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(Above) Patterson Office Tower and White Classroom Building. Architects: Johnson-Romanowitz, Lexington. General Contractor: Foster & Creighton Company, Lexington. Six Dover gearless traction elevators with Computamatic IV Control.

(Right) Agricultural Science Building One. Architects: McCulloch & Bickel, Louisville. General Contractor: Foster & Creighton Co., Lexington. Two Dover Oilraulic Elevators with Duplex Control.

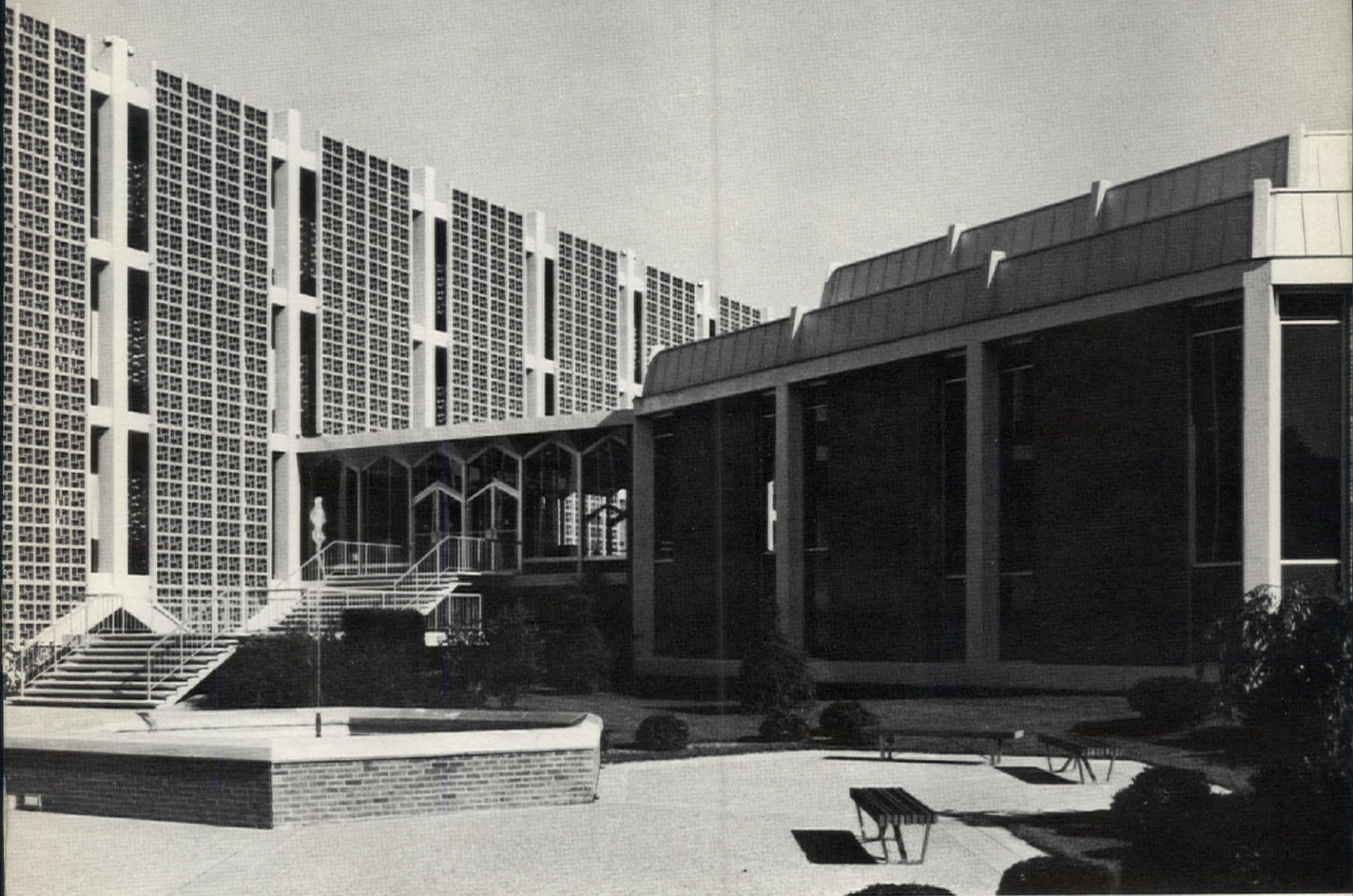


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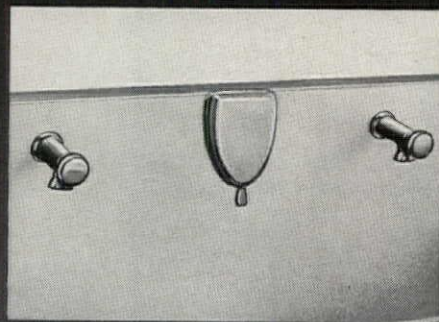
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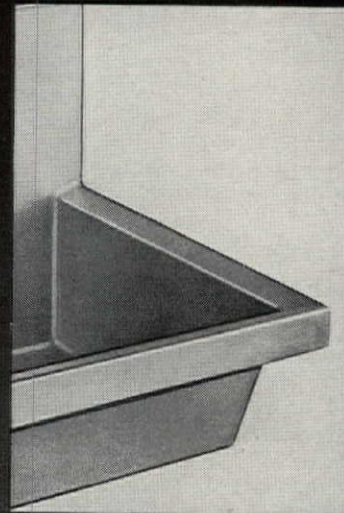


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AIA JOURNAL

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COVER

Viewing the waterfront is a dubious pleasure these days: It's usually the most uninviting part of town. For what some cities do about it, see page 17. Photo by Bess Balchen.

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VOL. 55, NO. 4

comment and opinion

TOO MUCH ECOLOGY CAN BE A BAD THING: Ecology has become a household word, although one wonders how many Americans can offer a plausible definition. The Ecology Coloring Book, put out by Ross Industries, Inc., even has "the ecology flag: Greek letter, theta, warning of death, symbolizes the threat of earth and its atmosphere. Green strips are for unspoiled land; white for pure air." Perhaps more to the point is the sponsor's statement that "In general usage, the term 'ecology' has been accepted as the movement for a cleaner environment." Well, I'll buy that, and the coloring book in question makes a lot more sense than some of the emotionalism that currently surrounds the subject.

It all adds up to what Ellis L. Armstrong, Commissioner of the Bureau of Reclamation, told the Road Builders' Association in Los Angeles earlier this year. He could very well have been speaking to any other group, architects included, when he said: "Too many are simply looking for a scapegoat, a target for the finger of guilt, a victim for all the criers of alarm. Too many of these criers are the instant ecologists who listen only to other instant ecologists and believe only what they want to hear." The Department of the Interior official made another important observation: "One of our big problems in our instant communication society is to keep from being overwhelmed by the foolish, the hysterical, the cynical on either side of any problem. And to know which is which."

This vividly came to mind in reviewing material for the waterfronts section which leads off the April issue. James E. Kerrigan, assistant director of the University of Wisconsin Water Resources Center, bluntly explained, "The public doesn't really know what it's looking for in our water programs." Writing in the *Wisconsin Alumnus* for October 1970, he cited this case study — and one which could probably be duplicated anywhere in the country:

"The 450-mile Wisconsin River drains one-third of the state. Its waters are (and always have been) a rather somber coffee color. Recently, however, that long-acceptable color has been equated by some uninformed groups with man's inhumanity to nature. The call has gone out to harness the industries along the river, to force various limitations on its border cities. The truth is that the brown color is a natural condition of the river: a 'dye' produced by the digestive breakdown of vegetation in the swamps at its northern sources. The water in the northern reaches is of high quality, as it is in the lower one-third, the result there of natural rejuvenating processes. In the industrialized central reach, heavy in paper and pulp manufacturing, the cities and industries are undertaking an antipollution program which could cost \$5 million annually. Yet, even when this is completed — including the control of mercury waste — the Wisconsin River will continue to flow in a rich, brown shade, probably much to the consternation of those who do not realize that it is not the result of pollution."

With the second annual Earth Week coming up April 19-25, the *Washington Post* was moved to editorialize that "It can be a way of getting the news media to make the environment a matter of daily coverage, not merely specialized reporting." And I'm all for that too. But the fact remains that if we push the panic button too long and too often, it will soon become nothing more than a false alarm. Somehow the design disciplines must help to minimize the "crisis" by putting it in its proper perspective so that today's public zeal does not become tomorrow's public apathy.

ROBERT E. KOEHLER

ACKNOWLEDGEMENTS

8 — above, Mel Chamowitz
8 — below, Ezra Stoller
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21 — above, Miami Metro Department of
Publicity and Tourism
22 — below, Ardmore Studio
32 — left, Jim Ryan
32 right, 33, 34 below — John Fulker
51 — Bess Balchen
54 — William A. Graham

NEXT MONTH

In commenting on the forum-like approach which the forthcoming AIA convention will take, Herbert H. Swinburne, FAIA, explained on the Institute Page in March that a paper by each of the moderators of the three broad themes would be made available to members prior to the Detroit sessions. That promise will be fulfilled in May when the AIA JOURNAL presents "The Hard Choices" as follows:

1. Patterns of Human Settlement — Edward J. Logue, president and chief executive officer, New York State Urban Development Corporation.
2. Use of Human Resources — Vivian W. Henderson, president, Clark College, Atlanta.
3. What Do We Give Up? — Carl Madden, chief economist, Chamber of Commerce of the United States.

"All architects must come to grips with these three simultaneous sets of dilemmas — now," as Swinburne sees it. "Otherwise, we can sit back and leisurely consider all the doomsday statements that will best describe our inevitable future."

Another significant, controversial and often misunderstood topic — construction management — is treated in what amounts to a two-part package. A graduate student who wrote his thesis while being a part-time Tishman employee explores the subject from a particular point of view; a Practice Profile focuses on a firm which is among the fore-runners in utilizing the construction management approach in producing its architecture.

Other major features in May: a look at NCARB's proposed examination; a review of a highly successful effort of the St. Louis Chapter AIA known as "Architects' Sunday"; and a report on the role of architects/engineers in federal contracting.

ASIDES

With an article on the work of Moshe Safdie appearing this month, we are reminded of his remarks made at a design seminar at Washington University in St. Louis, whose Office of Information was kind enough to send us a condensation of the taped talk.

The designer of Habitat-Montreal, when asked about the possibilities for modular housing as an answer to problems of shelter and city living, replied: "The question of public housing has nothing to do with modules, design or technology. It is a deeply rooted social problem in America which has to do with factors including race and poverty. Modules are not going to solve it."

Safdie believes that "low income housing need not be low cost housing." For example, he cited a Canadian experiment where planners have subsidized a certain proportion of units in random developments rather than building economically segregated public housing projects.

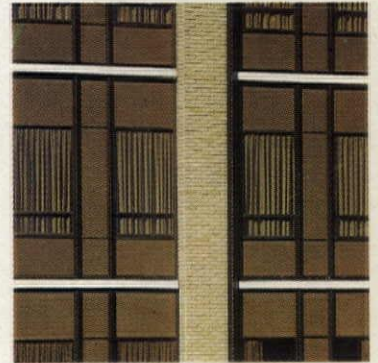
"What does it matter if you subsidize at random or in projects just for a particular income group?" he asked his seminar audience, concluding, "The better the housing, the easier to integrate it — economically and racially — thus presenting less opportunity for many of the problems created by crowded, poorly designed segregated housing." □

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Architects and Engineers Hear, Visit Their Congressmen in Washington

The nation will never meet its housing needs and eliminate slums without drastic changes in building code laws, said Rep. Bob Wilson (R-Calif.) at the fourth annual Public Affairs Conference sponsored by the AIA and the Consulting Engineers Council/USA. About 400 architects and engineers from all parts of the country converged on Washington, D.C., on March 3 and 4 to listen while Congressional leaders from both Houses, administrative spokesmen and staff members of the AIA and CEC briefed them on what the government is doing concerning major policy issues affecting the architectural and engineering professions.

The program began with an overall legislative recap by House Majority Leader Hale Boggs (D-La.) and Minority Leader Gerald B. Ford (R-Mich.), followed by a speech on new concepts and techniques in urban redevelopment and housing by Sen. Charles H. Percy (R-Ill.).

Other speakers included Congressman Jack Brooks (D-Tex.) who said that his A/E selection bill (see AIA JOURNAL, May '70, p. 18) would be revived if necessary. The bill, which would have made qualifications the primary consideration in the selection of

architect/engineer services under federal contracts, failed in the last minute adjournment rush in the Senate last year.

A round of applause greeted an announcement by Rep. Lawrence G. Williams (R-Pa.) regarding plans to propose legislation to restore the recently terminated Advances for Public Works Planning Program of the Department of Housing and Urban Development. Rep. John A. Blatnik (D-Minn.), chairman of the House Public Works Committee, reviewed his committee's work. He predicted that Congress will increase funds for water pollution control from the present \$1 billion to \$5 billion annually.

Following a luncheon address by Murray L. Weidenbaum, Assistant Secretary of the Treasury, on the advantages of revenue sharing proposals, Sen. Jacob K. Javits (R-N.Y.) proposed the establishment of a National Institute for Building Sciences; Rep. Morris K. Udall (D-Ariz.) advocated higher per diem payments to assure superior quality of professional services; Congressman Wilson discussed product boycotts and codes; Donald Sowle, Studies Director for the Commission of Government Procurement, outlined the activities of that newly created group re-



Wilson promotes prefabricated components.

lating to the selection of A/E's; and Presidential Assistant Dwight A. Ink explained the proposed reorganization of seven federal departments into four.

A "Meet Your Congressman" reception was held in the evening at the Smithsonian Institution.

The second day began with a briefing on Congressional protocol by CEC Government Affairs Director Larry Spiller and by AIA Director of Congressional Relations Thomas Bennett. The remainder of the time was spent on Capitol Hill.

No 'Flight from Dunkerque' Avowed As Detroit Charters Boats for '71

"Another boat trip—you must be kidding!" probably is running through the minds of many a 1970 AIA convention-goer as they ponder this headline. Rest assured, Detroit committee members declare, there will be none of last year's "flight from Dunkerque" in referring to the host chapter's outing to Bob-Lo Island on Tuesday evening, June 22.

The cruisers, the St. Clair and the Columbia, are accustomed to taking 3,000 people in stride because they do it every day. They will leave in both directions every 1½ hours, eliminating long waits. Bars will be open on the boat ride down the river, and guests' thirst will be quenched on the island as well. Dancing and rides and entertainments of the amusement park will be included in the \$20 ticket price.

Social activities for the 1971 convention will be kicked off on Sunday afternoon, June 20, with a two-hour champagne orientation tour—a guided introduction to the downtown area, the cultural center, Wayne State University campus and the Lafayette Park redevelopment area. That evening McGraw-Hill will sponsor its annual party at the Detroit Public Library.

On Monday noon, with the convention officially in session, the annual alumni luncheons of the various schools will take place. That evening, the President's Reception will be held at the Detroit Institute of Arts. The convocation luncheon for fellows is slated for Tuesday at the Detroit Hilton Hotel, and the Gold Medalist Ball for Thursday evening in the Grand Ballroom of Cobo Hall.

Plans for entertaining the ladies are shaping up too. On Monday, there will be an international shopping spree to Canada, with re-

continued on page 10

Dallas Architectural 'Milestone' — and a Money Maker to Boot



One of the structures cited by the Dallas Chapter AIA as a "milestone in architectural designs of the past decade" is that city's North Park Shopping Center. Designed by Omniplan (Harrell & Hamilton), the center also was awarded the first annual Campbell & Tucker award, offered by a commercial real estate firm to an architectural project that met specific criteria. *Environment Monthly* says that the center is "less the product of architectural orthodoxy than of a very broad understanding of how bricks and people and merchants and flowers and money and management all can be made to interact in a civilized fashion." Now more than five years old, North Park holds the country's highest shopping center sales volume per square foot.

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freshments served at the spirited place of the Hiram Walker Distillery. The Ladies Breakfast, sponsored by the Women's Architectural League, will take place on Tuesday in the Grand Ballroom of the Detroit Hilton Hotel. On Wednesday, there will be a luncheon at the Grosse Pointe Yacht Club. On the return trip, each bus will stop at one home in the Grosse Pointe area for a short visit. Other activities with the ladies in mind include tours to Detroit shopping areas and to the city's museums.

The host chapter is arranging a group of interesting tours. On Monday afternoon, the Ford Motor Company, one of the world's great industrial complexes, will be seen. An architectural tour of Detroit is scheduled for



Bob-Lo Island is destination of excursion down Detroit River via two steamers.

Tuesday morning and one to the Cranbrook Academy of Art and Science for Thursday afternoon. On both Thursday and Friday, tours are planned to Greenfield Village and the Henry Ford Museum. The young people will not be neglected either, and a trip to the Detroit Zoo is on the books for Wednesday while mama is at the Ladies Luncheon.

Graduate Student Named Winner Of Scheick Research Fellowship

"A goal for Americans should be to provide the low income family with a living environment which contributes significantly to changing . . . tenants from social liabilities to social assets." So stated William H. Scheick, FAIA, former executive director of the AIA, in commenting upon a fellowship in his name which provides an annual grant of \$2,500 to help a graduate architectural student to pursue during one academic year an original investigation into the subject of human needs and requirements in low income housing of the multifamily type. The William H. Scheick Research Fellowship is administered as a special fund of the annual AIA/AIA Foundation Scholarship Program.

The 1971 winner is Fred Ian Stahl of Bay-side, New York, who holds an architectural degree from the City College of New York. He will carry out his research project at the Rensselaer Polytechnic Institute. Stahl's prime objective will be "to improve the design professional's insight into human needs and requirements in low income housing by linking dwellers themselves with the design team." The research will be aimed at helping the dweller to identify and understand his own basic human needs in housing.

Transportation Exposition Master Plan On the Drawing Boards for 1972 Event

This country's first International Transportation Exposition to be held in 1972 will be the largest and most market-oriented event ever to take place in the United States, according to the administrator of the Federal Aviation Administration, John H. Shaffer, who is exposition manager. It will be held at Dulles International Airport near Washington, D.C.

"We plan to have indoor display space for 500 exhibitors," says Shaffer, "and a million square feet of outdoor area for the display and demonstration of every system of transportation in existence or under development in the world today."

Secretary of Transportation John A. Volpe chose Welton Becket & Associates of Los Angeles to develop the master plan. Working under the direction of the firm's New York office are Herb Rosenthal & Associates; De-Leuw, Cather & Company; and Economic Research Associates. Under the terms of the \$87,000 contract, the plans were to be completed within 90 days after the announcement was made in December.

Building in Philadelphia Is Dedicated To Memory of Architect Caltabiano

Two years ago, a fire swept the New York building in which the offices of the architectural firm of Berger & Caltabiano were located. At the time, one of the partners, Salvatore T. Caltabiano, AIA, was working on a 12-story building for the Philadelphia Independence Mall urban renewal project. He died in the fire.

Afterwards, Caltabiano's partner, Burton W. Berger, AIA, moved into an office provided by a friend and worked for 90 consecutive days—and many nights—to deliver the working drawings on time.

Known as the Continental Building, the \$6 million structure is now completed. The developers were Kalker Properties, Inc., of Hackensack, New Jersey, who decided to dedicate the building to Caltabiano. A bronze plaque has been installed on the west wall of the entrance plaza on Market Street. It reads: "This building has been erected with the conception and design inspired by Salvatore T. Caltabiano, who lost his life in a tragic fire February 25, 1969."

AIA Elects Five Honorary Members

Three men and two women who have made "distinguished contributions to the architectural profession, or to allied arts and sciences" have been elected to honorary membership in the AIA.

They are Lord Kenneth McKenzie Clark, British art historian and writer-narrator of the internationally acclaimed TV film series "Civilisation"; Pipsan Saarinen Swanson, partner in Swanson Associates and leading industrial and interiors designer; Jeanne M. Davern, architectural journalist, formerly managing editor of *Architectural Record*; Donald E. Gibson, executive director of the Indiana Society of Architects and editor of *Indiana Architect*; and Robert E. Koehler, editor of the *AIA JOURNAL*.

continued on page 52

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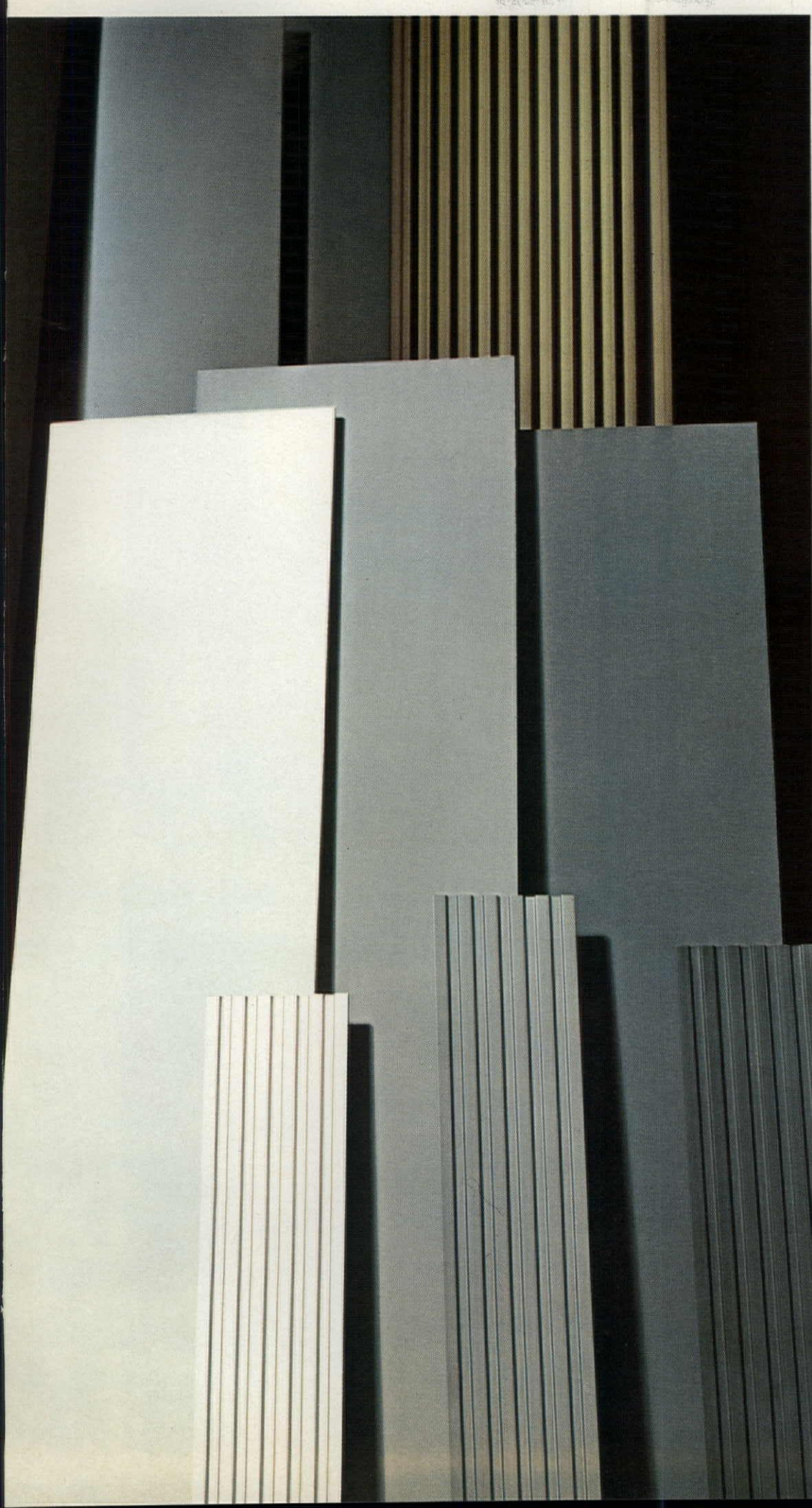
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More Than Just Products in Detroit

by DAN MELTZER
Convention Manager

Last September the Building Products Exhibit, an integral part of the AIA annual convention, was laid to rest by the Committee on Future Conventions. In its place emerged the National Building Products Exposition, incorporating a new thrust and a new format with the promise of providing a new and exciting experience for all who attend the convention in Detroit, June 20-24.

The exposition will be a series of demonstrations on systems and subsystems applications in nonresidential construction and a series of environmental displays sponsored by the Detroit City Plan Commission, the Detroit Edison Company, Chrysler Corporation and the Minnesota Society for Crippled Children and Adults Inc., in cooperation with the Minnesota Society of Architects, as well as other displays by other agencies. It will be a series of attractively arranged malls with groupings of products with common characteristics and of technical seminars addressed to the building team, construction management and construction technology.

The exposition will continue to address itself to the needs of the architect but it will also be attractive to members of the other design professions and to the various segments of the construction industry. It will be an exposition with industrywide appeal, a forum for the presentation and discussion of new technologies, new roles, new relationships, new approaches to the problems confronting the construction industry in the '70s.

A major shortcoming associated with previous AIA Building Product Exhibits was that they failed to satisfy the basic needs of both architect and producer/exhibitor. On one hand, the architect left the exhibit hall uninspired and with the feeling that he had not learned much of any value to compensate for the time he had spent. On the other hand, the producer/exhibitor would come away at the end of the convention feeling that the traffic did not justify his time and effort, not to mention his expenditure.

Setting the tone for a change, AIA President Bob Hastings asked during the convention committee meeting: "What is the architect looking for in the way of product information?" Solutions to design problems; new ideas in design; information that will direct him to practical design decisions, he suggested. He must know how products and services relate to each other. Hastings' remarks were translated into the exposition theme: "Applied Technology: Quality, Costs and Time."

The exposition each year will preview ma-

ior advances in construction technology. The focal point in Detroit will be a special, carefully screened section on systems hardware in nonresidential construction. Another annual feature will be a series of educational, environmental exhibits drawn from agencies and companies in the geographical region of the convention site, emphasizing sociological and environmental problems and proposed solutions thereof. The application of this feature in Detroit will include elements of the study "Detroit 1990/An Urban Design Concept for the Inner City" and the opportunity for visitors to navigate an obstacle course in a wheel chair, pointing up the AIA's continued concern and interest in barrier free architecture.

The exhibits will be in easily identified malls. For instance, if you want to see products specifically related to commercial and industrial construction, the mall will be well defined and easy to traverse. If you are particularly interested in architectural tools, they too will be concentrated in a manner designed to give you the greatest return for the time you wish to spend in the hall.

The technical seminar program scheduled for Monday afternoon and Tuesday morning and afternoon, June 21-22, is really a "convention within a convention." We expect engineers, contractors, owners, manufacturers, government officials, developers, administrators, subcontractors and financiers to join us. Registration for the convention is your ticket of admission; nonregistrants will be required to pay a fee to attend.

The technical seminar program is aimed at the building team and is so titled. Its objectives are to:

- Put into perspective the future role of the building team.
- Keep you abreast of new developments in construction management and technology.
- Provide an annual gathering place for all members of the building team to enhance personal contacts and the opportunity for discussion and the exchange of ideas.

We have an excellent program that will be defined more specifically in the first pre-convention bulletin due in the mail on or about April 15. Roger M. Blough, former chairman of the board, US Steel Corporation, will keynote the program. The many other speakers and panelists will also be familiar to you.

It is our sincere belief that we have taken an important first step in providing you with a National Building Products Exposition that you will enjoy and benefit from. It will make you proud that it is associated with the AIA convention. □

**Here, L-O-F's most expensive glass
reduced construction costs, will save
in annual operating costs.**

*Edison Plaza Building. Owners: Toledo Edison Company. Engineers • Architects •
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Vari-Tran® reflective insulating glass by L-O-F. Now you may justify it on construction cost savings alone.

The engineering • architectural • planning firm of Samborn, Steketee, Otis and Evans made a computerized cost analysis of their glazing alternatives while the building was still on their boards. They compared various types of glass in terms of year-around heat loss and gain, initial glass costs, total building cost, effects on taxes and insurance, annual operating costs, etc. (See summary in box.)



What came out, loud and clear, was that Thermopane with Vari-Tran 108 coated glass as the outer pane would save the owners money. Less expensive to build. Less expensive to operate.

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was gained per floor. The other glasses considered would have required an expensive induction system 18" deep.

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If you would like a computerized cost analysis of the glass wall of a building you're planning, contact your L-O-F Architectural Repre-

sentative, or Architectural Dept., Libbey-Owens-Ford Co., Toledo, Ohio 43624. It could surely help you solve your budget problem.

ECONOMIC GLASS COST ANALYSIS

by Samborn, Steketee, Otis and Evans, Toledo, Ohio

Uniform annual costs for the glass were based on an anticipated useful life of 40 years for the building, 20 years for the air conditioning equipment. Both costs are for borrowed money at 8% interest.

The initial cost of Thermopane with Vari-Tran and the air conditioning equipment it requires is less than for 1/4" plate and the increased air conditioning it would require. And the total annual cost of owning and operating the building will be substantially less and will result in reductions as follows as compared with 1/4" plate.

64.7% reduction in capacity of central refrigeration equipment

67.9% reduction in capacity of distribution system

53.2% reduction in capacity of central heating equipment

19.2% reduction in comparative initial costs

24.4% reduction in comparative uniform annual cost

33.7% in total annual operating costs

29.5% savings in comparative annual operating costs

There are also incalculable benefits from glazing with Vari-Tran/Thermopane: greater humidity control in offices and the computer room located on an outside wall; sharp reduction of roomside condensation and down drafts near windows in winter, increasing comfort.



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There was a time when a city's harbor had a gutsy fascination about it and its wharf on lake or river was the natural meeting place to catch up on the latest and enjoy the life. But during the years, with increasing use of land and air transportation, a number of cities have turned their backs to their waterfronts. This is nothing new: The same thing happened in time even to such important harbors as those in Phoenicia, when they were filled with silt due to lack of use. What is different today is that ours are dirty, polluted, rundown. More and more, however, people seem to be waking up to the fact that here are slices of real estate of prime value, too good to go to waste. This is an area which may well offer the concerned architect a chance to generate long-range, overall planning and be in on the decision making.

The Waterfront: Let's Face It



If you think of your city's waterfront with nostalgia, remembering it as a place full of hustle and bustle, proud ships and mysterious cargo from foreign ports, or as a peaceful place to simply sit, or meet friends, or maybe fish, chances are you aren't a spring chicken any longer. Today, the younger set is hardly aware of the urban harbor or wharf; it's a place with a bad smell and a bad rumor and good to stay away from.

However, that image seems to be changing, although slowly. Cities across the nation are beginning to realize that their waterfronts, whether on the ocean, a lake or a river, is an asset. They're being eyed as potential sources of new income, as means of bringing life back into ailing downtowns, as recreation or residential areas, all depending on the needs, on the nature of the waterfronts, or on the citizens themselves.

Some cities, of course, have never stopped working on their waterfronts. Among them are such giants as New York City and San Francisco. The plan for the latter, an undertaking which is regarded as a classic in planning, received the 1971 Citation of an Organization from The American Institute of Architects. But a number of medium sized and smaller cities as well are busy along their waterfronts or turning their attention to them. St. Petersburg, Florida, for instance, will soon have revived its "Million Dollar Pier," which will have a drive-around road for sightseeing, fishing promenade, restaurants, heliport, etc.; Miami has recently finished a seaport on Dodge Island in Biscayne Bay; Oshkosh, Wisconsin, has opened a commercial complex on the Fox River; South Bend, Indiana, and Mobile, Alabama, are developing their

Authors of this article are Bess Balchen, associate editor of the AIA JOURNAL, and Jack Linville, assistant editor of *Nation's Cities*. It is sponsored jointly by the two publications and is appearing in this month's issue of both.

waterfronts with urban renewal. St. Louis is reverting its riverfront from what was partly a shoddy, industrial warehouse and transportation center to pleasant, people-oriented areas, and Greenville, Mississippi, depending on its river for profit, is building an industrial park. Among cities with a comprehensive plan is Spokane, Washington, which is now renovating and developing its 15-mile stretch of the Spokane River. This plan is truly a result of what can be achieved when planners, city officials and volunteers work together.

But a survey conducted by *Nation's Cities*, the magazine of the National League of Cities, and the AIA JOURNAL reveals that while most cities have ideas for their waterfronts, quite a bit of the activity is still confined to drawing boards and stacks of plans are stuck in the hope chests of city halls—problems of restoring the waterfront are more than surface deep.

Consider the number of parties involved: the present owner or owners; the would-be owner or owners; municipal, state and, most probably in littoral cases at least, the federal government; conservationists; preservationists; the community itself; and industry. Add to this list the money-people. Combined, these factions make up the greatest deterrent to waterfront undertakings. The reasons for this are several.

First, there's the question of jurisdiction. Who owns the water, the beach? The coastal waters are public (federal) property; the beaches between high and low tide-marks in these same areas are usually state owned (and therefore also public). Inland, the ownership laws vary from state to state. Complications that crop up in deciding the boundary lines may deter plans to build or restore for years.

Second, our river edges and coastal zones are the most deli-



Transformation of San Francisco's Pier 45 as suggested by John S. Bolles Associates, looking toward Coit Tower (above) and (below) toward the Bay.

cate parts of our soil. The effects of our tampering with them are by no means fully known even today. For instance, what will be the damage to fish and wildlife in the surrounding areas—even miles away—if a development of any kind is allowed to interfere with an estuary system? Our lack of knowledge in this respect has caught up with us at last, so if a concern like this holds up a waterfront program it may be all to the good. For, once harmed, it will take nature unknown numbers of years to restore itself.

Third, there's the conflict of interest between potential users. About 75 percent of our population is clustered along the Atlantic and Pacific oceans and the Great Lakes; the majority of the remainder lives nearby rivers or lakes. Obviously, the requirements of all these people differ. Some want fish and wildlife preserves, others public recreation areas. Then you have demands for defense, transportation, housing, industry and other uses.

With wise planning and land use control programs, it should be possible, though far from easy, to find a fair balance between the various interests. Massachusetts is a giant step ahead of the other 49 states in this respect—for more than a century the Commonwealth has had the power to restrict use of coastal land. The public, which should have an obvious right to access to the water, is kept in mind.

But again, before we jump at the mention of industrial developments along the water's edge, are we ready to pay the expenses that a recreation area would entail? We tend to forget that industry doesn't necessarily cause pollution, or that it is not the only source of pollution. The scenic coastline of Newfoundland, for instance, in places far removed from any factory, was depressing even years ago, full of abandoned appliances of every type imaginable. (Why don't our schools conduct actual cleanup programs to make youth more conscious of the evils of littering?) Some of Alaska's wild rivers, so serene in winter, spring and early

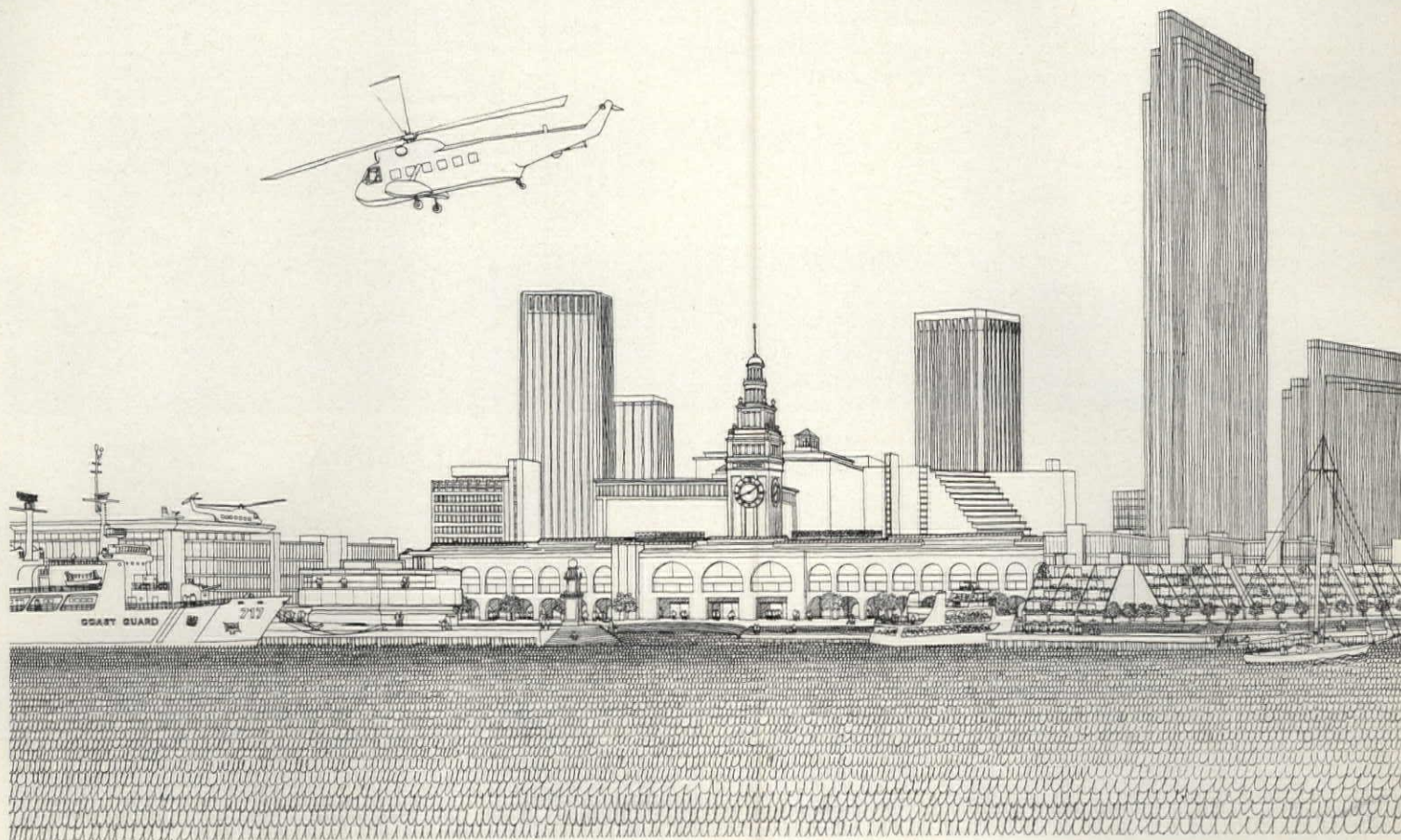
summer, become ugly and ill-smelling in the fall—the work of nature when salmon by the thousand die along their edges after spawning.

On the other hand, has the community considered the economic benefits of an undertaking on long-range terms: Is an instant gain with possible impairment of the waterfront worth it, weighed against the value the land would have as open public space? For some cities the waterfront provides needed income; the use of it as a source of pleasure must be a second consideration. Other, well-established cities can afford a conversion of once economically important stretches of waterfront to public land.

In other words, along with the questions of jurisdiction, ecology and conflict of user interests comes that of money: the investments, the upkeep, the returns. All in all, these are issues that must be carefully considered from every angle. But even when they are all taken into account, some of the old mistakes are repeated: projects with their backs to the water, completely ignoring it; highways along the shorefront, leaving the water totally inaccessible; highrise buildings blocking the view. Also, in the zeal to get things cleaned up it may be forgotten that a harbor without some measure of visual disorganization or all pretty and cute becomes a bore; that there is life and excitement in the honestly brutal, such as in industry and its mechanisms; that there are some who rejoice at the sight of an abandoned, dilapidated slipway or boat shed; and that some of us would be lost without the rundown bars and cheap hotels so often connected with the waterfront. The waterfront should, after all, be for people; concerned planners should let the people be heard.

When Citizens Protest

What happens when a city goes through the intricate process of developing a waterfront plan and then developers and some



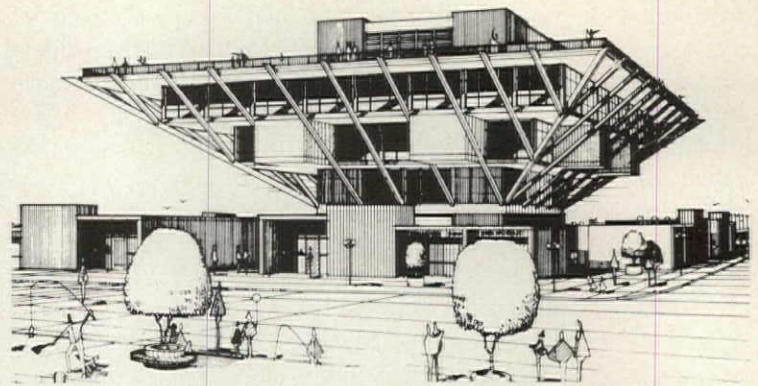
In the Northern Waterfront Plan, prepared for the City and County of San Francisco, John S. Bolles Associates would restore the Ferry Building and adjacent areas, keeping nearby buildings similar in height to the old landmark and focusing activity around a plaza open to the water.

city officials alter their priorities and decide to build in opposition to the plan? A study of the present turmoil in San Francisco could provide the answer.

The Golden Gate City has long placed great emphasis on preserving its bay which nonetheless has been reduced from 680 square miles to a little over 400 as a result of land fills, diking and unplanned development. Its water is polluted, smog and air pollution in the area have increased.

In 1968, the architectural firm of John S. Bolles Associates finished a study for the San Francisco Planning Commission. Its report, the "Northern Waterfront Plan," reads in part:

"One of San Francisco's most valuable assets is the sweeping panorama of land, water and distant mountains that is seen from many areas in the city. Also important are views from the bay and the shoreline of the city's dramatic land forms, which rise



St. Petersburg's Million Dollar Pier gets new life with a new structure with restaurants, etc. Harvard & Jolly, architects; Al Willingham, associate. The pier's old casino (below, center right) was razed.



City Size	Percent of responses which have waterfront development plan	Percent whose plans have reached implementation stage	Percent with program for financing plan implementation	Percent with architects involved in preparation	Percent with waterfront roadways in plan	Percent with air rights involved in plan
under 50,000	19.4	42.8	57.1	0.0	57.1	28.5
50,000 to 100,000	30.9	53.8	69.2	15.4	61.5	7.7
100,000 to 200,000	46.7	64.3	57.1	21.4	71.4	14.3
200,000 to 300,000	63.6	85.7	85.7	42.9	85.7	42.9
300,000 to 400,000	77.8	57.1	57.1	14.3	71.4	14.3
400,000 to 500,000	100.0	75.0	75.0	75.0	50.0	75.0
over 500,000	83.3	90.0	70.0	30.0	60.0	60.0
Total	54.0	41.0	41.0	15.0	41.0	18.0

In a poll on waterfront developments conducted by the AIA JOURNAL and *Nation's Cities*, 392 questionnaires were mailed to direct member cities of the National League of Cities. Cities eligible for such membership are those with populations over 30,000 or the 10 largest cities in each state. Of the 185 responses received, 100 either had a waterfront plan or had one under preparation.

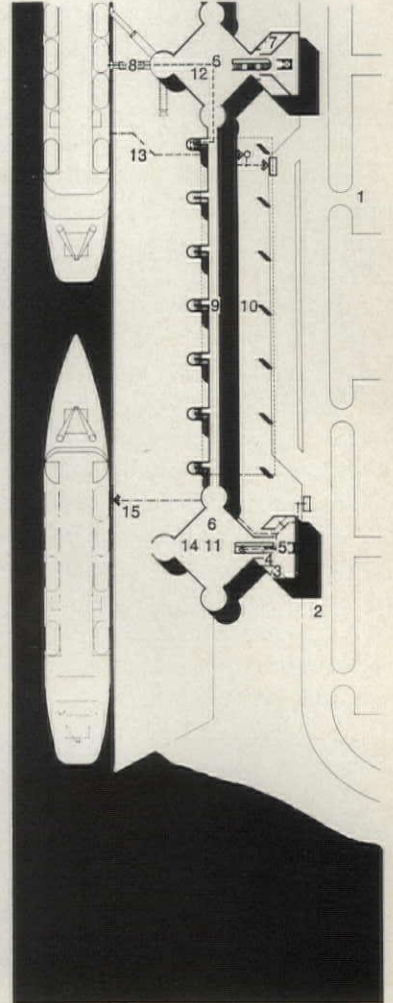
above the low horizontal foreground and which are accentuated by the structures covering them. These views should be preserved and reinforced by limiting the height of shoreline development and by developing new shoreline open spaces and vista points.

"A feature characteristic of San Francisco is the presence of view corridors to the bay and the hills along the streets. These view corridors are especially important because streets are the most used public spaces and because streets combine both physical and visual access to the bay which can be experienced by many people in their everyday pursuits.

"Two policies are recommended to improve and protect this visual access to the bay. First, preservation of views down streets from hilltops requires that high development which would block views to the water should not be permitted. Furthermore, where development is permitted over streets, view corridors should be

maintained through the development so that the seawall is visible from streets on the hills. Second, preservation of views along level streets requires that these corridors should be opened to the bay by aligning new development with the inland grid pattern and by prohibiting development within the corridors as defined by projecting the widths of existing streets into the bay."

After adopting this language in its official plan, the City Planning Commission disregarded the recommendation of its professional staff and approved a zoning variance for a US Steel proposal for a waterfront complex including a 40-story office building on public land. The commission had said that the city's "charm and character rely heavily on a distinctive combination of hills, small-scale buildings and tightly knit blocks of houses." Highrise buildings might be built with careful placement, on top of hills and in some flat areas, but "San Francisco is physically



The port of Miami is designed to process passengers and baggage with the speed expected at airports, at the same time providing travelers and visitors with comfort to match that found onboard ship. A simplified version of self-propelled telescoping gangways similar to those employed by airlines is used. Lobby, ship storage and offices are at first level, lounges at second. The furniture is impervious to climate, rust, boring insects, etc. John Andrews, architect.

- 1 Parking
- 2 Road system
- 3 Offices
- 4 Check-in and baggage deposit
- 5 Lobby
- 6 Lounge
- 7 Washrooms
- 8 Mechanical gangway
- 9 Baggage claim conduit
- 10 Baggage claim and customs
- 11 Ships' storage
- 12 Passenger debarks
- 13 Baggage debarks
- 14 Passenger embarks
- 15 Baggage embarks

fragile," it had warned, setting an 84-foot height limit for buildings in the area on the waterfront adjoining the landmark Ferry Building, a granite structure erected in 1876 at the foot of Market Street. But when US Steel, backed by the mayor and the port commission, asked for 550 feet for its new building, the planning commission granted the change.

With the approval of this zoning variance last fall, the people of San Francisco got into the act. Overnight 5,000 signatures went on a petition against the plan. A full-page newspaper ad was placed by dress manufacturer Alvin Duskin, observing that the city was fast becoming "very much like Chicago and New York where life has all the joys of the bottom of an elevator shaft—a crowded elevator shaft where everyone has guns." The ad brought 2,500 responses opposing the project and some 5,000 citizens demonstrated against it, marching along the waterfront, releasing balloons near the Ferry Building.

A group which called itself the Citizens' Waterfront Committee, headed by insurance executive Robert Goldman, is seeking to stop all new waterfront development until public officials provide some studies on alternatives and answer some questions about the implications to the city. Specifically, the committee would halt the two projects now planned on either side of the Ferry Building: the US Steel tower and the Ferry Port Plaza, an urban center and office and retail shopping complex. Both projects would require height limitation waivers and both would extend into the bay.

Almost everyone on both sides agreed that no highrise buildings should be built north of the Ferry Building, but proponents of the US Steel complex, including the mayor and the port commission, argued that it would replace a rapidly deteriorating area which is already of practically no use to San Franciscans because it has become a haven for drunks and derelicts.

The strong citizen activity in response to the proposal may partially account for passage recently by the Board of Supervisors of an ordinance limiting the height of new buildings to 84 feet in the area surrounding the Ferry Building. However, the ordinance allows variations for up to 175 feet because of extenuating circumstances. It now appears that this ordinance will block or alter

the US Steel proposal. US Steel, a member of the Board of Supervisors says, is free to build its tower in any area not affected by the height limitations.

But this specific fight is only the visible portion of a broader concern that is gripping many San Franciscans in relation to their waterfront: In the name of progress and expanding the economy, more and more tall and massive buildings are crowding into the city and expanding farther and farther into the bay itself. At question is the dividing line between using a city's resources for economic development and using the same resources to insure the city's unique personality and great beauty. How much should the city strive to develop a strong identification with its waterfront and to what extent should it allow that unique and identifying gift to be clouded and exploited in the name of economic development? In planning for its waterfront, San Francisco faces the same difficult questions as other cities. The differences are in the phase of development of the city. San Francisco has grown into a great metropolis partially because of its waterfront but without spoiling it to the extent of other major cities. However, it now faces tremendous pressures to exploit it to an ever-increasing degree in the name of continued economic development.

San Francisco is acknowledged to have one of the most complete and technically sound waterfront development plans in the country. The US Steel proposal proves, though, that good planning is not enough. A conscientious and active citizenry and a responsive local government are necessary to carry the city through the often hectic times of implementation.

When Old Plans Are Expanded

There is nothing to say that effective waterfront planning and development must be a new thing to correct old woes. Waterfront planning in St. Petersburg, Florida, has been a reality and a guiding light for developers for over 50 years. It constructed its first municipal pier, a \$40,000 wooden recreation pier in the heart of the downtown business section, as part of a general waterfront improvement in 1913.

To keep waterfront development and planning up to date, St. Petersburg replaced this pier with the Million Dollar Pier,



which was opened to traffic in July 1926. This was centered by a Mediterranean-style casino, first an open-air pavilion and later enclosed to house gift shops, a meeting room and a ballroom.

But development of this area of the waterfront did not stop there. The casino was demolished in 1967 and a Pier Park was installed in its place as an interim project. Now, the famous Million Dollar Pier is coming to life again with the construction—to be completed this fall—of an inverted pyramid building with gift shops, restaurant, exhibition space and dance floor. The city's capital improvements program includes a special waterfront development section and in 1969 the City Council allocated \$1,185,000 from this section to begin work on the new pier.

The pier project is only part of an overall development plan which will refocus attention on major public ownership of several miles of waterfront near the central core of the city. When the plan is finished, 80 percent of the downtown waterfront will be on government hands, 75 percent of it developed for recreational uses. The remaining 20 percent will continue to be used for industry, but the plan calls for upgrading the industrial sites.

When Cruise Business Is Big Business

Seaports—and this goes for our own as well as for most foreign ones—more often than not have ramshackle pier facilities for its seafarers, in sharp contrast to what they find onboard. Being the gateway for luxury liners to the Caribbean, the Bahamas and Latin America, Miami has seen the necessity of providing its increasing number of cruise passengers with comfort on the pier, coming and going. Its seaport on Dodge Island in Biscayne Bay handles around half a million passengers yearly and

more than 2,000 ships with over three-quarters of a million tons of cargo.

The new Port of Miami, on a 275-acre site on Dodge Island, is a facility which has borrowed from airport design in order to reach a maximum level of efficiency: It has baggage check-in counters; passengers are processed at counters and rise to the lounge of the seaport on level with the ship's entrance—all in a one-directional, straight line operation. Debarkation is a similarly streamlined procedure.

The new seaport is only one of the Magic City's waterfront activities. In a metropolis wed to the sea, constant changes and expansion take place on the waterfront. In Miami today, it means new facilities for a maritime office center near the seaport and a new Oceanographic Laboratory for the Environmental Science Services Administration. Along the Miami River with its increasing pollution, it means renewal and restoration.

When Business Needs a Lift

Oshkosh, a city of some 50,000, has like most other cities suffered from sagging trade downtown. The Fox River, which runs through the heart of town before flowing into Lake Winnebago, the state's largest, has hardly helped lure the public into the retail district: Along its shores are empty warehouses, buildings for small and heavy industry, railroad tracks and other assorted not-too-attractive elements. Recently, however, business stepped in.

Not that Oshkosh has an overall plan for the river, but separate projects may well spur enough interest to bring one about.

In a small town like Oshkosh, where all sorts of sports and recreation are easily accessible, emphasis on the urban waterfront has been on transportation and industry; it will probably continue to be commercially oriented. The first new thing on the river scene was the Pioneer Inn, a motel and convention center built on a neglected site.

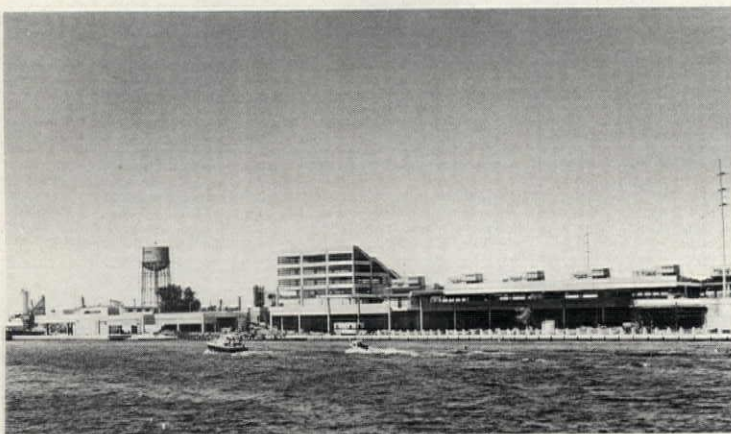
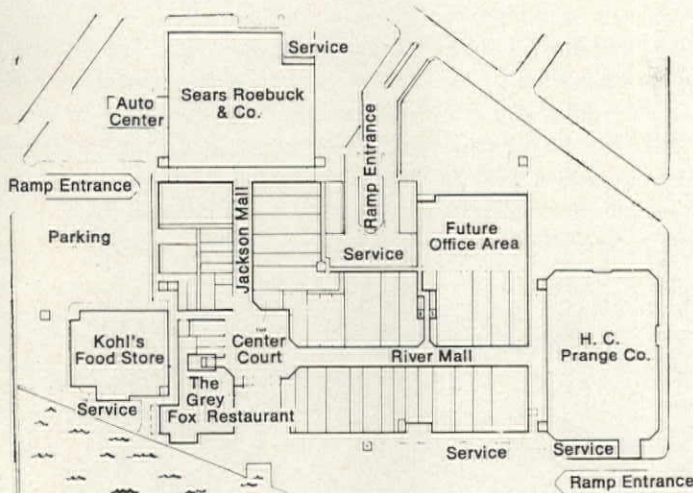
Then in 1965, Miles Kimball Co., the mail order firm, conceived the idea of building a large shopping center on the river to provide urbanites a wholesome setting for their activities and in addition, of course, give the city's business and the city itself a much needed boost. The thought didn't excite retailers much; the trend was, after all, to move away from the city.

But Sears, Roebuck & Co. caught on, as did the H. C. Prange Co., a Wisconsin department store chain, as well as Kohl's supermarket. And so, assembly of an 18-acre site began in the spring of 1966. Negotiations with the 26 owners were completed in late 1968 and construction of Park Plaza started in October of that year.

In the process, 20 old industrial buildings were razed; three railroad companies agreed to relocate their tracks—a boon not only to the scenery but to traffic on Oshkosh's main arteries; and the site was rezoned to the commercial category, resulting in a better use and a higher tax yield. Miles Kimball built new buildings elsewhere for several of the displaced companies and also financed the relocation of one segment of new railroad tracks.

The Wisconsin Public Service Corporation, which had principal power lines crossing the site, put up 125-foot steel masts at its own expense to provide clearance; the state highway division gave top priority to replacing the worn-out drawbridge across the Fox River, a principal feeder of the downtown shopping area.

With the doors opened last fall, Sears, Prange and Kohl will be followed, or have already been followed, by 50 other stores and a restaurant. The main court in the center and the restaurant have views of the river; the other stores, on either side of an enclosed mall, face inward. Instead, a walk extends completely



Park Plaza in Oshkosh, a separate renewal project built to attract business to the ailing downtown area, may well draw new attention to the riverfront. By Welton Becket & Associates, the privately financed plaza combines retail, commercial, cultural and recreational facilities.



Part of the Saint Louis Riverfront Development Plan calls for recreational use of Mosestien Island. An overlook tower will be the focal point.

along the riverfront with steps for sitting during good weather and with docking facilities for small boats.

For 10 cents an hour, customers can leave their cars on two stories above the 800-foot mall. Parking, all-important to a shopping center such as this, had to go up above since soil conditions were not suited for below grade.

When Federal Funds Play a Part

Cities with downtown waterfronts in old, decaying areas have access to a great financial resource for upgrading them: federal urban renewal or neighborhood development funds. But despite the new developments that can be accomplished with such funds, use of them has an inherent danger that can probably better be understood by looking at specific cities. South Bend and Mobile are two medium-size cities presently developing their waterfronts with urban renewal funds.

Mobile, a city of some 225,000 people, is both a river city and a seaport. Through the 18th and well into the 19th centuries, the chief activities of the downtown riverfront was the exchange of goods between ocean freighter and riverboat. It was natural that the railroads, when they came, also sought the riverfront. This coming together of different transportation terminals in one small section fostered the warehouses and wholesale establishments along Commerce and Water Streets. As trucking began to take a large share of the railroad's freight, warehousing and wholesaling were freed from their riverfront and railroad-siding locations. Both they and retail outlets began to move to outlying centers more convenient to consumers. For the downtown riverfront, the consequence was deterioration and decline.

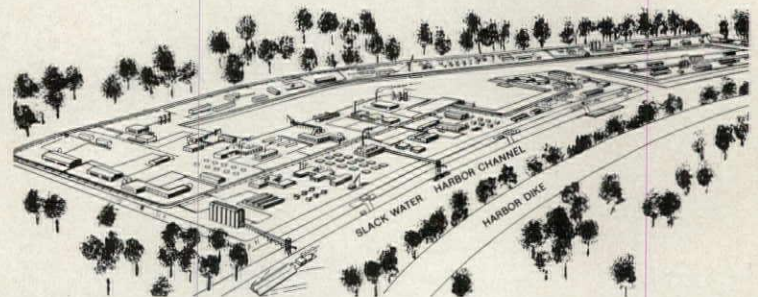
Still, the basis of Mobile's economy is its role as a sea- and riverport and expansion of its port accommodations is a major goal of all waterfront planning. The residential and commercial area immediately behind the port facilities has turned into the city's worst slums. Therefore, the city became available for urban renewal money to revive its waterfront and the blighted area adjacent to it. The city has planned for waterfront development projects totaling nearly \$30 million, to be paid for with two-thirds federal and one-third local funds.

As in many urban renewal plans, public housing is to take up a large percentage of the land area. The docks are to take up most of the waterfront. Between the two (public housing and docks), the water will be completely inaccessible to most of the citizens. Planners in Mobile recognized the necessity of utilizing most of the waterfront for the port that is the city's "reason for being." Still, they hoped to develop at least a small portion for the entire community. When plans were first drawn, it was thought

that the urban renewal project might bring to reality a dream long held by planners: a downtown riverfront park. So the design suggested a block-long plaza, raised above railroad tracks and parking and accommodating an exhibition hall, an office tower for maritime agencies, and a bank of shops with a restaurant overlooking the river. But the Alabama State Docks management felt obligated to use the two city blocks for ocean terminals, necessitating shelving of the park plan.

Such outside interference with their proposals to increase the esthetic value of their waterfront is not new to the city planners. A generation ago, a scenic parkway was proposed for the west bank of Mobile Bay, but with World War II, the Bayfront Road was closed and a military installation put in, killing the appealing potentiality of a bayshore parkway.

South Bend is a city somewhat smaller than Mobile, with a population of about 135,000. Its economy is less dependent upon its downtown river but it, too, has blighted commercial and residential areas near its riverfront. This is included in the city's \$30 million downtown urban renewal plan, which is oriented to the river. Planned developments along the water include a 1,000-unit public housing complex, an office building complex, a cultural



The Greenville Harbor Industrial Park will comprise 945 acres when completed and will include a dock and terminal facility to serve the entire Greenville area. All park sites will have access to the channel.

center, a hotel and a river restaurant. One of the goals of the city's urban renewal effort is to make sites available for new development. Large portions of the river frontage is undeveloped, heavily forested property. City officials look to these to assure "maximum implementation of proposed riverfront developments."

In this plan, the combined highrise housing and office complex will cut off the largest portion of the downtown riverfront to the general public. However, smaller sections of the riverfront will be visible and accessible to the public at the river restaurant and near the cultural center.

In South Bend, as in other towns with central business districts near the waterfront, urban renewal is making possible large-

scale and rapid development but is tending to cause the type development (such as high rise apartments and office towers) that limits access to the waterfront to small segments of the public.

When Uses Depend on Economy

St. Louis is in the process of changing the concept of how best to use its riverfront. This change marks the most recent step in the evolution of how a city looks at its waterfront. When it was founded 200 years ago, St. Louis' very existence depended upon the Mississippi River. As in many other cities throughout history, the river provided most of the necessities of life, served as a means of trade with other parts of the country, and thus stimulated the city's economy.

With the river being the city's primary reason for growth, it was natural for the riverfront to become the most active industrial, warehouse and transportation center. The flourishing of industrial use dictated the pattern of riverfront development in St. Louis for many years. But as far as considering the river a natural amenity, the city has turned its back on the Mississippi. Hence, a view of the riverfront today displays an unused potential, the general deterioration of past dynamic industrial uses, and makes clear that most of this area is not available to the citizens of St. Louis because of its inaccessibility and uninviting development.

But today, St. Louis is attempting to change this picture. It has asked itself what its unique natural asset means to the city and what can be done to enhance this asset for all of its citizens. The answer has been the beginning of a new cycle which includes completion of a comprehensive riverfront plan, development of the Jefferson National Expansion Memorial as a focal point for the whole riverfront, improved vehicular access to the municipal dock and other industrial areas, and many other improvements both planned and underway. Two of the outstanding, people-oriented features of the St. Louis plan are the Mosenthien Island proposal and the scenic, 19-mile riverfront parkway, destined to become a part of the Great River Road.

Located in Illinois but only 2,000 feet from the St. Louis waterfront, the undeveloped 934-acre Mosenthien Island, with

white sand beaches and largely covered with trees, has great recreational potential as a bistate regional park. A shortage of natural recreational facilities nearby makes immediate development of the island for this purpose a top-priority goal of the plan. No other large tract of land near the central city exists which could be used for recreation. Regularly scheduled ferry transportation now links the island with the mainland.

The initial plan calls for leaving natural vegetation on the north end of Mosenthien, which will be developed into a camping area with cabins and tent sites. There will be lakes for fishing, canoeing and ice skating; a pavilion for shelter; a stable; and a water ferry.

Long-range plans propose bridges to connect the island with both Missouri and Illinois; the former would connect with the proposed Riverside Parkway, which will be one of the outstanding features of the mainland section. Vehicular circulation on the island will be limited to a series of loop streets, some of which will be built on low levees to protect improvements from occasional high water. The loops and bridge approaches will all intersect at a large traffic interchange with an overlook tower. Near this, a motel-hotel complex is suggested.

The riverside parkway, construction of which has already begun, will make the riverfront available to the general public, whereas today most of it is inaccessible. The 19-mile route, prohibited to trucks and commercial vehicles, will be built on levees, along flood walls, on slopes and on overpasses in order to provide the best possible views of the river. It will isolate park land and recreational uses from incompatible railroad and industrial areas.

Since most of the land around the Gateway Arch was already publicly owned, construction of the parkway in this area has been completed. The development of this, the public wharf and the water areas in this section are part of the Jefferson National Expansion Memorial, of which the Gateway Arch is the central feature. It is here that a marina is proposed to provide connection to the east side of the river and to Mosenthien Island.

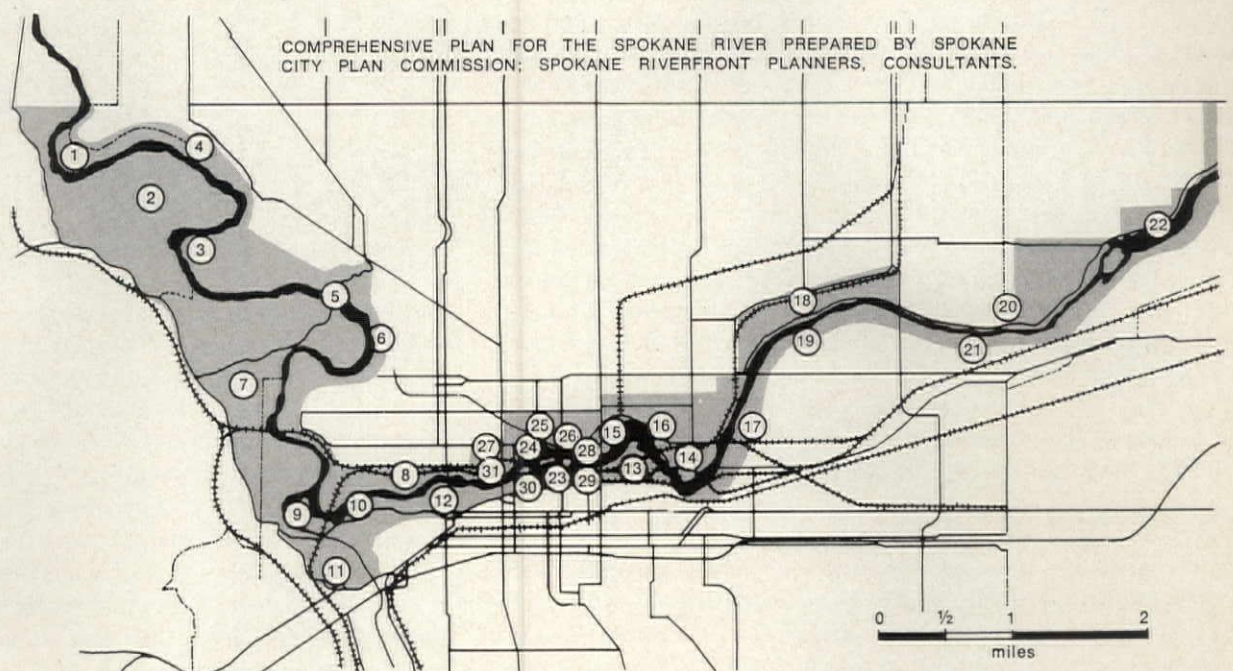
At the same time that St. Louis and other large cities are beginning to look to their waterfronts to increase the amenities of

Downriver

- 1 Park and recreation area
- 2 500-acre wilderness area
- 3 Golf course and park
- 4 Expanded and landscaped sewage treatment plant
- 5 New bridge to replace existing one
- 6 Landscaped banks
- 7 Future college expansion and college housing
- 8 North River Drive and new residential apartment area
- 9 New 200-acre park
- 10 New low-level lower crossing bridge
- 11 Improved alignment of road
- 12 Medium rise apartments, park strip along river

Upriver

- 13 Future industrial, distribution center or education center
- 14 Industrial park
- 15 Education center
- 16 Upriver Drive extension to North River Drive
- 17 Extension of present road or alternate north-south freeway location
- 18 Upriver Drive, apartments, planned unit development
- 19 Residential
- 20 Residential
- 21 South River Drive extension, college expansion, industrial park
- 22 Upriver Dam recreation area



Central area

- 23 Island open space, promenade, convention center
- 24 Park vista point
- 25 Park

- 26 New North River Drive connecting to Upriver Drive and Downriver Drive
- 27 Courthouse area expansion, park drive, river vista point

- 28 Promenade and specialized commercial
- 29 Highrise apartments
- 30 Government center

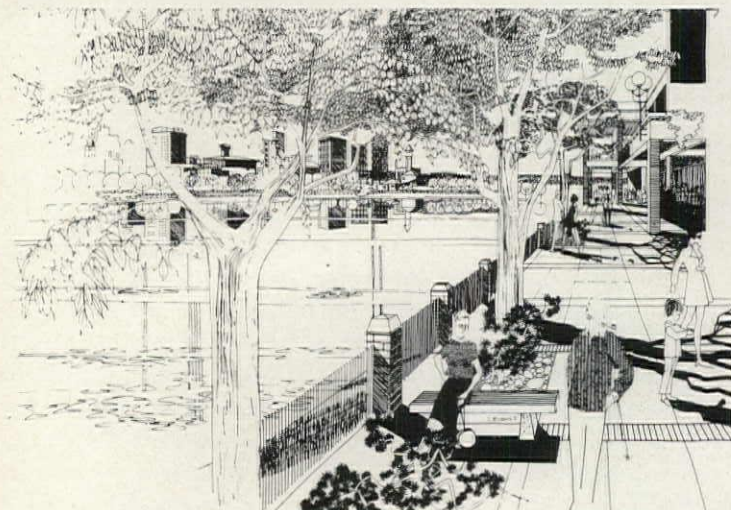
- 31 Spokane Falls visitor center, road couplet extended across river



gridiron rail-bridges. A river of color, but cluttered with man-made deterioration."

The plan had been in the minds of Call and its other initiators a long time before it got underway officially in 1963, when the Spokane City Plan Commission proposed a project which would bring people into intimacy with the river for relaxation, work, active recreation, education and worship. But somehow it got sidetracked for a couple of years during a period of river cleanup enthusiasm, until a piece of riverfront land came on the market for possible business use. This happened at a time when a comprehensive park plan with a chapter on riverfront development had been adopted by the City Council. The threat of dense development brought the overall river plan back to the fore.

The whole thing might have been sidetracked again had it not been for the City Plan Commission and other interested



life, a small city farther down the Mississippi River is very much aware of the economic possibilities of its waterfront.

Greenville, with a population of 45,000, is a lovely town with shaded drives, little or no air pollution, few industries, and adequate recreation areas for its citizens. At the same time that larger cities are trying to take waterfront land away from industry, or at least limit its monopoly of them, Greenville is pulling out a large slice of its beautiful waterfront in order to develop a well-served industrial park to attract business.

Growth and economic development is the goal of Greenville's waterfront planning while improving the living conditions of its people through increased use of its greatest natural amenity is that of St. Louis. One is an underdeveloped town hoping to pump new blood into its arteries, the other is overdeveloped, looking for parks, open spaces and other recreation areas.

But a city like Greenville, now in the throes of growing up, can look at the problems of a St. Louis and avoid mistakes that lead to inaccessible and uninviting waterfronts.

When Efforts Are Concerted

No matter the obstacles restoration of a waterfront offers, they can be overcome if a city knows what it wants. Take Spokane, a city of nearly 300,000, which has its river plan thanks to dogged persistence and patience on the part of planners, city officials and volunteers—including architects.

The Spokane River, in the words of city planning director Vaughan P. Call, is "a river of dancing water . . . but hidden by parties. Before groups such as the Rotary, Kiwanis and Lions

North bank looking toward Spokane's business district (left) as it is, and what's planned for it; the site for and a proposed education center (above) — Nos. 28 and 15, respectively, on map on preceding page.

Clubs, the Mortgage Bankers Association, the Real Estate Appraisers, the Chamber of Commerce, various ladies' clubs, etc., the commission staff gave presentations showing sketches of the river potential, drawn by volunteer architects and landscape architects. The presentations were always introduced by a commission or City Council member.

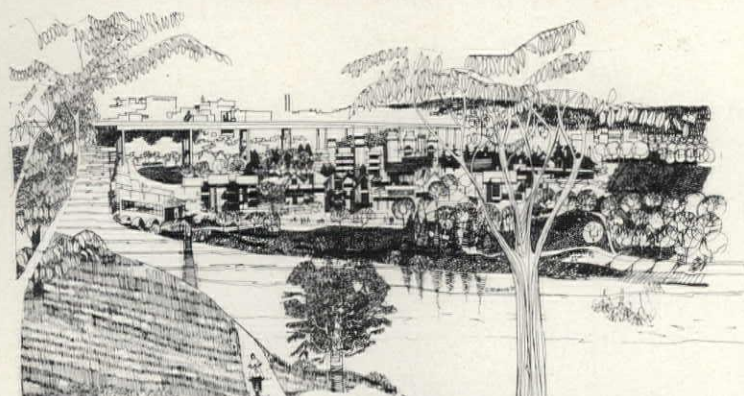
Then, in 1967, the commission requested—and got—funds to hire a team of Spokane architects, a landscape architect and engineers. The team was employed not on a consulting basis but as a temporary part of the commission's staff with the city planning director in charge. The Phase I concepts of the plan were to be publicly reviewed while still on the drawing board and to be approved by the commission and City Council before the team could proceed to the next phase.

Within three months, 44 presentations of the plan were made to the public. At each, questionnaires were handed the

audience in order to get individual reactions to the plan. Here was the key factor in getting public support: People appreciated being able to express their opinions during the planning stages rather than after completion of the project. Also, the planners had carefully avoided any proposal of a grandiose but impractical nature which might destroy enthusiasm for the entire project.

In addition to the questionnaires, the 1,100 property owners along the river were each sent a letter asking their ideas and plans—this in order to get the private sector interested in the overall project.

By May 1968, the planners, with 687 written endorsements and a stack of suggestions, were ready to go to the City Council for official selection of a concept. Adoption of it, Call says, was pure political pleasure. A good plan, effective communication and involvement of citizens and elected officials were the reasons.



Locale to be redeveloped into garden apartments (above, No. 12 on map); wilderness area and adjacent parking (right, No. 2 on map). Spokane City Plan Commission; Spokane Riverfront Planners, consultants.*

The Phase 2 detailed design was ready for presentation to the public in early '69. Another round of public meetings and luncheon speeches, along with television and newspaper coverage, helped assure the adoption. Written responses at this point numbered 1,200 for the plan and 21 against.

A major problem the Spokane City Plan Commission was up against was that of persuading three national railroads to consolidate their traffic on a fourth rail route removed from the river. The executive secretary of a businessmen's organization, King Cole, and Spokane's mayor, David H. Rodgers, were in charge of wooing the railroads: Great Northern; Northern Pacific (now merged into the Burlington Northern Railroad); the Union Pacific; and the Milwaukee.

*Albert H. Funk, Donald H. Murray, Carl H. Johnson, John H. Aylor, Bruce F. Mauser, Edward M. Musgrove and William S. Marshall, all AIA, architects; Robert L. Woerner, Richard Haag, landscape architects; John P. Esvelt, W. W. Saxton, engineers; Harry F. Aumack, traffic engineer; Paul Thiry, FAIA, consultant.

Following two years of formal and informal meetings, all four railroads agreed to the riverfront plan. After that, says Call, "we talked in terms of 'when' the railroads move rather than 'if' they move." From here on, the meetings concentrated on engineering and financing issues involved in the move, while Mayor Rodgers and Spokane businessmen as well as US senators and congressmen tried to encourage the railroads to make an early move. The first one is now scheduled for March 1973.

After the move, acres of vacant land along the central riverfront will give room for many new uses including apartment houses with public access through to the river, one of the projects suggested by the planners in order to give the railroads financial incentive.

This shows up the strength of having an overall concept: Planning the user mix along the full stretch of the river made it possible to set some of the railroads' properties aside for development that would be remunerative. Before, the 3,800 acres of riverfront were 38 percent vacant, 28 percent private and 34 percent public. When the plan is completed, 38 percent will be private and 62 percent public, which goes to show that the public will not be shortchanged in any way. This point had been proved by the commission already, for by the time of the formal adoption of the plan it had, among other things, acquired a 500-acre wilderness reservation, 165 acres of a planned 200-acre central park and a large share of a central river island.

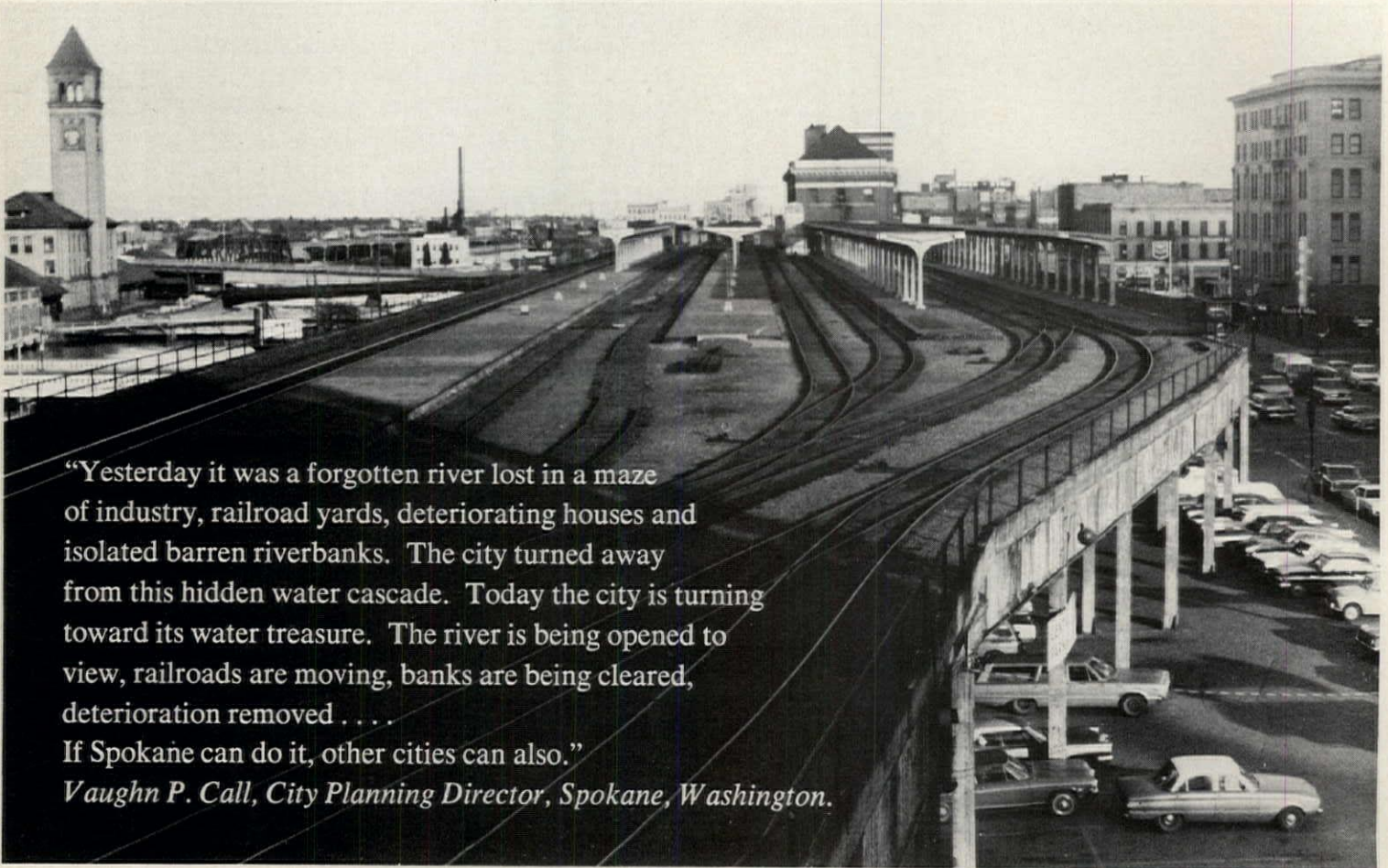
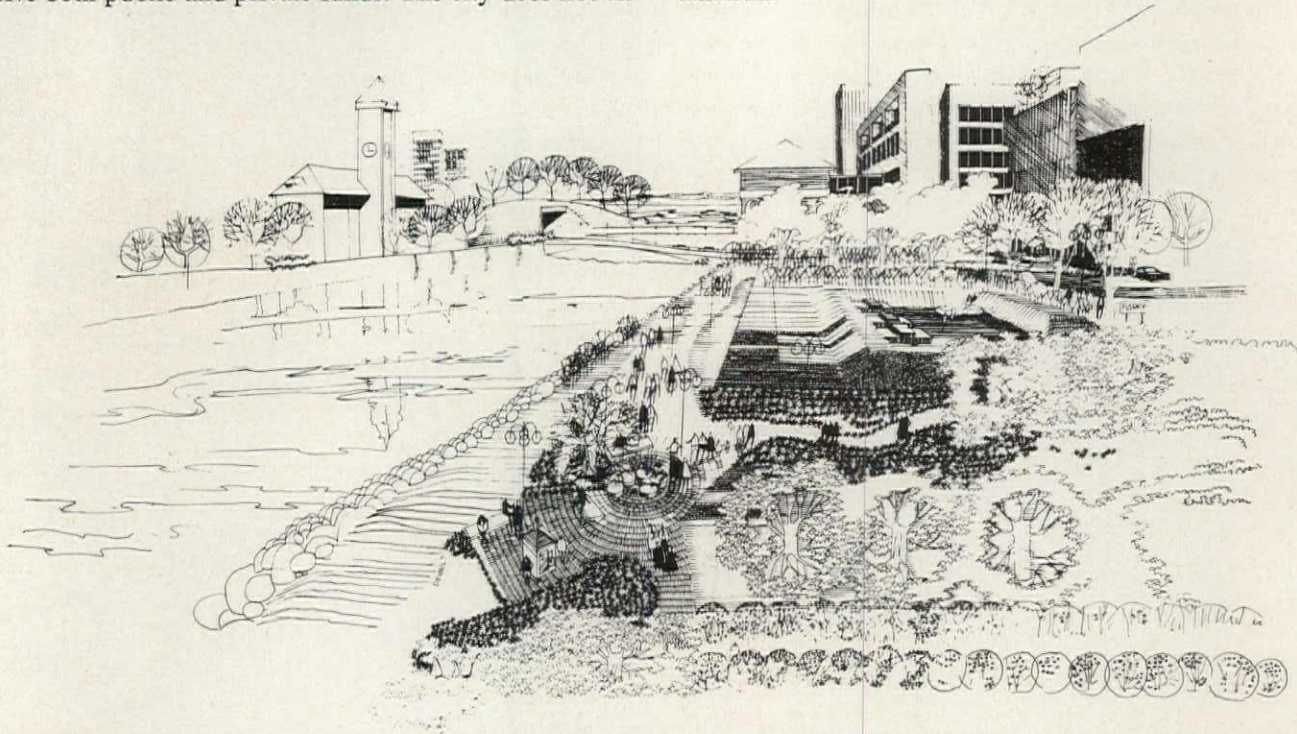
These and other projects underway did not cost a new city bond issue, special levy or extensive city appropriations. In hard cash Spokane spent less than \$100,000 for professional services

above its regular planning and engineering staffs over a two-year period. Its share of the matching funds for open space to date has been less than \$200,000, taken from general operating funds.

Spokane has plans for a 1974 exposition and if these are carried out, the majority of the work along the river will be realized within five years. If not, then much of it will be done in five years, but some items may take up to 15 years or more in order to spread the cost and because the pressure of a deadline would have been relaxed.

The total improvement is a multimillion dollar project which will involve both public and private funds. The city does not an-

ticipate any bond issue except for a particular key item such as the City/County Building. The vast majority of the entire project is a day-to-day improvement of the community over a period of years, using a combination of existing programs including local, state and federal funding for conservation, arterial improvement and open space. Substantial donations of money and land are expected. Private improvements could well exceed the investment in public improvements. The entire project is set up and has so far been executed successfully on the basis of coordinated planning over a period of years without any substantial new taxation. □



"Yesterday it was a forgotten river lost in a maze of industry, railroad yards, deteriorating houses and isolated barren riverbanks. The city turned away from this hidden water cascade. Today the city is turning toward its water treasure. The river is being opened to view, railroads are moving, banks are being cleared, deterioration removed . . .

If Spokane can do it, other cities can also."

Vaughn P. Call, City Planning Director, Spokane, Washington.

A Hard Look at Incorporation

by LEIF C. BECK

Much can be gained from a professional corporation in the proper circumstances, but the decision whether to incorporate should be approached much more seriously than often occurs. A mistaken choice could be costly both in dollars and in patience; a failure to weigh the corporate gains by its tax imposed rules can cause bitter disappointment. Therefore, the architect should give his decision the same degree of care that he gives his professional work.

Every architect has undoubtedly been exposed to speeches and articles, often accompanied by examples of potential dramatic tax savings, extolling the professional corporation. These presentations most of the time are made by individuals who have vested interests in the architect's incorporating. This is most obviously true of life insurance salesmen, but it will similarly apply to mutual fund representatives, stock brokers and even bank trust officers. A great many attorneys and accountants have also been overly simplistic in encouraging professionals to incorporate.

I am enthusiastically for professional incorporation. Nevertheless, I have observed that the decision whether to incorporate should as a rule depend upon a number of highly important considerations which are frequently ignored. Professionals who have previously incorporated and later decided to get out of corporate form have often done so because of their failure to conscientiously consider some of these factors. In addition, even though the Internal Revenue Service now accepts most states' professional corporation statutes, some tax questions remain open.

Since these various personal and tax considerations are so often avoided or glossed over by persons "selling" the architects to incorporate, I would like to dwell on them here. Advance consideration of these matters, with the assistance of an independent consultant, may be of great help in leading the architect to the correct decision and thus in avoiding difficulty a few years later.

Can You Afford It?

An architect can indeed reduce his income tax bill considerably by incorporating and adopting a corporate pension and/or profit sharing plan. He must recognize, however, that this tax saving arises only by his giving up some of his spendable income. For instance, an architect in the 50 percent tax bracket who has his corporation contribute \$10,000 of his income into a retirement plan will save \$5,000 of taxes but he will nevertheless be out-of-pocket a net \$5,000. He will not be able to use or enjoy the \$10,000 set aside for him until he retires from his corporation, at which time he must pay tax on it, presumably at a lower rate. The vital question thus arises: Can the architect afford the tax savings?

I have seen many high-income professionals who are committed to spending every dollar they are presently earning. One classic example is an \$80,000 a year physician with eight children in private schools and colleges. His negative cash flow would hardly have been solved by professional incorporation. Similar cases come to mind of high-income earners with comfortable, though unwise, habits of spending all or more than their yearly

incomes. To place these people into a professional corporation could lead to disastrous results. Any consideration whether to incorporate should start with this question: Is each principal—and, perhaps as importantly, his wife—willing and able to meet his lifestyle and commitments without the funds to be placed into a corporate retirement plan? Only the architect himself can supply the answer, but a failure to consider it could make his professional corporation an economic straightjacket.

Have You a Better Use for Your Money?

Even the professional who can afford to incorporate should be careful not to choose the corporate route automatically. He should consider whether the tax-free corporate retirement plan is the best place for part of his income. One recent example comes to mind, involving a high-income attorney who on the surface appeared to be a perfect subject for professional incorporation. My interview with him revealed that he had an excellent real estate investment into which he was pouring much of his income and which he expected to develop within the next few years. This project appeared to be a much better investment choice than even the tax-favored corporation retirement plan. In addition, it was generating considerable tax deductions which did not appear on his firm records. In effect, this attorney already had his own retirement plan, more favorable than a corporation could offer.

What Will It Cost You to Cover Your Employees?

The architect should also recognize that an incorporation will involve extra costs which may not appear on the salesman's chart. One of these may be particularly relevant to an architectural firm. Any corporate retirement plan benefiting the architect/owner himself must proportionately benefit his employees and since an architectural firm may have a fairly high ratio of employees to principals, this cost could become quite high. In a standard profit sharing plan, for instance, if \$10,000 is set aside for the benefit of the \$80,000-a-year architect/owner, then \$1,500 must be set aside for each of his \$12,000-a-year draftsmen and perhaps \$800 for each secretary and clerk.

There are a number of ways to reduce this cost of covering the lower-income employees. One popular method is to "integrate" the corporation's retirement plan with its payment of social security taxes for each employee. This will permit smaller contributions with respect to salaries under \$7,800 than with respect to the excess portion. It will not, however, do away with the cost for the lower paid employees if the high income earner wishes to set aside any significant part of his own income. Another method often promoted by insurance salesmen is the corporation's adoption of a "fixed benefit" pension plan in which proportionately more funds are set aside for older employees. If the owners of the practice are older than most of their employees, a not unusual situation, the fixed benefit plan will again help weigh the contributions in their favor.

A combination of the integration principle and the fixed benefit plan may certainly help to reduce the cost of maintaining

... Fowble has with offices in Omaha, Nebraska, announced the incorporation of
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a retirement plan, but the architect must still recognize that in order to have substantial funds set aside for himself he must also have amounts set aside for his employees. This becomes a cost of incorporating and must be carefully outlined and studied.

Are There Other Unstated Costs?

Recent developments in the tax law indicate another cost which has until recently practically been ignored. This is the virtual requirement that the professional corporation itself have taxable income almost each year. The chief counsel of IRS and two recent court decisions have pointed to the lack of corporate net income as a sign that a corporation is paying too much in the way of salaries and retirement plan contributions for its owners—that the owners are receiving “unreasonable compensation” as employees because part of it is instead a return on their ownership of the practice. More alarming, these sources have suggested *how much* profit a corporation should have before it is able to pay salaries to its owners. Whether they are correct in their suggestions, these authorities indicate the need for corporate net incomes considerably higher than what has in the past been suggested by the professional corporation promoters.

Having a corporate profit results in a direct cost to the architect/owner. The classic example of professional corporations ignores this matter completely when it suggests that an \$80,000-a-year architect might incorporate and save \$10,000 of income tax each year. It is based on his corporation's paying him a \$64,000 salary and having \$16,000 (25 percent of his salary) set aside for him in the corporate retirement plan. The corporation would in this example have no profit at all.

Based on the recent tax authorities, however, some considerable amount would instead have to be held back as corporate profit. If \$8,000 were held back, then there would be only \$72,000 for the architect's benefit as salary and retirement plan contributions. The \$8,000 profit would be subject to a corporate income tax of \$1,760 (plus any state corporate income tax), which is thus an additional cost of incorporation. The remaining profit of \$6,240 might be paid out to the architect as a dividend, but since a dividend does not count as “compensation” it does not justify increasing the amount put into his retirement plan. If instead the remaining \$6,240 were retained by the corporation as corporate surplus, an advantageous method of retaining funds at a lower tax rate than the architect's, those funds would in the meantime be unavailable for his present use and would be taxable to him when ultimately distributed.

This “corporate profit” requirement should be kept in perspective. It is a new cost factor to consider in deciding whether to incorporate, but it should certainly not cause a person automatically to reject incorporation. The architect should simply recognize this new cost factor in his computations and accept the fact that he cannot expect every dollar of savings described on the salesman's chart. It is the type of factor that can well be analyzed by the architect's tax adviser or independent consultant.

How Do These Factors Apply to Several Partners?

There is one final economic matter which will sometimes badly confuse a partnership's decision whether to incorporate. The various economic advantages and disadvantages are difficult enough to apply to a single architect, but in a partnership they must be applied to each partner and yet result in a single unified plan that suits each of them. The difficult question is whether the partners' varying economic and personal situations can be accommodated into a single professional corporation.

An obvious example of this question would compare the \$80,000-per-year senior partner, age 55 and whose children have all graduated from college, with his \$50,000 per year, 42-year-old junior partner with five children in private schools. Similarly, one partner's lifestyle may be such that he can afford (and perhaps wants) to set substantial amounts of his income aside, while the other partner's personal habits require him to spend as much or more than he makes. In these situations, the partners must somehow conform their differing requirements to the single corporation and its single retirement plan.

It may also be misleading to suggest that other corporate fringe benefits must be accepted and will be useful to the professional corporation. For example, many people unthinkingly have the new corporation purchase the partners' automobiles for them, pay their club dues and entertainment expenses and reimburse them for their medical expenses. All of these proposals may be desirable on paper, but the first and most important aspect is whether they will fit into the varying personal habits and situations of the partners involved. As an extreme example, the partner satisfied to drive a Volkswagen would hardly be willing to see his professional corporation purchase a Cadillac for his equal partner. The same situation applies with club dues, entertainment expenses and even medical reimbursements. Although adjustments could be made in their salary structures, the adjustments add additional complications to what should be a standard salary award. Once again, these difficulties merely stress that none of the advantages of a professional corporation should automatically be accepted. They should be applied only after the partners have considered carefully whether they will be consistent with their personal relationship to each other. The independent adviser who takes the time to consider his clients as individuals who must continue to work in harmony can be invaluable in this respect.

Will You Accept the Rigidity of Corporate Form?

In addition to critical analysis of the economic factors, an architect considering incorporating should be aware of other possible adverse factors. One particular such is that the corporation's legal formality (which justifies the favorable tax treatment) also causes it to be more demanding and less flexible than a partnership. A group of partners, for example, often can tailor their partnership relationship to their different personalities and desires, but it may be far more difficult and in some cases impossible

...ural and planning firm, Rogers, ...
...the addition of three partners and the incorporation³ announced the incorporation o
...ration will be known as RTKL INC. The newly ... firm. Under the new structure
...Harold L. Adams, ... provide more compreh...

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to personalize their various interests as shareholders and employees of a professional corporation. As a result, these questions arise: Is the architect willing to integrate his practice into that of a corporation? Is he willing to accept the status of an "employee," even if it means little more than change in form, after years of pride in his professional independence?

If only a single architect is involved, these questions should not be difficult to answer. If, however, several partners are involved, the question may be a serious one. A recent tax court decision has clearly established that a professional corporation which fails to integrate the former partners' practices into a *single* practice will not succeed. Each of the partners must therefore face up to the personal question of how a truly integrated group practice will fit into his philosophy and habits.

Will You Respect the Corporate Details?

There are other questions somewhat related to the preceding one: Is the architect willing to live by the rules of the corporate game? Will he make the required changes in bank accounts, letterheads, door signs, etc.? Will he accept the periodic need for shareholders' and board of directors' meetings? Will he tolerate his attorney's and accountant's insistence on following certain forms and details that may be of no real importance to him?

IRS, having conceded that a professional corporation may be taxed like any other corporation, is now concentrating on how such an entity is actually being operated. Thus the various details of corporate activity must be obeyed as the only means of assuring desired tax benefits. General experience shows that these details will not normally interfere with one's professional practice—they are usually a small price to pay for the desired tax savings. The architect's philosophy should nevertheless be such that he will accept and respect these changes of form and their attendant annoyances. If he is not personally prepared for them before deciding to incorporate, the dramatic potential tax savings may begin to lose their appeal.

The importance of details applies even more strongly to the solo architect who desires to incorporate. Although it is now clear that IRS will accept the one-man corporation, it is equally clear that every argument for denying corporate tax treatment to any professional corporation applies in spades to the one-man corporation. The solo's legal documents will be more thoroughly scrutinized, as will his salary and retirement plan structure. His method of business operation almost certainly will be more closely reviewed for "corporateness." As a result, the solo architect has the most to gain from conscientious legal, accounting and

consulting advice based on experience with professional corporations. What he may save on fees by hiring advisers without such experience may well come back to haunt him upon IRS review.

A View of the Tax Future

Any architect who considers incorporation is obviously concerned whether the present tax advantages will continue to be allowed. Several Treasury Department officials have publicly stated that they will propose new legislation, considerably reducing the tax desirability of incorporation. At this time, however, there is no clear indication that their proposals will be delivered to Congress in the near future. Nor can one predict whether such changes would be enacted into law by Congress, whether they would be radically altered or whether they would simply die with so many other bills proposed but not accepted.

The most recent experience with proposals affecting professionals occurred in the Tax Reform Act of 1969, in which the Senate Finance Committee had recommended a provision drastically reducing the benefits for professional corporations. When finally brought to the Senate floor, however, it was defeated by a vote of 65-25.

Whether the same result would apply to the presently discussed proposals is unknown, but I believe that any prediction that they will actually become law is pure conjecture. My personal belief is that the ideas have recently been reduced in priority by the Treasury Department itself. Even if they were adopted, they would undoubtedly apply prospectively only so that an architect currently incorporating will probably have one or two years' enjoyment of the existing tax law before he is affected.

An architect considering incorporating should be well aware of the possibility that the tax law may be changed to make his professional corporation somewhat less desirable than it appears today. If, however, the various economic and personal considerations strongly favor his incorporation, I do not believe he should delay simply because new legislation may develop. The politics are too substantial for anyone to predict what the eventual outcome will be. For the architect to "wait and see" is much the same as professionals have been doing ever since the first professional corporation case (the Kintner case in 1956) until the Treasury's concession the year before last. The architect should simply be aware that the present advantages may be reduced somewhat in the near future but that incorporation under the proper circumstances will still offer him very substantial advantages. With this understanding, he can take advantage of the present tax situation at this time and yet not be overly disappointed if and when any changes arise.

Hopefully this article has not made me appear to be an opponent of professional incorporation. On the contrary, I believe that the architect or group of architects whose economic and personal circumstances are carefully considered and found to be appropriate will have much to gain by taking the "corporate leap." □

Mr. Beck, who is president of Management Consulting for Professionals, Inc., Bala Cynwyd, Pennsylvania, is a member of the American Bar Association Special Committee on Professional Corporations and a subcommittee chairman of its Committee on Employee Benefits. He has been a continuing member of the faculty of the Practising Law Institute's forum on professional corporations and a lecturer to the New York University Institute on Federal Taxation.



Centennial Square occupies a four-acre site between two major thoroughfares. The old city hall, renovated and freshly painted white and gray, is on the northwest corner. At the right are located a few of the surviving buildings of Victoria's once thriving Chinatown.

Landscape architects Muirhead & Justice of Vancouver solve the 10-foot fall in the site with a series of terraces which connect differing parts of the square. Color and texture are supplied by brick planting areas and flush patterned strips in the concrete pavement.

Notes on CENTENNIAL SQUARE in VICTORIA

by LEONARD K. EATON

Centennial Square in Victoria, British Columbia, is one of the most interesting, if generally overlooked, bits of urbanism in North America. Many people visit the city to shop or to see the gardens for which Victoria is famous. Architects and planners should stroll up Government Street from the harbor and experience the square. It is of importance on two counts.

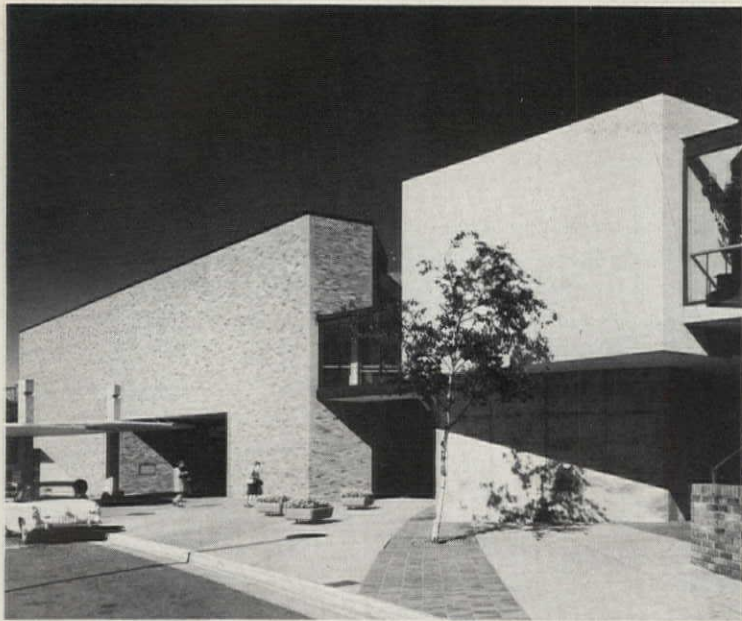
In the first place, it was developed by a city of only 160,000 people, setting it apart from such large undertakings as Mellon Square in Pittsburgh and Ghirardelli Square in San Francisco. This means that the scale community resources are entirely different. The United States, however, has a multitude of cities in this population range, and most of them are grappling with problems analogous to those which were solved in Victoria. Centennial Square is more meaningful to them than the larger urban complexes which are better known.

Second, it incorporates historic buildings with great charm and effectiveness. The old city hall and a turn-of-the-century theater are fundamental elements in the scheme. The presence of these structures gives the square a continuity with the past which the citizens of Victoria find wholly desirable. It has, in fact, achieved a wonderful degree of local acceptance. That it has not been publicized is possibly due to a certain Canadian diffidence and modesty.

Like most similar projects, Centennial Square owes much to an energetic and gifted local politician, Richard B. Wilson, who was mayor of Victoria from 1962 to 1965. At the time he took office, the condition of the old city hall had long been a matter of deep concern. The plaster was falling; there were rumors of structural failure; and the surrounding area was in an advanced stage of decay. Various plans for the construction of a new building had been advanced, and it was clear that something had to be done.

Circumstances combined to produce the plan which was finally adopted. One was the availability by bequest to the city of the old Pantages theater, a building for many years in disuse but in fundamentally sound condition. Another fortuitous happening was the visit to the city of Donald Emmons of the San Francisco

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The strong masses of the restaurant and theater additions close the entrance to the square from Government Street, providing an excellent southern anchor. The Aalto-ish detailing of the new theater, designed by Alan Hodgson, is in contrast with older, more weathered buildings.



The visitor who enters the square from the Government Street entrance is aware of a true "explosion of space" effect, almost baroque in manner. The severely articulated elevation of the police department building is an excellent foil for the thick and colorful planting below.

The car park and shopping arcade at right are by John A. Di Castri. People leaving the car park have a birdseye view of the square at the southwest corner. One may drive to the structure, park his car, walk to the restaurant, have a leisurely dinner and spend an enjoyable evening at the theater.





The basic form of the city hall extension by Wade, Stockdill & Armour and R. W. Siddall Associates is derived from the effect of pedestrian movement (top). The knot garden in the foreground is probably the only one of its kind in North America. The fountain, the focal point of the square, has a surrounding concrete bench which children love.

architectural firm of Wurster, Bernardi & Emmons. He came to consult with Mayor Wilson on a new campus for the University of Victoria. The mayor asked him to go over the old city hall. Wilson recalls that at the conclusion of the inspection Emmons remarked about the building's quality. With a coat of paint and a certain amount of rehabilitation the city of San Francisco would be glad to pay money for it, Emmons said. This comment apparently hit the local papers like a bombshell, causing people to take another look at the ancient monument. A feasibility study was authorized to make an appraisal of the structure and to report on the potential of combining its renovation within an urban redevelopment project.

At this stage of the game, the idea of a square seems to have originated in conversations between Wilson and Roderick Clack, an architect in the city's planning department who finally became project coordinator for Centennial Square. It became evident that the redevelopment could act as an anchor for the central business district and serve as an impetus for further renewal. It also became clear that certain other much needed facilities could be included in the program, such as a senior citizens' center, a shopping arcade, a restaurant and a parking structure. Together with additions to the theater, the city hall and the police station, these became the essential elements of the new complex. □



MOSHE, the Giant Killer

by ABRAHAM D. LEVITT, AIA



Moshe Safdie, 32 year-old Montreal architect, whose vision may help reshape urban environments, has been named to the highest architectural chair of the Yale University School of Art and Architecture. He has become the Charlotte Shepherd Davenport Professor of Architecture and teaches a special seminar in urban housing during this year's spring term. Safdie's original Habitat-Montreal is now occupied, and 43 units are scheduled for the near future. In addition to Habitat-Puerto Rico, other projects on which he is currently working include Tropaco, a condominium resort in the Virgin Islands and Yeshivat Porat Joseph, a residential/educational complex in the Old City of Jerusalem.

Habitat-Montreal at Expo 67 was acclaimed as a breakthrough in modular housing, providing both privacy and open space, and at the same time, amenities that high densities can supply. The aftermath, the problems encountered in similar projects and the implications of the designer's thinking are significant for today's architect as new construction systems replace traditional building methods and innovative materials are developed.

Born in Haifa, Israel, Moshe Safdie spent his formative years there. Haifa is essentially a mountain ridge covered with cubistic dwellings. I remember my first view of it from the deck of an old rusty coastal steamer as looking remarkably like Habitat-Montreal. This was many years ago when Safdie as a teenager roamed its slopes and absorbed its special beauty.

In his recent book, *Beyond Habitat* (Cambridge: MIT Press, 1970), Safdie stirred my curiosity about what has happened beyond *Beyond Habitat*. He poses the problems of 1) creativity confronting the worn-out Establishment, 2) the birth of systems construction in North America and 3) the role of the architect in both of these situations. Here I propose to discuss what I observe about this architect's thinking. I hope that these observations can help harried chapter program chairmen like myself "to open the floor to discussion" of the continually changing role of the architect.

In his terse, lively book, Safdie makes the point that in order to present our jaded world with a creative idea, it is not only necessary to be an artist and a thinker but also to don one's armor and enter the lists. It seems that there is no other way when one's idea is controversial, especially if the basic premise is to serve society's needs rather than the individual's. Witness Robert Moses, who struggled for years to create Jones Beach State Park and its astonishing (for its own time) parkway system by battling to obtain land from entrenched landholders, an even more fortified bureaucracy and an apathetic public. In Safdie's case, the plot is changed, but the scenario remains the same. The list of obstacles he describes is legion and covers the gamut of bureaucracy and intransigence.

His troubles with Habitat began while the project was still in the conceptual stage. He was refused the Pilkington Glass Scholarship because Habitat was not a "building." On the other hand, later, when Habitat-Montreal was looking for money to fund its early attempt at systems building, the Canadian National Research Council would not provide monies because neither Habitat nor building experimentation at all could be called "research."

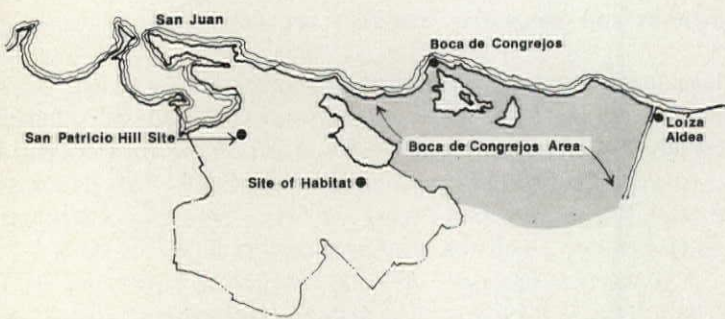
In fact, Habitat-Montreal was approved by accident. The original plans called for a temporary housing exhibit on Mackay Pier against Safdie's wishes. He relates how, while the arguments went back and forth, Habitat as a permanent building project was inadvertently approved as a notation on the master plan.

On the other side of the coin, Safdie mentions that if Habi-

tat were to continue for five miles in its present guise, it would be intolerable. Actually, it might have been overwhelming at the original 1,000 dwelling units planned. It seems, then, that lack of money and official obstruction which reduced Habitat from its original 1,000 dwelling units to 138 probably saved it from being an unwieldy urban design solution. James Fergusson mentions in his controversial *History of the Modern Styles of Architecture* that St. Peter's could have been saved from its hugeness by the same fortunate accident.

Safdie dwells on the visual and social effects of Haifa on his architectural thinking. He noticed that the design of Arab homes was suited to the lifestyle of a close-knit family with many physical provisions for privacy from the outside world. He could not help but note the Jewish atmosphere of strong, community-mindedness in which he was raised. As a result of this dual environment, influences upon Safdie are the need for privacy and initiative, coupled with a superimposed civic responsibility, all expressed in architectural terms.

From late reports, some such feeling has been engendered in the present inhabitants of Habitat-Montreal, but mainly because they constitute a kind of elite and also because the project is isolated. Such cooperative thinking would eminently meet the lifestyle of Puerto Rico, where people rely on each other a great deal. Indeed, one can observe this combination of individual family life and strong community participation in many Federal Housing Authority cooperatives and the various union sponsored housing projects, composed of all elements of the New York melting pot. These people are housed in the vast common brick rookeries conceived in the days when design oriented architects thought hous-



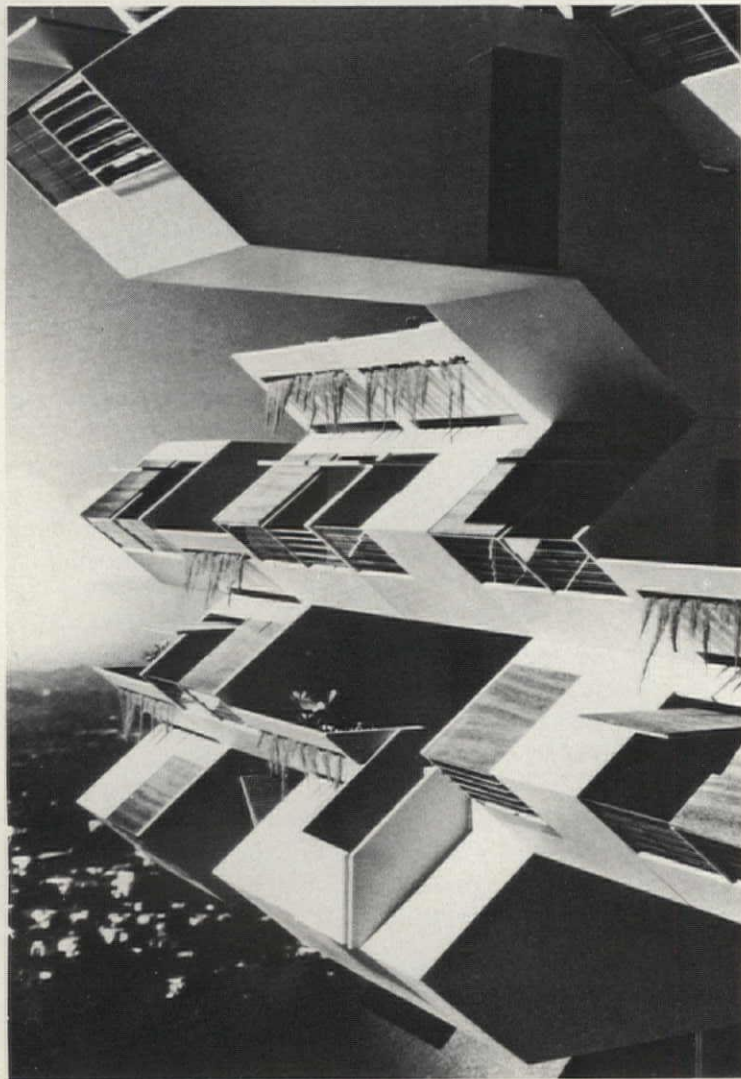
ing as not deserving of their precious gifts. How expressive it would have been to house a cooperative group in a physical environment which revealed the needs and goals of that group — and what a true definition for the word “architecture.”

To get back to Habitat-Montreal, there were many aspects of this project that are pure rationalization for an exposed location alongside the cold St. Lawrence River in Canada. They can be summed up in my wife's telling phrase (she's an architect's wife; so I must listen) as we traversed and admired the flowing spaces of Habitat: “This building belongs in Puerto Rico.” Safdie will barely admit that the architectural design is experimental and prototypical although he stresses the fact that the concept of the boxes, their erection and their cost were justified in their not-completely-worked-out state because they were experimental.

To pursue this point a little further, Safdie speaks a great deal about the design of terraces, pools and fountains, grass plots and gardens. However, he does not concede the fact that, given Montreal's climate and winds, the ultimate solution might have been another Ford Foundation building, completely weather-proofed, so that the gardens, terraces, grass plots and sidewalks in the sky might have been functional for 12 months every year instead of three or four at most.

Others have approached the problem of climate differently. For example, a very rational architect friend of mine upon being given

Habitat-Puerto Rico (below and opposite) being constructed by Development International Corporation as general contractor; Moshe Safdie & Associates, consultants and system designers; R. A. Perez Marchand and George C. Mark, architects for the project; Conrad Engineers-T.Y. Lin, structural consultants; Hugh Martin, structural engineer.



the constraints of a hotel program on a Caribbean Island — heat, humidity, winds, daily torrents of rain and noxious odors from nearby sewage — said simply, “Enclose it in reflecting glass and aircondition it, and then let's study it.” He was saying, let us overcome all of the functional constraints at the beginning with the tools we have in hand and then let us look at the architectural design. This might be called the engineer's solution. I would say that it is an environmentalist's answer, although the architect who made the statement happened to have been trained by John Russell Pope.

Safdie's book speaks to this point, and I urge you to read it because it is enlightening. He tells us how he invented a system and locked himself into it, and then fought his way out of it by never losing his architectural perspective. In 1964, processes had not been perfected for plugging foam or spun plastic modules into a lightweight frame. If such had been the case, Safdie might have had more time for new thinking in terms of living patterns rather than of solving the crushing weight of concrete boxes piled up to the sky. And, as I pointed out earlier, Safdie had to battle against the “other system,” that is, the administrators, managers, government ministers, fellow architects, concrete companies, decorators' magazines — you name 'em, and they appear.

What we architects face in the “wave of the future” is being locked in, not by an engineer's solution but by solutions devised by truck manufacturers, their brothers-in-law, appliance manufacturers and even architects themselves. The solutions are called “systems.” I am told everyday by fellow architects, “Well, you have to accept this God-awful circulation; we're locked in by the system.” Yet we are in great need of construction systems in this country. The housing industry has ground to a complete construction stop, and the general contractors and unions could grind down to a halt in the next 24 months. So, we are in need of something which will provide a physical solution to the housing problem; the financial solution is in other hands.

Helmut Schulitz of the University of California at Los Angeles has pointed out that the well-known European building systems being introduced into this country that apply technologies of 20 years ago are based on financial, technological and sociological situations in Europe not applicable in the United States. The trouble with the systems imported from Europe is that, except for Townland and a couple of the other more original Operation Breakthrough thoughts, they all will tend to make the outer fringes of our cities look like those of Moscow; their living amenities are of like nature.

On the other hand, Safdie's systems proposal for Habitat-Puerto Rico, which I will get to soon, is somewhat too intricate and does not solve the mugging problem (what does?) — but it breathes, it is full of life, it is a system designed to the needs of human beings and not to those of the cement-casting machine exclusively.

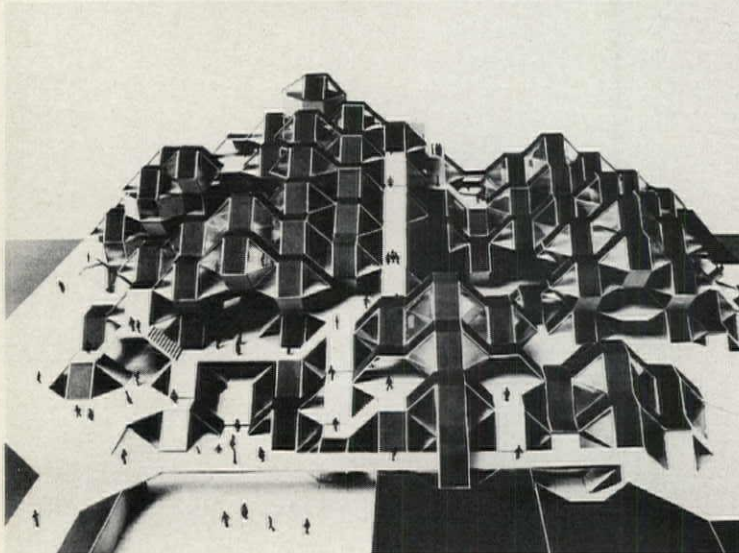
Habitat-Montreal was finally completed and occupied. What followed? Habitat-New York was lost in the miasma of city officialdom and the credit crunch. Habitat-Washington was sunk in the federal quagmire. The San Francisco State College Union building was lost in the reaction to the student revolt of 1968. What is left? Habitat-Puerto Rico.

To inquire further into the problems of designing, organizing and causing a forward thinking concept to be constructed, I trudged down to that lovely island on a busman's holiday and interviewed the sponsors of Habitat-Puerto Rico mentioned in Safdie's book. They are a group of builders who move into systems construction only where the need for such is established.

Originally, Habitat-Puerto Rico was to have been built at



Some find Puerto Rico a more fitting climate for the sidewalks in the sky of a Habitat than the exposed location on the cold St. Lawrence River of Habitat-Montreal (top). The never-built Student Union for San Francisco State College was a victim of the 1968 student revolt.



San Patricio Hill, a prominent topographical feature on the south side of the bay from Old San Juan. In an article I wrote for *Progressive Architecture* in February 1965, I gave 19 ways in which bureaucracy smothers creativity. At San Patricio, all 19 methods were used.

After searching for a site for a number of years, a little mound south of Laguna St. José, near Rio Piedras, was found, and about 108 units are being built thereon. Surrounded by a public housing and a lower middle class single-house development, Habitat-Puerto Rico will not have to offend the worthy dwellers of the San Patricio area who are one notch above public housing or the lower middle class and who objected to quasi-public housing in their precincts. And, of course, one reason for not allowing construction at San Patricio was the ecological and environmental excuse about denuding the hill. Interestingly enough, a lovely hill near San Patricio, one of the last topographical features in the denuded San Juan area, was being stripped before my very eyes, but probably to provide fill for a gas station.

The world moves in strange ways. While Safdie and his associates are putting all their creativeness and ingenuity into 108 dwelling units on a little mound, at the same time, on the other side of the lagoon, the Boca de Congrejos (Mouth of the Crab) area with thousands of acres of mangrove swamp and 10 miles of palm-covered beaches adjacent to San Juan is ready for development. And what are the main features of the development as presented to the public? Frontier town and other Disneyland-type characteristics! The designers seem to be influenced by public relations people, hotel men and government officials — all experts in their particular fields, I am sure, but not in planning the development of one of the most important urban areas in the Western Hemisphere.

Other people in other places have treated the problem somewhat differently. When the Indian Government was confronted with a sudden lack of American dollars and when Mathew Nowicki died accidentally in the midst of designing the Chandigarh master plan, they didn't run to their paste-up department and have them finish up the plan. Rather, they went to Maxwell Fry in England and he, in turn, brought in Le Corbusier. And now we have a tremendous architectural tradition derived from that one undertaking.

Why does this Disneyland-type of thinking happen every time a large American development gets underway? Maybe because the promoters are so promotional in their thinking that they do not truly gauge the difference between public benefit and public titillation.

We are now going through a period of retrenchment, but it is also a time of innovation. The architect must stay ahead of the changing times, secure in the knowledge that his training has fitted him to solve the human as well as the technological problem associated with the new construction systems that will replace, to a great extent, traditional building methods. Safdie has demonstrated that the final result has meaning only if the guiding thought has been *architecture*, rather than all the other ingredients of construction.

Therefore, Safdie's book, *Beyond Habitat*, can serve as a guide to practitioners who are faced with the new situation in the profession and to students who will accept orientation before they move into their future work. □

Mr. Levitt, a member of the AIA Housing Committee and author of *The Architect and the Government*, is project development officer of the Welfare Island Development Corporation, a subsidiary of the New York State Urban Development Corporation.

CPM: Tool for Teamwork

by RANDLE IREDALE

How a firm uses the critical path method of scheduling to promote creative group interaction and enhance the design process.

The philosophy of practice and the use of the critical path method described here must be viewed by the reader within the context of our firm which, in nine years, has grown from a two-partner, two-employee office to an interdisciplinary group of 41 persons. The firm comprises two architect-partners, three architect-associates, 22 graduate architects and two draftsmen, plus a subsidiary number of individuals, including two structural engineers, one landscape architect, one botanist, one interior designer, one accountant and six secretarial-receptionists.

The rapid growth of the firm has made us aware that systems of practice (and even our cherished beliefs about architecture) must be adapted to suit the participants and the time and place. Our practice is organized around the premise that design by individuals is obsolete and that to achieve valid environmental design in today's complex world we need the creative participation of many specialists. Several factors unique to the 20th century lead to this conclusion.

The first of these factors is the interdependence and complexity of the environmental systems in which we are involved. These systems are evolving to the point where they should be considered in the same terms as the life support systems of the astronauts. Artificial light, mechanical ventilation and cooling, waste removal and movement systems, as well as the psychological and social systems in which we are all involved, are knitting the urban structure into a complex, interdependent web requiring design discipline of a new order.

Related to the first is a second factor: greater specialization. The increased depth of knowledge and expertise necessary to design these complex systems cannot be mastered and creatively manipulated by any single human mind. No longer can a single individual grasp the full range of principles involved in an environmental problem in such a way that he can fulfill the traditional role of the architect.

Specialization is characteristic of all civilization, but we are currently involved in a "break-point" change in this cultural phenomenon that inevitably affects our social structures, particularly our notions of authority and responsibility. As Kenneth Galbraith has pointed out, the locus of power has moved from the apparent top of the organizational hierarchy to the committee of experts well down the organizational tree.

The need for creative problem solving by specialists working and interacting in concert has made us aware of the need for a new kind of man, one with a great depth of knowledge in his chosen field but topped with an overview that allows him to interact with other specialists sensitively and openly. I call this person the "T-shaped" man. The concept of the T-shaped man underlies our use of CPM. The complexity of our systems has forced upon us a degree of specialization unthought of even 20 years ago. Today, a joint creative input of an ever-increasing group of specialists is required in environmental design. Sociologists, economists, statisticians, accountants and computer programmers are joining the

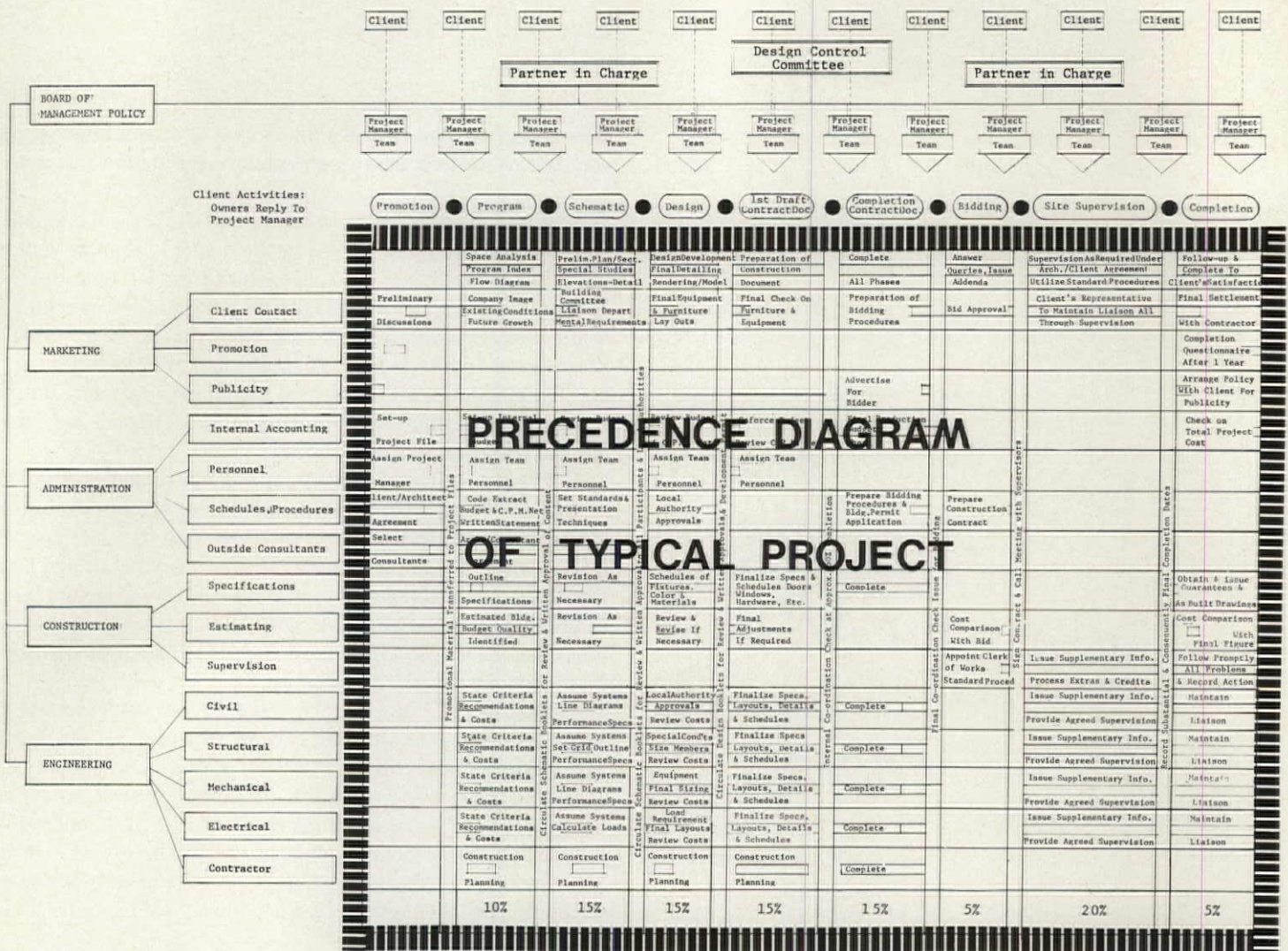


Figure 1

electrical, mechanical, structural, plumbing and acoustical engineers as part of the design team.

While recognizing that creativity (and thinking) is a phenomenon of the individual mind, we are committed to the development of a process that mobilizes the specialist's in-depth knowledge for creative group interaction.

An important tool in the development of this interaction process is CPM scheduling. CPM's graphic presentation of the design process is an architect's method that is readily understood and manipulated. CPM scheduling has not been used as often in the design process as in construction because the nature of the former has not been well enough understood to allow it to be rationally presented. Questions as to whether the design process is linear, where recycling can be expected, when and what basic concepts are developed and frozen are difficult to answer, but we have devised over the past several years a basic format that reflects the reality of the design process as nearly as we have been able to discern it.

The CPM concept has other uses too. Our office organization uses a modified precedence network diagram to indicate the responsibility and interaction of each participant of our interdisciplinary group at each phase of the work (Fig. 1). The upper left

hand corner of the diagram shows the management committee (the two partners and the three associates) which is charged with the responsibility of establishing policy, approving budgets, monitoring results and arbitrating conflicts. At the left are shown four departments: marketing, administration, construction and engineering. They answer to the management committee and have an advisory rather than a production function. They provide coordination between project teams to avoid duplication of effort and establish procedures and quality control standards in their areas of specialty. Across the top of the diagram are shown the project teams. They answer directly to the client and are assisted by a partner in charge only if he is called in by the project manager.

Within this organizational structure there is an intentional interface of conflict between the project team and each of the departments (Fig. 2). Until fairly recently, conflict was considered a negative factor to be removed in the structuring of organizations. Studies indicate, however, that conflict, within defined limits, is effective and necessary in organizing for creative activity.

Effective use of conflict requires discarding the old management axiom that calls for a "single chain of command with each participant responsible to only one manager." Within a single-route organization a fresh idea is often smothered because it

DIAGRAMS

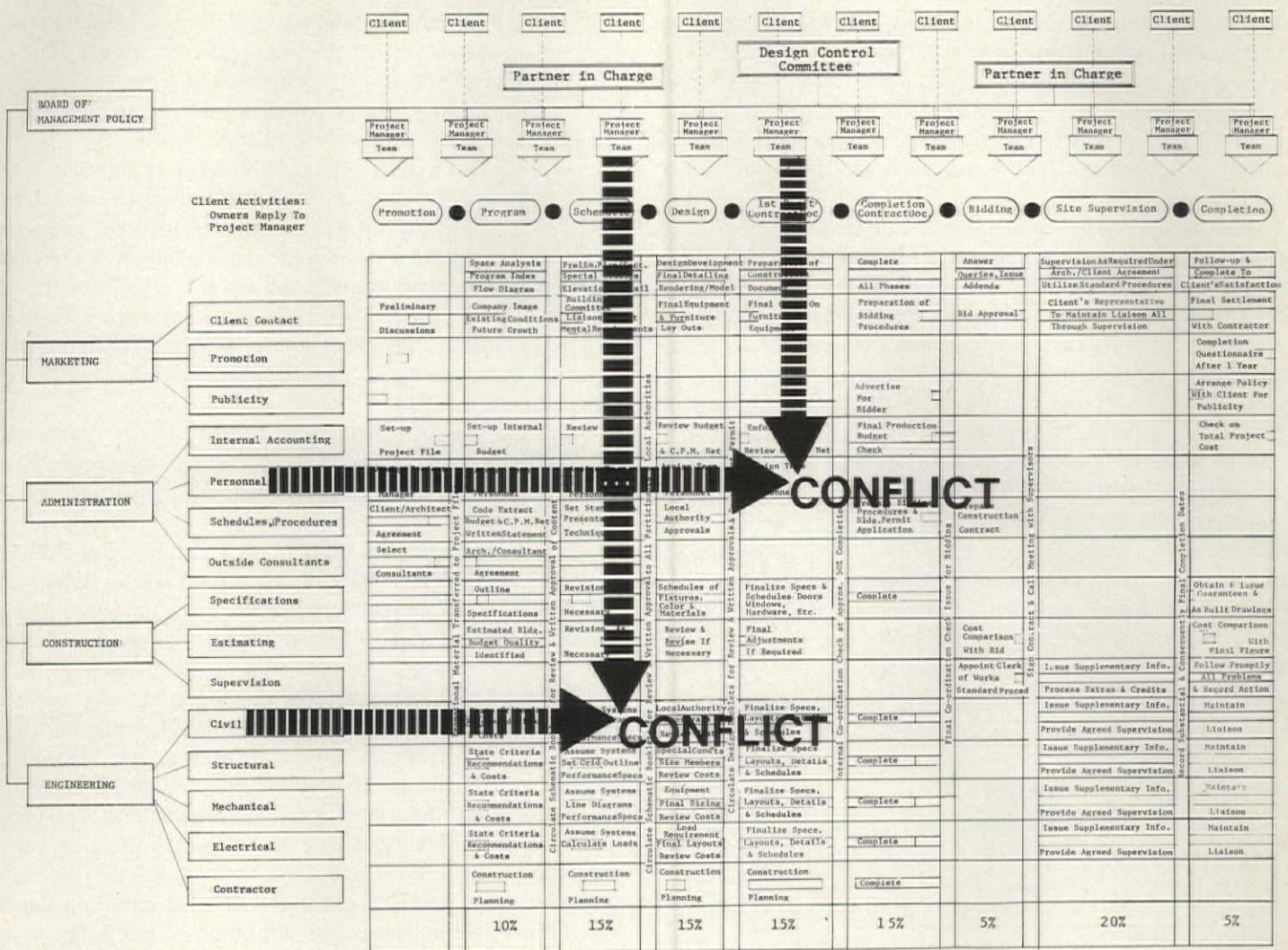


Figure 2

breaks the normal pattern, or because it may cause the originator of the idea to outshine his superior. When other routes are open through interdepartmental connections and committees, the idea will bubble out elsewhere.

The interface for creative conflict in our organization is the meeting point of the specialist department and the team responsibility. The two routes out are either through the team to the management committee or through the specialist department to the management committee.

The black circles between each phase of the project on the

diagram relate to our quality control system. The circle indicates the completion of each phase, at which time a formal booklet is published and distributed to all participants (team members, consultants, our own department and all others concerned with the project). Each has the responsibility to approve the work or return a marked-up copy of the booklet to the project manager showing those items that are not satisfactory.

The booklets are the basis for approval by all participants. Upon completion of the requested revisions, a design freeze occurs. Recycling between stages of work requires a change order

Organization diagram shown in Figures 1 and 2 is the framework for the entire firm and is not developed for each project. Figure 3 then is devised at the start of each job.

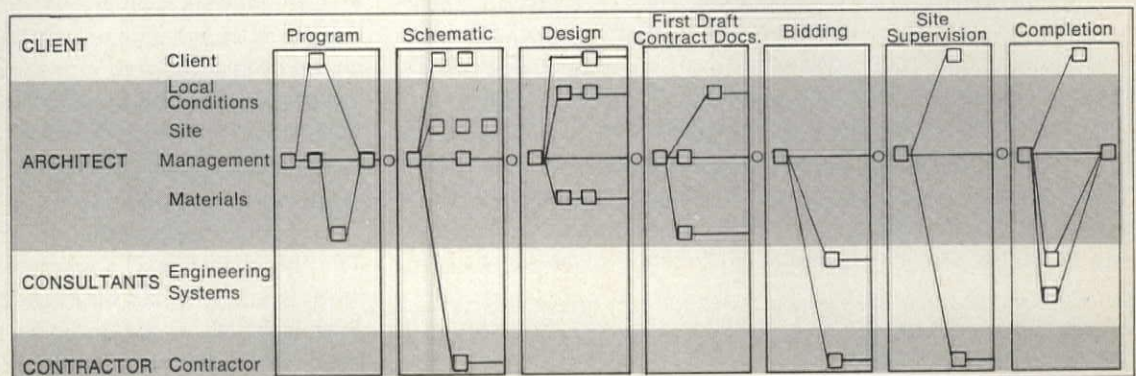


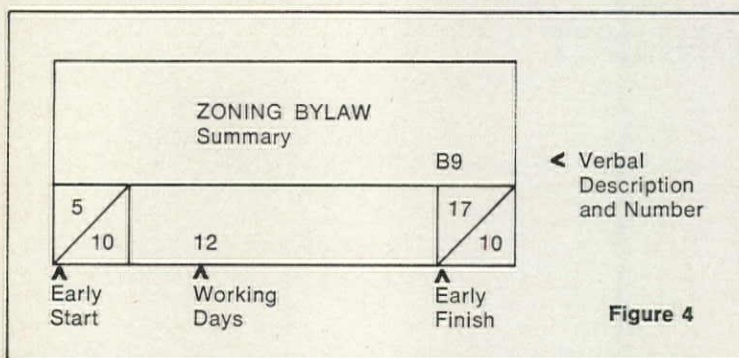
Figure 3

similar to that used during construction. Such change orders are distributed to all participants so that time schedules and budgets can be adjusted as necessary. This rather elaborate and formal communication and approval system has proved its value on small projects; it is imperative for larger ones.

In establishing a framework for joint creative endeavors, we have standardized our precedence network diagrams (Fig. 3). We use the precedence system in preference to the earlier arrow diagram because of the greater ease of diagramming and the logic that it provides. Activities (complete with description, duration and associated start and finish date) are shown in "event" boxes (Fig. 4).

We do not concern ourselves with late start and finish dates because each participant is completely occupied and must therefore meet the start and finish given. Overtime is available to maintain schedules, although our experience indicates that the inverse of Parkinson's law, "work expands to meet time available," is applicable if the estimate of time required has been prepared by the person who will carry out the work. The total hours of effort between milestones we base upon the hours funded by the fee.

Our precedence network is drawn with a soft pencil on a standard sheet which is back-printed with a grid of event squares. On the left hand margin are the titles of the participants: at the top, "client," to provide for his input of program information and subsequent approvals; next a number of specialties grouped under the title "architect," including siting, materials, management planning; then "engineering systems," (electrical, mechanical and structural with slots available for other specialist consultants as



required); and finally, "contractor," providing for input on construction procedures throughout the design process.

Working within this format, a critical path network that bears a credible relation to the reality of the work undertaken can be developed by the project manager without assistance from programmers or other specialists. The procedures for calculating start and finish dates and defining the critical path usually can be done by hand rather than with our computer terminal. For small projects not more than one hour is generally required to establish the events and their interdependency; for larger projects the process may take up to one or two days.

For purposes of basic scheduling, quality control, cost accounting and administration, we have divided our services into seven stages: program, schematic, design, contract documents, bidding, site supervision and "completion."

In our experience, the stage most critical to the success of the project is programming. It is at this time that objectives are stated which become the standard against which the ongoing work is judged. Failure to define our objectives, not only in dollars, time and space but also in the emotional function to be satisfied, re-

moves the basis for judging the effectiveness of the final design and undermines the basis for creative interdisciplinary action. For experts to work creatively in concert, it is necessary to provide a framework of common objectives and a linear sequence for decision making.

During the program phase, we attempt to assemble the full parameters that are reasonable inputs into the design. These are divided for each activity into internal requirements such as heat, light, power and acoustics and external factors such as site, weather, zoning and codes and soil conditions.

The process from this point on have been referred to variously as "synthesis," "concept" and currently "schematics." This stage involves the discovery of systems to satisfy the activities for which the environment is being created and the solving of conflicts between requirements through the discovery of the interlocking syntheses. During schematics, systems are chosen, conflicts identified and synthesis attempted by recycling and specialist interaction. It is this stage which is most difficult to define and which requires future research.

During the design stage, the chosen systems are developed (including mechanical, electrical, acoustical, structural, building envelope, foundations and circulation) in line with the program requirements and schematic concepts.

Contract documents are then prepared. Because of the completeness of the design phase, we have been able to reduce the effort to put into the production of contract documents. Previously, this phase represented 50 percent of the total project effort; now it is 30 percent. The 20 percent gain has been put into the schematics and design stages so that now programming, schematics and design account for 40 percent of the total project effort.

No design development is undertaken during the production of contract documents. The work during this phase is limited to the conversion of information into a form suitable for communication on the building site. The final phase, completion, provides for feedback on performance.

Our commitment to the use of CPM is based on the belief that the method enhances rationalization of the design process. This in turn allows us to gain greater creative involvement on the part of our specialist consultants. For years, we paid lip service to the principle of involving all specialists at the earliest possible stage of the work, but it was not until programming could be rationalized by using CPM that we were able to assign our consultants tasks and obtain their input during this early stage.

The precedence network becomes part of the architect/consultant agreement when we use consultants. Not only does CPM contribute to on-time production of construction documents but it also saves our consultants most of the losses commonly incurred by having to tardily revise their sheets to conform with the architectural drawings. CPM removes the linear dependence of the ever-growing number of specialists involved in a building project, allowing concurrent effort on many tasks without conflict.

In addition to upgrading our services to the client, CPM offers the ancillary advantage of bringing the owner's representative under the same discipline as the rest of the professional team. The owner's time for checking and approval of each stage is sufficiently defined so that late approval or changes in the program requirements by the owner are visible. Obtaining owner approval of adjustments to time schedules and design budgets is simplified.

It should be said that design management by means of CPM concepts is *not* a mechanistic delegation of authority and responsibility. Rather, it can be likened to the tending of an ecological process which, if the architect has a "green thumb," will bring forth the full creativity of the interdisciplinary team. □

Mr. Iredale is a partner in the architectural firm of Rhone & Iredale in Vancouver, British Columbia.



What would medicine be like today had not the Flexner Report in the early 1900s urged research programs to be initiated in schools of medicine? Think of all drugs and vaccines developed during the last 70 years as results of research. Perhaps if broad research efforts had been launched in schools of architecture at the same time, we would not be facing the crisis in environmental and urban problems.

A research architect investigates new building systems developments in England. Another meets with Japanese Hospital Association officials in Tokyo to discuss new joint programs. A young Pakistani researcher meets with the medical faculty at the University of Ceylon to discuss progress on a new 800-bed university hospital. What do they all have in common? They are on assignment as staff members of the Architecture Research Center at Texas A&M University's College of Architecture and Environmental Design.

This center was established in 1963 by Dean Edward J. Romieniec in an effort to make his new college directly involved in solving people's problems. It has been.

Research at Texas A&M is serious. It is relevant; quality results are demanded; and substantial sums of contract dollars are involved. As a result of significant research projects, experts and capable faculty are attracted to the college. The atmosphere is charged with challenge. Graduate professionals and research staff benefit jointly by frequent travel and close involvement with industry and government.

The objectives of the program are twofold:
1. To conduct and focus on applied building research projects relating directly to solving basic and universal human problems. For example, health, housing, education and circulation were selected as fields of study characterized by mass needs and demands. Wherever applicable, resources of modern technology and industry are utilized. This frequently has meant developing industrialization processes geared toward building systems development.

2. To conduct an educational program in research and development at the graduate level, utilizing experience in research and development projects as a vehicle for relevant education. Graduate students appreciate this; they have enough theoretical exercises and want to be part of something real.

Our organizational philosophy is to select highly motivated people to do what they are interested in. If they can do this, they will develop and so will the center. An organizational framework was created to implement this idea. Periodically this has been altered to

Where Research Is People Oriented

by GEORGE J. MANN, AIA

allow for better progress as well as to give us more flexibility to respond to change.

The Architecture Research Center was created within the College of Architecture and Environmental Design as its official research contracting branch. Its director is directly responsible to the dean of the College of Architecture and Environmental Design; the dean and the research staff are in turn responsible to both the Texas Engineering Experiment Station and the Texas A&M Research Foundation.

The director is responsible for and coordinates the research efforts. He is in charge of all projects, budgets, administrative management, new project development and formal research applications. He is assisted by a full-time director of project development who, together with an assistant, is in charge of coordinating and guiding the various re-

search project teams. An associate director assists in coordinating the administrative, project management and development matters.

Each project is assigned a full-time director, acting as principal investigator responsible for the coordination of his particular project team. These teams consist of two to six people who are generally research assistants (some of them nonarchitects) and frequently include research associates from various disciplines. The director oversees scheduling, allocation of funds and manpower, and continuous coordination of team work during the entire research effort.

The experience we have gained in obtaining actual contracts and then carrying them out has demonstrated that two distinct but related activities are involved in building a dynamic and effective research program and organization: venture management and project research and development.

If new areas are to be developed, they must be viewed as new ventures. Management of these implies many challenges, opportunities and responsibilities for a young and vital research staff. If we are going to keep it stimulated, we will have to challenge it. Consequently, the staff members are encouraged to publish reports on their projects and present their findings at professional meetings. At the same time, we stress quality so that we will be invited back. This contrast of basic activities is reflected in the general organizational framework, which combines new venture management with development for problem solving.

Since our staff is relatively small, communication is informal. Frank discussion is continually encouraged so that new ideas can flow freely. However, communication is sometimes hampered because our research projects so often carry off one or more of the staff members to Asia, Europe or around the United States on assignments. This year our director of project development, Gunter Schmitz (who came to us from the Hochschule für Gestaltung in Ulm, Germany) studied the latest developments in industrialized building in Europe in preparation for a report to the Texas State Legislature recommending that higher educational facilities be built with systems. Dean Romieniec and I made a site visit to check progress on our 800-bed teaching hospital technical assistance program with Project HOPE in Ceylon. However, as Dean Romieniec points out, new ideas often come as a direct result of travel.

Our graduate students have come to the center from a broad variety of disciplines — nursing, hospital administration, architecture, management, systems building, sociology,



Texas A&M University teamed up with Project HOPE to assist with research for a new 800-bed University of Ceylon teaching hospital.

psychology, etc. The opportunities the center offers are extraordinary. When we were doing research on new concepts in multiphasic health screening, one student flew out to Oakland, California, where she studied the Kaiser Permanente Multiphasic Screening Unit first hand. Three others have been on a Project HOPE assignment in Ceylon; six attended an American Hospital Association Convention in Chicago, yet another traveled all over the US investigating preschool facilities for the mentally retarded. On numerous occasions, we have invited consultants to review new developments in health, housing, marine and educational facilities, etc.

Besides the financial assistance provided by Texas A&M, several graduate research assistants have received financial stipends from nonuniversity sources, for instance such as the American Hospital Association/The American Institute of Architects Fellowship in hospital design.

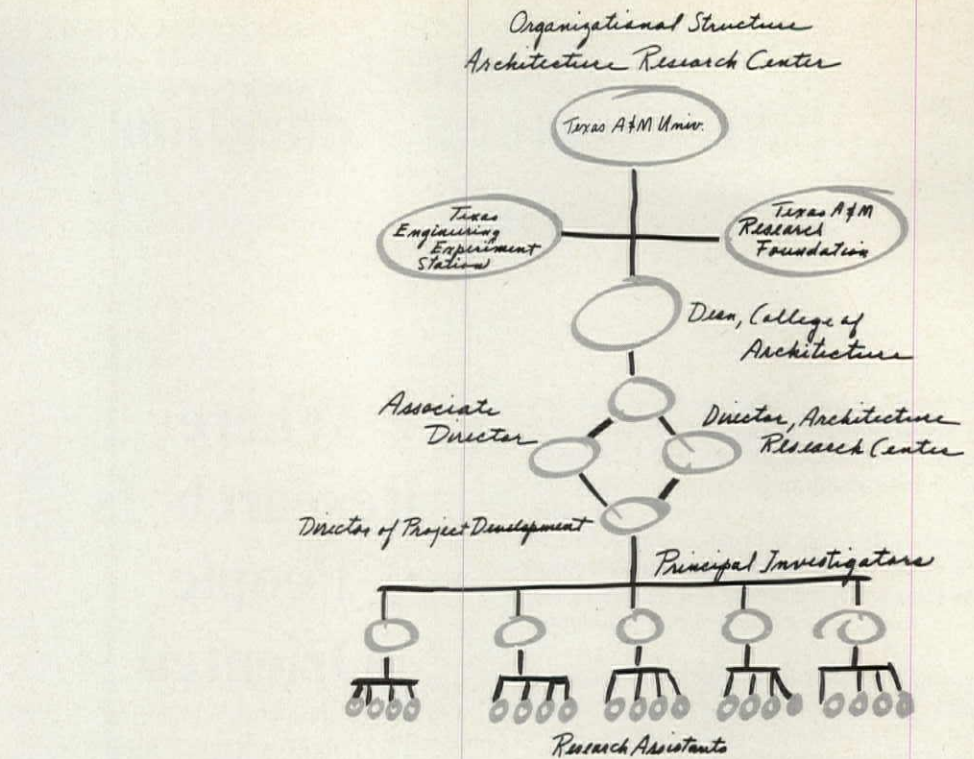
There are two degree programs: a Master of Architecture and a Doctor of Environmental Design. Depending on the candidate's background, a specific number of months are spent with an appropriate organization or agency related to the student's field of interest. An agreed number of credit hours are given for this period. The purpose of this part of the program is to give the students an opportunity to become exposed to practical situations before their degrees are awarded. The research staff benefits from this program too, since each graduate student must report on his activities.

The center considers this work/study program a very important part of the graduate student's education. During this phase, one student became a staff member at Johns Hopkins University in Baltimore; two spent four months at the Health and Hospital Planning Council of Southern New York; another one worked as a health planner at the Indiana Hospital Association.

The organization or agency is responsible for his stipend and, recognizing that the student is not an employee but is on an educational development program, it evaluates his efforts in detail. The student returns to take a final oral examination upon completion of this phase.

Of our graduates, one is assigned to the Department of Defense and is working on the "New Generation of Military Hospitals Study"; one is with Naramore, Bain, Brady & Johanson in Seattle; one is with Gordon Friesen, International, and is traveling extensively to familiarize himself with international health problems.

The Architecture Research Center is housed in its own eight-year-old, two-story building directly adjacent to and connected with the College of Architecture and Environmental Design Building. The fact that it



Preschool facilities for mentally retarded, the result of a two-year study. Randolph Waligura, project director. A. Rorke Vanston, AIA, and Dr. Robert Jaslow coordinated project for HEW.

is housed independently permits informal contacts and the exchange of ideas and information at any time between staff members. An open administrative area as well as two open studio/conference areas — subdivided flexibly according to the requirements of the project teams — encourage interaction.

Financial support comes from some State of Texas funds but primarily it is obtained from sponsored research contracts undertaken by the center. The staff, the dean of the College of Architecture and Environmental Design and the staff of the Texas Engineering Experiment Station carefully consider and analyze any proposed research contract to see if it indeed will result in significant research which will benefit people while at the same time actually meriting a concerted effort by and being of benefit to Texas A&M.

For example, we deeply believed in the need for development of a mobile health unit. Although a minimum amount of funds were available, we proceeded with the research because we felt the unit was a serious need.

As a result of the nature of our research projects, as well as the development program

for our graduate research assistance, we have established close working relationships with a broad variety of organizations, agencies and institutions. We have been exposed to many experiences in R&D during these past seven years. Here are some of the more important points we have learned:

Staff: Organization of the staff should be on an interdisciplinary basis.

Efforts: Research efforts must be people-oriented in order to maintain the interest and talents of younger staff and graduate research assistants. Our early emphasis was in health facilities. We diversified into new areas without diluting this program. Consequently our broader interests now reflect the total concerns of the College of Architecture and Environmental Design.

Sponsorship: Research contracts must be obtained in order to provide the necessary

Mr. Mann is director of the Architecture Research Center at Texas A&M University. Edward J. Romieniec, AIA, dean of the university's College of Architecture and Environmental Design, assisted with this article.

funding. This is a difficult task. To develop and evaluate a new system or product, extensive time and a lot of money are involved. However, a research center should allow new ideas to develop into exploratory projects.

Variables: Things rarely go just as planned. If the results are known ahead of time there is no need for research in the first place. Financial reserves must be provided for unforeseen circumstances. The administrative load in new research project development and active research project management is considerable. A serious research effort requires 100 percent commitment.

Information: Rapid access to all kinds of current general and technical information on a national as well as an international level is a necessity. Without it, the staff will no doubt duplicate what someone else has already done. As a result, we have built up an excellent research library.

Dissemination of Information: Research findings, to be truly contributive, must be published as well as presented at professional meetings.

Support: Continuous administrative and financial support at all levels of the university is critical.

Of the 21 R&D projects we have undertaken since the establishment of the center, 12 were results of sponsored contracts; nine were exploratory. They encompassed such areas as health, mental health and retardation, housing, education, recreation and inner city transportation. Among them:

- A joint venture with Presbyterian Hospital of Dallas and the architectural firm of Roscoe Dewitt, also of Dallas, to demonstrate a modular interior system of construction for hospitals. Sponsors: the United States Public Health Service and the Presbyterian Hospital.
- A technical assistance program to research the requirements for a new university hospital in Peradenya, Ceylon. (This came about as a result of Dean Romieniec's suggestion that we explore new research programs with Project HOPE in Washington, D.C.) Sponsors: Texas A&M and Project HOPE.
- A study to find an economic and flexible

building system to ultimately replace obsolete facilities on 21 campuses throughout the state of Texas, in cooperation with the architectural firms of Page, Southerland & Page, Austin, Texas, and Caudill Rowlett Scott, Houston. Sponsor: the Texas Department of Mental Health and Mental Retardation.

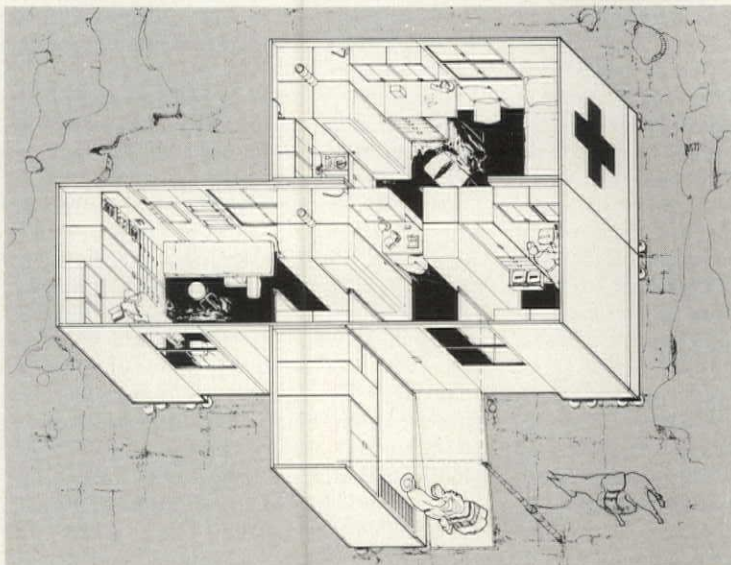
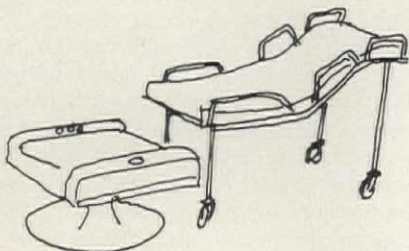
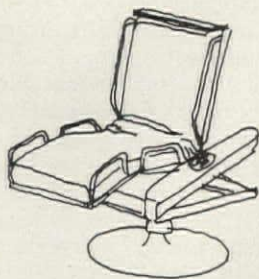
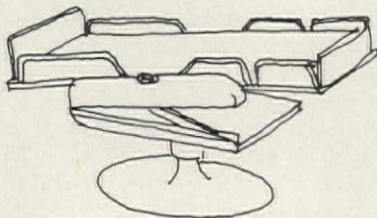
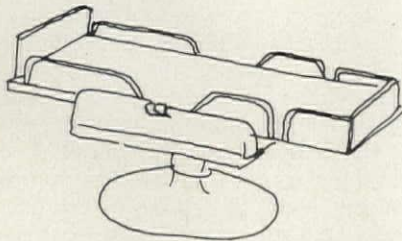
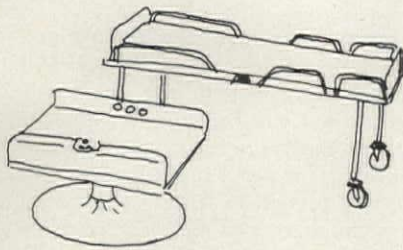
We have developed:

- The Ped Bed, which eliminates the need for transferring a patient from a stretcher to a bed. The stretcher is the bed.
 - A mobile and transportable health unit. Sponsors: the American Iron & Steel Institute and the US Agency for International Development.
- Our total research sponsorship to date has been almost \$1.5 million. We are presently developing:
- Low cost housing criteria for the United Nations Center for Housing, Building and Planning, New York City.
 - New building systems for port and harbor development.
 - New concepts for facilities which extract low cost protein from cotton seed, peanuts, oilseeds and fishmeal.
 - An economic systems building approach for higher educational facilities in the State of Texas.

Guidelines for comprehensive health facilities planning on a regional basis for the state of Kentucky, a joint project with the Kentucky Department of Health, whose commissioner, Dr. William P. McElwain, and A. Kent Ballard, director of the Health Facilities Program, work with Joseph Sprague, representing our university. Sponsor: the Kentucky Department of Health.

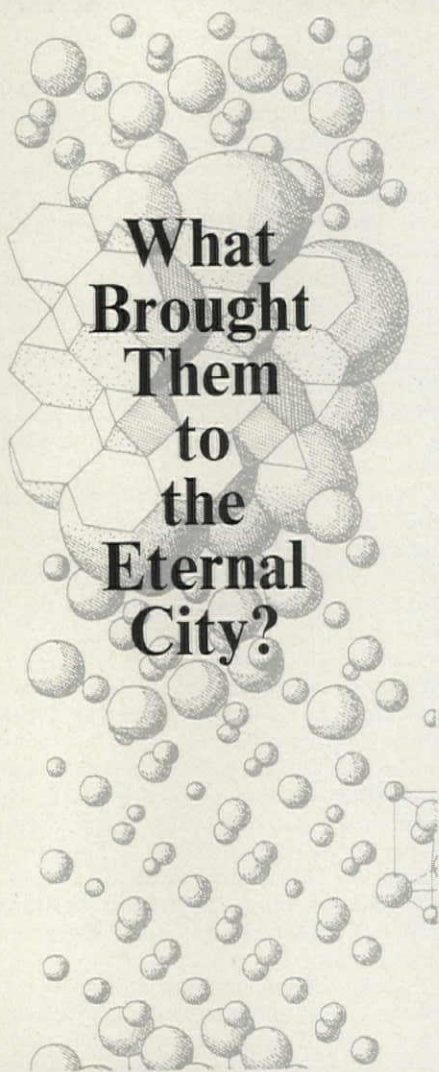
Facilities for neighborhood health care programs in the Harris County Hospital District, Texas.

As we become involved in various regions of the US as well as in countries overseas, we look forward to developing further close ties with other industries, agencies, institutions and organizations in joint efforts. We expect to focus on people's needs and thus remain people oriented. We look forward to greater challenges! □



The Ped Bed eliminates transfer of patient from stretcher to bed — the stretcher is the bed. Gunter Schmitz, project director; Edward J. Romieniec, George J. Mann, advisers.

Mobile and transportable health unit is eyed for use in multiphasic health screening and for use in developing nations. Gunter Schmitz, project director; George J. Mann, adviser; with Dick McWilliams, staff hospital administrator for the Agency for International Development.



What Brought Them to the Eternal City?

Winning the 1970 Rome Prize did, for Myron A. Guran, assistant professor of architecture, University of Oregon, and Peter Schmitt, assistant instructor in architectural design, Yale University. Samples of their work are shown here (see January AIA JOURNAL).

"I am in Rome," writes prize winner Myron A. Guran, "to study the transformations in Rome's urban fabric. The most enjoyable environments are those which are constantly being transformed by the people who enjoy them. The best of these acquire growth, richness and history, for they have the capacity to integrate changes in lifestyles and technology. They survive and continue to have meaning while other more static environments are destroyed. Many of Rome's streets and piazzas are good examples of this.

"While it is useful to understand the physical structure involved, it is even more rewarding to discover the structure of the transformation processes involved. It is a structure of vigorous and gentle processes working together over time. Obviously, many of the new proposals for incomplete, anything-can-happen environments miss this point.

"To examine these transformation processes more closely, I have found it useful to make analog models. While models of change

processes are usually made with mathematical symbols, I have found a visual language to be more effective."

The following piece, among Schmitt's submittals to the Academy in Rome, was originally accompanied by color photographs.

Creation of a Learning Environment With Play Objects

The last few decades have produced a new educational theory which is operating today with recorded effectiveness in more than a third of the publicly supported, primary schools of England. However, no architecture has yet been invented which responds to this new technique of teaching, nor to the specifically new programmatic requirements. It is the purpose of this project to be a pilot study of the physical form that this new style of school might assume.

Clinical research by developmental psychologists, particularly the Swiss Jean Piaget, has provided the scientific basis for the British technique and confirmed many of the earlier intuitions of Froebel, Dewey and Montessori. According to their findings, all children have an innate style of learning that evolves in distinct stages:

- 1) intuitive thinking — up to age 6
- 2) concrete operations — ages 7 to 11
- 3) abstract thinking — age 12 on.

Thus, during the years of primary education, a child cannot learn simply by being told but must actively confront the what and how of a problem in order to grasp the why. He must first learn to turn his own reality into symbols before he is ready to go the other way, i.e., learn an unknown reality from an explanation.

In practice, therefore, at the play age, play is not a random and meaningless activity but the prime source of learning. The school curriculum must be thought of in terms of activity and experience rather than knowledge to be acquired or facts to be stored (Hadow Report and Plowden Report). And informal methods utilizing concrete materials are best for teaching small children. Joseph Featherstone, in his series of articles for *The New Republic*, has observed some programmatic requisites: storage space, including individual lockers; room dividers (the need is for many small spaces); flat working surfaces (tables versus individual desks); easels; walk-in doll house; play store; dress-up area, with racks for adult clothes, costumes, etc.; puppet theater; library alcove, with book shelves; display racks and copious pinup surfaces; sinks; carpentry space, with work bench, tools, etc.; building blocks, clay, etc.; greenhouse; zoo; a classroom opening out onto the playground.

It is apparent that the traditional classroom is not designed for such diversity. What is needed is a new system, one which will give visual as well as functional expression to these new classroom activities and one which will provide, at the same time, an environment rich enough to foster exploration and experimentation. This means an environment of movable parts. And one of sensual variety, for tasting, touching (hard and soft objects, texture), looking (color and configuration), and listening (acoustics). Just as the new education is based on the cooperation of all the essential powers of the mind, so the new school should provide an environment not only suitable for informal teaching but also one which will physically scale itself down from the playground to the classroom to the hand-held block, all visually part of one continuous system of play objects.

To perceive is not the same as to reason. To perceive the sun going around the earth is not the same as to know by reason the opposite. Reason proceeds independently of material conditions. Perception proceeds only in them. It has a logical result only matured through visual operations. Therefore, you cannot preconceive or rationally know perceptual realities. You must build them or paint them or draw them. A work of visual art is not an illustration of the thoughts of its maker but rather the final manifestation of that thinking itself.

While Rudolf Arnheim has written recently on the high intellectual order of visual operations, Le Corbusier, in 1920, distinguished between two different orders of form sensation: 1) Primary sensations are determined in all human beings by the simple play of primary forms. The primary sensation is constant for every individual; it is universal (e.g., roundness). 2) The sensations of a secondary order graft themselves onto these primary sensations, producing the intervention of the subject's hereditary or cultural contribution. These are memorized analogies (e.g., round like a billiard ball).

Accordingly, an art based only on primary sensations would be inhuman. And an art based only on the use of secondary sensations would be nonstructured and nonplastic; it would be arbitrary. Therefore, Le Corbusier recommends the union of the two opposites. He advocates using pure (primary) forms in sunlight as a plastic base, with secondary modulation, according to the culture.

But in an architecture of pure form, the question arises, for example, how do you put a door in a cone? You cannot reduce the cone down to the door or you destroy it. Robert Morris then asks, "Could a work exist that has only one property? Obviously not," he re-

plies, "since nothing exists that has only one property. . . . If color, then also dimension; if flatness, then texture, etc."

However, certain forms do exist whose parts are bound together in such a way that they offer maximum resistance to perceptual separation. They are the simpler configurations that create strong Gestalt sensations such as the cube, tetrahedron, cylinder, cone and the sphere.

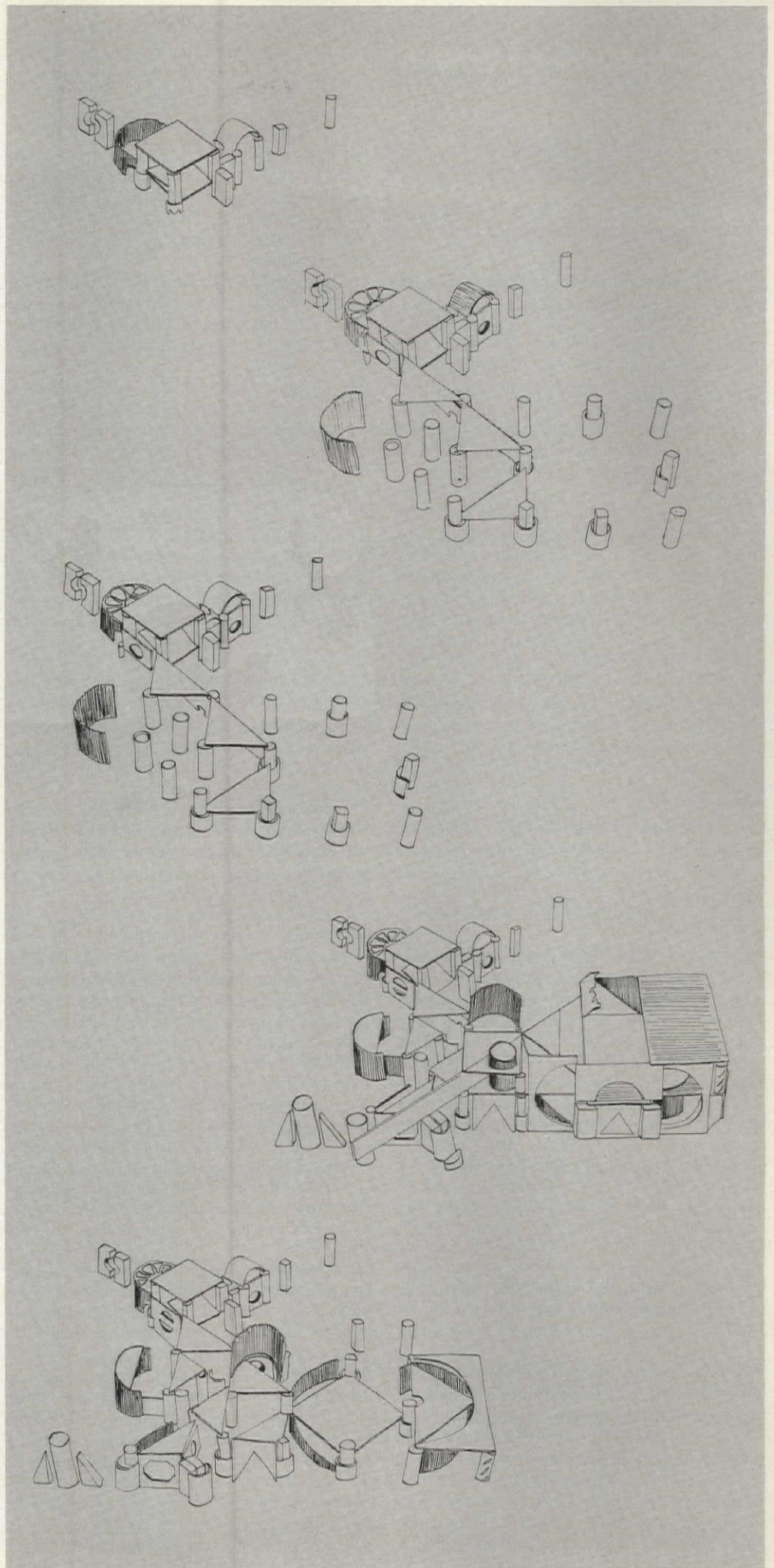
It becomes evident that in an art of primary forms, such as "minimal art," the major esthetic terms are not *in* but dependent upon the autonomous object. The constant known shape, the Gestalt, just by its mere presence in a room, causes all sorts of perceptual relationships to occur, not because of the room but because of the inherent energies of shape and color as such. The coordinate system, implied by the pure geometry of the form, sets up perceptual pressures. One becomes more aware than before that he himself is establishing the relationships as he apprehends the object from various positions and under varying conditions of light and spatial context. Relationships are taken out of the work and made a function of the viewer's field of vision. In this esthetic the observer, or child, supplies Le Corbusier's more arbitrary factor, the human element.

Thus what is proposed for a primary school is a school composed of primary forms. In the system pictured here, the primary form which organizes the space perceptually, both inside and out, is the cylinder. Outside, it is a hollow playground object, which children can climb through. Inside, they are grouped structurally to define classrooms, in particular, and other larger spaces as well. In the classroom the cylindrical form is also used functionally, being itself a small room for intimate play, serving such curriculum activities as a puppet theater, play store, dress-up room, etc. In certain instances, it can also become a vestibule between rooms. And on upper floors where the diameter of the cylinder telescopes, they become circulation nodes, with corridors, like beams, spanning between them and linking them over the open space below.

The larger areas that are formed serve such central uses as a dining hall, administration, auditorium and main library.

It is also to be remarked that at small scale the cylinders become movable classroom objects, which children can manipulate to create their own environmental relationships. In addition, with the free system of teaching spaces, classes can rotate so the same grade need not be in the same area each year. □

Guran's model of a transformation process (across page); Schmitt's learning environment.





What's Happening in Architectural Education

Campus Notes. Washington University, St. Louis, now has two combined degree programs: 1) Master of Architecture and Master of Business Administration, and 2) Master of Architecture and Master of Social Work.

Virginia Polytechnic Institute and State University is making a Third World Design Studies available as an option for students of architecture, planning, engineering and the social sciences.

Henry Russell Hitchcock is visiting professor of architecture at Columbia University this spring and will deliver the 1971 Mathews Lectures.

Kansas State University has named Bernd Foerster new dean of the College of Architecture and Design, effective July 1.

Robert E. McConnell, head of the Department of Art and Architecture, the University of Idaho, will succeed Sidney W. Little, FAIA, as dean of the University of Arizona College of Architecture.

Sidney L. Katz, FAIA, will retire as dean of the School of Architecture, Pratt Institute, June 30.

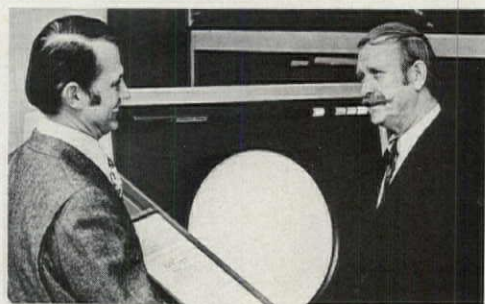
A University of Utah team is developing a computer model of atmospheric pollution patterns in the Salt Lake Valley.

termine scientifically where heavy industry and new population centers should be located in order to minimize environmental damage and optimize healthful living conditions — until such time may come that pollution is entirely eliminated.

Yale University's School of Architecture and City Planning has as acting dean during the spring semester Herman D. J. Spiegel, professor adjunct of architectural engineering.

Charles W. Moore, FAIA, regular dean whose term will expire next June, is on leave as special consultant to Amrep Corp., a New York-based building firm.

The University of Minnesota School of Architecture has been presented with a computer program by Ellerbe Architects.



Ellerbe president L. Kenneth Mahal presents computer cards to Ralph Rapson, dean, University of Minnesota School of Architecture.

in a research project at the university's Hybrid Computer Laboratory, will give students a working knowledge of computers and actual experience in developing design techniques with computer assistance.

About a dozen engineering students at the University of California, Irvine, have accepted a challenge from Ralph Nader and will study possible threats to the environment posed by the development of Irvine into a half-million population city.

Nader, speaking at the dedication ceremonies for the new UCI Engineering and Computer Sciences Building, had urged students to make field studies of major problems in their regions.

The University of Wisconsin-Milwaukee has given a special Architectural Studies Seminar in an effort to encourage rapport between students and practitioners.

Off-Campus Notes. The Chicago School of Architecture Foundation, formed in 1966 to save the last surviving work in Chicago by Henry Hobson Richardson, the Glessner House, will make the famous building into 1) an architectural tour center; 2) an educational center; 3) an architectural office center; 4) a historic museum; and 5) a conference/social center.

from the Chicago Historical and Architectural Landmarks Commission.

Study aids for the state board and NCARB examinations provided by Architectural License Seminars include, beside handbooks, home courses and intensive one-day crash seminars.

Continuing Education. Massachusetts Institute of Technology will give a special summer session June 28-July 2, "Systems Building and Industrialization in the United States."

The University of California's Extension's certificate program in city planning, which opened last fall, attracted a total of 64 persons including architects.

Washington University at St. Louis will give an all-day conference June 11 on "The Professional Developer 1971."

The University of Michigan College of Engineering will present again this summer the Ann Arbor Engineering Summer Conferences, a series of one- and two-week intensive courses in the field of technology.

Kansas State University, the American Association of Housing Educators, the American Society of Agricultural Engineers and the American Home Economics Association are sponsoring a National Housing Seminar this summer to stimulate new ideas about housing education.

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Who's Master— Man or Technology?

Ulrich Franzen, FAIA, recently received the initial Thomas Jefferson Award for Architecture by the Bricklayers, Masons and Plasterers International Union (see AIA JOURNAL, September). Here, in abbreviated form, is the address he gave before that union in Washington, D.C., upon accepting the award.

In less complicated times the architect and craftsman were often one and the same. The great architects of the past were members of the craft guilds before they became master builders. Ours was a historic and meaningful association.

Today, when we communicate only by way of a specification, we have lost much of the satisfaction that comes from being an artisan. It may also be that architects have not only lost much satisfaction but have lost also a sense of closeness to reality. Architecture is first of all a pragmatic art.

Indeed, Mies van der Rohe learned the lessons of building from his father — a master mason — and described in moving terms the reverence his father instilled in him for the placing of stone on stone.

He described his early youth as one spent in the mason's shop or at a construction site and being permitted only to fetch lunch or coffee for the men — never to touch a stone because he was not yet skilled. At 15, Mies went into apprenticeship with a stucco artisan, where he learned the skill of drawing full-scale details and sketches of the then popular Renaissance and Gothic ornament. He learned to sketch so well that he was later able to draw anything he liked on a blackboard without looking while lecturing to his students in Chicago.

At a time when our architectural schools are in total disarray, Mies's education seems like the perfect one. Unfortunately, I had the benefits of a proper education. As a consequence I found myself recently on a construction site rejecting a brick wall for the third time, when the exasperated mason handed me his trowel and said: "Show us!" thereby scoring a technical knockout.

Since the industrial revolution, formal architectural training has veered toward designs that were not conceived in the nature of materials. As a result a serious gap has developed between form and reality; a gap that in the present era of vast projects has most seriously affected the places of the people.

The distance between form and reality can be appreciated by looking about us here in Washington. Here is the discipline of uniform building heights — the broad boule-

wards framing aspects of L'Enfant's baroque scheme, shaping a central city totally unlike any in this country. And therefore, on the surface, the impression prevails that Washington's problems are not relevant to other urban situations.

But when you presume, as I do, that we cannot have a meaningful architecture for the city unless the people and their lives become the central reality, Washington and other cities have a common problem.

In a city so overflowing with inflated monumentality that the visual effect is of traditions divorced from life, even the casual tourist cannot escape the feeling that he is in an elderly nation's trophy room. Where a festive and joyful spirit should conquer all, the bloated official architecture tends to silence his joy and change the visitor's mood to that of a respectful visitor in a necropolis.

Even the new Pennsylvania Avenue concept is not planned around the life of the people but is really conceived as a ceremonial route for processions arranged by the state.

Here, as in other urban centers, we have a setting for the majority of people of incredible monotony, of technical clutter so vast as to intimidate the bravest. Trapped in this setting without choice, surrounded by a man-made, junk environment that is without scale and love, people can only experience the deepest frustration.

Washington is a perfect illustration that planning solutions which mortgage a decent life today to a distant master plan of the future are not feasible. L'Enfant's dream for a low-rise city of tree-lined boulevards exists only at the ceremonial center and does not reach out to all the people. Therefore, city plans which are primarily concerned with universal values, dreams of perfection and gestures in the direction of a technological efficiency are out of place.

Although modern architecture and modern planning are more than 60 years old, they have not seen man and the quality of his

daily life as the central task. For modern architecture and city planning are to a large measure the captives of beliefs belonging to the past century and the beginnings of the industrial revolution.

Modern planning has created the dismemberment of many living cities. Each function of the city was carefully described and then arranged as an isolated element. These isolated parts of what was a living organism are then linked with the primitive idea of community — namely, the superhighway.

When we have rebuilt American cities, we have placed vast populations into vertical ghettos of identical-sized cubicles, carefully segregated according to income and other levels, removing everyone from the chemistry of urban life into a life style decided upon by a Congressional committee when establishing the Housing Act.

The ancient devices of city architecture — pedestrian traffic, tight streets or wide boulevards, vistas or squares, the life-giving mix of many activities interacting within a architectural framework — are not understood: They have been sacrificed to a bookkeeper's vision of the city.

The planning proposals of the last decades have also been influenced by the technocrat's Utopia. The most distinguished evangelist of this conviction — Bucky Fuller — believes, in fact, that his geodesic structures are the architecture of the promised land.

The challenge of technology — while so far having created chaos and despair — is nonetheless a positive one. For the architect, technological advance is no doubt an opportunity to create decent and beautiful new places for people to live, to work and to enjoy themselves — if he succeeds in building a bridge between the overkill scale of new systems and the individual being.

He will fail completely if he ignores the new scale of values, namely that the dignity of man and the quality of life must be our over-riding concern. □



We cannot have a meaningful urban architecture unless the people become the central reality.

Beautiful Publication on Sale to Help Buy Needed Furniture for the Octagon

Many who read the article by J. Everette Fauber Jr., AIA, on the Octagon House in the January 1970 AIA JOURNAL have admired the measured drawings by Glenn Brown, FAIA, which illustrated it. They were from the *Octagon Monograph* by Brown, who served the Institute as its secretary-treasurer from 1898 to 1912.

Thirty copies of the portfolio are available for sale. Monies collected from the sale of this rare publication will be used to buy items of furniture for the Octagon.

Anyone wishing a copy of this 18x24-inch portfolio should send a check in the amount of \$100 to the Octagon Furnishings Fund, the Octagon, 1799 New York Ave. N.W., Washington, D.C. 20006.

Outstanding Leader of Professional Groups, Architect of Rochester

In 1960, Syracuse University gave Donald Q. Faragher, FAIA, its highest alumni award, the George Arents Pioneer Medal for "excellence in architecture." He had been honored previously, in 1952, by the University of Rochester, receiving the Lillian Fairchild Memorial Annual Award for meritorious production in the creative arts.

Faragher was active in the advancement of architecture as a profession. His services to the AIA included his work as New York State regional director, as a trustee of the AIA Foundation and as a member of the AIA Education Commission. He was a president and director of the New York State Association of Architects; president of the Board of Examiners for Architects for the University of the State of New York; president of the Rochester Society of Architects and of the Rochester Engineering Society; chairman of the National Council of Architectural Boards Finance Committee; and a member of the New York State Building Code Council.

Faragher practiced architecture in the Rochester area from 1933 until his death on February 5 at the age of 64. A partner in the firm of Faragher & Macomber, his work included many schools, apartment houses and nursing homes in the area; the Greek Orthodox Church on East Avenue; the Four Corners Office Building; Hedges Memorial Chapel; Bristol Mountain Ski Lodge; the campus and several buildings at the State University of New York at Alfred; and the master planning and overall supervision of the Civic Center.

Lover of Georgetown Architecture, Restorer of Washington Landmarks

Georgetown, a historic area in Washington, D.C., is in close proximity to the downtown area. "It also has the feeling of a small community in that there are many 'corner stores'—grocery, drug, book, etc.—that provide warmth and convenience and informality," once remarked Walter Gibson Peter Jr., AIA, who worked hard to give Georgetown its unique quality.

Peter was a descendent of George Wash-

ington's wife, and his family has lived in Georgetown for eight generations. As chairman of the Georgetown Planning Council, he once advocated a tunnel under the Potomac River to replace the Whitehurst Freeway, which he regarded as "intolerable" in a community famed for its Federal and Greek Revival architecture.

While en route to his home on February 4, Peter died of a heart attack at the age of 62. A graduate of George Washington University, Peter began his architectural career by taking measurements of historic Washington buildings for the National Park Service. He is associated with the restoration and reconstruction of many Washington buildings, including the City Tavern and Ford's Theater. In 1961, he received a certificate of merit from the Progressive Citizens Association of Georgetown for restoration of an 18th century house on M Street.

Author of several articles for professional journals, Peter once served on the AIA Committee on Preservation of Historic Buildings and chaired the AIA Committee on the Octagon House at one time. He served on advisory boards for several historic buildings in the Washington area. At the time of his death, Peter headed his own architectural firm in Washington.

Honored House in a Hammock Forest



Winner of the 1970 Florida Architect's Wood Award, sponsored by the Florida Section of the Society of American Foresters in cooperation with the Florida Association of Architects AIA, is the home of Dr. and Mrs. Arthur Rudolph in Miami. Designed by George Reed, AIA, the house is sited in a grove of 300 trees and combines commodity, privacy and beauty with a logical and unmannered use of materials.

Newslines

■ **Air rights over and under freeways** is the topic of a 15-month study begun under the auspices of the National Academy of Sciences by planning, economics and transportation analysts for the Los Angeles firm of Daniel, Mann, Johnson & Mendenhall.

■ **"New Trends in Education,"** based on a report of the Task Force of the AIA Committee on Architecture for Education, was published in the September/October issue of the *CEFP Journal*; reprints are available from the Council of Educational Facility Planners, 29 W. Woodruff Ave., Columbus, Ohio 43210.

■ **Edwin J. Peterson, AIA**, of Spokane, has received the Republic of Vietnam's Chuong My Merit Medal in recognition of his work as project manager of the 2,000 Minh Mang housing reconstruction project in the Saigon-Cholon area.

■ **The General Services Administration**, called the nation's largest civilian construction unit, has been reorganized, says administrator Robert L. Kunzig; offices of operational planning and construction management have been created "to breathe new life into GSA's construction arm."

■ **William Caudill, FAIA**, partner in the Houston-based firm of Caudill Rowlett Scott, was presented with the 1970 Planner of the Year Award by the Council of Educational Facility Planners.

■ **The sixth award of the year** won by AIA's public relations and advertising program was for the film "A Child Went Forth," produced in cooperation with Educational Facilities Laboratories. In competition with 25 films from top corporations and associations, the film won first place in its category.

■ **Julian Clarence Levi, FAIA**, celebrated his 96th birthday in December by opening an exhibition of 20 of his recent watercolors at the Avery Library, Columbia University.

■ **The White House Conference on Children** held in December recommended the establishment of a standing Commission for the Coming Generation which would conduct hearings and carry out research on how our policies shape the environment for human growth.

■ **John Noble Richards, FAIA**, senior partner in the Toledo firm of Richards, Bauer & Moorhead, is the first recipient of the Architects Society of Ohio's Gold Medal award for distinguished professional leadership.

■ **Octagon House exhibition** from April 27 through May 30 will feature the winners of the 1971 Community and Junior College Design Awards, which were shown in the February AIA JOURNAL and officially cited during the annual convention of the American Association of Junior Colleges in Washington, D.C., in March.

Deaths

WALTER GRUZINSKI

Oradel, N.J.

C. E. HALEY

Coral Gables, Fla.

GILBERT P. HALL, FAIA

Laguna Beach, Calif.

EDWIN G. JOHNSON

Cambridge, Mass.

WILLIAM MELLEMA

Lacana, Canada, Calif.

FRED L. MORGAN, FAIA

Louisville, Ky.

SAMUEL MOUNTFORD

Toms River, N.J.

Ed. NOTE: Due to a mistake transmitted to us from another department, Richard Mazer of Chicago was listed in the obituary column in the February issue. We are pleased to note that Mr. Mazer is not deceased.

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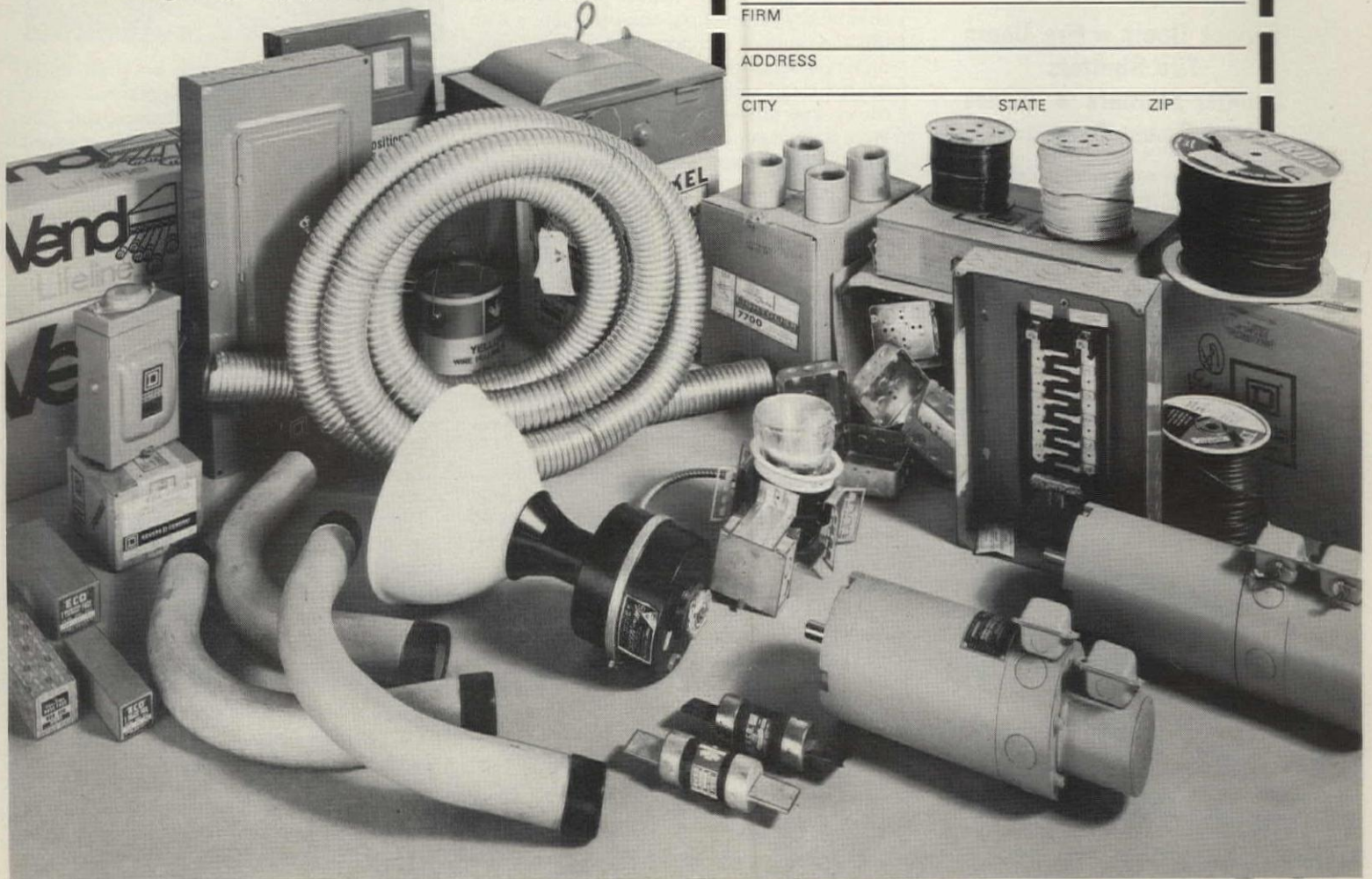
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BOOKS

Planned Residential Environments. John B. Lansing, Robert W. Marans, Robert B. Zehner. Ann Arbor, Mich.: Institute for Social Research, University of Michigan, 1970. 259 pp. No price given.

Sociologists Lansing, Marans and Zehner have made a study of 10 planned communities, six of them in the Potomac region of Maryland, Virginia and the District of Columbia. The other four are Glen Rock and Radburn, New Jersey, and Lafayette-Elmwood and Southfield, Michigan. Two hundred residents were interviewed in what were classified by the research team as the "highly planned" towns of Columbia, Maryland, and Reston, Virginia, and 100 in each of the other eight communities.

If the tenet that good planning and design enrich and enlarge people's lives is true, as architects and planners assume, then it would appear that residents of Columbia and Reston would be more satisfied with their lifestyles than Levittowners. This study indicates that such an assumption is false.

The findings of the study are divided into two main parts, the first of which concerns people's response to residential environment, including community appeal prior to move; community satisfaction; and satisfaction with life and outdoor recreation. The second part, on travel behavior, covers car ownership; annual mileage and journey to work; weekend travel; and elements of local transportation. Here we will concentrate on the findings that seem to be of most interest to architects and planners.

A cross section of American life is not represented since the study was limited to residents of single-family dwellings and townhouses with a median family income of \$18,700. Low income for the group interviewed was \$15,000. An accurate reflection of the economic status of the people interviewed can be seen in the prices of homes they are buying. For example, in southwest Washington, D.C., the median value was \$48,800.

Educational background is another indication of the relatively high socio-economic position of the families studied. In Reston, 43 percent of both spouses had college degrees; in southwest Washington, the figure was an amazing 61 percent.

There is considerable information about the way residents of the 10 communities use and react to recreation facilities. The study shows that people who live in highly planned communities are more likely to find recreational areas within two miles of their homes than people who dwell in less planned communities. The study indicates some increase in the use of such facilities if they are close

to the homes of the residents, but the effect of use due to proximity is small.

Of greater pertinence to the architect and planner are the two parts of the study which assess residents' attitudes toward their communities and the effects of planning on the life satisfaction of the people. When attitudes toward the community were measured, it was evident that designers and planners had done their work well. The researchers asked for an overall rating of the community as excellent, good or average. The highly planned communities scored higher. In Reston, for example, 61 percent of the respondents rated the community as excellent; in Columbia, 52



percent gave their new town a top rating. In Montpelier, Maryland, a "less planned" community, 18 percent called it excellent. The factors considered most important by planned community dwellers were said to be low densities, quiet neighborhoods and the availability of nearby playgrounds for children.

The next logical step was to ascertain if the areas that registered high levels of community satisfaction also found high levels of life satisfaction. They were asked if they would call their lives completely satisfying, not very satisfying or not at all satisfying. A measure called Net Life Satisfaction (NLS) was computed from the answers. Contrary to the assumptions of architects and planners, the residents of Montpelier, a Levitt development, where there was least satisfaction with the community, had easily the highest NLS.

What is wrong? According to the "American dream," the residents of Reston have arrived. The median income is \$20,000, the people are educated, presumably healthy and just far enough past the Pepsi generation to be snobbish about it; 90 percent of the Restonites questioned are buying their own home at a median price of \$43,300. And yet only 12 percent of the group studied appear to be satisfied with the way in which they are spending their lives. In Southfield, Michigan, the figure is a low 3 percent.

All this leaves architects and planners with a great deal to ponder. And sociologists even more so, perhaps.

DON CONWAY, AIA
continued on page 58

The reviewer is director of Research Programs at AIA Headquarters.

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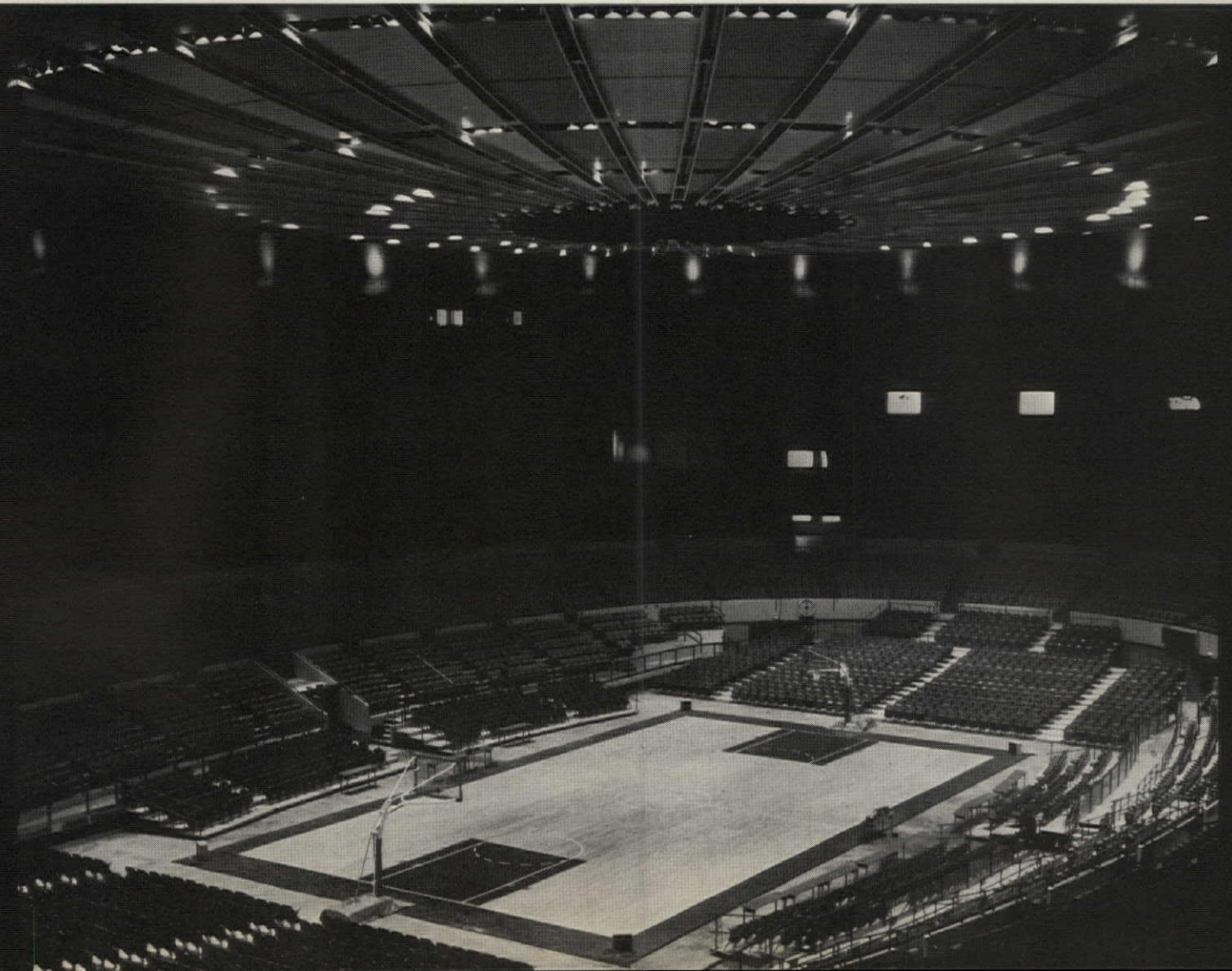
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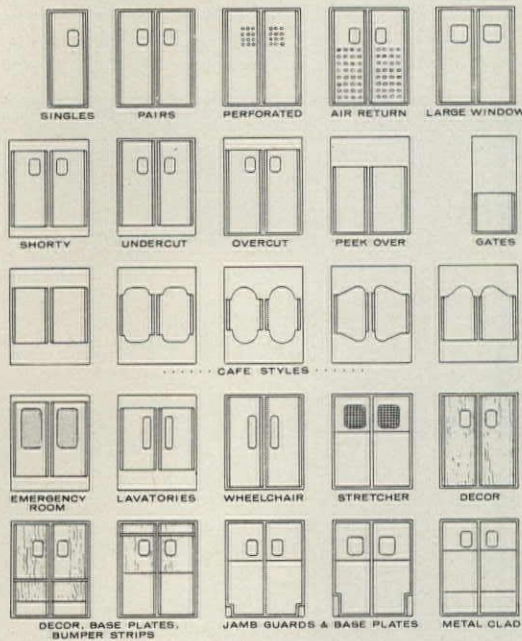
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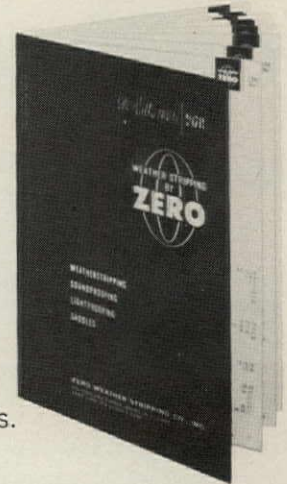
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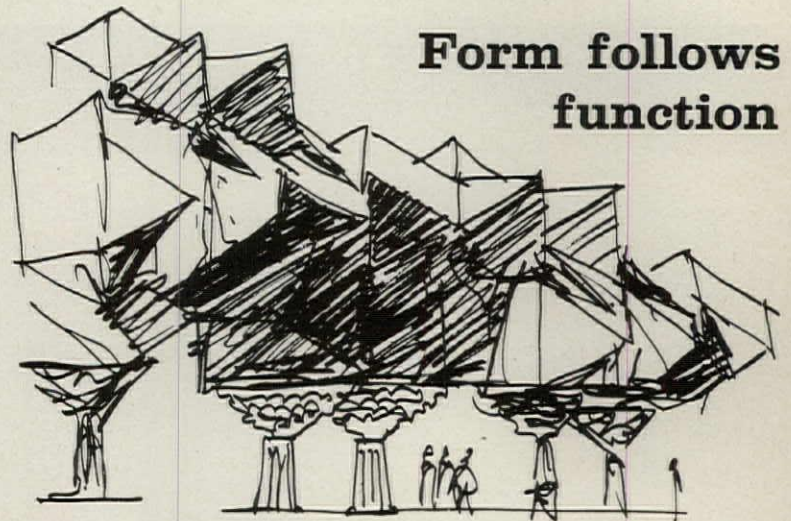
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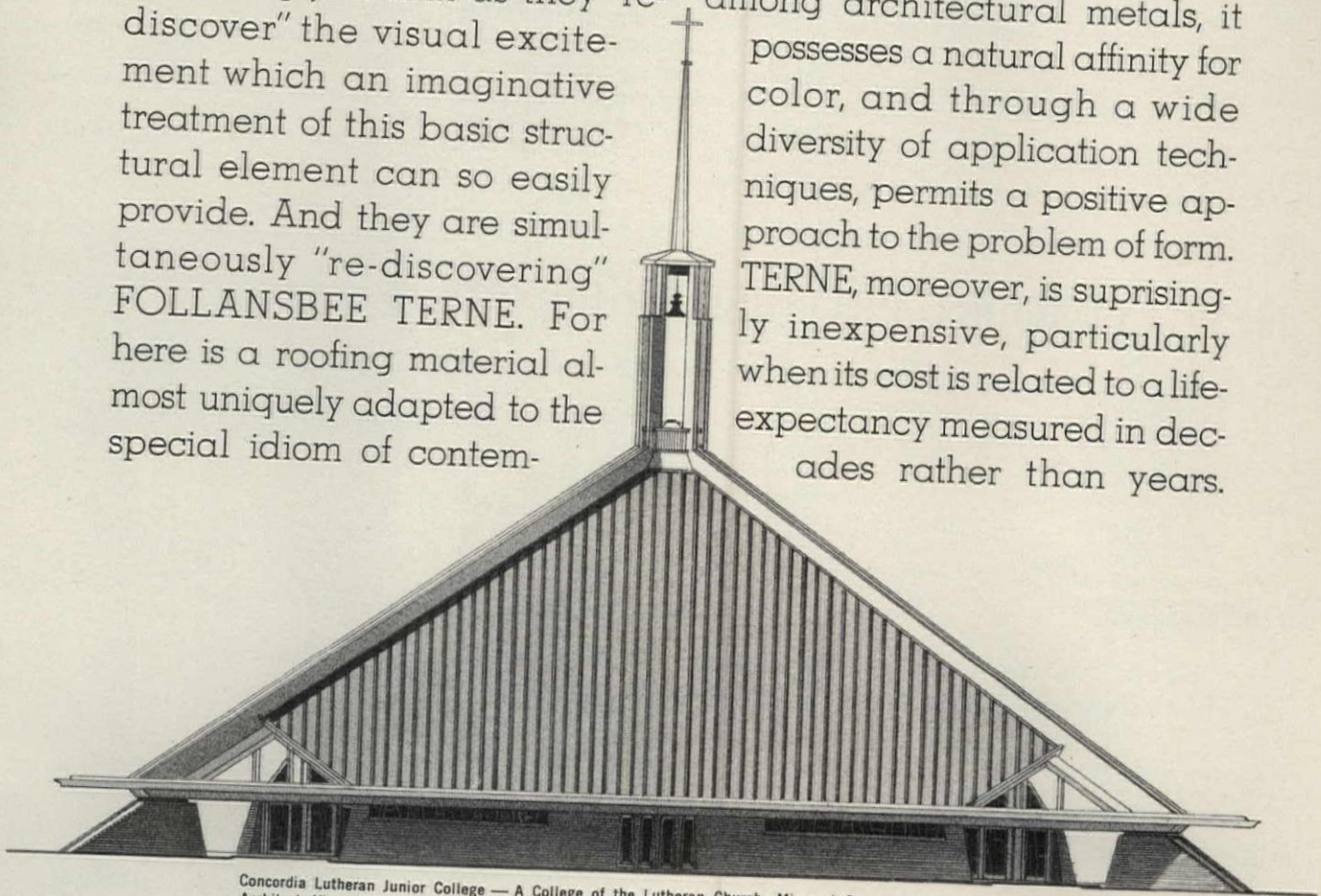
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Kenzo Tange: Architecture and Urban Design. Edited by Udo Kultermann. New York: Praeger, 1970. 304 pp. \$29.50.

Tange is one of the forces of our time, his architecture and town planning having become significant symbols of the contemporary age. Those of his admirers who have been waiting for a published work which will provide insights into his creative genius will welcome this book.

The superb photographic studies are accompanied by a distinguished text which describes Tange's philosophical position. The book shows how he is a true Japanese who has perpetuated the finest of the architectural tradition of that land and yet is able to be equally familiar with the total tradition of architecture.

Planning and Design Workbook for Community Participation. Princeton, N.J.: Research Center for Urban and Environmental Planning, School of Architecture and Urban Planning, Princeton University, 1969. 592 pp. \$15.

If potential community activists can get beyond the formidable appearance of this magnum opus of neighborhood design process, then a useful tool has been added for citizen participation. In any case, many practitioners could benefit by a careful reading of this orderly treatise of policy formulation and technical requirements.

The treatment of the difficult areas of tradeoffs between policy objectives and con-

straints on design discretion is inadequate. Nevertheless, the workbook is a constructive attempt to develop a primer on the non-political aspects of community development. The graphics explaining neighborhood planning and housing types are good.

The manual was prepared for the State of New Jersey Department of Community Affairs.

Exterior Design in Architecture. Yoshinobu Ashihara. New York: Van Nostrand Reinhold, 1970. 143 pp. \$12.50.

A leading architect in Japan is the author of this comprehensive book on exterior design. He discusses the basic concept of exterior space and its elements, the techniques for designing such space and the creation of spatial order. Human factors are stressed: how the space is used, the influence on design of a person's field of vision, the limiting factor of comfortable walking distance.

The many photographs which illustrate the book were collected from all over the world to show how spatial order is created. A practical and useful tool for the architect.

Hawksmoor. Kerry Downes. New York: Praeger, 1970. 216 pp. \$8.50.

Downes is the author of the standard study on the British architect Hawksmoor's life and work. Here he addresses himself to the general reader, eliminating documentation and imparting an appreciation of an architect who worked with Sir Christopher Wren and John Vanbrugh and whose genius has been undervalued by many.

Building Code of the City of New York. Frederick S. Merritt, Consultant. New York: Van Nostrand Reinhold, 1970. 860 pp. \$14.95 (available to AIA members at \$12.75 from the AIA Publishing Department).

This new code for the City of New York replaces the one adopted in 1938. It stresses performance standards, allowing for innovations in construction. The code comprises four major elements: administrative and jurisdictional; architectural; structural; and mechanical. Included are recommendations that can serve as guides for architects, constructors, inspectors, owners, insurers and others concerned with buildings.

This is a useful reference tool since the problems of New York are indicative of those other cities will confront. Developed at a cost of over \$1 million, the code affords a model for improved building regulations in other cities.

Architectural Interior Systems: Lighting, Air Conditioning, Acoustics. John E. Flynn and Arthur W. Segil. New York: Van Nostrand Reinhold, 1970. 306 pp. \$13.95.

A complete overview of the purposes of functions of building in terms of the sensory needs of the occupant and the mechanical technology of our time. The architect will be assisted by discussions of electrical and mechanical systems as a coordinated architectural problem.

John E. Flynn, AIA, has been in private practice as a lighting and systems consultant since 1964. Arthur W. Segil is president of Luminous Ceilings, Inc. □

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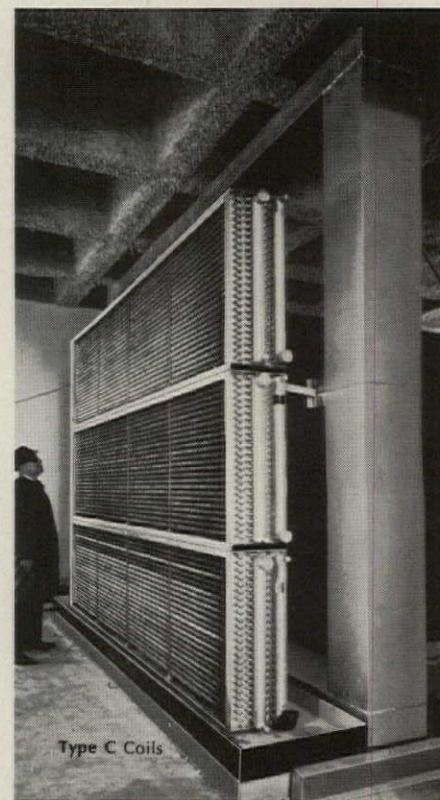
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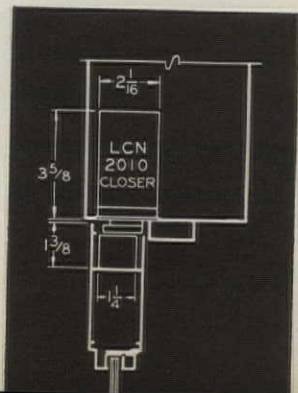


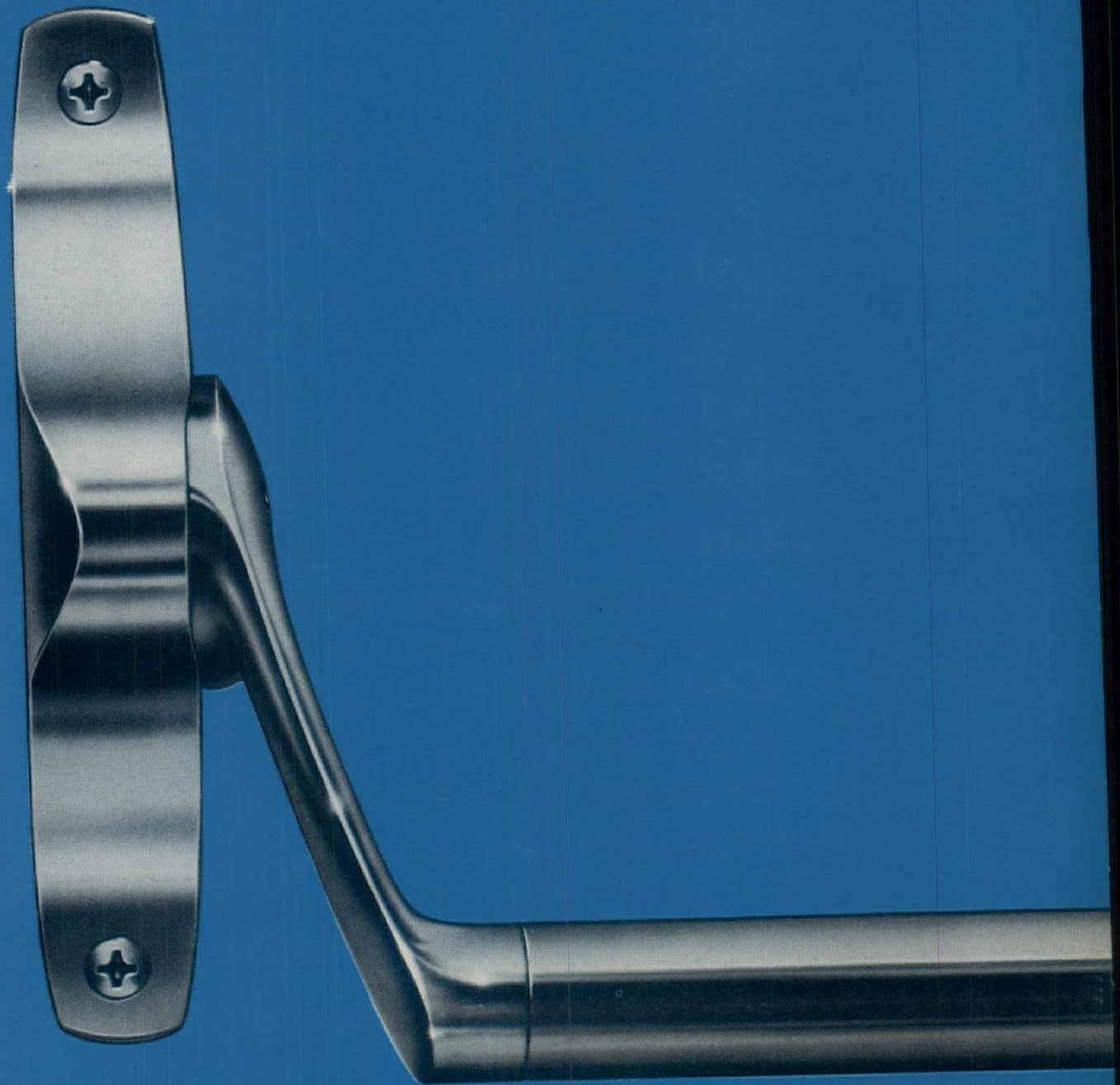
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Taking Soleri to Task

It is difficult to criticize a commentator as fair-minded as Edward Higbee in the February issue, or a person who is as warm in his ideas and draws as beautifully as Paolo Soleri. But if one fails to be honest, can one possibly be a friend?

Soleri posits some tremendous "ifs": "if the city is a nonmaterialistic phenomenon" and (if) "mankind has the capacity to outgrow its present state of being."

The city certainly is a materialistic, economic phenomenon. It has a spiritual reality also, however, which is not wholly tied up in its physical shape but which grows from the nature of the people and the society that uses it as a background.

Mankind does not, I suggest, have the capacity to outgrow its present state of being, nor should it want to. Mankind right now contains the noblest being imaginable as well as the most miserable, and one would not recognize the one without the other.

Indeed, we should think deeply about the nature of each man's creative capabilities and should search for the social and physical patterns which will achieve, not the perfection of single vision, but the greatest sum of the world's human spirit. For all that the architectural profession seems now to know about man, his needs and dreams, those patterns may resemble urban sprawl and the strip development more than Arcosanti.

ROBERT S. STURGIS, AIA
Cambridge, Mass.

We have had the theater of the absurd. It has pleased some, amused others and shocked a few. Now we are offered an architecture of the absurd. The consequences are much more serious than those that result from attending a play which we can leave at any time. The architecture of the absurd is a total environment, a kind of stage in which we must play the part assigned to us. If the play needed a name, we might plagiarize a French author and call it *A huis clos*: the private world of Paolo Soleri.

One of Soleri's bronze bells hangs from a chain of ingenious tubes from a corner of the verandah. The bell's wind-blown clapper sings a monotonous but piquant melody that belongs in the context of a dance that the leaves are performing. The raised abstract design on the surface of the bell seems to take its form from the quality of the bronze itself and completes the aura of order for which the human expression is art, even while the human destiny is life born of randomness. This is Soleri at his best: the master craftsman whose prison engravings make vivid the horror of man-made space.

If we like Soleri's little melodies, we must adore the instrument enlarged to the size that we all can live inside. We should be surround-

ed with his abstract forms in a variety of materials and be immersed in a great pile of fellow creatures similarly enchanted by Soleri's world. To be sure that the order inherent in his little bell extends to the people who will occupy the "blow-up" model, he has redesigned man himself. He writes prescriptions for the human race which will make it fit into the corridors and niches of his huge anthills.

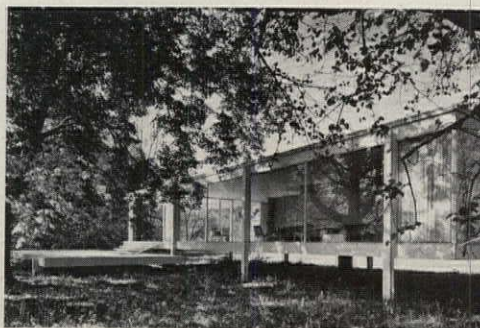
The findings of modern sociology and psychology based on empirical data from cities where the rate of crime increases geometrically with the height of structures, not to mention pollution and the sordid values to which heterogeneous crowds must resort for survival—all this is refuted by beautifully executed graphic representations of a made-to-Soleri-order human race. We are cut to fit those little slots he has provided for us in huge bells, towers and bookshelves hung against the side of dams which presumably never silt up nor overflow.

Soleri, the master craftsman, has become Icarus: spectacular to observe, but ridiculous to emulate. But it is in this role that he has made a contribution to society and to architecture. He has pushed the methodology of the World Trade Center, the cult of megalopolis and the freeway to logical absurdity and has revealed the "end of the line" for skyscraper architecture, massive cities and frenetic transportation.

Architectural students should be encouraged to push some current trend to its ultimate conclusion, to work imaginatively not only with new materials and techniques but also with "people" of their own invention. Those students with limited ability could do worse than building portions of Soleri structures, dismantling them and trying variations of the same kind. For those with a flair for adventure, there are always the Arctic wastes, the jungles of South America and the Gobi Desert where mountains of ice or miles of woods or the horizon-bounded sand can be respectively carved, cut and bulldozed into forms suggesting cosmic dimensions.

MILTON D. LOWENSTEIN, AIA
Ojai, Calif.

No one in his right mind could disagree with Paolo Soleri's idea that the architect should be an ecologist or that we must do a much



better job of bringing man into proper relationship with his environment.

But, and here is the crux of the matter, the concept that we architects or anyone else can plan in the sense of creating some wonder piece that will fit our needs is completely "hind end to," as any good ecologist will tell you.

Man is related to his environment in a completely opposite way than is any other living thing. For man the relationship is physical and direct. Form limits function until form slowly changes. Man's relationship is entirely through his fellow man: through their combined philosophies, mores, ways of working together, culture. As a result, man cannot allow himself to be straitjacketed at any time into any preconceived this-or-that arrangement: form.

Rather, his problem must be gone at much more from the point of view of the gardener, forester or farmer. He should determine first how a region and its people might best be helped to realize the most of themselves in consideration of all that they are, animate or not, human or otherwise. Only then can he begin to arrive at the concept of the facilities to be built and their arrangement, which will enable the sum total to be the most of what it can—and this will change.

Ed Higbee is a darned good farmer. He is also a topflight humanist. He should know that no matter how beautiful, no superhenhouse can meet the needs of mankind who has long since stopped facing life as does a hen. HENRY BOWDITCH VAN LOON, AIA
Dorset, Vt.

Comments by an Artist

I am grateful to be accorded four pages in your fine publication's March issue. The reproductions are excellent, and you did a fine editorial job on the captions.

My work seems a little dated, I fear, but many of the younger architects take a keen interest in pencil drawings, which is natural since they work so much with pencils.

SAMUEL CHAMBERLAIN
Marblehead, Mass.

Success to John T. Law

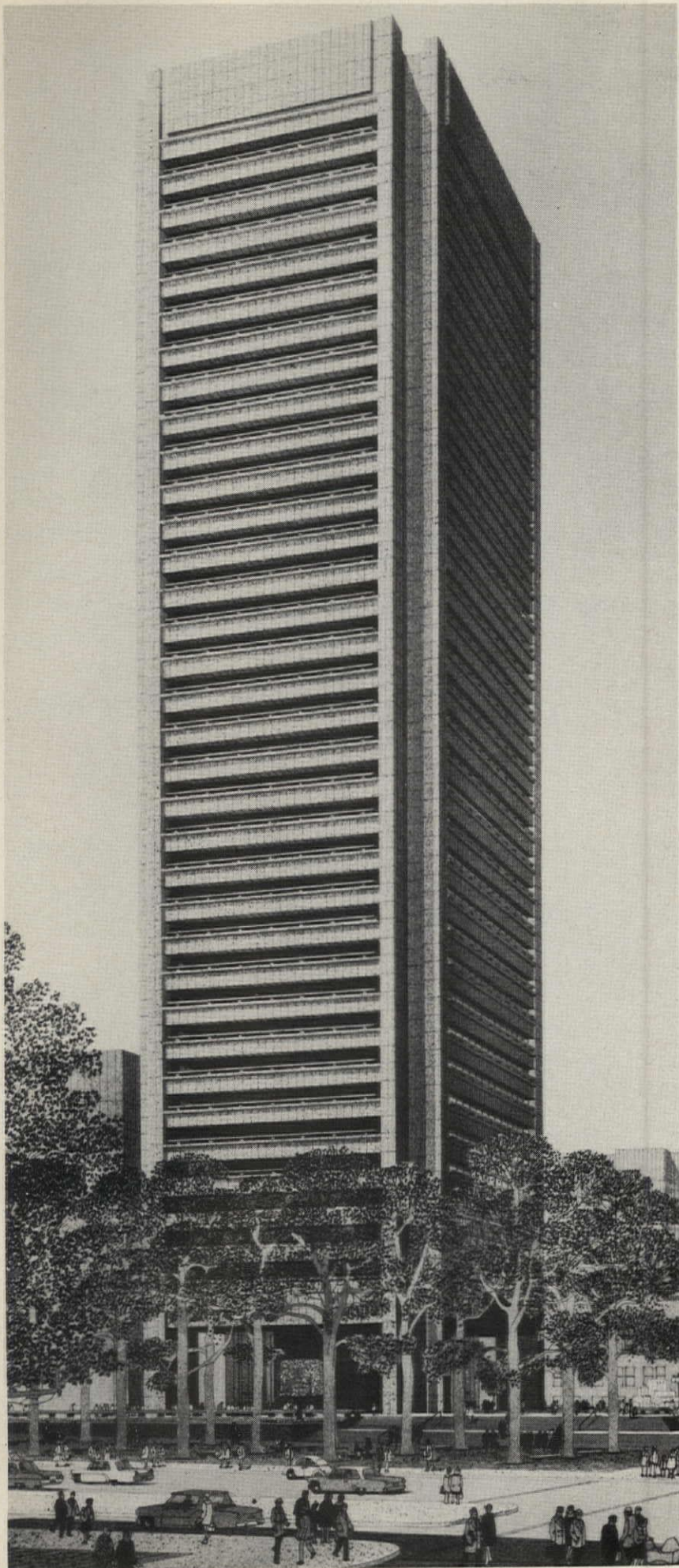
We should like to compliment Jack Fraser on his article "Small Firm with a Big Stake in Housing" in the November issue. We wish John T. Law, AIA, success in his attempt to revolutionize the medieval craft guild approach to residential construction.

A. L. WILCOX
President
Global Ventures Inc.
Arlington Heights, Ill.

Mies-Designed House for Sale

Mies van der Rohe's Farnsworth House in Plano, Illinois, regarded as one of America's distinguished works of architecture, is for sale. Dr. Edith Farnsworth, for whom Mies built the house, has decided to take permanent residence in Italy and seeks a buyer. The price is \$235,000, including the house and 60 acres on a site about 50 miles southwest of Chicago's Loop. About 50 acres are currently being leased for crop use which

continued on page 66

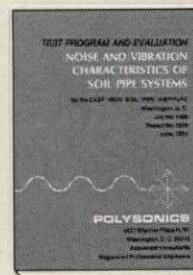


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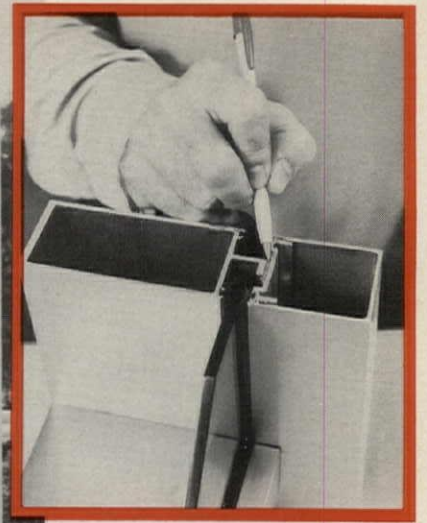
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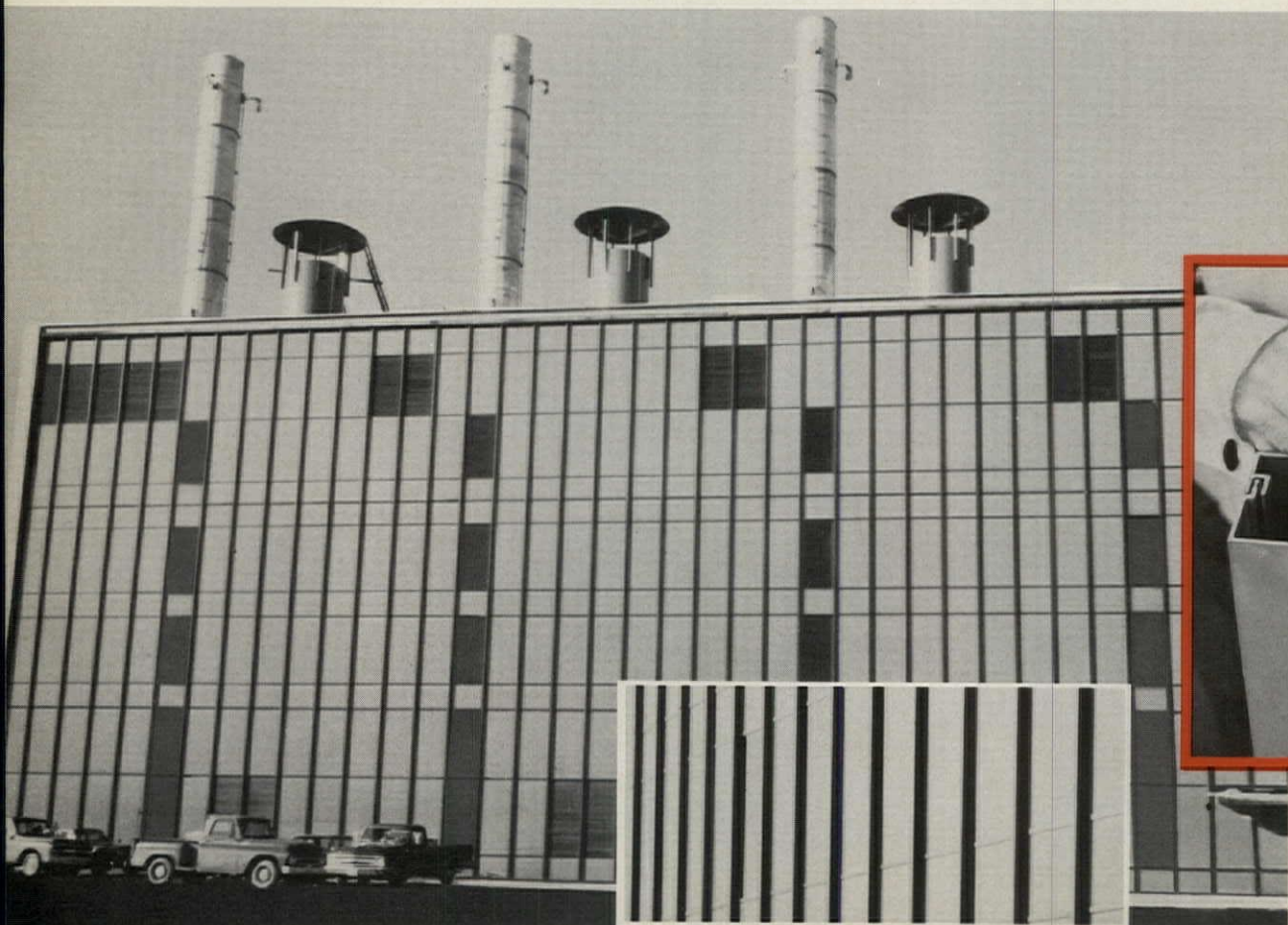


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Architect-writer Peter Blake has described the Farnsworth House as "the ultimate in universality, the ultimate in precision and polish, the ultimate in crystallization of an idea." It is said to be a forerunner of many large glass and steel structures, attempting to express the American spirit in architecture.

Further information can be obtained by contacting me through this magazine.

LARRY SCHAFFEL
Bernard E. Ury Associates
Chicago

Toward the Humanization of the Suburbs

Recently Dr. Margaret Mead, the noted anthropologist, called for "a major architectural and 'humanizing' overhauling of America's suburbs so that people of all economic levels can live there."

In keeping with the AIA's current interest in social problems, we should attack this problem at its source—the financial appraisal and city planning mythology which are firmly planted in these professions and with which the architect must cope in working with his clients and their needs.

It is not uncommon to hear of a residential project which is termed an overdevelopment, meaning that too much money has been spent on the site in keeping with the surrounding

neighborhood. The same kind of remark is sometimes made in reference to underdevelopment, meaning that the site is too valuable for this grade and type of living accommodations. It is also well understood that subdivisions and housing developments are grouped in class arrangements related to income levels and that age groups are separated in the case of housing for the elderly. All of this is a nonarchitectural problem since the architect is in truth a responder to his client; the client's limitations are foremost in his process of analysis.

If the social structure of our communities is to be homogenized or blended, a major attack must be made on the firmly held beliefs of those who place mortgage money in the hands of developers. If these beliefs are found to be unrelated to real values and real investment security, this should be uncovered and corrected. If they do represent true protection of values, then the more fundamental source of this prejudice or belief needs to be approached.

FRANCIS R. WALTON, AIA
Daytona Beach, Fla.

Bridge, Anyone? Bring Your Own Fan

I am a duplicate bridge director. I direct a number of games, three of which I run in the community buildings of apartment house complexes. These buildings, obviously, are built for the pleasure and recreation of the tenants. I do not say there is none, but I have yet to see or hear of one that is designed to

handle the cigarette smoke problem when there are 40 to 60 people in the room.

Of course, many of these community houses do not have duplicate bridge games and competitive bridge players are notorious cigarette smokers, but the centers are still used for public gatherings of large numbers for parties and meetings of various sorts. The smoke is ghastly. There is even one building here that was designed for duplicate bridge games, and the architect neglected to install any facility for elimination of smoke. The owners have had such a facility subsequently installed at no small expense, but it is inefficient.

An efficiency kitchen exhaust fan is no better than a whistle in the wind. It may be that completely adequate ventilation equipment is too expensive. Owners, however, who are going to the expense of such a building should want it thoroughly enjoyed. If advised of how repulsive (and I smoke) and almost intolerable the problem is, surely some of them would approve an adequate ventilation system. Any owner or architect who questions the validity of this statement is invited to visit one of my games.

Another problem which can be easily circumvented is noise. Isn't it relatively simple to plan acoustical tile ceilings?

Please, architects, consider the smoke problem when you design any room which is going to be used for large, informal gatherings.

MRS. MARY DAVIDSON
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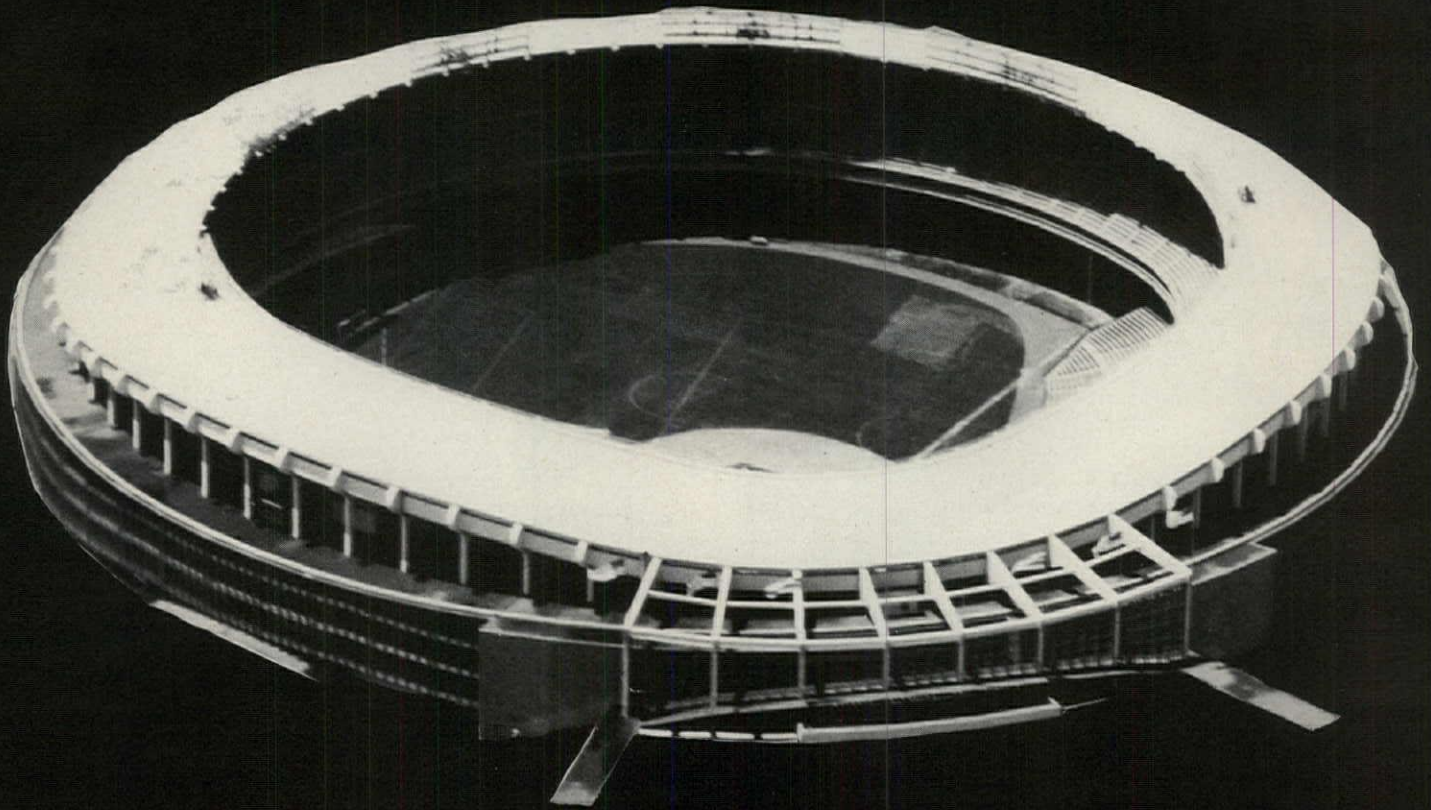
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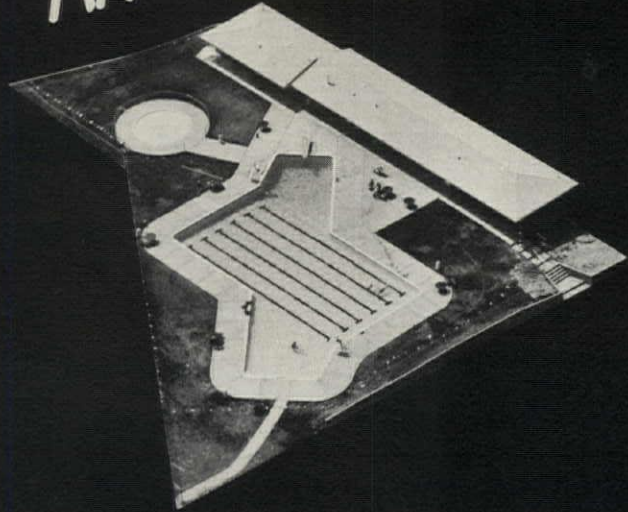
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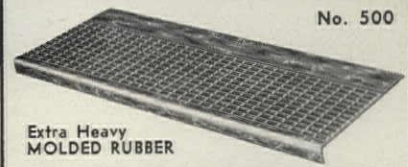
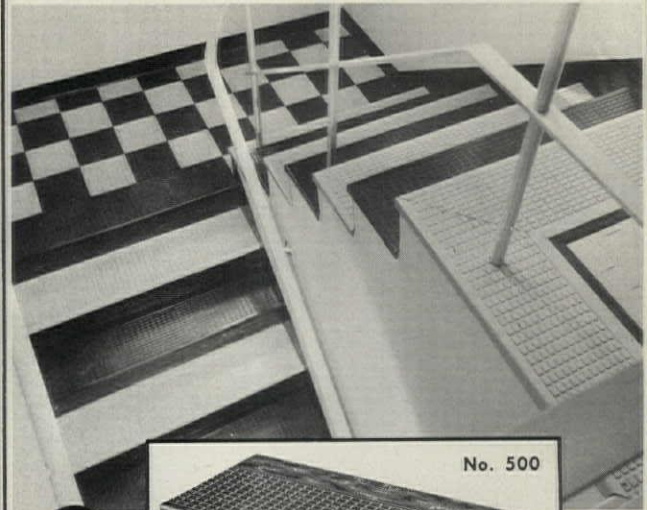
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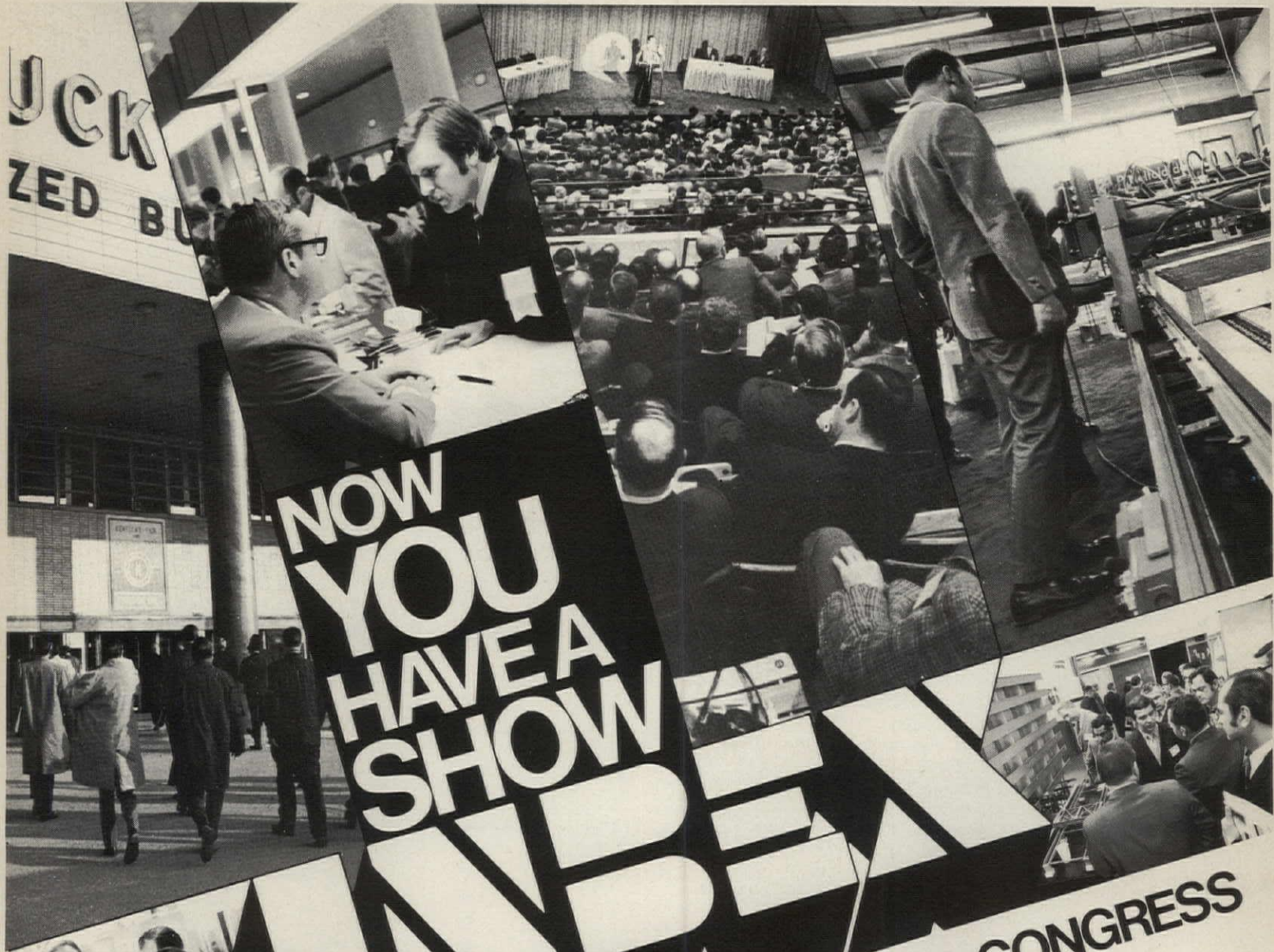
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- May 4-7:** Wisconsin Chapter State Convention, Milwaukee Exposition Hall Red Carpet, Milwaukee
- May 5-7:** Middle Atlantic Regional Conference, Jewish Community Center, Wilmington, Del.
- May 7-9:** Missouri Council of Architects Annual Convention, Holiday Inn of Table Rock Lake, Kimberling City, Mo.

National

- April 24:** Architects and Engineers Forum, Beverly Hilton Hotel, Beverly Hills, Calif.
- May 2-5:** Color Marketing Group Semi-Annual Meeting, Drake Oakbrook Hotel, Chicago
- May 6-7:** American Institute of Steel Construction Annual Engineering Conference, Sheraton Cleveland Hotel, Cleveland
- May 9-13:** National Association of Architectural Metal Manufacturers Convention, Mark Hopkins Hotel, San Francisco
- May 24-25:** Washington Paint Technical Group Symposium, Marriott Twin Bridges Motel, Washington, D.C.
- May 26-27:** Building Research Institute Forum on Air-Supported Structures, Hyatt House Hotel, O'Hare Field, Chicago
- June 7-9:** Construction Specifications Institute Convention, Anaheim, Calif.
- June 18-19:** ACSA Annual Meeting, Detroit Hilton Hotel, Detroit
- June 20-24:** AIA Annual Convention, Cobo Hall, Detroit (recessed convention, Copenhagen and London)
- June 23-25:** National Exposition of Contract Interior Furnishings, Merchandise Mart, Chicago
- July 14-17:** NCARB Annual Meeting, Fairmont Hotel, San Francisco

International

- June 20-25:** International Design Conference, Aspen, Colo.

Competitions

- April 30:** Submissions due, symbol for the Panamerican Federation of Architectural Associations, open to architects and students. Contact: International Relations Office, AIA, 1785 Massachusetts Ave., N.W., Washington, D.C. 20036.

Awards Programs

- May 14:** Applications due, Western Home Awards program, limited to houses or projects built in last four years in the 13 Western states. Contact: AIA-Sunset Western Home Awards Committee, Box 2345, Menlo Park, Calif. 94025.

Scholarships

- May 14:** Submissions due, Arnold W. Brunner Scholarship for studies, projects or research in architecture and the allied arts. Contact: Brunner Scholarships Committee, Architectural League of New York, 41 E. 65th St., New York, N.Y. 10021.

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