. It is a cause for reform of our institutions rather than for aimless rioting and ruin. Such a war is a cause everyone can contribute to constructively and on his own terms. The sheer drama of the President's presence in Chicago hit home that message more firmly than any number of position papers ever could.

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3. A higher national priority to housing
4. An adequate and steadily growing supply of mortgage financing
5. Revised and stronger land use policies
6. Adequate levels of government assistance for housing low income families
7. Property tax reform
8. Efficient administration and prompt processing in government programs
9. Rapid development and introduction of new technology, financing, marketing and management methods for greater volume, lower cost and higher quality
10. Effective concern for the economic and social implications of housing that includes equal job and enterprise opportunity for minority citizens.

Despite the worries of tight money and the like, the homebuilders obviously had come to Houston to learn, and they had dozens of speakers, seminars and workshops to choose from. One of the best attended meetings was a two-part session on "Industrialized Housing" during which the architectural profession got a big plug from Harold B. Finger, HUD's Assistant Secretary for Research and Technology. Describing the workings of Operation Breakthrough, he explained:

"We have selected 11 of the top architects-engineers-planners-landscape architects

to prepare the overall plan for each of the prototype sites that we have chosen and to coordinate the designs of the several different housing systems that will be located on each of the prototype sites. These 11 were selected from among 82 proposals that were submitted to HUD.

"The high stature, qualifications and experience of these planners indicate that the prototype site should effectively demonstrate the opportunity to mix housing type and price levels with outstanding overall design and very good living environment. We believe that this approach should allay the concerns of those areas that are interested in protecting the residential appearance and green space of their communities."

continued on page 16



Convention-goers learn about NAHB research house (concrete panels) in Washington, D.C. Architects: Collins & Kronstadt-Leahy, Hogan, Collins; builder: Frank Calcara.

The Sites and Their Design Teams

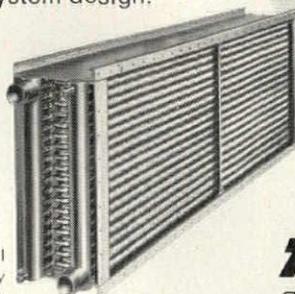
A design team—officially called site planner—has been designated for each of the 11 sites where prototype housing will be built under Operation Breakthrough. The teams will do the overall master planning and assist HUD in selecting and placing the housing units. The sites and their planners:

- **Houston:** Caudill Rowlett Scott, Houston, architects-planners-engineers
- **Indianapolis:** Skidmore, Owings & Merrill, Washington, D.C., architects-engineers
- **Jersey City:** David A. Crane, Philadelphia, architects-planners
- **Kalamazoo, Michigan:** The Perkins & Will Partnership, Chicago, architects-planners-engineers
- **King County, Washington:** Eckbo, Dean, Austin & Williams, San Francisco, landscape architects-planners
- **Macon, Georgia:** Reynolds, Smith & Hills, Jacksonville, Florida, architects-engineers-planners
- **Memphis:** Miller, Wihry & Brooks, landscape architects-engineers
- **Sacramento:** Wurster, Bernardi & Emmons, Inc., San Francisco, architects
- **St. Louis:** Hellmuth, Obata & Kassabaum, Inc., architects
- **Seattle:** Building Systems Development, San Francisco, architects-planners
- **Wilmington, Delaware:** RTKL, Inc., Baltimore, architects-planners.

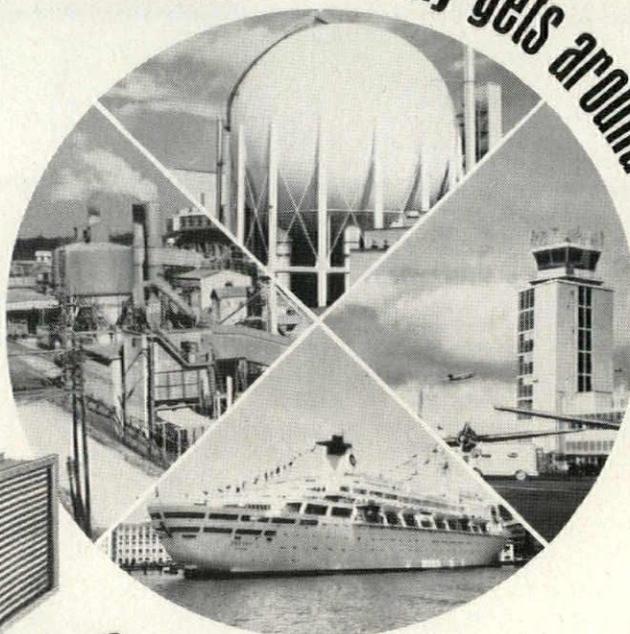
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Palo Alto Firm Researches, Foresees Interrelated Systems Architecture

Ernest J. Kump, Associates, a Palo Alto architectural firm long dissatisfied with the premise that modular construction should offer a limited number of building options, is now advocating what it describes as "inter-related systems architecture."

The firm which has been a pioneer of modular practices and systems concepts—President Ernest J. Kump, FAIA, holds more than 20 patents on building systems technology—is taking the position that the basic necessities like heating, airconditioning, etc., should be interchangeable, as well as structural and finishing elements.

Examples of the firm's belief that architecture should not be limited to a specific beginning, middle or end but, rather, should be allowed to grow three-dimensionally are two current projects: Parkland College in Champaign, Illinois, and Greenfield Community College in Greenfield, Massachusetts. Instead of designing buildings which are identifiable as specific educational facilities (library, student union, dormitory), the firm is creating "educational villages" which are composed of units loosely connected in such a manner that growth can be in a number of directions. Some of these will blend such diverse elements as faculty-student lounges (combined with small decentralized library units).

The firm, which has been named recipient of the 1970 Architectural Firm Award by



This 12th century Austrian castle with third century Roman tower, located near Innsbruck, is owned and now being restored by Kump.



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the AIA, has long been innovative in its approach to professional research. The firm allocates a set percentage of each fee for research on such disparate subjects as furniture design and computerized retrieval systems.

• **Allied Professions Medal** goes to Robert L. Van Nice of Bethesda, Maryland, senior research associate of Dumbarton Oaks. His nearly 30 years of work on St. Sophia is most easily visualized through the portfolio of drawings, *Saint Sophia in Istanbul, an Architectural Survey*, published in 1966.

Other medals and citations to be presented at the AIA convention in Boston, June 21-25:

- **Fine Arts Medal:** Richard Lippold, New York City
- **Craftsmanship Medal:** Trude Guermontprez, San Francisco
- **Industrial Arts Medal:** Barbara Stauffacher Solomon, San Francisco
- **Architectural Photography Medal:** George Cserna, New York
- **Citation of an Organization:** US Department of the Interior, National Park Service
- **Architectural Critics' Medal:** Henry-Russell Hitchcock, New York
- **Architectural Critics' Citation:** American Broadcasting Companies, Inc.

Architects Ponder Role in Year 2000; Consider Settlements Under the Sea

What will the year 2,000 be like? What role will the nation's architects play in the overall design for the future? What lessons can be drawn from past and present practices?

These were just some of the questions raised at the annual convention of the California Council AIA in Palm Springs under the theme "Earth/2,000."

Keynoter Dr. Carl McIntosh, president of Long Beach State College, challenged architects to look into and plan for the future. Speaking to 1,500 architects, students and building products manufacturers, Dr. McIntosh suggested a commission to plan for the year 2,000. He proposed that "the states call upon the federal government to establish a commission whose task it will be to determine those activities and projects which will culminate in the year 2,000, not only as a celebration of man's past but as an expression of hope and a symbol of commitment to generations yet unborn that we accepted our obligation to them and our responsibility for their conditions of life." *continued on page 18*

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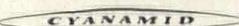
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 Traffic Planning: *Kurt Leibbrand and Verkehrs- und Industrieplanung GmbH*
 The development of a master plan for Selb, a town of 20,000 in northeast Bavaria, was the last extended work of Walter Gropius; undertaken in collaboration with other members of his firm. This book presents that plan, together with the concurrently developed traffic control system. The principal designers and the town's mayor have contributed written accounts, but the greater part of the presentation takes the form of multicolored graphics, maps, photographs, and drawings. \$15.00

The Bauhaus:
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Painting, Photography, Film
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ORIGINS REVISITED

Circle 250 on information card

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Another prospect, set forth by William Schimandle, formerly with the Jet Propulsion Laboratory in Pasadena, was the possible change in the role of the architect and the need for an interdisciplinary team. Foreseeing that the architect's work in the future might be in the area of community development, which would require him to be more sophisticated and technologically aware, Schimandle said: "The lesson we have learned from the space age is that to solve our problems of the future we will need an interdisciplinary team—one broad enough to carry the whole thing; one with a real understanding and appreciation of the problem."

Schimandle noted that the architect will not necessarily function as the center of this group, since an architect who does not understand technology cannot take the primary role of master designer. Indeed, it is impossible to predict in advance who will be the central figure. Becoming a leader in such an interdisciplinary group depends on the individual's complete understanding of the roles of others and his ability to lead as a natural leader, Schimandle said.

The problem of overpopulation was brought up by Garrett Hardin, professor of bioscience at the University of California at Santa Barbara, who stated, "The problem of overpopulation for most of the world takes the form of starvation, but for the United States overpopulation means pollution. We live on a spaceship—the spaceship Earth. This too is one of the spinoffs from our \$24 billion space program. Once you realize you live on a spaceship, you realize that there is no way to throw things away. There is no 'away.' All we can do is throw things in each other's back yards, in each other's streams, in each other's atmospheres."

Hardin, in examining the world to come, asked for changes in transportation, living and taxes, among other things. He further called for greater use in the future of natural lighting, heating, and cooling in order to conserve electricity which, he feels, is a major cause of waste and pollution.

One of the more fascinating discussions was "Ocean/2,000," presented by famous oceanographer Jacques Cousteau and his two sons, Jean-Michel and Philippe, the latter a cinematographer who works with his father.

The Cousteaus noted that before the year 2,000 we must think completely about how we are to live under the sea. There will be farms, mines, hospitals, tourist facilities, all connected with permanent settlements under the sea.

Jacques Cousteau looked at *homo aquaticus*, amphibious man, who will, before the year 2,000, be able to descend to any depth in the ocean and breathe under water.

In discussing underwater architecture, Jean-Michel noted contemporary development, the future of coastlines and conditions on the surface and bottom of the sea.

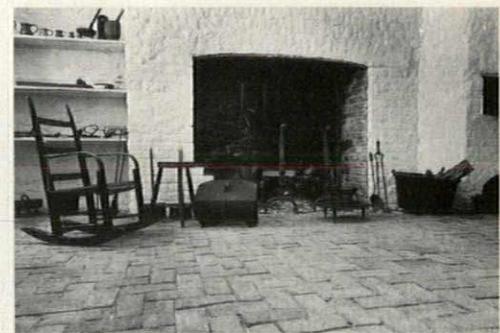
"The architect, the engineer, the scientist must reorient their approach. They will find not only a new source of inspiration, but a challenge to their inventiveness; a world, for example, where pressure is far more of a problem than gravity," Cousteau said.

With or Without Much Publicized Ghost, Octagon Reopens Its Doors to Public

The Octagon House, which was ready on February 27 once again to receive visitors after its restoration (see AIA JOURNAL, Jan. '70), will keep its doors open Tuesdays through Saturdays from 10 to 4 o'clock, and from 1 to 4 on Sundays. It is closed on Mondays and on Christmas, Thanksgiving and New Year's Days. Admission is still free.

Special showings or tours of the house may be arranged by calling curator Sara Jameson (202-638-3105) or by writing her at the Octagon.

Furnishing of the house is not yet completed and contributions—which are tax deductible—are still accepted. They should be sent to The American Institute of Architects Foundation, Inc., or to the Henry H. Saylor Memorial Fund, both at the Octagon. Funds for the latter go to the kitchen and basement.



A corner of the Octagon's "new" basement.

NCARB Faces Up to Future as Students, Professionals Question Procedures

The National Council of Architectural Registration Boards, which has had its share of knocks in the past, has a new goal in life: to develop realistic, practical and comprehensive registration procedures that will benefit the entire profession and the communities in which individuals practice.

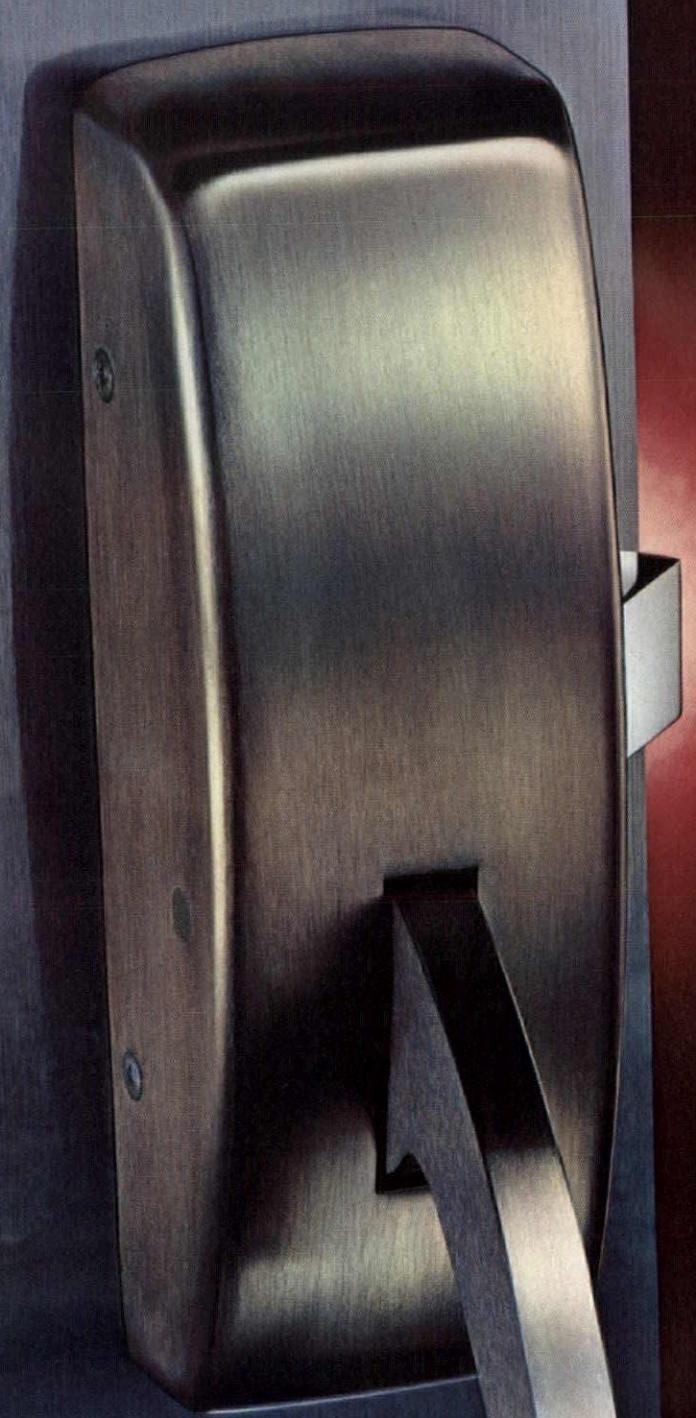
At least that is the aim as seen by the newly appointed director of professional services, Samuel T. Balen, who brings to his job the experience gained in private practice with the firm of Klund & Associate, Inc., of Madison, Wisconsin.

The indications of some dissatisfaction with present procedures by architects has moved him to devote this period of his career to the profession, says Balen, a University of Illinois graduate.

Balen is aware that many suggestions will be in the offing. One of the most recent emerged from a one-day conference on "Registration and Relevancy" co-sponsored by the Boston Architectural Center, the Boston Society of Architects and the New England Conference of Architectural Registration Boards.

The proposal: that membership of registration boards be broadened to include more diversity and participation from a variety of self-interest groups such as students, planners, advocate architects, minority representatives, landscape architects, builders, etc. It was made by Karl Linn, associate professor,

continued on page 22

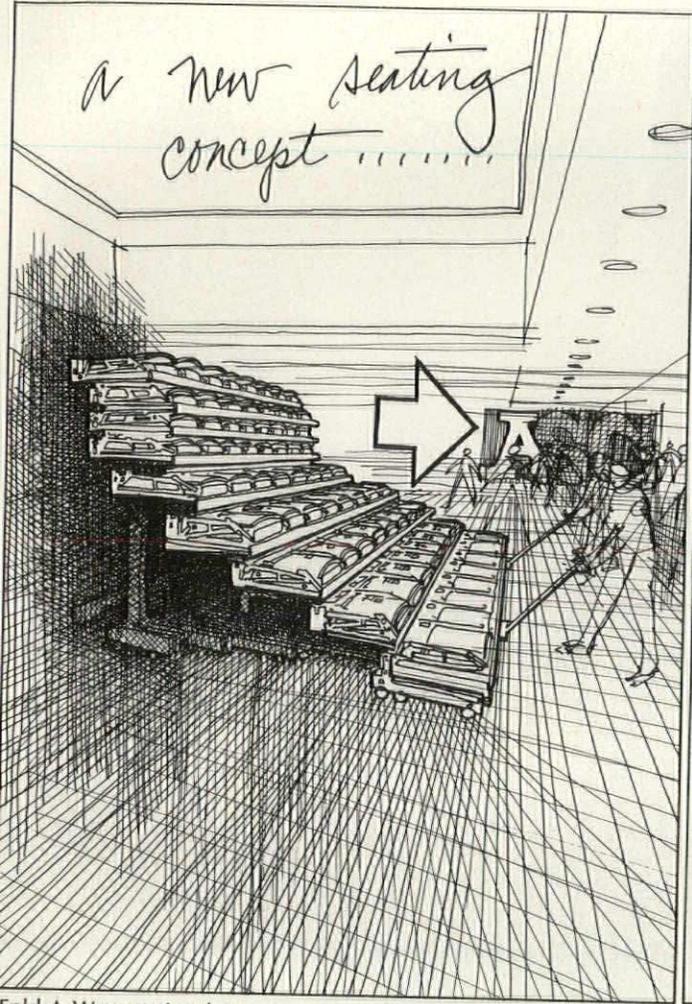


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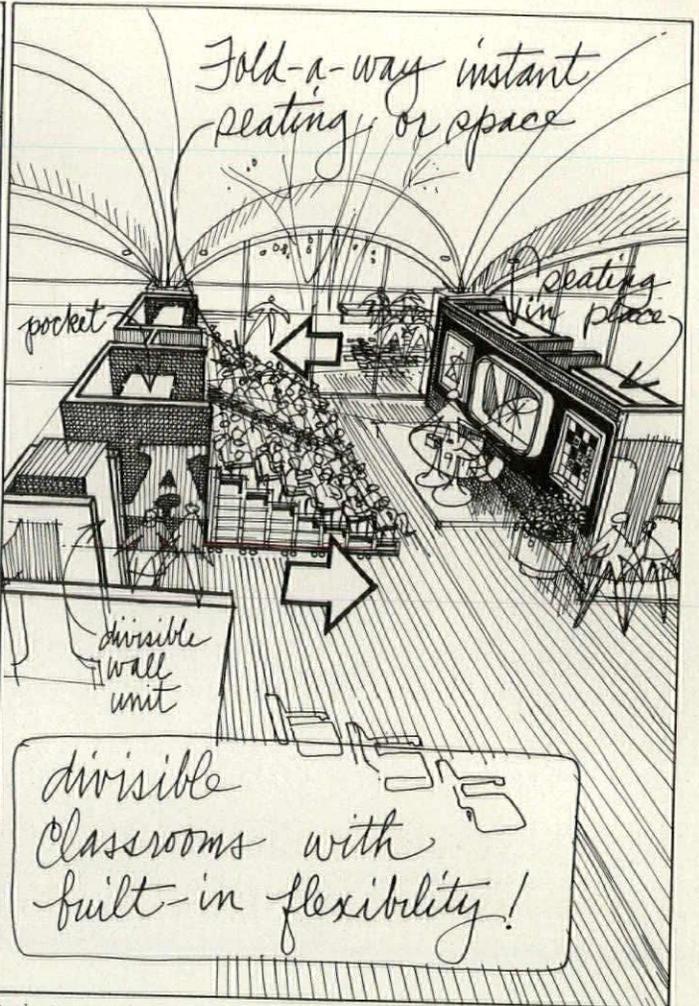
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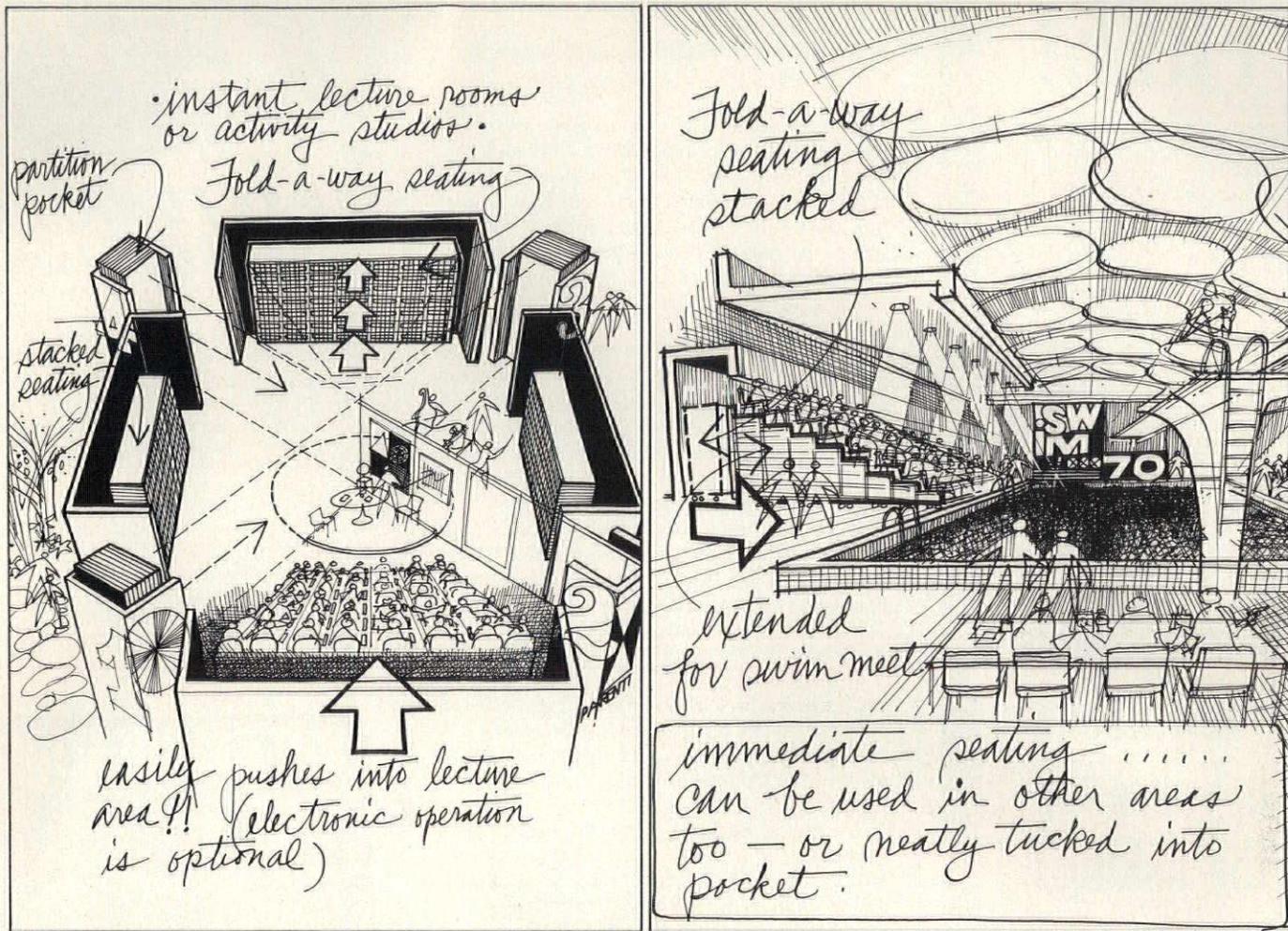


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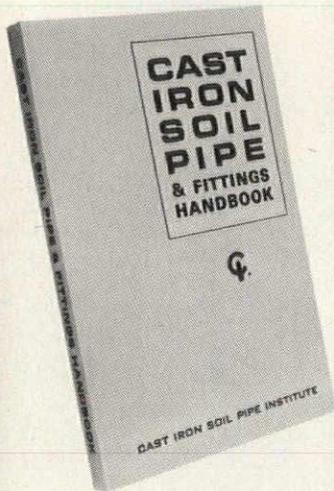
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outlook from page 18

Department of Urban Studies and Planning, Massachusetts Institute of Technology.

Other ideas undoubtedly will be passed on to Balen, who is assisting Executive Director Hayden P. Mims in the operation of the NCARB offices from a new location at 2100 M Street N.W., Washington, D.C. (202/659-3996).

Penn Turns to Planning Professional For Its 19th President This Fall

"No American city in our generation has remade itself as dramatically as Philadelphia. The renaissance of the University of Pennsylvania has paralleled that of the city. One of the most important satisfactions of my life was to be part of both. Therefore, it is with the greatest pleasure that I return to where much of my professional and academic career was established."

These are the words of Martin Meyerson, president-designate of the university, whose basic profession is city planning and whose concern for the urban environment has been reflected throughout his career. He will succeed Dr. Gaylord P. Harnwell when the latter retires in September.

Currently president of the State University of New York at Buffalo, a post he has held since 1966, Meyerson also is serving as chairman of the Assembly on University Goals and Governance, established by the American Academy of Arts and Sciences.

Meyerson was director of the MIT-Harvard Joint Center for Urban Studies from 1959-63 and then went on to the University of California at Berkeley as a faculty member and dean of the College of Environmental Design until 1966.

He was at Berkeley when the Free Speech movement of 1964 erupted on that campus. In the midst of the crisis he was appointed acting chancellor and was generally credited with easing the tense situation during the remainder of the academic year.

The author of several books, he holds membership in such organizations as the American Institute of Planners, American Society of Planning Officials and American Society of Architectural Historians.

Construction Management Is Key Issue As Architects Examine New Ethics

Institute members, speaking out with vigor, have said they want a new professional ethics code that is clear, "unequivocal" and "positive." Some members continue to fear that the new code's proposed allowance of architects to be construction managers will compromise their professional status.

"We are not allowing the architect to become a contractor. We are allowing him to become a contract manager," according to Preston M. Bolton, FAIA, Institute secretary.

In the words of Joseph H. Flad, FAIA, North Central States director, "It's necessary for the architect to offer broader services and to participate in the complete construction process."

These were two opinions expressed by AIA Board members as participants at the fifth
continued on page 26



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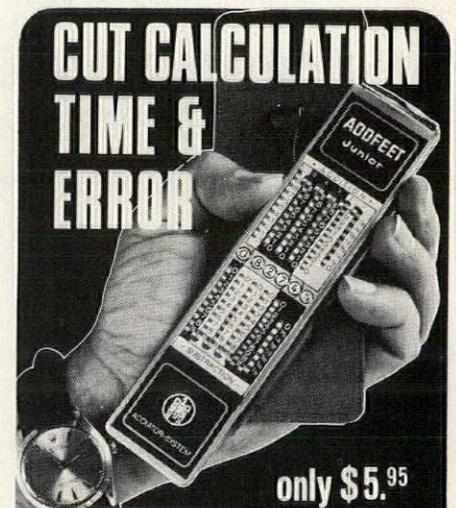
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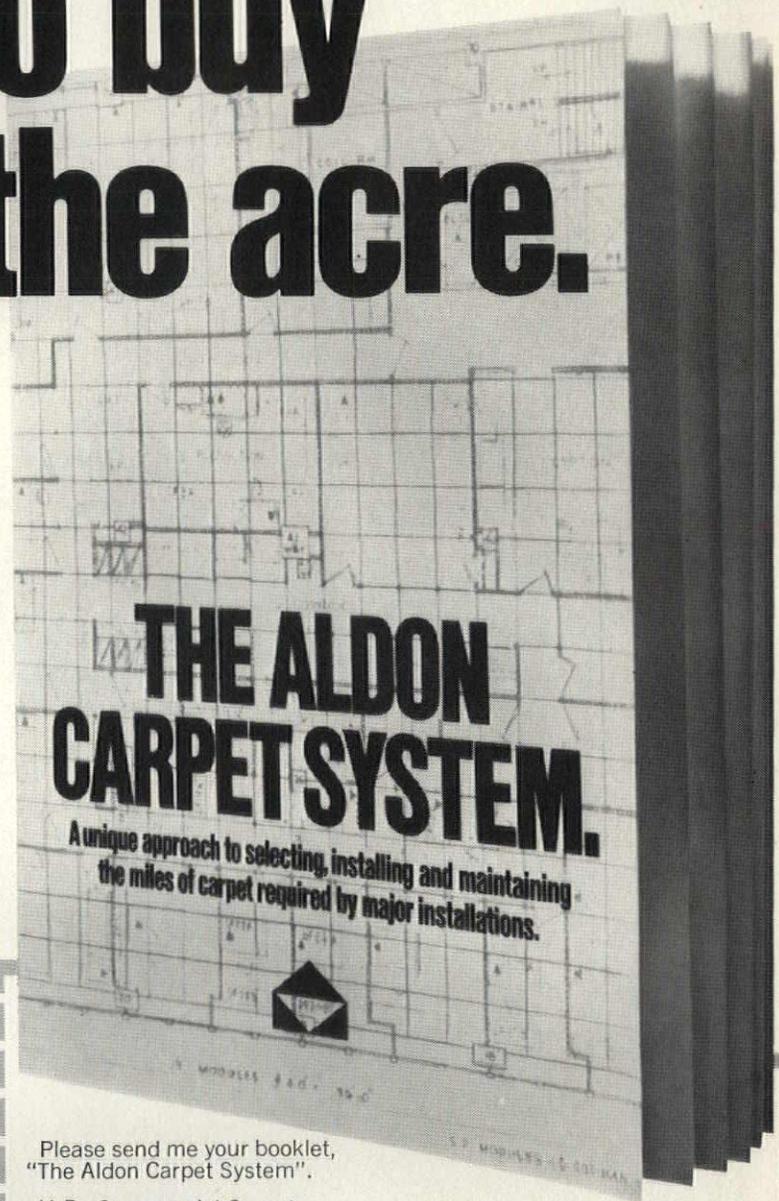
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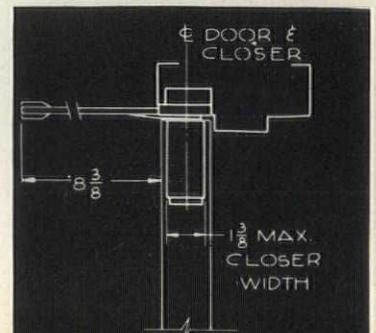
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outlook from page 22

annual Grassroots conferences in Washington, San Francisco and St. Louis recently, in a spirited airing of professional issues, argued the pros and cons of the proposed ethics.

AIA officers still hope to bring the new code to the annual convention in Boston for action; however, the Task Force on Study of the Standards of Professional Practice will first have to consider any revisions.

Other Grassroots highlights: a call by President Rex Whitaker Allen, FAIA, for members "to speak with authority about the physical environment"; and a report on the structural reorganization of the Institute by First Vice President Robert F. Hastings, FAIA.

Executive Vice President William L. Slayton, defining the role of "the Institute as an Institution," said that "the AIA will be working to increase the opportunities for minorities to enter the profession, to expand the scope of architectural practice to deal more comprehensively with the urban environment, to work in tandem with members of other design professions who also are involved in the building of the urban environment."

Holland Tunnel, Prototype Underwater Tunnel, Hails Norwegian's Ingenuity

When the Holland Tunnel was commissioned 51 years ago, the greatest obstacle in its way was the elimination of deadly automobile exhaust fumes that would accumulate in the closed underwater space. The problem was solved by Ole Singstad, the Norwegian-born engineering genius who died December 7 in New York at the age of 87.

Mr. Singstad's answer was a three-tiered tunnel, with the middle tier being the highway; the bottom tier, a plenum through which fresh air could be introduced at a high velocity; and the top tier, another plenum through which heat and gasses could be removed as quickly as they rose through huge ducts.

On the day the Holland Tunnel was opened in 1927 by President Calvin Coolidge, it became the world's first subaqueous automobile crossing and the prototype for every other underwater tunnel that has followed.

Nationwide Competitors Face Challenge In Chicago Public Library Project

Will the Chicago Public Library be able to preserve its historic facade as well as distinctive interior features and at the same time modernize existing portions and build a substantial addition?

This question, of fusing various components of an old building with a new addition into a harmonious whole for the efficient functioning of a large modern public library, will be considered by architects who have registered for a nationwide competition sponsored by the Board of Directors of the Chicago Public Library. The decision to hold the competition was made after irate citizens opposed the original plan to demolish the 73-year old structure.

The present service area of about 190,000 square feet must be increased to at least

continued on page 28



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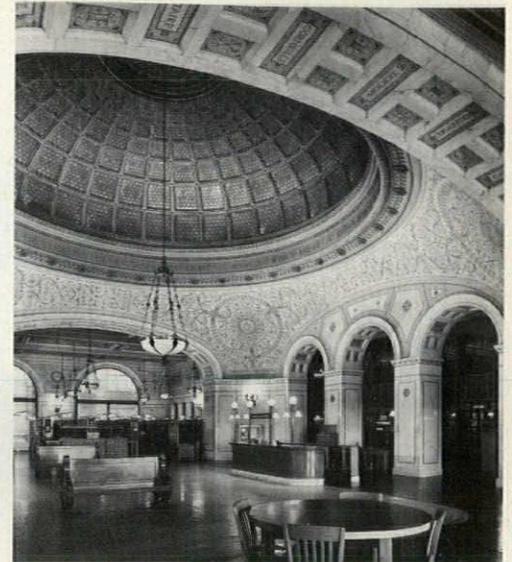
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480,000 square feet. Large portions of the present building must be retained, however, including the facade on Michigan Avenue, Washington Street and Randolph Street; the four-floor ground staircase at the Washington Street entrance; the rotunda and reading area on the third and fourth floors; and the Museum of the Grand Army of the Republic, extending the full height of the second and third floors whose dome occupies part of the fourth floor. The architect will be challenged to incorporate such new features as a 9,000 square foot computer-communications center; a 24,000 square foot center for media materials such as films and tapes; and a 20,000 square foot family materials center. Expansion will be accomplished by remodeling and by extending the building through the utilization of air rights over Garland Court.

Open to any individual or firm licensed to practice architecture in the US, the competition requires a visit to the site by each competitor. Eight prizes of \$2,500 each will be awarded to the participants selected to enter stage 2, the winner of which will be awarded an additional prize of \$17,500. If the library board of directors determines to proceed with construction, the winning architect will be employed, and the prize monies of \$20,000 will be applied to the architectural fee. The board reserves the right not to utilize the winning design if it considers it not feasible to do so. The prize of \$20,000, however, will be awarded.



Third-floor rotunda and reading area of library highlighted by Tiffany mosaics must be kept intact.



The jurors include three AIA Fellows: Ambrose M. Richardson, Champaign, Ill.; George E. Danforth, Chicago; and Martin L. Beck, Princeton, N.J.; and two librarians: Robert H. Rohlf, Minneapolis, and Ralph A. Ulveling, Detroit. Charles H. Dornbusch, FAIA, of Chicago, is professional adviser.

Researchers Will Share Views This Fall

Professionals engaged in research projects related to architecture will have an opportunity to present their work this fall before their colleagues as well as researchers in industry,

the universities and government. A call for papers has been made by the AIA Joint Committee on Research for the seventh annual Architect/Researchers Conference to be held in Cincinnati in October. Submittals, in four categories, should be sent to:

- *Profession:* Richard E. Ritz, 1100 S.W. Sixth Ave., Portland, Ore. 97204.
- *Industry:* Richard P. Geysler, 1501 Maple Ave., A410, Evanston, Ill. 60201.
- *Government:* Harold Horowitz, 4 Barkwood Court, Rockville, Md. 20853.
- *University:* Mrs. Roslyn Lindheim, 103 El Camino Real, Berkeley, Calif. 94705. □

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Two Sides of the Coin

by GEORGE T. ROCKRISE, FAIA

Vice President and Chairman, Task Force on Professional Responsibility to Society

Last December, Bill Slayton sent to all AIA members a special report on the 1970 Professional Responsibility to Society program as adopted by the Board. The report was written in the thought that prior explanations of the 1969 convention action had created some misunderstandings which an account of the December Board action would dispel.

It did, in part. Within a week, letters began to come in commenting on the report. In all, 46 letters were received. Curiously, there were 23 for the program and 23 against—an even split in opinion. More curious was the small amount of letters.

The 23-23 split cannot be viewed as an index of membership sentiment, of course. The fact that nearly 24,000 architects made no response is far more significant, though it doesn't tell us what they are thinking. The only real measure of membership feeling was provided by the 1969 convention delegates.

What the 46 letters do give us are some insights into the mental processes of members. Consider a few examples:

"Good start! A real first for the profession . . . let's break down these barriers." Encino, California.

"I am particularly pleased . . . it is a beginning in the direction we should be following." Warren, Ohio.

". . . the architects will make a more meaningful contribution to our society in the '70s." Louisville.

". . . sounds like some phoney public relations gimmick as a result of a handful of loud-mouth students who will belong to the age of the nondrawing architects, running roughshod over adults." New Rochelle, New York.

"I believe that the 'social responsibility program' was conceived under duress and is a betrayal of the membership. The means by which you propose to implement it are contrary to my own political convictions and are probably illegal. . ." Columbia, Missouri.

"It makes me wonder if we are becoming a social agency rather than a professional organization." Houston.

So we see two sharply divergent sets of views—one enthusiastic for community involvement and the other resentful of student demands, antagonistic to what the word "social" implies.

But other, more complicated issues have been raised too. One Nashville architect, supporting the scholarship fund and terming the Board appropriation for community design

centers as "inadequate," nevertheless objected to support for "black" schools of architecture.

"Most of the clients are white," he said. "The financing is white. The architects are white. In order for these young black men (and women) to make a place for themselves in architecture, they will have to make it largely in white offices with white clients. What better preparation could they have for this desegregated professional life than to attend a nonsegregated school of architecture?"

There is also a kinship in the objection a Missouri architect voiced to "handouts and mollycoddling" and the conviction of a Burlingame, California, architect that opportunity should not be "given in the form of a gift . . . an individual . . . should have stamina and strength enough to make his dream a reality."

An Ann Arbor, Michigan, architect writes, as if in reply to some of these critics: "To my concerned colleagues whose sophistication holds them above 'social work,' I would ask their indulgence. . . . These colleagues probably will never know the struggle one goes through to complete projects under conditions of deprivation. They have never had to prepare as-built drawings of dilapidated, vermin-infested buildings, placing ruler and sketch pad in filth . . . they have never inhaled the stench of an overcrowded tenement or ill-kept home for 'old-folk' senior citizens."

We are a membership of many views and many kinds of people, a miniature replica of the community we serve. This at least is clear. It seems clear, too, that a large majority of AIA members support the professional responsibility program. It is also clear that every thoughtful objection to the program should be carefully considered by the staff and the Board in its planning and appropriations.

We deserve constant monitoring by the membership and we expect to get it. If the AIA leadership strays into impractical pursuits—and it has done so occasionally in the past—it stands to be rebuked. It merits rebuke, too, when it fails to meet its responsibilities to society when the remedy lies within the design skills of the profession.

We are a social institution or else buildings are sculpture. The Ann Arbor architect pointed out clearly that "if architects are to fulfill the requirements of the profession, they must build man's hopes for life and opportunity as well as create buildings."

This, I submit, is what a profession, any profession, is all about. □

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Innovation in component construction



...with pre-shrunk Southern Pine



Killlearn Golf and Country Club, Tallahassee, Florida. 1968 Honor Award—Florida Association of A.I.A. • Architects: Barrett, Daffin & Coloney

The elegant clubhouse of the Killlearn Golf and Country Club is unusual in many respects—not only its aesthetic appeal and efficient design, but also in the fact that its various components were assembled

on the ground like an erector set and lifted into place. Beams, roof trusses, decking and built-up columns are of pre-shrunk Southern Pine, an ideal lumber for component construction—because of its

high stress values, uniform size, and ability to hold fastenings. Standard framing grades are all-purpose stress rated for various spans and loads, eliminating the need for special grades in truss design.

Specify Southern Pine

From the Member Mills of the Southern Pine Association
P. O. Box 52468, New Orleans, La. 70150



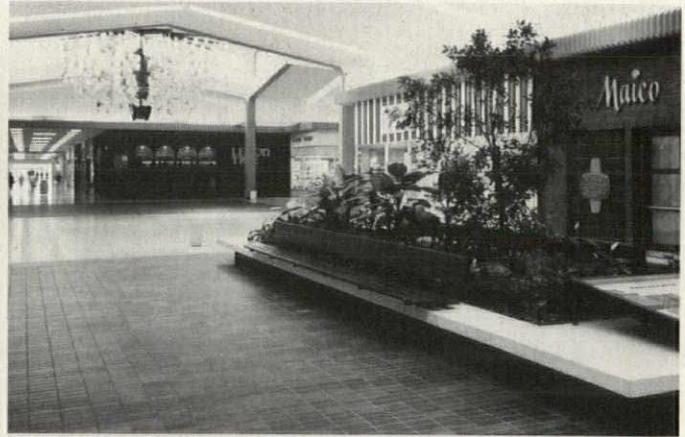
Evergreen Park Shopping Center, Chicago. Sidney Morris & Associates, Architects.

GAIL BRICKPLATE®

...the high quality tile with a handcrafted appearance



Laurel Plaza Shopping Center, North Hollywood, California.
Burke, Kober, Nicolais & Archuleta, Architects.



South Center, Seattle, Washington.
John Graham & Associates, Architects.

Coming into favor with American architects is the use of "Brickplate," a type of ceramic tile with the density of natural granite that has been popular with European designers for years. Since 1963 it has been available in this country and Canada by Gail International Corporation, a subsidiary of Wilhelm Gail Ceramics, Giessen, Germany.

Using the modular 4x8, 5x10, and 6x12 sizes, an almost unlimited variety of patterns can be employed using a single color or combinations from Gail's palette of ten unglazed colors.

Because of their low absorption, Gail tiles have dovetail ribs on the back which make a mechanical key with the setting mortar, hence, they are suitable for pre-cast and tilt-up construction as recently employed in the Serramonte Shopping Center, Daly City, California; Welton Becket & Associates, Architects.

Although mass produced in one of the most automated ceramic facilities in the world, thus modest in price, Brickplate has a warm, handcrafted quality achieved through its controlled color variation. The same dense body is used for both glazed and unglazed finishes.

For additional information, prices, samples, local representative, etc., write Gail International Corp., or see our Catalog in Sweet's Architectural, Interior Design, and Industrial Files.



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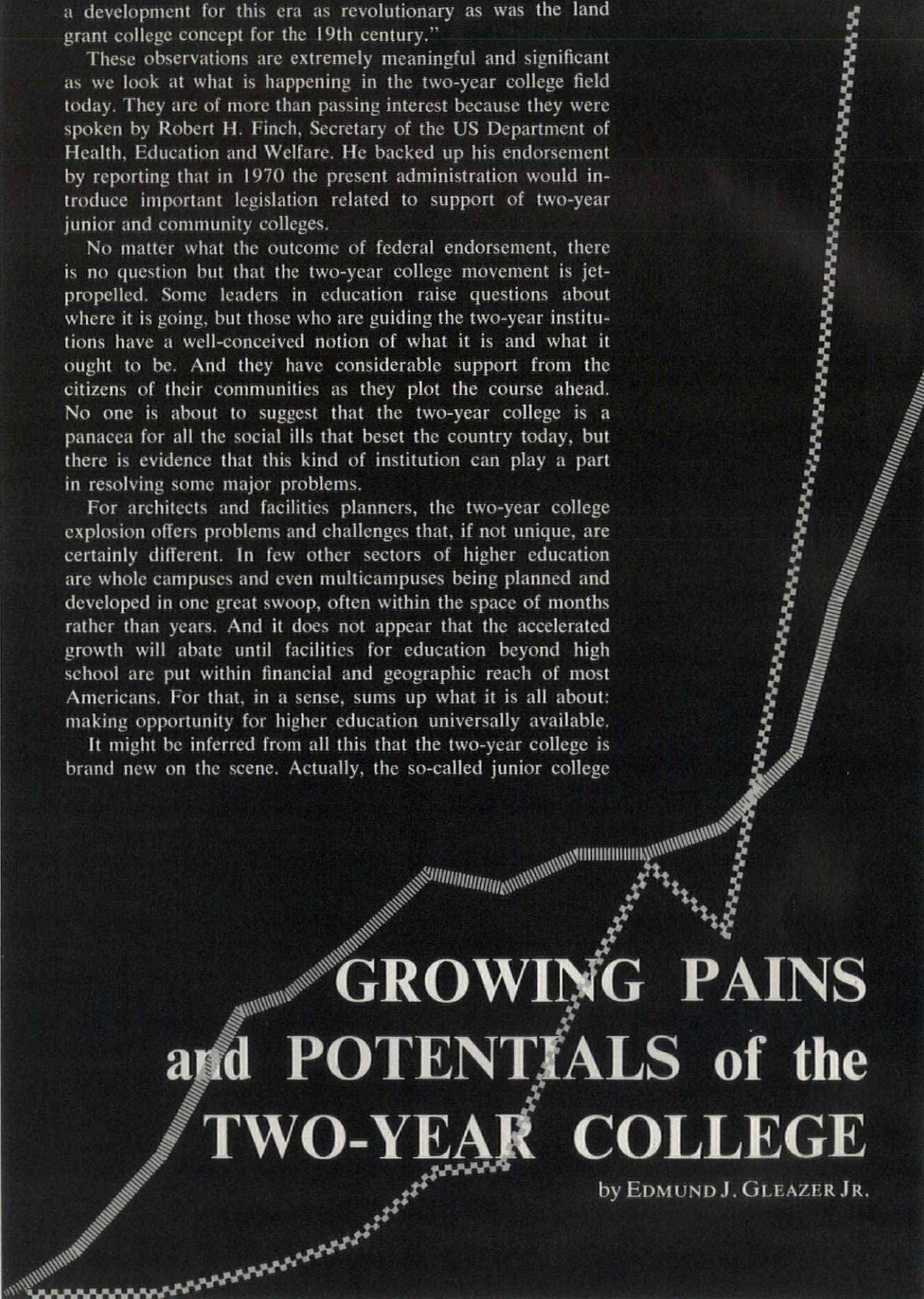
"We are confronted with the explosive growth of the community college—a truly unique American educational effort. It is a development for this era as revolutionary as was the land grant college concept for the 19th century."

These observations are extremely meaningful and significant as we look at what is happening in the two-year college field today. They are of more than passing interest because they were spoken by Robert H. Finch, Secretary of the US Department of Health, Education and Welfare. He backed up his endorsement by reporting that in 1970 the present administration would introduce important legislation related to support of two-year junior and community colleges.

No matter what the outcome of federal endorsement, there is no question but that the two-year college movement is jet-propelled. Some leaders in education raise questions about where it is going, but those who are guiding the two-year institutions have a well-conceived notion of what it is and what it ought to be. And they have considerable support from the citizens of their communities as they plot the course ahead. No one is about to suggest that the two-year college is a panacea for all the social ills that beset the country today, but there is evidence that this kind of institution can play a part in resolving some major problems.

For architects and facilities planners, the two-year college explosion offers problems and challenges that, if not unique, are certainly different. In few other sectors of higher education are whole campuses and even multicampuses being planned and developed in one great swoop, often within the space of months rather than years. And it does not appear that the accelerated growth will abate until facilities for education beyond high school are put within financial and geographic reach of most Americans. For that, in a sense, sums up what it is all about: making opportunity for higher education universally available.

It might be inferred from all this that the two-year college is brand new on the scene. Actually, the so-called junior college



GROWING PAINS and POTENTIALS of the TWO-YEAR COLLEGE

by EDMUND J. GLEAZER JR.

movement began around the turn of the century. There was steady but undramatic growth until after World War II when the return of servicemen and changes in the work arena caused a spurt in development which continued to flourish this past decade. There are many reasons for the rapid emergence of the junior and community college as a full partner in America's higher education establishment. Among them are a greater demand for education beyond high school; need for education that would be low in direct costs to families; a changing employment in the scientific and technological age, resulting in new kinds of educational experiences beyond high school; recognition that many young people and adults could not benefit or would not be interested in regular liberal arts or professional education.

The two-year college seemed an ideal resource for meeting some of these needs and thus widening the chance for education beyond high school. It should be noted here that there are basically two kinds of junior colleges: publicly supported "community" colleges and independently financed institutions. The latter were pioneers in junior college education, but by intent they enroll smaller numbers of students and tend to emphasize the first two years of a four-year college program.

During the past 10 years, public community colleges have been established at the rate of from 35 to 50 per year, in some years even higher. Enrollments have increased at the rate of from 15 to 20 percent yearly. Many have started virtually overnight, using temporary facilities while planning new plants. A classic example of the instant college can be found in Wayne County, Michigan, which has as its hub the city of Detroit. Wayne County Community College, with a small financial assist from the state, opened in the fall of 1969 in 18 centers around the county, including one in an unused theater. Some 8,000 persons enrolled in classes, offered only in the evenings.

Michigan, like many other states, has attempted to put community junior colleges within financial and geographical reach of all the population. Its 29 colleges enrolled about 120,000 in the fall of 1969. About 50 percent of all first-time college students are enrolled in the two-year institutions. California, of course, is the granddaddy of the movement. About four out of five students entering college there go into one of the 90 junior

colleges. Enrollments total well over 600,000. Highly developed networks of two-year colleges are to be found in such states as Florida, Texas, Illinois, Virginia, New York, New Jersey, Massachusetts, Alabama, Missouri, North Carolina and Hawaii.

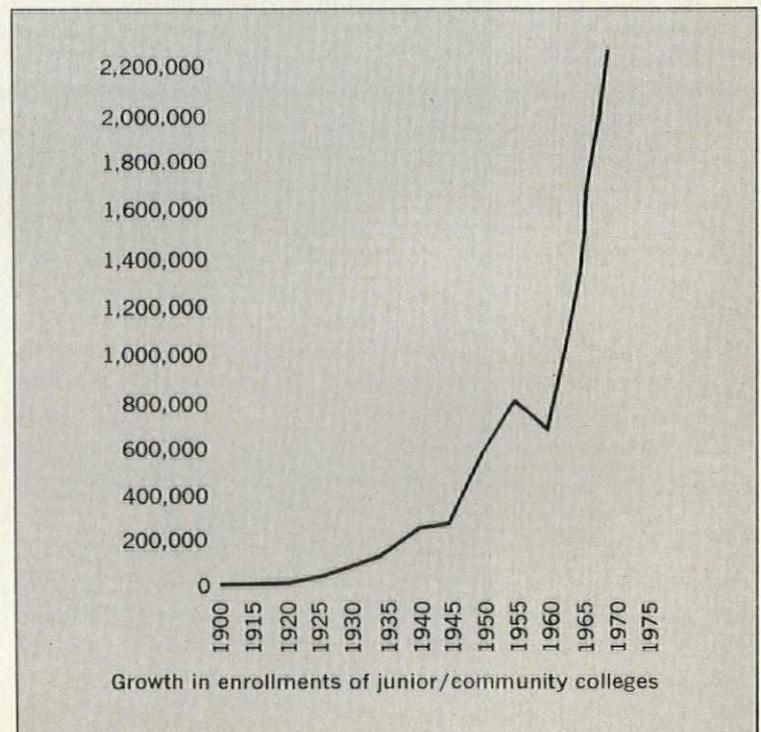
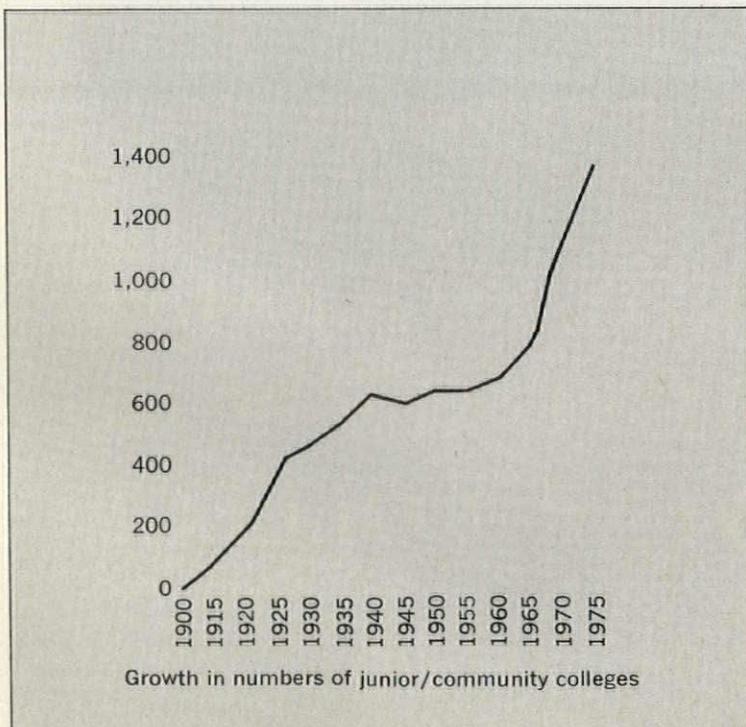
These colleges have appeal for many reasons. Tuitions average about \$250 yearly, for example, and the colleges are established to serve the people of a particular community. They are commuter colleges. Effort is made to keep the doors open to all those who might benefit from education beyond high school. Those with average or even below average abilities are accepted.

One of the secrets to success, of course, is the provision of many educational options once the student is in the college. The students may pursue a course leading to transfer, but there are scores of so-called occupational programs as well, such as law enforcement, dental assisting, secretarial science, radiation technology, social work, civil engineering technology, office supervision, restaurant management and architectural technicians' training. The list goes on, and it continues to expand.

Today, most of the big cities of the country have multicampus community colleges. They are searching and finding ways to reach out to the ghetto poor, to minorities. Secretary Finch put it this way: "For black Americans, the public community college has the potential for becoming the most promising single avenue of higher education. The reason is obvious: These are the accessible institutions—geographically, financially, academically. A quarter of all black American collegians are concentrated in public two-year colleges in New York, Chicago and Los Angeles. In virtually every large American city, more blacks study at public community colleges than all nearby institutions combined."

Until the late 1950s, all too often community junior colleges were to be found in abandoned high schools or unused hospitals, or they shared facilities with public schools. That situation no longer prevails. Old structures have been replaced with new. Whole new campuses have sprung up. While it is true that colleges, as in Detroit, may start in temporary facilities, they move forward quickly with building plans, often coming up with imaginative and innovative facilities.

This new movement obviously presents a challenge for the



architect. With continuing change in educational methodology and technique, it demands that the facilities utilized in this process also be adaptable. The term flexibility is used in this context quite often, and perhaps this is the most misunderstood or misused term in education planning.

To some educators and to architects, flexibility means one thing: that the buildings or campus be able to grow. In this sense it means external change, or expansion of one facility or the entire campus. But to others it means internal change. To be able to adjust walls and to adjust the size of the spaces to make them larger by taking out a partition or making them smaller by inserting a partition in a given space are two examples of flexibility which have significant implications throughout the planning of educational facilities. They influence the lighting systems, the ceiling systems, the floor systems, the mechanical systems and, to be sure, the structural systems. Last but not least, another form of flexibility, which is often implied by the educator, is that of multiuse of space.

The most significant aspect of a community college is that of its individuality—unbound by tradition. It must seek its own center of gravity and respond in a balanced form to meet its social and educational obligations. The community college then responds to its own community's needs. If no two communities are alike, then how can two community colleges be alike? There are dissimilarities as well in a complex multicampus complex district. It can be seen in the Peralta District of California, for example, where there are currently under construction three new campuses. No two campuses are alike. No two campuses, for that matter, have the same educational program, for they serve different needs.

One might ask, what is the major responsibility then of the architect in the design of a community college, or even a facility or a building for a community college? There are many, but, on a priority basis, the architect must first understand what the needs are and what the endeavors of the community college are before he can start solving these needs through design. It has been said that no two communities are alike. Perhaps they have the same needs, but the priority of these needs differ. The architect must get to the essence of the endeavors of the college in his thinking. He must work with the educators, the board members, in determining the priorities. In some cases it may appear that the colleges' goals are in conflict with each other. The architect can do a great service to his client by assisting in putting these in proper perspective, in pointing out conflicts, in recommending the alternatives.

No one can accurately estimate what the total cost will be for constructing 500 new campuses by 1976. We can only assume it will be in the billions. While there may be 500 new community colleges, this does not necessarily mean that they will all have palacelike campuses, set off in tree-lined pastures of beautiful valleys. Many of these colleges will be started in urban areas. It will mean that the architect will have to work within the context of the inner city. It does not mean necessarily that he will be building new buildings, but perhaps he will be converting old buildings that still have life. There are plans for big city campuses which will be integrated into the fabric of the city, interlaced with other activities, such as small shops and light industry.

These are just a few elements of planning that stand out in a review of community college development. The kind of thinking that has gone into many of the newer colleges still is being plowed into other situations across the country as billions of dollars are being spent on the ever-increasing opportunity for education beyond high school. □

Dr. Gleazer is executive director of the American Association of Junior Colleges headquartered in Washington, D.C.

Awards in this initial program were presented in Honolulu this month during the 50th annual convention of the American Association of Junior Colleges, co-sponsor with The American Institute of Architects, Educational Facilities Laboratories, Inc., and the Office of Construction Services of the Office of Education of the US Department of Health, Education and Welfare.

1970 Community and Junior College Design Awards

Jury Report: The purpose of this awards program was to recognize distinguished college projects which provide creative and inspired responses to educational program criteria and community needs.

For the first design awards program of this nature, a substantial number of entries was submitted—126—from which three received the highest recognition, Honor Award, and 11 the Award of Merit (*see following pages*). Because of the complexity of the community and junior college movement, four categories for submission were established. No award was given in the "Facilities Catalytic of Community Improvement" category because sufficient information was not provided by the entrants for adequate appraisal. It should be noted that insufficient data in many entries negated consideration as they did not meet even minimum submission requirements.

In summary, the jury determined that 14 entries deserved distinguished recognition and that several others appeared worthy but were not substantiated for confirmation. Many were good, competent projects and commendable for the community and purpose they were to serve, but they did not represent significant advancement in the community and junior college facilities and planning field.

Robert S. Hutchins, FAIA
Chairman of the Jury, New York City

Dr. Amo De Bernardis
President, Portland (Ore.) Community College

Bill N. Lacy, AIA
*Dean of the School of Architecture
University of Tennessee, Knoxville*

Frank J. Matzke, FAIA
*Deputy General Manager, State University
Construction Fund, Albany, New York*

Dr. Robert E. Turner
*President, Moraine Valley Community College
Oak Lawn, Illinois*

Comprehensive Campus Master Plan

WALDRON & POMEROY

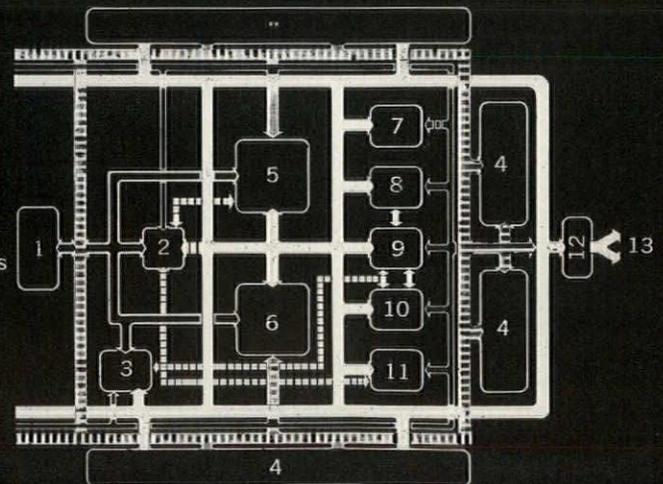
Jury Comment: A thoroughly planned college campus with total consideration given to the community and the people the college is to serve, both in the region and the immediate vicinity. The highly sophisticated system recognizes the physical realities of the requirements of getting to the site by automobile, but separates the pedestrian once he has arrived on campus. The groupings of buildings and creation of subsequent exterior spaces, as well as the interior circulation throughout the campus, acknowledge the climatic conditions and considerations, and reinforce the educational program and intentions of the college to have good student mix and interaction.



RELATIONSHIPS

Automobile Traffic	Student Pedestrian Traffic
Service	Public Pedestrian Traffic

- 1 Public Parking
- 2 Administration
- 3 Performing Arts
- 4 Student Parking
- 5 Student Center
- 6 Resource Center
- 7 Humanities
- 8 Science & Mathematics
- 9 Occupation
- 10 Arts & Crafts
- 11 Business & Office Occupation
- 12 Physical Education
- 13 Athletic Fields



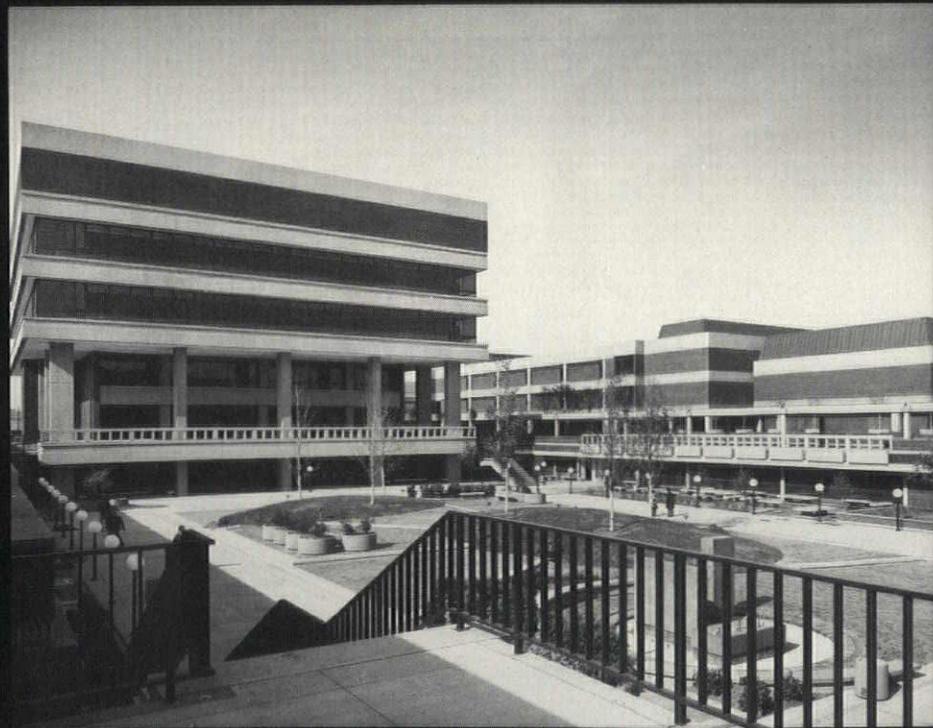
Honor
Award

Cleveland, Ohio **Cuyahoga Community College**

New Facilities
Metropolitan Campus

**THE OUTCALT • GUENTHER
PARTNERS**

Jury Comment: Outstanding handling of a very limited site in an urban renewal area of the highly industrialized city of Cleveland. The use of the "platform" concept, with parking below and pedestrians and buildings above, shows sensitivity to the functional demands of the commuter college and recognizes the desirability of separation of pedestrian and vehicular traffic. The inward orientation of the buildings serves to create a viable environment within the campus which permits easy access and relief from the depressing area surrounding the college.



New Facilities
Library Building

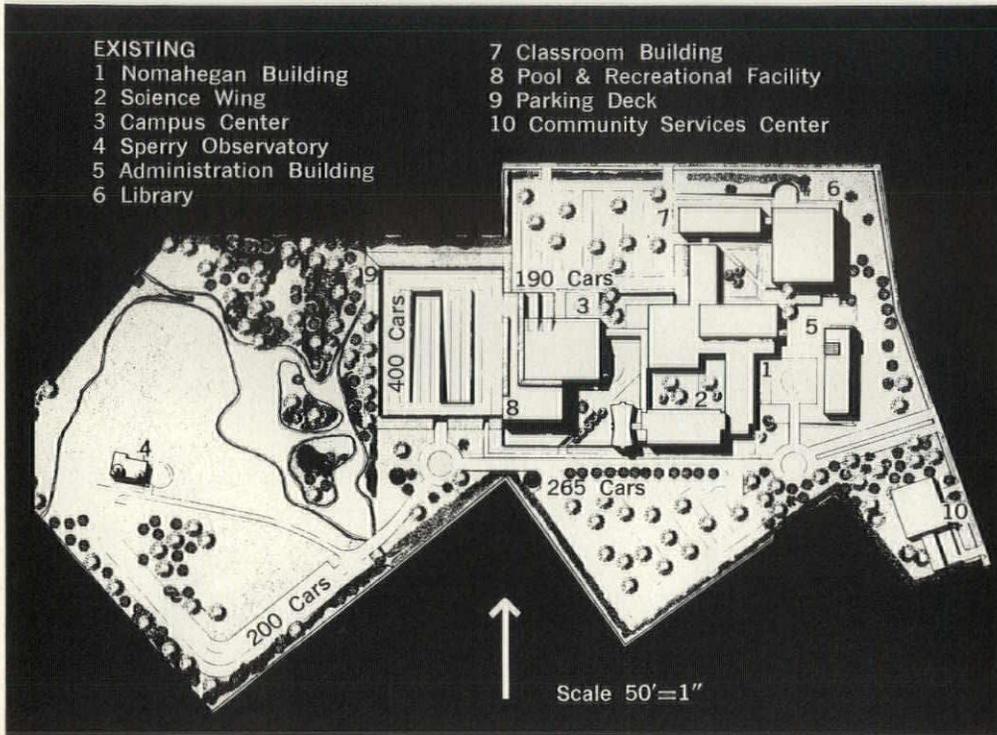
OSCAR PADJEN, AIA

Jury Comment: A most successful design which recognizes the inevitable change which will take place in an educational facility. Most commendable has been the architect's ability to create a pleasant atmosphere for the students and faculty within a limited budget. Faced with the difficult task of designing this building without a specific program, the architect has met the needs of the college by providing a flexible building which is, even now, returning dividends to the college as new needs for the library building take shape. Not to be overlooked is the skillful placement of the library in the most prominent position on the campus, which was one of the major criteria of the client. The architect's masterful use of materials, utilization of local manufacturers and consistency in design detail make this a delightful space, both physically and psychologically. In short, its total interior and exterior expression is in complete equilibrium with regard to functional demands, esthetic quality and economic requirements.



**Award
Of Merit**

Cranford, New Jersey **Union College**



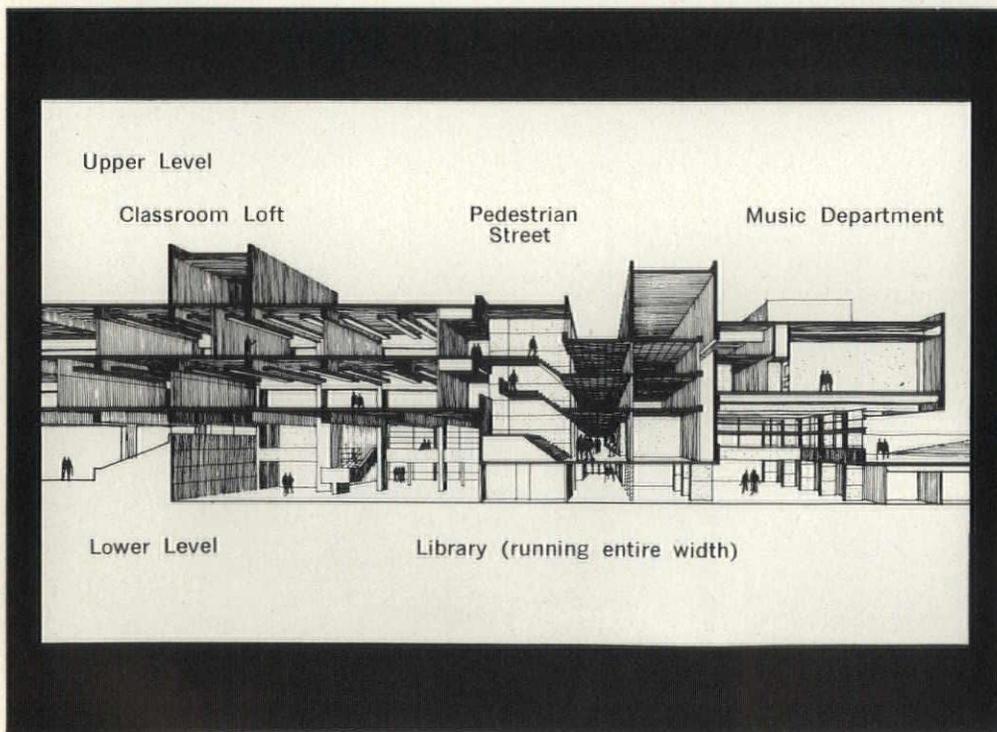
Comprehensive Campus Master Plan

HAMBY, KENNERLY & SLOMANSON

Jury Comment: An impressive planning job for expansion of an existing college which will double in size. Most notable is the phasing of the various structures and the flexible planning to provide for changing activities within the individual buildings as the college grows. The architect has recognized the physical attributes of the site and carefully planned the circulation systems for vehicular and pedestrian movement.

**Award
Of Merit**

Chicago, Illinois **Kennedy-King College**



**Comprehensive Campus Master Plan
Chicago City College**

FITCH LAROCCA CARINGTON JONES

Jury Comment: A solution to a highly dense urban site commended for the use of air rights and success in relating the college to the community. It is a well thought-out solution which recognizes the educational program and the fact that it may change, as reflected in its flexible loft-type spaces. Also noteworthy is its thorough analysis of all forms of circulation through, in and around the college. A finely executed architectural solution to meet educational and social demands of the community.

Oakland Community College Farmington, Michigan

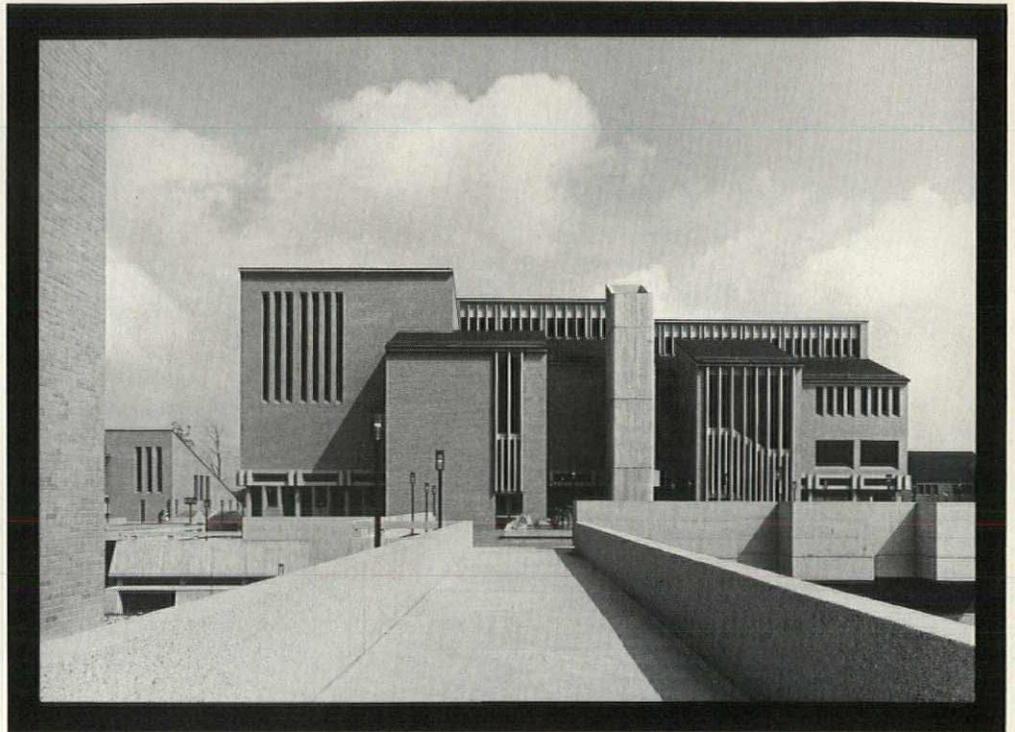
Award
Of Merit

Comprehensive Campus Master Plan Orchard Ridge Campus

THE PERKINS & WILL PARTNERSHIP

Associated Architects
GIFFELS & ROSSETTI

Jury Comment: An excellent example of space and forms in response to educational program and organization, which reflects the concept of the basic component of learning. The consistency and planning extend to the total realization of flow of people and the reinforcement of the student's day-to-day activities. In addition, consideration has been given to the climatic conditions of the location, the affinities of the various activities and the separation of pedestrian-vehicular movement. The exterior spaces and the scale of the buildings have been handled with great care.



Wisconsin State University Fond du Lac, Wisconsin

Award
Of Merit

New Facilities Fond du Lac Campus

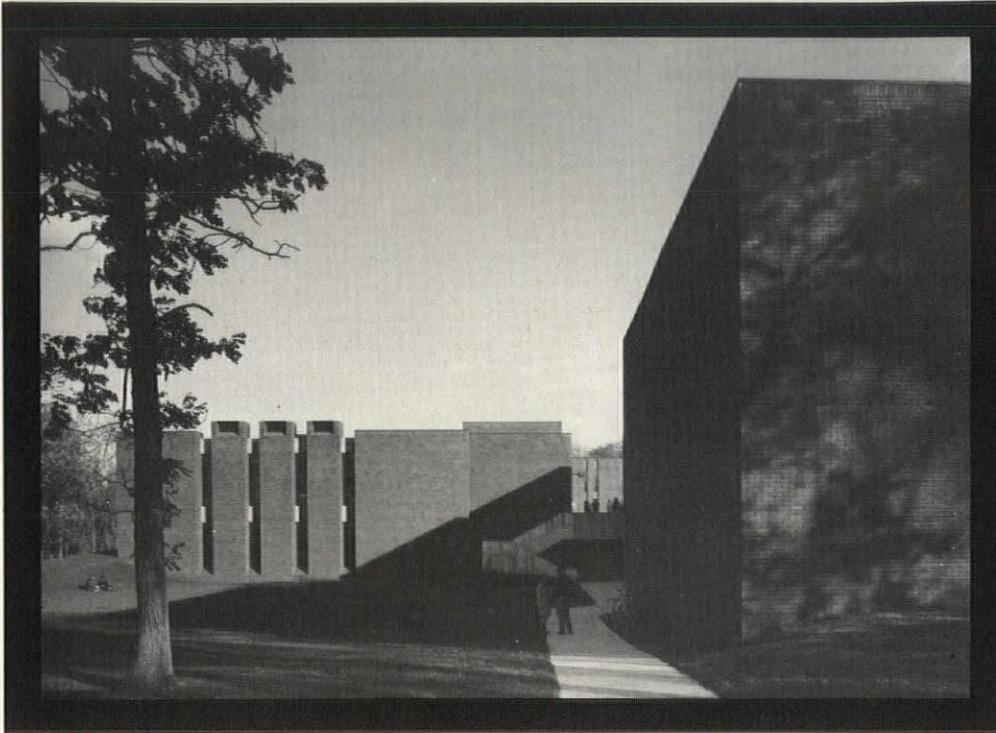
**DURRANT-DEININGER-DOMMER-
KRAMER-GORDON**

Jury Comment: An interesting use of spaces and a pleasing treatment of exteriors which fit the building well within its setting. The scale, detail and method of handling volumes are done with great skill, well related to the site.



**Award
Of Merit**

Rochester, Minnesota **Rochester State Junior College**



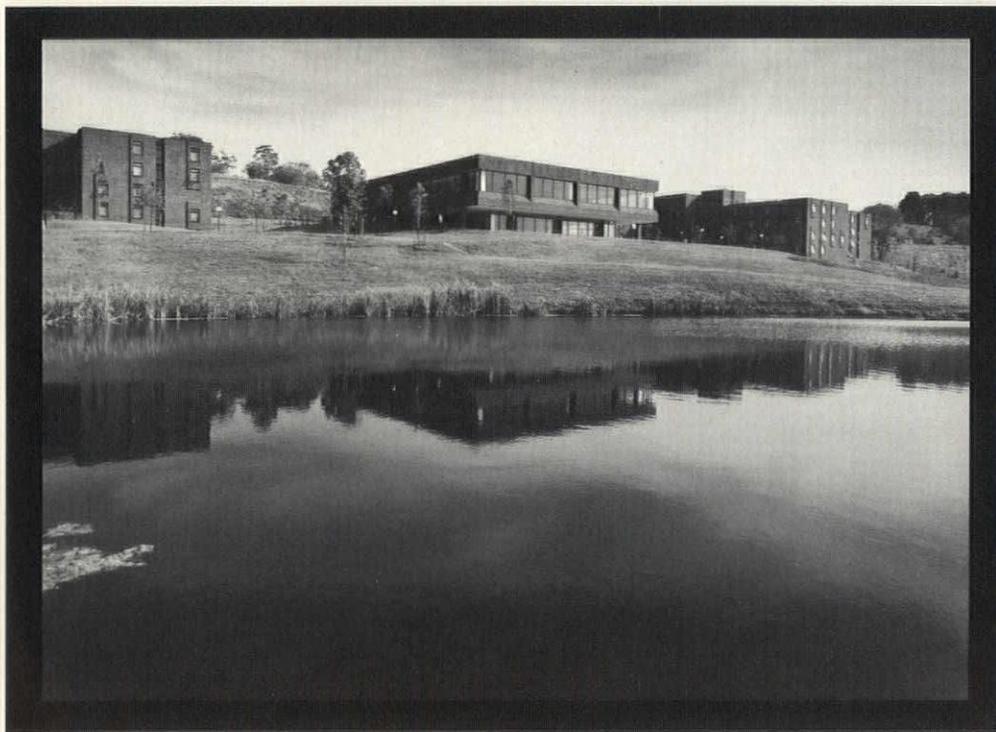
New Facilities

**HAARSTICK LUNDGREN
& ASSOCIATES INC.**

Jury Comment: A highly expressive building form, well reflecting the activities housed within. Significant is the appropriate fitting of the buildings into the site. The strong, bold brick forms and skillful use of brick planes and openings provide dramatic and exciting spaces and are highly reflective of the educational program. Most commendable is the care and handling of major and minor concepts and the achievement of continuity throughout.

**Award
Of Merit**

Morrisville, New York **State University of New York**



New Facilities

**Agricultural and Technical College
Dining Hall**

MORRIS KETCHUM JR. & ASSOCIATES

Jury Comment: A well-organized plan which recognizes the flow of people, the views both into and away from the site and the relationship to the dormitories located around the dining hall. Most commendable use of the building form and materials, both inside and out, with great care given to details.

Columbia Junior College

Columbia, California

Award
Of Merit

New Facilities

RAY C. ABST, AIA

Engineers

E. RICHARD SCHELIN ASSOCIATES

Jury Comment: Excellent retention and use of nature on the site in embellishing the educational program. The building forms, their siting and the use of natural materials and finishes reinforce the natural setting.



Mount Vernon Junior College

Washington, D.C.

Award
Of Merit

Comprehensive Campus Master Plan

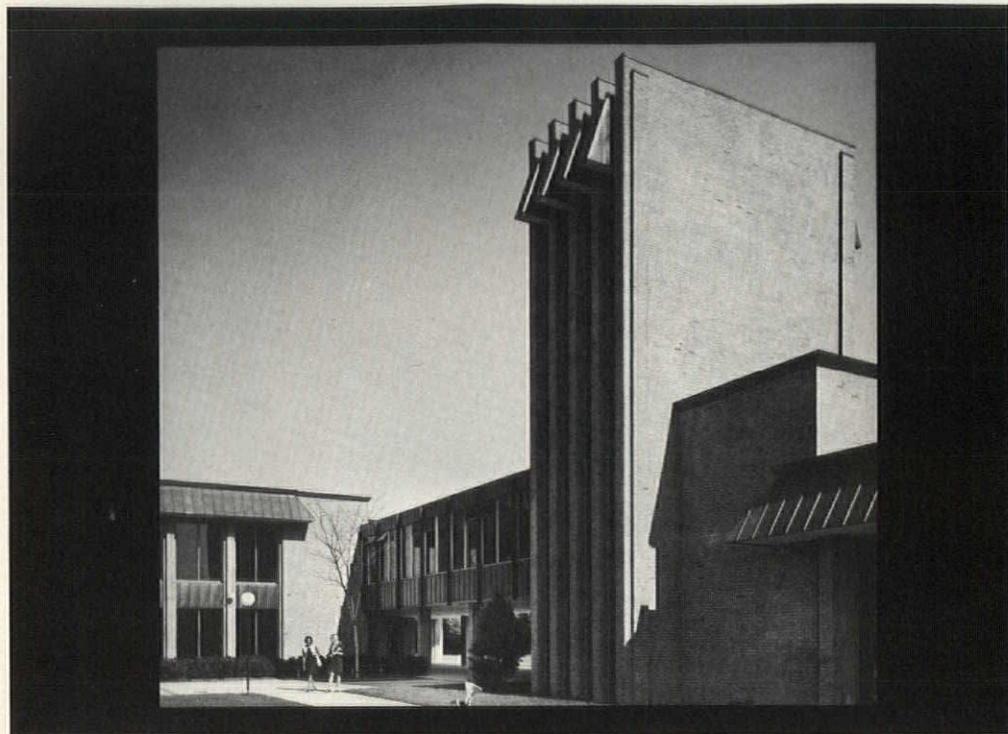
HARTMAN-COX

Jury Comment: Excellent utilization of a limited site with proper respect to existing facilities and topography. Its careful attention to preserving the natural beauty of the site, while systematically phasing the various elements, is commendable. The plan is a notable example of contemporary expansion of a traditionally designed girls' residential campus, with careful attention to vehicular access of service and separation of same from pedestrian movement. While at first glance it appeared to be a rather impersonal megastructure type of building, closer inspection showed that great care was taken to create small-scaled exterior spaces through the use of the building forms.



**Award
Of Merit**

Lorain County, Ohio **Lorain County Community College**



New Facilities

THE PERKINS & WILL PARTNERSHIP

Associated Architects
FINKEL & FINKEL

Jury Comment: A good example of how architecture may reflect the educational program and organization through use of well-chosen materials, careful handling of building forms and creation of inviting spaces. Most impressive is the ability of the college to expand while appearing to be totally complete at each phase of growth. The creation of pleasant spaces by the use of the building forms provides for good separation of pedestrian and vehicular traffic while at the same time screening the automobiles from view.

**Award
Of Merit**

Fullerton, California **Fullerton Junior College**



Converted or Remodeled Facilities

WILLIAM BLUROCK & PARTNERS

CAUDILL ROWLETT SCOTT

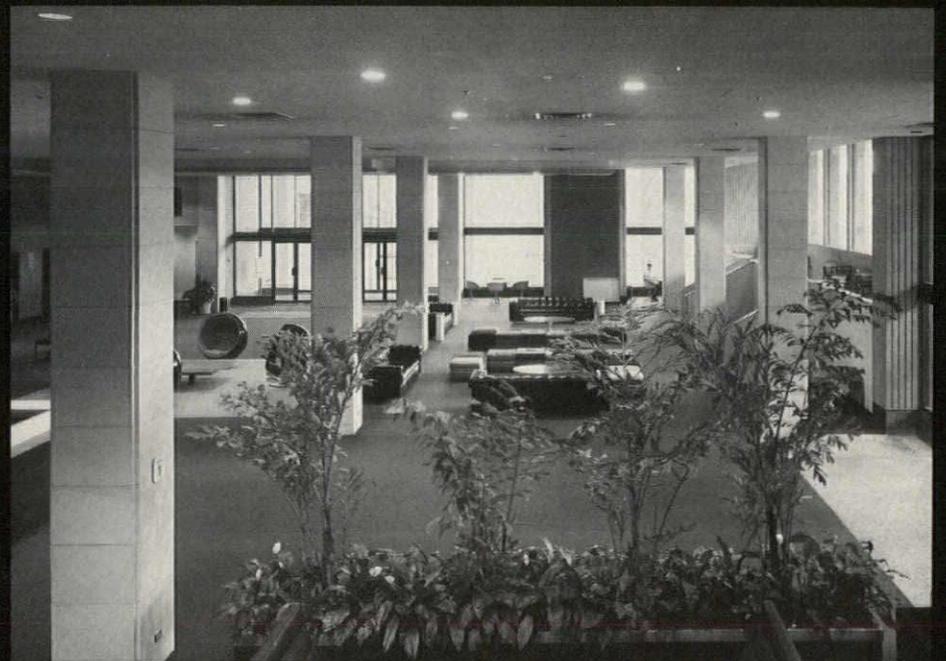
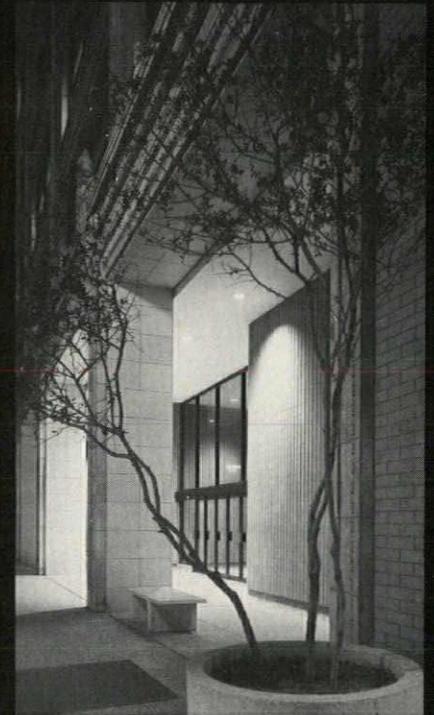
TAYLOR & CONNER (Library Building)

Jury Comment: An unusually creative example of how two buildings on an existing campus were rehabilitated and expanded. It well illustrates that with clear understanding and careful handling of form, expansion of educational facilities can be achieved to meet ever-increasing needs, while retaining the quality and overall environment of the campus. It is obvious that a thorough analysis of circulation and function on the campus was completed before the execution of the remodeling and expansion. A difficult project well executed.

Converted or Remodeled Facilities

ENSLIE OGLESBY

Jury Comment: Excellent use of an existing facility which provides a source of education within an area of evident need and availability. Most outstanding is the capturing of the spirit of the college program and the inspirational use of an old facility downtown. This reuse, in a sensitively conceived and executed manner, combines the quality of the older period with the function of the present. The conservation and conversion of this building serve both the educational needs of the community and assists in the revitalization of the inner city.



The Myth of the Slumlord

by MICHAEL A. STEGMAN

A caveat to advocacy architects: Take a closer look at the slum landlords versus our national housing policy. It will bring the old problems into a new perspective.

Some while back, The American Institute of Architects' Committee on Urban Design convened a modest seminar in Washington to explore the question of architects and advocacy planning (AIA JOURNAL, NOV. '67). As might have been expected at such a session, discussions were not limited to design principles nor to alternative physical futures for the nation's slums.

Rather, the practitioners in attendance concerned themselves with such matters as the relationships among physical design, social change, political power and the ways in which traditional solutions have impacted so heavily upon the lives of the poor. It is accurate to suggest that those present strongly adhered to the position that if architects do not understand the slum, its people, its institutions and the relationships between them, they are likely to compound the already critical problems that have brought many poor communities up to and beyond the boiling point.

I would like to suggest that for advocate architects and other advocate-oriented professionals (black and white) concerned with the physical and social malaise of the inner city, there is yet another critical dimension which must be checked if the problems of the slum are not to be further compounded by their actions. This dimension, the economics of low rent residential real estate, lies at the root of the inner city housing problem. It is a socially inert dimension inasmuch as neither the best of intentions nor a keen intellectual understanding of and empathy toward people in the slum will eliminate substandard housing or replace it with decent shelter at reasonable costs.

The principle relationships among such factors as costs of construction, operating charges, fixed expenses, taxes, rents and profits must be fathomed whether the investor and/or renters are black or white, absentee owners or slum residents. Thus, this is intended as a caveat to those who are of the conviction that indigenous architects and others in the community can deal effectively with housing problems that are not soluble from actions undertaken by those from without. It is a simple plea, backed up by some elementary analyses, to would-be advocate designers and planners not to lead with their hearts in the inner city but to consider some economic facts before tackling the problems.

To begin, permit me to inquire of each emerging advocate designer as to how rapidly he would demand recovery of his own initial capital if the particular economic venture in which he were involved were socially abhorrent, risky and of uncertain duration, provided him with an uneven and sometimes difficult-to-collect income and was of such a nature that he would be, by definition, operating outside the law? In short, what would be his price for investing in a slum?

Without knowing anything about his values or his investment criteria, nor about how they might interact, it could be easily appreciated why his price might be steep. Ask yourself how great a yield you would want before taking a third or more of a poor family's income for indecent shelter, placing yourself in a position of choosing the select few from among the most unfortunate units of humanity who depend upon you to provide them with housing that is not fit for people? Ask yourself, for how much could your conscience be bought?

While the business of trading in slums is sufficiently risky and distasteful to warrant rather high yields, my personal feeling is that such are not widely available in today's slum market. I do believe, however, that the stereotyped slumlord image, the leechlike creature sucking the lifeblood out of buildings and people to turn a fast buck, is no longer applicable in explaining the chronic housing crisis that plagues cities. In fact, it is my feeling that the myth of the slumlord has encouraged the development of a national housing policy that has had a perverse effect on housing conditions in the inner city.

In his *The Slums, Challenge and Response* (Free Press, 1964), David R. Hunter summarizes the myth of the slumlord in the stinging epithet that all owners of substandard housing "look as if they had spent their childhoods drowning their playmates."

Former New York City Mayor Robert F. Wagner sums up his own opinion of the slumlord in more official language: "the slumlord, that small body of landlords who are out to squeeze every last dollar out of the property as quickly as they can, regardless of the consequences in terms of human lives, suffering and sickness. It is against this small minority that battle must be given—constant, unremitting and unrelenting battle." (Woody Klein: *Let In the Sun*. Macmillan, 1964.)

If one accepts both of the above propositions, a slumlord may be defined as an individual who was murder on his friends as a kid, who grew up to ply that same deadly trade as an adult—only in more subtle and painful ways. It would, of course, be unwise to accept the underlying premise implicit in these propositions. By doing so, one would fall into the trap of understating the magnitude and severity of the slum housing problem, gloss over the question of who really owns the slums and ignore some very basic economic realities of residential real estate.

Magnitude of the Problem

While Mayor Wagner's comment referred to a small body of landlords, remember, there are upward of 6 million substandard housing units in our cities. Whatever we wish to call their owners, there are an awful lot of them. Surely, a small group

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of misanthropes could not be held responsible for the present housing crisis, nor for the fact that it seems to be intensifying rather than receding.

While current housing data is scarce, there is, however, an estimate from the US Department of Labor that the proportion of substandard houses in the sprawling southern area of Los Angeles increased from 18 to 34 percent between 1960 and 1965 (*Joblessness and Poverty in Urban Slums*, US Government Printing Office, 1967). During that same period, New York City experienced an increase in slums of 50,000 units, with the estimated number rising from 475,000 to more than 525,000, also according to the Department of Labor.

Additionally, according to Frank Kristoff of the New York State Urban Development Corporation, this corporation has estimated that "the buildings abandoned or boarded up in New York City between 1965 and 1968 could have housed the population of a good sized American city like Jersey City—275,000 persons." (Associated Press story, December 1, 1969.) And, at the same time, Jason R. Nathan, former administrator of New York's Housing and Development Board, warned that "any achievable program of new construction will continue to be swamped by the hemorrhaging that is now bleeding our supply of existing housing." (Associated Press, December 1, 1969.)

Recognizing the fact that almost one-half (47 percent) of our national housing inventory was built before 1929, most of it in major urban centers, and realizing further that an estimated 600,000 rural and semirural individuals are migrating into our cities every year, one must predict increasing difficulties in maintaining the stock of housing in the inner city in coming years.

Who Really Owns the Slums?

The myth of the slumlord assumes a homogeneity among owners of substandard housing that simply does not exist. Many like to believe that all slum landlords are, as Richard M. Elman expresses it, "big in the chest but stand only 5 feet 2 inches tall . . . and in elevator shoes would look as if somebody had sawed off their legs from the knees down." (*The Poorhouse State*, Delta, 1966.)

This prototype slumlord is often the target of the big-city mayor who cannot find the handle on the crushing housing problem. Yet, the image certainly does not fit Columbia University or any of the other institutional holders of slum properties, nor for that matter does it fit many of the slum landlords interviewed in a recent study conducted by George Sternlieb in Newark's Central Ward (*The Tenement Landlord*, Rutgers University, 1966).

Sternlieb found that all kinds of people own slums. Four percent are housewives, 5 percent lawyers, 9 percent retired persons, 30 percent craftsmen, 9 percent other professions and managerial and 8 percent small businessmen. In addition, about 20 percent are either real estate managers or brokers. While Sternlieb's figures apply only to Newark's Central Ward, there is no reason to believe that they are not typical of the ownership pattern we might find in other core cities. In an inner city market quite different from Newark's, in which the predominant housing type is the single family masonry row house, we have found a similar admixture of owners.

According to a survey now being conducted, about 25 percent of Baltimore's privately owned inner city rental stock is held by professional real estate investors who own more than 100 units each, with the remaining 75 percent divided among a wide variety of individuals. (Institute for Environmental Studies, University of Pennsylvania and Morgan State College, "Evaluation of Baltimore's Anti-Poverty Efforts" in progress.)

Equally important as the heterogeneity of the slum landlords is the variation in the mix of economic resources among them, their sophistication, market savvy and motives for entering the slum market. By and large, the slums in the Central Ward were not owned by individuals who relied upon substandard housing for the bulk of their incomes.

Sternlieb concluded from this finding that "to a considerable degree this reflects the comparatively amateur kind of holder who predominates in the market." Surely, this is not consistent with the myth of the slumlord which connoted the professional milking of his properties at just the proper rate to extract maximum revenues without eroding his capital too quickly. Nor, for that matter, is the finding below consistent with the accepted image of slumlordism, as given by Sternlieb: ". . . many of the owners . . . are owners by default rather than by purchase, are owners by inheritance, or by lack of purchasers to buy unwanted properties; or by a relatively trivial investment, not too meaningful in terms of overall capital or income."

Not only does the myth of the slumlord encourage generalization about the nature of the holders of slum housing, it also tends to overemphasize the profitability of slum housing investments. Because there is probably no more cloudy an area in real estate finance than the economics of slums, it might be useful to sketch out some specific market conditions prevalent in the inner rings of many large cities. While such a description might not be evidence of the lack of substantial profits in slum housing, it ought to be taken into account by the proponents of the slumlord myth.

In his article "Bulldozer Renewal" (*Journal of Housing*, April 1968), Sternlieb referred to the downward spiraling cycle of housing quality in hard-core slum areas as dynamic degeneration. Specifically, he was referring to the unusually high vacancy, abandonment and, thus, tax delinquency rates in slum areas while "the overall housing situation for the poor (remains) one of extreme shortage."

Even to the casual observer it should be clear that the market mechanism has broken down; that both buyers and sellers have lost faith in the slum housing market. Less obvious, perhaps, but a further indication that profit margins might not be as great as many would like to believe, is the seriously reduced flow of mortgage funds being funneled into hard-core areas and the mounting costs of fire and liability insurance to owners and potential investors in slum housing.

Similarly, as gross rent multipliers continue to decline, such efforts as the life insurance industry's program to provide \$1 billion in mortgage funds for rebuilding urban slums find little support in many depressed markets. In some cities, although the program will provide high loans to value mortgages, even minimal equity commitments are not forthcoming. In some places, too, the extent of participation in the program is limited to non-residential construction.

While the security and profitability of any real estate investment is, in part, a function of the quality of the surrounding environment and its anticipated future state, neighborhood effects pose particularly difficult problems to current and potential investors in slum housing.

With high vacancy and abandonment rates in the slums, often accompanied by corresponding increases in acts of vandalism, investors must assemble large numbers of parcels in order to create desirable micro-environments, or to insulate their properties from those decaying around them. The fact that slum ownership is highly disaggregated, however, contributes to the difficulty of assembling sufficient numbers of sites.

Milking and Management

Typically, "milking" implies a policy of undermaintenance whereby an investor maximizes current income through withholding some rental receipts which ought to be allocated to repairs, and thus experiencing serious, long-run capital erosion. It implies a preference for current income over long-term capital gains. With respect to today's market, one would not expect to see much milking for several reasons:

1. Milking implies high cash flows which, if generally available, would not lead to the wholesale abandonments which have become a common phenomenon of the past five years. One cannot properly speak of milking if the owners' receipts are insufficient to permit adequate maintenance.
2. As indicated earlier, the inner city market is sufficiently loose in many sectors to produce reasonably keen competition among investors. Consequently, those who intentionally undermaintain their units in order to maximize current income would lose most of their desirable tenants to those investors who are more scrupulous and conscientious about their properties and their responsibilities. In fact, any milking that goes on—and I would be foolish to suggest that it is completely absent in the inner city—might proceed unmitigated because all investors are having such difficulties maintaining their properties that the city cannot force out the unscrupulous without forcing everyone out of business.
3. Finally, and most importantly, the most efficient way of maximizing current revenues in today's depressed market is through a careful screening of tenants, maintaining full occupancy, minimizing turnovers, satisfying tenant needs and keeping maintenance and related expenses in tow. Milking reduces one's ability to attract good tenants, increases vacancies, turnovers, the risks of vandalism and makes profitable operation all but impossible.

311 East 100th Street

Let us take a look at the income-expense statement for a new-law, 33-unit tenement in East Harlem, 311 East 100th Street, chopped into 105 rooms in which 139 people live. The statement—from Klein's earlier mentioned book—is rather unique because it presents an independent real estate auditor's estimate of the annual costs of maintenance and repair items that would be required in order to bring 311 up to the minimum level of quality specified in the city's housing code. In other words, it shows what "ought to be" rather than "what is."

A cursory glance at the statement indicates that maximum rental revenues are \$12,000 (the legal maximum permitted for the building under the city's rent control program), while gross rental revenues are estimated at \$11,000. The difference between the two, of course, is the normal vacancy allowance. Assuming that the building is owned free and clear, the substandard tenement costs the owner \$3,250 a year, whether or not it is occupied, or no matter what its vacancy rate. Fixed expenses, the largest component of which is the real property tax liability, consume nearly 30 percent of gross revenues.

In the lengthy array of maintenance and replacement items, the largest element is the fuel component which consumes approximately 33 percent of gross rentals. Thus, together, fixed expenses and heating fuel consume about 62 percent of total rental income. If the remaining variable cost items are included on the expense side of the ledger, the owner of 311 East 100th Street would suffer an annual operating loss of about \$3,300 if he were to maintain the building in accordance with the city's housing code. What would you do under these circumstances?

You could withdraw the building from the market and thus lose your entire investment. Or you could continue to operate while eliminating or reducing outlays for such things as extermination, painting and boiler repairs; you could also let the fuel run out more frequently. Unless you did all of these things and more, you would not be able to reduce expenses sufficiently to wipe out the entire operating loss.

We can even make the situation more hopeless and in some ways more realistic by assuming that the owner is carrying a mortgage on the building. Let us suppose that 311 is owned by an individual who purchased it for its assessed value of \$40,000 by putting up \$10,000 in equity and placing a 6 percent, 15 year mortgage for \$30,000. Now, in addition to fixed expenses of \$3,250 which covers the cost of taxes, insurance, water and sewer charges, he must pay \$3,038 in interest and principal on his mortgage, thereby increasing his annual loss from operations to more than \$6,300.

While the above figures do not take into consideration the so-called tax savings associated with taking depreciation allowances on the building, few investors would be interested in suffering absolute cash losses in order to shelter other income through depreciating a building such as this. The more typical case is to use available depreciation allowances to shelter positive, pre-

311 EAST 100TH STREET	
ANNUAL ESTIMATED INCOME AND EXPENSES	
Rental Income	\$12,000.00
Less vacancies (7½%)	900.00
Total Income	11,100.00
Expenses (Fixed)	
Taxes (\$40,000 Av @ \$4.50)	\$1,800.00
Water and sewer	505.00
Insurance	
Liability	650.00
Compensation	60.00
Fire and extended coverage	175.50
Miscellaneous	60.00
Total Fixed Expenses	\$3,250.00
Expenses (Maintenance)	
Fuel	\$3,600.00
Gas and electric	360.00
Labor and payroll taxes	1,500.00
Plumbing	1,400.00
Steam and boiler repairs	300.00
Painting	
Apartments	700.00
Public halls \$600 (5-year period)	120.00
Exterior \$728 (5-year period)	145.00
Glass	200.00
Carpentry	250.00
Ironwork	50.00
Electrical	150.00
Tile masonry	100.00
Roofing	120.00
Exterminating	100.00
Miscellaneous	150.00
Hardware and supplies	350.00
Accounting	150.00
Legal	400.00
Management (7½% fee)	832.50
Miscellaneous	150.00
Total Maintenance Expenses:	\$11,127.50
Total Expenses:	14,378.00
Total Income	11,100.00
Annual Loss from Operation:	\$ 3,278.00

From Woody Klein: *Let In the Sun*. Reprinted with permission of The Macmillan Company. Copyright © by Woody Klein, 1964.

depreciation cash flows in order to show a so-called tax loss; the positive cash flow must be present *before taxes*.

Let us suppose, for the sake of argument, however, that the building in question was bought for \$26,000 (which it was, in 1955) and is being depreciated at 150 percent of the straight line rate, which might be 3 percent. Thus, in year one, assuming that the full purchase price represents the depreciable base, the investor would have a depreciation allowance of \$1,170. Assuming that the investor is in the 50 percent tax bracket, his tax savings would be \$585, hardly enough to make his venture worthwhile. As a matter of fact, Klein indicates in his book that in April, 1963, 311 East 100th Street was auctioned off to the highest bidder, and that it was actually purchased for \$100 cash (pp. 164-5)!

The fact is, of course, that nobody could afford to operate 311 at code standard. Unless rehabilitation costs were to be lowered through capital grants or operating subsidies, or rental income were increased through supplements on the demand side, 311 and thousands of like structures must continue to be losing propositions.

Recent information on at least three prominent efforts to upgrade New York City slums lends further support to the futility of castigating landlords for the sorry state of slum housing. One effort, undertaken by the Conservation, Rehabilitation and Renewal Foundation headed by Roger Starr involving a 22-unit, 80-room project on Manhattan's Ridge Street, was financed by a \$250,000 grant from Laurance Rockefeller. Post-rehabilitation rents increased from \$23 to nearly \$60, and it was still not possible to amortize the improvements within a reasonable period, even with no interest on the mortgage. Said Starr:

"With 80 rental rooms in the building it would require an annual net income after all charges and depreciation of \$132 per room in order to bring the 8 percent return on Mr. Rockefeller's investment. Three years after rehabilitation, however, net income per rental room does not exceed \$67, barely half of the income required to produce an 8 percent free and clear return even with complete tax abatement. This actual net income figure, moreover, does not include a charge for depreciation or a reserve for major repairs." ("Private Ventures into Slum Building Rehabilitation for Low Income Families," *Journal of Housing*, January 1967.)

A similar effort by US Gypsum Company on 102 Street upgraded slum apartments at a unit cost approaching \$9,000. The monthly rents in the rehabilitated apartments increased from \$28 to nearly \$78, exclusive of what I have referred to as a series of implicit subsidies amounting to nearly \$45 a month per unit.

And most recently we have found that Conrad Engineers' heralded instant rehabilitation project in New York, which featured the hoisting of self-contained mechanical cores through a hole in a tenement roof, was much more costly than at first believed. Designed to rehabilitate a multi-unit structure in 48 hours, thereby almost eliminating the need for relocation, the Conrad system was supposed to upgrade an apartment at one-half the cost of new construction. Last year, an independent evaluation of the project by the Institute of Public Administration pegged the unit cost at a disappointing \$25,000.

If we venture out of the hard-core slums for a moment, it can be clearly demonstrated that the cost of housing generally is increasing. In fact, the various components of building and operating costs have been increasing rapidly enough to give both landlords and investors who rent to and build for the nonpoor some worries of late.

Uncollected real estate taxes in New York City, for example, totaled more than \$153 million in 1966, and the tax delin-

quency rate increased by more than one-third in that year alone. (Community Housing Improvement Program, Inc., in an open letter to Mayor John V. Lindsay appearing in the *New York Times*, January 25, 1967.) Moreover, it has been estimated that the proposed increase in property taxes in New York City in fiscal 1969 will result in the abandonment of more than 10,000 rent controlled parcels.

Two major barometers of the building-cost squeeze in New York City are going rentals for apartments in Metropolitan Life's Stuyvesant Town and monthly rentals for new housing built under the Mitchell-Lama Housing Act. The Stuyvesant Town project is an important indicator of the operating cost squeeze because it is limited to an annual profit of 6 percent and must receive city approval for all rental increases warranted under that ceiling. In 1947, when the first tenants moved in, a two-bedroom apartment rented for \$62 to \$87 a month. Now, seven increases later, a two-bedroom apartment costs between \$138 and \$173.50.

Housing constructed under the Mitchell-Lama middle income program has the benefit of subsidized mortgages and sizable real estate tax exemptions for 50 years. Originally designed to provide housing for \$25 a room, it increased to \$35 a room in 1966, \$40 in 1967 and \$50 in 1968, and "currently falls within the range of \$55 to \$65 per room per month . . . and this despite the increase in tax exemption from a maximum of 50 percent to approximately 80 percent." (Frank Kristoff, *Local Urban Development Policy Under Inflation: A Case Study*, presented before the American Real Estate and Urban Economics Association, New York City, December 1969.)

What has all of this to do with the profit potential of slums? Simply, that if Metropolitan Life has had to double its rents over the past 20 years to maintain a 6 percent profit, and Mitchell-Lama housing has nearly tripled in cost even though it enjoys tax advantages and mortgage subsidies, is it not possible that owners of low quality housing have been facing similar cost squeezes? For how long can increased costs of operation be absorbed before housing quality begins to decline even further? How much can monthly rentals in low quality buildings be increased before the market which they serve can pay no more? Such questions are of particular relevance in light of the dynamic degeneration phenomenon discussed earlier and the fact, stated by Sternlieb in "Bulldozer," that "whole areas of hard-core slums are being depopulated."

The Myth and Public Policy

My preoccupation with the myth of the slumlord is not purely academic. The myth has been swallowed by our top housing experts and it has distorted our postwar housing policy. Stripped to its barest, the myth echoes a warning to beware of owners of low rent housing; any individual who believes that the slum landlord represents an untapped resource in the battle to stop the further decay of the existing low rent housing stock is, according to those who espouse the myth, no better than the slumlord himself.

Thus, we can summarize postwar housing policy: support for suburban development through an expanded FHA mortgage insurance program; aid to the equity investor in middle income rental developments; efforts to increase the supply of low rent housing through publicly financed and operated housing facilities; attempts to renew and revitalize the inner city through urban renewal activities and the development of the nonprofit sponsor concept through which low and moderate income housing is constructed by inexperienced and inefficient organizations such

as churches and fraternal lodges. And recently the government has again broadened homeownership opportunities for low income families.

Through all of these efforts, some working at cross purposes, we find two common themes. One is financial incentives and the other is that none of the efforts are aimed at preserving the existing stock; incentives for everyone but the slum landlord. Consequently, the stock increases, but not as fast as the stock decays. The extent to which the myth of the slumlord has permeated recent housing policy is illustrated in FHA's rent supplement program. Supplements are only available to moderate income families who rent apartments constructed or substantially rehabilitated under the federal government's 221 (d) (3) market interest rate program. They are not available to families who might choose to live in existing, privately owned rental units.

The Congress has not yet accepted the fact that such market phenomena as trading off rental income for more stable tenants, delinquencies, paper sales and abandonments are no more than profit maximizing or loss minimizing responses to market conditions. This is clearly indicated in the recently enacted federal housing legislation where, in Section 509, eligibility criteria for federal loans and grants to homeowners and tenants under a rehabilitation or concentrated code enforcement program are spelled out: "No loan with respect to residential property shall be made under this subsection, to any person whose annual income . . . exceeds the limits prescribed for occupants of projects financed with below-market interest rate mortgages insured under Section 221 (d)(3) of the National Housing Act."

The irony of such a provision is simply that the income position of an *investor* ought to be one of the least important determinants of the economic feasibility of rehabilitating a dwelling unit or multifamily structure that is being held for investment purposes. The factors that are of direct relevance are those affecting the current state and value of the particular unit under consideration, estimates of current and potential demand for the housing at various levels of quality, cost estimates to rehabilitate the housing to various quality states and any other factors which might affect the economic variables in the investment calculus such as financial aids on both the demand and supply sides.

Even if the absentee property owner's personal annual income were in excess of \$100,000, it would not be rational for him to invest in any form of rehabilitation if by so doing he would reduce his profits or increase his losses. He would, under a comprehensive code enforcement or rehabilitation program, minimize his losses, which might result in his electing to meet code standards, rehabilitate to a higher standard or withdraw his property from the market.

By restricting financial incentives to resident-owners and low income investors, the legislation implicitly assumes that investors are nothing more than absentee owners who view their properties as consumption rather than as capital goods. It assumes that they will choose to upgrade their holdings if only somehow they could scrape up the necessary funds. Nothing could be farther from the truth.

Thus, we can be assured that because of the cost squeeze discussed earlier and the limited rent-paying capacities of low income families, a great many low rent housing units are going to go the way of 311 East 100th Street in spite of such high sounding but misdirected programs as rent supplements and concentrated code enforcement activities.

There are several ways in which the existing stock of low rent housing might be preserved. One is through a supplement on the demand side which would provide subsidies to eligible

families who could then pay market rents for available units in the private sector. Another would be to introduce a rent guarantee program which would provide rent money to low income families whose source of income was temporarily cut off or severely reduced. By increasing and stabilizing rent paying abilities and by permitting the increased purchasing power to be felt in the private market, substandard housing might be upgraded on a sufficiently large scale to reverse current trends.

An alternative to the above suggestion that would not be as broad in coverage but which might operate through the supply side of the market stems from the disaggregated nature of slum ownership. It will be recalled that Sternlieb found approximately one-fifth of the slum landlords in his sample to be either professional real estate operators or brokers. Not only did this group, as a whole, control substantially larger numbers of slum parcels than any of the others but its members also were found to be more knowledgeable about the dynamic forces of the real estate market, owned slum properties for investment purposes and were not owners by default or purely by inheritance, had greater capital reserves than the others, and many had full-time work crews to maintain and service their parcels.

As a whole, they maintained their properties in a condition that was second only to that of owner-residents who typically invested in their parcels to a greater extent than the market justified. Finally, it was the professional holder of slum properties who was found to provide shelter for many "undesirable" low income families who were being effectively screened out as potential tenants by the public sector and by owner-residents. It appears, therefore, that the professional, the one who is probably most often tagged as a slumlord, would be the most eager and efficient user of selective government aids. He, more than any of the others, would respond positively to fair and reasonable incentives that would enable him to upgrade his parcels while earning a fair return.

Perhaps it is more important to encourage the continued maintenance of inner city housing by whoever owns it than to call for a large-scale transition to resident ownership. Such a transition would simply imply that many poor families would be more permanently locked into the slum, saddled with investments which promise to sap most of their resources with the passage of time. If black-owned slums are more palatable to some than white-owned slums, then perhaps this would be worthwhile.

My own conviction is that what we ought to be doing is to encourage upward mobility while at the same time we attempt to upgrade the housing stock. Such a dual objective implies that we ought to be providing reasonable incentive to decent investors so that housing circumstances can be improved without families committing themselves to permanent residence in the slum.

Moreover, it is not a great leap from supporting investors to developing a program which facilitates the sale or exchange of housing to indigenous slum or ghetto residents. If the one, however, must not precede the other, surely the two actions must be related. What long-run benefits can possibly accrue to the poor and to the community at large through a program which provides slum residents title to property that cannot be economically maintained? Community ownership or control of a bankrupt enterprise means nothing more than indigenous ownership of a bundle of liabilities.

The irony of the myth of the slumlord is simply that at a time when ownership of such properties is viewed as anathema by those who currently own them, the so-called advocates of the poor are fighting to saddle their clients with the burdens that such ownership implies. □

THE PACKAGE DEAL

The package deal has been discussed endlessly in recent years, but for an explanation of what it really is it probably has never been said better than in an article prepared by the Practice Committee of the Royal Australian Institute of Architects, Victorian Chapter. Here it is, reprinted from *Architect* 3, July/August 1969, with the permission of the RAIA. Only minor changes of expressions foreign to most of us have been undertaken.

The terms "package deal" and "package dealer" are often used very loosely, but a reasonable definition, and the one to be used here, is this:

A package deal is a single financial transaction under which one person or organization (the package dealer) designs and builds a building to the firm order of another person or organization, the customer (who may be the client, owner, developer or other), either including land or on the customer's land.

It is important to be clear that a package dealer is not:

- a) a speculative builder—one who builds a building and then finds a customer (a common practice in the housing field, but comparatively rare elsewhere)
- b) a developer—an investment organization involved in promotion and project development providing its own or outside finance, with or without an associated construction company, and usually retaining at least a share in the ownership of the resulting building
- c) a building contractor—one who contracts to build on the basis of construction documents provided by others.

There are basically two ways in which one may go about ordering a building (leaving aside ordering from a sample, which is really only practicable in the housing field):

- a) to describe in detail what the finished building is to be like, by means of drawings and specifications—the usual method
- b) to describe what the building is to do, i.e., set performance standards. This method is frequently and usefully employed for items of mechanical equipment and other components, where it is possible to set clear standards in terms of temperature, flow, etc. However, the requirements of a building as a whole are far too complex to set out in specific and enforceable terms, utilizing only performance standards.

The normal customer/architect/contractor system sets out to define a building project in terms of (a) above, and then to obtain competitive prices from a number of suitable contractors.

It is here, however, much as it may be glossed over, that the irreconcilable problem of the package deal lies. The building cannot be described under (a) until the design and construction documents have been completed. To do this would be to defeat the whole purpose of the package deal, which is to settle the whole transaction before the design (except perhaps in the most preliminary sense) is done. An attempt at description under (b) therefore has to be made, but in practice this is just not possible.

The result is that the customer entering into a package deal knows precisely what he is going to pay, but doesn't know with any precision what he will get for his money.

In practice various compromises are attempted to overcome this situation, but inevitably they are no more than compromises and detract from the basic attractions of the package deal—simplicity and certainty.

Our clients are insisting upon a simpler process for creating buildings. They do not want to neglect the things they do best to become involved in the numerous divisions of work that are present in the traditionally stretched-out architectural/engineering/general contractor approach to construction. Clients are looking for centralized project management assistance that will rigidly control costs, time and quality and give each of these its proper priority.

The process of creating buildings principally involves the skills of project management, planning and production. Since the architect is ideally equipped by training, temperament and experience in the areas of management and planning, just as the manufacturer and the contractor are well equipped in production, the architectural profession, recognizing clients' demands for a simpler building process which rigidly controls cost, time and quality, provides a professional service "package" called "the three D's—Decision, Design and Delivery." This type of professional service is far superior to the traditional design-and-build package that relies so heavily for its appeal on the control of time and cost.

This comprehensive professional service provided by architects includes centralized project management, consultation during the decision stage of the creative process areas including financial feasibility, financing and programming, complete services throughout the design stage of the creative process, placing particular emphasis on the control of time, cost and quality and then, where desirable during the delivery stage, providing professional construction management assistance.

By engaging an architect to provide these comprehensive services (the three D's), a minimum amount of the client's time is required to produce a facility that ideally meets his program requirements with full assurance of the control of cost, time and quality.

ROBERT F. HASTINGS, FAIA
AIA First Vice President

The design concept of the building project organized through the normal customer/architect/contractor system is directly related to the talents available through the appointment of an independent "professional" architect.

One of the attractions offered by the package dealer is "free professional services." Presumably no one actually believes that they are "free," even though the cost may never be shown on paper. However, a customer could easily be led to believe that they were "professional," because often the package dealer employs a qualified architect, either on his staff or as a consultant. The basic feature which distinguishes the "professional" architect from his commercial counterpart is that he acts in the interests of his client, his advice being independent and free from commercial considerations. The architect employed by the package dealer must act in this way toward the package dealer—this is clearly where his duty lies. He cannot at the same time give "professional" advice to the customer. To suggest otherwise is misrepresentation.

Another most persuasive advantage offered by the package dealer is the guaranteed maximum price which covers the total cost of the whole building operation. However:

1. A package deal is negotiated before fully developed contract documents are available. The offer, therefore, carries the highest price that the market will bear, which will cover all risks.
2. Any changes from then on fall outside the guarantee and cannot be controlled effectively.
3. The offer is not competitive.

4. It is not possible to exercise control over workmanship or materials without professional agents and the production of comprehensive specifications, details and bills of quantities.

Among other aspects are:

a) The possibility of an early start and short completion time is offered by the package dealer. This opportunity exists, however, under any contractual procedure and there is no evidence that package dealers are more efficient than other builders.

b) The offer of complete management services by the package dealer, with one point of control and responsibility, is attractive to corporate bodies used to such management skills. These skills are not, however, unique to the package dealer. The best independent services are available from professional architects and may be operated under a single point of control.

c) Building is something which the majority of people and organizations do not do very often, and of which they have little experience or knowledge. They are therefore at a disadvantage when dealing with other commercial building organizations.

Before entering into a package deal, there is no effective means of checking that the price is the best obtainable, since even if alternative quotations are obtained there is no certainty that they are for comparable buildings.

If costs prove higher than the package dealer expected, there will be an irresistible tendency to make savings by cutting standards and, since the customer has no clear and enforceable description of the building on which to act, he'll be the loser.

Recognizing some merit in the package deal method, is there any way in which the advantages that it claims can be absorbed into the traditional customer/architect/contractor system?

A negotiated contract, in which the independent professional design team appointed by the client develops a design proposal in conjunction with a selected builder, and a guaranteed fixed maximum price is established, has the following advantages:

a) It permits development of a project with a composite building team consisting of customer, architect and contractor.

b) The architect's undivided loyalty remains with the customer.

c) In very large contracts continuity is a real advantage in bridging responsibility between one phase of work and another.

d) An early start is possible.

e) Economies in design can certainly be achieved by a thorough knowledge of practical building problems contributed by the contractor before the concept is finalized. Under the architect's control this would ensure that the resources of the building industry as a whole would be given due consideration rather than only the particular resources of the selected contractor.

f) Sound performance can certainly be achieved by a careful selection of a contractor of known resources and ability.

g) There is a single point of control.

h) A guaranteed fixed maximum price may be negotiated with the selected contractor in two stages: first, a maximum budget cost at the preliminary design stage; then a firm price within a guaranteed maximum budget as details are resolved, based on a negotiated schedule of rates.

This price may not be as competitive as in the case of competitive bidding, but the savings in time and economic design may well afford at least equivalent savings to compensate.

The package deal has some apparent advantages, and less obvious but very serious disadvantages. These are most serious in the case of a complex building, and less serious in a simple one.

The traditional design and bidding procedure is likely to continue to be the best for the majority of projects for some time to come, but there is scope for considerable development in the field of negotiated contracts.

[As AIA First Vice President Robert F. Hastings says in his preface, "recognizing clients' demands for a simpler building process which rigidly controls cost, time and quality, [the architectural profession] provides a professional service package called 'the three D's—Decision, Design and Delivery.'"]

The "precautions" following point up very well the difficulties and added expense to be encountered by a client attempting to use a package deal properly. And if the precautions are adhered to, the simplicity, efficiency and quality of the architectural profession's three D's become very apparent indeed.

THE EDITORS]

Precautions

Should a package deal be decided upon despite the foregoing, the following are some precautions which the customer can take which may help to mitigate some of its disadvantages, and which should be acceptable to the reputable package dealer. These provisions should appear in their contract.

1. Unless the owner is experienced in building matters and has the necessary experts on his staff, he should obtain the services of an experienced architect (and in some cases probably other consultants) to advise him in his negotiations with the package dealer and to approve the design, specifications and detailed drawings. The customer should also present all documents submitted by the package dealer to his lawyer for review and approval.

2. The owner should retain adequate experienced personnel to insure that the intention of the design is faithfully carried out, and that the building is constructed in accordance with the drawings and specifications. These personnel should include an architect, experienced in and specializing in this phase of day-to-day inspection, or a civil engineer experienced in this field.

3. The contract must give proper protection of the customer's interests. This requires that an endeavor be made to provide for continuing review and agreement, as design and construction proceed, that the original intention is being carried out. This is probably not fully possible, as the customer's and the package dealer's interpretation of the "original intention" may well differ. However, if divergencies are brought to light as they occur, they are more likely to be capable of satisfactory resolution than if they are not discovered until the job is completed. Provisions for formal arbitration should be incorporated in the contract.

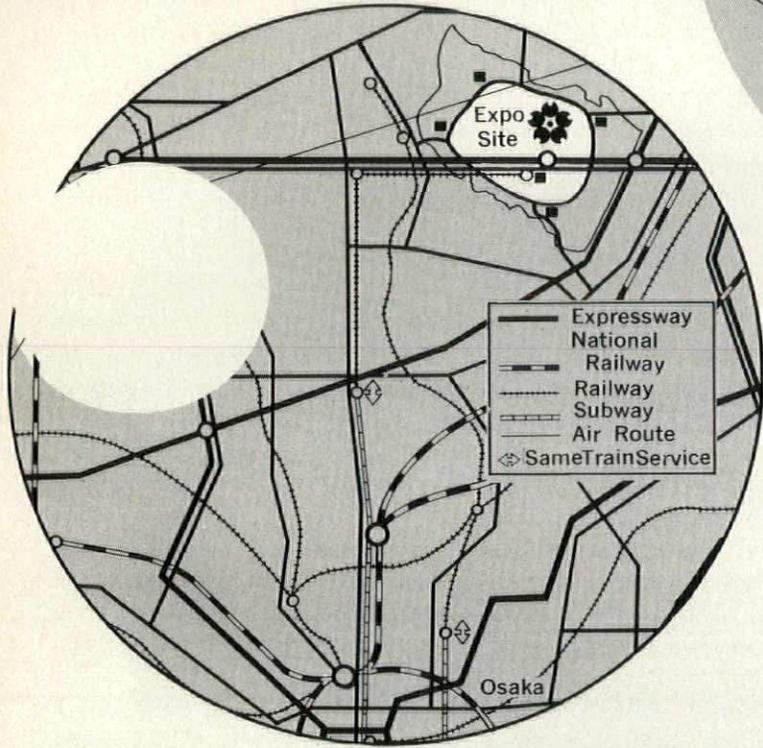
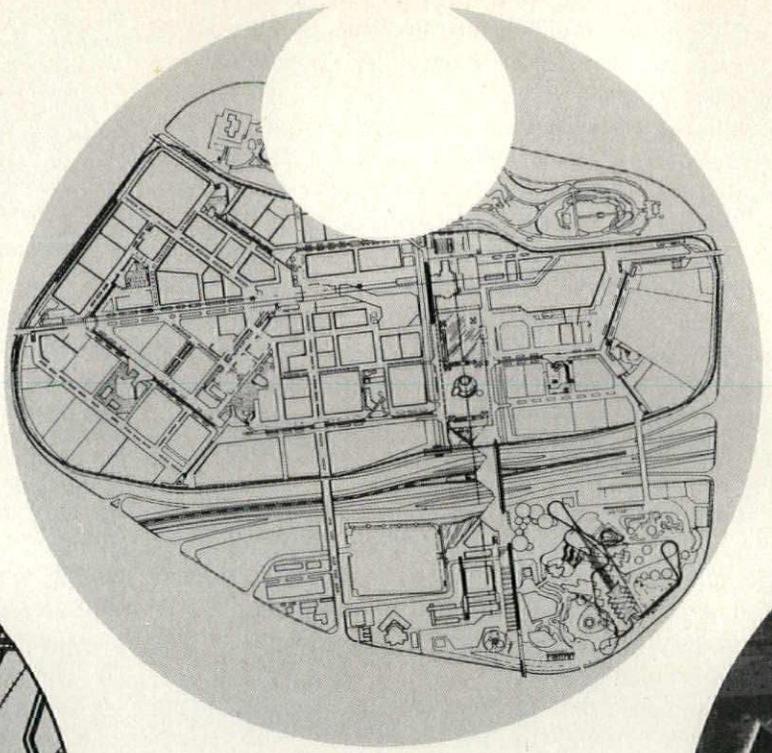
4. For (3) above to be possible, the package dealer must submit the full working drawings, specifications, details and samples to the customer as they become available and before construction is carried out.

5. Progressively, it will be necessary for the customer's representative to check progress of work for progress payments. These progress payments will include the cost of actual work performed but should not include cost of materials in the contractor's yard, or purchased but not delivered to the site.

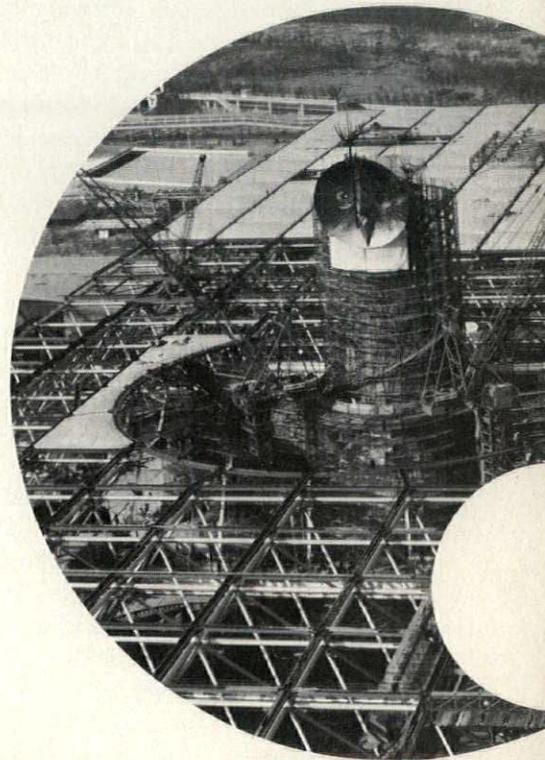
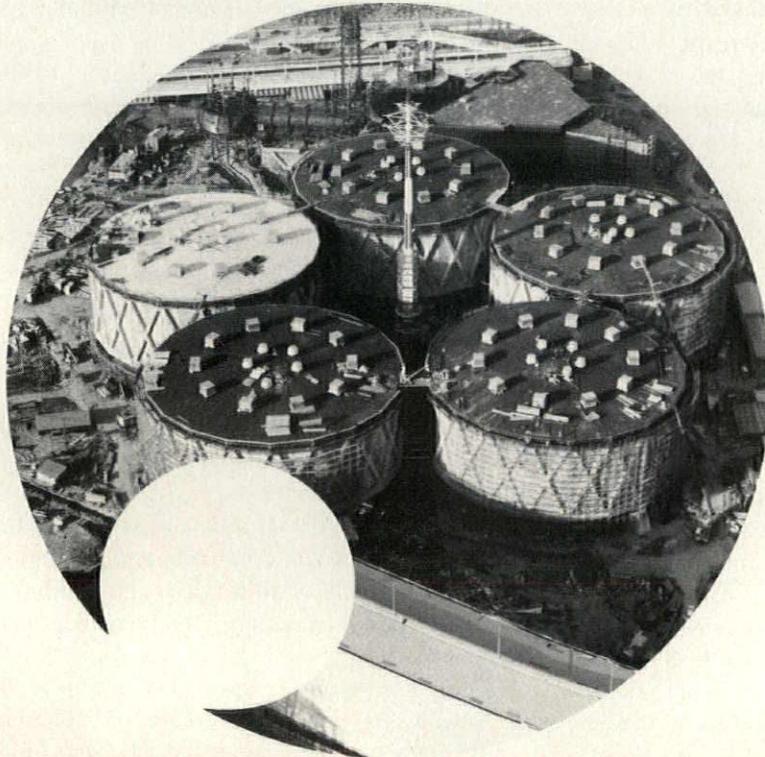
6. Any additions or deductions to the contract amount should not be allowed unless approved in writing by the owner's representatives. Applications for additions or deductions to the contract amount must be made on an approved system. The submission of final applications for payment should be reviewed and approved by the customer's representative before the building is accepted by the customer as completed. The final payment should be conditional on all outstanding matters having been completed in a satisfactory manner.

7. The package dealer must also be required to conform to all building codes and other acts and regulations and those covering the installation of all services and equipment. Confirmation of approvals should be required by the owner prior to the commencement of work.

8. The package dealer must also submit to the customer copies of drawings of the work as completed. The final payment should not be made until this condition has been fulfilled. □



EXPO '70 OSAKA



When Tokyo's Kenzo Tange was named chief architect of Expo '70, he remarked that it was his intention to use the fairgrounds as a sort of laboratory to experiment with new concepts in city planning. He hoped that by correlating the functions of the buildings, roads and paths under one single plan, he could establish a model of urban design at the exposition site. Such a concept is probably unprecedented, although every previous World's Fair has attempted to offer a vision for the future. The Paris exposition of 1855, for example, came out with a suggestion for a new city structure.

Expo '70, whose theme is "Progress and Harmony for Mankind," is being built after the pattern of the trunk, branches and blossoms of a tree to eliminate random urban and industrial growth. The Symbol Area, extending from the main gate and embracing the Theme Pavilion, Art Museum and a computerized information control center, is the trunk from which automobile lanes extend in four directions like branches. Numerous pavilions and other facilities will line these branches much like blossoms and leaves.

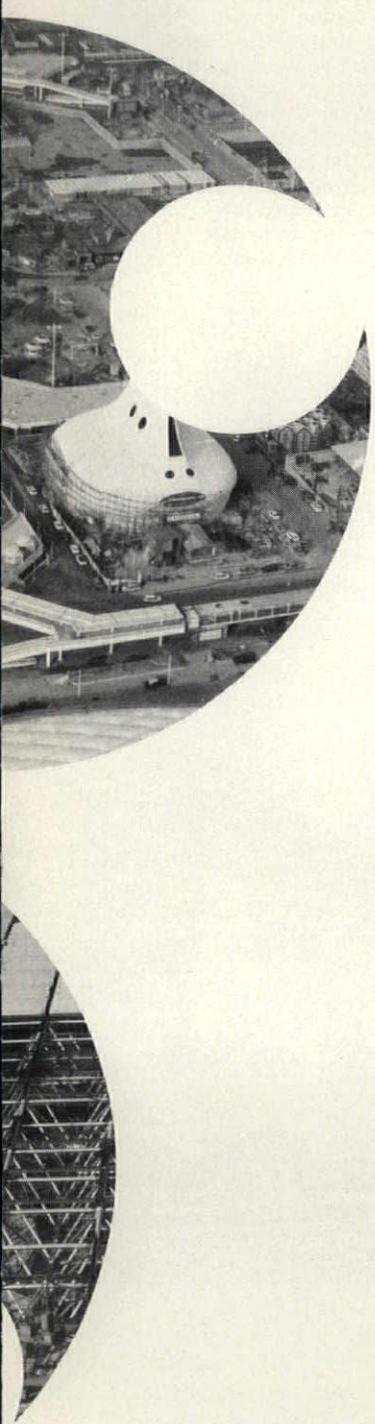
More than 70 nations are taking part in the exposition and are represented by some 100 pavilions and 145 restaurants. There also will be an international shopping bazaar and a formal Japanese garden.

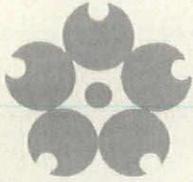
There are a number of eye-openers at the fair, the transportation system being of particular interest. It will feature a computerized monorail covering a distance of 2.7 miles around the site in 15 minutes and stopping at seven stations; 2,871 feet of cableway; outdoor moving sidewalks covered by a transparent cylindrical tube; and battery-powered cars able to accommodate six persons. The 10 moving sidewalks will travel at a rate of 1.5 miles per hour and stretch for a total distance of 13,120 feet on upgrades and other places where visitors would normally find it difficult to walk.

Nestled in the rolling Senri Hills just north of Osaka, Japan's world exposition expects to draw 50 million viewers, with 1 million predicted on peak days during its 183-day run from March 15 to September 13. Osaka, the host city and Japan's second largest metropolis, is only three hours and 10 minutes away from Tokyo by rail on the sleek superexpress which travels the 320 miles of track winding south and inland from Tokyo. Geographically in the center of Japan, Osaka is the neighbor of such culturally rich cities as Kyoto, the old imperial capital, and Nara, which was once the center of Buddhism and which contains some of the world's oldest wooden structures.

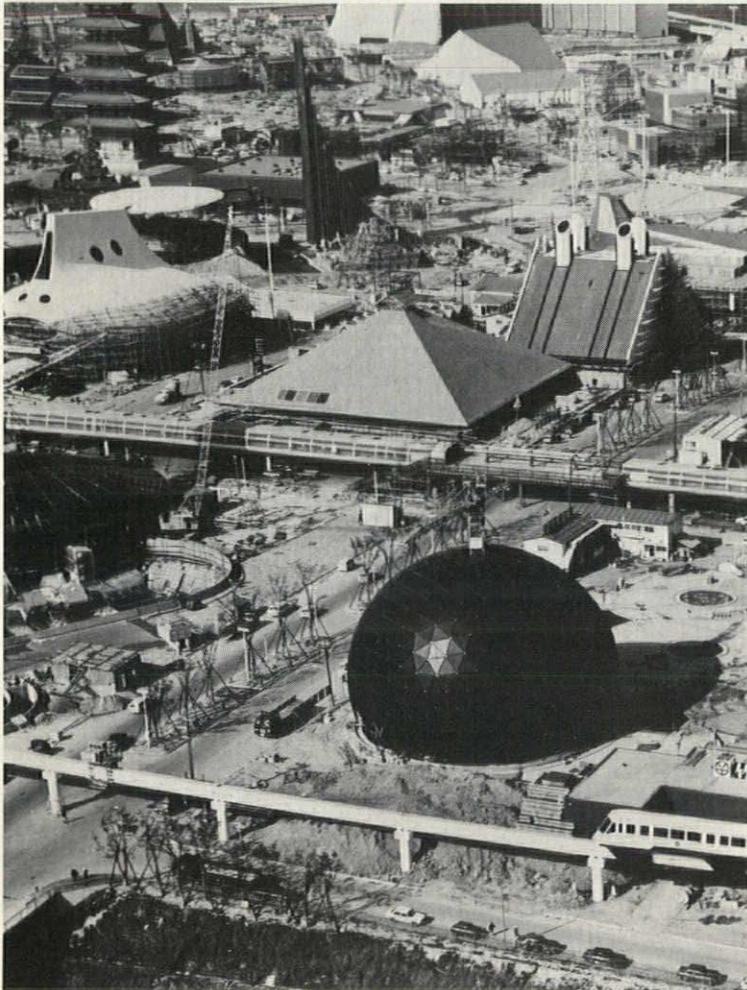
And for good measure, the visitor who wants to partake of a varied diet of Japanese culture will have a choice of at least 10 classical festivals running concurrently with Expo in Osaka and in Kyoto, Tokyo and Nikko.

The accompanying illustrations represent a photographic potpourri of building models and construction views, many of which were supplied by Henry D. Anastasas, president of the Far East Society of Architects and Engineers. Says he about the first World's Fair to be held in the Orient: "When the curtain rises on Expo '70, it will, indeed, be a mighty show, architecturally and every other way. It will set new trends in architectural and engineering designs in future decades of our Space Age." □



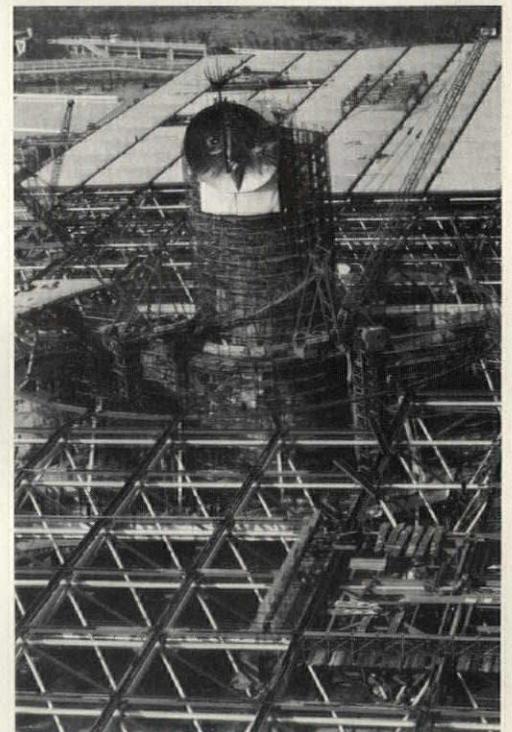
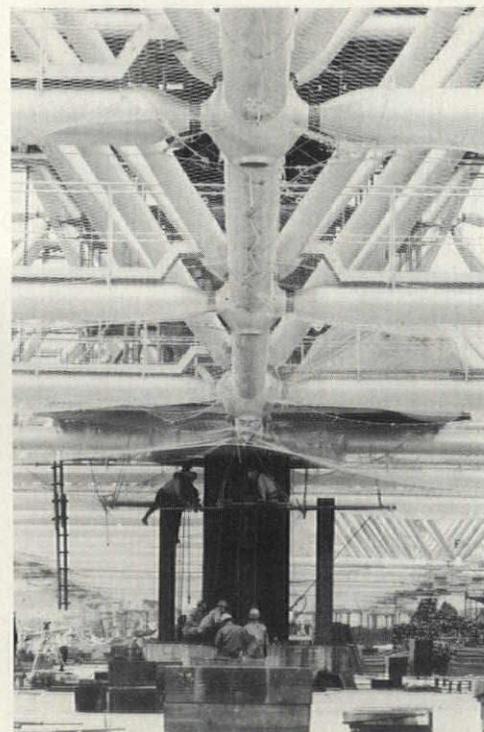
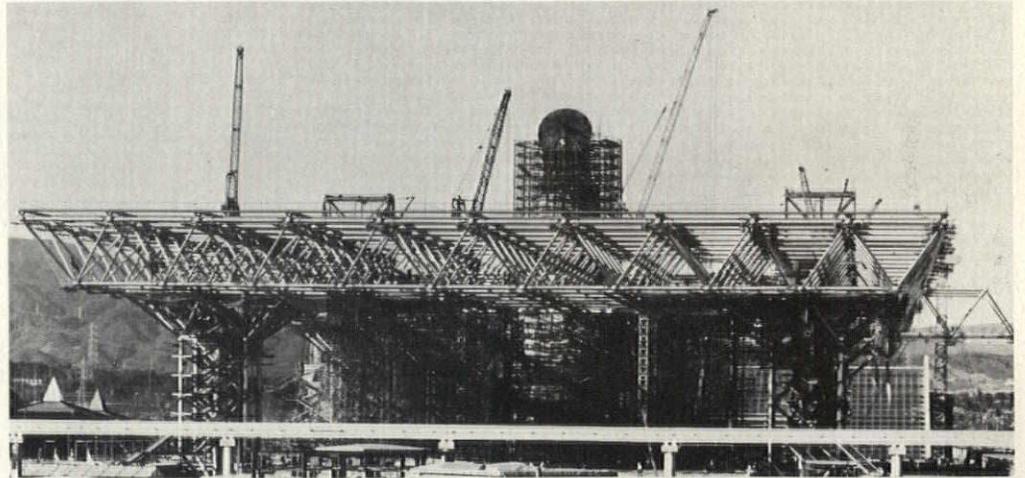


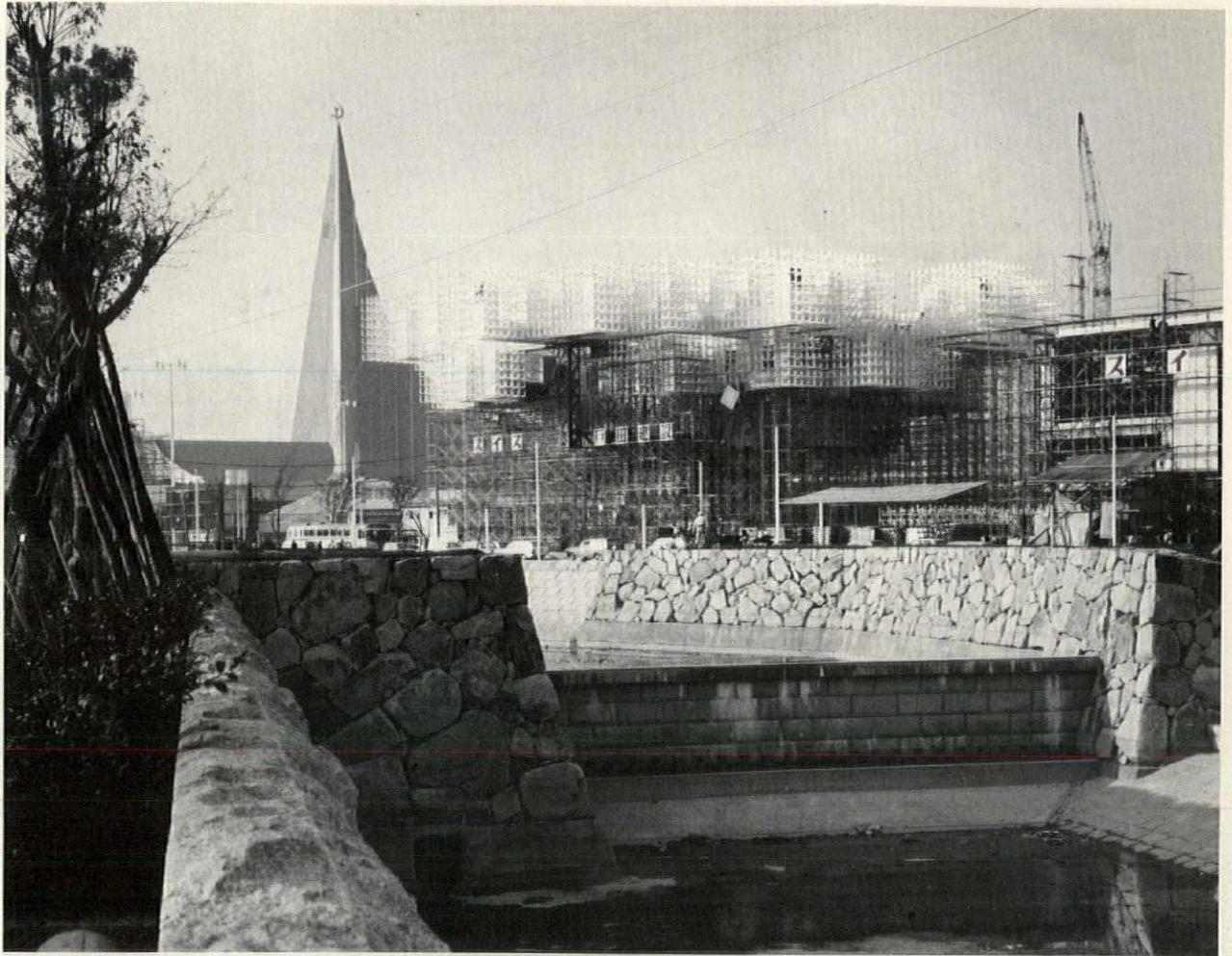
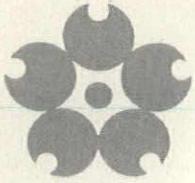
Two aerial views show (below) the 35,520,131-square-foot site of Expo in its entirety. The US Pavilion appears just to the right of center with the Japanese Pavilion and Festival Plaza at center, left. The Russian and English pavilions are in the left and center foreground, respectively, along with the Fuji Group Pavilion in the right foreground; and (below left) the West German Pavilion in the foreground with its astrodome structure which requires only half the amount of steel as compared to structures designed by conventional methods. Positioned along the covered walkway in the center are, from left to right, the Gas, Sanyo, Quebec and Canadian Pavilions.



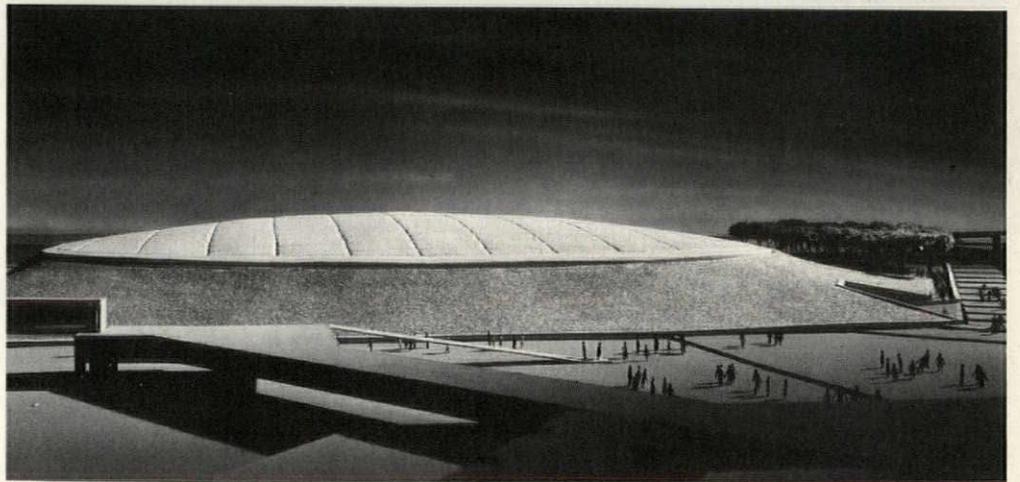
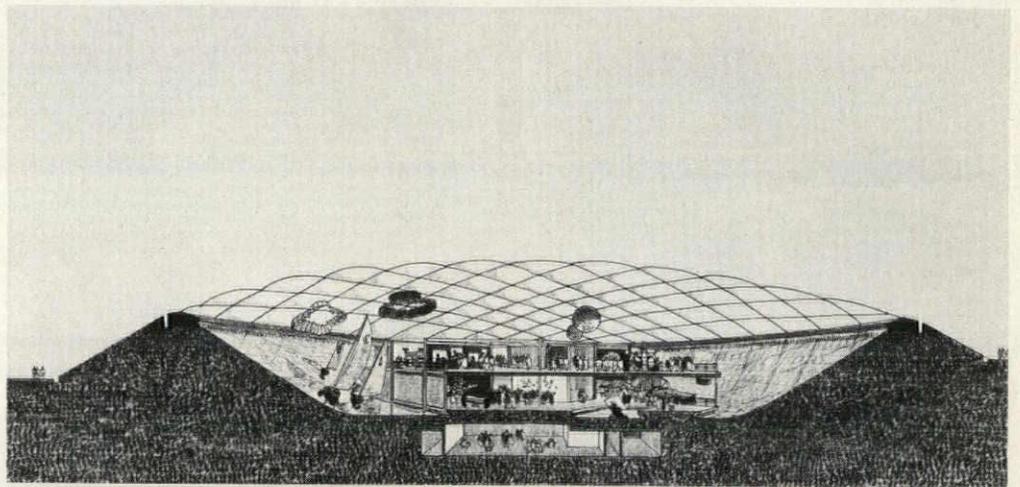


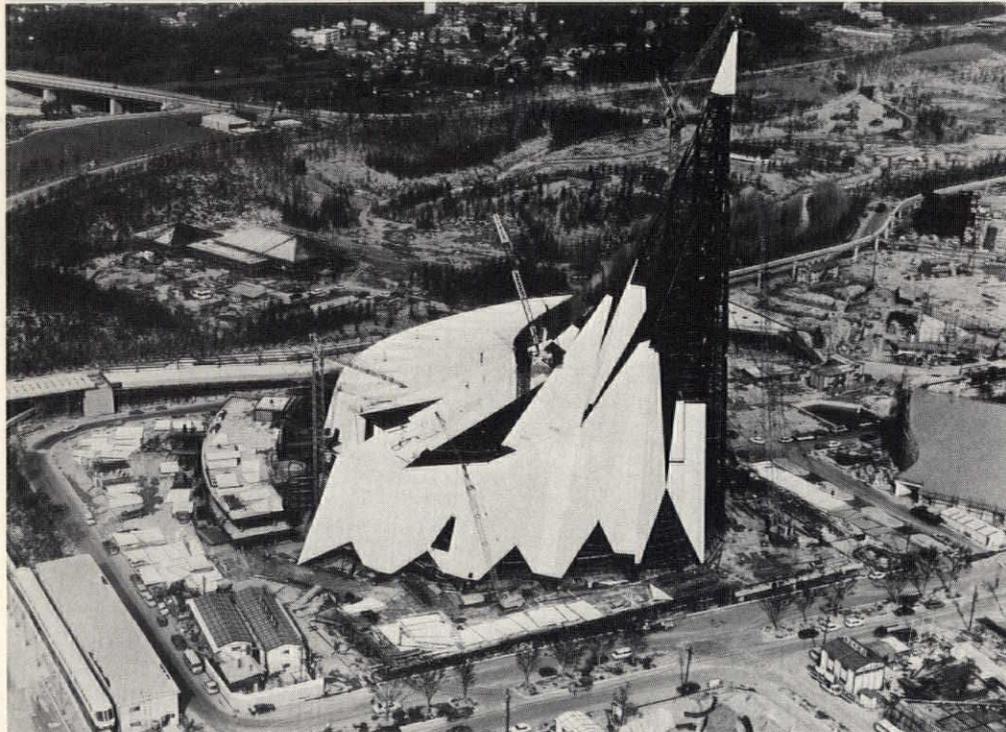
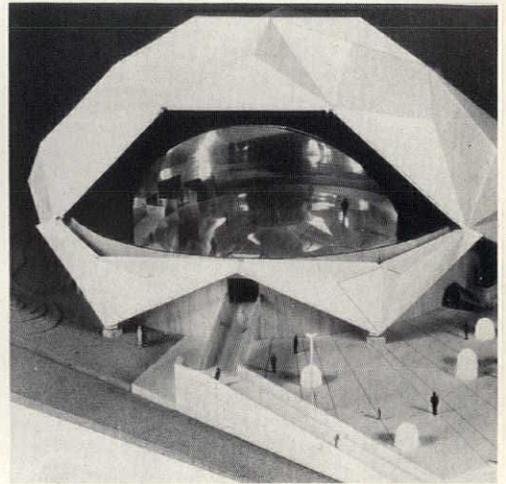
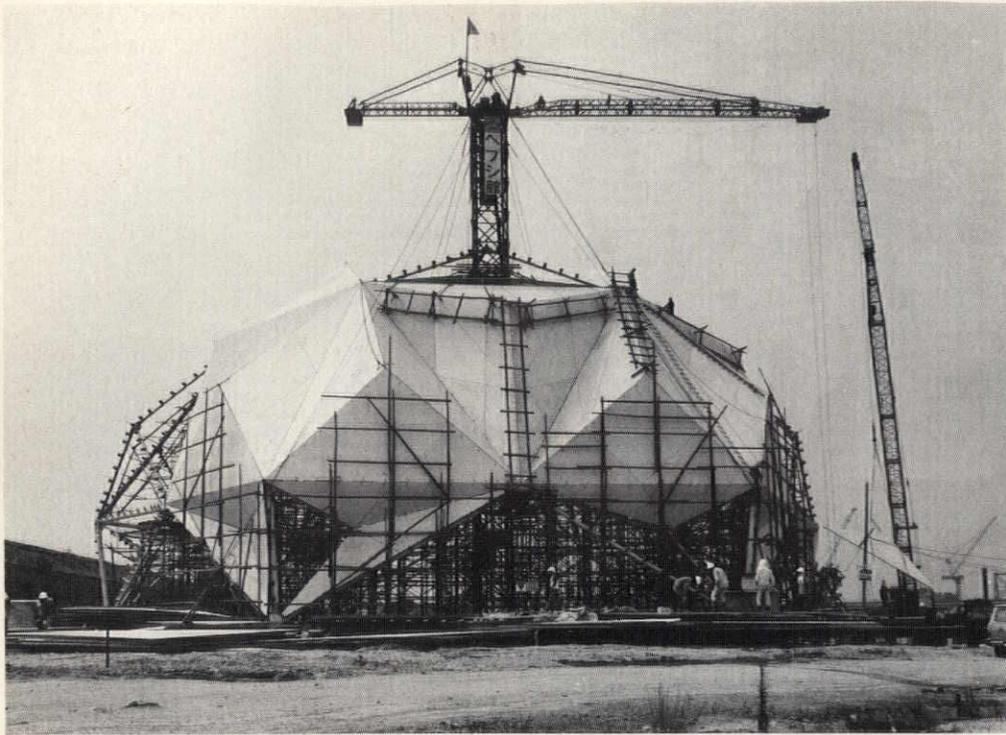
Unless the architect is specifically noted, the buildings represent a conglomerate of ideas which have been put into final form by Kenzo Tange. The Japanese Pavilion (left), shaped like the Expo '70 emblem, consists of five circular buildings like the petals of a cherry blossom. Each building, of wood and stucco, is 191 feet in diameter and 89 feet high. The Tower of the Sun (below) rises above the Grand Roof, covered by sheets of transparent polyester film. Constructed of steel pipes and ball joints, the roof is 958 feet long and 354 feet wide; 12 500-ton jacks were needed to set it in place. The Grand Roof covers Festival Plaza which will be the venue for dances, national day ceremonies and other events.



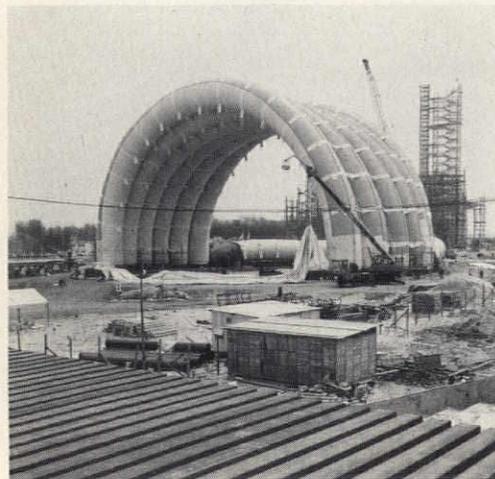


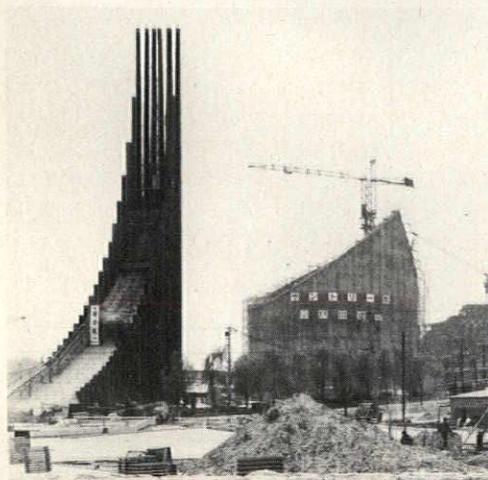
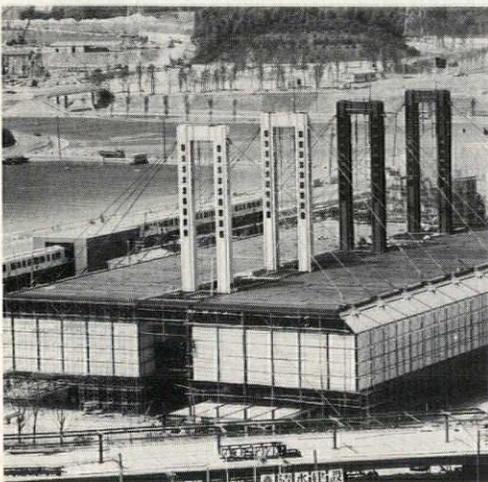
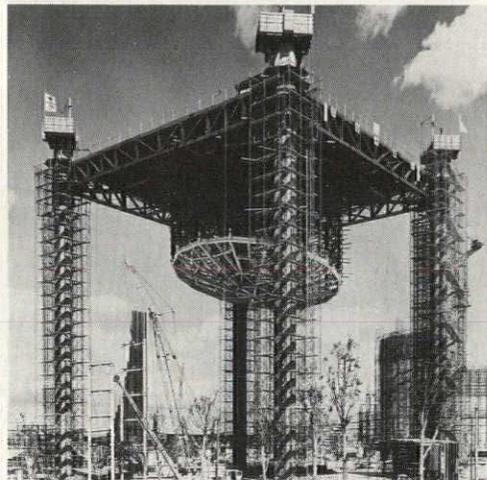
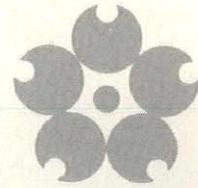
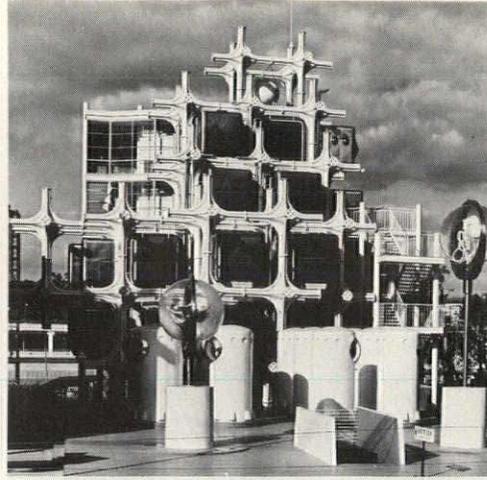
The Russian Pavilion dominates the skyline (above), providing a study in contrasts. At the right, the US Pavilion features a superelliptical air-supported translucent roof. The gigantic roof encloses an area roughly the size of two football fields, or more than twice the area covered by R. Buckminster Fuller's geodesic dome at Montreal. The roof structure is anchored to an elliptical doughnut-like concrete embankment covered with turf and rises 42 feet from the ground at its highest point, forming a clear-span dome. This roof structure, weighing only 1.5 pounds per square foot, will be kept inflated by four air compressors. The underground exhibition hall has three floors—the top two for displays and the bottom one for administration. Architects: Davis, Brody, Chermayeff, Geismar & deHarak, Associates.





The Pepsi-Cola Pavilion (above) consists of roof panels built of poly-vinyl chloride over a steel structure shaped into an irregular dome. This is surrounded by a cloud of fog, 50 feet in diameter, generated by 2,520 nozzles operating under 500 pounds per square inch and arranged symmetrically along the ridge and trough lines formed by the upper portion of the dome's panels. Inside, the main feature is a 90-foot diameter spherical mirror. Architectural coordinator: John Pearce. The Russian Pavilion (left) is the highest pavilion at the fair, soaring some 320 feet. The structure makes abundant use of steel pipe and steel plate. The Fugi Group Pavilion (lower left) is a pneumatic structure, the dome of which is composed of 16 "air beams" of vinyl cloth coated with synthetic rubber. The Australian Pavilion (lower right) features three elements: a building in the shape of a giant cantilever with a circular free-hanging roof; an exhibition cylinder; and the Display and Information Hall.





Some of the more unusual structures at Expo are (clockwise, starting upper left) the Hitachi Group Pavilion featuring the world's largest laser color television set; the Takara Group Pavilion, an abstract five-story structure which consists of 10.8-foot cubes framed with steel pipes and panels; the Electric Power Pavilion, a 1,000-ton structure suspended from four large steel columns 137.7 feet tall and 7.2 feet in diameter; the Diadarasaurus, a coaster ride in Expoland; the French Pavilion (architects: Jean Le Coureur and D. Sloal); the British Columbia Pavilion, a sculptured wood structure formed from Douglas fir trees standing vertically (architects: Barclay McLeod, Cunningham Design Consultants, Ltd.) and to its right, the Suntory Pavilion; the United Kingdom Pavilion (architects: Philip Powell and Hidalgo Moya); and the Midori-Kan Pavilion with its plastic-paneled dome.

A 'Design System' That Produces Contract Drawings

by NED H. ABRAMS, AIA

The practice of drawing and redrawing identical elements for site plans and buildings is truly archaic. Here is an office that for more than 20 years has used and refined certain techniques which have become normal procedure.

Soon after opening our office in 1948, we acquired a client who constructed factory-built homes which he franchised to 19 producers in California and other parts of the country. These structures were to be completely built and ready for occupancy in 14 days. Delays in processing financing approvals being a problem, I suggested to my client that we reduce all of the drawings to a size which, when folded in half, would fit into an 8½x11-inch envelope for easier handling. Our next step was to modify our drafting system to satisfy the overall requirements of the client and his franchise holders. To solve this problem, we devised a system of coding for various floor plans, etc., and a means of producing the drawings more rapidly.

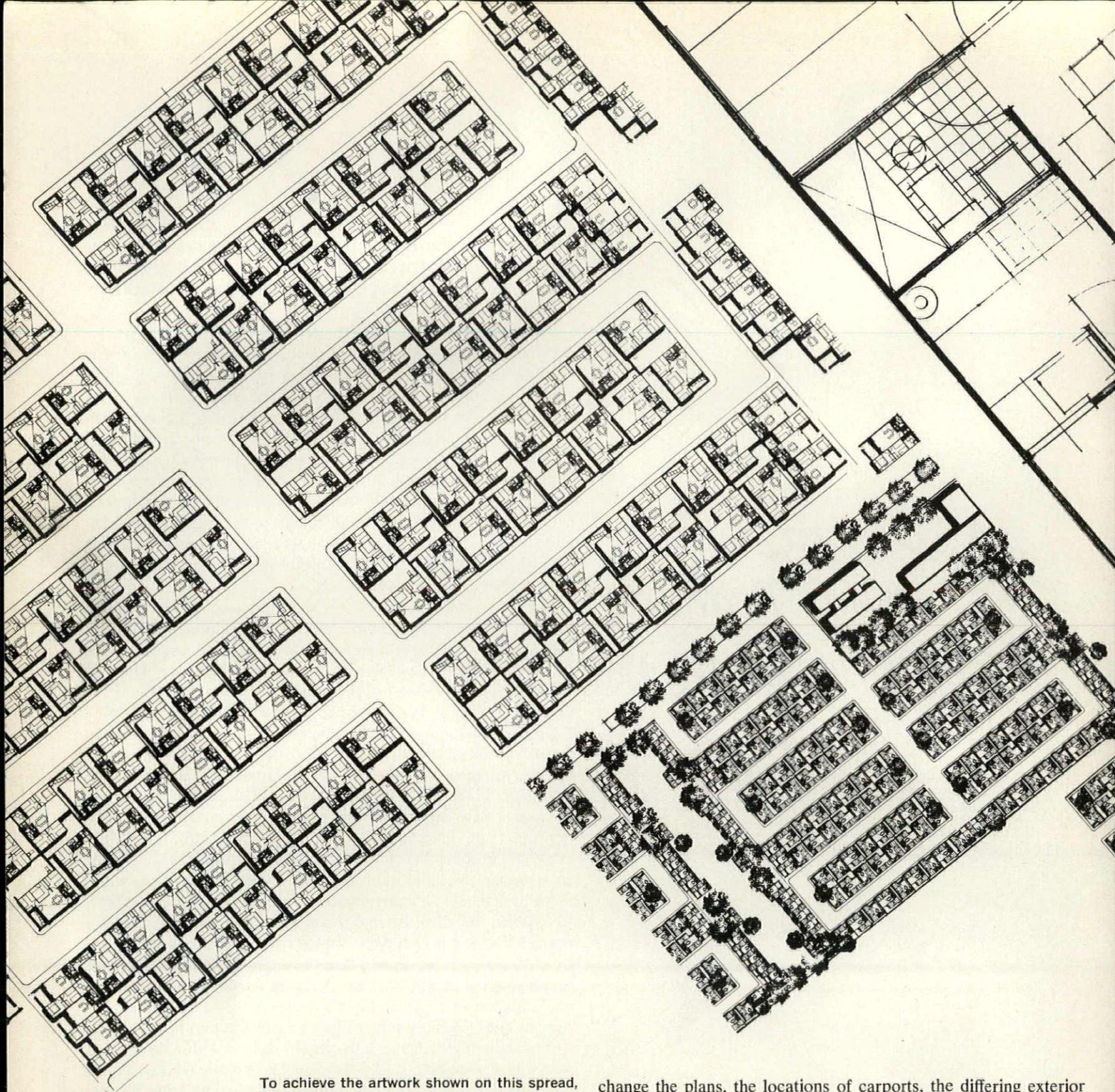
From window frames, 2x4 lumber, plywood and a photographic lens we made a simple fixed-focus camera, which would reduce the original copy to half scale or one-quarter size. We made all our drawings at ½-inch scale on 22x34-inch sheets. This was large enough to draw all of the details including studs. Since the drawing was large, there was adequate room for notes, finishes, dimensions and information which would have been crowded and unreadable if produced at ¼-inch scale. It was now no longer necessary to draw more than the change from the last drawing such as changes in the title, the finish, the fenestration, the roof, etc., to produce a new drawing. From photographic negatives of those drawings, now reduced to ¼-inch scale, we made diazo prints. Once approved by the lender, all of the subsequent prints resulting from the same negative did not require additional checking, except in the most cursory manner, thus cutting down the processing time.

When the client desired to cut down his blueprint bills, we contacted a local printer, who printed two pages at once on an off-set press and cut them apart when printed. From the standpoint of simplifying the design work and keeping the client in production, our "design system" worked perfectly.

In 1952 we moved our office to a new location in Sunnyvale, where we built a homemade darkroom camera with a capacity of 48x96 inches on both copyboard and film holder, with which we could enlarge 10 times or reduce 10 times from the original copy.

The next project on which we used our design system was for a 500-unit Air Force housing project. Our contract for planning, designing and preparation of drawings and specifications was 45 days, exclusive of review time. After designing the houses, we reduced them to ¼₀-inch scale and did the site planning from accurate prints of the detailed floor plans. We prepared a base site plan, and on a clear sheet overlay we pasted all of the house plans, with the proper orientation and clearances. These were photographed and a positive film master was produced.

We then made reproducible prints to which were added the specialties such as sanitary, grading, electric, etc. Since every room was shown, all of the connections were to the correct part of the house, and it became a very easy project to complete. The working drawings of the individual houses were done with overlays to

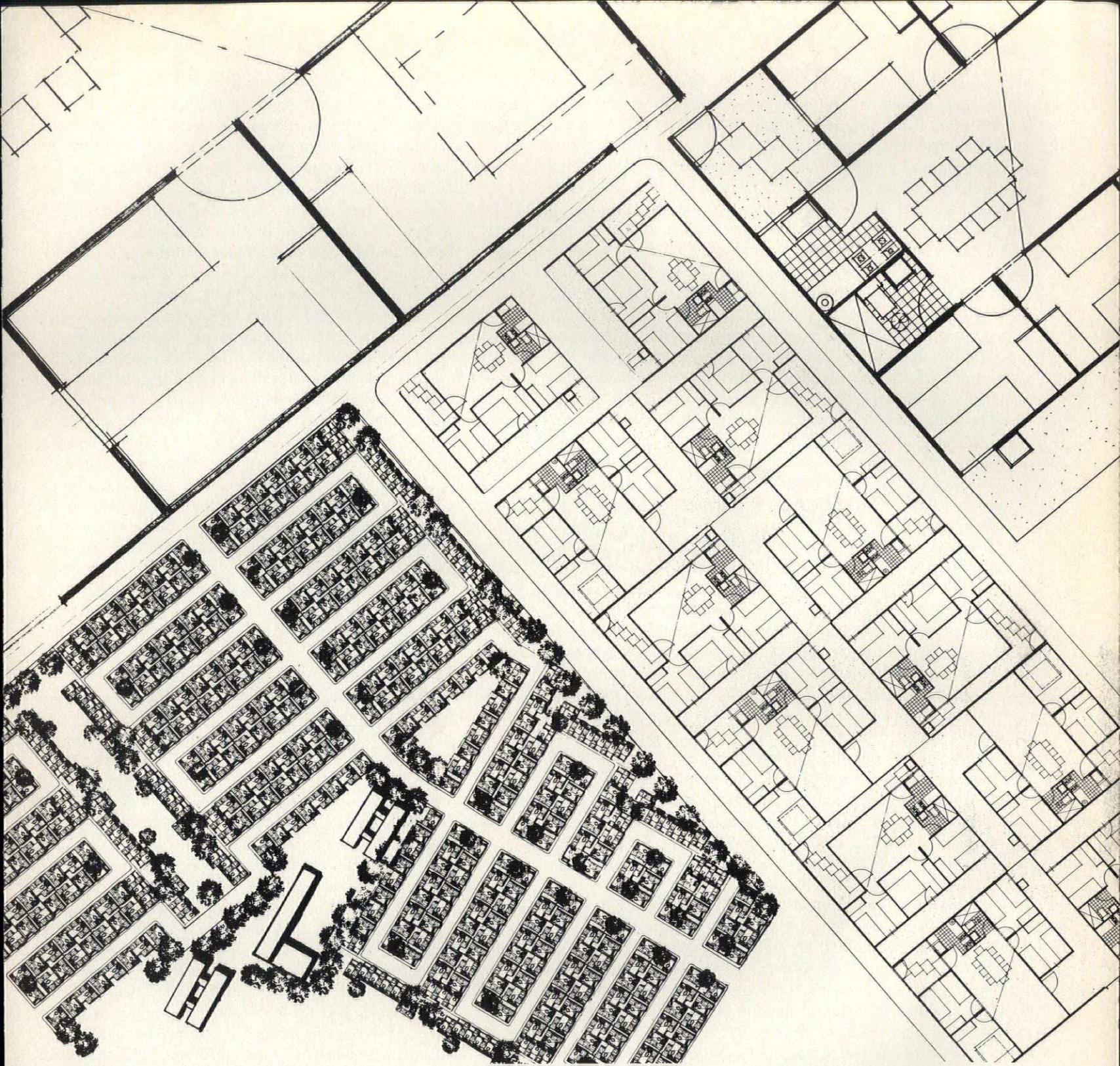


To achieve the artwork shown on this spread, only three houses actually were drawn, at a metric scale of 1:25, and then reduced five times: 1:50, 1:100, 1:300, 1:1,000, 1:2,500.

change the plans, the locations of carports, the differing exterior treatments, varying roofs, etc. The project required two separate sets of plans totaling 156 sheets, one set for 253 houses and the other set for 247 houses, plus 21 sheets for the off-site set, and all were produced within the 45 days by four men.

The specifications were prepared on our Justowriters, automatic tape-operated typewriters which eliminate much retyping of standard specification items by re-use of the original tapes. The typed 8½x11-inch pages were stripped into columns, nine columns per drawing page. Seven drawing pages of specifications were equivalent to 200 sheets of 8½x11 typical specification sheets.

Further refinements to our system developed when we were consulted for a project in Mexico. For this we developed site plans where three different house plans, designed on a metric scale of 1:25 (1 centimeter equals 25 centimeters), were reduced to



1:100 and combined to form neighborhood blocks. These blocks were then reduced to 1:300, and four prints were combined into larger neighborhoods. These were further reduced to 1:1,000 (1 centimeter equals 10 meters) and 100 sheets were printed, each of which contained a neighborhood of approximately 200 houses. These sheets were assembled on the base map and reduced to 1:2,500, with every room easily discernible at the small scale on the final drawings.

The total siting encompassed 6,400 houses, but *only three were actually drawn*, and these at 1:25 scale. We completed 15 exhibits, which included house plans, neighborhood plans, reduced neighborhoods, site plans of the total development and comparison analysis between the client's original design and our houses demonstrating that our designed houses (although of different size and shape from the original and a completely changed street pattern)

had the same number of living units as the original design, but the size of the living units had been increased. Several prints were colored to indicate the location of the different units, the delineation of open spaces and the roadways with an area computation. This entire effort required less than 80 man hours. Using the conventional design-drafting methods, the same effort would have required at least 800 man hours.

The results of this experience proved to me that any problem involving site planning could be handled in this manner. By approaching the planning effort from the detailed building plans, many hours of hesitation are eliminated in determining orientation, adjustment to grade and types of units because the use of exact house plans at small scale permits flexibility of placement during the design process, without the necessity of making the final drawings to determine the advantages of alternative schemes. In practice,

each schematic stage, accomplished by the placing of these small plans, is covered with a sheet of yellow sketch paper over the topographic plan and transferred with colored felt brushes. Thus we are able to determine roughly street patterns, traffic patterns, green space allocations, tentative utility routing and a reasonable impression of the overall density for each of the schemes thus developed.

After a number of schemes are prepared, we then evaluate the one which most nearly satisfies all of the criteria. Using this final schematic, we accurately affix the small-scale buildings or apartment units to an overlay sheet, making whatever minor adjustments are indicated when working at site planning scale. We trace the general arrangements and evaluate the different patterns and arrangements in a very short time. As many as 20 different arrangements may be made before reaching the solution, and several solutions can be reached in a single day. The reduction to the final site plan scale by photographic means is made up of the planning elements—topographic, structural, site improvement and landscaping—which are photographed, and the separate negatives of each are double, triple or quadruple “burned” to produce a composite Mylar transparency. The photography sharpens the drawing and permits us to use different techniques to differentiate between the various elements.

Many times in site planning multifamily units of interconnected elements, we find that the relationships between the elements, when placed on the site, are often quite different from the initial concept as to the interfacing between the elements. It is surprising to discover that many more design possibilities exist in the interarrangement of the components by using precisely delineated unit plans, rather than simple blocks, since subconsciously the designer finds himself “walking through” the project in the design process, rather than making a pictorial pattern of abstract rectangles.

By the use of our design system, in conjunction with engineering associates who were in a joint venture with us in the design of a large family housing project for the Navy, we made the tight time schedule of some 16 weeks for completion of plans and specifications. The construction bids were \$400,000 less than the budgeted appropriation, a direct result of the use of clear, accurate drawings for bidding.

We improved our techniques in a further direction with a new Navy family housing contract when we decided to print the drawings in two colors. By overlaying all of the work, as we had for the original Air Force job, it was easy to coordinate the disciplines. Since the two-color work had to be done by overlay, it was necessary to make a drawing-size negative of the base maps and of the disciplines. A positive with the background screened, reducing the intensity of the background drawing, and the disciplines in solid color made the work to be done stand out. This is accomplished by a “double burn” of negatives. The Navy printed the sheets at half scale in two colors, with the background in green and the disciplines in black for bidding purposes, but also required full-size reproducibles from us for record copies. We believe that the extremely favorable response to our two-color work on the part of the bidders, with the ease of defining data, has led to excellent bids.

As a result of the efficiency of doing multiple-housing units by our system, we have been specializing in this direction, and, in addition, have been defining the economic parameters of the project vis-à-vis income, cost, operating expense, return, etc., for our clients. We analyze the economics of the rent structures compared to the statutory limits. The size and type of the units are evaluated with respect to their effect on the total income. We develop the size of the units with respect to the total costs

and process the mathematics through a computer program we have established for determining both the special answers to a special program, as well as indicating alternatives for further adjustment should the economics of a particular solution be unsatisfactory. We thus establish the basic economics of the mix of the different apartment compositions such as one-, two-, three- and four-bedroom types; of the varieties of each of these types since there may be more than one of each bedroom-number type; of the cost and the economics relative to rent and expenses and capitalization; and only when a balance is achieved do we start the design of the basic units at 1/2-inch scale.

We have found that the critical factors to be considered in the design of multifamily housing concern two basic elements. The first is the development of the parking requirements, and the second is in the generation of sufficient building perimeter to accommodate the number of units established by the economics.

Since the economics have given us the amount of area which can be accommodated, and since we know the numbers and size of apartments, we can generally establish the length of the exterior walls of most of the units arithmetically. By arranging the basic units (now reduced in scale) on the site to achieve the proper length of exterior walls, we can ascertain the number of stories required to accommodate the total number of units demanded by the economics. At this point of the designing process, the local zoning and building codes play a great part, since the constraints with respect to elevators, multistory fire protection, class of construction, etc., all have a direct bearing on the kinds and numbers of units permissible within the economic criteria previously developed. At this phase of the design we find that the flexibility of making numerous schematics is extremely beneficial and efficient.

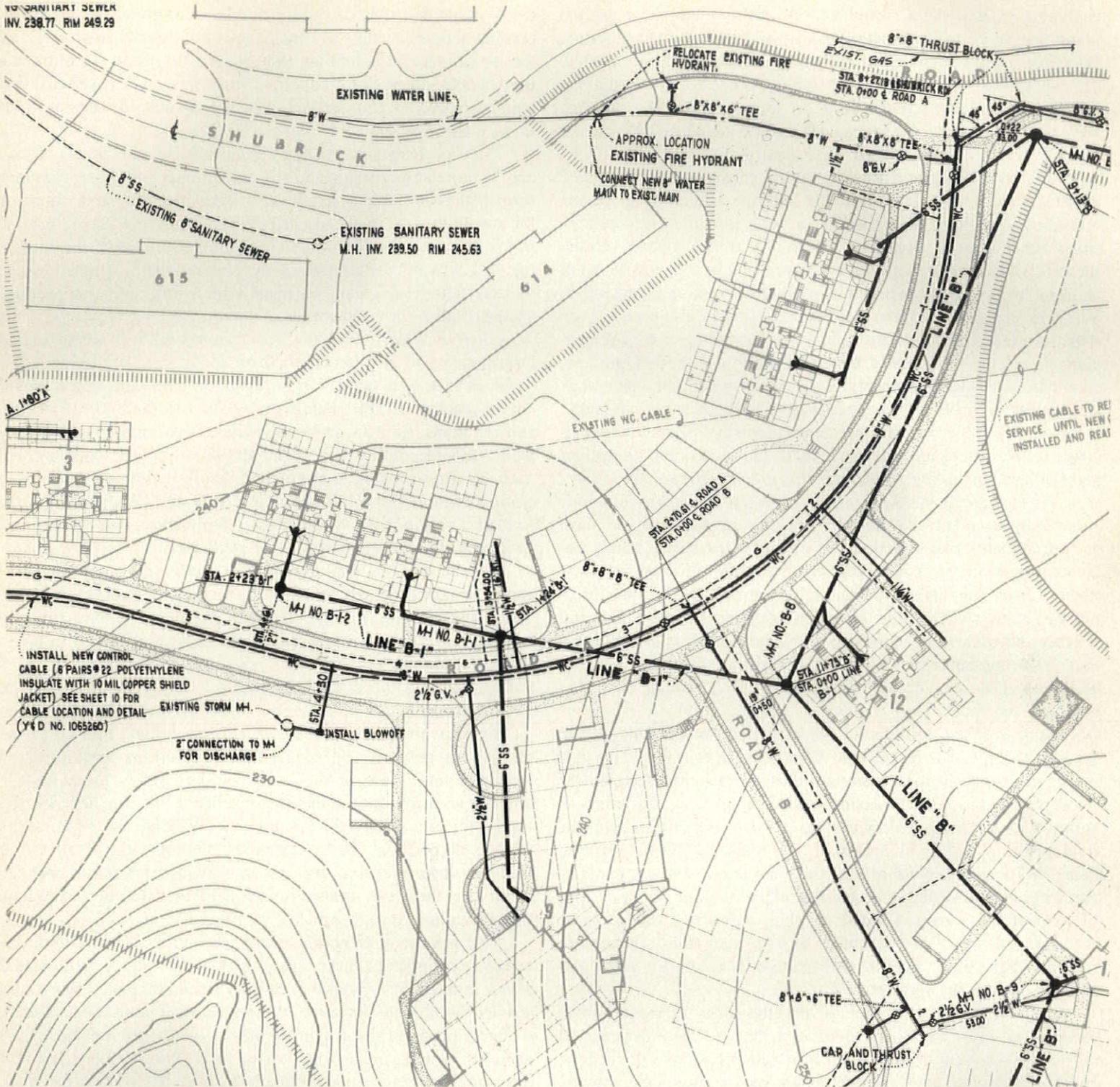
At this point we state our rule, which we try to keep as infallible as possible, “*Never draw anything twice, never allow anyone in your office to draw anything twice!*” and more importantly, “*Never allow your consultants to draw anything which you can draw more intelligently, quicker and more professionally!*”

To accomplish this rule, we analyze the total design and then draw every element which must be studied at the scale of 1/2-inch to the foot, knowing that element will be reduced to smaller scales through four or more photographic reductions: 1/2 to 1/4 to 1/8 to 1/16. These reductions are usually related to the building portions alone.

For many years we have been convinced that our costs could be substantially reduced if we could eliminate the Mylar positives for final reproducibles and if we only had some way to get an intermediate print during the course of the development of the design, before new drawings were finalized and while they were still in the process of being developed in pasted-up form. The Navy work, in two colors in the reduced size for bidding purposes, was easy to read but the intermediate stages required matching and registration of clear positive overlays.

When the opportunity arose to acquire a Harris LSC rotary offset press, some 30 years old, which prints sheets 34x44 inches, larger than any sheet we would require, we found that by screening the background, we could solve our two-color registration problem in one printing and one color. Ozalid prints with a deep blue line and screened background made from our composite Mylars were more desirable than the black and grey offset prints, so we have standardized on a deep purple-blue ink, which produces intense lines, but readable backgrounds, on white paper.

Mr. Abrams heads the architectural-planning firm that bears his name in Sunnyvale, California.



How the System Works in Practice

To demonstrate the process for our present design system, we will use a hypothetical school design and proceed as follows:

Step 1: Ascertain the design parameters and develop in pencil at 1/2-inch scale each separate element which is to be designed. These would be the typical classrooms, stairways, locker rooms, lavatories, cafeteria, gymnasium, offices, science and special wings, etc. In addition, a grid should be prepared for the structural format in as many different elements as there are different structural bays. Any unusual wall configurations should be developed as the designer chooses for his design element. These are all drawn in a regular configuration. They are not drawn as reverses, since this is accomplished by photography with a negative or by reversing the tracing and copying the unit on

our office copier, which we use extensively for elevations and unit plan reproductions during the design phase. These elements are produced without dimensions or lettering, then photographed down to 1/8-inch scale and printed by offset press. We usually run a hundred of everything when it is offset printed, since it is cheaper to throw away extra paper than to reprint if we run short. We find that we try many more variations, so the paper loss is usually not appreciable.

Step 2: Trim the prints which have been run in black ink—now “ink” drawings—and assemble in the final plan configuration. Areas or gaps between the elements are now added as required, and we usually ink these with Rapidograph pens of fixed line width or use black tape. We now have a drawing which covers 16 times the original design area, and unless the project is gigantic in size, the whole of one building can be accom-

modated on one sheet, provided the scale is the same as that which would be used if it were drawn by hand. A further reduction from 16 to 1 inch or from 32 to 1 inch is easily accomplished photographically without loss of quality. Since we are discussing drawing on sheets approximately 28 inches within the borders, we can accommodate buildings up to 900 feet long, which are quickly produced and can be read clearly.

Step 3: Photograph the assembled sheet and reduce to 75 percent size, or $\frac{3}{32}$ -inch scale, a halftone screen is placed in conjunction with the negative and a plate is made for our large press. This is then printed on sheets of 1,000H tracing vellum, up to 32x44 inches in size, and we now have tracings with all of the building plans at large scale, including items not developed. We print a number of identical tracings in a dark blue ink on which we place the specific secondary information such as dimensions, notes, finish schedules, door and window schedules, grading, foundations, roofs, landscaping, paving and every item which must be delineated. Since the base sheet has all of the pertinent data and is fainter in outline than the pencil work which will be added, it is easy to check interference between all of the subsequent disciplines to be added, including plumbing, heating, electrical, etc.

As this tracing has been made by mechanical means, at barely more than the cost of the paper, there is no necessity to add all of the subsequent information to any *single* new tracing, simply because corrections on crowded sheets involve the correction of many items. Corrections using our method do not wipe out other information inadvertently. The use of a plan to indicate the room finishes and color schedules, with nothing else on that drawing, has many advantages for the designer, since his notations can cover all of the areas of the rooms by line and arrow, instead of a long involved schedule.

Step 4: Draw foundation drawings right over the 40 percent screened plan of the first floors. This helps in two ways. First, it eliminates the need for measuring and interpolating between the floor plans as is usually done; second, it insures that there is support under loads being carried to the foundations. In the final printing, either blueprint or offset print, the background fades and does not interfere with the solid line of the discipline or element being depicted on that particular drawing. We draw roof plans over the screened top floor plan, and structural plans of the various floors are likewise drawn over the appropriate screened floor plan. This insures that supports under loads and elements are in the right place.

Step 5: It should be noted here that many elements of the total design must be separately drawn, but we have determined that there is a great deal of effort in the detailing of wall sections and the like, and have overcome this by the following means: The typical solid wall is done for each of the major significant variations. This is printed from the original design in as many additional variations as occur in the building, i.e., a wall of frame, one of masonry, one of precast concrete and one of glass. We then develop the section for each as a solid wall without openings. As many prints of each type are made as there are conditions happening in that kind of wall, either doors, windows, grills, plaques or anything needing specific clarification; and these prints are arranged on a large sheet, being drawn at 1-inch scale. We then photograph this sheet to 75 percent or the usual $\frac{3}{4}$ scale, and before printing the negative to a plate, we screen all but the typical wall. The remaining walls are lighter in color by virtue of the screen, and we print a new tracing of this, as for the plans. We take this tracing and draw only the doors, windows and variations in pencil on the screened sections, sometimes silhouetting the total section for emphasis, and notes are applied

to all of the sections as required. Manufacturers' drawings, including shop drawings, are incorporated into our sets, since we see no purpose in redrawing this information, and we eliminate the necessity of having to check a drawing which is exactly that which is required, thus saving many submissions in the construction management phase.

Step 6: Run intermediate blueprints of the work, which can be done at any stage, and the consultants work over tracings furnished them in the same way. They do not have to draw backgrounds, and they can easily see the building. Being printed in ink, it stands out from the background by virtue of the screening and will not be destroyed by erasing their penciled work, although the tracing can be erased with a little effort to produce a clean surface for redrawing if necessary.

Step 7: Finally take the new tracings with all of the added information and re-photograph them to $\frac{2}{3}$ size. At this time the $\frac{3}{32}$ -inch scale plan become $\frac{1}{16}$ -inch scale (the same size it would have been drawn), the details are $\frac{1}{2}$ -inch scale and very clear, and the plans are now at $\frac{1}{4}$ -inch scale, the scale at which they would most certainly have been drawn using the conventional methods but with greater clarity and detail. A new negative of the completed tracing is used to make a printing plate, and it is then printed "two-up," or two prints to a single sheet, and is cut apart to make the final sets of plans for bidding.

We have been maintaining for many years that the best expenditure which can be made is for an adequate number of prints at the bidding stage. If every legitimate contractor and subcontractor can be furnished complete sets of prints, in order that they can see not only their work but that of all the other trades, much of the amount figured for contingencies could be eliminated in the initial bid. We contend that any contractor can build from poor plans. Given enough time he will find all of the cost-savings possible. Unless, however, he and his subcontractors have adequate plans at the initial bidding stage, these savings are almost never passed on to the client, but are kept by the contractor as a reward for his research. We find that printing the plans and specifications by the offset method, at a smaller, but readable scale, makes it possible to provide at a *lesser* cost the maximum number of prints required (at least 100) than the number of Ozalid or blueprints usually furnished.

We have seen many brochures presenting the capabilities of architectural offices. These almost invariably include well-printed photographs done by offset printing of the completed work and usually *site and building plans* reduced to small scale. The architect is always proud of the graphic results when the job has been well done but fails to recognize that the selfsame methods used to produce his brochure could have been used to produce the work reproduced therein.

Anyone starting a total system possibly will have much difficulty in embracing all of the elements at the same time. In our office, we sometimes find, because of factors beyond our control, that we are unable to go all of the way with our "system" and have to accept compromise. Then we adopt some intermediary step which will continue to take us to the final drawings without redrawing one unnecessary line. Using our design system enables us to produce more work with the same number of men in the same time span and also to utilize much more time for the exploration and development of the design elements, than solely for production drawings, within the fee structure. We are positive, from long experience, that the design time is both decreased and the design effort improved with major reductions in the total time required to complete the contract drawings, which are greatly enhanced in appearance. □



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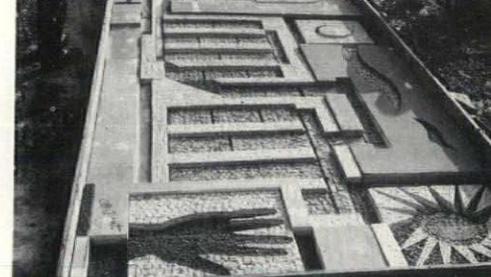
Adorning three sides of the new addition to the Mathematical Sciences Building at the University of California in Los Angeles are 14 panels of bas-relief mosaic murals, set in concrete and hoisted in place. The murals cover 1,000 square feet of the building's walls, which are of reinforced concrete and reinforced masonry to blend with adjoining campus buildings.

Artist Joseph L. Young worked on the frieze—depicting man's achievement in mathematical sciences from cave age to space age—about 2½ years. In close cooperation with the architects he developed a model of the building to study the effect of the sun at different times of day. The panels are especially engineered to withstand southern California's seismic and climatic conditions. Architects of the structure are Stanton & Stockwell; consulting architect, the late Welton Becket, FAIA; head of UCLA Campus Architects & Engineers, James Westfall, AIA.

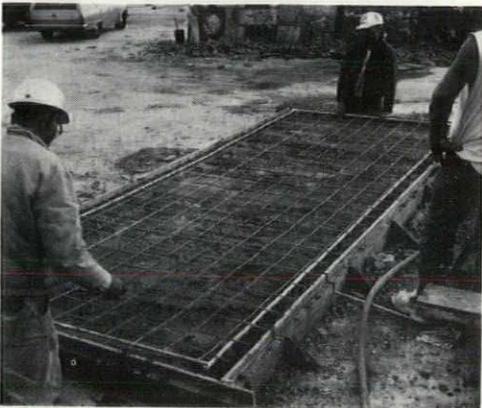
Dr. Young was selected by the architects on the strength of his pioneering work in art in contemporary architecture. Among his 30 major architectural art commissions is the 3,750-square-foot mosaic for the West Aps of the National Shrine of the Immaculate Conception in Washington, D.C. He is founding chairman of the Department of Arts, Brooks Institute School of Fine Arts, Santa Barbara, California. □



Young checks marble and glass tessera laid in reverse in multilevel styrofoam forms. Staff of 12 used 18 months to place pieces.



A panel is ready for the first—handpoured—layer of concrete. Bulk of the backup concrete is then shoveled into the forms.



Steel grid is placed between second and third layers of concrete, then tied into bolt connection system for installation.



Third and final level of concrete is compacted. After overnight curing, panels are hoisted onto A-frames for cleaning and storage.



Panels, resting on A-frames, in various degrees of the cleaning process. Two sets of lifting cables were cast into each panel.



Panel—this depicting the beginnings of mathematical sciences—is swung into position by 80-foot crane. Murals weigh 40 tons.



Installation team cuts supporting cables, then threads panel in position with lifting cables lined up with precast grouting holes on the roof. The mosaic pieces are in hundreds of colors.



The collage is finished after 30 months of work. Six months went into research and design and six into making the styrofoam molds. Six of the panels are 6x14 feet in size, the rest are 6x11.

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Air Wall pneumatic partitions at the Hawaiian Village provide a practical, economical answer for fast, easy room division. The panels, in colorful vinyl, match room decor.

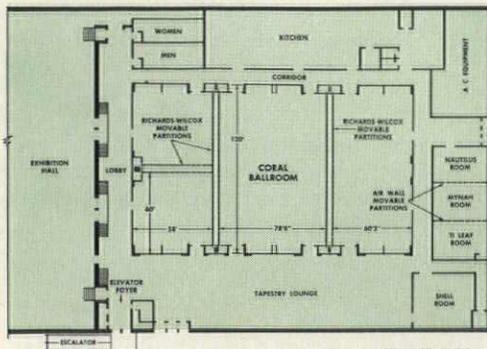
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R-W double panel movable partitions in the Coral Ballroom of the Hawaiian Village Hotel offer beauty and unlimited versatility with complete soundproofing. Panels conveniently store along walls when not in use. Unobtrusive ceiling track is only visible indication of partitions.



Floor plan shows how Richards-Wilcox and Air Wall partitions were used to increase room flexibility, and, of course, revenue.

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Emerging Techniques-2: Architectural Programming. Benjamin H. Evans and C. Herbert Wheeler. Washington: American Institute of Architects, 1969. 68 pp. \$2, AIA members; \$5, nonmembers.

Emerging Techniques-2 is obviously a sequel to *Emerging Techniques*, published by AIA in 1966, which shall be called for simplification purposes, *Techniques-1*. Like all sequels, *Emerging Techniques-2* is not as good as the original. It neither has the depth, organization, attention to detail nor professional expression of the written word.

Emerging Techniques-2 is "all about" architectural programming, which is defined as "the process by which criteria are developed for the design of a space, building, facility, physical environment, and/or any unit of the environment."

According to *Techniques-2*, there are four general parts of the programming process: Client Philosophy and Objectives; Functional Relationships; Facility Space Requirements; and Client Background and Research. The question might be asked, where are the general parts of the programming process that generally define the construction systems requirements, for these requirements are also an integral part of the programming process.

Although the point is made that the program statement is the responsibility of the client, subsequent paragraphs seem to support the position that a better service can be performed if the architect assumes a greater leadership role in the programming process. At least the total service would not be fragmented in responsibility. (Shouldn't we as AIA members request revisions to the AIA Contract that would encourage the individual architect to assume this programming responsibility? The client would certainly be receptive in most cases. Presently a whole new set of professional programmers has grown up outside the profession, many of whom are not architects.)

The two case studies discussed in Chapter 3, the Architectural Firm and the Programming Firm, are not case studies at all, but a general discussion of the two approaches, which is of little value to the inquisitive architect looking for specific examples.

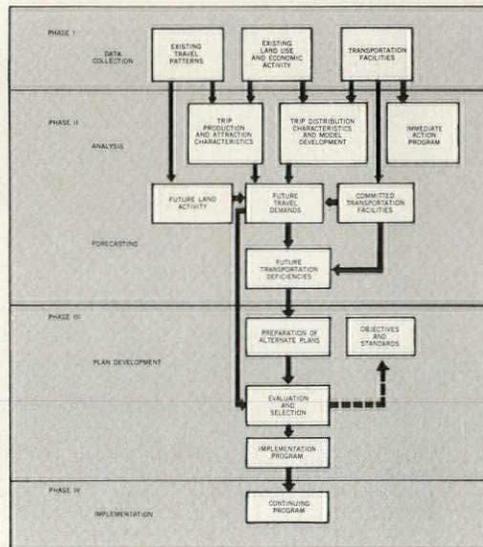
Chapter 4 corrects this generalization somewhat. It outlines with graphic portrayals 55 different programming techniques categorized in groupings A through F: Standard Procedures; Data Banking; Planning; Investigative; Analytical; and Presentation. The techniques are worth perusing for those architects who are constantly evaluating their own procedures.

The architect who is anticipating strong guidelines and recommendations in *Emerging Techniques-2* will find none. In fact, there are no recommendations at all. Those who read *Techniques-1* will find this disappoint-

ing because *Techniques-1* recommendations were sequential and practical.

For inquiring architects, all is not lost. *Emerging Techniques-2* has a most impressive listing of bibliographies and references.

HARRY A. GOLEMON, AIA



Principles of Hospital Administration. 2d ed. John R. McGibony. New York: Putnam, 1969. 587 pp. \$12.95.

Practical information for the architect concerned with functional plans for hospital construction.

Environmental Physics: Heating. C. R. Bassett and M. D. W. Pritchard. New York: Elsevier, 1969. 133 pp. \$8.

Fundamental principles of heating presented by experts.

Environmental Impacts of New Technology: An Annotated Bibliography. Charles N. Ehler. Ann Arbor: University of Michigan, Architectural Research Laboratory, 1969. 167 pp. \$5.

A useful, well-organized and extensive annotated bibliography intended to provide working data for environmental designers.

Robert Maillart: Bridges and Construction. Max Bill. New York: Praeger, 1969. 184 pp. \$13.50.

Maillart (1872-1940), the Swiss construction engineer noted for his ingenious bridge designs, made significant contributions both esthetically and structurally. Profusely illustrated, this book provides a comprehensive survey of his work.

Playgrounds for City Children. M. Paul Friedberg. Washington: Association for Childhood Education International, 1969. 56 pp. \$1.50.

Many photographs and a concise text illus-

trate what can be done to achieve esthetic and educational places of play for children whether in the city ghetto or the more affluent suburbs.

Concrete Bridge Design. Detroit: American Concrete Institute, 1969. 821 pp. No price given.

Collected papers on subjects ranging from methods of theoretical structural analysis to examples of unique bridge designs and construction techniques.

Microbial Contamination Control Facilities. Edited by Robert Runkle and G. Briggs Phillips. New York: Van Nostrand Reinhold, 1969. 198 pp. \$12.

Comprehensive treatment of information needed for the design, construction and operation of facilities where microbial control is required.

Design for Play. Richard Dattner. New York: Van Nostrand Reinhold, 1969. 144 pp. \$12.50.

Provocative and comprehensive guidelines for the design of creative play facilities by an AIA member.

How to Build Recreational Vehicle Parks. Fred Sparer. Beverly Hills, Calif.: Trail-R Club of America, 1969. 540 pp. \$12.95.

Concise and practical design suggestions for the construction of recreation vehicle parks.

To Build a Church. John E. Morse. New York: Holt, Rinehart and Winston, 1969. 171 pp. \$5.95.

Not a "how-to" book, but a "what-to and what-not-to-do" guide, providing aid for the interpretation of the church's program through appropriate architectural design.

ASTM Standards in Building Codes. 7th ed. Philadelphia: American Society for Testing and Materials, 1969. 1408 pp. \$17.25.

Included here are 271 standards on materials used in building construction of which 48 percent are new or revised since the 1967 edition.

Effects of Sonic Boom. John H. Wiggins. Palos Verdes Estates, Calif.: J. H. Wiggins Co., 1969. 174 pp. \$16.

A synthesis of information on the phenomenon of the sonic boom. Architects will be interested in the information regarding the effects which cause structural damage.

Art in a Machine Age: A Critique of Contemporary Life through the Medium of Architecture. Maxwell Fry. New York: Barnes & Noble, 1969. 184 pp. \$8.

Based on a series of lectures given in 1968, this provocative book describes and defines the creative process of architecture and shows the kind of instrument it is in relationship to contemporary society.

Structural Design with Plastics. B. S. Benjamin. New York: Van Nostrand Reinhold, 1969. 259 pp. \$15.

Structural plastics from the engineering point of view. □

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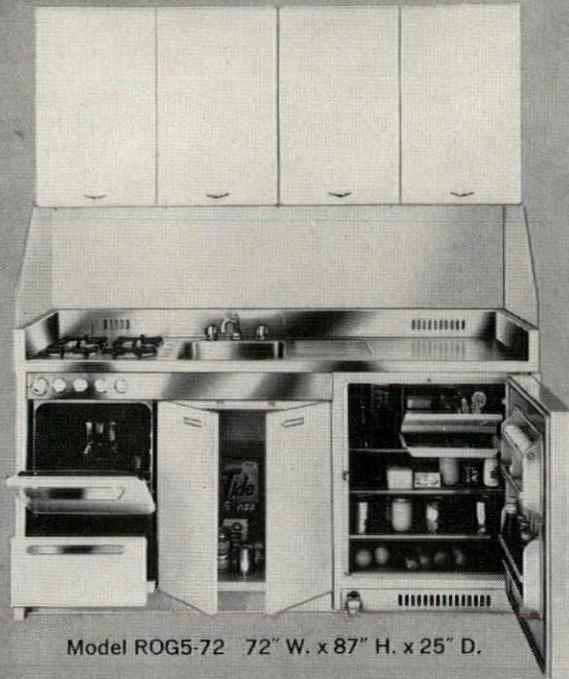
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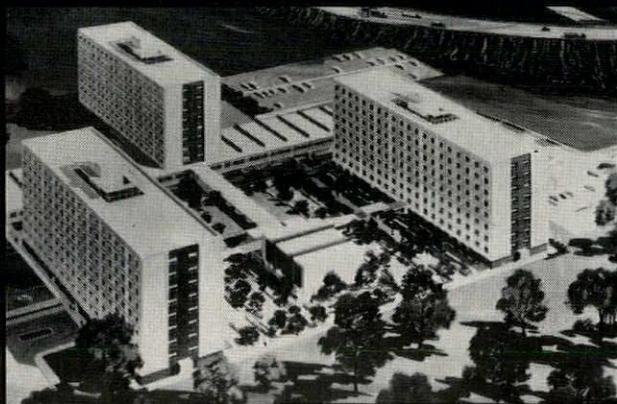


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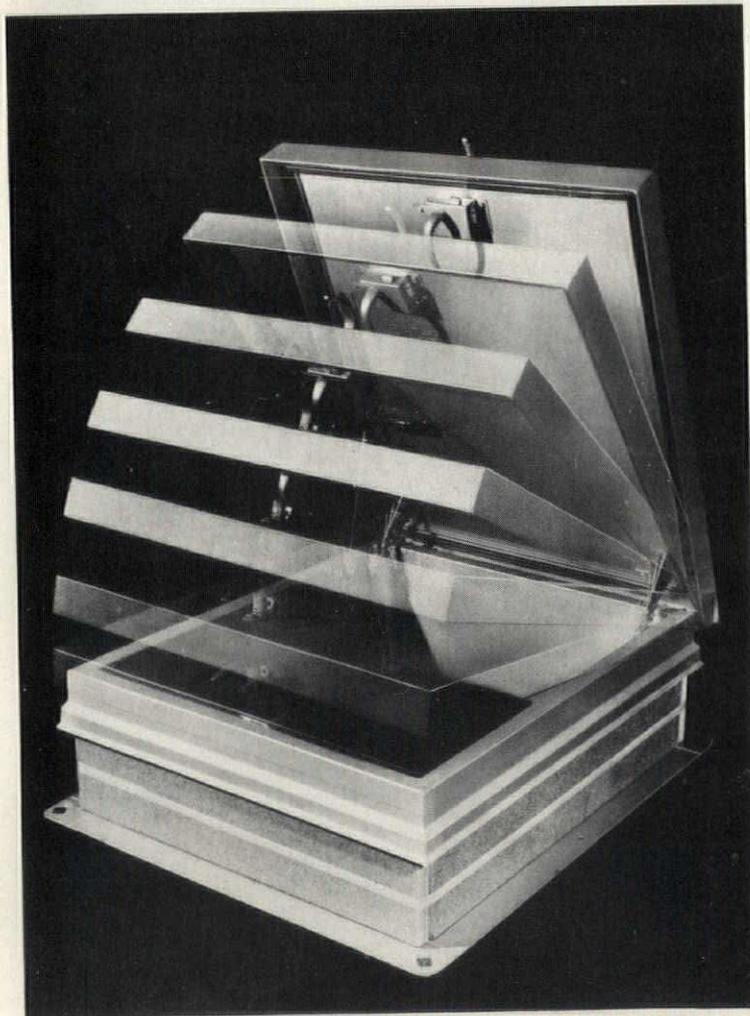


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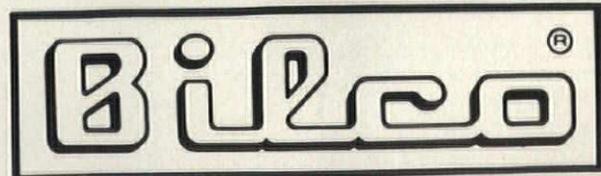
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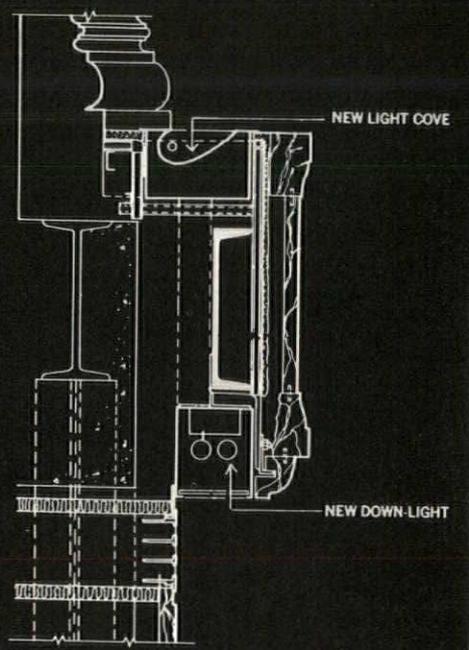
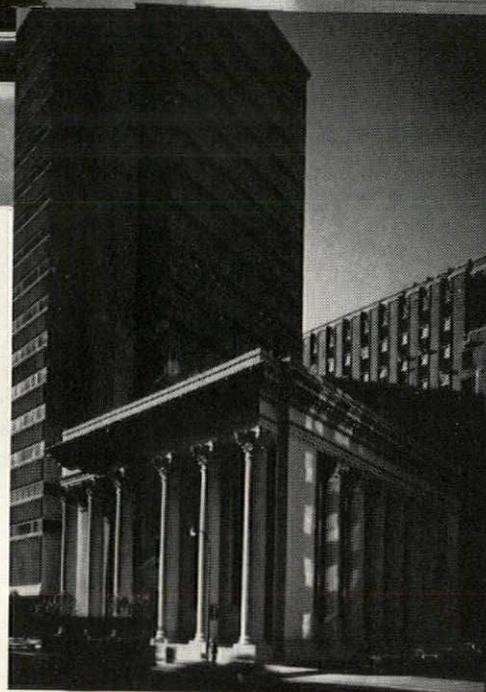
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Photos: The restored 1908 banking hall, Bank of California, San Francisco, an I.E.S. Section winner. Anshen and Allen, architects. Maria Bergson Associates, interior design. Bayha, Weir & Finato, Inc., mechanical and electrical engineers.

Cross section of perimeter light source. The quartz lamps are cooled by flow of air from the lower fixture up through a ventilating chimney to the upper fixture and out around the reflector.

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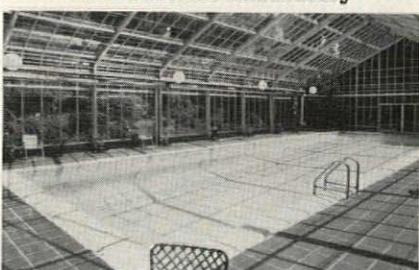
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events

AIA State and Region

April 23-25: Gulf States Region, Biloxi, Miss.
May 4-6: North Central States Region, Lake Lawn Lodge, Delavan, Wis.

National

April 10: National Construction Industry Arbitration Committee Conference (Delays and Disputes in Building Construction), Hilton Hotel, New York
April 14-16: Annual Apartment Builder/Developer Conference and Exposition, Miami Beach Convention Center
April 15-16: Building Research Institute, Spring Conference, Mayflower Hotel, Washington, D.C.
April 18-22: National Conference on Religious Architecture, Marriott Twin Bridges Hotel, Washington, D.C.
April 19-22: National Conference of States on Building Codes and Standards, Midtown Holiday Inn, Wichita, Kan.
May 24-26: Annual Theater, Television and Film Lighting Symposium, Hollywood-Roosevelt Hotel, Hollywood, Calif.
June 8-10: Construction Specifications Institute Convention, Conrad-Hilton Hotel, Chicago
June 17-19: National Exposition of Contract Interior Furnishings, Merchandise Mart, Chicago
June 21-25: AIA Convention, Sheraton-Boston Hotel, Boston (recessed session, London, June 29)

International

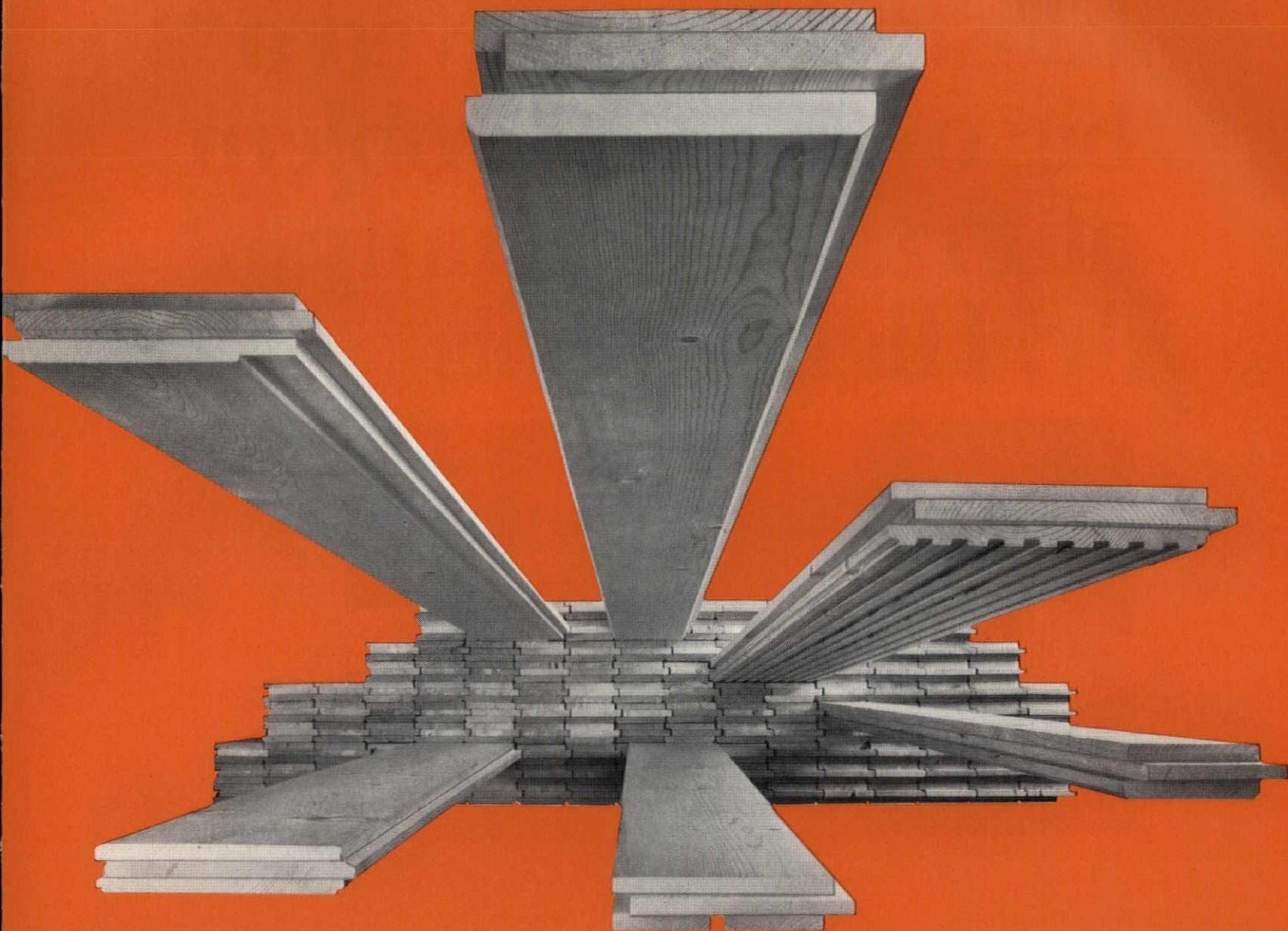
March 16-18: International College & University Conference & Exposition, Convention Hall, Atlantic City, N.J.
May 17-22: World Congress of the International Federation for Housing and Planning, Barcelona
May 24-31: UIA Seminar on the Emerging Social Role of Schools, Vienna
June 29-July 24: Ekistics Month (Networks and Human Settlements), Athens Center of Ekistics, Athens

Scholarships and Fellowships

April 15: Applications due, Kate Neal Kinley Memorial Fellowship. Contact: Dean Allen S. Weller, College of Fine and Applied Arts, 110 Architecture Building, University of Illinois, Urbana, Ill. 61801.
June 1: Applications due, Cintas Fellowships in Art. Contact: Cintas Fellowship Program, Institute of International Education, 809 United Nations Plaza, New York, N.Y. 10017.

Awards Programs

April 1: Entry information due, religious facilities completed after 1965. Contact: W. A. Gortner II, AIA, Architectural Exhibit Committee, 8750 Georgia Ave., Silver Spring, Md. 20910. □



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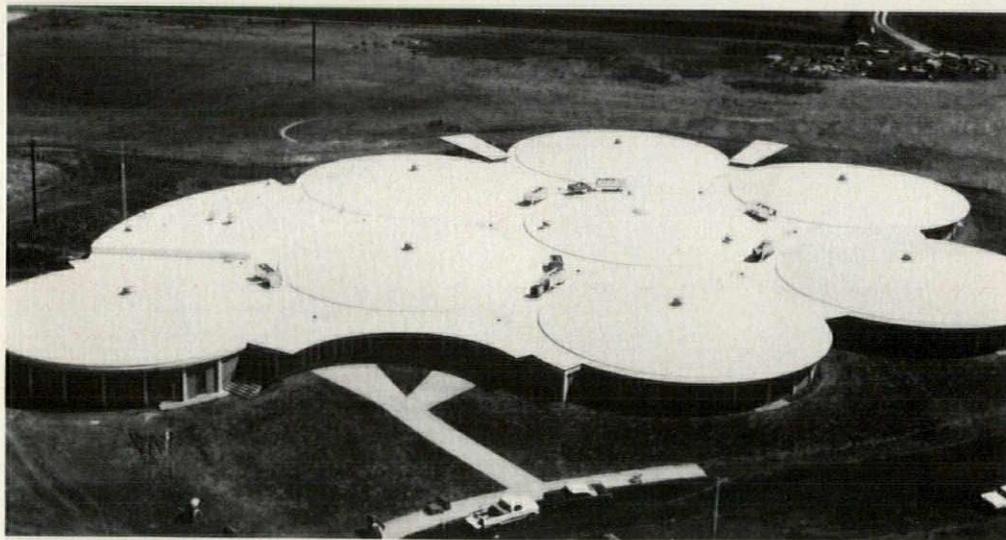


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letters

Salvaging the American Landscape

Thanks for publishing Charles Abrams' article, "A Wider Horizon, A Fairer Landscape" in the December issue.

Professor Abrams has eloquently stated the problem of "whether America, the naturally beautiful, can retain the waning residuum of its natural beauty." I endorse his proposal to acquire and plan the use of land wholeheartedly! So long as we permit the continuation of private uncontrolled, fragmented exploitation of our land we will perpetuate America—the Ugly. Utility and profit have their place, but these should be secondary to many of the more important criteria used to program, plan and design the use of our land.

The Institute should take a strong position on Abrams' proposal to set up an Urban Renewal Space Agency to acquire and plan the use of the land.

This proposal to salvage the American landscape is the most practical I have read since my student days at USC when many of us thought more in the terms presented in Professor Abrams' article.

JAMES E. WESTPHALL, AIA
Pasadena, Calif.

An Open Letter to Mr. Nixon

In your recent cutback statement you said, "We must take action that will directly affect construction supply and demand, which is really what determines prices."

The above coincided with a 75 percent cutback in federal construction spending and Presidential advice to local governments and industries to follow suit. Your idea, of course, is to reduce the demand for construction and thereby reduce prices.

This is the wrong medicine, Mr. President. You may succeed in throwing many construction people out of work, but you will never bring prices back to earth. As long as the construction unions are not effectively restrained, the cost of labor will not move downward in response to reduced demand. Construction labor prices, a major factor in overall construction costs, are not simply determined by supply and demand, as you prefer to believe.

Today, we need positive federal limitations on increases in wages and prices. We cannot meet this crisis by postponing our legitimate construction needs such as housing and industrial building.

There are only two alternatives: 1) an intentionally depressed economy not meeting the country's needs for new housing and plant replacement coupled with general unemployment; 2) a continuing booming economy with full employment coupled with reasonable federal controls on the cost of labor and products.

Either you cure runaway inflation through

forcible reduction in business activity with attendant unemployment or through enforced wage and price controls. Personally, I would not choose a solution that relies on general unemployment to make it work. For general unemployment is as bad or worse than runaway inflation; the cure is worse than the disease.

Many of our local organizations are training people to become employable. They believe that through proper education a person can become a useful, working, dignified member of society. The federal government should support the interests of these local agencies by providing new job opportunities, not by fostering unemployment.

HOWARD B. CAIN, AIA
Cleveland

Why Not?

I noted in several magazines, including the current issue of the AIA JOURNAL, a two-page spread entitled "Why? Why Not?"

While I welcome the AIA promotion, I doubt whether the "utopian" rendering is what the AIA should suggest as an (the?) answer.

Is not the presentation showing a hodgepodge of unrelated shapes and concepts almost forcibly transplanted into the decaying tissue of the old city?

Would it not be better to show several possibilities instead of repeating from month to month the same picture?

IAN REINER
Architect
St. Petersburg, Fla.

ED. NOTE: Most responses (99 percent) to the AIA's national advertising efforts have been highly favorable. Six different ads have been published to date, and others are in production. The architectural rendering to which Mr. Reiner refers in his letter was prepared by one of the leading architectural firms as a service to the profession and the public. Other firms have given of time and talent, and their contributions are visualized in other two-page color spreads.

In Praise of Mies

It is with a feeling of regret that I read of the recent passing of Ludwig Mies van der Rohe. Those who have followed his thinking and design expressions in architecture realize that here stood a giant, a staunch figure of consistency and integrity. In a field of endeavor that gave birth to a new idea of "Form follows function," he held steady, while others ran wild with form often to the detriment of function. Mies grasped the idea of integration in architecture. His buildings depict integration, a simple, honest expression of the skeleton or structure that is visually obvious. He did not conceal or clothe his structural forms but enhanced them. The fact that his structures are functional, as well as pleasing to the eye, indicates a mature and studied judgment for equating and balancing values of function and form.

That Mies was aware and conscious of his

design philosophy is made obvious by the consistency of his designs throughout the years of his career. Work of other contemporaries during this era of a "new idea" were often irrational in concept, indicating an unsure and temporizing approach to design. Still others went far astray in search of novelty, new forms and facings and forgot the basic idea of integration. This latter approach has been made manifest in the last 20 years by the design and construction of many buildings with meaningless, discordant, hodgepodge forms that are a shock to the visual senses.

Mies stated we are at the beginning of an epoch in architecture that will be "guided by a new spirit" and impelled by "new forces of technology." To some this statement may sound like the age-old cry, "the dawn of a new era," but it is, in fact, obvious that we have today, more than ever, new tools, new materials and new concepts. More important is the rapid rate of new development in methods and materials. Because of this, there is a greater urgency for architects today to keep abreast with new developments and new thinking.

There is an old maxim that good architecture is the honest expression of its time and stems from the driving forces of contemporary civilization. I pause and wonder as I look about. Has the machine taken over? Can man retain the humanities amid the metal, glass and new technology? Is he compelled to breathe air that the machine fouls and pollutes; to become deaf with the tremendous noise of machines in the air, on the ground, at work and at home; to blight and confine his visual senses with the monotonous sameness and discordant harshness of buildings concocted of machine products and congested in minimal areas? The answer must be NO!

Man created the computer, he feeds the computer and derives the answers he desires. So, likewise, it will come with the architecture of the future. The desire for sight, sounds and atmosphere that are beautiful, restful, refreshing and rehabilitating to the human being will prevail. It is not a matter of adapting our senses to newness; it is a matter of adapting newness to our senses as did Mies.

As the Greek architects of ancient Athens studied light, shadow, optical illusion, mass relationships, contour lines, texture, color and a host of intangibles that please the human senses, so we, again, must put more and more emphasis on esthetic factors toward a more orderly, humane and socially conscious architecture. Let the machine, the computer, be helpful, but subservient in achieving this goal.

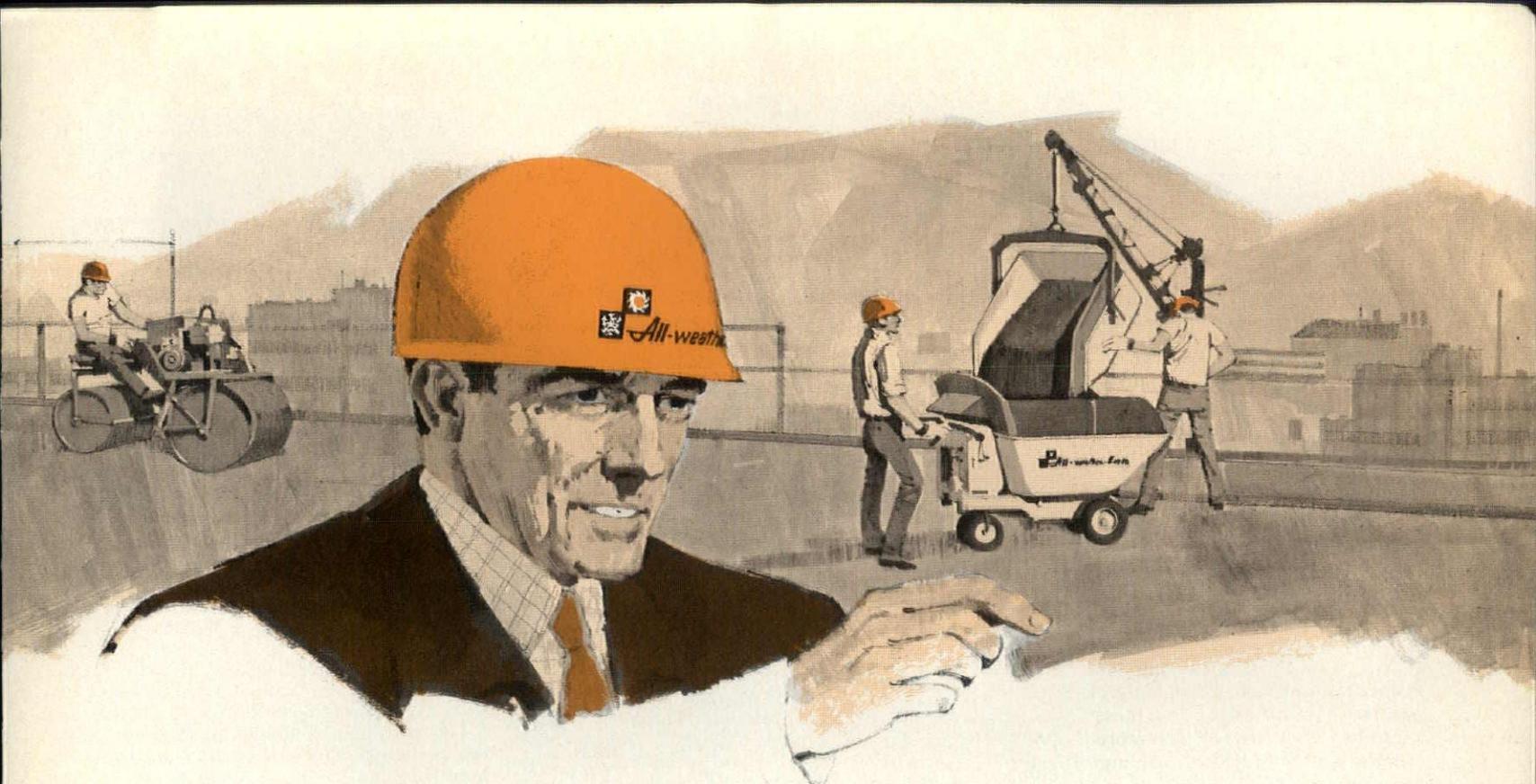
FREDERICK H. AMUNDSON
Architect
Verona, N.J.

Another Shot at the Moon

In Letters in the October issue, I noticed one headed "Moon Mission Queried." Here is a bit more fire for your readers:

In 1962 at the University of California, Berkeley, I produced my thesis for the Bachelor of Architecture entitled "Lunar City: Archimedes. An Art of Architecture Through the Exploration of Probable Form Patterns of Life by Means of the Tentative Technological Aspects of Lamination and Geodesics."

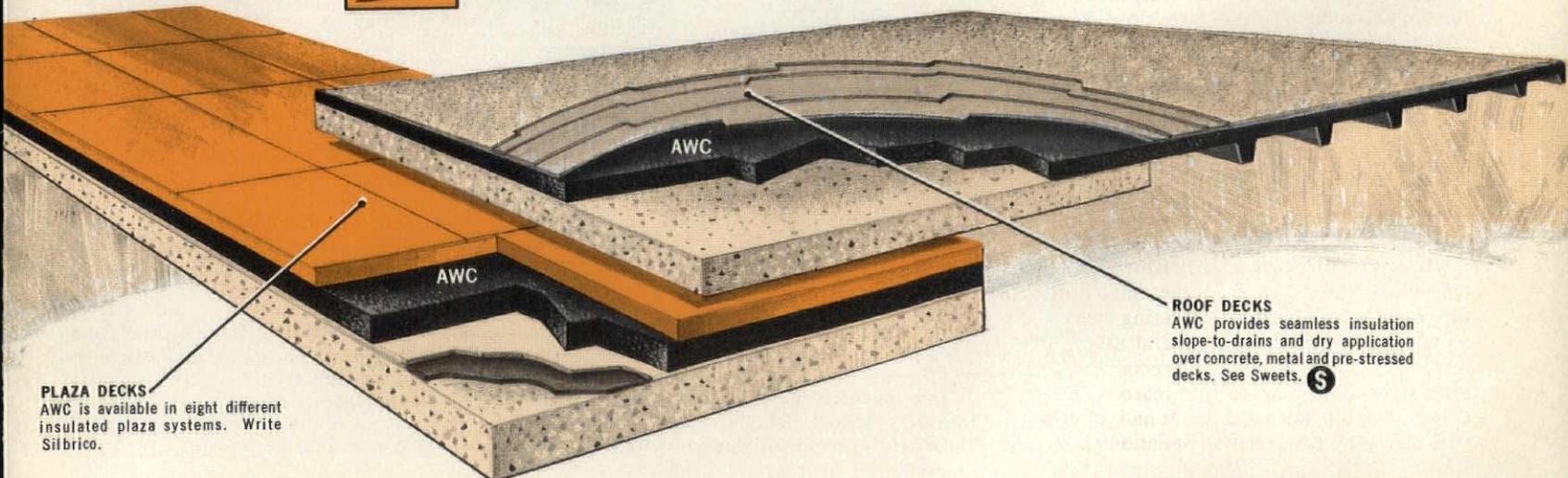
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THE LUMINOUS ENVIRONMENT FOR EDUCATION

The architect concerned with the illumination and visual environment of educational facilities will find the following reference list of value. Prepared by the Educational Resources Information Center (ERIC) Clearinghouse on Educational Facilities, the bibliography is the second in a series being offered our readers on a trial basis, dependent upon reader interest. The first, *Systematic Methods in School Planning, Programming and Design*, was published in the January 1970 AIA JOURNAL. Inquiries should be directed to ERIC/CEF, 606 State St., Madison, Wis. 53703.

Asterisks indicate major goals, up to a maximum of five, of each reference. Descriptors are geared to the ERIC system.

BIRREN, FABER. "Psychological Implications of Color and Illumination," *Illuminating Engineering*, May 1969, 397-402.

*Color; *Environmental Influence; *Environmental Research; *Lighting; *Psychological Design Needs; Controlled Environment; Illumination Levels; Physiology; Vision; Visual Perception

CLAPP, WILFRED and others. "School Lighting Principles Applied to Design, Renovation, Maintenance," *Nations Schools*, Sept. 1960, 75-101.

*Classroom Environment; *Environmental Research; *Lighting; *Performance Specifications; *Visual Environment; Classroom Design; Daylighting; Design; Electrical Systems; Glare; Maintenance; Task Performance; Vision; Visual Acuity.

CLARK, FRANCIS. "Accurate Maintenance Factors," *Illuminating Engineering*, March 1963, 124-130.

*Lighting; *Lights; *Maintenance; Costs; Illumination Levels; Performance Specifications

EARLY, DOYT. "Glare Control in Schools," *Progressive Architecture*, March 1955, 118-126.

*Classroom Design; *Glare; *Lighting; *Task Performance; *Visual Environment; Classroom Environment; Environmental Criteria; Environmental Influences; Environmental Research; Illumination Levels; Performance Specifications; Physiology; Vision; Visual Perception

FAUCETT, R. E. "Current Recommended Practice for Sports and Recreational Area Lighting," *Illuminating Engineering*, July 1969, 457-487.

*Athletic Fields; *Illumination Levels; *Lighting; *Recreational Facilities; *Specifications; Criteria; Design; Design Needs; Electricity; Equipment; Evaluation; Glare; Human Engineering; Lights; Techniques; Television Lighting; Vision

GIBSON, CHARLES D. and others. "School Environment Symposium," *Illuminating Engineering*, April 1962, 299-326.

*Lighting; *School Environment; *Visual Environment; Administrator Problems; Classroom Design; Costs; Flexible Lighting Design; Television Lighting

Great Britain, Department of Education and Science. *Lighting in Schools*. London: Her Majesty's Stationery Office, 1967. 73 pp. (*Building Bulletin*, No. 33.)

*Educational Environment; *Lighting; *Lighting Design; *Performance Specifications; *Vi-

sion; Classroom Environment; Daylighting; Environmental Criteria; Environmental Influences; Illumination Levels; Solar Radiation

HARMON, DARELL BOYD. *The Co-ordinated Classroom*. Bethesda, Maryland: ERIC Document Reproduction Service, National Cash Register Co., 1951. 52 pp. (In microfiche or hard copy.)

*Design; *Environment; *Furniture; *Lighting; Building Design; Classroom Design; Classroom Environment; Classroom Furniture; Educational Equipment; Furniture Design; School Design

HARMON, DARELL B. "Light on Growing Children," *Architectural Record*, Feb. 1946, 78-90.

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HOPKINSON, R. G. *Architectural Physics: Lighting*. London: Her Majesty's Stationery Office, 1963. 359 pp.

*Architecture; *Environmental Research; *Light; *Lighting; *Physics; Color; Daylighting; Environmental Criteria; Glare; Illumination Levels; Lighting Design; Vision; Visual Acuity; Visual Perception

Illuminating Engineering Society. *IES Lighting Handbook*. 4th ed. Edited by John E. Kaufman. New York: Illuminating Engineering Society, 1966. 755 pp.

*Guides; *Light; *Lighting; *Specifications; *Standards; Building Design; Color; Daylighting; Interior Design; Lighting Design; Offices; Performance Specifications; Photography; Physics; Schools; Television Lighting; Vision

Illuminating Engineering Society, Committee on Lighting and Air Conditioning. "Lighting and Air Conditioning," *Illuminating Engineering*, March 1966, 123-147.

*Air Conditioning; *Climate Control; *Heat; *Lighting; *Performance Specifications; Component Building Systems; Controlled Environment; Daylighting; Flexible Lighting Design; Solar Radiation

LOGAN, HENRY L. "How Long Will You Live?" *AIA Architect-Researcher's Conference Proceedings, 5th Annual Meeting, Wisconsin Dells, Wisc., Sept. 25-26, 1968*. Edited by Philip M. Bennett. Washington, D.C.: The American Institute of Architects, 1968, 295-315. (Microfiche: Bethesda, Maryland: ERIC Reproduction Service, National Cash Register Co.)

*Environmental Criteria; *Environmental Influences; *Health; *Light; *Solar Radiation; Building Design; Daylighting; Glare; Human

Body; Human Engineering; Illumination Levels; Physiology

LOGAN, HENRY L. "The Orientation Reflex," *Illuminating Engineering*, Jan. 1954, 19-29.

*Environmental Influences; *Lighting; *Motor Reactions; *Space Orientation; *Vision; Environmental Research; Eyes; Illumination Levels; Physiology; Safety; Visual Environment; Visual Perception

LUCKIESH, MATTHEW. *Seeing and Human Welfare*. Baltimore: Williams & Wilkins, 1935. 193 pp.

*Environmental Influences; *Health Needs; *Lighting; *Vision; *Visual Environment; Color; Eyes; Glare; Human Resources; Illumination Levels; Performance Specifications; Physiological Design Needs; Psychological Design Needs; Safety

Performance Criteria for the Luminous Environment. Albany, N.Y.: State University Construction Fund, 1968. 23 pp.

*Conference Reports; *Environmental Research; *Lighting; *Performance Specifications; *Visual Environment; Design Needs; Glare; Illumination Levels; Physiological Design Needs; Psychological Design Needs; Task Performance; Vision

PHILLIPS, DEREK. *Lighting in Architectural Design*. New York: McGraw-Hill, 1964. 310 pp.

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"School Lighting," *American School Board Journal Bookazine*, June 1965. 50 pp. (May be obtained from Editor, Bruce Publishing Co., 866 Third Ave., New York, N.Y. 10022.)

*Auditoriums; *Innovation; *Lighting; *Maintenance; *Windowless Rooms

WESTON, H. C. *Sight, Light and Work*. 2nd ed. London: H. K. Lewis, 1962. 283 pp.

*Environmental Influences; *Lighting; *Performance Specifications; *Vision; *Visual Environment; Color; Daylighting; Environmental Research; Eyes; Glare; Human Engineering; Illumination Levels; Physiology; Safety; Solar Radiation; Task Performance

WESTON, H. C. "Symposium on Light and Vision," *Illuminating Engineering*, Feb. 1954, 63-102.

*Eyes; *Glare; *Illumination Levels; *Lighting; *Visual Perception; Color; Human Posture; Motor Reactions; Physiology; Task Performance; Vision; Visual Discrimination

WURTMAN, RICHARD J. "Biological Implications of Artificial Illumination," *Illuminating Engineering*, Oct. 1968, 523-529.

*Biological Influences; *Environmental Influences; *Human Development; *Lighting; *Research; Design; Light; Performance □

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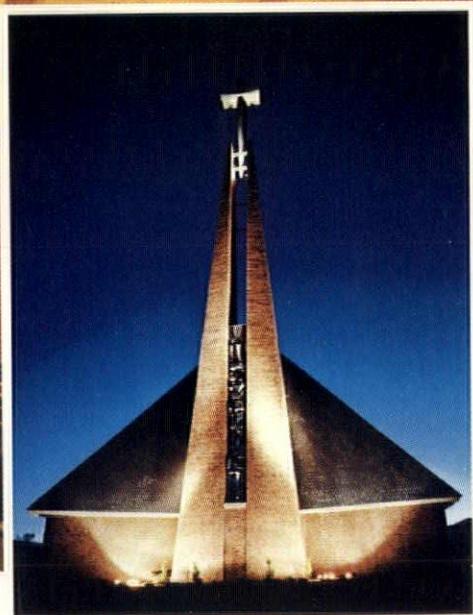
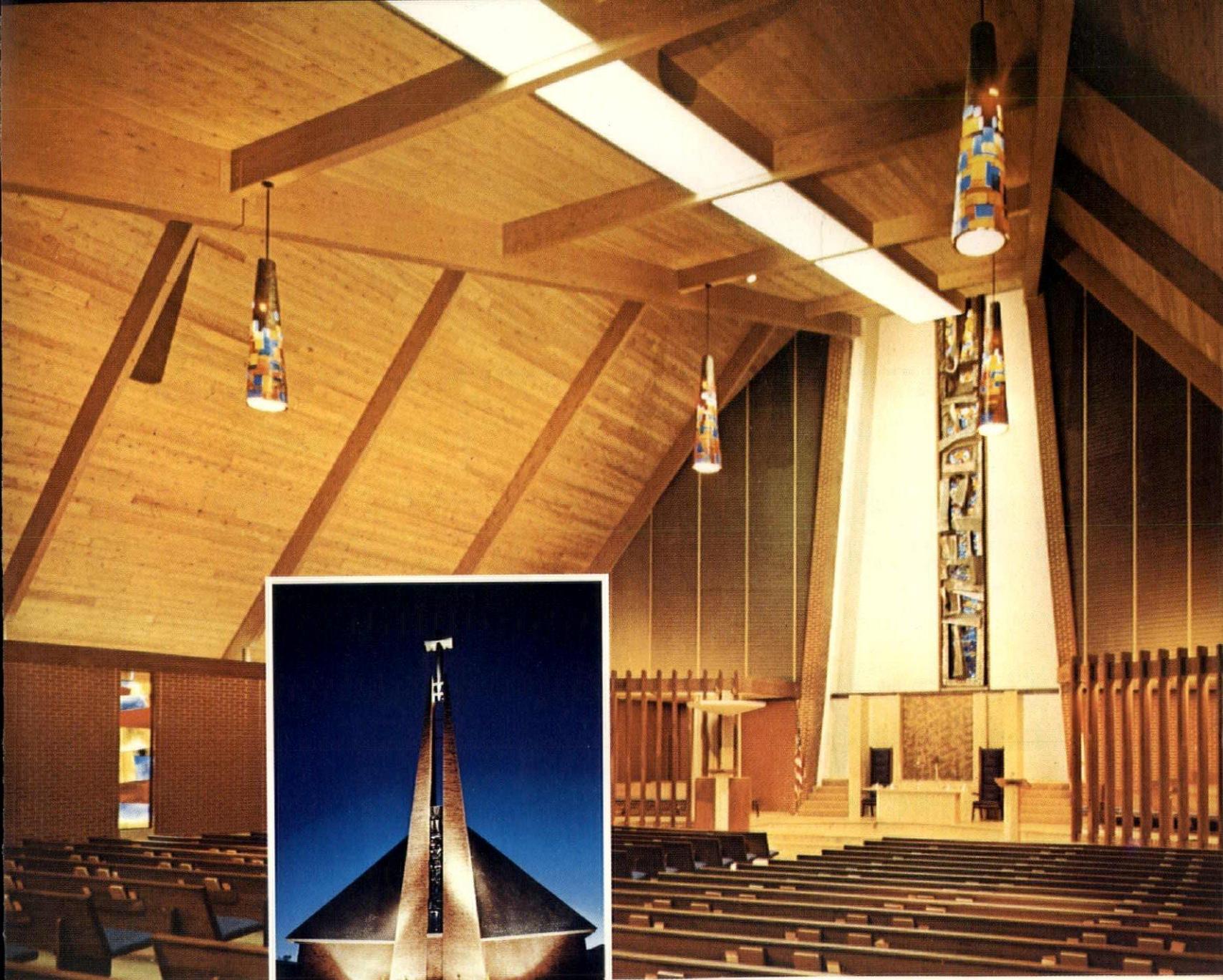
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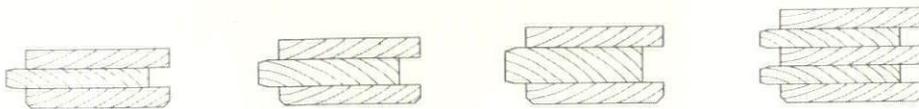
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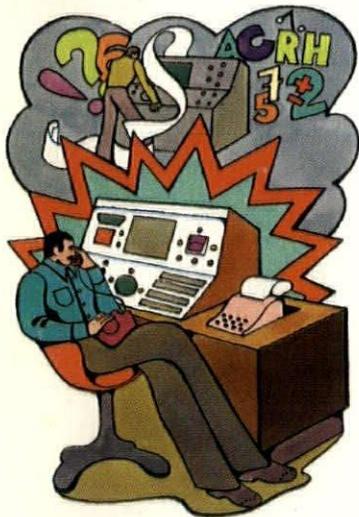


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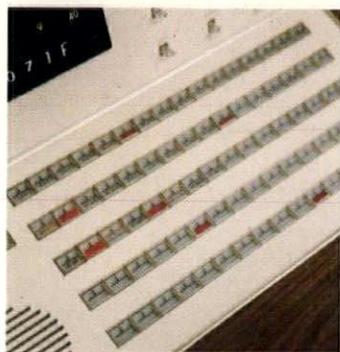
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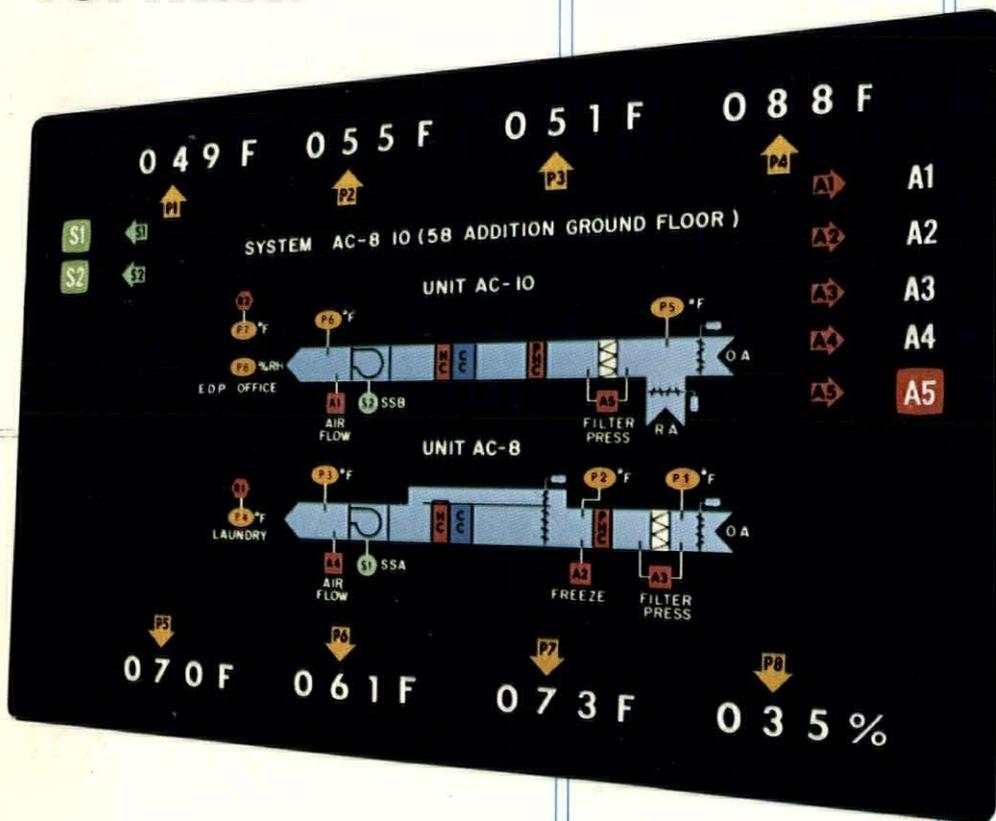
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