AIA JOURNAL

APRIL 1970

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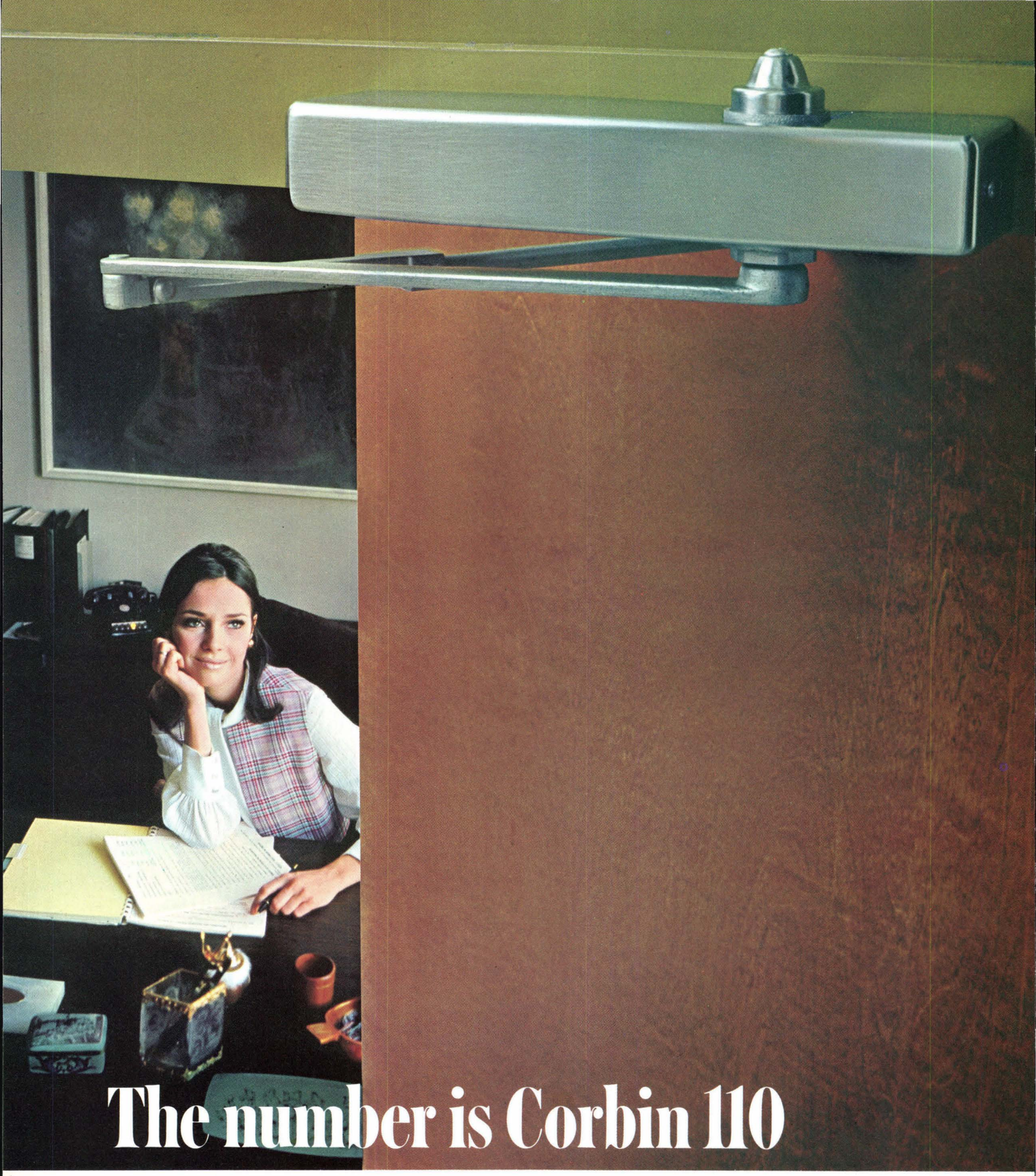

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Central market (Y. Shalig, G. Tamir & S. Refaeli) in Beersheba. Photo by Ran Erde.

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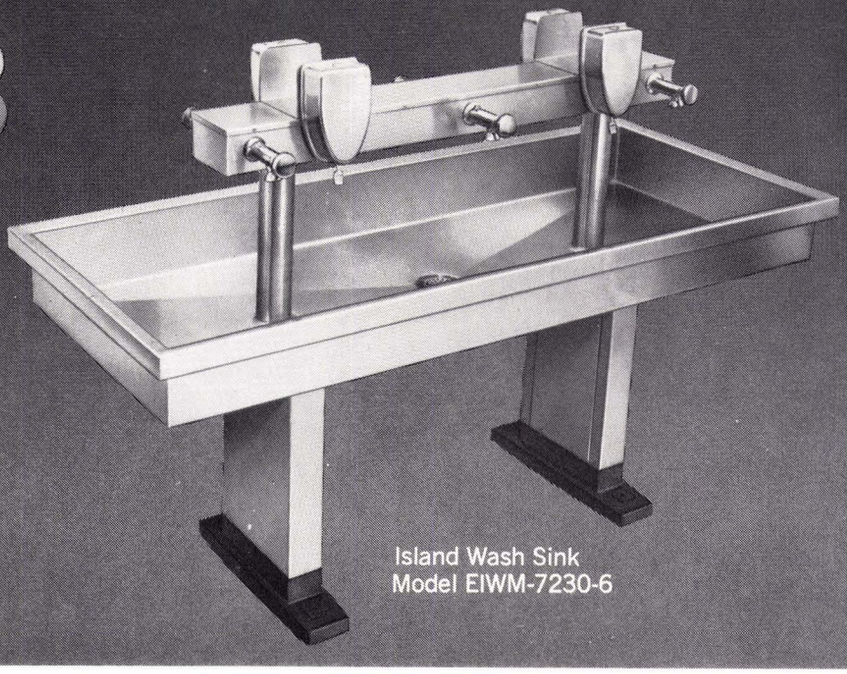

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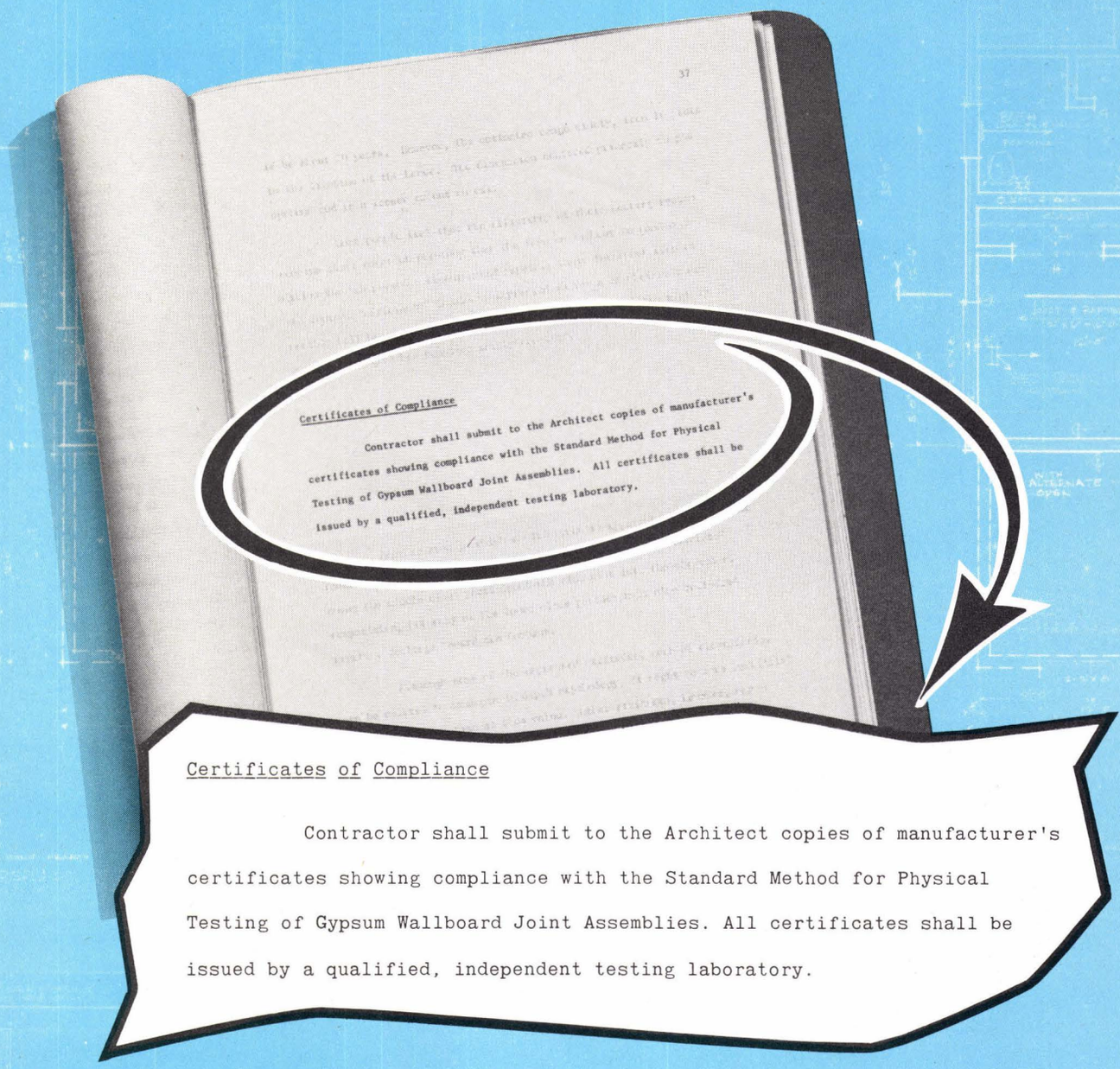

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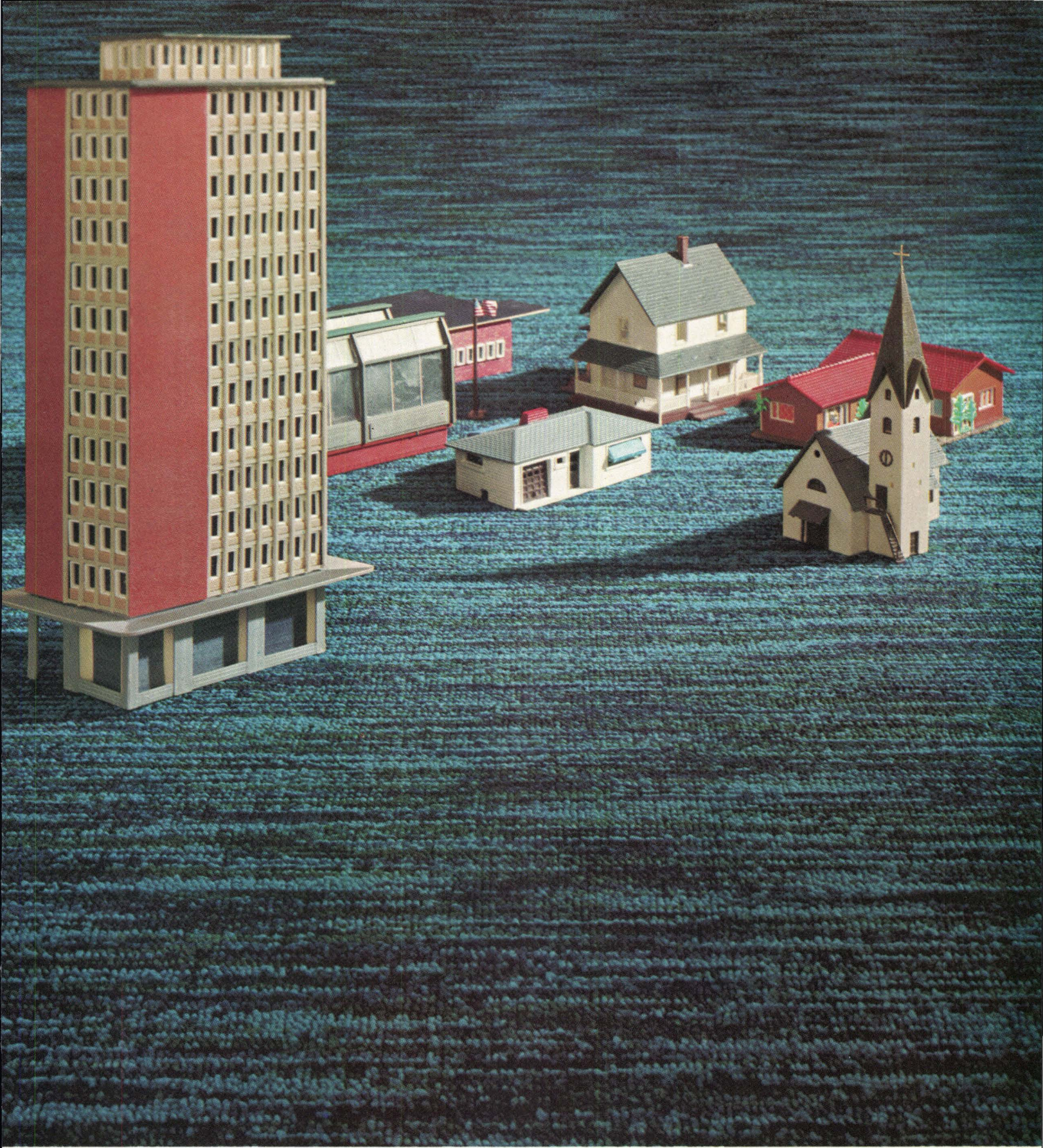

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comment and opinion

OPPORTUNITIES OF OPERATION BREAKTHROUGH: Fifty years ago a group of young architects, artists, humanists and philosophers issued a manifesto proclaiming the death of a sterile and unchanging tradition which was stifling the European continent. A new era had dawned, they announced, which would bring sweeping reform and bold deeds; the synthesis of art and science would build a new world. In this utopian quest, man's dwelling place would seek its ideal form and, in the best sense of the word, become *a machine to live in.*

Today, a half century later, man's dwellings are handcrafted while technology sends its steel towers to the heavens. And again, a new endeavor has been borne by the circumstances which seeks to translate the house into a "machine" that talents of this age, once given the chance, are able to create. It was launched in the spring of 1969 with a document that began: "Gentlemen: The Department of Housing and Urban Development is undertaking a new program to be identified as Operation Breakthrough to provide housing for people of all income levels, through a partnership of labor, consumers, private industry and local, state and federal governments, and bringing into play the use of modern techniques of production, marketing and management."

Perhaps it is an overstatement to say that this current search for a breakthrough, in its concepts, methods and aims, parallels those earlier efforts of *L'Esprit Noveau,* the Bauhaus and the German Werkbund. Yet there is today the same sense of urgency to extend man's capabilities which, in the assemblyline of industrialization, would attain the highest standards of tooled perfection.

There is in this endeavor, too, a deep awareness of the shortcomings of a fragmented building industry, made the more frustrating by the achievements of industrialization and technology in other spheres. And so a new structure is sought by HUD Secretary George Romney for this industry whose patterns of production would follow his blueprints for American Motors' assemblies, while the thrust of its technology would be influenced by Harold B. Finger, former NASA administrator.

With the selection of 22 producers (*see* Outlook), Breakthrough now moves into a critical stage: the actual erection of the prototype models in 10 states, followed by evaluation and testing of the housing systems. There are those critics, of course, who have written the whole thing off and stand impatiently in the wings, ready to shout as the final curtain comes down, "We told you so!" But the fact remains that, even if the physical results fall short of the goal, the program already has some plus points.

First and foremost, it has presented the architect with a new role in the overall housing picture—a role which he himself abdicated over the years. Then, too, Breakthrough has done more than simply to foster the team approach in a very positive way, for some of the "losers" have indicated that they intend to go ahead with their schemes on their own. For another thing, Assistant Secretary Finger, in a speech before the homebuilders in Houston, encouraged members of the consortiums to approach those cities whose sites were rejected but have agreed to cooperate in eliminating restraints.

Admittedly, the program does face difficulties and does have its shortcomings. The major one seems to be that the emphasis on marketability of the selected systems has resulted in a corresponding de-emphasis on originality. No one is so naive as to suggest that Operation Breakthrough is a panacea by any means, but it should be a pain reliever for some of our housing and urban ills; as regards architects, it should become a stimulant for a profession that up to now has demonstrated its unwillingness to cope with the problems of industrialized housing.

ROBERT E. KOEHLER

ACKNOWLEDGMENTS

22—United Press International
27-37—Ran Erde
45—Sam Spirito
47—Ezra Stoller
48—left, Wilkinson Studios Ltd.
48—right, Ernest Braun
49—left, Ezra Stoller Associates
49—right, Kolling, Lehker & Toy, Inc.
50—above left, Sam Spirito
50—below, Alexandre Georges

NEXT MONTH

So much has been written about the word "system" that it has become almost a meaningless term in the architectural and building vocabulary. One writer after another attempts to explain what is meant by the "systems approach" and by a "building system," and the result, more often than not, is simply more confusion. Happily, Ezra Ehrenkrantz, AIA, as a member of the Institute's Committee on Architecture for Education, has come along with a set of definitions that make sense and are explained within a context that should help to clarify the issue. We feel this is truly must reading.

Also in May: a Practice Profile on an architectural firm which is oriented to interiors, its latest job encompassing more than 1.2 million square feet of space; an examination of a new urban-core proposal for San Juan with emphasis on the local AIA's involvement; an educator's look at Latrobe as a professional; an architect's analysis of neighborhood planning; and a preview of the built-up roofing manual sponsored by the Institute and scheduled for publication by McGraw-Hill in early summer.

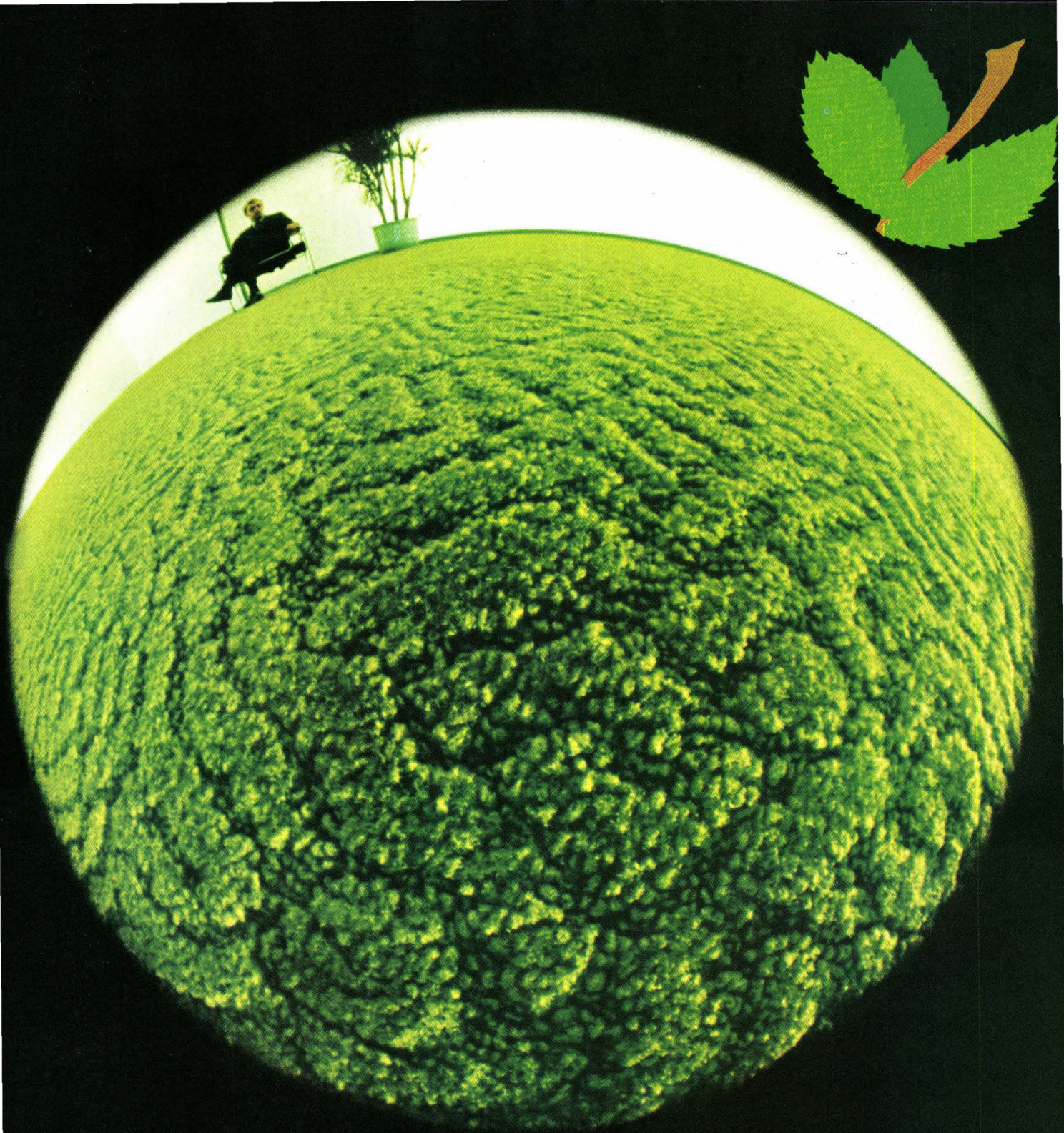
ASIDES

A sampling of reader reaction to our new format is found in the Letters department of this issue. We welcome your response, pro and con, not only to this particular topic but to specific articles that appear in our pages as well as any matters of mutual concern. In short, we hope the AIA JOURNAL will become a more vital medium for the exchange of points of view. As we have stated previously, we reserve the right to edit letters for length and style.

When the large-size magazine made its debut in January, we were caught with our modules down. An error which crept into Comment and Opinion concerning the modular dimensions created confusion among some of our readers, and rightly so. The system is made up of 48 units per page—six wide and eight deep—but each module is 1⅙ inches (7 picas) with a 1/6-inch (1 pica) space between each, horizontally and vertically. The system, then, is a workable one, for it is geared to the basic unit of type—6 picas equal 1 inch—which editors and graphic artists deal with each day. The modular layout is reproduced on the Letters page.

Since we are talking about family matters, so to speak, we would like to introduce two assistant editors whose names have appeared on the masthead beginning in January. Michael C. Rector comes to us from a Virginia-based firm of transportation planners where he edited an in-house publication, along with surveys and reports. Mary E. Osman is no stranger to our Books department readers in particular or to AIA members in general. Reviewing books was one of her assignments during her seven years as the Institute's assistant librarian, a position from which she resigned last summer.

This also is an appropriate time to announce that Bess Balchen, who joined our staff as assistant editor in August 1967, now carries the title of associate editor. □



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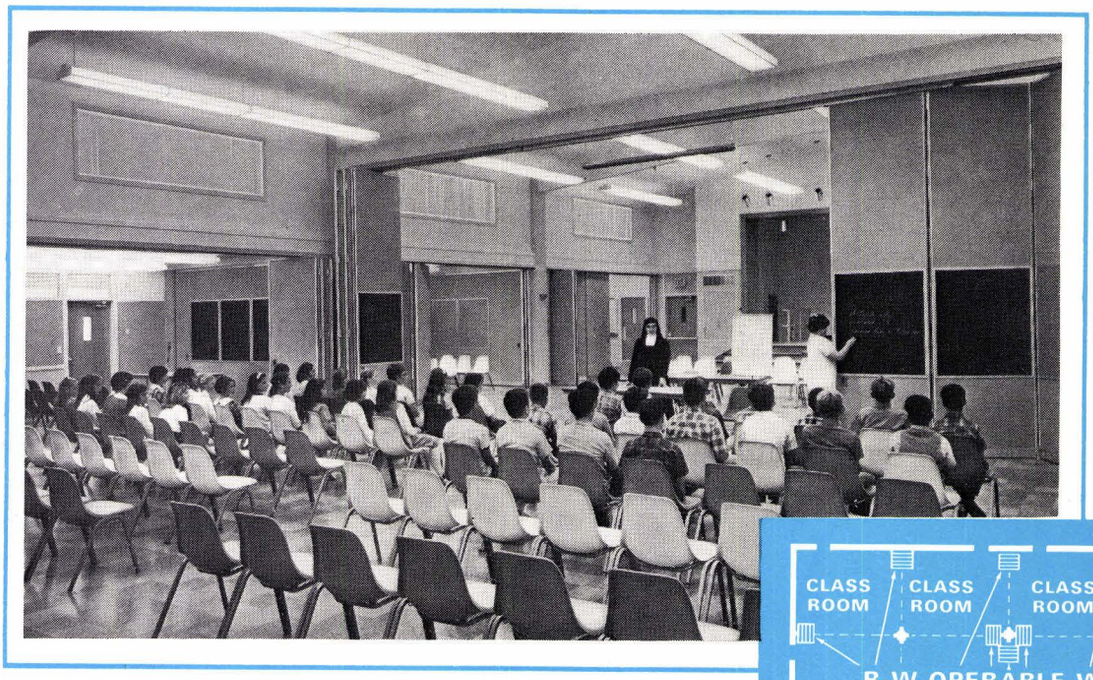

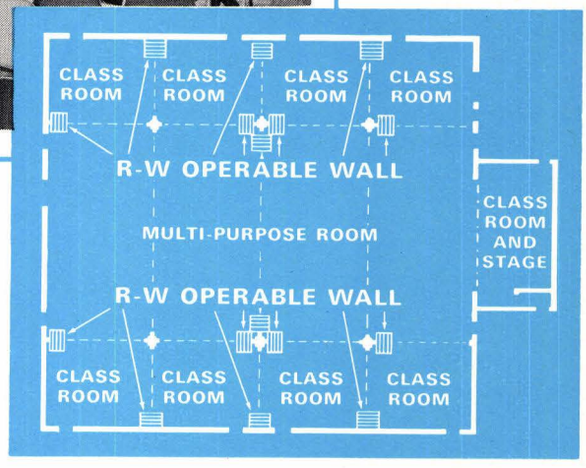

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Flexibility and Variety Characterize the Prototype Housing Units for Breakthrough

When Operation Breakthrough becomes an accomplished fact—many of the units are scheduled to be completed by the end of 1970—it is the hope of the Department of Housing and Urban Development that conclusive evidence will have been offered to the industry that such a demonstration program to break through the major obstacles to volume production and delivery of housing really does work.

HUD Secretary George Romney, announcing the selection of 22 housing system producers as project finalists, stressed his conviction that housing represents our greatest underdeveloped economic market in the nation today and that significant actions have already been taken as a result of Operation Breakthrough to develop that market.

The substantial interest of many large organizations as well as teams of small organizations is indicative of the growing recognition of industry that this enormous potential market exists, and many producers have presented their ideas and are proceeding, on their own, to develop improved production approaches, he said.

More than 2,000 prototype housing units, for all income levels, will be built by the producers named by Romney. Construction is expected to begin by early summer on the prototype sites in 10 states.

The 22 systems selected from more than 236 Type A proposals represent a flexible and wide-range answer to many of housing's problems. All of the systems employ, to varying degrees, techniques of industrialization ranging from on-site assembly of finished panels and other components to complete production of modules in a factory to on-site poured concrete systems.

Five of the systems selected use metal or structural framing; six use wood; seven use concrete; two use plastic foam-core panels or modules; and two employ plastic fiberglass materials. The two plastic fiberglass systems offer promise for lower cost housing and high volume. One of them is a sprayed on panel system while the other involves winding fiberglass cloth and other materials over a large revolving mandrel to produce modules.

The number of innovative subsystems include a water conserving vacuum toilet; a wall length plywood with fiberglass surface to avoid dry wall and plaster seaming problems; and totally self-contained mechanical systems for separate zones of the house.

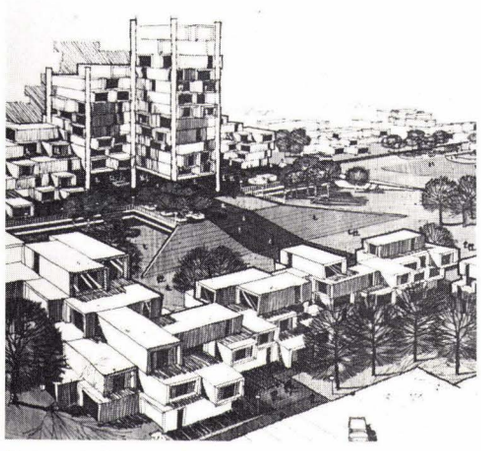
The prototype models will include single family detached units, single family attached, row houses, multifamily, lowrise units and highrise buildings.

Some of the systems have configurations that would "create land" in the dense inner city. One will have concrete platforms at intervals of three stories on which dwelling units are placed in such a manner that walking space is created in the front and garden space in the rear. Another will utilize precast concrete modules stacked in an unusual checkerboard manner to create usable space and lower costs.

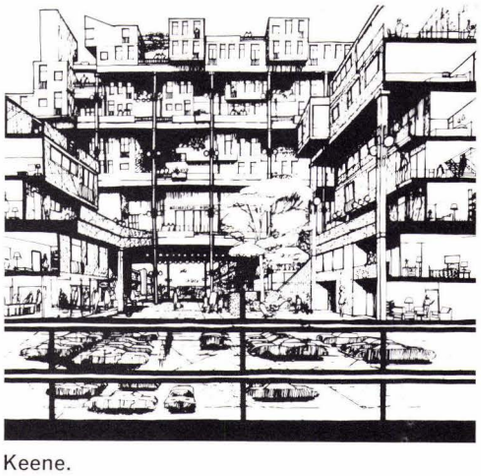
Selected to build prototype units are the following housing system producers, with the participating architects, where identifiable, in parenthesis:

- Aluminum Company of America (Perkins & Will, Collins & Kronstadt)
- Ball Brothers Research Corporation (Elliott H. Brenner, AIA, Bradley & Bradley)
- Henry C. Beck Company (Keyes, Lethbridge & Condon, Sulton & Campbell)
- Boise-Cascade (Dalton-Dalton-Little)
- Christiana Western Structures, Inc. (B. A. Berkus Associates)
- Descon/Consordia (Philip David Bobrow, George E. Buchanan, Michael Brill)
- Forest City Enterprises, Inc. (Barbitta-James & Associates)
- General Electric Company (Hugh Gibbs, FAIA, & Donald Gibbs, AIA, Leon Julius, AIA)
- Hercules, Inc. (Armstrong & Salomonsky)
- Home Building Corporation
- Keene Corporation (Warner, Burns, Toan & Lunde)
- Levitt Technology (B. A. Berkus Assoc., Inc.)
- Material Systems Corporation (Skidmore, Owings & Merrill)
- Module Communities Incorporated (Skidmore, Owings & Merrill)
- National Homes (Edward Durell Stone & Associates)
- Pemtom, Inc. (InterDesign, Inc.)
- Republic Steel Corporation (Edward A. Schmitt)
- Rouse-Wates
- Scholz Homes, Inc.
- Shelley System
- Stirling Homex Corporation (Jose Jimenez, Richard Rosen, Stanley Crnkovich, Edward Ribson)
- TRW Systems Group (Building Systems Development, Inc.).

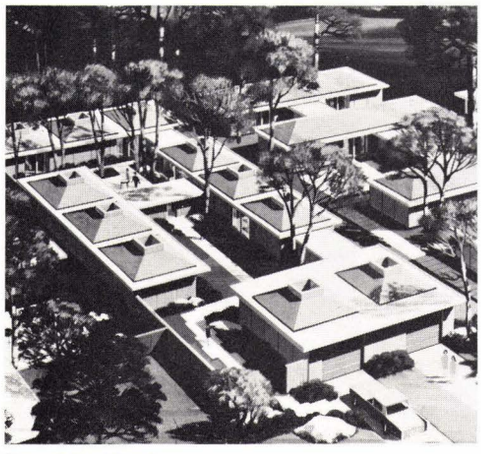
continued on page 16



National Homes.



Keene.



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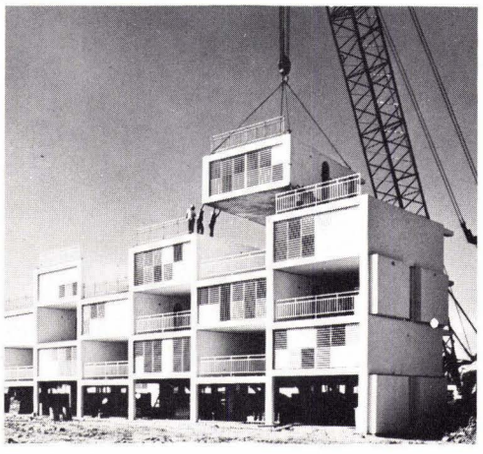

Shelley Systems.

Institute's Housing Resolution

The AIA Committee on Housing has passed a resolution to bring to the attention of Congress "the emergency situation now existing in our country in housing." Committee Chairman Jeh V. Johnson, AIA, Poughkeepsie, New York, reports that the resolution urges that "national priorities be restructured to meet our most urgent domestic demand (housing) . . . the Federal Reserve Board re-evaluate interest rates in relation to the present housing emergency . . . and Congress support and fully fund any and all effective action to produce the required housing."

One More Step AMARLITE/ANACONDA

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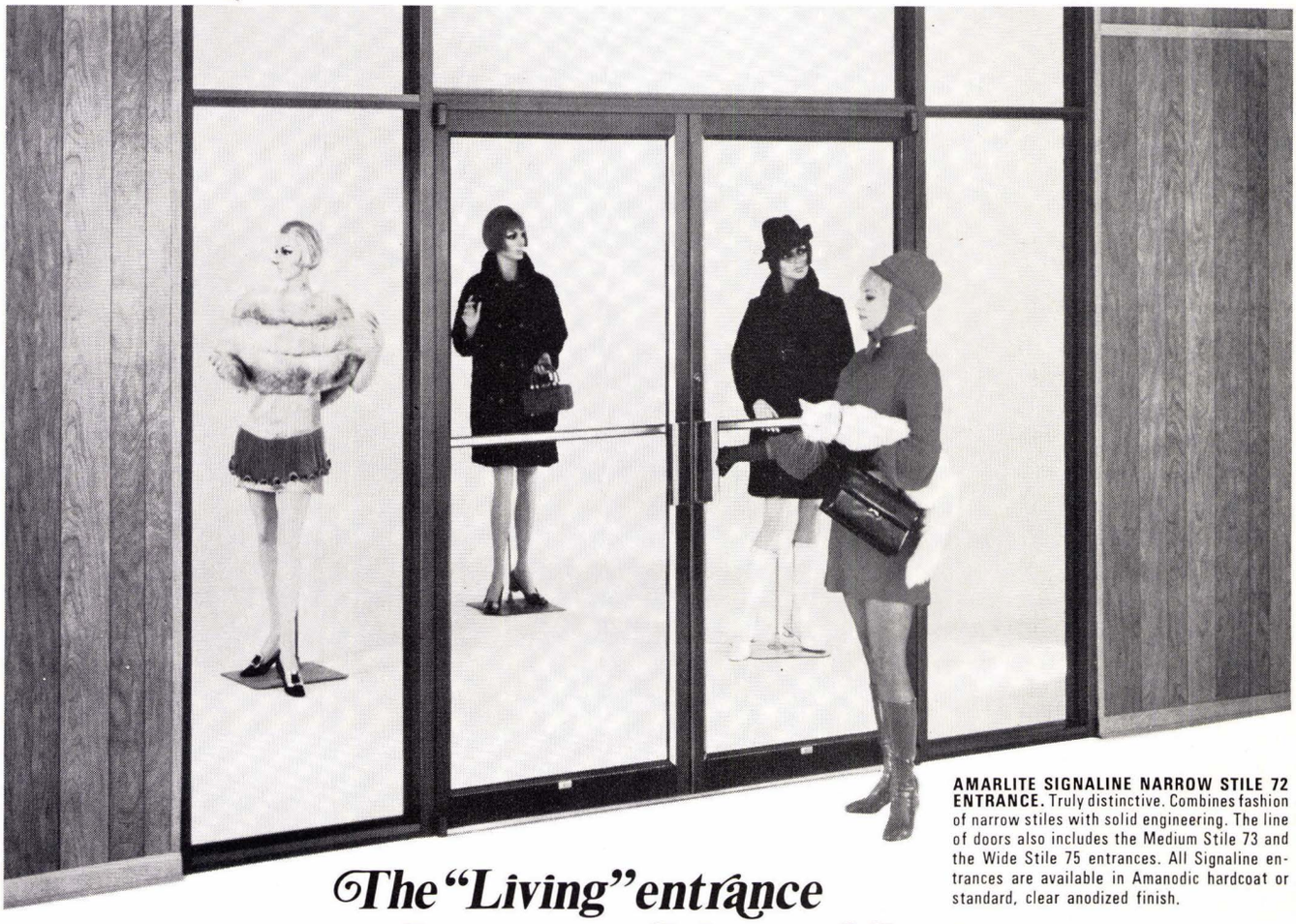

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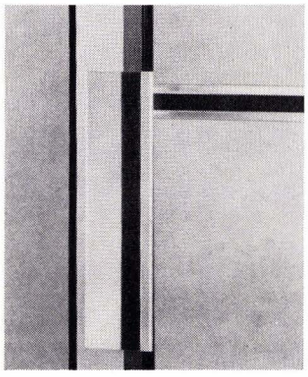

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Outlook *from page 14*

Low Income Housing Impasse Sparks New York Chapter AIA to Action

Public housing construction is, as everyone knows, virtually at a standstill at the present time. One reason for it is the cost limits in the federal laws.

In New York City, seven of the eight projects put out for bids last year by the New York City Housing Authority came in over the federal statutory cost limits (*see* "Who Designs New York?" p. 38).

In an effort to get the construction cost limits raised by the Congress, the president of the New York Chapter AIA, David F. M. Todd, FAIA, with the authorization of the chapter's Executive Committee, wrote to senators and representatives from the New York area as follows:

"The 1,600-member New York Chapter of The American Institute of Architects is deeply concerned with pending House legislation, most particularly with those portions relating to construction cost limits. The allowable per room construction cost has risen only 26 percent since 1949, while actual construction costs have risen 118 percent. In light of these figures, we believe the provisions in the House bill for increasing the public housing cost limits are extremely unrealistic.

"We therefore urge you to include Senator Goodell's amendment to the Senate bill which provides flexible annual changes in construction costs. The Senate bill also includes a valuable provision for an additional 45 percent increase in high cost areas such as New York City.

"The New York City Chapter is also concerned that the House provision that rentals and cooperative charges for dwelling units in Rent Supplement and Section 236 interest rate subsidy projects shall be based on 20 percent rather than 25 percent of the tenant's or members' income be accepted by the Conference Committee."

A Star on the Shoulder Enhances One Set Of Clothes Worn by Architect Ferebee

The top soldier in Charlotte, North Carolina, is far better known as an architect. He is S. Scott Ferebee, FAIA, president of Ferebee, Walters & Associates and currently director of the Institute's South Atlantic Region.

In uniform, he is Brigadier General Ferebee, having been named commanding general of the 108th Division (Training) of the US Army Reserve earlier this year. Headquartered in Charlotte, the division has units in 35 communities in the Piedmont and western section of North and South Carolina.

Ferebee was a paratrooper with the 101st Airborne Division in World War II and took part in the invasion of Normandy. He was wounded in action in the fighting outside of Carentan, France, and was awarded the Bronze Star, Purple Heart and Combat Infantryman's Badge for his part in the Normandy fighting.

He served as president of the North Carolina Chapter AIA in 1964 and of the North Carolina Design Foundation from 1966 to 1968.

continued on page 20

outlook *from page 16*

Great Lady of the Seas Will Welcome Tourists at Its Long Beach Berth

Retired at the Port of Long Beach, California, since the end of 1967, the Queen Mary again is bustling with activity as she is being converted into a marine museum and a hotel/convention complex hopefully for a late 1970 opening date.

The lower six decks are being planned by the California Museum Foundation which has retained oceanographer Jacques Cousteau as consultant. The upper seven decks are being redesigned into a commercial area to include a 400-room hotel, convention facilities for 1,800 persons, six major restaurants, over 40 shops and entertainment spots. The master lease for the ship has been awarded to Diners/Queen Mary, a wholly owned subsidiary of Diners Club.

The permanent berth for the Queen Mary will consist of almost 500 acres of filled land surrounding a 4,000-boat marina. The master plan as being developed by Killingsworth, Brady & Associates of Long Beach calls for four hotels, an international village, a shopping center, yacht club and highrisers.

One of the most challenging aspects of the projects is the lighting installation being done by the New York firm of Lighting by Feder. Abe H. Feder points out that the lighting of the ship was so vast an undertaking that different areas were parceled out among different designers. Yet when all the lighting designs were brought together, they complemented each other to an extraordinary degree.

"All first-class salons, smoking lounges, bars, dining facilities, etc., were treated on a grand scale," explains Feder, who is a contributor to this month's AIA JOURNAL (see p. 45). "There is an endless number of fixture types, each being repeated as a rule only within the same room. Yet all the fixture types, each custom made, have a similarity to each other belonging as they do to the same period: '1930 British luxury.' "

Feder points out that the "new" lighting design is not new at all in those first-class areas where the decor is being kept intact. In essence, the same fixtures are being used.

"In other areas, such as the tourist dining room, where neither the decor nor the lighting fixtures are worth preserving, a different approach has to be used," says Feder. "Such areas were deliberately designed down to what was considered the taste of the less affluent classes. The new lighting approach in such areas is basically architectural, keeping fixtures visually insignificant or invisible so as not to jar the sensibilities of someone walking from a preserved area into a rebuilt one."

Breakthrough Seen for Use of Plastics In Construction as Techniques Evolve

Construction will continue to claim the third biggest market for reinforced plastics composites in 1970, following the marine market and land transportation, with an estimated 150 million pounds. This represents a 21 percent increase over last year, whose poundage has been set at 124 million.

Recent reports suggest, however, that the use of plastics composites in construction is almost ready to break loose. A two-story junior/senior high school is being built at Canada's Frobisher Bay from 14x7-foot prefabricated fiberglass reinforced plastic panels bonded to urethane foam insulation; a pilothouse has been built on Indian land as a start in a low cost housing venture that depends heavily on glass-reinforced polyester components. In London, reinforced plastic cladding panels are being used in a number of highrise apartment buildings.

Back in the United States, reinforced plastic curtain wall panels for a two-story office building were shown at the exhibit of the 25th Reinforced Plastics/Composites Division of the Society of the Plastics Industry, Inc., in Washington, D.C.

The building and construction session during the February conference covered such topics as fiberglass composites for low cost housing, the material's use in concrete formwork, the installation of a large reinforced plastics false ceiling, and the paving of bridges and roads with unsaturated polyester resin.

While the technical meetings were going on in the nation's capital, an exhibition of 53 plastic works of art by 47 artists was being viewed at the Milwaukee Art Center. The show, which earlier hung at the Jewish Museum in New York, moves on to the San Francisco Museum of Art, April 24-May 24.

continued on page 22

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outlook *from page 20*

Seminars and Sightseeing on Docket For AIA Members on Expo '70 Tour

Corporate members of the Institute who want to combine their trip to Expo '70 with additional sightseeing and some professional participation to boot may well find their answer in a 16-day tour, August 14-29.

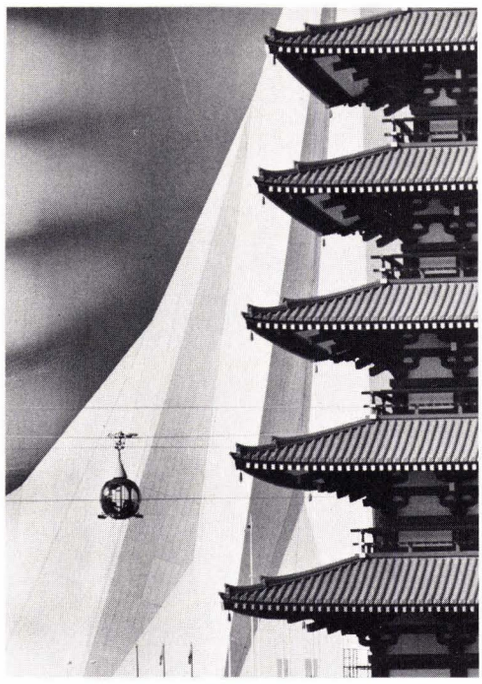
A chartered Boeing 707 jet will depart from New York and San Francisco accommodating 165 persons. The tour, which is limited to AIA members and their families, will include five days and nights in Tokyo, two in Osaka (Expo '70), four in Hong Kong and three in Bangkok.

Called an Oriental American Symposium on Architecture and Urban Design, the seminars will be led by three Institute Fellows—George E. Kassabaum, St. Louis, program chairman; A. Quincy Jones, Los Angeles; and Daniel Schwartzman, New York—and invited participants from Japan, Hong Kong and Thailand.

All inquiries should be directed to Professional Seminar Consultants, Inc., 3194 Lawson Boulevard, Oceanside, New York 11572.

Meanwhile, AIA components have been organizing tours for their members and friends. Among them: the Portland Chapter and the Michigan Society of Architects.

The Portland contingent will depart July 23 for a 13-day jaunt in Japan. The MSA group will leave August 15 for a 17-day tour which includes stopovers in Hong Kong, Taipei and Honolulu.



Skyride at Expo '70 separates the Soviet Pavilion from the Furukawa Group Pavilion.

Congress Seeks to Provide Open Market For Worldwide Ideas on Urban Future

The year 2000 has become a target date for a large number of programs and projects all over the world. The passing of a millenium of human history requires an appraisal of the past and a forecasting of the future.

Among the many programs appearing at this time is a multidisciplinary congress to be held in Rotterdam, May 24-30, on the theme, "Citizen and City in the Year 2000," sponsored by the European Cultural Foundation. The session will consider the economic and social developments that are converging on the year 2000 and their impact upon the human and physical environments.

Participation is invited from all over the world. The program and additional information are available from the Congress Secretariat, Holland Organizing Centre, 16 Lange Voorhout, The Hague, the Netherlands.

Seven Honorary Members Added to AIA

Joining those "who have rendered distinguished service to the architectural profession or to allied arts and sciences," the seven newly elected honorary members of the Institute bring the total current listing to appoximately 90.

The seven are Samuel Chamberlain, etcher and author, Marblehead, Massachusetts; Luis A. Ferré, Governor of Puerto Rico, San Juan; Thomas Griffith, editor of *Life* magazine, New York; Benton MacKaye, forester, author and regional planner, Shirely Center, Massachusetts; R. S. Reynolds Jr., chairman of the board and chief executive officer of Reynolds Metals Company, Richmond, Virginia; Samuel Spencer, attorney who has served as AIA legal counsel since 1959, Washington, D.C.; and Walter Muir Whitehall, director and librarian of the Boston Athenaeum, Boston. □

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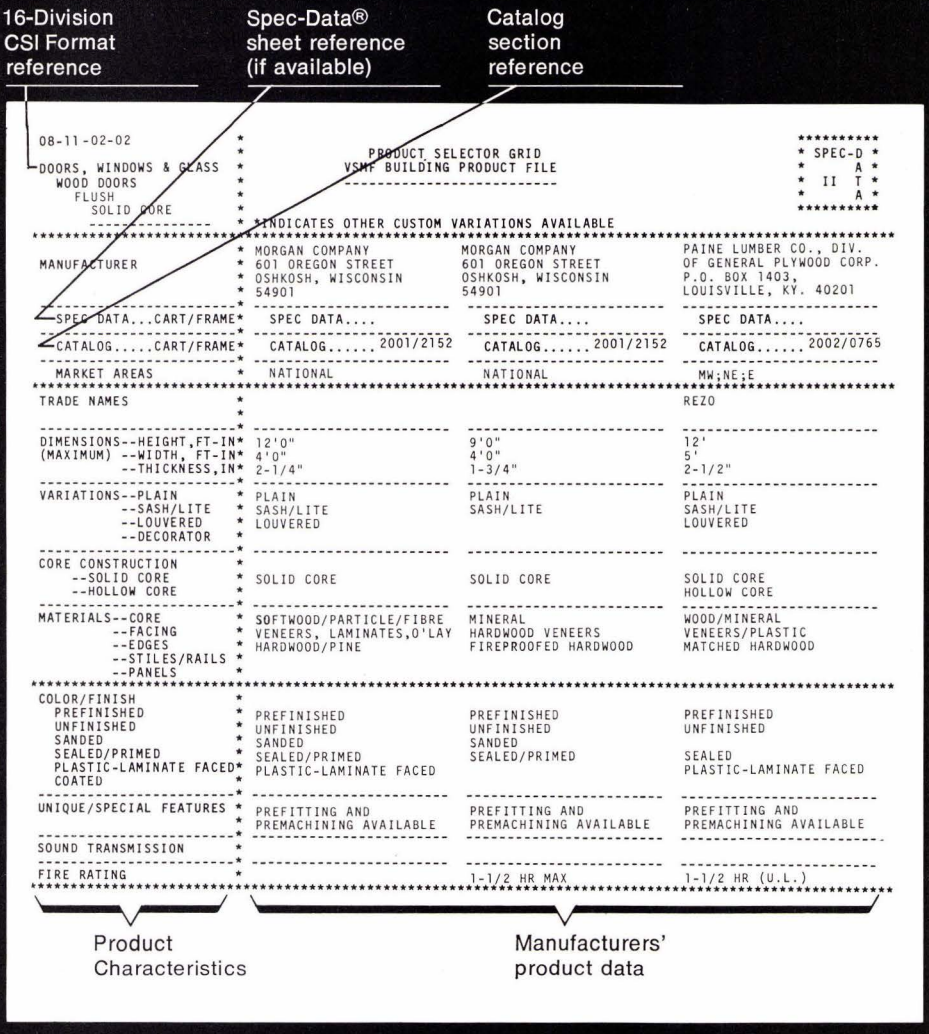

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Visual Pollution Is Deadly Too

by GORDON PHILLIPS, AIA
Director, Educational Programs

The current kick on our environment has much publicity devoted to smog, waste disposal, water pollution and conservation of natural resources. Too rarely do we hear discussed the evils of visual pollution and the diseases it causes.

Sure, architects have been concerned for a long, long time, and we did support the war on ugliness. Now the opportunity to act in the public interest again presents itself, this time with the highest of stakes.

To develop a better environment we will have to utilize the best of each person's capabilities in the formation of planning and design teams, which should operate as smoothly and efficiently as a champion professional football team. Since the public will be a member of this communal effort, it is important that it be well trained for the responsibility.

Learning about the environment, and how to go about changing and improving it, may rightfully become the core about which future educational systems are designed. For, after all, we have given to us only a limited amount of earth's resources to develop for our use and we either recognize this and plan in sympathy and accord with nature—or we perish. Some conservationists give us only 35 years to stop pollution, or man may become one of earth's vanishing species.

Recognizing the need for educating the young in environmental awareness, the AIA Board in 1966 appointed a one-man task force to develop and coordinate programs at the elementary and secondary levels. In 1967, a task force team was appointed to continue the work and in 1970, the Public Education Committee was established, to include higher and adult education.

Among accomplishments to date have been financial assistance to the Philadelphia Chapter AIA for development of texts and teaching aids at seventh- and eighth-grade levels and to the Northern California Chapter for development of a text and teachers' manual for kindergarten through 6th grade. Museum directors have been encouraged to exhibit displays on the visual environment for the education of children; a book for young people about cities was commissioned; a pilot project for teacher workshops has been funded for 1970.

Last December, a consortium on public education in environmental awareness, held at AIA Headquarters, brought together staff persons from private organizations and federal agencies to establish communications and to promote joint action in a common effort (*see* page 53).

The Public Education Committee will introduce this month a new guidebook to assist AIA components in introducing environmental awareness programs into the local schools. This will be composed of several sections: brief descriptions of existing successful programs by other AIA components; a summary of available national programs; suggested outlines for programs at various grade levels; an annotated bibiliography; and suggested procedures for introduction of programs on awareness of the man-built environment into local schools.

The AIA war on ugliness is beginning to pay off. Now we must respond to the question, "What can *I* do about it?" Every architect is an expert on the problems of the man-made environment, so focus your efforts in these directions:

1. Offer your assistance to your local environmental teach-in organizers, pointing out possible ways of correcting local pollution problems, with special emphasis on visual pollution. (A memorandum containing information on the April 22 Teach-In, with a listing of available AIA support documents, was sent to chapter presidents on February 16.)

2. Be prepared to give your oral and written support to Senate Bill S3151 and House Bill HR14753. These nearly identical bills authorize the US Commissioner of Education to train teachers and support courses that help schoolchildren understand man's habitat. When this legislation becomes the subject of congressional action, you will be notified by the national AIA or your local chapter. Then, to ensure their enactments, write to your senators and congressmen and enlist the support of others. Again, stress the importance of the man-made environment.

3. Promote the introduction of programs in environmental awareness in your local schools. Here is an opportunity for public relations by showing what architects can do for the communities. This is an ideal way to develop future clients while at the same time performing an important public responsibility.

The time for action is now. Follow up the lead the AIA has taken to make the public aware of our environmental crisis. The issue is survival. □

Mr. Phillips and James Ellison Jr., executive secretary of the Association of Collegiate Schools of Architecture, are consulting editors on the AIA JOURNAL's new Architectural Education section (*see* page 53)

Zellerbach Hall, Univ. of California, Berkeley. Architects: Vernon DeMars, FAIA, and Donald Hardison, FAIA. A joint venture of the firms: DeMars & Wells and Hardison & Komatsu.

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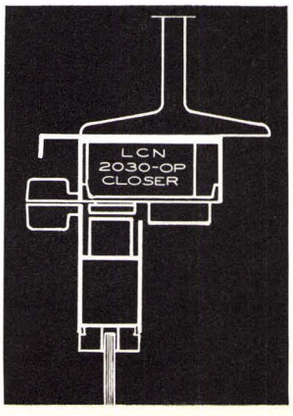

Circle 122 on information card

TALL BRONZED and HANDSOME

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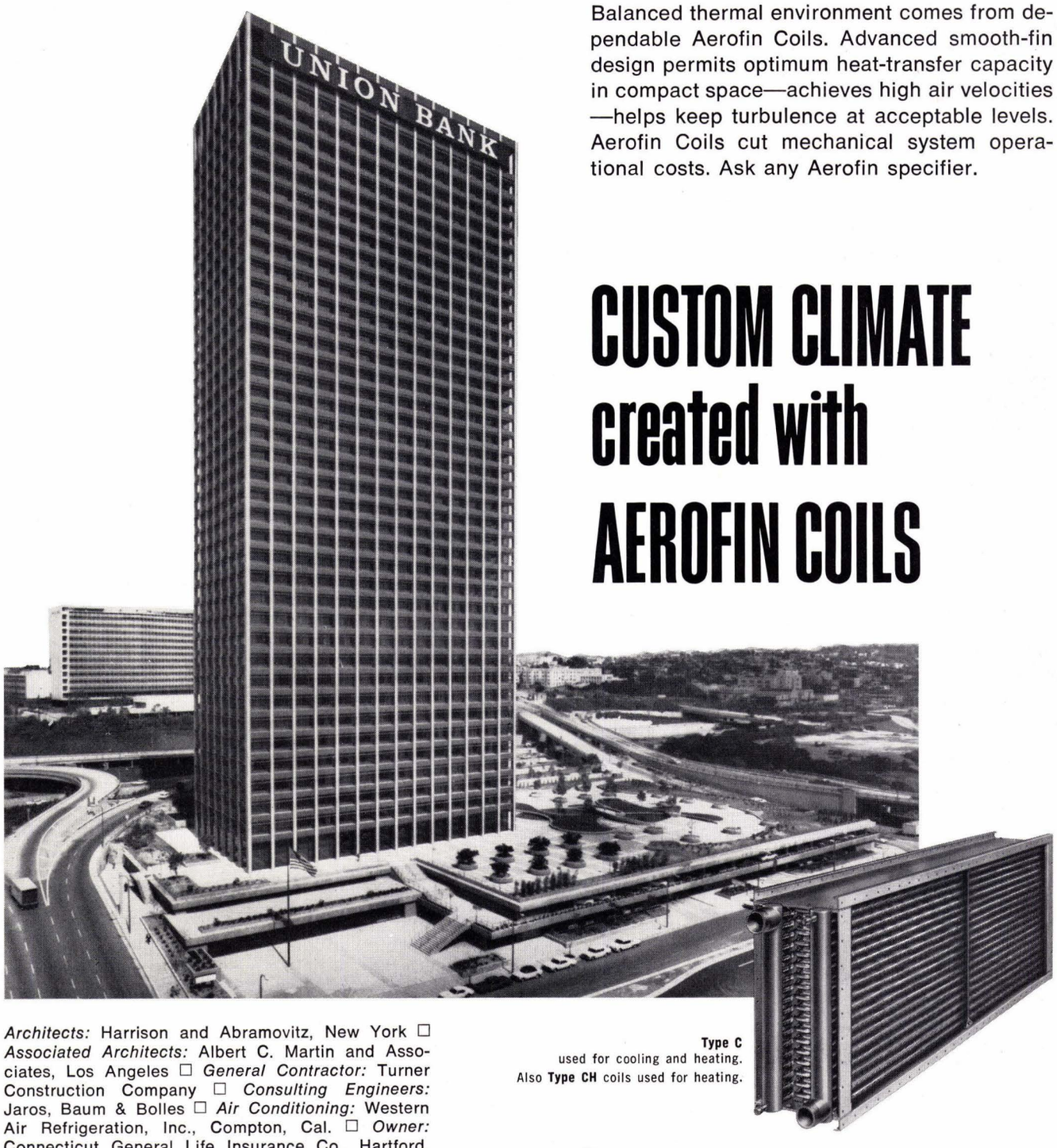

Architects: Harrison and Abramovitz, New York ☐ *Associated Architects:* Albert C. Martin and Associates, Los Angeles ☐ *General Contractor:* Turner Construction Company ☐ *Consulting Engineers:* Jaros, Baum & Bolles ☐ *Air Conditioning:* Western Air Refrigeration, Inc., Compton, Cal. ☐ *Owner:* Connecticut General Life Insurance Co., Hartford, Connecticut ☐ *Co-Developers:* Galbreath-Ruffin Corporation, New York.

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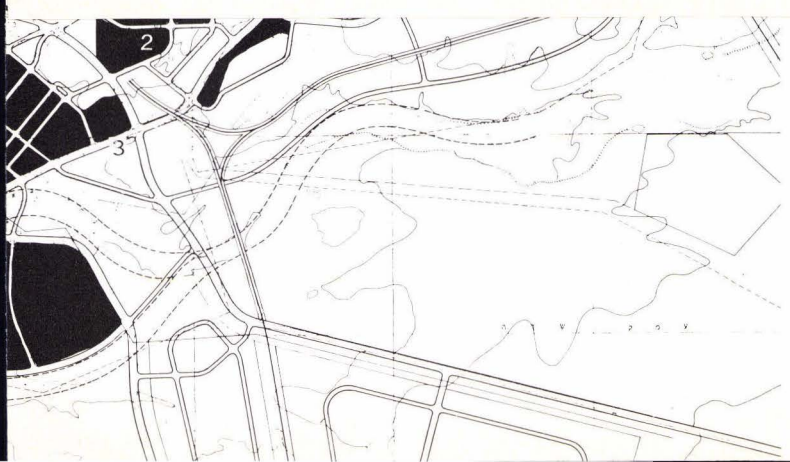
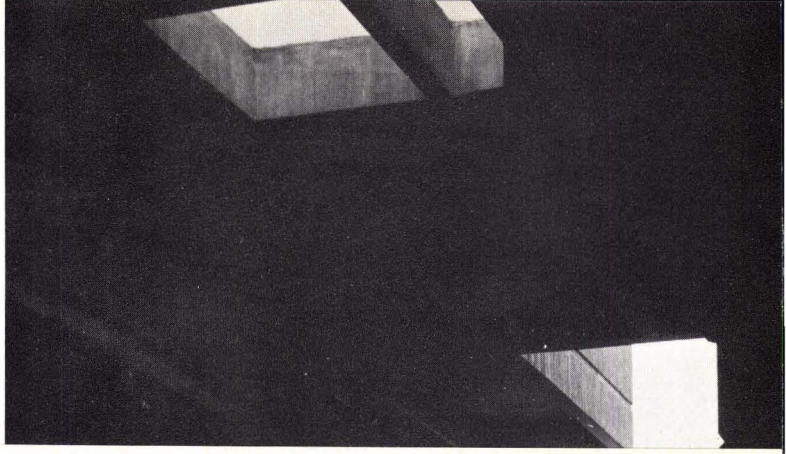
BEERSHEBA

SYMBOL OF A NATIONAL POLICY

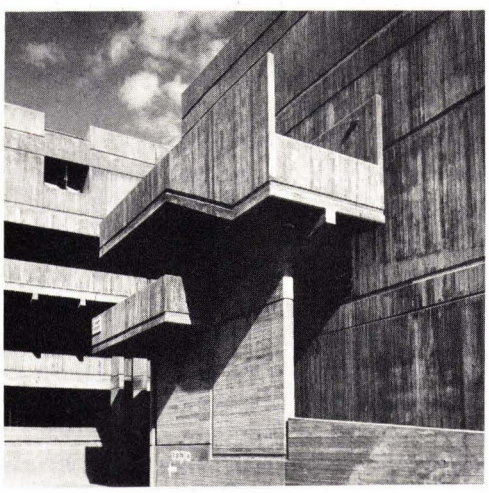


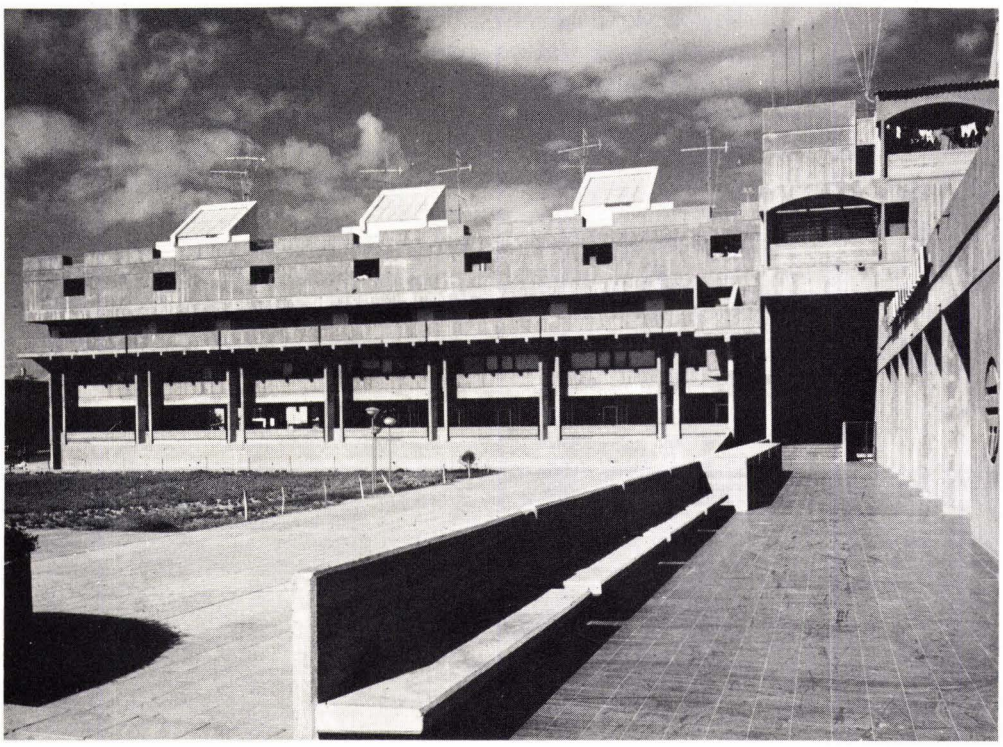
shortcomings of the earlier plan and construction, which served as a learning experience, and to propose the elimination of existing structures or their reconstruction, integrating them into the goals of the new master plan. The present total visual impression of Beersheba is less important than the evidence of its dynamic solution, evidenced by the excellence of its newly designed structures.

DANIEL SCHWARTZMAN, FAIA, Chairman
JULES GREGORY, FAIA
GEORGE T. ROCKRISE, FAIA



NEW TOWN CENTER



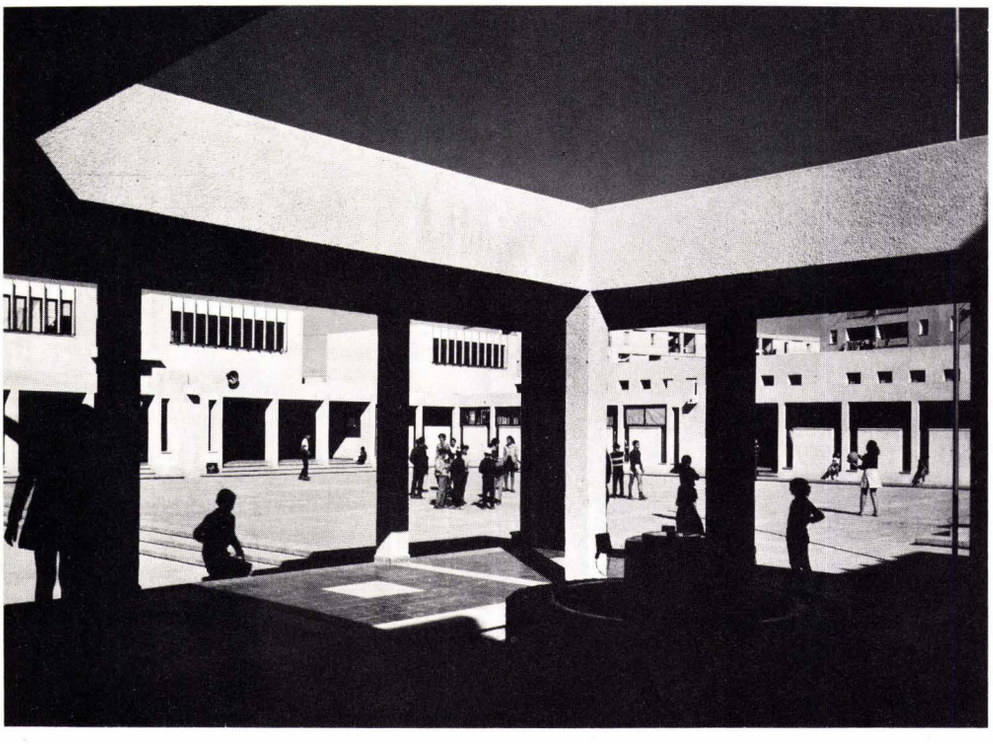


Hub of the city's activities developing to the north is the New Town Center building. It is a megastructure with an open-air gallery in the middle (photo preceding page), essentially a covered two-story main street which can be extended with the building as it is expanded to meet the community's needs. There are stores and offices on the first two floors and housing on the upper levels. Architects: R. Carmi & Associates.

CENTRAL MARKET

Respect for the rich tradition of the old town is reflected in the central market's oriental character. It is an excellent example of how a sense of history can be retained, even with the use of the most modern materials and construction techniques. The weekly sale of camels is conducted in the same colorful way that it was in the time of the patriarch Abraham, whom the Bible mentions as having lived in Beersheba. Architects: Y. Shalgi, G. Tamir & A. Refaeli.

SCHOOL



The high quality of the architecture is a reflection of the high quality of education offered to the immigrants who are to be quickly and fully integrated with the established population. The three-story school is planned around an inner courtyard; likewise, the three classroom blocks repeat the idea of functioning around an internal core. All classrooms open to a central hall—each with a large window—where the pupils spend recess. The school has no corridors. Architects: D. & I. Alrod.

HOSTEL

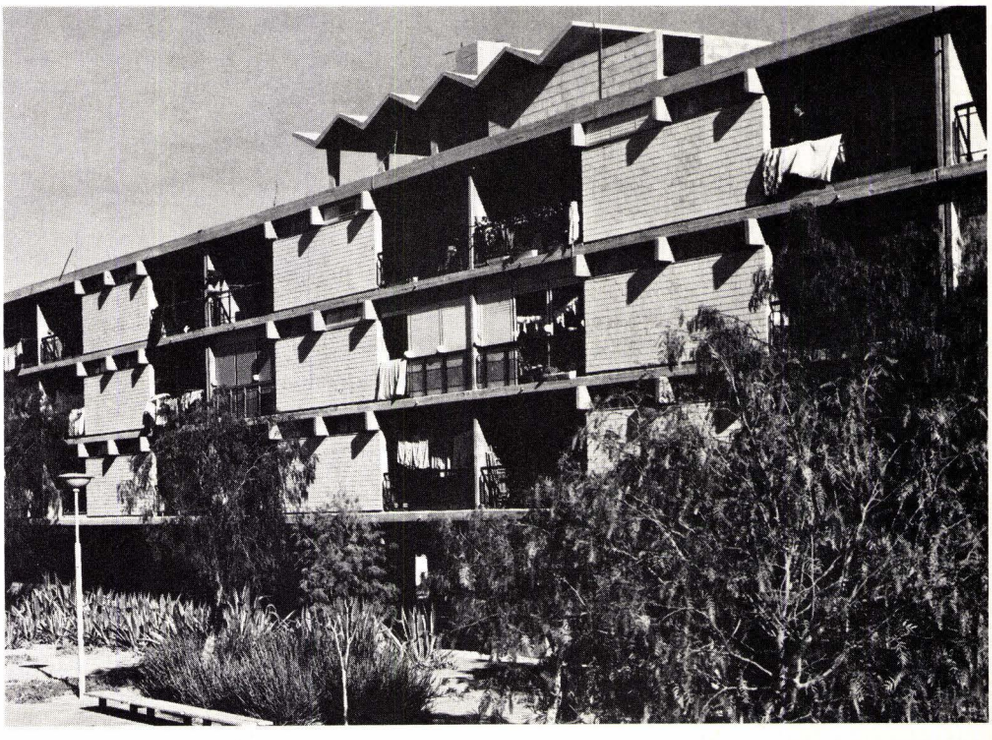
One of the most imposing and skillfully conceived of the new buildings, the immigrant hostel expresses an attitude that every effort should be made to offer the newly arrived citizens the best that the country has to provide, not inferior, hand-me-down facilities. It is here that these persons from exotic and diverse cultural backgrounds can be acclimatized to a new lifestyle before they move into their permanent homes in the community. Architects: A. Yaski, A. Alexandroni.

HOUSING

The highrise cantilevered block apartment house is strategically located to produce a spirited activity that a spread-out town of exclusively low density housing would not achieve. Architects: G. Gamerman, M. Lofenfeld. The one-story patio houses feature walled gardens for complete privacy. Thus every family has its own basis of green desert flowers, possible to maintain with small quantities of scarce water and protected from the frequent sandstorms which make housing of the open-garden-type impossible. Architects: T. Kisselov-Tichnun Ltd.

One- and two-story houses make up the carpet-type development. The apartments on the upper level have their own walled patio garden which is extended from the house to provide covered access walks at ground level, giving a humanized scale and a break from the dazzling sunlight. Architects: D. Havkin, N. Zolotov.

The multistory apartment building supported on piloti (across page and p. 27) leaves the visita at the ground level uninterrupted so that there is always a sense of the entire neighborhood from any location. Architects: A. Yaski, A. Alexandroni. The pyramid house (above and top right) is a structure stepped back at each level to provide the individual walled patios for each unit. This also creates a central covered community area from which stairs lead to all levels with cross-over railed walkways, an example of a system in which the architecture encompasses, and is, the site. Architects: G. Gamerman, M. Lofenfeld. Another block of apartments (right) indicates still more variety. Architects: T. Kisselov-Tichnun Ltd.



WHO DESIGNS NEW YORK

by ALBERT A. WALSH

Architects, of course. Our building codes and laws are very explicit. Anyone who wants to design a building must have a license in architecture in order to do so. RIGHT?

WRONG! It seems these days that everyone but architects is designing buildings in New York—and other big cities, for that matter. Developers are designing buildings; accountants, lawyers, legislators, mortgage bankers, cost engineers, community organizers, model cities committees, city planners, housing administrators, politicians, budget bureaucrats, even housing authority chairmen. Everyone but architects.

Each of these groups has its own proper legitimate concern with new additions to the skyline of the city, particularly when the building in question is a government-assisted housing project, wholly or partially supported by tax dollars. Zoning and building codes, marketability, rents, cost limitations, community acceptance—the list goes on and on before design becomes a topic.

To a certain extent this is as it must be, and apparently as it always has been in our system of government. The first recorded effort of legislators to control urban design in this nation occurred in 1647 when the Council of New Amsterdam appointed three officials authorized to "condemn, and in the future to stop, all unsightly buildings, fences, palisades, posts, rails, etc."

Architects have always had to design within constraints imposed by the client, by government and by tradition. Constraints in and of themselves are not necessarily a handicap; their function is to assure an architectural product that serves society's goals.

Constraints become a problem only when they impose unnecessarily harsh disciplines and thereby frustrate the achievement of our goals. Let me illustrate with a continuing, and currently rather painful, situation. Construction cost limits in federal law control the cost, and therefore to a great extent the design, of low and moderate income housing. There are many who believe that these limits have frustrated the achievement of architectural excellence since good design costs more than these limits authorize.

As a public housing administrator I like to think that I am concerned with good design. But when faced with a choice between good design and good housing—or, as has more recently been the case, between good design and no housing at all—I must opt for the solution which produces the maximum number of units of decent housing for the thousands whose needs cannot wait.

Fortunately (or perhaps unfortunately from the viewpoint of the housing administrators who have the difficult decisions to make) the choice is seldom that clear. I am personally convinced that good design does cost money, but I am not at all sure how much. It is no secret that during the last two years, while we in the housing authority as well as other agencies of city government have been trying to place a new emphasis on design in public and publicly assisted construction, there has been almost astronomical increase in the costs of such construction.

This increase is clearly the result of a number of interrelated factors: smaller, more scattered sites; lower density; current and projected wage increases in the building trades; the high cost of money; escalating land costs; pressure of minority groups for greater job opportunities; and the high level of extremely profitable nonresidential construction in the New York metropolitan area, with a consequent critical shortage of skilled workers.

With one or two notable exceptions the actual bids received, and subsequent discussions with the bidding contractors, have demonstrated without question that the architect involved has clearly gone overboard from a cost viewpoint in his effort to achieve an admittedly desirable design concept (and here I plead guilty to allowing myself to be persuaded that the concept in question could be achieved with only minimal cost escalation). It has been almost impossible to ascertain the degree to which improved design has contributed to the recent dramatic cost increases, averaging 30 percent to almost 100 percent over the costs of just two or three years ago.

However, despite these somewhat sobering experiences, I continue to be committed to achieving better design in public housing projects for several reasons:

First, because well-designed public housing projects can and should make a significant contribution to the general improvement of our urban environment.

Second, because living in well-designed buildings and communities tends to instill in public housing tenants a sense of pride and dignity and an increased concern for their surroundings.

Third, because I believe that improved design will tend to reduce the social stigma associated with public housing and increase its acceptability as a program worthy of the expenditure of public funds and as a neighbor in our communities.

To put it another way: Good public housing design is good for the community, good for the tenants and good for the program.

Some time ago, before he became a Presidential adviser, Daniel Patrick Moynihan said, "An improvement in the architecture of both public monuments and public housing projects would provide a sense of community and stability in today's violence-oriented world."

It is interesting that he referred to public monuments and public housing in the same breath. The fact is that we seem to have unlimited funds and unrestricted budgets for court houses, city halls, schools and other public buildings, but public housing developments have always suffered from extremely restricted budgets.

Mr. Walsh is administrator of New York City's Housing and Development Administration. The present article is part of an address presented before the New York Society of Architects.

At the present time, as you well know, the cost limits in the federal law are so tight, so unrealistic in today's market, that public housing construction is virtually at a standstill. Seven of the eight projects that the New York City Housing Authority put out for bids last year came in over the federal statutory cost limits. That's almost 3,000 units of low rent housing that should be in construction today—and aren't.

Together with other housing authorities throughout the country and with the vigorous support of Mayor John V. Lindsay and a few other big-city mayors, we have been working very hard to persuade the Congress that these statutory limits and the similar limits which apply to the Federal Housing Administration programs are endangering federally assisted housing programs throughout the nation and must be raised to a realistic level.

We are now awaiting the results of the Conference Committee which has been attempting to reconcile a modification passed by the House, which would be totally unworkable in New York City, and a version passed by the Senate, which would provide some relief. The outcome is of vital interest to the architectural profession, and I don't mean in terms of architectural excellence, but in jobs. If we cannot build, then you cannot design for us.

The latest word out of Washington is that we may get a 30 percent increase in the public housing cost limits, and perhaps 20 percent for FHA programs. This sounds like a lot, but it is just barely enough to compensate for increases in the national construction cost index since 1965, when the law was last amended. Obviously there is no margin for continuing inflation—which has been raising costs almost 1 percent per month—and no margin for improved design.

A few years ago Robert L. Durham, FAIA, past president of The American Institute of Architects, wrote: "It is possible that the great innovators of architecture in our time will not be form givers at all, but those who invent the political and procedural techniques for making effective design possible."

This may not be a pleasant prospect for architects to contemplate, but it is rapidly becoming a truism. Architects are getting squeezed out of the design making process.

If architects want to design New York or other cities, or, more realistically, to guide the designs of the future, they are going to have to fight for the right. It is not going to be handed to them by the other interest groups or by the appropriations committees of the Congress or the State Legislature. Architects will have to elbow their way into the crowds that are now surrounding the drawing boards. They are going to have to climb down from the clouds and wade into the bureaucratic, political mess.

I want public housing standards to be higher. I also want the cost limits raised. And I fight for it. It is about time that architects fought for it too.

Fighting for the right means lobbying, more lobbying than most architectural organizations now engage in. Perhaps it is true, as at least one friendly critic has noted, that most architects "think of a lobby only as an entrance to a building." In my 10 years and more in Albany—and more recently in Washington—I have observed considerable lobbying of a negative nature by architects or their representatives, mostly pressure to kill bills not in the interest of the profession, but far less positive activity in support of good legislation, especially legislation of a broad social nature.

Take some pointers from another professional organization, the American Medical Association. You may not agree with it, but you would agree with me that it has a lot of muscle in Washington and in Albany. Similarly, the architectural profession could and should become the most effective lobby for good design, more construction dollars and higher goals.

All the groups you must deal with in trying to design and put up a building have strong lobby groups: the real estate industry, building contractors, the unions—all of the special interest groups. They flood the legislative halls of Albany and Washington when they hear about a piece of legislation that might affect them in some remote way. And the same legislation more often than not also affects architects. But architects or their representatives are seldom to be found when the infighting gets rough on social legislation, even though it has a direct bearing on the building or rebuilding of our cities.

Fighting for the right to design New York also imposes an obligation on architects to influence agency regulations. Granted, public housing design standards are limiting, FHA standards are constricting and Mitchell-Lama reviews are frustrating, but complaining about them back in your offices or at architects' conventions will not change anything.

You may be familiar with that vast body of housing authority, federal and state design regulations concealed in a thick tome most inappropriately named *Memo to Architects*. The original memo of a few pages, written 30 years ago, has expanded as the authority's experience in operating apartment buildings occupied by low income families has shown what works and what doesn't.

A substantial portion of the *Memo to Architects* deals with interior design. Architects undertaking public housing design for the first time frequently come equipped with a set of middle-class design standards that are not appropriate for the life style of public housing tenants. The tome also reflects a serious concern with operating costs. In public housing, virtually all operating costs are met by the rents collected from tenants. Design elements that demand considerable labor to maintain, or require frequent replacement, or increase heating costs, for example, are out because poor tenants cannot afford rents to cover the resultant costs.

What I am trying to say is that the concept of good design is a very subjective one. What is good design? Who is to be the judge?

In the opinion of many architects and planners, good design is basically the arrangement of buildings in relation to each other and to their setting, their heights, orientation and the skillful use of topography.

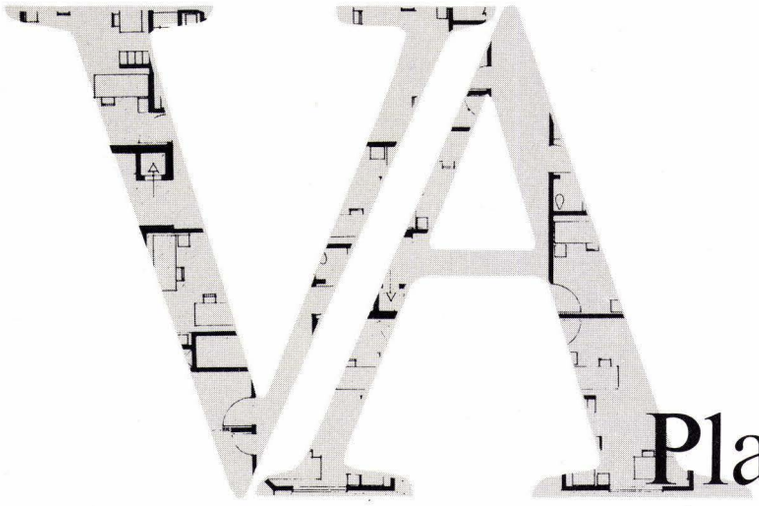
Unfortunately, some architects seem to design from the outside in. While I hate to mention that dirty, nine-letter word "publicity," we have recently seen some concepts that would make bold photographs and reproduce well on the coarse screen of newsprint, but present major difficulties in fitting human habitation into forms that suggested, say, a cloud club restaurant for the next world's fair or an Aztec temple, or otherwise lacked architectural logic.

Many housing technicians, on the other hand, who are interested in preserving the goals of the public housing program undoubtedly have a tendency to design from the inside out. Their emphasis on the layouts, the amenities and management considerations sometimes produces buildings that are unexciting, unattractive or monotonous, however livable they may be.

Obviously, there is a happy middle ground. Many architects are able to produce developments which combine, in appropriate measure, livable and manageable interiors with attractive exteriors. There is no reason why government housing technicians, be they management or fiscal experts, should be allowed to hang up their design shingles; but they will, unless the architectural profession deals with all of the problems of providing urban housing.

This is our goal—a total, well-balanced solution. We want good design, we try hard to get it. But, if necessary, we will settle for good housing. □

For action on the housing question taken by the New York Chapter AIA, *see* p. 16.



Plans for the Future

A look at how this agency is meeting the problems arising from an increased need for flexibility and expansion in two hospitals: one in San Diego, the other in San Antonio.

by EMILE DE ARMAS, AIA

As one of the largest hospital organizations in the world under a single administration (166 hospitals and 93 outpatient clinics), the Veterans Administration naturally has a large construction program. Older installations are continually being modernized or replaced; but of even greater importance, the internal arrangements of most VA hospitals are undergoing constant changes: Departments are expanding and new medical programs installed, necessitating architectural, medical and electrical modifications. This is expensive and can be complicated since of all possible building types which house people, a hospital probably has the greatest amount of mechanical and electrical facilities—so much so that approximately 50 percent of its cost goes for purchasing and installing mechanical and electrical services.

Ideally, a hospital should be built with a life span of, say, 20 years. After this time the building would be discarded along with approximately 25 percent of the equipment. The procedure would then be repeated with a modern, up-to-date facility. Unfortunately, at present, such "throw away" buildings are impractical for VA-type hospitals. The principal reason for this is that a multistory structure with so much fixed equipment and mechanical and electrical services of necessity becomes very sturdy, outliving both men and equipment. Then, too, from an economic point of view, most people object to discarding a structurally sound building.

Because of this, hospital architects should design buildings which will permit an easy interchange of facilities, such as converting a nursing unit to a clinic or an administrative area to a radiology suite. But such changes in a conventional hospital building are often difficult and usually costly.

As a result, VA hospitals wanting the ability to enlarge their medical facilities and the freedom to rearrange departments at a reasonable cost and with a minimum of disruption have incorporated many new and innovative ideas into the VA construction program. They can be found in projects in San Diego and San Antonio, and in others which are in the mill.

San Diego: Movable Exterior Walls

The VA, in its search for better methods of providing patient care to the veteran, commissioned Pacific International Research to do a study of the various construction problems, and the then proposed VA hospital at San Diego was used to solve these problems. Brooks Martin and Dean Price, the two principals of PIR, presented VA with a feasibility study of a very imaginative con-

cept. Charles Luckman & Associates were chosen to be the hospital architects.

The San Diego hospital has a number of features which are new to the VA. They are:

- It is flexible in that it offers ease in the changing and interchanging of facilities within the building.
- It may be expanded to the extent of the size of the platforms.
- It should not become obsolete as long as we are willing to make the financial outlay to keep it up to date.
- It is reasonable to say that the entire usage of the structure could be changed from a hospital to—you name it.

In the so-called platter concept, the facilities on any one floor of the building have no fixed architectural relationship to the facilities on the floors above or below. The concept got its name because of its similarity to a stack of trays where dishes of all sizes and shapes can be placed in any location. The excess space, which in the San Diego hospital is above current needs, can, at any time, be captured at a relatively low cost. The building presently encloses 666,493 gross square feet of medical and supporting facilities, but it has the potential of expanding another 168,000 gross square feet. This is made possible by the unused platform space which is readily accessible (*see* plan). In this design, not only are the partitions and walls movable but the exterior walls are also relocatable. A movable interior partition is nothing new, but a movable exterior wall in a multistory building is a definite innovation. However, there would be an added cost factor since the new floor would require leveling and the remaining platform space would need to be regraded. Further, the problem of sound attenuation is not through the walls, but through the ceiling, into the interstitial space and then back into another area, again through the ceiling. Acoustic treatment of the ceiling offers some baffle to sound penetration, but it does not completely eliminate it. This is presently a subject of study by the Luckman firm.

The design for the San Diego hospital is basically a cruciform, consisting of a free-standing center core connected by windowed corridors to platter-like wings. Each wing was originally meant to be supported by four pylons or towers which, in addition to being structural elements, also housed a staircase, an automated transport system for food and supplies and a storage area. The architects have maintained this structural framing but have moved the staircase to the exterior of the building, thus providing additional rigidity because of the added structural component. With the exception of a pair of columns at the midpoint of the spans between pylons, the floors are completely free of vertical elements which might hinder the relocation of facilities. Vertical circulation for visitors and personnel is in the center core.

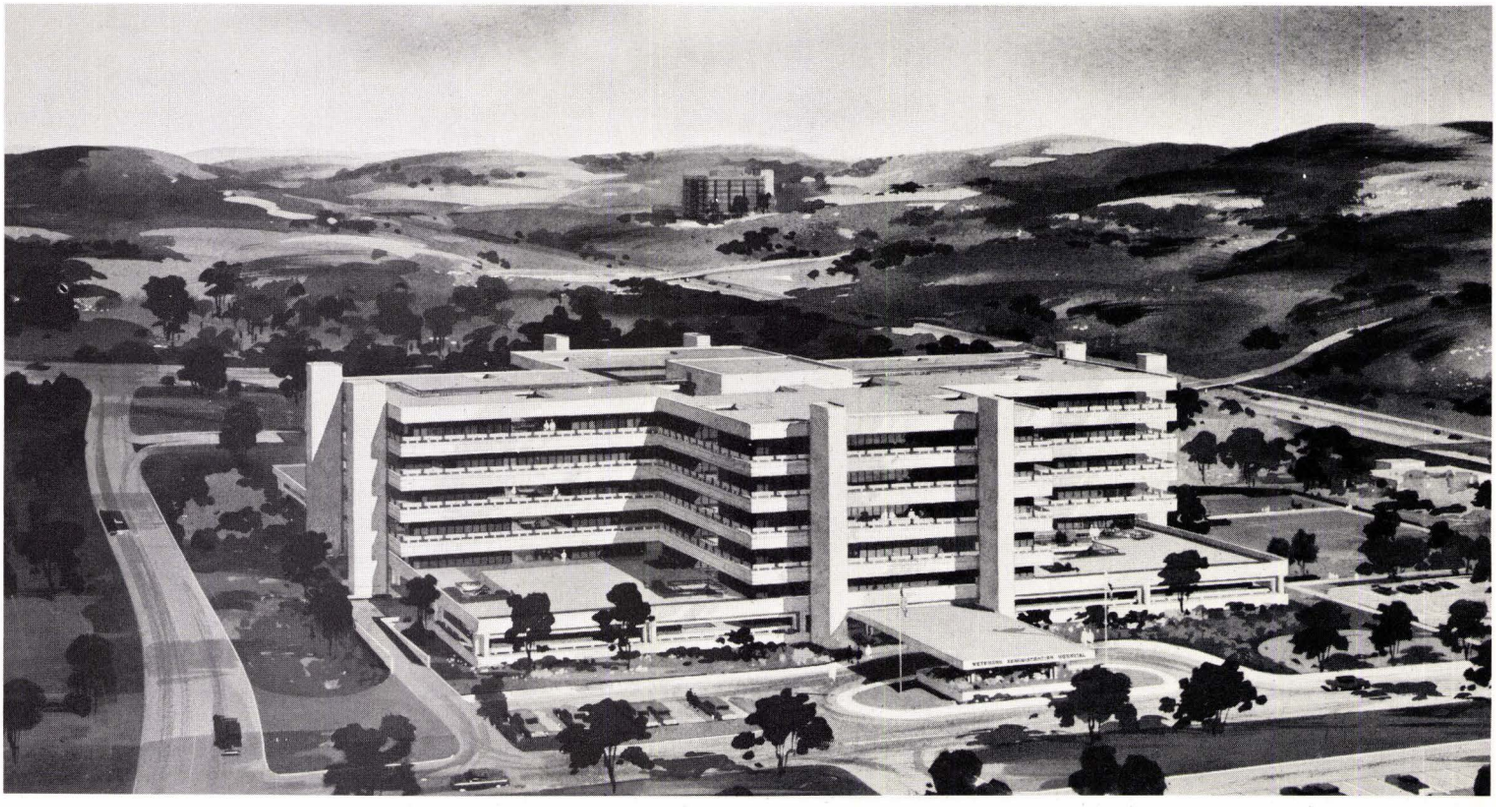
Conventionally, a VA nursing tower contains two or more nursing units of 40 beds each per floor. Compactness and minimum distances from the nursing station to the farthest bed have been the guiding factors in design. Also considered was the ability of one nursing station to control two nursing units during night shifts. While nonload-bearing partitions provide a degree of flexibility, there is no potential for expansion.

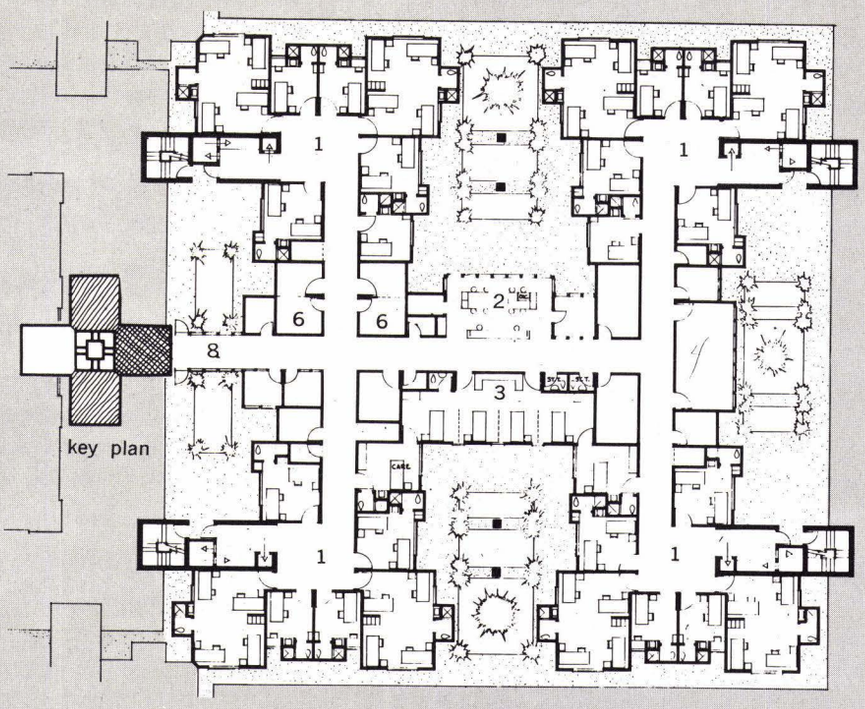
The PIR platter concept, developed in collaboration with VA Nursing Service, is new from the VA nursing point of view. One arm of the cruciform contains one 60-bed nursing unit divided into four 15-bed nursing pods, each with its own subnursing stations. If this wing is compared with the wings directly above and below, the peripheral shape and size of these three directly superimposed floors bear very little relationship to one another.

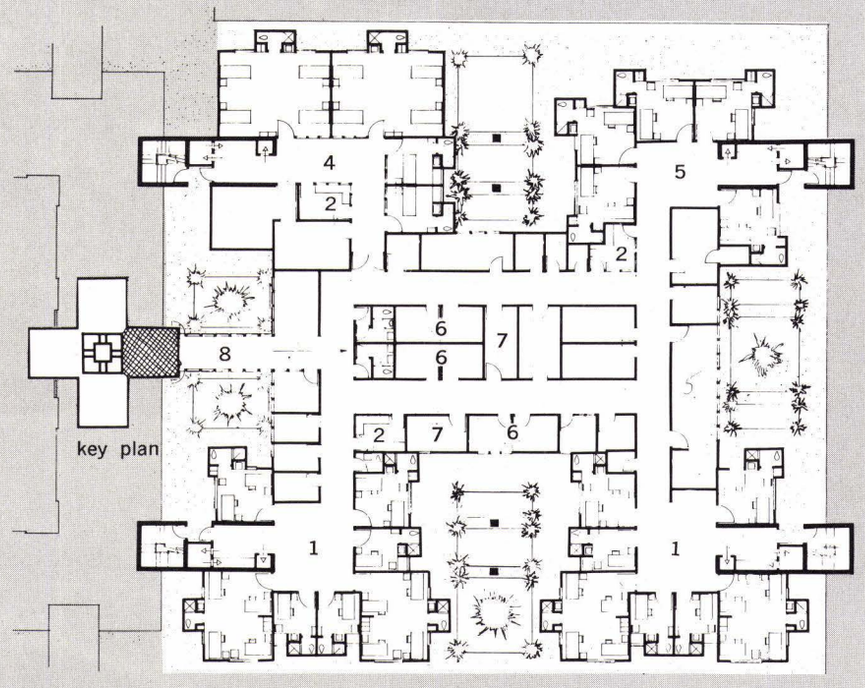
The building's adaptability to change was made clear when in the early stages of development the VA suddenly reduced the scope of the project by 240 psychiatric beds. The architects inserted the research space (which was originally planned as a separate building) into the space vacated by the beds—the platter concept had already proved its effectiveness.

The structural frame of the San Diego hospital consists of a two-way system of long-span steel trusses with a 5-inch thick concrete slab which spans 14 feet and is supported on the top chord of the trusses. The ceiling is hung from the bottom chord, thus

The San Diego hospital is cruciform, employing the "platter" design concept in its wings which connect to a free-standing center core.







Two adjoining floors in one arm of the cruciform. Note that the peripheral shape and size of these floors bear little relationship one to the other. This "platter" design achieves flexibility by movable interior walls and partitions and by exterior walls that can be moved to the building's outer bearing walls, allowing for an additional 168,000 gross square feet of floor area.

PATIENT CARE UNIT

Fourth Level

1 Units for 15 Beds
2 Nurses' Station
3 Intensive Care Unit
6 Doctor's Offices and Exam
8 Central Support

Fifth Level

1 Units for 15 Beds
2 Nurses' Stations
4 Renal Units
5 Metabolic Units
6 Doctor's Offices and Exam
7 Treatment Rooms
8 Central Support

creating an interstitial space approximately 7 feet deep. This interstitial space between the top and bottom chords will be used not only for passage of pipes and ducts but also to house air handling equipment.

The typical truss is 6 feet 10 inches deep and has a center span of 80 feet with 27-foot cantilevers beyond the supports at both ends. These cantilevers are supported by twin girder trusses which are 52 feet long and spaced 12 feet on centers. Since the hospital is in a seismic area, the eight exterior stairs plus 16 pylons are used as bracing against seismic action. Simple field connections are bolted; however, where continuity is required, field welding is specified with a provision that heavy shop and field welds are to be ultrasonically tested.

While the airconditioning system in the San Diego facility is not new to industry, it certainly is new to VA hospitals. In conventional hospital design, valuable space is taken up by air handling equipment. In San Diego, and in San Antonio also, such equipment is located in the interstitial space. All air balancing and any special requirements can readily be performed by the free use of catwalks which follow the general duct pattern, thereby simplifying the procedure. Such ready accessibility to the ductwork makes the airconditioning system very adaptable, and the use of variable volume controls permits a reduction of air quantities at low load conditions. Further, the airconditioning is divided in quadrants, each served by its individual air handling unit. In this manner malfunctions of any one part of the system will not affect the operation of the others on the floor. Plumbing pipes and electrical wiring are also readily accessible in the interstitial space.

The entire mechanical system is controlled from an engineering graphic control center, and the data from each station in the

hospital is electrically sent to this center where the engineering personnel can pinpoint the source of the problem. Thus, engineering personnel are used to the maximum of their potential, their time not wasted tracing lines throughout the building to locate the trouble. The system is so designed that, in the future, it may be programmed by computer.

A selective vertical system of transport using "tote baskets" was called for in the original schematic concept. However, the architects, after an in-depth investigation, did away with this as well as a monorail system which they also studied. The end result was the selection of service elevators which solved the transport problem although losing one important feature of the original concept in the exchange. The pod nursing system was designed to be individually serviced, but since the elevator system is located in the center core this is not possible. This might conceivably be a cause of breakdown in the operation of the nursing unit as a pod system; however, the originally proposed shafts are still available for conversion to conveyors in case of difficulties with the service elevator concept.

The concept of a pneumatic soiled linen and trash chute has been the subject of VA study for many years and is now being designed into several of its installations. Such chutes are common in hospitals, and so are pneumatic tubes which carry small parcels. But the combination of the two is something relatively new in hospital design. To the VA's knowledge, the first such pneumatic system which combined soiled linen and trash into one tube was installed in the Alta-Bates hospital in Berkeley, California.

The pneumatic system originally recommended for the San Diego hospital consisted of 16 16-inch diameter tubes capable of carting both soiled linen and trash in a single tube. However, the architects found that, in order to stay within the bounds of reasonable cost, they would have to reduce this number considerably. It was finally resolved to provide one vertical chute centrally located in each wing. How this will affect the pod nursing unit concept remains to be seen.

One of this hospital's requirements is for cathodic protection because of the nature of the soil. Underground drainage water lines, gas piping and valves are protected with anodes. Underground storage tanks and the reinforcing steel in the tunnel must be protected with both anodes and electric rectifier systems. Copper lines are no problem since only ferrous metal is affected.

It is extremely difficult to compare the cost of a hospital of the San Diego type with that of a conventional VA hospital. To the best of our ability we calculate that the cost of San Diego lies somewhere between $5 and $7 million over other VA hospitals. However, we feel that the flexibility is worth it. To a certain extent, this hospital might well be considered a research project. It certainly has been the means by which the VA has been able to break the restrictions which have plagued it in the past.

San Antonio: Fully Automated Cart System

The San Antonio hospital has some features that are not to be found in the majority of VA general hospitals: long-span construction; automated cart transport system; physiological monitoring; paging and intercom; expanded communications; organ substitution unit; pneumatic linen and trash chutes, to name a few.

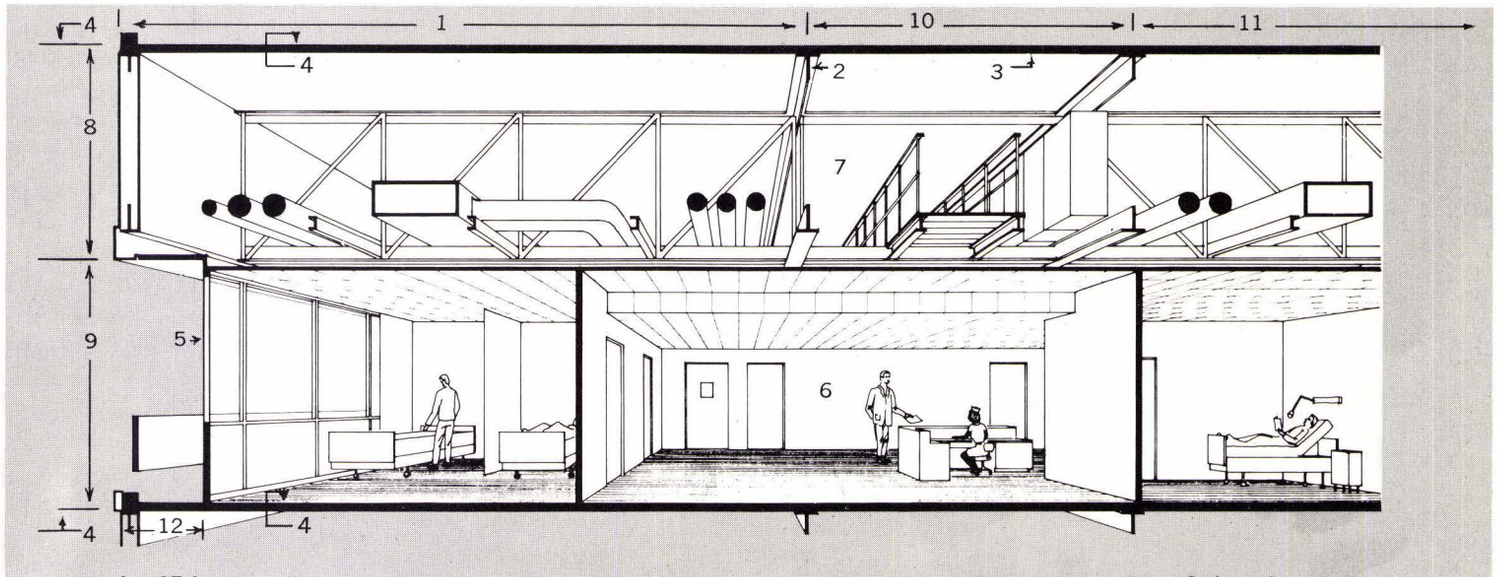
Long-span construction for this hospital is similar to that of San Diego's with one exception: the platform areas for future horizontal expansion provided in San Diego. While expansion of its gross area is not possible, flexibility is provided by the use of interior partitions.

The floor construction is a 3-inch composite steel deck with a 4-inch concrete slab. The supporting framing system consists of a 6-foot 7-inch deep floor and girder welded steel trusses spanning from about 45 to 70 feet. This truss system offers several important advantages over conventional construction:

- By spanning longer distances, intermediate columns are eliminated. By using movable partitions, the floor areas may be rearranged; even medical departments may be relocated.
- The interstitial spaces between the ceilings and floors house the mechanical systems. Pipes and ducts are threaded through a carefully laid out system of catwalks. In this manner the systems can be rearranged or augmented as the use of the floor space above or below changes. In addition, one of the elevators serves the interstitial space throughout the height of the building.

For many years elevators, dumbwaiters and manually pushed carts were the sole means of transportation in hospitals. Approxi-

A section of the San Diego structural system showing the placement of equipment in the interstitial space and the movable exterior wall.



1 27-foot cantilever
2 Fire proof steel rigid truss
3 5-inch reinforced concrete coreable slab
4 Finish floor
5 Double glazed movable exterior wall
6 Functional space
7 Interstitial space
8 7 feet 9 inches
9 9 feet 6 inches
10 12 feet
11 80-foot span
12 Area for expansion

SAN DIEGO

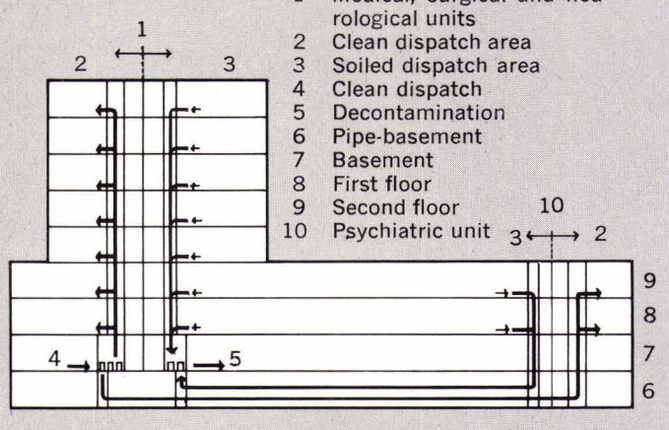
Total Beds	811
Medical	295
Surgical	246
Psychiatric	270
Acreage	16.9
Six stories plus basement	
Structural: Long span construction	
Cost of construction	$34,523,000
Is affiliated with the University of California Medical School	

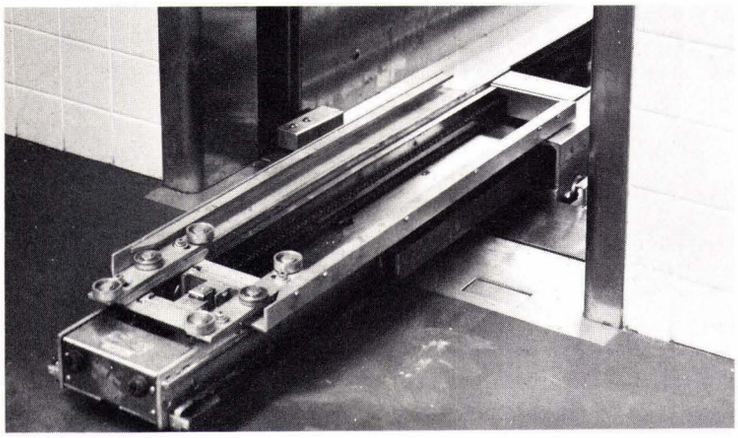
Architects: Charles Luckman & Associates

SAN ANTONIO

Total Beds	760
Medical, Surgical, Neurological	400
Psychiatric	360
Acreage	33.39
Seven stories plus basement	
Structural: Long span construction	
Estimated cost of construction in the range of	$25,000,000
Is affiliated with the University of Texas Medical School	

Architects: Golemon & Rolfe in association with Noonan, Krocker & Rogers; Edward R. Gondeck; William E. Parrish; and Adams & Adams.





The route of the San Antonio automated cart transport system and the hooking device employed for it.

mately five years ago a system of automatic loading and unloading of carts on a dumbwaiter became operational. Horizontal transport of food and supply carts had also been achieved by means of conveyors or chain towing devices, or a combination of the two. However, when the design of the San Antonio hospital was developed, the architects found that there were no existing hospitals which contained a cart system providing both vertical and horizontal automated transport of the magnitude proposed for San Antonio. The VA had developed a basic design concept which separated the patient beds into two major groups. Psychiatric beds were approximately 400 feet away from the medical, surgical and neurological beds. At the recommendation of the VA, architects Golemon & Rolfe then conducted a detailed investigation of automated cart transport systems and found that only a very few companies were engaged in the construction and installation of such systems. They also found that no system presently existed which equaled the scope, size and sophistication called for by the VA.

The system that was devised calls for a central dispatch and receiving area. From this point the clean food and supply carts are automatically dispatched vertically and horizontally, and the trucks containing soiled materials are returned through a decontamination area. For example, in the clean dispatch area a food or supply cart is manually pushed to the door of the nonpersonnel elevator (clean). When this elevator arrives, the shaft doors automatically open and a hooking device at the floor of the cab slides out, engages the chassis of the cart and pulls it into the cab. The shaft doors then automatically close and the cab proceeds to its predesignated floor in the medical, surgical and neurological nursing towers. Upon arrival the action is reversed. The doors automatically open and the hooking device pushes the cart onto the floor, releases it and returns to central dispatch. On the nursing floor, the cart is pushed manually to its destination.

When this food or supply cart is destined for psychiatry (400 feet away in a horizontal direction) the cab, upon leaving the clean dispatch area, goes down to the pipe basement and automatically discharges the cart. Here it is engaged by a horizontal conveyor very similar to an automatic automobile washing system. The cart is mechanically towed approximately 400 feet horizontally and placed in a position directly in front of the psychiatric nonpersonnel elevator. From here on the procedure is the same.

Employee training in the operation of this system is mandatory, and since a good portion of the personnel who will operate this system often times do not stay long in the job, a continuing training program will be required. Employee cooperation in the use of this system is of utmost importance, as it can spell the difference between success or failure. A breakdown of the system could mean major difficulties for the hospital, but efficient operation could mean savings in man-hours and cost.

Some other features to be found in the San Antonio hospital are: a monitoring system which will give San Antonio the capacity of providing both physiological monitoring and closed circuit TV surveillance for all medical, surgical and neurological nursing units; a two-way VHF paging system capable of reaching key personnel within the hospital, or anywhere within a 25-mile radius; and finally, there will be a communications facility consolidating all hospital communications except radio paging, intercom and telephone equipment. The central control room will include the entertainment radio console, as well as consoles for visual and audio equipment, and will control TV in all patient rooms and the nurses' call system. □

Mr. de Armas, a hospital planner, is director of Preliminary Planning Service, Office of Construction, with the Veterans Administration.

The Uses of LIGHT and LIGHT SOURCES in Design

by ABE H. FEDER

The spatial quality of light, how it falls on things to give them form and color, not the fixtures as objects of design, is the reality in which the professional works in illuminating our world.

It is in the nature of things that the image and the reality can never be the same, and that when a design comes into its material form, it always falls short of the dream. This is the frustration all designers must share; that the image cannot be transferred from the ideal into the real world all in one piece. For all materials impose their own natures on the form, and the qualities of concrete or steel or brick or wood impose themselves on the building form no less than marble on a sculpture.

For those who work with the architectural form, it is not only the materials themselves which force compromise but also the way in which materials are available only as products of industry with their qualities already limited in shape, size, texture and color. Still, however limited their qualities, the architect remains in direct control of his materials.

It is the lighting designer who works against the greatest odds, for he can never control his material directly. Unlike any physical material, light is intangible, and thus the designer cannot get his hands on it. He is totally dependent on industry both for providing him with his material, and the very means of handling it. Today, this tool is the electric lamp. It is, in fact, both the source of light and its control in a single package. Before the electric lamp, there was no lighting design in any real sense; the two have grown up together, and it is no wonder that few seem able to abstract the light from the source and consider it separately from the lamp. The result has been a transposition of identities, with designs being conceived in terms of electric lamps rather than light.

In the final analysis, the lighting designer dreams of working with some form of natural light in complete freedom, a physical impossibility at present. In turning to electric light he is not turning to the next best thing but rather to the only kind of light being made available for his use. Still it is, and always will be, an inadequate substitute.

Saying that a lighting designer thinks of natural light as the ideal material is not to say he wants to imitate daylight in all its patterns and effects. For daylight is a sometime thing, sparkling and dull in turn; and spreading itself at random, revealing what is both beautiful and ugly without discretion. It is light out of man's control. So when a lighting designer speaks of natural light as his ultimate material, he means all the qualities of natural light freed for him to mix at will and with intent, and not necessarily nature's product.

The basic inadequacy of electric light is simply that it does not give us all the qualities of light in a free form. On the contrary, it is available only as a particularized commodity. Electric light is not available as a loose mass from which the designer can measure out exactly the texture, color, intensity and amount he wants, pay for it, and then go back to his studio and shape it. It comes already packaged in glass casings, and each package of light, each source of light, provides only one set of color values, one distribution or beam pattern, one intensity. It is in this packaging of electric light that the danger lies: Each lamp is already a design, for each produces what is already a light form. By the time the lighting designer gets his hands on his material, it has already been given definition by others.

It is true that there are over 10,000 different lamp types being produced today, and new lamp developments keep on coming. This is 10,000 times better than having only one lamp

type available. Yet if another 10,000 different types of lamps were added to what we already have, and still another 10,000 to that, the totality of light in all its facets would never be pieced together.

The limitations of electric light are extrinsic to lighting design, and this is critical to understanding what the latter is all about. Not to be able to think outside the reaches of electric light, not to be able to see it only as a limited means, is to confine the practice of lighting design to the level of formulas, it is to destroy the very idea of design and with it any imaginative use of light.

Whatever has value in lighting design always has value, no matter what kind of light is at hand to work with. If the limitations of electric lamps today keep the intent from being fully realized, then tomorrow, with better sources and tools, it will be more fully realized. The intent stays the same while the light sources and their controls keep changing.

If to design with light sources rather than light is to forego the permanent values of lighting, to design with fixtures is decorating space with light and far removed from what lighting design is all about. For this is a matter of visualizing the object or space in the right light, using the light sources which produce that light as nearly as possible and housing the light sources in those fixtures which help them produce that light. Fixtures come last and some day not at all.

As for the fixture itself, it is after all a tangible mass which cannot be ignored visually. When introduced into the visual field, it is an intrusion on the architectural and interior designs, a distraction to the eye, and quite simply a mistake unless it is essential to the decor or interior line. In this sense, it becomes a decorative fixture falling within the province of the architect or interior designer, whether or not the lighting designer chooses or even designs it. In itself the decorative fixture is not an integral part of the lighting design, but it has to be taken into account. The crystal chandelier offers the best example of the relationship of the decorative fixture to the lighting design, since it carries so much of the burden of the interior design where elegance dominates, and so little of the burden of the lighting design. As a source of light in a ballroom or theater, it is far too inadequate for modern requirements and the challenge is to provide better lighting without other, meaningless fixtures. Crystal remains as the symbol of elegance although the traditional crystal chandelier may no longer belong. New crystal forms, more organic to modern architecture, may have to be designed. But the principal of respecting the integrity of the decor by making the crystal form the only apparent source of light does not change.

The final worth in a lighting design is not the ingenious choice of light sources and fixtures but in how well the light provided serves the purpose of what is being lighted. The function of light is to enable people to see, and the function of lighting design is to enable people to see and use the objects of this world in a way that has meaning for them. The meaning comes from the object and its relationship to people, not from the lighting design. Like light, which by itself is reasonless, lighting design serves all other designs and not its own ends.

Lighting design starts with people, as all design must, for without people to look, to use and to enjoy, there would be no point to any of it. However, lighting design serves not only the people who see and use and enjoy but also the people who make the objects and create the architectural forms. Beyond that, it breaks down into two basic types: object lighting and architectural lighting.

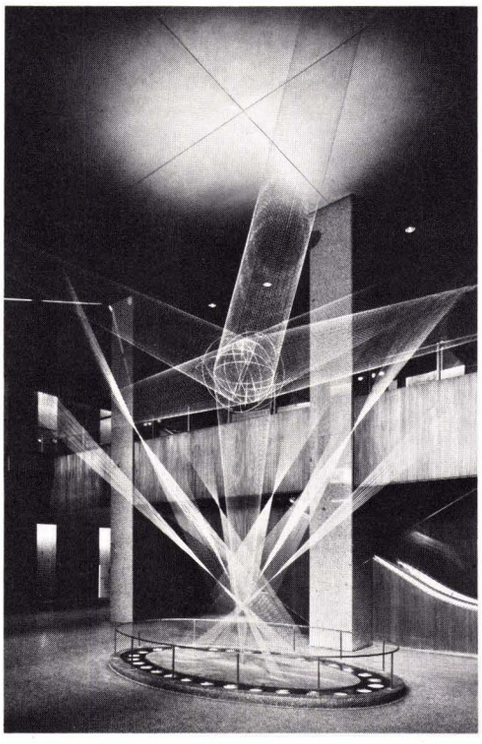
The idea of dividing lighting into two basic types is to define the relationship of people to the light being provided. When they are outside the light looking in, this is object lighting. When they are inside the light, this is architectural lighting. It hardly matters what terms are used; what is important is to understand that people are not inanimate objects to be lighted for pictorial effect.

In object lighting, people are outside the light, looking at a painting, a statue, a building facade, a display case, a fountain or whatever. The art form is in itself a whole lecture on the role of the lighting designer in object lighting. With a representative piece of sculpture, for example, the lighting design could silhouette the face and highlight the torso, a picture dramatic enough to prompt rave reviews about the new insight afforded and the artistic lighting. But what about the sculptor: Did he really want to tell the world that the torso is the most significant part of the human identity?

With such modern work as that by Richard Lippold, there can be no such arrogance, particularly since modern sculptors are around to protect themselves. The work, an enormous burst of rising energy, represents man's flight into space. In many ways, certainly on the basis of equipment alone, it would have been easier to light this mass of over 10,000 golden strands in counterpoint, i.e., with light played against shadow. But it would have been wrong. Instead, all strands were equally lighted in the direction in which they were going and along their entire length.

To define object and architectural lighting by the relationship of people to the light provided says a great deal about what kind of light to use in each case. It is one kind when people are outside the light and another when they are inside it. The qualities of light—direction, color, texture, intensity—are used more freely in the first than the second, where the concern is to protect people's comfort and to distort reality as little as possible. Once people are inside the light using the objects they see, listening to each other with the eye as well as the ear, and moving freely in and through the light, the use of light to create pretty pictures and dramatic effects is a disrespect of human values.

In architecture, a space is cut off from the rest of the world and given purpose. The architectural form outlines the space, leaving it free for people to use; the lighting design fills it in. It extends the definition of the architectural form into the area where bricks and plaster cannot go.



Lippold sculpture in lobby of the Pan American World Airways Building, New York. Architects: Emery Roth & Sons; design consultants: Walter Gropius, FAIA, and Pietro Belluschi, FAIA.

In the chapel shown here, the architectural form was designed to provide an atmosphere of worship. It is simple, unobtrusive, but aspiring. In no way does it detract from the service or its religious symbols. The lighting design revealed the architectural form with the same simplicity; no fixtures were allowed to mar the clean lines of the walls or ceiling; none were hung down into the free space to compete visually with the religious symbols. In fact, there are no fixtures in this chapel. The light comes from lamps set along and slightly behind the top perimeter of the walls where they are completely out of view. Which light sources were used is inconsequential, since they merely served the purpose of the lighting design. What matters is that the architectural and lighting design are so fused that as long as the one retains its validity, so will the other.

Examining lighting design as something independent of light sources and tools shakes it loose from the present. If it is understood only within the limited context of today's technology, then it has no lasting value and no future.

A Brief History: Incandescents to Vapor Lamps

We are actually in a very early era of lighting design, for we are in a very early era of controllable light source development. Fire light, oil light, gas light and such might make it seem that man-made light sources have a long, long history, but insofar as lighting design is concerned, it is a peculiarly empty history. It was not until the electric lamp was invented in 1879 that the very notion of controlling light with intent could take hold. The history of controllable light sources really belongs to the future rather than the past.

In an age of moon excursions, satellite communication stations and the computerized production line, it is reasonable to predict that man-made light will be freed from its glass bottle and that sockets, wire and fixtures will disappear. It is in this perspective that one has to understand today's light sources: The products of a highly skilled technology, they are beginnings. To think only within their framework would be to cut off the future with its promises of better types of light sources. And above all, to understand the limitations of electric lamps, the light sources of today, is to use them more wisely, working with their strengths rather than their weaknesses.

Jewish Chapel at Brandeis University, Waltham, Massachusetts. Architects: Harrison & Abramovitz.

The worth of a light source for a designer lies in the way it gives him access to light more than in the amount of light it produces. Light is wasted if it cannot be placed where it is needed. The more controllable the light made available to the designer, the freer his use of light and the closer he can come to realizing his designs. The question then is just how much freedom today's light sources permit him.

Light shapes space by making part of it visible. Space is where light is, not in objects. We tend to concentrate so on using light to reveal objects that we forget that at the same time the space between the object and the source is also being revealed. A lighting designer is concerned with both the object and the space, for while people see and use lighted objects, they do their living in lighted space. The visual spatial qualities of an environment—its texture, its color and its very shape—can be controlled only if we can control the light that fills it.

What a designer looks for in an electric lamp is the kind of light form it creates, its shape as well as its qualities. While the color, intensity and texture of a light form are very important, it is its shape or its potential for being shaped which determines the designer's control.

Everyone seems to agree that of the three major types of lamps in use today, the incandescent remains the most amenable to our requirements. We like its warmth, its rich color rendition, its sparkle and the fact that it lends itself to discipline in a way that neither the fluorescent nor the metal vapor can. Wrap a reflector around an incandescent lamp, and we have a defined light form. Wrap a reflector around the filament inside the glass casing itself, and the possibilities for shaping light forms are endless. In short, we like everything about the incandescent light source, but it has the great misfortune of being considered the most uneconomical by today's standards.

About the same time the first incandescent reflector lamps were beginning to come on the market, the first fluorescent lamps also made their appearance. This was in the early 1940s when the idea of controlling light had not yet taken hold universally, not even among architects. It had taken the many decades since its invention for the lamp companies to make electric light cheap enough for everyone's use, to wire the country for electricity and to allow people to get over the changes electric light had made in their lives. In the early 1940s, the drive was for more light, "to see better." It was natural that when the fluorescent lamp came along people were intoxicated with how much light they could get from so little. This is how the age of fluorescent light began, and it is not over yet. Its very cheapness has become the standard for the economics of lighting rather than more intrinsic light values.

The love affair with the fluorescent lamp is badly strained, but we are stuck with it for the moment. Its distortion of color values, its glare when bare, its glare when shielded, and the deadly monotony of the space and objects it reveals are the penalties we pay for a lot of light. For the lighting designer, the fluorescent source means light out of control. Color has been improved with the deluxe cool white and warm white lamps,

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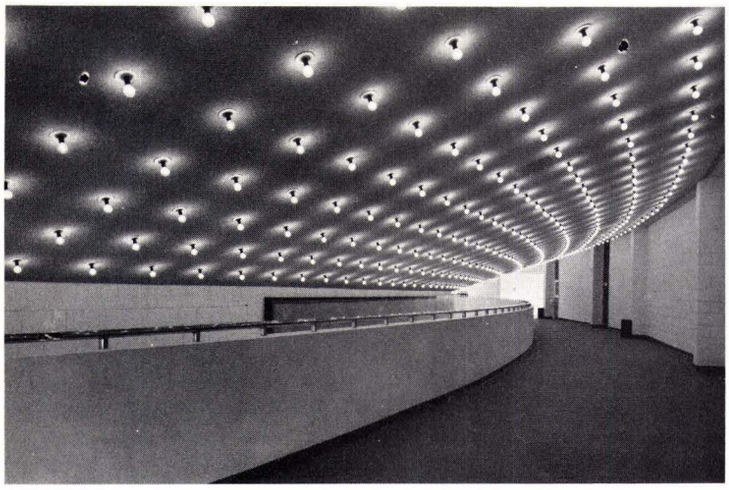
Mr. Feder is a lighting designer-consultant from whose New York offices has come all of the work shown in this article. He also has a long list of Broadway productions to his credit, among them "My Fair Lady" and "On a Clear Day You Can See Forever." His most recent honor has been a merit award from Carnegie-Mellon University "for exceptional accomplishment in the Alumnus' chosen occupation to which he has brought a degree of progress or in which he has distinguished himself as a leader."



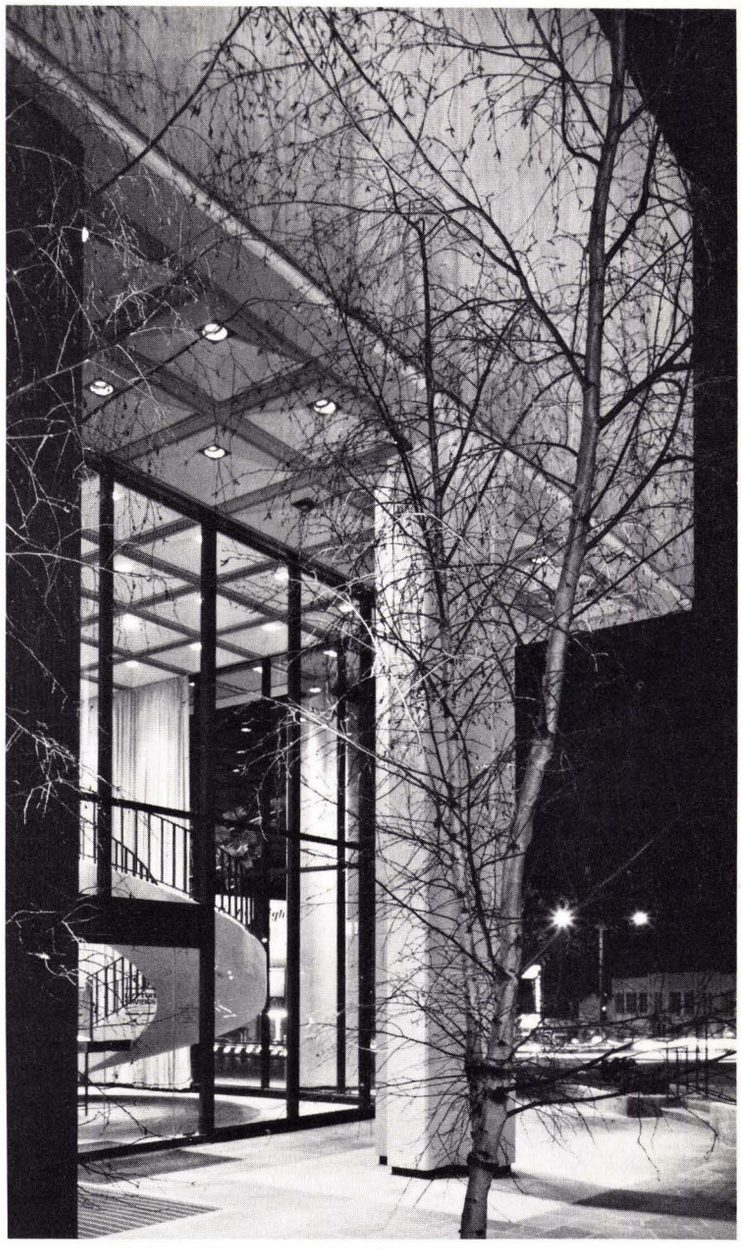
Expo Theatre, Montreal. Architects: John B. and John C. Parkin.

and there is promise of an incandescent-color lamp. There is even promise of elimination of glare from still another direction than shielding. But real control of the fluorescent form will never be possible because of the nature of its source. The lamp sends out light in as many directions as there are phosphors on its casing, and to try to gather up these millions of light rays into a reflector to create a defined shape is wasted effort. At best, the loose fluorescent light form can be flattened into a linear shape.

A standard 40-watt fluorescent lamp is 4 feet long, more than half the length of a man, and when it is lighted, it cannot be ignored. The shielding of a fluorescent lamp has an even greater surface, so visually dominant that we find ourselves designing with large luminous planes rather than light. It was natural for the luminous plane to be extended over the entire ceiling. With architects rapidly moving into the era of clean, rectangular lines and glass walls, the luminous ceiling was a gift. The store on the next page was designed 21 years ago, although it might have been designed today. That luminous ceiling, the first to be designed (its shielding was frosted glass), was integral to the architecture. From the outside, the effect was stunning. The interior was another story. The ceiling was overwhelming, more important than anything below, more important than the people. The people themselves were caught up in a monotonous and bleakly colored environment. Even incandescent spots used behind the square lenses could not dispel the flatness of the fluorescent light. It was so diffused that it hit no one place with any strength and revealed all things with the same matte finish—faces, tables, sales goods, whatever.

There is no way of ignoring the economics of the fluorescent source, particularly in large commercial areas. Always aware that the fluorescent ceiling fixture is automatically a large luminous plane, the lighting designer tries to cope with this visual dominance in different ways. With no way of tackling the problem at the core, since the fluorescent source is what it is, he may try to make the luminous planes attractive in a decorative way. But decorative luminous planes pose more of a threat to the integrity of the architectural design than the more commonplace luminous tracks or boxes across a ceiling. The monotonous luminous plane is too dull for comment, while the decorative plane or form imposes a design of its own on the architectural and interior designs whether or not this is what the architect wanted.

The basic weakness of fluorescent light is that it cannot be controlled. The light goes where it wants to and is contained



Lytton Savings Bank, Oakland. Architects: Kurt Meyer & Associates.

in a room only because the walls and ceilings hold it captive. Yet there are applications where this very diffusiveness becomes a virtue: in luminous walls, in ceiling domes and coves, in wall coves, etc. And the luminous plane it creates can be controlled effectively with coffered ceilings, ceiling fins, deep-cell louvers, or simply by not exposing the lamp to view and indirectly lighting areas. Unfortunately, it is not financially feasible to provide such control where it is needed most—in offices and similar working areas. Comparatively low ceilings, which keep the fluorescent fixture in the visual field, only intensify the problem. Forty and more times brighter than anything else in the room, it beats against the eye without mercy seven hours a day. For those who work inside the core without any contribution from daylight, the punishment is severe.

This is still the age of fluorescent light, although it is beginning to lose its hold. There is, in fact, a growing move back to incandescent sources for whatever reason: Perhaps there is an increasing appreciation of the real values of lighting design, of how poor lighting can destroy a building; or perhaps there is finally some understanding that the light in which people live and see affects their reactions to what they see.

Tulsa (Okla.) Assembly Center. Architect: Edward Durell Stone.

The rediscovery of incandescent light has led to the discovery of the downlight, although it has been in steady use for over 30 years. In its time it represented a big step forward, for it took the incandescent lamp out of the free inner space and hid it in the ceiling. Putting a reflector in a can with a lense provided control of the incandescent light form, and putting the reflector lamp in the can in the 1940s provided more precise control.

The R-60 downlight grid in the bank lobby on the next page was designed in the mid 1960s. The lamps, 750-watts, are set back into deeper reflector housings, and with the ceiling 28 feet high, neither lamp nor image can be seen from any angle. Three times as much fluorescent light could have been used without achieving the qualities of radiance and warmth of this environment, nor the sharp definition of objects.

But downlights, like any fixture or any lamp type for that matter, have their limitations. When made to do all things, both architecture and people are abused. A downlight can mask a lamp but not the hole it makes. Trying to disguise the hole by painting it black creates a black hole. A ceiling with a parade of holes can be a distraction for people and an imposition on the architectural form.

Bond Store, Cincinnati. Architects: Morris Lapidus Associates.

The practice of using the downlight to create a design with light in competition with the architectural design is questionable. For example, separating the shafts of light to create a pattern of distinct light forms in space and pools of light on the floor makes a dramatic photograph. But consider the abuse of the people who have to walk through these shafts, adjusting their eyes every second or so and not being able to see where they are going in true perspective. Within the architectural form, the spatial environment has to be shaped with humanity, not artfulness. Or take the current vogue of decorating walls with festoons of light creating an independent design. This may be acceptable with some architectural designs, but essentially it is an anti-architectural use of light.

The third major type of light source, the metal vapor lamp, did not come into general use until the mid-1950s and is still in its infancy. At first, it found its place in outdoor lighting and high-bay factory lighting, and with good reason. A light source with an intense output and available in the beginning only in large wattages, no ordinary interior was big enough to contain it. Besides, its color characteristic was inhuman, to put it simply, and there were other electrical considerations as well. Since then, new developments have been appearing with the frequency of mail deliveries, and the metal vapor source is now available in sizes as small as 75 watts. Its color characteristic has been improved remarkably by vaporizing different metal elements within the same casing—the story of the metal halide (multi-vapor) lamp. Also, from the start it had long life, and this keeps being lengthened.

The metal vapor source revolutionized outdoor lighting. Because its light form can be shaped for firm control and because it has an intensity which does not dissipate over long distances, it became possible to use light on the outdoors to create recognizable places.

As soon as people start using an outdoor area as a facility and not merely as a passageway from one interior to another, light has to create a recognizable place for them. With no walls or roofs to set dimensions, it is left to do the job alone.

An airport is the largest of all such outdoor areas. Take the Terminal Plaza of the John F. Kennedy International Airport in New York, for example. Its lighting was designed in 1955. The terminal covers some 160 acres of walks, lagoons, parking areas and roadways. The temptation with so vast a space is to turn light loose like water from a fire hydrant and flood the area, but this would not have defined the space as an airport. In the final design, only 43 75-foot poles were used. Located 325 feet

RCA Tower, Rockefeller Center, New York. Architects: Reinhard & Hofmeister; Corbett, Harrison & MacMurray; Hood & Fouilhoux. Lincoln Road Mall, Miami Beach. Architects: Morris Lapidus Associates.

First National Bank Building, Memphis. Architects: Office of Walk C. Jones Jr.; interior designers: ISD Incorporated.

on center, they were an entire city block apart. Linear mercury vapor lamps were housed in special reflectors. Each light form produced by the lamps was assigned its place in space until the entire block of space covering the total acreage was filled with light. Like the daytime hours, there seems to be light wherever the eye can see. Without a forest of poles, there is an uninterrupted view and with the light sources located at such a height, the block of light is brought up to where the sky seems to begin.

A street is also a place, and the facades of buildings are part of its architecture, creating the atmosphere distinct to every block. Floodlighting reclaims them for people at night. The floodlighting of the RCA Tower at Rockefeller Center in New York City made use of the 1,000-watt R-80 mercury vapor lamp.

A street is a place requiring definition. The Lincoln Road Mall in Miami Beach is not a pavement but an entire block of space filled with light. The light starts well above people's heads and reaches down to the ground. Eleven poles, 80 feet tall, provided the locations for the street lamps along this eight-block mall. These are the R-80 mercury vapor reflector lamps which, again, made such lighting designs as this a reality. The clarity with which each section of the mall is revealed is obvious, and the need for this kind of clarity in all streets everywhere is also obvious.

There is always the question in any lighting design of working with the strengths of a light source and not against them. Putting a fluorescent source in an elliptical reflector in the hopes of shaping its light form into a shaft is what is meant by working against the strengths of a light source. Using the fluorescent source in a luminous wall, for example, to create a soft wash is

what is meant by working with its strengths. The strengths of the metal vapor source are its sheer power and its controllability. Yet it cannot be made to produce a very narrow shaft in space for pinpoint precision as the incandescent source can; and even with its constantly improving color characteristic, it will never be possible to make it produce the sheer warmth and glittering quality of incandescent light. And while the metal vapor source seems the most useful for outdoor lighting at the moment, even here it cannot be made to do all things.

The concept of a completely controlled environment is beginning to take hold in our own age. The tremendous advances in engineering knowledge and skills make anything seem possible. Whether it will ever be necessary to build a skin around cities to control all the physical elements is an unknown, but smaller packages of man-made total environments have already come into being. How humane such an environment can be depends on whether the disciplines centered around the mechanical problems can be equally balanced by those centered around the human problems and whether the second group, the design disciplines, is as prepared as the first. Certainly lighting design belongs with the second group, but whether today's light sources can do the job is something else.

Illustrated here, for example, is the roof of an office building with a cage on top to protect its tower. In the detail photograph, it is seen in its proper context, not outdoors but inside a vast skin. This was one of the largest of the geodesic domes designed by Buckminster Fuller in the 1950s and built in Baton Rouge. The skin is 400 feet in diameter, covering more than the square of a city block, and 140 feet to the apex. It seems unnatural that tank cars can roll around on tracks inside a house, even so large a house as this. That was the idea however, to service the cars in any kind of weather, in other words, to create a controlled environment. With vast enclosures like this, and there are more and more of them, where there are no walls or even columns to divide the space, the problem of what an enclosed cavern such as the dome means to people has to be resolved before the lighting can be designed. Its enormity in relation to the human scale is too overwhelming for comfort. It cannot be treated as a single room, for no one would believe it, since no one could take it in at a single glance.

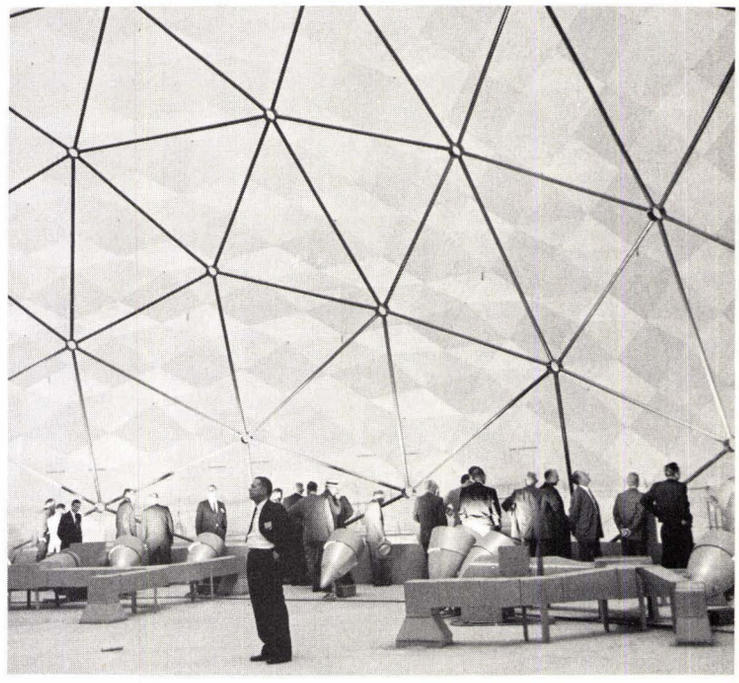
Whether in 1955 or now or in the future, the human scale in relation to the size of a dome or any vast enclosure was, is and will remain diminutive. And while people in time will accustom themselves to living in large enclosures, the size of these controlled environments will always be overwhelming. It seems necessary therefore to treat such enclosures not as interiors but as exteriors in which, like the office building in the Baton Rouge dome, smaller interiors closer to the human scale become the interiors to which people can relate. This is why the lighting design for Fuller's dome started with the idea of filling it with the quality of daylight, to make the workers feel they were outdoors where dimensions of this order are in proper perspective against the sky. It was relatively simple after that to create smaller places within the daylight atmosphere.

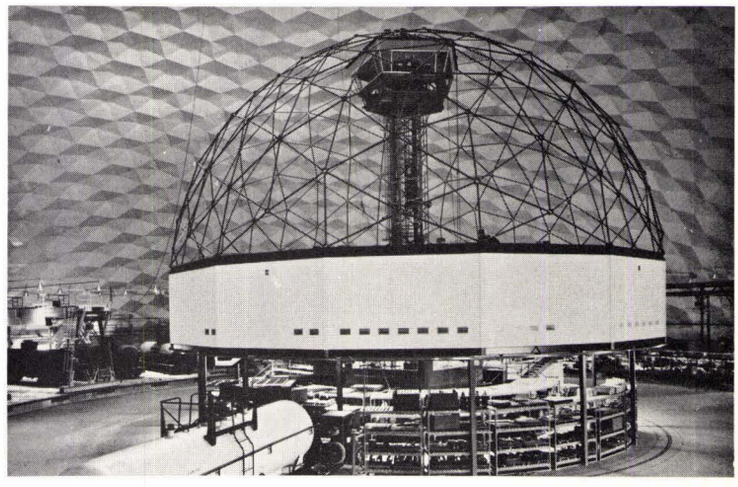
The dome came at a propitious time in light source development, coinciding as it did with the development of the mercury vapor source as a viable lamp. Neither the earlier incandescent nor fluorescent sources could cope with the dimensions involved. For one thing, a battery of either type of lamps would have had to be spread over the entire 400-foot diameter of an interior, and there was no place to mount lamps in this unbroken space. The daylight intent was carried out by mounting R-80 mercury vapor lamps in special reflectors on the office building roof and flood-lighting the underside of the skin from apex to grade. This created a soft, indirect wash of light throughout the entire dome. The underside of the skin was finished in a warm tone to warm the mercury vapor light. The tank cars ran around the perimeter of the dome, stopping at various types of shops for servicing and repairs. On grade, around the perimeter, the series of work shops were created with fluorescent sources, because their luminous planes were particularly suited to making walls and ceilings where there were none in reality.

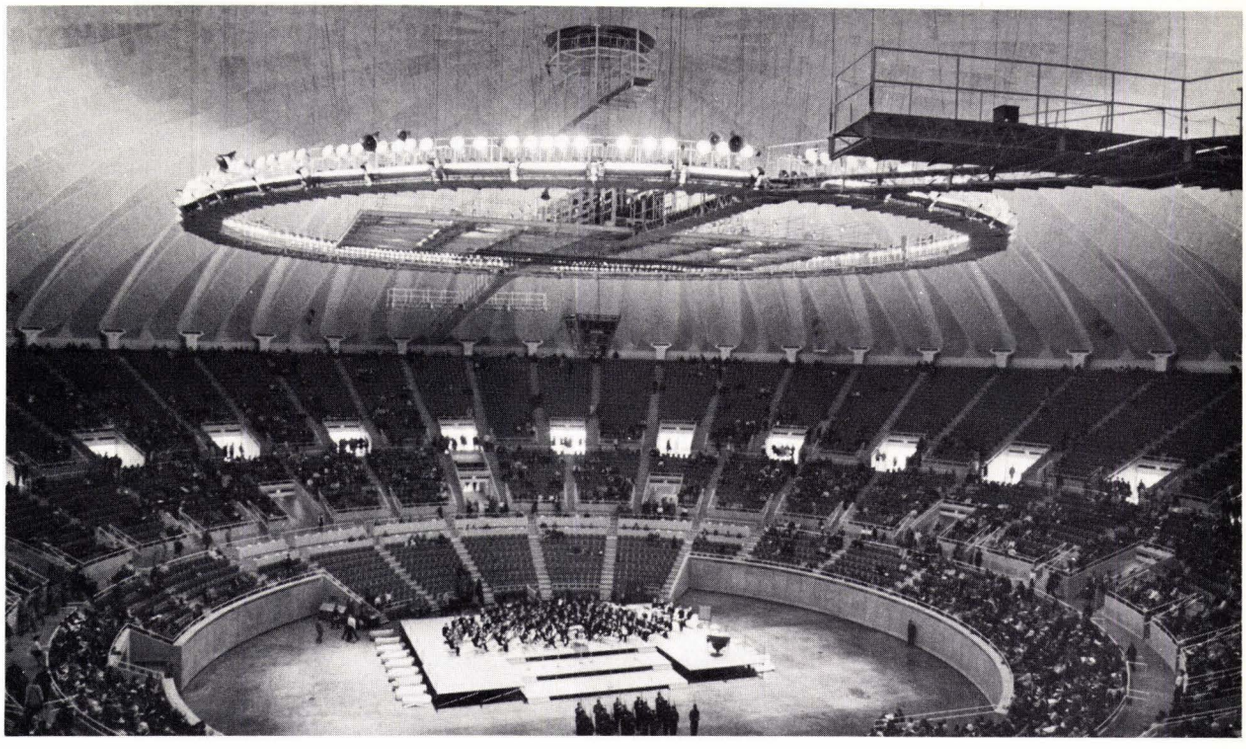
Since then the dome has been adopted for a variety of uses. The idea of a controlled environment has led to its use for professional sports stadiums housing sports normally played outdoors, but the dome's main attraction at present seems to be the flexibility afforded by a vast expanse of unobstructed interior space, an ideal setting for multipurpose programming. Here, there is a heavy reliance on light to create the various types of interiors necessary for all the events.

The Assembly Hall of the University of Illinois was the first of its type. The dome, which can seat 15,000 people, becomes a theater, a concert hall, a lecture hall, a sports arena and an assembly hall at will. Again, the concept of creating an outdoor feeling for the overall approach was adopted. What was new was the huge ring suspended from the ceiling on which were

Union Tank Car Company Plant, Baton Rouge, Louisiana. Engineers-architects: Battey & Childs; dome engineers: Synergetics, Inc.







Assembly Hall, University of Illinois, Urbana. Architects: Harrison & Abramovitz.

mounted a series of incandescent sources to be used for different events: With the use of a dimmer board, the right lighting setup for every type of event created a basketball court, a dance hall or whatever. An electrified grid for theater draperies, scenery, borderlights and pigtails for specials could be lowered from the ring to create a professionally equipped stage.

We have begun to use other vast enclosures for other purposes such as protecting shopping malls from the weather, which gets back to the idea of a controlled environment so people can do what they want to when they want to no matter what the natural conditions outside. It is this moving of the outdoors to the interior, so to speak, which points to further development of controlled environments, perhaps to make more of the earth habitable, perhaps to make better use of the air space in crowded cities.

We may expect to see space stations developed where explorers and their service teams can live for weeks, months and perhaps years with some psychological equilibrium. Whether these new environments will be created by the numbers for a faceless society or whether by individuals for individuals depends in large part on how fast architecture and the other design disciplines like lighting can move. It is to be hoped that engineering advances and demands will force light sources into a new age. The sheer bulk involved in wires, sockets, fixtures and lamps cannot be moved en masse into the new controlled environments where, if nothing else, there is no place to hide them. More important is that the flexibility required to change an environment to avoid monotony for those who have to live in it is impossible as long as we are dependent on lamps, each of which produces only one kind of light. If we want powerful sources, for example, we also want warmth. If we want warmth, we also want power. Presently, we cannot have everything at the same time.

Leaving the future to the future, we have problems right now which current light sources cannot solve; lighting design has not been able to follow today's architectural concepts with fidelity. Large commercial and office areas need better solutions than we now provide. There is at present no acceptable light source to effect the kind of humane visual environment in which every office worker can work with physical comfort and total consent. Another problem which begs for better solutions is the indoor-outdoor environment created by glass walls in homes, office buildings, factories, etc.: Glass permits actual mingling of the outdoors and indoors to create a deliberate confusion of the two realities destroying any sense of being closed in. Lighting completely fails architecture in this type of design, for through that glass wall daylight can penetrate only so far and at one point daylight and artificial light have to mingle as one. This can never be done as long as man-made light is not free.

Compared to ever-changing daylight, the colors, shapes and intensities of the artificial light forms produced by electric lamps, even with dimmer control, are hopelessly static. The range of flexibility with which we can control current light sources is minute compared to the flexibility in nature. It is this inflexibility which is at the core of all lighting problems at present, and it seems important to the development of lighting design to keep emphasizing that electric lamps are not the eternal definition of man-made light.

At heart, all design is conceptualist in nature, starting with a concept, an inner vision, an abstract form. Wherever this new practice called lighting design takes its place in the design world, and however it is finally evaluated, it is still design and it too is conceptualist in nature. What threatens its survival into a new age is the difficulty in abstracting the idea of light in one's mind. We so take light for granted that we do not see it, and if we do not see it, we cannot recall it in our memory. We think of "lightness" as what is there when darkness is not. We make it happen by pulling up the shade in the morning and touching the switch at night. We are unaware of its qualities and its potentials, and depend on electric lamps to give it definition.

It would seem, then, that a lighting designer has to train in the techniques for seeing light and work at developing a visual memory based on what he has seen before he can learn the techniques of designing with light. This means divorcing light from bulbs and fixtures. Tomorrow, industry will provide us with new types of light sources and new tools for their control; and the day after tomorrow, sun reflectors in space. If today's light sources are its measure, lighting design will not last through the present era of light source development. □

Community Involvement { Pros and Cons

by JERRY FINROW

If universities use people in black communities as guinea pigs, they should pay for it • Advocate architects in some ways limit what the community might obtain by disruptive means • The university should deliver education rather than planning promises • Advocacy begins at home • These were some opinions aired at the AIA/ACSA Teachers' Seminar in San Francisco, reported here.

To what extent are the universities becoming involved in community action (advocacy) projects? The AIA/ACSA Teachers' Seminar focused on this topic or, as the program stated, "the role of problem-centered activities in educational programs of environmental design—the need for engagement with societal issues as supplemental experience and knowledge to qualify activities in instruction, research and public service." Chairman of the seminar was Donald D. Hanson, AIA, head of the Department of Architecture of the University of Illinois, Chicago Circle.

The seminar drew about 80 persons, many of whom were active in advocacy work in their universities. While some provisions were made for small group meetings, the seminar really was a conference with an extensive program of speakers worked out in advance. Apparently little effort was made to put together a widely representative list, and there was a definite bias toward the problems of New York, Chicago and San Francisco. The program could have been more inclusive.

The links between advocacy and teaching were seldom clearly drawn; the main thrust of the conference was toward an exploration of the state of the art of advocacy planning rather than toward the relationship between education of environmental designers and community involvement.

The Reverend Jesse Jackson, head of Operation Breadbasket in Chicago, was scheduled as keynote speaker but had just been arrested for leading a demonstration. In his place, the Reverend Arthur Brazier, director of the Woodlawn Organization of Chicago, spoke to the conference topic. After establishing the basic position that the black community is fed up with the "guinea pig" attitude that universities seem to hold concerning community involvement, he went on to spell out a short history of the establishment's efforts to destroy the black community under the guise of urban renewal. He pointed out how the Chicago Southside renewal projects had made living conditions worse than before.

Community organization was seen by Reverend Brazier as the primary way of beginning to coordinate the general need objectives of the people and directing action toward attaining those objectives, the implication being that advocacy begins with understanding the goals and hopes of the people.

The Reverend concluded with the statement that the profession has a staggering challenge and that somehow we must look at each project to assess its social rather than just its physical appropriateness and be willing to reject morally reprehensible projects. Further, the profession should work directly with community organizations on project development and encourage and invite discussion on projects affecting black communities.

Herbert Channick of Metropolitan Structures Inc., Chicago, spoke on urban strategy, holding that it is physically impossible for further growth to occur in urban areas. He suggested that we need to look to new town development as the only realistic solution to urban problems, given estimated growth projections, and that the federal government should initiate a land bank program for future new town development. He mentioned the present agricultural land banking system as a model.

In the area of housing, Channick pointed out, little real faith can be put in low cost methods of construction as a means to getting more housing because the methods of financing constitute such a large portion of housing costs. He saw innovations in financing as being of utmost importance and the only real way at the present time of reducing housing costs to an acceptable level for low income people through direct cost subsidy.

Frances Piven, assistant professor of social work at Columbia University, opened her speech with a number of theoretical questions concerning the relationship of "advocates" to the poor. Her point was basically that the poor have no legitimate power by virtue of their position in society; therefore, their only real weapon is threat of disruption of the established order.

The roots of disruption are born of disorganization and frustration with respect to their own conditions as compared with the conditions of others. If the advocate sees his role as being an organizer of the poor, working for constructive change within the society, then he is attempting to control the disorganization and frustration into "appropriate societal channels," thus short-cutting the only power the poor have: disruption.

To this extent, she felt that advocates often feed false expectations and in some ways limit what the community might obtain by disruptive means.

The role of planner and architect advocates is substantially different from that of other professions, Miss Piven said. While doctors and lawyers bring the poor actual services that they need, architects and planners only bring promises of ways of getting housing, schools, etc. She suggested that perhaps the advocate role should be to try to assist the poor to get as much as possible out of turmoil.

Mr. Finrow is assistant professor of architecture and head of the Center for Environmental Research at the University of Oregon.

Kenneth Simmons, a teacher in the Department of Architecture, University of California at Berkeley, talked about his experience with one of the earliest advocacy projects, the Architects Renewal Committee of Harlem (ARCH), of which he was a cofounder.

ARCH was established in 1964 to counter the planned urban renewal program in Harlem. With the exception of a small project in the "triangle" area of Harlem, ARCH has not actually managed to see any structures built.

The kind of work ARCH is primarily involved in relates less to architects' traditional skills and more to those of a community organizer and information processing center. Simmons inferred that one service he felt ARCH has been able to give is in providing the community with information about plans of the city with respect to developments that would affect it. This typifies the role of advocacy planning: spending great amounts of time and energy trying to figure out where and how someone is going to "get you" rather than trying to create something positive.

Dr. Robert O'Block, who is with the program on technology and society at Harvard University, discussed analysis as a potential tool of the advocate. The specific project he presented was a study of the impact of rent control on housing deterioration in New York, carried out by himself and others. The results indicated that with the existing housing policy and rent control program in New York, the present housing stock will continue to deteriorate and thus increase rather than decrease the housing problem.

While the analysis itself was a very well executed example of urban housing research, it appeared to the conference group that such thinking assist the establishment rather than the poor. Dr. O'Block pointed out that while this may sometimes be true, it nevertheless should not undermine the fact that decision makers rely on analytical studies for information concerning the impact of their decisions.

Ernest Preacely, director of the Institute of Training and Progressive Development based in Watts, placed his hope for development of the black community in organization for positive change through black pride and nationalism. The training institute, he said, acts as a consultant in development of black organizations that are counter or parallel to existing social institutions. He felt that these were effective means of getting at the established order and, in a very special sense, disrupting it. The nonblack professional would be welcome only if he were brought in by the blacks and had a specific, useful function. Black control was seen as essential.

Hugh M. Zimmers, AIA, consultant to the AIA Task Force on Professional Responsibility to Society, presented a quick summary of the initial thinking of that group. Basically it suggested movement on four fronts: education, social aspects, politics and creative economics. Each area offers a number of proposals for what the AIA might do to assist the poor.

Under education are programs of assistance to the unaccredited black schools of architecture in the South; a minority scholarship program; on-the-job training programs; continuing education of the profession; and high

school programs to develop environmental awareness in the young. Under social aspects the proposal suggests that larger firms associate with black firms to assist them in getting projects they might not otherwise get; the establishment of an urban design team that can be called in to assist with special problems in communities; and community design centers to focus on local problems. The political programs suggest increased lobbying on the part of the AIA in order to make known the opinions of the profession. Creative economics will focus on work for the coming together of economists and architects to search for new ideas in investment and new ways of evaluating environmental solutions; and for reevaluation of tax structures.

The seminar participants were quite upset with the proposals, which seemed to them to represent a policy of appeasement. The key comments were probably made by Andrew Heard, head of the Black Architects Collaborative in Chicago, who said that the entire program seemed to him to express neopaternalism and that he would personally work against this kind of thinking. He suggested that if the AIA was really serious about improving the conditions of the poor, the Institute would study ways in which the money could be used more effectively rather than try to cover every special interest whether it assisted the poor or not.

By the beginning of the third day, the group had become quite familiar with the basic questions asked in connection with community involvement. However, there had been little attempt among participants to share knowledge about various projects around the country. After repeated changes in the schedule the third day offered this opportunity.

A number of projects fell more or less into the conventional lines of advocacy work. Both the Philadelphia Experiment (Richard Plunz) and the Community Projects Laboratory of MIT (Hans Harms) reported on community involvement that was primarily student organized. There were similar reports of little actual building success, although some small-scale projects were carried out. Questions were raised concerning the way in which community action projects should be organized to accommodate the student best. No real conclusions were reached.

Bernard Spring, AIA, of the City College of New York took the position that the poor want to be in full control of their own planning decisions. This idea led to the development of community planning aids by some graduate students at Princeton University. The aids, when used after a short training course, give fundamental planning skills to selected members of the advocacy group.

Spring's basic thinking was that professionals should get out of poor communities because these are entirely capable of helping themselves once they have the planning skills. He suggested that the future role of the professional should be contractual in character, insuring responsible action on both sides.

John Bailey, director of the San Francisco Design Center, brought along his staff, which also participated in the discussion. The center, Bailey related, was begun in 1967. Its initial effort was sustained by volunteers; continuing support was obtained through a grant from OEO. As with other such centers, the staff spends perhaps 30 percent of the time at drawing boards and the rest in organizing and collecting information. Services through the center are available to those who would not otherwise be able to afford them. The center's staff also works for a number of community organizations and as consultants with a great variety of expertise. No physical building has been carried out. Bailey felt that the experience had not been very encouraging and that the future does not look good.

Roger Katan of Pratt Institute took up the general question of student dissent and community action. Citing his personal experiences he suggested that universities were very conservative in this area and that it is difficult to be innovative with students in community-involved projects because of administrative restrictions.

Emilio Ambasz, associate curator of design of the Museum of Modern Art, New York, brought up the idea of an environmental university. He saw the potential for making the learning experience itself an integral part of environmental concern through universities based in poor communities.

Trying to bring the conference back to its concern with community involvement, Herman F. P. Goeters, assistant professor of architectural design at Yale University, told how students had thrown him out of his role as teacher, though allowing him to be present. The incident suggested to him that students can learn as much about power politics in class organization as in "real" context.

Andrew Heard talked about how the Black Architects Collaborative in Chicago responds to the needs for advocacy planning. BAC is unique because it represents one of the few all-black architects advocate groups in a large city. BAC, like many other advocate groups, was born of frustration and disappointment, in this case from urban renewal in Chicago's Southside. As might be expected there was a closer working relationship between BAC and the community than in many other efforts but again, little actual design work has been carried out. Its main efforts have been to stop city plans for new development.

The university's part was seen by Heard as a training ground for the blacks and the poor rather than as an agent for change by direct community involvement. He stressed the need for more black and poor teachers and paraprofessionals to assist the minority student in developing cultural awareness as well as skills to deal with the problems of his own community. If the university does use the poor community as a teaching tool, Heard said, then it should pay for its uses. He also held that a community-based advocacy effort must be controlled by people in the community; that not only black but also white areas need more community involvement; and that advocacy begins where you live.

Gerald M. McCue, FAIA, head of the Department of Architecture at the University of California at Berkeley and chairman of the AIA Committee on the Future of the Profession, gave a preliminary discussion of the report of that committee, a few points from which were that current practice ethics may need revision to admit links between architectural and development services; the specialization of parts or functions already occurring need further recognition and reinforcement through the schools and through licensing laws; more public services and lobbying for environmental causes need to be carried out at the national level. Only a portion of the whole study was presented to the conference group.

Dr. Ernest Lynton, dean of Livingston College of Rutgers University, discussed work going on at Livingston: to develop a new concept of an urban university. He sees the university basically as a potential agent of social change and feels that only by becoming involved in response to community problems and needs will it be redirected toward society rather than being withdrawn from it. The need is for the university to go to the people where they live rather than for the people to come to the university. The implications of citizen participation is clear: The university must not use the community as a training ground but rather be a dispenser of skills and a center for problem-focused multidisciplinary action.

Livingston College, Dean Lynton declared, is a model of how the university can relate to poor communities without "using" them. By establishing the university in this way, he went on, one begins to reform the nature of learning, making it less elitist and less suspect to the poor. He suggested that university teachers concerned with advocate questions should deliver education rather than planning promises, and work for reformation of the nature of the institution as an advocate project of their own.

At the conclusion of the seminar a minority statement was presented and accepted (after some debate) by the attendees. It was hoped that the statement (*see* box below) would be a guideline for universities.

The seminar concluded with most attendants feeling that the whole experience had somehow been worth it even though it was difficult to know quite why. It had been encouraging to know that there were a number of people involved in the same difficult problems. Several of us thought it unfortunate that the Miyako Hotel had been the conference address because it had been built as a result of some of the same processes (urban renewal) that many had fought against. Others felt that there had not been enough free time left for people to get together to talk about their experiences in a less formal way.

Generally, it was felt that the seminar had not been representative of the whole spectrum of work going on in the country. Interesting work from Denver, Cincinnati, St. Louis, El Paso, Pittsburgh, etc., was never fully discussed, only alluded to. Preseminar planning organized around the interests of the attendants might have worked better rather than a program set up in advance.

Finally, there was a great deal of discussion concerning setting up some kind of permanent means of keeping in touch and sharing experiences in this field. Hanson indicated that he would put the conference material into a book and that there would be further documentation and contacts in this area. □

THE BLACK MINORITY STATEMENT

The following statement is issued by the black people present at this seminar. We feel that since advocacy planning is the topic of this conference, a hard definition of advocacy emanating from the black community is required to set a correct conclusion from this seminar. "Advocacy planning is the black professionals aiding the black community in defining, giving priority to and together solving the community's problems." This statement excludes the idea of exterior forces, first, coming into the black communities and second, trying to give directions to these various communities.

Combining the irrelevance and in most cases misdirection of present architectural/planning design and teaching methods, we strongly question the input that untrained and for the most part nonminority students can give the minority community—a community in dire need of hard technical expertise. The black community does not need further study but does demand realistic committee action—the minority community in this country has been studied to death. We, the black minority here, feel it incumbent upon our unfortunate small number to speak out in this interest. In effect, you must stop using black communities as guinea pigs in the training of your white professionals. We resent any minority community being used as a training ground and a vehicle for gaining university research funding, which aids the university and not the community.

If the universities and people representing them at this seminar are really concerned and realistically committed to the idea and principles of real advocacy, it is strongly recommended that the following directions be considered and implemented:

1. Total, not token, university commitment in aiding the black/minority community by giving continuous funding and support to minority community planning groups.

2. Immediate university recruitment of black/minority faculty.

3. Immediate university recruitment of black/minority students in realistic numbers of at least one-half of incoming classes.

4. Representatives at this conference shall put their universities and proponents of advocacy in the vanguard in demanding the immediate accreditation of all existing black schools of architecture by aiding with full university resources in helping these black schools in their development at the direction of these schools.

5. Representatives at this conference shall demand that ACSA direct the necessary resources for a black/minority seminar to involve both professionals and community in setting realistic planning standards in relation to community and educational needs.

6. In the future, if ACSA proposes to hold a conference directing itself toward problems of the poor/black/minority community, it shall a) invite and finance full poor/black/minority participation from both professional and community sectors or b) not hold such a neopaternalistic gathering to develop artificial formulas to supposedly aid the poor/black/minority community.

This conference should go on record in agreement with these six points and individual schools should direct their power and prestige toward achieving these points.

The Black Minority Committee at the AIA/ACSA conference: WILLIAM MCNEIL, ERNEST PREACELY, DAVID SHARPE, MYLES STEVENS, JERRY LINDSAY, ANDREW HEARD, KENNETH SIMMONS.

Education: A Nonstop Thing

by MARTIN D. GEHNER, AIA

PDP is the name of the AIA's new continuing education program. It has been in operation for just one year, with a good measure of success and a bold outlook for 1970 and beyond.

"Although the ultimate responsibility for professional development rests with the individual himself, we in the professional and educational fields should not make it so difficult for that individual to realize his legitimate aspirations and hopes."

This echo of the 1968 AIA Committee on Internship and Continuing Education will not be silenced as long as change and growth dominate the profession.

Wisdom and knowledge are essential roots for professional competence and responsibility. Development insists upon a continuance of education which permeates every facet of growth and change. He who understands and applies this knowledge in a responsible and courageous manner is the liberating force of the future.

Knowledgeable individuals perform in direct relation to their ability, their will and their continuous effort to systematically guide their professional development. There is probably no thrill to match that of succeeding while you are vigorous and can enjoy the rewards of professional accomplishments.

The Professional Development Program is not a magic substitute for individual labors, but it is a distinct part of the opportunities which the AIA Ad Hoc Committee on Continuing Education has opened through the initiation of the Circuit Courses of 1969.

These courses in programming, law, finance, and specifications have been extremely valuable professional programs and have also yielded some vital information for the development of future programs. Additional courses in management, liability and arbitration, economics, and urban design have served to broaden the scope of professional development still further.

The entire 1969 PDP—eight courses and 20 presentations of one to three days—have been possible through the financial support of the supplemental dues program.

Acknowledgement is due the AIA staff, the courses' faculty and the hosting chapters of the PDP for their cooperation and assistance. The process has been a significant exercise in coordination but still, it reveals need for improvement.

The Ad Hoc Committee has focused on its responsibility to initiate a professional development pilot program based on priority needs as documented from the 1968 survey. This program must intensify in both breadth and depth. Its outreach must expand with new resources such as a monograph series, films, tapes and correspondence courses. Interprofessional involvement, along with intern and student participation, will broaden the perspective of improved professional capabilities and resources. The national committee must be given the funds to enable it to improve its capacity to assist and to answer the needs of the various AIA components.

The task of developing a comprehensive continuing education program cannot be separated from the operational requirements of the pilot program: to coordinate activities at many levels; to identify, document and disseminate resource information; to be responsive to national and local professional needs; to implement courses; to evaluate programs; to develop professional development materials; to disseminate current program information rapidly; and, most importantly, to maintain communications with the chapters.

An operational structure has been proposed for the development of the PDP program, based on a growth pattern which allows for balancing of supply and demand. Briefly, this proposal begins with the establishment of a full-time staff position (and operational support) of a national director of PDP. This step is followed by an expansion of the existing PDP into a center for professional development and eventual establishment of regional PDP centers.

Herein lies the key purpose of PDP operations and responsibilities. The components must be free to develop their own continuing education programs based on their own special needs. The committee/staff/center must extend nationally the opportunities, resources and programs for the individual professional advancement of all AIA members.

The experience gained from the 1969 PDP clearly shows that the supply must catch up with the demand and that nothing less than a thorough and articulate set of objectives and priorities with operational guidelines can be accepted.

The 1970 PDP will expand in scope. Intensive effort is being made to investigate the prospects for developing and offering courses in construction systems and operations, construction management, construction industrialization, application of tax laws, public relations techniques, in-practice communications, architectural lighting, cost estimating in practice, practical computer applications, development and contracts, along with extended offerings of professional liability and arbitration, practice of architecture in urban design, economics of construction and modern management techniques.

The Ad Hoc Committee recommends that a larger, permanent and active committee with adequate operational funds be established to conduct a highly coordinated and comprehensive continuing education program for the practitioners.

Such an independent committee has, in fact, been established and will function in 1970 as the Joint Committee on Continuing Education. It includes representation from the AIA, ACSA and NCARB. A new assistant director of Continuing Education Programs has also been appointed to direct the 1970 Professional Development Program. □

Mr. Gehner is chairman of the Joint Committee on Continuing Education.

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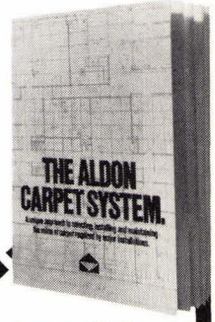

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The Architecture Machine
by Nicholas Negroponte
The use of computers to aid the architectural designer and urban planner is already beyond the experimental stage and part of the workaday routine of many professionals. There are, for example, machines that transform two-dimensional drawings into three-dimensional perspective displays and others that check myriad aspects of a design against specifications and tolerance requirements. *The Architecture Machine* looks several machine generations ahead of these to a future in which genuine man-machine dialogue is achieved, when man and machine will act together on something closer to equal terms toward a common goal, each contributing his-its own characteristic faculty.

The text is augmented with over 200 illustrations. The pictures are independent of the text, and the reader should be able to grasp much of the meaning from the pictures and captions alone.
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Emerging Methods in Environmental Design and Planning
edited by Gary T. Moore
The research reports and discussions in this book are concerned with new methods for solving the problems of the physical environment.

The larger part of the volume is devoted to presentations and evaluations of specific new methods. Some areas are covered in depth—for example building layout models, problem structuring, and computer-aided design—while others, necessarily because of the tremendous range of research underway, are limited to only two or three representative reports. To assist the reader, each section of the volume begins with a brief introduction and is concluded by a summary and commentary.
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A Systems Analysis Model of Urbanization and Change:
An Experiment in Interdisciplinary Education
by Carl Steinitz and Peter Rogers, and associates
This is a report of an experiment in interdisciplinary education for environmental planning recently carried out at the Harvard Graduate School of Design. It represents an attempt to use a studio course as a vehicle for synthesizing the analytical data and approaches of four different disciplines: Landscape Architecture, Engineering, City and Regional Planning, and Urban Design. Aims of the study were to develop a better method of exploration and of interdisciplinary teaching which would lead to great understanding of urbanization complexities, and to develop techniques that could be used in actual planning and design processes.
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books

Personal Space: The Behavioral Basis of Design. Robert Sommer. Englewood Cliffs, N.J.: Prentice-Hall, 1969. 177 pp. $2.45.

Architecture · deals with space. We all know that. We go back to our textbooks, and we don't have to look far to find Giedion's *Space, Time and Architecture* or Zevi's *Architecture as Space* reminding us that architecture does deal with space.

We don't even have to go that far back into our textbooks. We merely have to open an architectural book or magazine—*any* architectural book or magazine—and gaze in silent admiration at magnificent photographs of architectural spaces. We may encounter a beautiful cafeteria, with beautiful tables and chairs arranged in beautiful order; or a beautiful auditorium with a beautiful red carpet and a beautiful grand piano; or a plaza with beautiful green trees and beautiful weather in an even more beautiful sunset. And we look at these spaces knowing that *this is architecture.* For architecture deals with space. Any architect knows that!

However, somehow, after looking at all of these beautiful photographs, we feel something is missing. The plaza stares at us with empty eyes; the auditorium with empty sounds; the cafeteria with empty smells. We can still see the beautiful spaces. We have been trained to see them. But, somehow, only emptiness and silence stare back at us. Spaces become cold and dead spaces in these cold and dead photographs. For man is nowhere.

"Lavishly colored photographs in glossy magazines," writes Dr. Sommer, "show empty rooms and corridors, tables fully set with plates, silverware and wine glasses, an open book on the sofa, and a fire burning in the hearth but not a sign of people anywhere." Vainly we search for man in these beautiful photographs of beautiful empty spaces. But man has for a long time been missing from our architecture. The architect, Sommer adds, "in his training and practice, learns to look at buildings without people in them." Is this architecture? Could it be that architecture only deals with dead spaces after all? No, says Robert Sommer. Architecture deals with something more vibrant and exciting. Architecture deals with people. Architecture deals with life. And it is this life and these people that generate reasons for any space to exist. What is a space for, we must ask ourselves, if it isn't for someone to experience it?

After reading the opening pages of this book, our previous certainties about architecture begin to crumble, while new ones begin to take form. And we must thank Dr. Sommer, "a psychologist in the design fields," as he calls himself, for reminding us what architecture really deals with.

Throughout the book he proceeds carefully to let us know that "The long-range question is not so much what sort of environment we want, but what sort of man we want," and he calls attention to ways

continued on page 64

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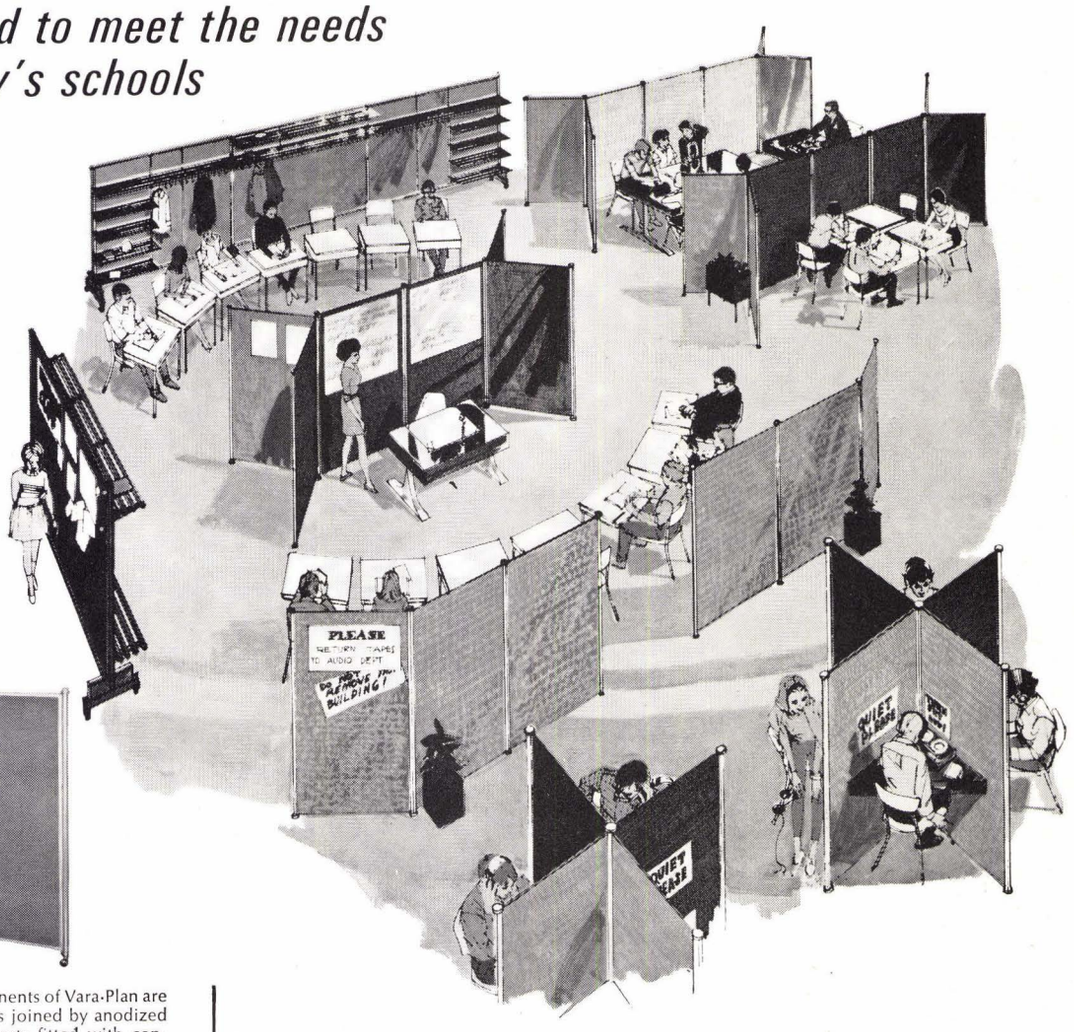

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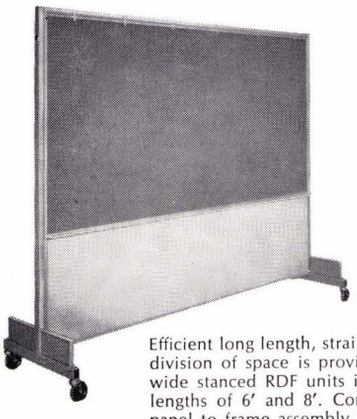

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books *from page 62*

these environments may and do affect the lives of men. But do not think this is a philosophical book, even though Dr. Sommer does not hesitate to introduce difficult ethical problems yet to be solved. Rather than a cold treatise on personal space, this book, properly subtitled "The Behavioral Basis of Design," enumerates and studies different kinds of behavior, trying to correlate them to the physical space.

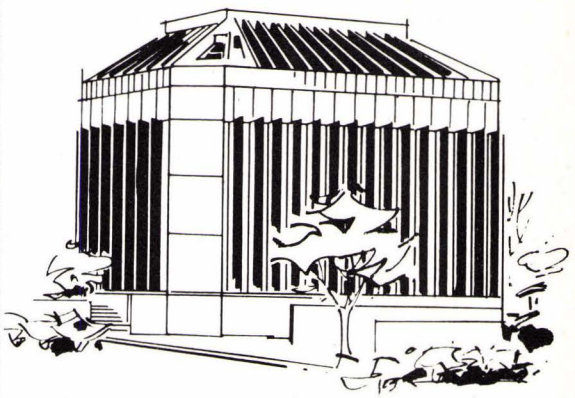
Beginning with those hidden cultural dimensions which anthropologist Edward Hall previously pointed out, Sommer isolates problems of "privacy, spatial invasions and small group ecology" in the first part of the book, which deals with "spatial behavior": How close can people be brought together and under what circumstances; what constitutes offensive and defensive positions within a given space; how space dominance affects leadership and status; in short, how do people (mostly Americans) use space, are some of the questions he studies.

But, what is more important to us, he analyzes, in the second part of the book, what he calls "special settings," specific environments designed for refuge and therapy, for learning, for drinking and for sleeping and studying, suggesting possible design solutions for the problems they present.

This is not to be taken as a conclusive book by any means. Quite to the contrary, he states the need for further observation of human behavior, and, what is even more essential, the need for testing, for following up the design solution once it is built. He argues that this is the only way we can discover whether our design premises were correct, and whether new solutions to similar problems can improve upon existing ones. In fact, he is not afraid to tell us that what we have been calling building program "is a misnomer for a preliminary analysis that should be more philosophical than technical, *a statement of purpose* rather than a list of hardware." (Italics mine.) He also shatters the architect's illusive dream of the perfect utopian space for "there is no situation that is ideal for everyone all of the time." And he is right. Man is constantly changing in time. We are. Each of us is. What is fashionable today may not be so tomorrow or perhaps was not yesterday. And as we change with time, so does space change, for our needs change and with them our preceptions. It is then possible to understand that architecture deals with space and time because it deals primarily with people.

Perhaps one day we will not be ashamed of seeing ourselves in those beautiful photographs of spaces, no longer empty and no longer in perfect order, but full of life. Perhaps one day we will realize that it is us, men, who make architecture possible. Perhaps one day he who is not there, the missing man, will once again appear in our architecture.

We should constantly remember what the teacher said to the young student who claimed his building had a great view of a lake: "Buildings, young man, have no eyes. but we do." JOSE R. BERNARDO, AIA



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events

AIA State and Region

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

National

April 18-22: National Conference on Religious Architecture, Marriott Twin Bridges Hotel, Washington, D.C.
April 19-22: National Conference of States on Building Codes and Standards, Midtown Holiday Inn, Wichita, Kan.
April 23-26: American Institute of Interior Designers, Waldorf-Astoria Hotel, New York
April 30-May 1: American Institute of Steel Construction National Engineering Conference, Pittsburgh Hilton Hotel, Pittsburgh
May 3-7: National Association of Architectural Metal Manufacturers, Hollywood Beach Hotel, Hollywood, Florida
May 16-22: Building Officials Conference of America, Deauville Hotel, Miami Beach
May 21-22: Building Research Institute (Transferring School Building Systems Experience), Shoreham Hotel, Washington, D.C.
June 7-11: First National Congress on Optimum Population and Environment, Pick Congress Hotel, Chicago
June 8-10: Construction Specifications Institute Convention, Conrad Hilton Hotel, Chicago
June 17-19: National Exposition of Contract Interior Furnishings, Merchandise Mart, Chicago
June 18-20: NCARB Annual Meeting, Sheraton-Boston Hotel, Boston
June 19-21: ACSA Annual Meeting, Sheraton-Plaza Hotel, Boston
June 21-25: AIA Convention, Sheraton-Boston Hotel, Boston (recessed session, London, June 29)

International

April 27-29: International Symposium on Plastics in Building, Rotterdam, Holland
May 17-22: World Congress of the International Federation for Housing and Planning, Barcelona
May 24-31: UIA Seminar on the Emerging Social Role of Schools, Vienna
June 29-July 24: Ekistics Month (Networks and Human Settlements), Athens Center of Ekistics, Athens

Scholarships and Fellowships

June 1: Applications due, Cintas Fellowships in Art. Contact: Institute of International Education, 809 United Nations Plaza, New York, N.Y. 10017

Tours

May 13: Grand Trek to Japan and Expo '70, departing from Kansas City, for 14 days with optional extension to Hong Kong and Hawaii. Contact: Herbert E. Duncan, AIA, 800 W. 47th St., Kansas City, Mo., 64112 □

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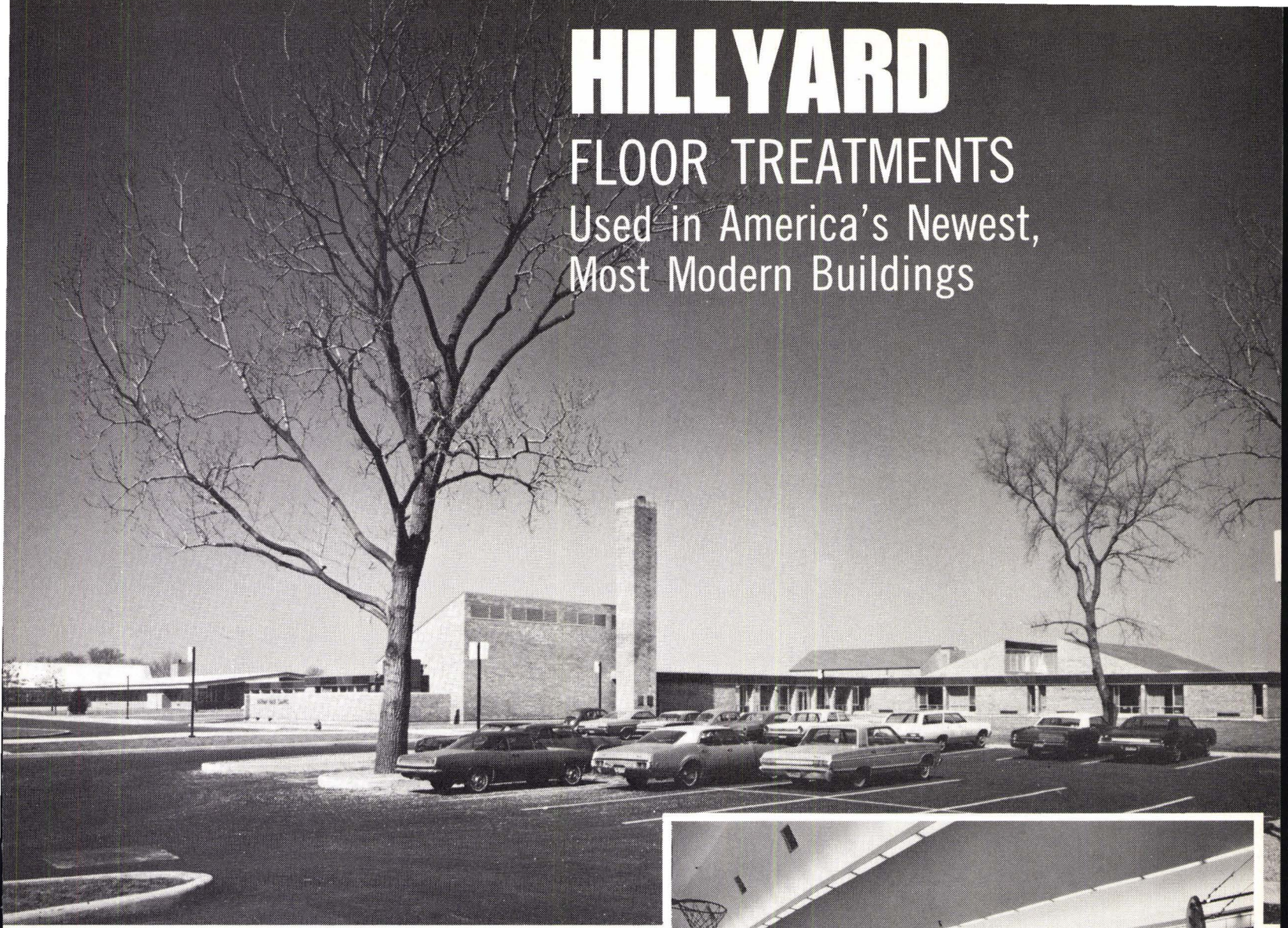

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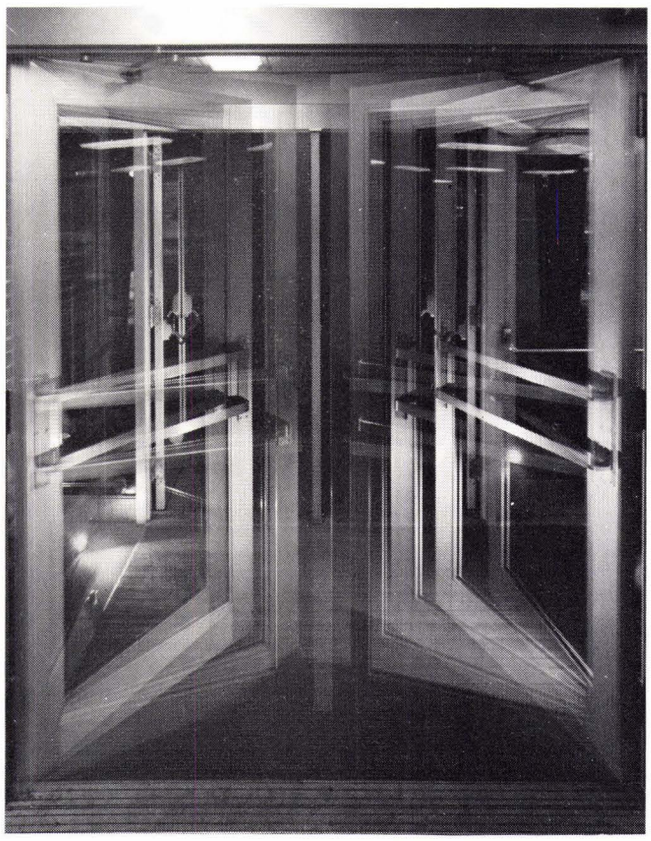

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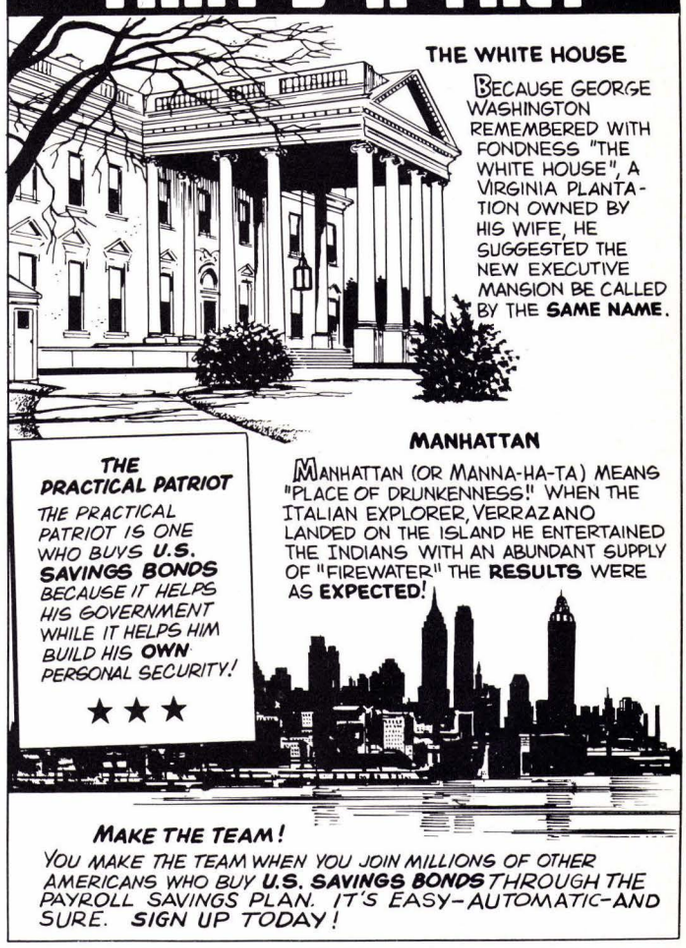

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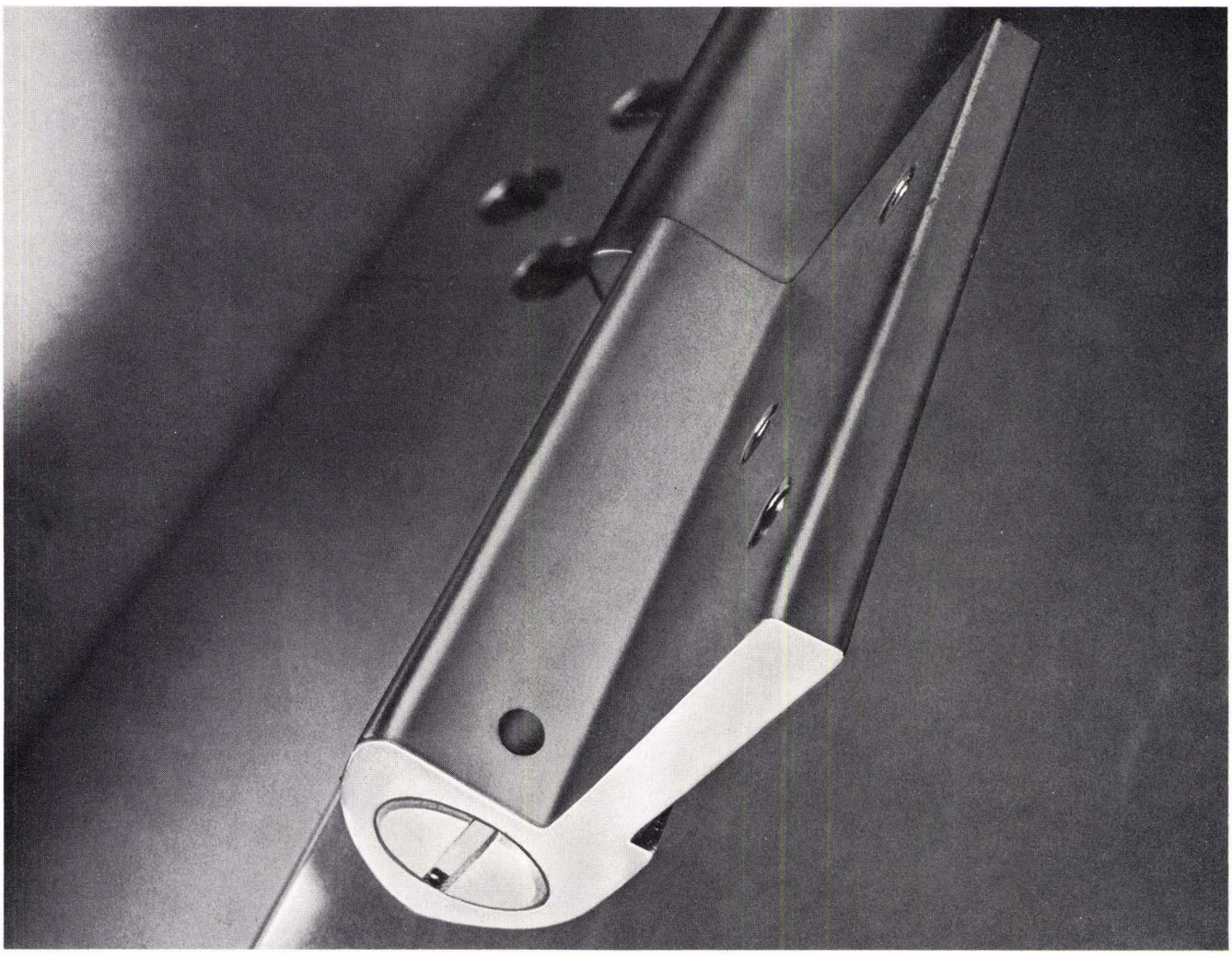

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letters

The New Format: Yeas and Nays

The new AIA JOURNAL format is beautiful; changes in philosophy and arrangement are successful, clean and clear. Communications between the Institute and its members have been improved. Stay with it.

A. CALVIN HOILAND, AIA
Great Falls, Mont.

Here's a vote against your new format, and I'll be very surprised if this is the first complaint you receive. The old format was distinctive in type style, layout, paper and just about everything else. Your new issue lacks any distinction and appears to be an economy model. All change isn't progress.

LEE C. KNELL, AIA
Provo, Utah

ED. NOTE: A gloss-coated paper, which produces more faithful reproductions, both in black and white and in color (which we hope to use on occasion in later months), has replaced the dull-coated stock. The 50-pound weight remains the same.

May I be one of the many to congratulate the JOURNAL on its new format? But I wonder why it still chooses to use the old staples instead of adopting the magic gluing system used by most of the architectural magazines that makes it so easy for compulsive clippers-out to separate the pages.

ELISABETH COIT, FAIA
New York City

ED. NOTE: Mrs. Coit will be happy to note that, as of February, we are employing perfect binding.

Your new format is similar to the free technical magazines which we toss in the wastebasket. Would like to go back to the old-style version which we leave in the reception room, then make a part of the library.

By the way, where is Necrology?

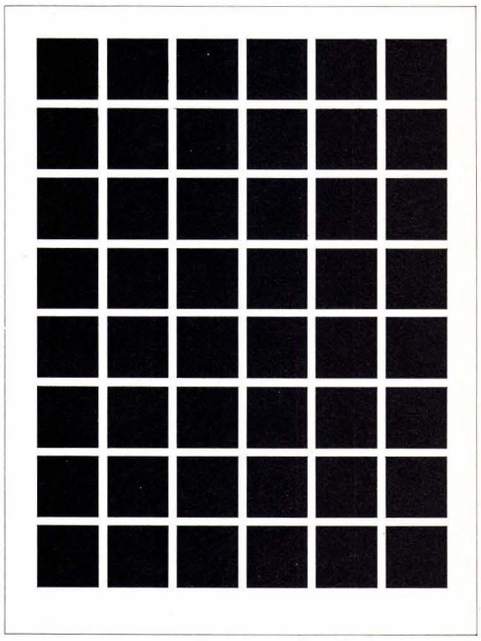
ROBERT MORRIS, AIA
Valencia, Calif.

ED. NOTE: Necrology has been dropped as of January because it is unfeasible to maintain a current listing. It was assembled from records supplied by the Institute's accounting department which, in many cases, is not notified of a member's death until several months (two years in a recent case) have passed. We also feel that this is an area where the component publications can do a better job.

I want to congratulate you and your staff on the new appearance of the JOURNAL. I find the new format more readable and more interesting. The larger size seems to afford more freedom in graphic layout which develops greater variety and, as a result, is more pleasing. Keep up the good work.

DAVID R. DIBNER, AIA
Newark

I am sorry, but I like the old JOURNAL format and style much better than the January edition. You can say what you will about your "modular system," but it surely doesn't come across, and the headline styles vary so much it is confusing—and the lack of graphics!



Modular page: each module 1 1/6-inch square with 1/6-inch space between (see Asides, p. 10).

Up until this issue I thought the JOURNAL was progressing in content and style; it looks now as though the content is still progressing, but the style looks more like the old *Pencil Points.*

E. TERRY CLARK, AIA
Ann Arbor, Mich.

I would like to congratulate you on the great improvements recently evident in the JOURNAL. It has assumed a high priority on my reading list.

In addition, the "Why/Why Not?" presentation on pages 14-15 in January presents the case for good city planning as graphically as any I have seen. If reprints are available, I would like to mail 200 or so to friends and acquaintances.

J. H. BLITZER JR.
President, Integrated Ceilings Inc.
Los Angeles

ED. NOTE: Reprints are indeed available from Neal Tonks of Doremus & Co., 120 Broadway, New York, New York 10005.

Only a personal memo will relate or convey our feelings toward the "new look" of the JOURNAL. Some years ago an oddball-size version was published and caused much difficulty to file articles or notebook items for future reference when they did not fit the 8½x11 size. You have done it again. WHY?

H. S. BRODRICK, AIA
Dayton

ED. NOTE: The 9x12 format exceeds the standard filing folder by approximately ¼-inch when filed vertically; and since, to the best of our knowledge, every filing drawer allows some leeway, the JOURNAL normally can be accommodated.

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

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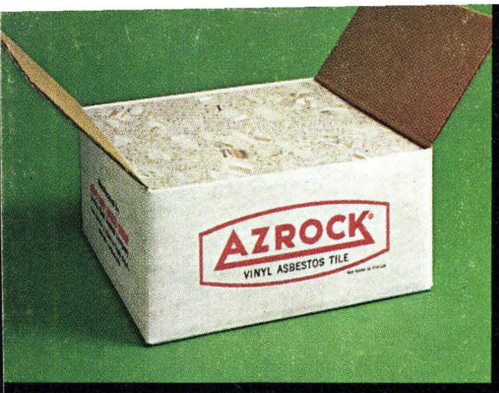

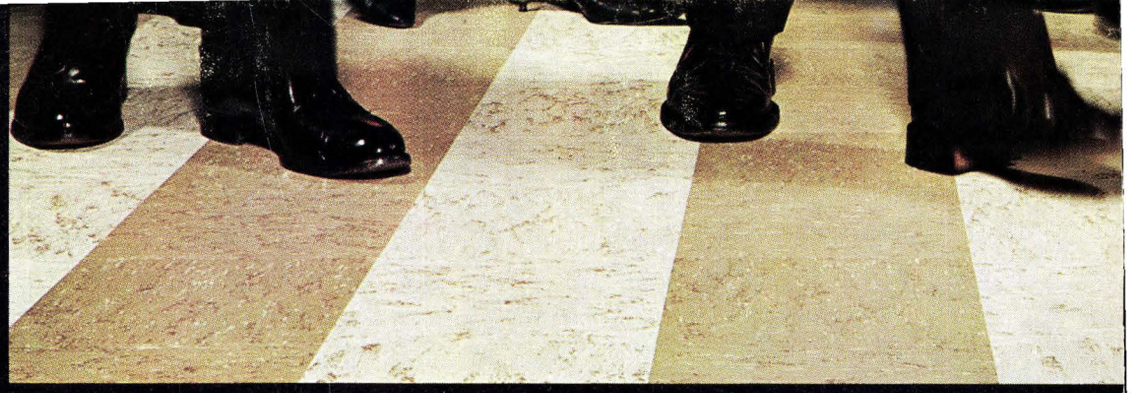

Carton Full of Miracles

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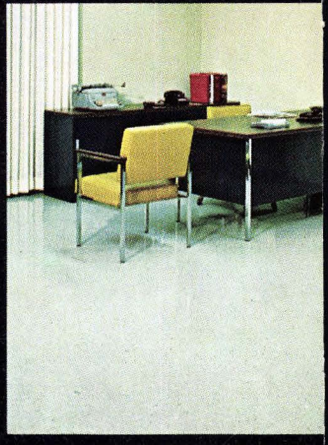

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