

AIA JOURNAL



MAY 1969

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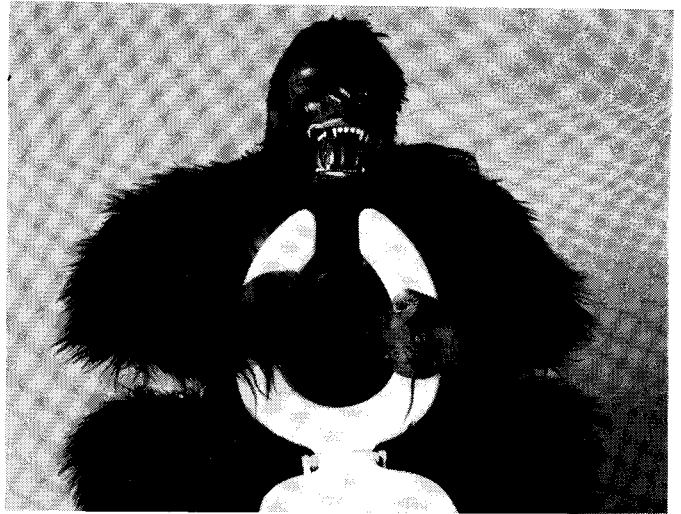


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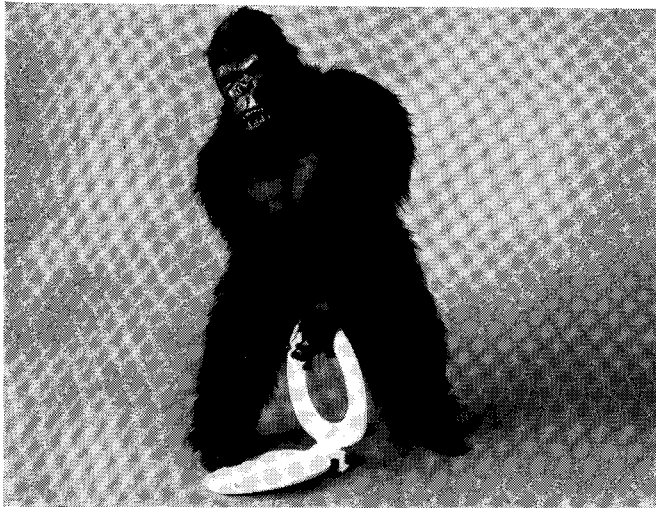
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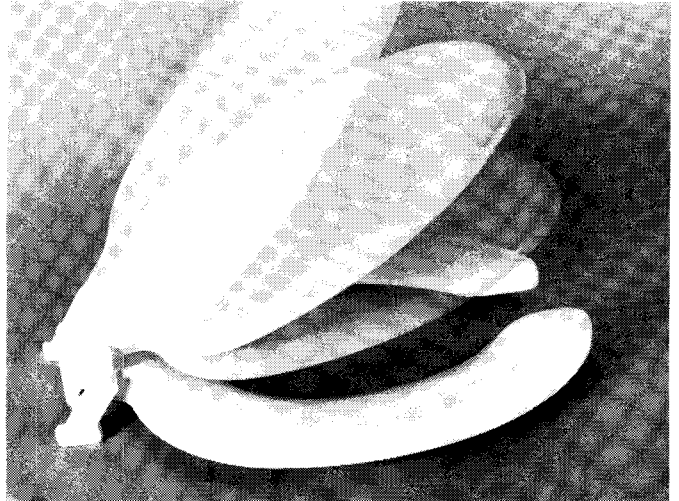
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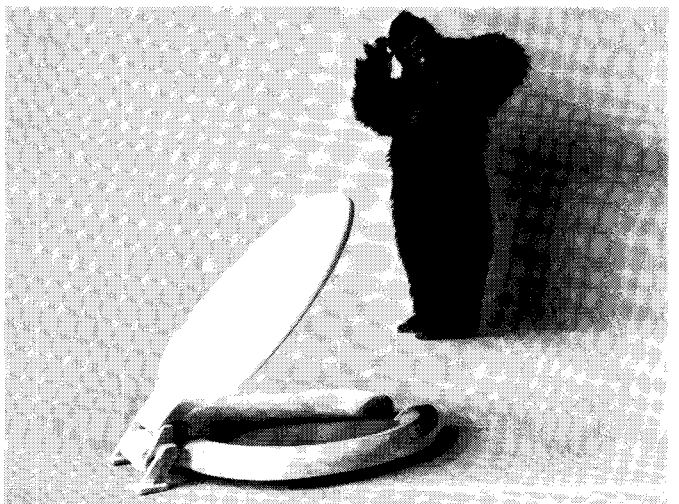
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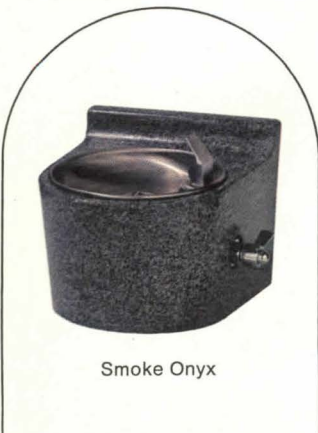
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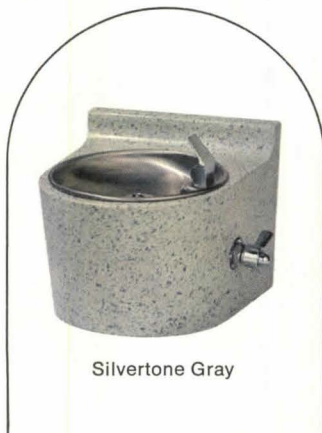
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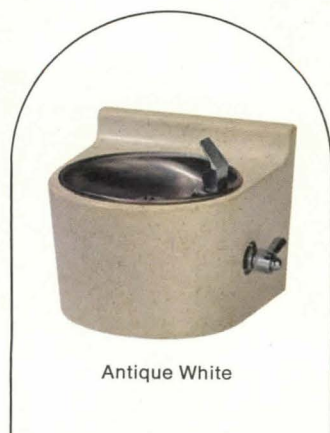
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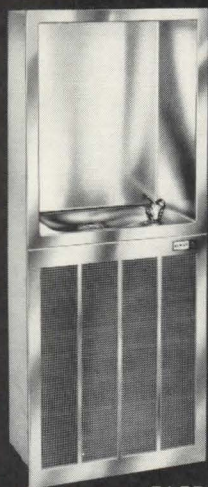
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Cover: Students, unsustained by a pair of old props

Nickel stainless steel roofs triumph over time.

A 10 to 20 year life isn't enough for a cathedral roof. A cathedral, counting time by the century, demands a longer lasting roof. Resistant to atmospheric corrosion, nickel stainless steel retains a soft luster for the life of the building.

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tion) that you can design with thinner gauges and members. The combination of long life, low maintenance and light weight makes stainless a very economical material.

Esthetically, stainless has a way of blending in anywhere without overwhelming. What's more, stainless doesn't streak or stain surrounding materials. On St. Mary's, the roof is complemented with copings, flashings, gutters and accessories of stainless. And the soft sheen of the roof subtly reflects and highlights the color

and texture of the masonry.

If you haven't looked into stainless within the last couple of years, you will be pleasantly surprised by the wider variety of economical standard shapes, sizes and finishes now available. For more facts and ideas about nickel stainless steel, write for our architectural fact sheet. The International Nickel Company, Inc., 67 Wall Street, New York, N. Y. 10005.

INTERNATIONAL NICKEL



St. Mary's Cathedral, Tokyo, Japan.
Architect: Kenzo Tange, Tokyo.
Roofing material: AISI Type 304
stainless steel, No. 2B finish.



Asides

Next Month: For the first time in history, the AIA will be holding its convention with its counterpart to the north, the Royal Architectural Institute of Canada. It is only fitting, then, that the Official Convention Guide take cognizance of this fact.

"The Great Lakes: The Tie That Binds" is the title of a special 32-page section featuring five authors—a geographer, an ecologist, an economist, an architectural historian and a US congressman—who examine in depth the development, assets, problems and future growth of our most important continental resource. Capping off the section is a "Plan for Action."

Also in June: a three-part report on Chicago, the city, and the presentation of the 1969 Honor Awards through photographs, plans and jury comments.

About Art Directors: Getting back to Chicago for a minute, we want to take particular note of the Red Grooms' four-color portfolio. The idea for presenting this artist's view of the Windy City in three dimensions was developed by our art director, Marilyn Housell, working with Bess Balchen, assistant editor who doubles as photographer on occasion.

In other words, art directors—good ones, that is—do more than specify type, crop photos and lay out pages; they contribute editorially as well as graphically.

A look at the masthead this month, however, reveals that Suzy Thomas has assumed the art directorship. Her extensive experience in the art field—15 years prior to joining the Institute in 1966 where she first served under Mrs. Housell and more recently with the publications services—should stand her in good stead.

Mrs. Housell, who was associated with the JOURNAL for eight years, is now with Urban America where she will not only be responsible for City magazine but for all graphics of the Washington-based organization. R.E.K.

PHOTO & ART CREDITS: 12 left—Official White House photograph; 12 right—I. Countess v. Schwerin; 56, 57—Dept. of Photography, Ohio State University; 73—Rondal Partridge; 74, 75, 76 above, center, second from below, below—Roger Sturtevant; 76 second from above—Morley Baer; 78 left—Rondal Partridge; 78 right—Morley Baer; 102—Larry Stark.

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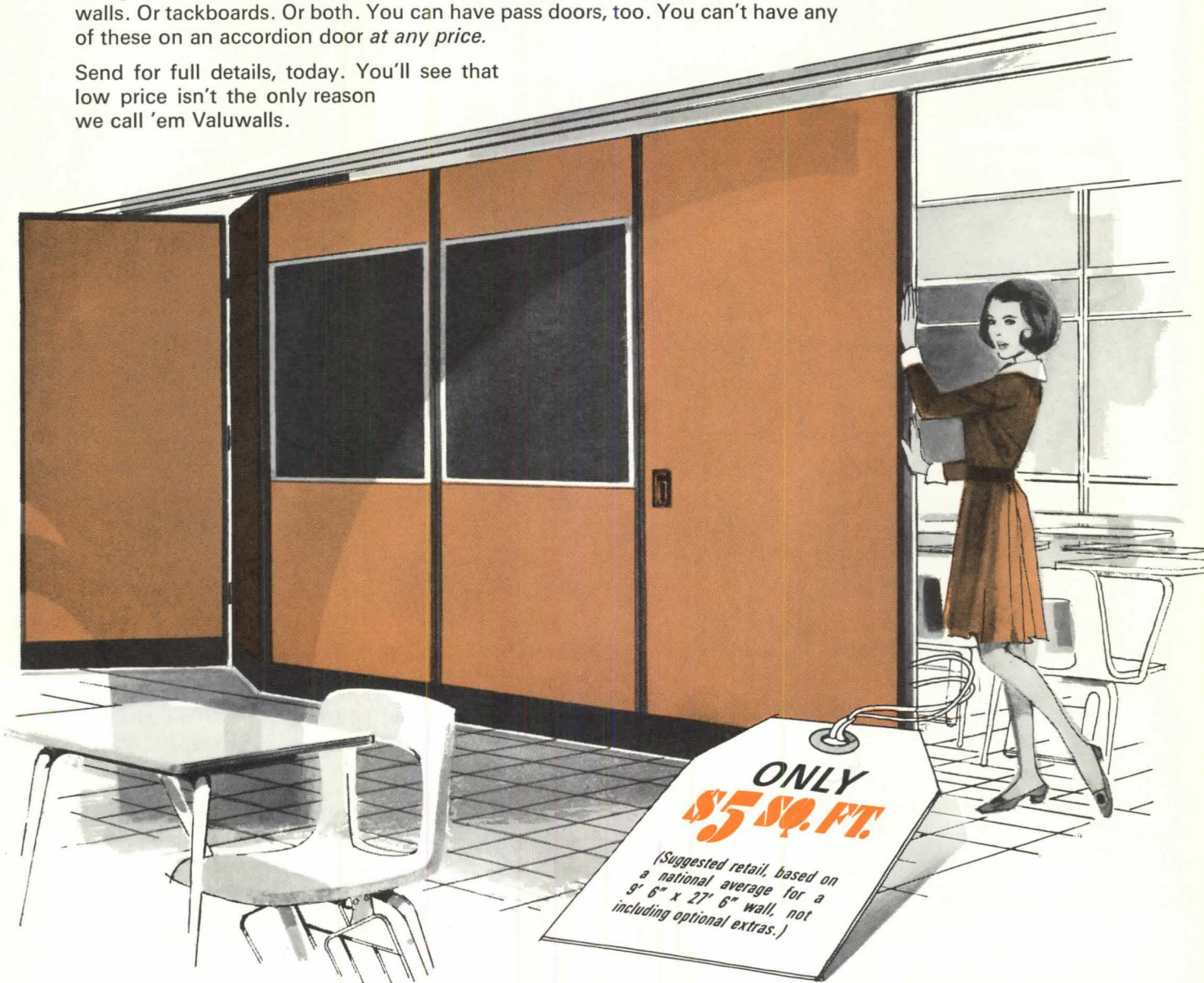
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In a new booklet, "How Color Can Create an Environment of Excellence in the Classroom", Birren reveals some eye-opening facts about the effects of color on the learning process — why certain color combinations are more compatible in the classroom. For your copy, write American Seating Co., Box AJ-683, Grand Rapids, Mich. 49502. In Canada, our Subsidiary — Ebena Lasalle Inc., Montreal.

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Newslines

Moynihan to Keynote Joint AIA/RAIC Convention; Record Turnout Is Forecast

White House urbanist Daniel Patrick Moynihan will keynote the combined June 22-26 Chicago convention of The American Institute of Architects and the Royal Architectural Institute of Canada.

The convention with its "Focus Now" theme—stressing the urgency of environmental redress—is expected to be the most heavily attended in AIA history. Convention planners "conservatively" forecast a total turnout of 6,000. This would top the 1967 New York meeting by nearly 1,000.

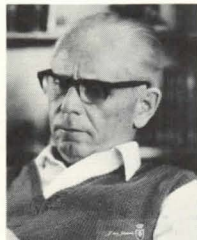
The forecast figure includes from 2,000 to 2,500 architects with the Canadian professionals accounting for about 500.

Moynihan, a prolific writer on race and urban problems and a prominent Democrat, left his post as director of the Joint Center for Urban Studies of Harvard and MIT to join the Nixon Administration as White House urban affairs chief.

He was viewed by many mayors as an attractive choice for the White House assignment. Said one, Detroit's Jerome P. Cavanagh, of Moynihan's selection: "A man like Pat Moynihan has the stature and



Moynihan



Selye

viewpoint that's needed. Pat's a good guy and he'll speak up."

Purves Lecturer Named: The Purves Memorial Lecture will be given by Dr. Hans Selye of Montreal. The Vienna-born physician is a productive writer in his own right and an authority on the relationship between man's well-being and his environment.

Doctor Selye has long been concerned with the effects on the aging process of the tension and stress in today's living.

Chicago's Palmer House is the headquarters for this first joint meeting of the two North Ameri-

can architectural organizations. It will be the AIA's 101st convention, the RAIC's 62nd.

AIA and RAIC members will attend mutually planned professional sessions together; they will hold their own business sessions, investiture ceremonies, etc.

One matter of business AIA delegates will have before them is the election of national officers for 1969-70. The deadline for the filing of nominating petitions is May 15, but these nominations were in at presstime:

Robert F. Hastings, FAIA, Detroit, for first vice-president and president-designate; George M. White, Cleveland, George T. Rockrise, FAIA, San Francisco and Francis D. Lethbridge, FAIA, Washington, for vice president (three are to be elected); and Rex L. Becker, FAIA, St. Louis, and Dean F. Hilfinger, FAIA, Bloomington, Ill., for treasurer. Hilfinger currently holds the office which like the secretary's office, holding over this year, is a two-year term.

Amid the Great: The convention will take place in the vineyard of some of America's most exciting architecture and architectural giants (see following story on Frank Lloyd Wright celebration in Chicago's Oak Park suburb). Fittingly, the Chicago Chapter AIA, the host chapter, has arranged an elaborate program of architectural tours.

Among the honors traditionally presented at conventions is a medal which this year will have as a backdrop one of mankind's darkest hours of savagery. The medal is the Henry Bacon Medal for Memorial Architecture and it will go to the designers of a monument to the World War II Fosse Ardeatine massacre.

With the Allied forces advancing toward Rome and the killing of 33 marching Nazi stormtroopers by the Italian underground, the German command herded 330 Italians into a quarry and shot them, then with dynamite sealed the tomb.

In 1950 five Italian architects designed a unique mausoleum at the site—a concrete slab which appears to float over the 330 tombs—and it is they who will receive the medal. They are Nello Aprile, Gino Calcaprina, Aldo Cardelli, AIA (who now practices in New Bern, N. C.), Mario Fiorintino and Giuseppe Perugini.

Exhibit Mart 'Day': Concurrent with the convention will be the 1969 Building Products Exhibit. Also, Sunday, June 22 has been designated by the Merchandise Mart as "Architects' Day at the Mart." The day will also open the First National Exposition of Contract Interior Furnishings at the Mart.

For the occasion, Dr. Bruno Bettelheim, director of the Orthogenic School of the University of Chicago, will present a paper titled "How Interior Environment Affects People."

The Mart is also planning a special program of workshops for architects on Friday, June 27.

This year's theme sessions will be followed by more than a dozen workshops further examining aspects of convention thrusts of professionalism, technology and urban planning. Architectural students will be involved in all sessions.

Plans are also being made to provide students and Institute officers with an opportunity to discuss the relevancy of the profession and its professional society to the environmental and social needs of the time.

The host Chicago Chapter, which is celebrating its 100th birthday, is planning a number of social events including a five-band party in a railroad terminal and train shed.

Wright Centennial to Give Oak Park a Festive Look; Tours Set for Architects

Oak Park, Ill., the home of Frank Lloyd Wright from 1893 to 1911 and the site of a number of his best-known buildings, will salute the master with a celebration that begins Memorial Day, runs through the AIA/RAIC Convention in close-by Chicago and culminates on the Fourth of July.

Easily accessible from Chicago—by the "el" which runs a schedule of airconditioned cars to the community, or by private car (a drive of 20 minutes or so)—Oak Park will have events sprinkled throughout the five-week period and streets festooned with silk-screened banners.

The banners will be decorated with a line drawing of Wright, the

Continued on page 16

Come to "Architect City"—Chicago in June for the great AIA and RAIC Convention at The Palmer House

and

The First National Exposition of Contract Interior Furnishings



June 22-27 at The Merchandise Mart

Sunday, June 22

Architects' Day in The Merchandise Mart

11:30 a.m. - 1:00 p.m. Complimentary Brunch for all registrants.

1:00 p.m. - 3:00 p.m. — Dr. Bruno Bettelheim, Director, Orthogenic School, University of Chicago. A paper: "How Interior Environment Affects People". Discussion moderated by Roger Montgomery, Professor, Department of City and Regional Planning, University of California at Berkeley. Arranged by Illinois Chapter, American Institute of Interior Designers and Midwest Chapter, National Society of Interior Designers. 3:00 p.m. - 6:00 p.m. All Merchandise Mart showrooms will be open for the convenience of NEOCON participants.

NEOCON is the first exposition of products and programming that reflects the total resources of the contract interior furnishings industry now available to the architect. Over 700 superbly arranged, full-line presentations including indoor and outdoor furniture; floor and wall coverings; fabrics and draperies; lamps and lighting equipment; decorative accessories; bedding; tableware; textiles and all types of special equipment for lodging and food service, education, health care, office and business interiors and other institutions. More than two million square feet of exhibit space under one roof! All showrooms will be manned by contract specialists trained to serve the architect's needs in environmental planning.

Friday, June 27

Architects' Workshop

An all-day event of exceptional interest:

9:00 a.m. Complimentary Continental breakfast.

9:30 a.m. - 10:45 a.m. Sergio Bernardes, architect, Brazil. Followed by discussion period.

10:45 a.m. - 12:15 p.m. Visits to showrooms.

12:30 p.m. Complimentary luncheon. Speaker: Wolf Von Eckardt, "Washington Post" columnist, architecture critic and author.

2:00 p.m. - 4:30 p.m., "From the Inside Out" Symposium moderated by Wolf Von Eckardt and featuring Gio Ponti, architect and Director of "Domus" Magazine, Italy; Jørn Utzon, architect, Denmark; Dr. Ernest Dichter, President, Institute for Motivational Research; C. Theodore Larson, Professor, School of Architecture and Coordinator, Architectural Research Laboratory, University of Michigan; Dr. Robert Finley, Superintendent of Schools, Glen Cove, N. Y., with other speakers of similar distinction.

The Merchandise Mart has worked in cooperation with the national board and the convention committee of the AIA and RAIC to develop these two outstanding programs for architects.

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I will participate in the Architects' Day activities Sunday, June 22.

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I will participate in the Architects' Workshop Friday, June 27, beginning with breakfast at 9:00 a.m. and including luncheon.

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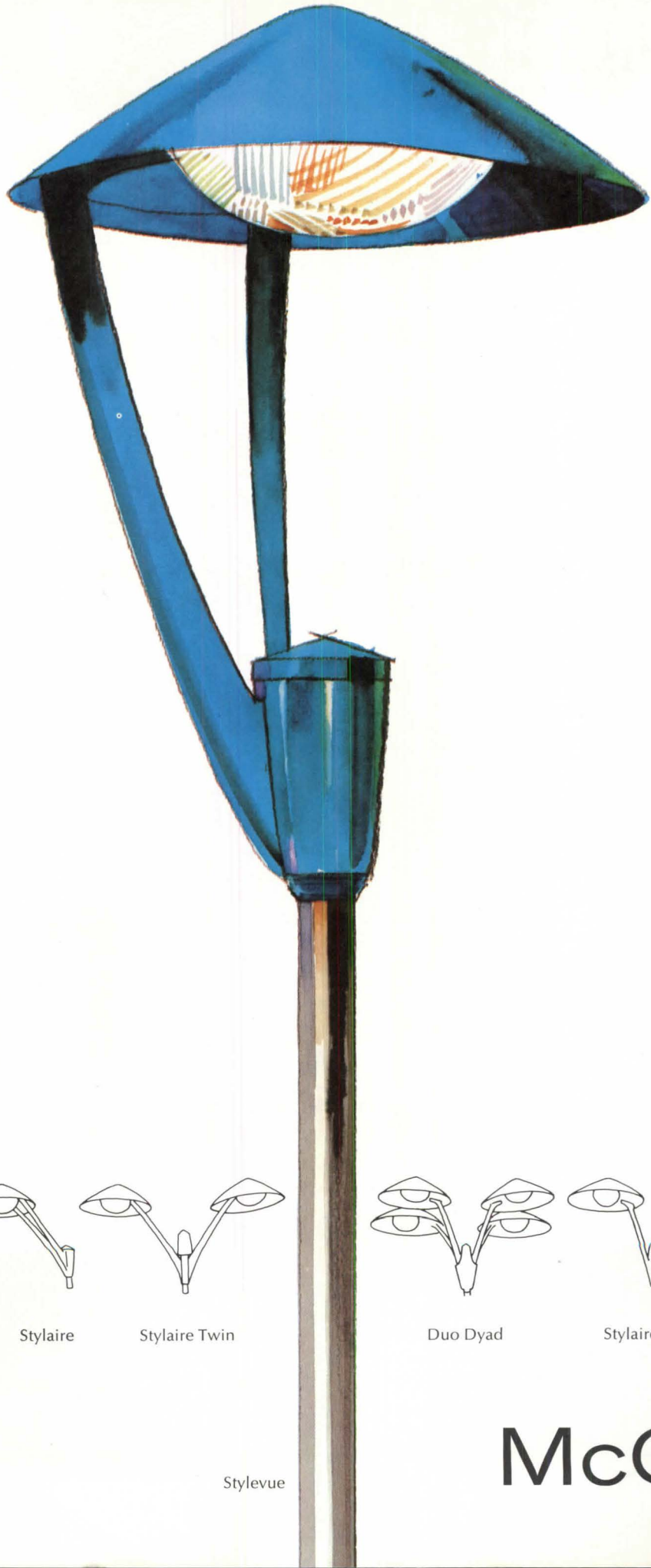
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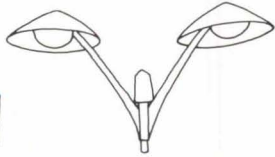
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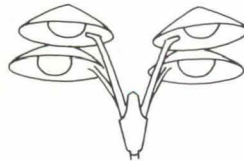
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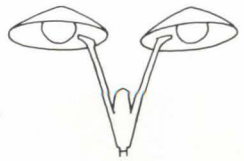
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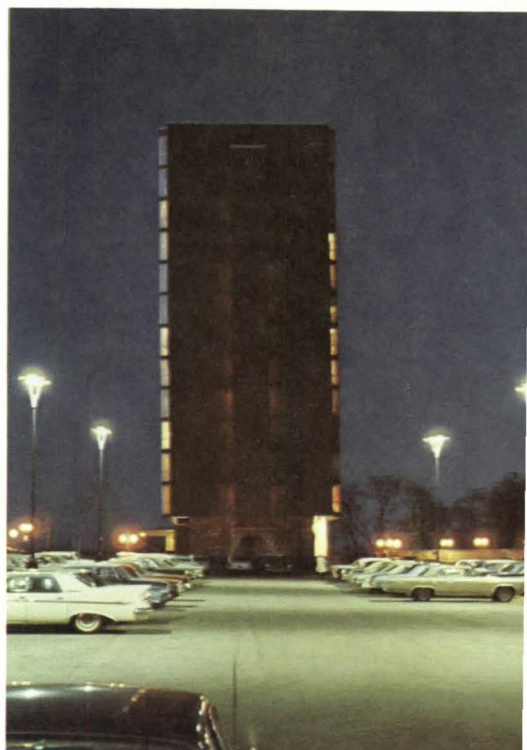
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work of the Norm Ulrich Studio which also produced a souvenir book for the occasion.

Several activities will take place in Oak Park during the convention. Bus tours are being arranged for the architects and their guests through the host Chicago Chapter's Tour Committee headed by Robert Taylor.

The occasion, of course, is the centennial of Wright's birth, although recent evidence discovered in the University of Wisconsin Archives seems to prove without a doubt that he actually was born in 1867, two years earlier (see AIAJ, July '67, p. 3).

To an AIA JOURNAL query about the birthdate, Mrs. Wright, president of the Frank Lloyd Wright Foundation at Taliesin West, Scottsdale, Ariz., replied:

"According to my husband's belief and his written statement, he was born in 1869. This date is deeply sealed at Taliesin and throughout the world, since numerous groups intend to celebrate his centennial this June." (Excerpts from her reply accompany.)

The June 8 birthdate itself will be marked by the dedication of the Wright-Bock Fountain Plaza being constructed at the corner of Oak Park Avenue and Lake Street, based on the design of John Michiels.

Other activities on the program include forums, house walks and a concert in Unity Temple.

'Doomsday' Is Uneventful But Quake Threat Remains Sober Concern in Bay Area

April 4 was not Doomsday in San Francisco after all, and the City by the Golden Gate even took time out later in the month to hold an official anti-earthquake celebration.

"I am not trying to tempt or harass the gods," declared Mayor Joseph Alioto as he sought to lessen "real alarm" created by forecasts that a devastating tremor would occur on that April date, sending San Francisco, and a good part of California for that matter, into the Pacific Ocean.

Meanwhile, earthquake experts, always recognizing the potential danger of a 650-mile fault system boring almost below the surface of downtown San Francisco and skirting Los Angeles, have been intensively analyzing the situation.

'HE EXALTED MAN AS AN INDIVIDUAL'—MRS. WRIGHT

According to my husband's belief and his written statement, he was born in 1869. This date is deeply sealed at Taliesin and throughout the world, since numerous groups intend to celebrate his centennial this June. For us at Taliesin we feel honor bound to pay respect to his belief. What significance this date has in history will be confirmed by future generations, and I am certain that this entire country will pay respect to the birth of its great man.

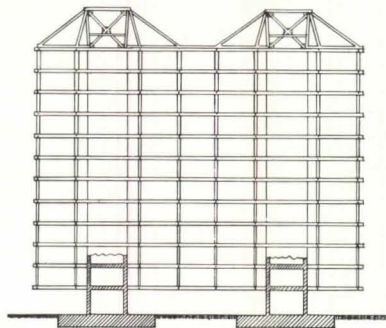
He created a new concept of architecture which slowly, very slowly, is taking root in the understanding of the human mind. He exalted man as an individual and his creative work speaks of this principle. . . . He gave him light, air, space, beauty. . . .

He called architecture "organic" in which the spirit of life and light permeated every member and pore of the building, moving man toward an awareness of his true heritage. He truly believed that a beautiful building can help man dissolve the conflicts in his life, that a harmonious building has a quieting effect upon us and serves us as inspiration. Even those who speak of improving its surroundings often forget that it is architecture, in its influence on the human psyche, that is the most important of all.

When Frank Lloyd Wright de-

signed a church or any other habitation, it was with a concept of liberating man, giving him a sense of happiness rather than of oppression, refreshing him as much as a walk in the meadows; and because the human being to him was the highest entity on earth, he built to console him in the times of his tragedies and disillusionments so that by way of his environment he might experience a feeling of serenity.

He is still so much in advance of his time that the buildings he designed years back have their faces turned into the future. To see or to live in one of his buildings is an inner experience which elevates the spirit as all great art does. In the midst of mass production in all expressions of daily life, in the midst of the crumbling of old dogmas, and in vainly searching the aim of our existence in transient terms—he stands as an immortal who glorified the spirit of man, who called to man to drop his vain folly of quick turn-over in shoddy philosophy, in false facades, in false values, in exaggeration of ugly forms of thought and emotion so quick to flourish in human psyche. While transient man tries to minimize the significance of spiritual values, Frank Lloyd Wright believed in God—the Idea—which never can perish from the face of the earth.



Suspension system, with the top floor completed first and the ground floor last, is undergoing computer tests to come up with mathematical data to prove its earthquake resistance.

Back to the Books: Stanford University's School of Earth Sciences last month sponsored, for example, a two-day seminar devoted to earthquake, landslide and flood hazards.

Among the instructors for the short course—first in a series en-

titled "Geologic Jeopardy in the Bay Area"—was Karl V. Steinbrugge, a structural engineer.

In an 80-page paper, the first general survey of earthquake vulnerability in Bay Area structures, he makes four main proposals.

They are: 1) stop normal high population-density uses of apartment houses and public buildings on major earthquake faults, 2) start at once to reinforce or remove from buildings hazardous parapets and unanchored ornamentation, 3) set up safety zoning systems for geologic hazards of poor ground, landslides and faulting and 4) start to determine economic and social reactions to the future science of earthquake prediction.

Crystal Ball Gazing: When northern California gets another jolt comparable to the 1906 earthquake, which geologists say is bound to happen sooner or later,

Continued on page 26

In these days of rising costs can a hospital afford to go soft?

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SISTER MARCELLINA,
Administrator,
St. Francis Hospital,
Tulsa, Oklahoma.

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Problem: (1) design buildings that
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vide economical heating and air
conditioning.





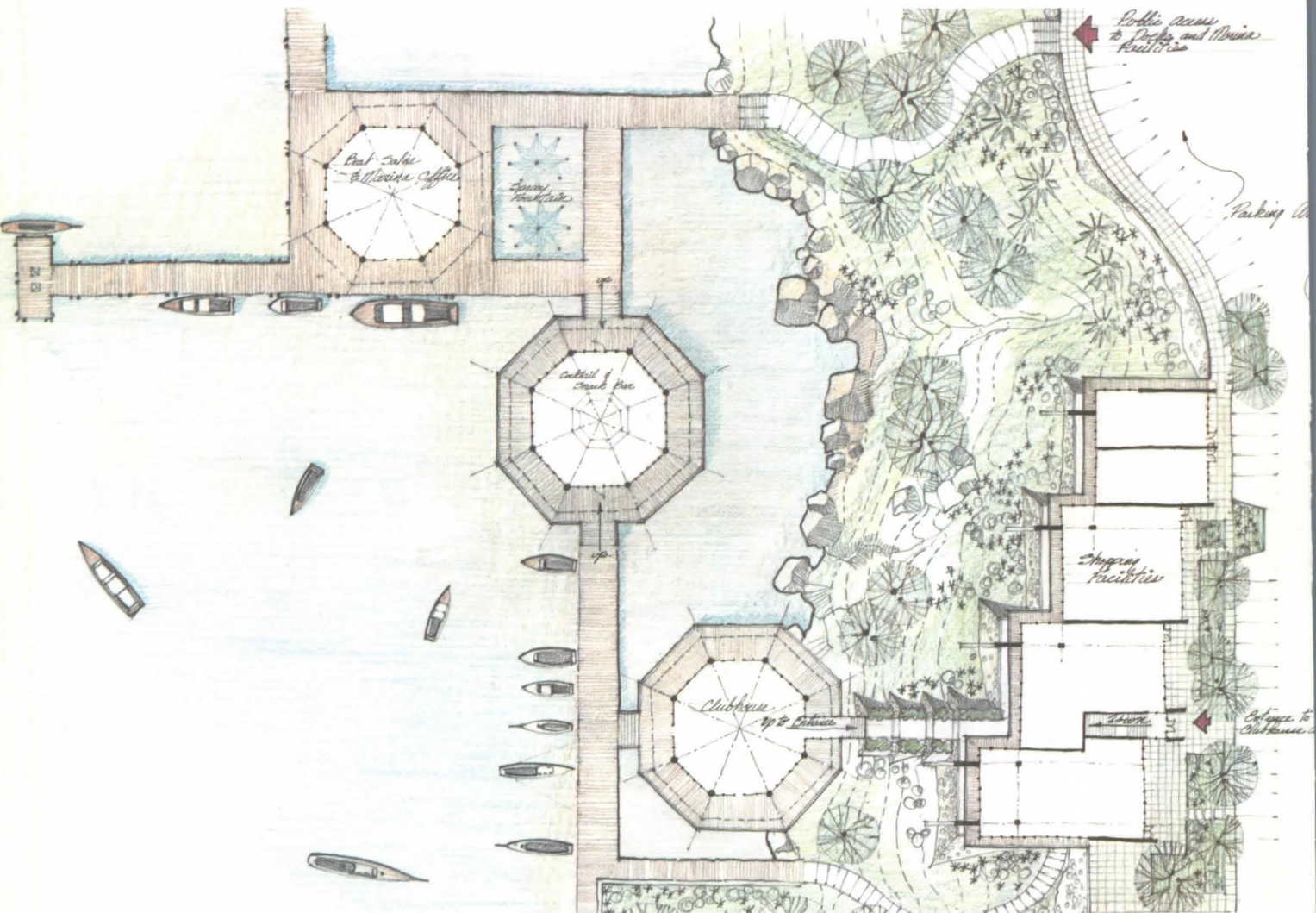
On a hill overlooking the lake is a public shopping facility. For glazing this building, the architect would specify Thermopane[®] insulating glass with Vari-Tran^(TM) chromium alloy on the inside surface of the outboard light. Vari-Tran is the metallic coating applied to the glass in a vacuum equivalent to that found by astronauts 125 miles straight up. It controls transmission of light and heat to almost any extent you want to reduce glare and make air conditioning more efficient.



Renderings by Howard Associates, Architectural Illustrators, Sylvania, Ohio.

Mr. Roe has designed three octagon-shaped structures—a boat sales and marina office, a cocktail lounge and snack bar, a club house. Each affords 360° view of the scenery and activity surrounding it. For glazing, the architect proposes Thermopane fabricated with Parallel-O-Bronze. This hi-performance unit controls reflected glare from the water, reduces solar heat gain to keep interiors more comfortable, and helps air-conditioning equipment function more economically.

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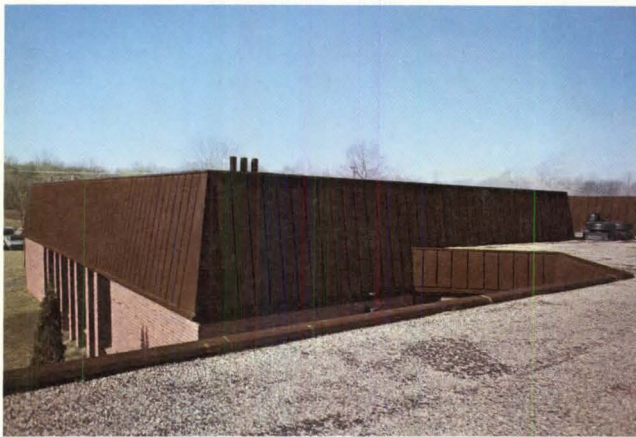


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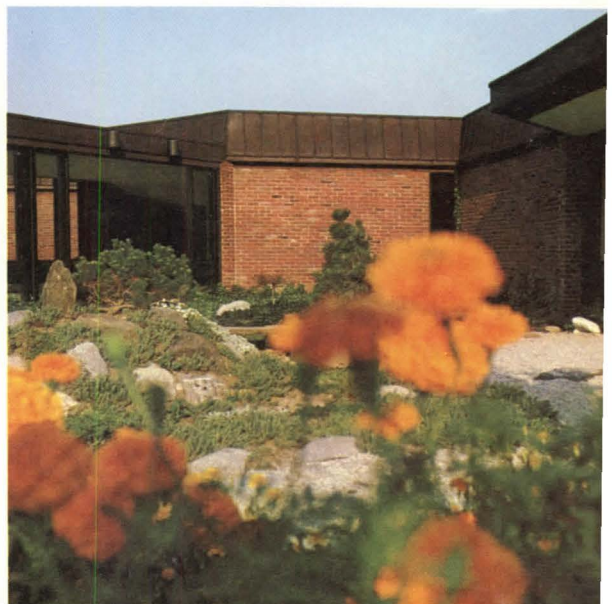
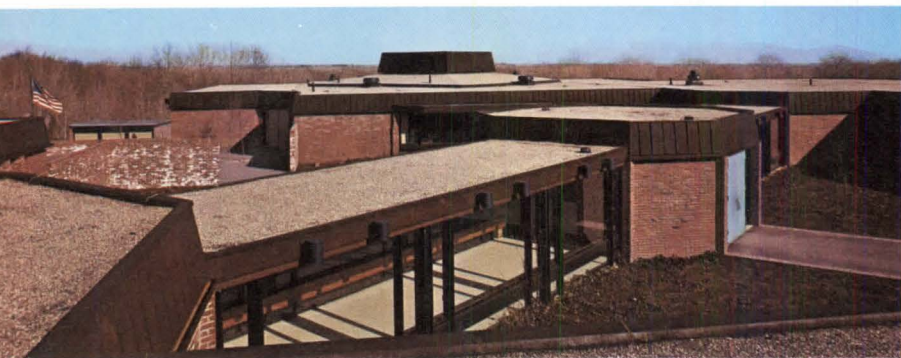
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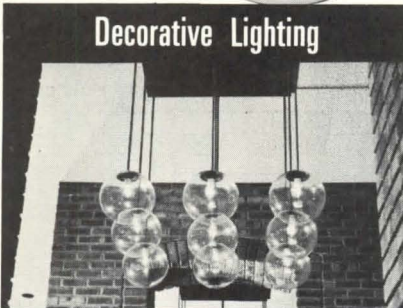
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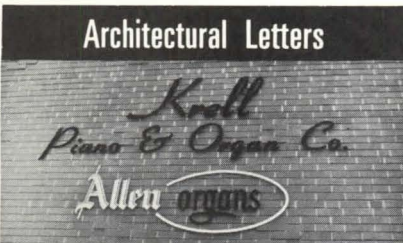


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Circle 212 on information card

Newslines from page 16

Steinbrugge, a lecturer in structural design in the University of California's Department of Architecture at Berkeley, predicts:

- collapse of some modern buildings, as seen in the 1964 Alaskan earthquake
- collapse of many older buildings
- greatest loss of life caused by falling brick parapets and building ornamentation
- probable collapse of some free-way overpasses on major earthquake faults
- substantial displacement of a Bay Area Rapid Transit District tunnel. This is currently being constructed through the Hayward fault zone in the East Bay, "although it is now well known that the Hayward fault has slipped in recent years." (It might be noted, however, that the tunnel rests on a cushioning gravel bed and is hinged at its extremities.)

Steinbrugge is one of 18 professionals urging the state to set up a quake study task force.

A Structural Reaction: Still another building design intended to cope with quakes, this one a 12-story structure, is being run through the computer to verify its reputed "earthquake proofness."

The tests will be performed under a contract awarded International Environmental Dynamics, a Palo Alto architectural firm, with Philco-Ford's Western Development Laboratories.

IED holds a patent on a suspension system of construction which will be used in an office building the architects designed for Mountain View and in another structure to be built later in Berkeley.

Housing Committee Wants Your Help in Developing Library of Hard Knocks

What are architects contributing to low and moderate cost housing? How do architects who do such housing fare?

The answers that these much-asked questions receive from Institute headquarters, while as informed and accommodating as possible, are sometimes less prompt or less full than they might be had an information bank been available.

The AIA Committee on Housing through Jackson T. Wright Sr., director of Housing Programs, is attempting to overcome the information gap by developing a working library on low and moderate income housing.

The library's "authors" are practicing architects who may never have written—and may never write—anything more literary than a set of specifications. But literary style doesn't count.

What Wright is attempting to assemble, he said, are brief accounts of practitioners' experiences in low and moderate cost housing. These experiences can be conveyed in words or in slides, whichever best communicates.

Two-Thrust Approach: The library by the nature of these materials and their intended uses divides into two parts: a *Case Histories* file for reference by other architects, for use by the AIA/HUD Advisory Group, a liaison body that meets monthly and as input for AIA testimony before Congress, and a *Slides* file for use in seminars, livability studies, etc.

The case histories need not be full accounts or overall project experiences, Wright said, but can be brief descriptions of design or procedural problems encountered and, in the event they were overcome, of the solutions that were found. Recommendations are also sought.

Descriptive data accompanying slide submissions should be in the same format as in the AIA Honor Awards Program—that is, type of project and completion date, state or county in which located, architect's statement concerning design problems and solutions, and type of construction, materials, mechanical systems (if significant) and other pertinent technical information. One additional piece of information is requested, however, and that is the project's cost.

The colored slides should number a minimum of three and a maximum of five. They should show the exterior, interior and a floor plan.

Slides Without Design: Wright said he is also attempting to build a slide file showing examples of work in which architects were not involved. This could be privately built housing or housing involving public funds—turnkey, for example.

"The case studies should include constructive criticism toward elimination of *time-consuming red tape*, *design constraints*, and suggestions on ways to improve the structure or the administration of a given program in federally assisted housing," Wright said.

All information as to the identity of practitioners will be kept in strict confidence, Wright said.

"The library will be useful to
Continued on page 30

A door isn't just something to open

by C. Terence Coveny

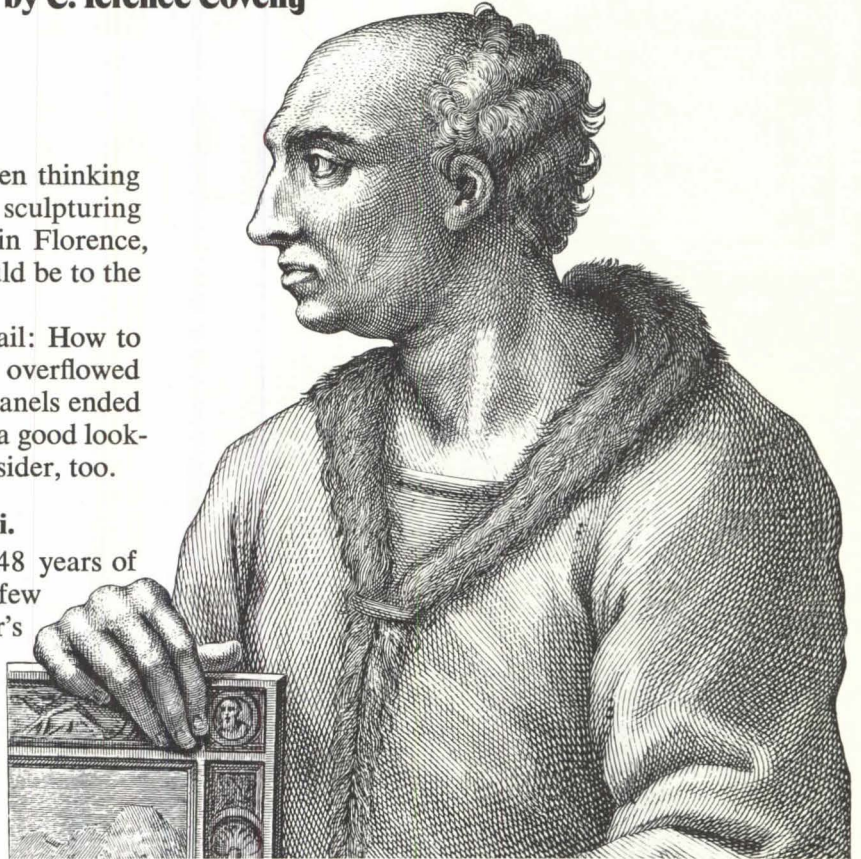
Lorenzo Ghiberti must certainly have been thinking along these lines as he spent 48 years sculpturing Biblical scenes on the Baptistery doors in Florence, Italy. He knew how important a door could be to the looks of a building.

But Ghiberti forgot just one small detail: How to make it floodproof. When the Arno River overflowed its banks two years ago, Ghiberti's door panels ended up all over the city. Sure it's great to have a good looking door, but there are other things to consider, too.

How to be a modern day Ghiberti.

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Is that really a door you're filling that hole in the wall with?

According to Webster a door is a barrier. Actually, that isn't always true. Noise gets through them, as do fires, X-rays, things that cause heavy sudden impacts ...even the Arno River. That's why it's wise not to accept any door on its face value.

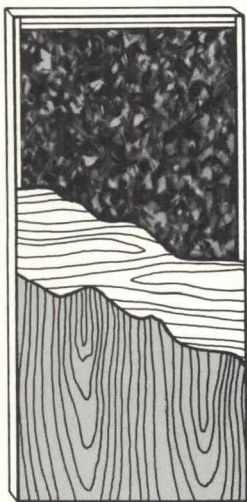
And you won't have to when you get the inside story of how Weldwood goes about putting a door together. Behind every one of our faces is a well constructed thought.

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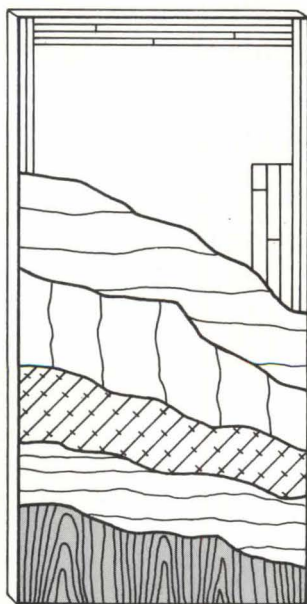
...interior hardwood-faced door...closely conforms to Federal Specification LLD-D-581, Type 1, Style 11.

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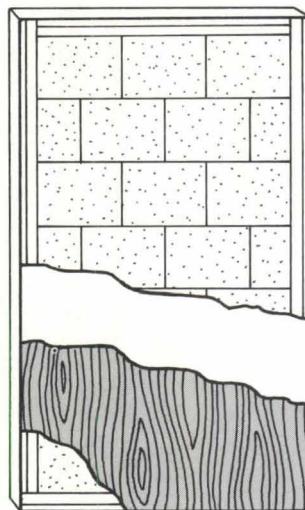
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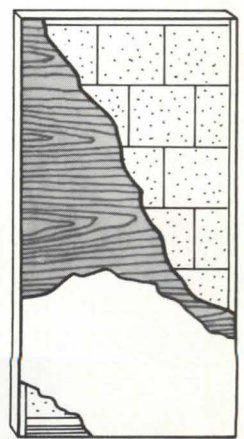
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architects' interests as a group and to individual architects who want assistance," he added. "This, at least, is our intention."

Seattle Earns Four Awards In Utility Design Program

Seattle's Department of Lighting came up with four of the five top awards in the first biennial American Public Power Association Awards Program for Utility Design (for publicly-owned electric utilities).

Presentations were made by Francis D. Lethbridge, FAIA, to the utility and participating architect, landscape architect, planner and/or engineer on each project at the APPA's annual conference in Washington, D.C., early in May. Lethbridge was a member of the jury, representing the AIA, which participated in the program along with the American Institute of Planners, American Society of Civil Engineers and American Society of Landscape Architects.

Including lesser awards, a total of 10 were given and all of them went west of the Mississippi.

The First Honor Award went to Seattle's East Pine Substation, which also earned a national AIA Honor Award in 1968 for architects Fred Bassetti & Co. (landscape architects: Richard Haag Associates).

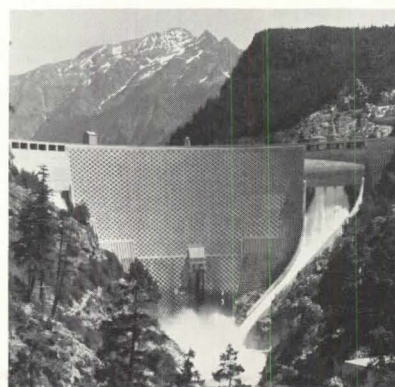
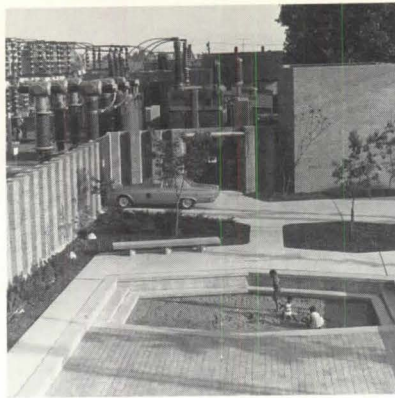
The three other Seattle projects, all winning Honor Awards, were the Seward Substation (landscape architects: Glen Hunt & Associates); Hillcrest Division underground distribution; and Ross Dam on the upper Skagit River.

A fourth Honor Award went to the Sacramento Municipal Utility District for its office building which was designed by Dreyfuss & Blackford (landscape architect: Ralph W. Jones).

AIA-Fathered Urban Unit Is Incorporated; Mission Includes Project Execution

The Urban Design and Development Corp., offspring of the AIA, will as its name implies delve into project implementation.

Ralph G. Schwarz, former Ford Foundation official and president of the recently incorporated UDDC, said that while the corporation could actually carry out urban projects such undertakings would more likely be executed by others with UDDC filling a catalytic role.



Winning projects in the American Public Power Association Awards Program from top, left: Seattle's East Pine Substation, Seattle's Seward Substation and, shown in before-and-after photos, the results of the Hillcrest Division underground installation, also in Seattle. At lower left is a fourth project that brought honors to the Seattle Department of Lighting, this the Ross Dam on the Skagit River. At lower right is the only non-Seattle project to win a top award in the newly established program in which the AIA participated. This is the office building of the Sacramento Municipal Utility District.

UDDC, primarily through contracts with outside consultants, will conduct research and physical planning to determine the feasibility of projects in both social and

investment terms, Schwarz said.

The AIA is providing \$100,000 a year for each of the first two years of UDDC's operation. "We assume

Continued on page 32

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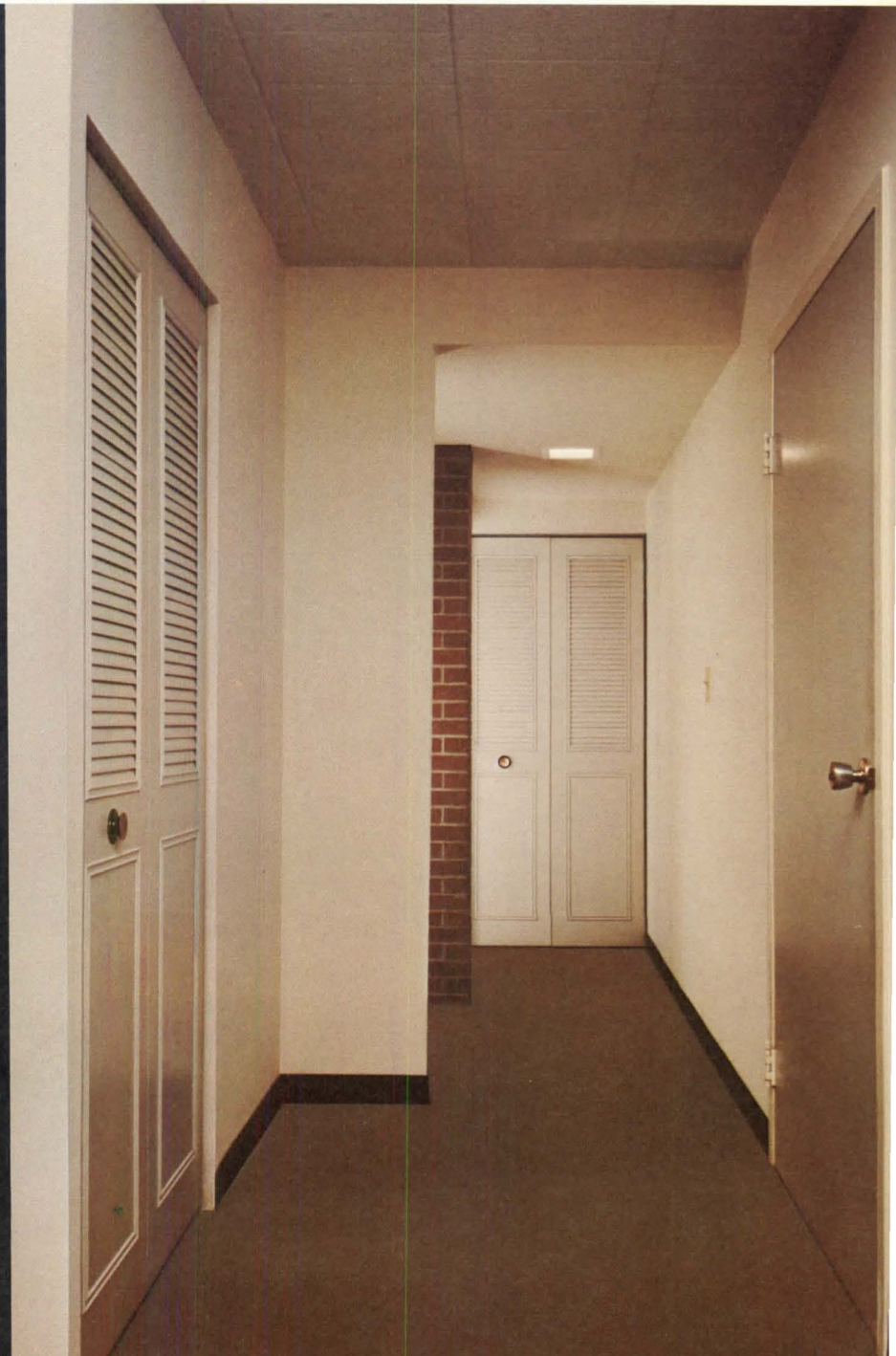


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we will be self-supporting (through grants) after that," Schwarz said.

Schwarz is one of seven corporation trustees named to date. Others are Donald H. Lutes, FAIA, chairman of the board; John Fisher-Smith; Jules Gregory; George T. Rockrise, FAIA; Archibald C. Rogers, FAIA; and Max O. Urbahn, FAIA. All are members of the steering committee which organized the UDDC venture; Fisher-Smith is chairman of the AIA Committee on Urban Design.

The remaining six places on the 13-member board may be filled by persons who represent other "design team" disciplines, Schwarz said.

Design Consequences: Institute President George E. Kassabaum, FAIA, explained that UDDC will be concerned with "the human and social consequences of physical design." Schwarz said this concern centers chiefly on three problem areas—the center city, the new community and transportation.

Through its research and project development the corporation

hopes to acquire data useful to architects in solving urban problems. But the data would ultimately and more enduringly benefit the user group or public, Schwarz pointed out.

The corporation is headquartered in the AIA-owned Lemon Building next to the Institute's offices. Its small staff includes Philip A. Kemp, who worked with Schwarz in connection with the construction program for the \$27 million Ford Foundation Building, and Paul B. Mott Jr., formerly with the US United Nations mission.

Two State Societies Hire First Executive Directors

A number of state societies of architects have made key staff changes recently including those of Tennessee and Kentucky, both of which have employed their first executive directors.

Horton Herrin, a veteran Air Force public relations officer, is coordinating the work of the five chapters that constitute the Tennessee Society of Architects.

Charles J. Hellmann, formerly an administrative assistant with the Kentucky Department of Parks, is the initial executive director of the Kentucky Society of Architects, made up of three chapters.

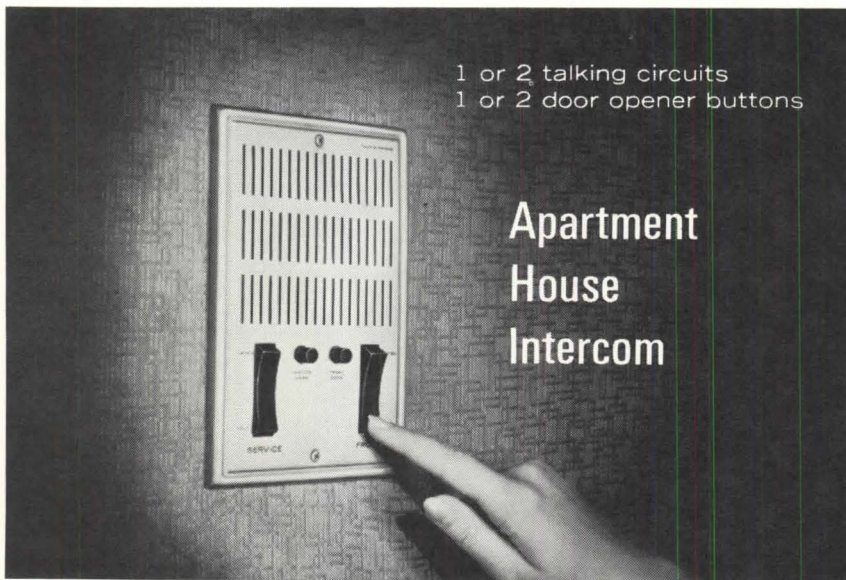
In other staff changes involving AIA state-level components, Donald W. Hassenstab has been appointed executive director of the Minnesota Society of Architects. He succeeds James M. Fenelon, Hon. AIA, who joined the Octagon staff as assistant to the executive director earlier this year.

The New York Chapter AIA has made an addition to its staff and some changes in titles.

George S. Lewis, AIA, has been named to the new post of director, professional affairs. Margot A. Henkel, who has served for 18 years as executive secretary and also for part of that time as treasurer, has assumed the new title of director for administration and finance.

Previously, the chapter had the position of executive director, a post from which H. Dickson McKenna, AIA, resigned in December to become executive director of the New York State Society of Architects. He succeeded Joseph F. Addonizio, Hon. AIA, who has been named legislative consultant for both the NYSAA, which he joined in 1957, and the New York State Council of Architecture, a state government agency.

Continued on page 38



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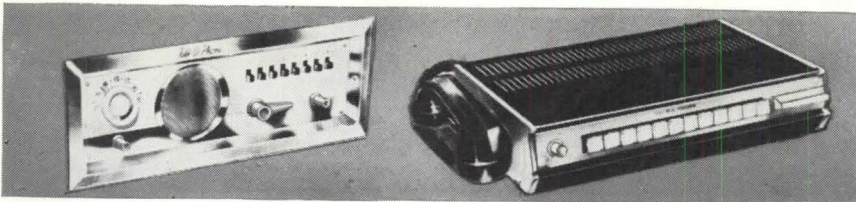
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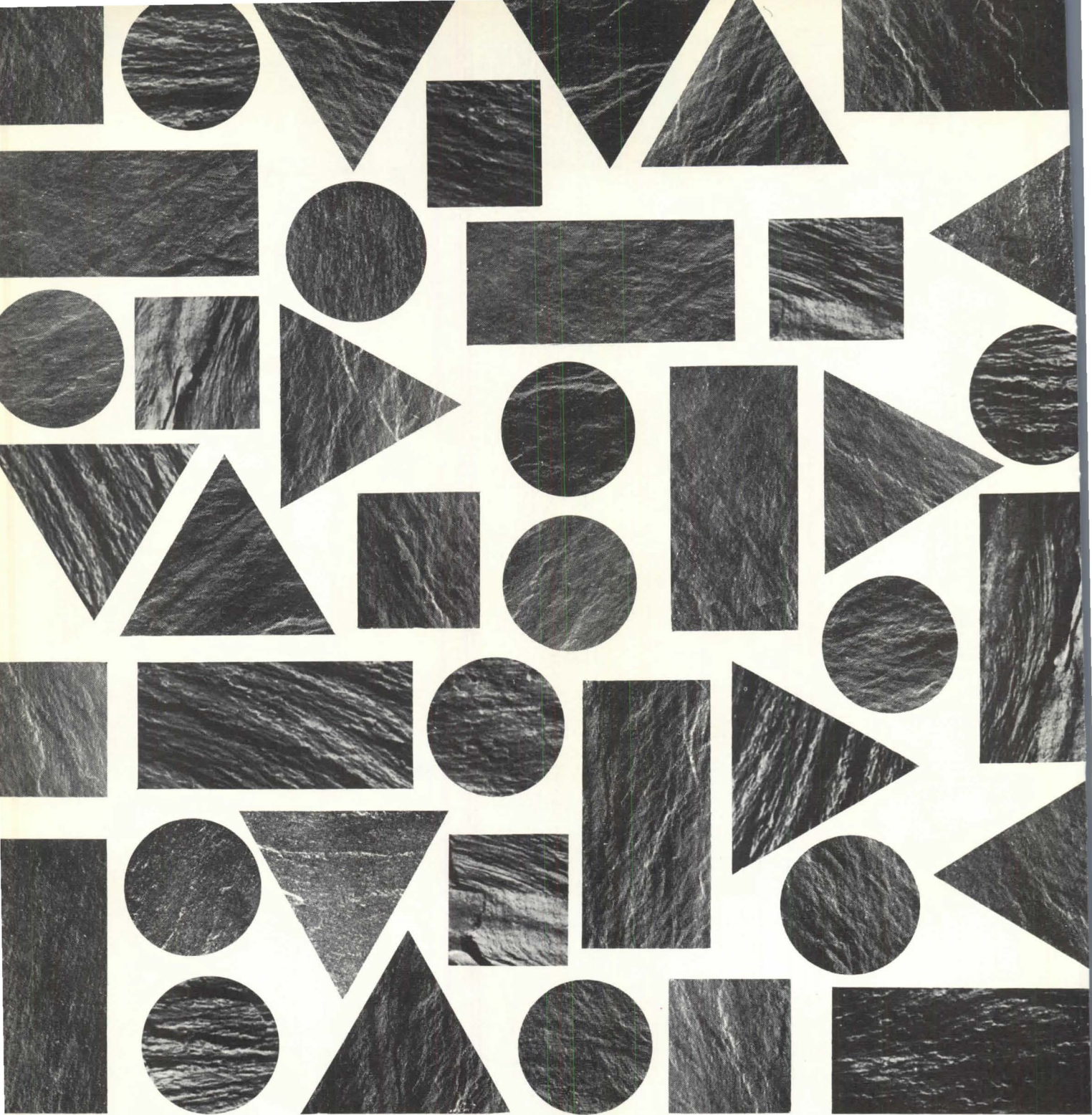
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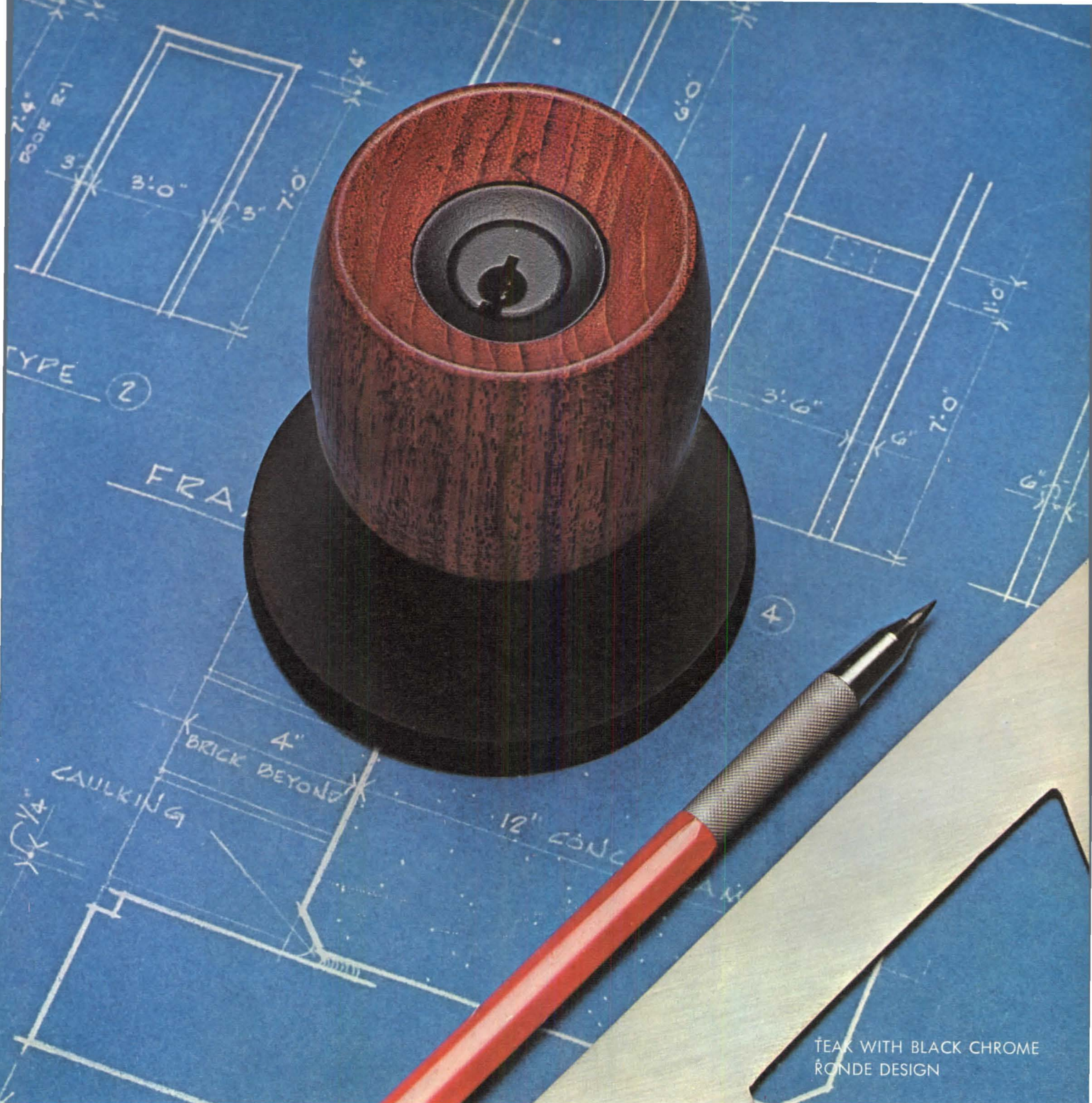
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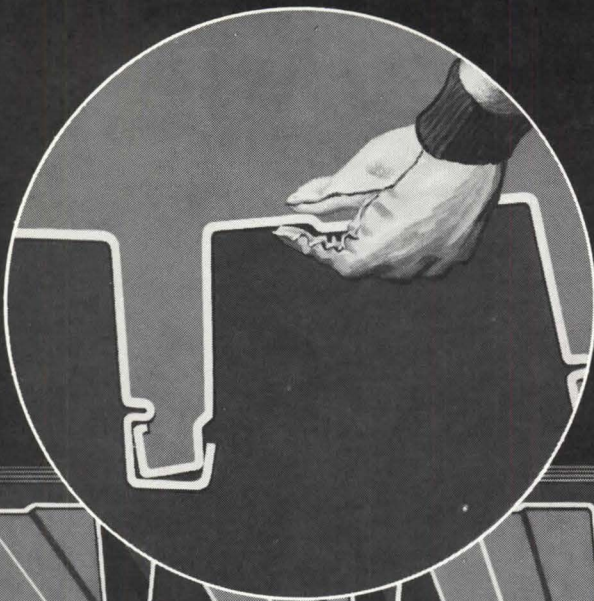
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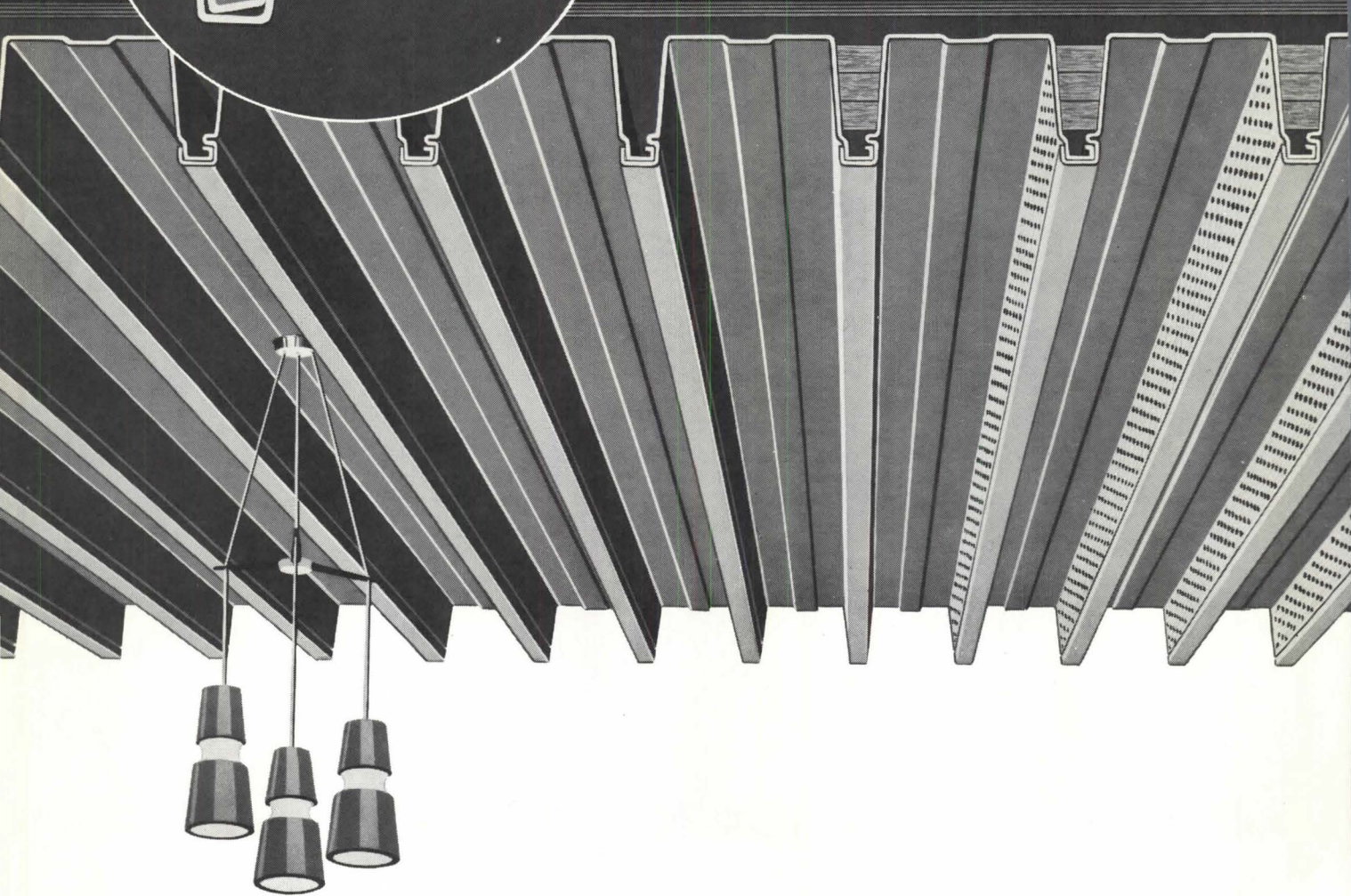
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Death Claims Ben Shahn, AIA Fine Arts Medalist

Ben Shahn, recipient of the AIA Fine Arts Medal in 1966, is dead at 68.

Painter, graphic designer, illustrator and author, Mr. Shahn, who died March 14 in New York City, first gained fame in 1932 with an exhibition of a series of drawings and paintings involving the Sacco and Vanzetti case.

One of his paintings, a watercolor, appeared on the cover of the AIA JOURNAL for September '66.

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PPG Glass helps open up Miami

Mutual of Omaha asked for a dramatic glass wall design for its new building to take full advantage of its view of Biscayne Bay. The architect faced a very difficult design problem: keeping a glass wall building cool in spite of the intense Florida sunshine. He found PPG's *Solarban® Bronze (3) Twindow®* Insulating Glass an excellent solution to both esthetic and engineering requirements. The warm bronze tone of *Solarban Bronze* was selected as a handsome color complement for the building's white concrete columns, and as an extension of the bronze tones of the exterior metals and interior color scheme.



The reflecting qualities of *Solarban* add design interest, help keep the building comfortably cool, and significantly reduce the size and cost of the building's cooling system. The functional and design advantages of PPG Performance Glass have made a larger, better view of Miami both possible and practical.

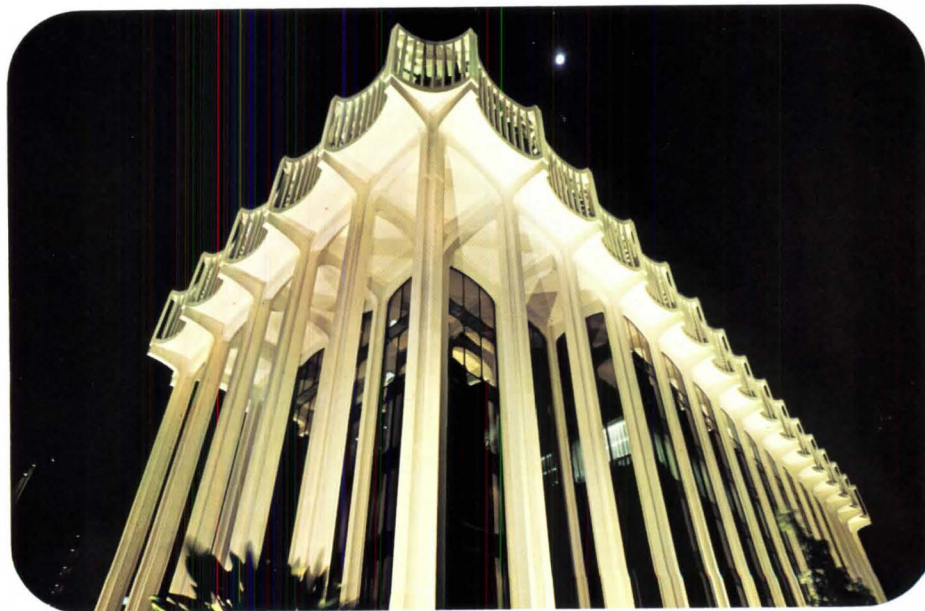
The custom *Twindow* units were fabricated to match exactly the poured-in-place arches. The curves of the window openings correspond with the arches extending from the tops of the building's exterior columns.





With *Solarban Bronze (3)*, sunlight seems only one-eighth as bright to the indoor viewer, an important consideration with light-colored concrete construction in the brilliant Florida sunshine. The bronze hue of these units harmonizes with the warm earth tones selected for the interior decor.

Solarban's reflecting qualities provide a new visual dimension to the building while turning back much of the sun's radiant energy.



Architects for the Mutual of Omaha Regional Home Office found that PPG's Performance Glass solved both their design challenges: it added to the building's beauty while helping to keep it cool efficiently and economically.

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Architect: Houstoun, Albury, Baldwin & H. Maxwell Parish, Miami
Interior Design: Houstoun & Parish, Miami
Consulting Design Architect: Leo A. Daly Co., Omaha
Consulting Engineer: Breiterman, Jurado & Associates, Miami

There's a PPG Performance Glass for every design problem

Mutual of Omaha's consulting engineer states, "This glass, *Solarban Bronze (3)*, permitted us to use the air conditioning system we did. If you want to have an open-building design like this in Florida, you would have to figure it with glass like this."

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UNFINISHED BUSINESS

BY GEORGE E. KASSABAUM, FAIA
Institute President

The Highway Hangup

We have been taken to task in harsh terms for the views on urban highway planning we expressed in the AIA film "Right of Way."

The criticism was expressed editorially in the February, 1969 issue of *Civil Engineering* magazine by William Wisely, and it deserves an answer. The main points of the editorial seem to be these: 1) Our film sharpens the conflict between pro- and anti-highway forces; 2) it engenders interprofessional dissension; and 3) architects lack the professional competence to discuss such things.

On this latter point, the article says that "a critical review of his (the architect's) training and practice provides no support for his expertise outside the aspect of esthetics . . . this hardly qualifies the architect as a major decision maker in the evaluation of modal alternates. . ."

It is useful at this point to recall what the film actually says and shows. It makes the point that freeways in the open countryside are often superb works of design. In the city, too often they have been disruptive and damaging. Yet there are many examples shown that this need not be so.

We point out that urban transportation cannot be considered as an engineering problem. As its effects on people are understood, it becomes a key element of urban design. Urban design requires the skills of interdisciplinary design concept teams capable of using the urban freeway as a generator of good urban form. We do not claim supremacy for either architect or engineer. We make a plea for equal funding for all forms of urban transportation so that cities can choose the kinds of transportation they want and regain control of their destiny.

This is the story. It supplements the resolution adopted unanimously at the 1968 AIA convention in Portland, urging the Congress to create a single national transportation fund and saying that:

"This country's transportation needs cannot be met by the concentration of all transportation re-

sources into a single effort which impoverishes and belittles all other modes of transportation except highways and which is clearly self-defeating and self-destructive."

The film narrative is a continuation of the comments made in speeches by AIA presidents, virtually without exception, over the past decade. Why, then, the fury?

I think there are two reasons. One is that we are becoming more effective in our communications. The second is that the highway lobby has become hypersensitive to criticism. Indeed, considering that urban citizens are protesting highway projects in some 20 American cities, the lobby is beginning to panic over the prospect of losing the golden egg.

As *Forbes* magazine said in its October 1, 1968 issue: "... The fact is, there is public money available for transportation needs, \$5.5 billion in federal money alone, another \$9 billion in state and local money. The only trouble is, it's being spent in a lopsided and basically senseless manner. There is tax money already in hand that could be spent for airports. For mass transit. For speeded-up corridor railroad trains . . . Practically all of the federal government's expenditures are for highways..."

I think it's time we made it clear, to ourselves and to our fellow professionals, just what we stand for.

We are not saying that all architects are the guys in the white hats and all engineers are the guys in the black hats. If the hat fits, wear it. What we are saying, and I expect and hope that AIA will say it loud and clear until there is no need to do otherwise, is this:

1. Unless we can effect reforms in urban highway planning, and very soon, the American city cannot endure as a coherent place to live or work. The transportation system of a community will greatly influence its destiny; it is the skeleton on which the urban form must grow. It is much more than a carrier of cars.

2. The urban freeway has, far too often, been a negative force in our communities. Yet, properly de-

signed, it can serve as a powerful land planning tool, the generator of valid urban form, and a catalyst to linear redevelopment.

3. The design concept team, now at work in Baltimore and Chicago and accepted in principle by the federal government, is the ideal instrument for focusing the talents and skills of a wide range of design professionals and other specialists on meaningful urban development.

Most of our engineer friends know that the architect, with all his warts and flaws, has more to contribute than esthetics. The core of our training is the translation of social needs into three-dimensional design, whether the design scale be an office building, a neighborhood, or the community itself. Architects must participate in the planning of the urban skeleton. Effective urban design is impossible without it.

4. Cities should set up design review committees or development corporations capable of receiving the multipurpose design recommendations of the interdisciplinary team and, equally important, of financing them. A review group composed of the public and private agencies of the community can pool for a single purpose at the local level those federal, state, city and private funds that have traditionally been held apart from each other to build roads or schools or housing or industry.

5. It is dishonest to give lip service to "balanced" transportation when we are spending \$4 billion a year on federally aided highways and the total budget of the federal mass transportation agency is 5 percent of that amount. There aren't, to use the Civil Engineering writer's term, any "modal alternates."

These are our views. We have a responsibility to speak out, to do everything we can to make our communities efficient and liveable. Otherwise, we forfeit the title of professional. So we're speaking out. Even when it causes dissension and rocks the institutional boat. We ask every design professional to join us. □

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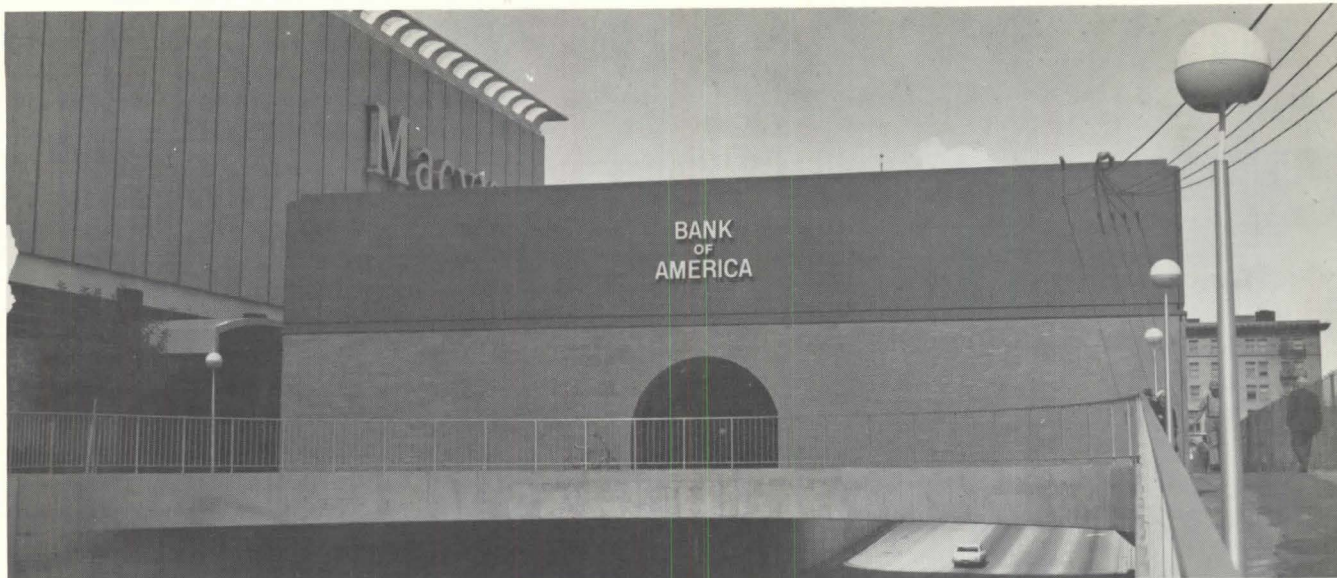
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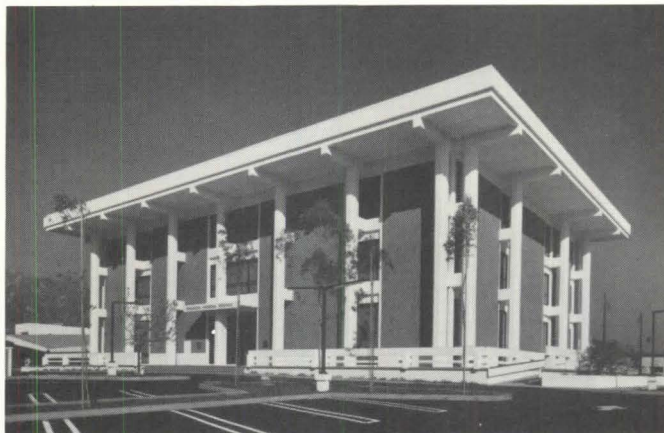
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WITH

WITHOUT

Comment & Opinion: Are you disturbed by all of the questions being raised today? Surely, you expect this from wild-eyed idealists, students and even more radical counterparts who do not understand how your profession is practiced. However, government, industry and your clients are asking the same questions.

Are you still disturbed? These times are disturbing times that are uncertain even to the most solid and secure. As so many have said, we all understand yet most of us have trouble assimilating the changes that are upon us; upon us in the deepest of senses. They have questioned our system of values and, thus, our value priorities.

We hear so much about values, especially human values. What do human values mean to you in your work? Why can't you afford to consider them? You don't have the time? When, by the way, did you last work on housing? When were you last asked to work on housing?

You must find answers to all of these questions, large and small. Priorities have to be reset. Answers can come only through effective communication between each of you and between yourselves and the architectural students. To be effective, though, you must understand the students' point of view.

You must understand their attitudes, and this is why I believe the following three articles are important. One article provides a perspective on radicalism within a cross-section of student opinion. Another is an assertion by a black student leader with an offer to talk, man to man. The third reveals the influence contemporary campus thought is having upon artifact.

In sum, if you are disturbed these articles provide meaningful reading. But they do far more than that; they are significant in both their implied and expressed admonitions and exhortations.

They suggest that you also have to communicate with those outside of your architectural community whether they be users, clients or related professionals. You must become involved with people on a neighborhood level, a national level — on some level. Priorities are waiting to be set. The job is waiting for you. You must act.

You must be able to afford human values. You can become an architect again.

EDWARD C. MATHES
1968-69 Scholar in Residence at the Octagon



'Firsts' of the New Generation

BY JAMES H. DAVIS

It is only natural that future architects reflect a broad continuum of opinion and aspiration, architecture being a discipline encompassing many levels and types of activity, from guys cranking out dingbats to design-philosophers, and from small builder-craftsmen to principals of wealthy architectural empires.

Thus it would be a mistake to seek a consistent view among architectural students. Some are seemingly fearless innovators while others want only the security of an established profession.

We can, however, identify and compare representative viewpoints. For example, students tend to see their architectural *modus operandi* as, say designer-artist or businessman-entrepreneur or

The author: As a graduate industrial designer, Mr. Davis worked in aerospace programs, including manned spacecraft, for five years before deciding that environmental problems were more significant and more interesting. So he entered the University of California at Berkeley where he is a student of architecture.

scientist-technologist. Intersecting these three, but perhaps more important in terms of the profession's future, are three groups of students classified according to their view of change:

Group 1: Those who see their future in the general context of the profession as it is.

Group 2: Those who see themselves in a profession that is changing to meet changing environmental problems, and who see change occurring within the context of our social and economic system.

Group 3: Those who see a profession in need of serious change within a total system that must also be changed. In this case, changes in the profession are only consistent with changes in society at large and may or may not be made from within the system of architecture.

Again, it is important to remember that there is no consistent view. The anxieties and self-doubts that beset architecture as a profession are amplified and exaggerated in its students.

The student by his very candidacy is at an anxious period of his life. But beyond that he is faced with a constantly shifting curriculum in school and extreme uncertainty over what will happen to him upon graduation, an uncertainty stemming from the draft, rumors of limited demand for his services, extremely low pay, 19th century hire-and-fire practices, a questionable apprenticeship program and a questionmark over his acceptance to graduate school.

He is concerned that he is not prepared. He questions the emphasis on product when to him it is process that deserves elevation. He is concerned that *his profession* is not prepared. He sees the elitist esthetic world of the older generation of architects as having failed to purge society of its environmental ills.

The aspirations of the new architect must be considered in the context of these doubts. Now let's discuss briefly the characteristics of the three student groups:

Group 1 represents the majority of the students. The members of this group see themselves filling roles in a profession pretty much as it is at present. This is not to say they have no anxieties about their profession, or find no points of dissatisfaction both within and without architecture. It is to say that in their scheme of things the trouble points are not all that bad.

School is a practical matter for most. Many have a great deal of summer experience in architecture and they take pride in their practicality, their drafting ability and their knowledge of how things really work. They look forward to their graduation, serving their apprenticeship and then moving out into the field of architecture in ways not unlike those of their predecessors.

In the long run, the members of this majority group expect to head their own firms. They ac-

cept technology largely at face value. They regard it as useful and in fact intend to use it as it becomes available to them, although they do not intend to exploit it aggressively. In housing, for example, their interest is generally in present solutions rather than in industrialization.

They are not particularly concerned with politics or social issues. They certainly do not see architecture as a vehicle for changing society.

Generally, I think the people in this group see architecture as a profession making a positive contribution to society and one in which they can achieve a degree of material and social success. In this they are probably not unlike most people going into other professions. However, this does lead to the observation that many in this group are not so much committed to architecture as they are to professional life as such.

In a word, members of this group are realistic.

Group 2 is made up of dissatisfied students who represent a minority but constitute a large group nevertheless. They want to see architecture change and are hopeful that they can help bring change about.

It is important to note that they see this change occurring within the context of our system, not necessarily your professional system but the system of this country. They may not be all that enamoured of the present American way, but neither do they see that way as beyond reform.

Curiously, although they may not care about the preservation of the profession, as a group they are the most turned on by the *act* of architecture. They are dedicated to it. Perhaps this is because their commitment is more to the environment as a place for man than to the business of buildings.

Typically they feel the architectural profession is not responsive to the real problems of our time. They see its political activity as limited to lobbying for its own self-aggrandizement. With but isolated exceptions, architecture is concerned with monuments, large-budget buildings and an elitist estheticism, in their view.

"I'll do what I think is important — maybe housing and schools — in a way that I think they must be done, even though I may not be called an architect," is a comment that plausibly could come from them. They express the feeling that it is the task that is important, not the title. The dissatisfactions they register are generally known and are probably held by many practicing architects. It is pointless to catalog them all here.

More importantly, what solutions do they have for the problems they cite? There are probably no end of suggestions as to what architects ought to do: assume more responsibility; emphasize the process of planning and design, not the product or artifact; *stress software over hardware*;

assume a more realistic posture as a member of the team; etc. etc.

But three suggestions stand out:

1. Architects are too passive and must get off dead center if they want to become a viable element in helping to mold society. That is, they can no longer sit back and wait for the client to walk through the door nor be content with hustling jobs which owe their genesis to others.

They must organize new work in areas they feel need attention. This means organizing and finding clients, money, producers; clearing the way through unions, politics and whatever. It is more than the "leader of the team" concept.

2. Architects must recognize that their discipline is but one of many involved in the creation of better environments. They must realize that the process of creation is more important than the product, a process involving not only technical, design, economic, social and psychological specialties but the competencies of the user groups as well.

3. Architects must prepare themselves to meet impending change. Most change in the environment is created by business, public agencies, political pressure groups, etc., not by architects. Nevertheless, change is upon us and if architects are not prepared they will be left on the fringe to whip up little fetishes of cultural delight.

Again, there is no end to the notion of what should be done: Politics! Computers! Advocacy design and planning! Tech(carefully)nology!

Well, how will they do it? How will they change? What is the personal course of action contemplated by these future architects to realize their aspirations?

There seems to be little or no specific idea as to how any of this might be brought about. Invariably, everyone intends to follow the accepted course; do their internship and get their licenses. Nothing radical here.

In discussion, their lack of specific ideas for action becomes more understandable. While being aware of general problems in the profession, they are not familiar with its structure, the specific causes and cases and what specific ways may be found to confront them. Perhaps more importantly, their education does not prepare them to analyze or deal with such problems. They are product-oriented, *not process-oriented*.

Are they naive? Yes. Are they idealistic? Yes. And they can already hear the established professionals saying, for example, "There is nothing new in this. Every new generation is idealistic and ready for change, but they know nothing of the realities of professional life — what it means to meet a payroll."

At any rate, there would seem little to expect from — or to fear from — a group so lacking in

plan, no matter how zealous in belief. Probably, too, some are not so committed to what they now advocate so freely.

For these new architects, however, this does not rationalize the deficiencies or right the wrongs; architecture must change. Their beliefs must be considered in light of two supremely important points:

1. Through the bombardment of self-criticism, this is *the first small group* (of the first generation) to break through the stereotype of the architect as designer and principal of his own office.
2. Because of their material security, perhaps, they are the first who, as a group, are willing to place themselves where they can work at architecture in a way they think will accomplish needed changes; that is, through such instruments as public agencies, corporations and interdisciplinary teams.

Group 3 is very small in number and shares many of the beliefs of the second group, with one basic exception: Change in architecture must come as a part of change in society as a whole.

It is only natural that they believe architects must become politicised; in fact, become political activists in order to take their place in the social upheaval that is upon us. In a word, they demand that architects assume full citizenship — and, to be sure, radical citizenship.

The aspirations of this group's members are simple and direct in concept, complicated in application. Many hope to earn their living as architects and they generally intend to combine their radicalism with their architecture. Their immediate goal is a dedication to action. They are *in action* and they promise *more action*, whether organizing fellow students or demonstrating at Pratt or seizing a building at Columbia or organizing advocacy planning and design such as Urban Deadline at Columbia.

The action or the process is the thing. In terms of long-range aspirations they are distinctly distrustful of the profession. They relate far more to just plain people.

There is also a strong tendency on the part of this group to distrust technology. Technology alone or technology so esteemed as to cause the *subordination* of human considerations is seen as a threat to humanity — as posing a cure more lethal than the malady.

Again, the size of this group seems very small. But I think its existence is significant, for architecture particularly, because this group can't even be found in most other professions. Remember, the only profession represented as such at the Columbia revolt was architecture.

I hope this is a realistic look at the aspirations of the new architect and of the way he links him-

self to his profession and society. But there is more to say.

I believe it is valuable to consider the background of his viewpoints more closely; particularly that of Groups 2 and 3 because members of these groups correspond very closely to the fore-runner classification developed by *Fortune* magazine's issue on American Youth (January 1969). That is, I believe attitudes toward society and their profession will become more prevalent in the years ahead.

Architecture has been bombarded with devastating criticism for some time, from both within and without. The two strengths for which it is most highly praised — the architect as generalist, the architect as artist — have been its greatest weaknesses in the eyes of its critics.

"The architect by definition is a planner and coordinator . . . In the explosion of the scale and complexity of the modern man-made environment he is the pivotal figure and the most severely tested. But he is not surviving this test . . . The present-day architect is an anachronism, he is employed to design only about 15 percent of all the construction carried out in the United States and much of that is caprice. Yet the profession survives and in fact thrives. The public is glad to support the architect, to pay him large sums for abstruse expressions of his own individuality. But only in certain cases. Wealthy people employ him to create strange dwellings. Corporations concerned with their public image will hire him to design their in-town administrative offices (but not their factories). Foundations, to demonstrate their public enlightenment, will commission him with balconied offices of rough, rusted steel. The public believes that his artistry is architecture and that factories or housing projects are unfortunate evils." (Stuber-Van Zanten, *Connection*, Winter-Spring 1969.)

More. An overwhelming amount of hardware is not all that the technological revolution has brought the architect. The increasing wealth and rising expectations that have been created by it have also created a pluralistic age when no explicit, whole philosophy is shared by all. This has placed architecture squarely in the market place, in the opinion and the cultural situation of the moment. This is realistic and honest; for that is exactly where it has always been. The form of a building is always shaped by the climate of opinion, but now there are many opinions with money to pay for them.

Architects, however, have been trained in a heroic tradition of architecture — a Promethean tradition of Wright or Mies or Corbu in which a work declares its utter independence. It is absolute, final, once and for all. It is a prototype meant to be perfected and repeated.

More. From both the English tradition of Morris and Ruskin and the European tradition symbolized by the Bauhaus, the modern architect has had a long intellectual tradition that esthetics could re-order society and cure its ills.

However, it finally became clear that the main result of all this had been a new esthetic to replace the old, and that the social, technical and environmental problems were still here and getting worse. The ills of society were not about to shrink in the name of beauty. This has thrown architectural education into a quandary. The educators see the irrelevance of their own education and, convinced that they cannot pass on such anachronistic dogma, have thrown it out. Conversely, they have found no complete design theory to replace it and so this generation of architects becomes the first to be educated without benefit of dogma.

Perhaps for the same reasons, I believe this is also the first generation of modern architects without heroes. There is little talk of Wright, Corbu or Mies. Perhaps Alvar Aalto or Buckminster Fuller are occasionally mentioned with admiration, but that is all. Instead, young people seem to improvise or formulate rules for a given situation, if anything relying on architecture's tradition of humanism. The situation for heroes, for those noted as forerunners, is not good. The cult of the great architect-personality is out. A Paul Goodman or Che Guevara (for the more radical) is in. After all, the heroic figures of modern architecture were really men of the 19th century. For a new black architect, what would any of these people have to say in comparison with Malcolm X?

All of this, I feel, may foretell far-reaching effects on architecture. To illustrate, let me refer you to the "What's Wrong with Architectural Education?" presentation in the July-August 1968 *Architectural Forum*. A student, two recent students and a dean spend five pages giving architecture its lumps. Then Sibyl Moholy-Nagy, with her razor wit, counters, "The denounced 'static results' of the architectural process are all around us. . . . The clients of these solitary monuments hired architects as leaders and coordinators of the team; whether the self-castrated generation calls this a 'self-deluding image' or anything else." Here, a fellow of the revolutionary Bauhaus has, in only 40 years, become a de Toqueville.

There is more. It is not a clean jump from Professor Moholy-Nagy to those (aspiring architects) struggling and identifying with the future. There is another division — the young professionals and instructors. They know that Professor Moholy-Nagy is wrong. They were weaned on her philosophy and it is their generation that the truth of its falsity fell full upon.

Roger Montgomery, AIA, responded to Sibyl Moholy-Nagy in a later issue of the magazine, writing: "The impossibility of communication across the (generation) gap needs no better demonstration than Professor Moholy-Nagy's choice of monuments: Guernica, Rite of Spring and the Ford Foundation Building. Can she really believe these excite anyone today but an art historian?"

The giveaway, however, appears in their choice of monuments. Henry C. K. Liu, in an article bursting with the full electro-pop, McLuhan-turn-on ZAP, wrote: "Students should, as part of their formal education, visit establishments such as Cape Kennedy, Strategic Air Command's Headquarters at Omaha and the prototypical urban centers around the world. Seminars held on board supersonic transports are a form of media experimentation." (*Connection*, Winter-Spring 1968.) They have lost the Bauhaus, but they found *technology* and they found *McLuhan* — and these seem to have been accepted as definition of what is rational/real.

We do live in that state of accelerated change that these young professionals and instructors so joyously revel in, but it may be more accelerated than even they at present realize. They may soon again find themselves holding an empty bag. First of all, this new generation is McLuhan men. McLuhan is no prophet to them; they live that life every day. Secondly, technology is only a thing to be used. The monuments of Liu's generation are, to the new architects, the very symbols of what is wrong in our environment.

Let us step back to put the whole thing into perspective. We have just been discussing a small portion of aspiring architects. But remember, architectural students are in general not really very radical or change-conscious. They will reflect the mix of the student population as a whole. They are probably even a bit more conservative, being pre-professionals. For the most part they are realistic. There is, however, a substantial core of independent advocates and radicals and they seem to set the pace for the future.

Finally, it seems to me that this new generation of architects has four firsts to its credit. The first two are common to all groups, no matter what their attitudes to change:

1. First generation of modern architects to be educated without heroes.
2. First generation of modern architects to be educated without benefit of dogma or an all-encompassing theory of design.
3. First generation of architects to break out of the traditional stereotype of the architect as designer and principal of his own office.
4. First generation to take the risks entailed in following their ideas and principles into forming new areas of professional activity. □

WITH DESIRE

WITHOUT DOGMA
WITHOUT HEROES

WITH COMMITMENT

'We Are What You Have Made Us'

BY TAYLOR CULVER

In a moon-looping, heart-switching time of technical excellence it seems reasonable to me to ask the world's most advanced nation to direct some of its scintillating intelligence toward the human problems that confront it. Problems that most pointedly confront the nation's humanist architectural community.

Problems such as equality: Until now we have never asked the fathers of the architectural community to engage in the struggle for equality for all the people of the United States — equality in the sense that everyone be allowed to live in a decent home, to work at a decent job and, above all, to pursue those activities which enable him to grow as a human being.

This area of concern is not exactly architectural; but neither are the more important problems architectural. I know that many professionals will say that I'm a student who's off on

The author: Mr. Culver, president of the Association of Student Chapters, AIA, was invited by the editors to express his views. He is 24, black, a resident of East Orange, New Jersey, and is in the fourth year of architecture at Howard University.

the wrong foot in even speaking of solving human problems through our profession. Or, if our skill should happen to be seen as pertinent, many will insist that the "professionals" or the "registered" or the "recognized and experienced" be appointed to handle matters of such great magnitude. But it is my contention that we can hardly expect those who have helped create the problem to work earnestly to solve it.

"Human values" are key words with the students. They are the words on which students the world over want to base their society. Not on size of commission, but on depth of commitment.

I realize that most students ignore the many and blatant failures of our present societal sys-

tem and seek only to find within that system a niche for themselves. Some are, in addition, content with the present system of architecture. Others would change the system of architecture and in fact see that system in change. Of course it is changing — and so is the KKK — and both are changing within the same framework. We must do more than work for meaningful architecture; we must fight negating systems and change the framework that allows such systems to flourish.

Developments in our system of society and our system of architecture go hand in hand. Architecture is not something apart. It is a means and not an end. It is either a tool in society's servitude or a lever to move society.

The profession has at its roots an unstated racist doctrine and must clean its own house before it can lead others. By an unstated racist doctrine I mean that for years it has been understood that black architects and draftsmen be kept in the back room away from clients. Black students have been discouraged from entering the profession, and when they did persevere they had little chance for a position and no chance for promotion. Out of 30,000 architects in this country there are approximately 250 black architects, hardly a balanced or proportioned representation. Admittedly, this type of action is a result of the society in which we live, but the profession has not been vehement in its efforts to correct this situation. And we as students, if we are to bring about change, cannot be hung up on architecture as the only front on which to fight. We must fight on all fronts.

Today it is no longer enough to be committed to the client. The architect must first be committed to those who are to inhabit his edifice — the people. I hesitate to use the term "the people" because it has become so fashionable even the enemy now uses it.

By the enemy I mean he who knowingly stands in the way of the development of another

human being seeking to become a working part of the materially richest nation in the world. He can't be recognized physically because he comes in all sizes and shapes. He speaks of commitment in the sense of contributing to the NAACP, of involvement as "one of my best friends is . . ." He's white, red, yellow and even black. He speaks of change as in "change the liquor law" or "change the voting age."

When we students speak of change we speak of an attitudinal change, a change in values and a change in priorities — a change so drastic that we as a country would no longer send astronauts to the moon in a perfectly heated capsule and yet not have the capacity to heat an apartment to prevent a baby's death.

President Nixon asked for the nation to stop shouting so that our words could be heard as well as our voices. Well, it seems to me that architects haven't been even whispering. This doesn't go for everyone, but it does sum up our profession as I see it.

Although the situation with regard to student-professional relations looks bad at the moment, it is not hopeless. There are men like George Kassabaum who fight for many of the things that students believe in. But the current AIA president is just one man, not a profession.

One of the complaints mouthed by all architects is that "the architect is not a part of the decision-making process. He's called in too late." The reason we are not part of this process is that we have no people power. That is, we do not align ourselves with the needs and aspirations of the people; we are more likely to be part of the invading, alien enemy.

Not being of the elitist monetary class, most people do not know our function, and if we continue on our present course need never know. Architects have not been involved with the needs of the working class or of the out-of-work class. We have allowed our egos to separate us on a calibrated scale of status from those who need us most.

Students and young graduates are fast becoming a strong voice on the architecture of the future. We will inherit the profession of tomorrow. No longer will we stand back and watch our profession be molded with an inviable cast; we who make up the profession will give it its shape.

We as students wish to act upon the problems that are plaguing our cities, from housing to the political processes of community, state and country. Architects must redefine their role, we believe, and no longer think of themselves as master builders and omniscient creators. We students wish to work within a framework dedicated to action, remembering at all times that motion does not necessarily signify action.



I believe that architects should be the leaders of the fight against those factors which nourish blight. Because of the complexity of the problem there will be more and more design teams formed. The architect need not be the team captain but he must be an integral part of that team.

I believe advocacy planning is something that is very much a part of young architects and students. It has added a dimension to architectural practice which many welcome.

Speaking to the issue of political stands, I believe a group of professionals, or any other

group, should have at this crucial time in our history a political program. The conditions under which some people are forced to live are not accidental; they are the result of political factors.

The theme of last year's Student Forum was this: "If you're not part of the solution, you're part of the problem." I believe this is very fitting to many situations, especially in the context of urban problems. We have had a great deal of complaining and rock-throwing but little help in solution-finding.

There are those, of course, who will engage



in what I call "talk-a-thons," but to be vocal about our problems is not enough. It takes some commitment to overtime effort — and I say overtime because we all recognize that the 9 to 5 hours belong to "the man."

The problems we face as architects — and, more importantly, as citizens — are of a cancerous nature. If not arrested, they will continue to grow until they conquer the body within which they insidiously reside.

To try to sum up a standard student position on education, communication, hypocrisy, human value decisions and the hundreds of other inconsistent areas of our time would be virtually impossible. There are just as many positions as there are students. But there are some things on which we definitely concur.

I believe that students of architecture as well as students throughout the world, whatever their field, are asking only to be regarded as coequals as men to the professors and administrators and the other perpetuators of the system of today. For too long we have been looked down upon.

Architectural students realize their limitations and shortcomings. We don't challenge you as a profession on the design of your buildings. We are asking for something involving more than buildings — something involving people!

Some of our requests are somewhat impractical, maybe, but why have you in your practicality failed to solve our socially criminal problems? We are asking that you, we, become exercised over our duties to our fellow man.

Our position on solving the problems of the cities with the guidance of their inhabitants is a healthy one. The past has not employed this method and the results are obvious.

The most important issue that I wish to bring to the profession is that we as one group of students are not just mudslinging but rather are acutely aware of some problems that we feel need solving, and we are willing to work with *anyone* who wants to solve them.

The AIA recently supported, financially and spiritually, a proposed venture aimed at the building of some housing units in Washington, D. C. This project will be jointly done by students and architects from the first blueprint to the last brick. This is the type of joint effort that is necessary to seed change of the magnitude that we all want. Students cannot bring about the changes alone. We need the profession, and the profession cannot sustain itself without us. Let's talk to one another as men, not as groups.

The AIA convention next month will give us a chance to do this. Let's not allow this chance to escape us. And to critics of students the world over: "We are what you have made us." □

Products of a Social Consciousness

The social consciousness that marks so much of the thinking on the nation's campuses today is reflected in the works of top competitors for the 1969 Reynolds Aluminum Prize for Architectural Students. The jury said the program's entries expressed "one very important aspect in architectural education today. This is the growing importance of industrial technology to the architecture of the future."

Jurors found this to be so in the case of all designs reaching final-phase consideration. They also found a second aspect shared by the finalists:

"Their selection of subjects devoted a considerable amount of thought to the problems that face us today in the social order and in the environment."

A number of entries, it was noted, revealed student concern for the provision of several types of environmental facilities for low income families through the use of industrialized technology.

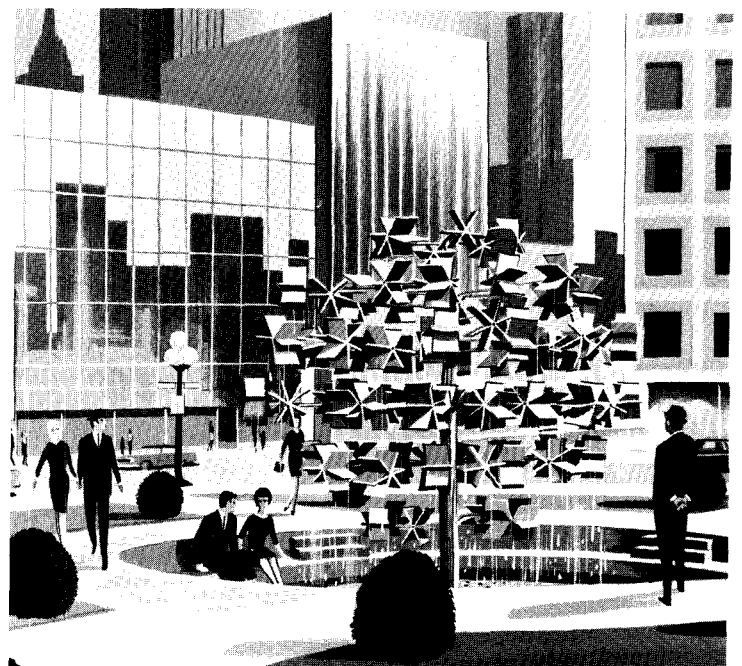
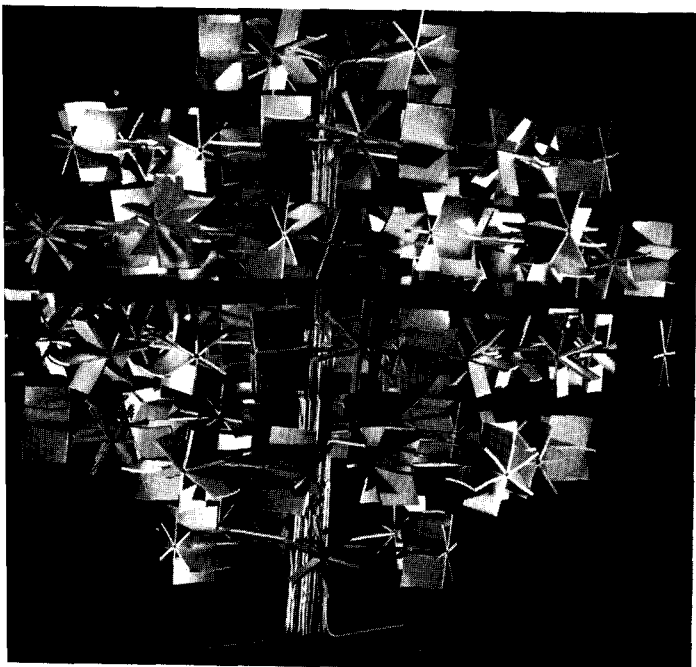
Although the better ones in the opinion of the jurors indicated serious effort to think through the details of an industrial concept, others did

not and thus were eliminated, said the jury, adding:

"Several well-worked-out structural concepts were reminiscent of early efforts at prefabrication 20 years ago, when it seemed impossible to break free from old structural ideas which use too many parts and pieces. The newer attempts are in the direction of large components adaptable to entirely new population techniques."

The jury, with entries from 21 schools of architecture to assess for "the best original design in which creative use of aluminum is an important contributing factor," selected three entries for cash awards and two others for noncash Honorable Mentions. In addition, two submissions were praised as "very interesting" and "very imaginative."

The jury, made up of Institute Fellows Preston M. Bolton, the chairman, Sidney L. Katz and William H. Scheick, selected as best of the field a "Soundfountain" designed to help ease the problem of urban noise while beautifying the cityscape. The first prize carries with it a \$5,000



award to be shared by the student, Gerald D. Runkle, and his school, Ohio State University — the latter having now shared in the first prize in three of the nine years that the competition has been held.

Soundfountain, while employing industrialized technology, represented “an esthetic contribution to the public scene” in the eyes of the jurors, who commented:

“This aspect of social environment is all too often neglected in our efforts to improve the deteriorated areas of our cities as well as the more affluent developments.

“This project showed that by an ingenious combination of simple forms manufactured with aluminum, a playful and exciting freedom is developed which, when water is introduced into it and through its various petal-like components, produces a variety of sounds to create in effect a total sight and sound experience. With today’s interest in small parks to enhance our neighborhoods, the elements that contribute to the esthetic delight in these open leisure areas are considered of great importance.”

Selected first for Honorable Mention was “Living Unit for One,” a shelter for vagrants or migrants, by Hal M. Moseley Jr., Cranbrook Academy of Art. A shelter restricted to one occupant was regarded by the jurors as a unique need in today’s living experience.

“The specific need for this building type varies, of course, throughout the country and is strongest where the problems of vagrancy and transient workers occur,” the jurors remarked. “It is a problem that has rarely been solved in this sensitive manner. While the living space was criticized because of its extremely tight and

claustrophobic aspect, all of the jurors agreed that the total considerations and possibilities evolved made it worthy of this award.”

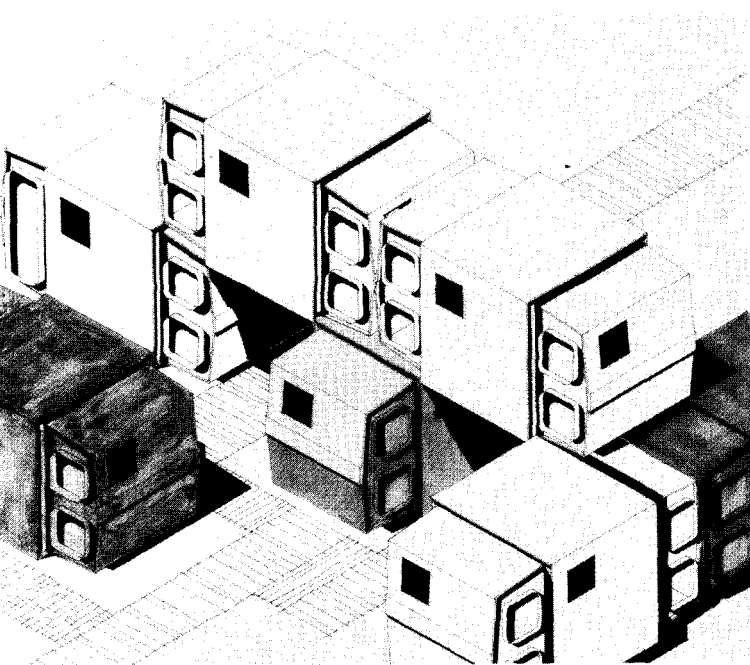
Also selected for Honorable Mention was “Mobile Migrant School,” the submission of Mark W. Vande of Massachusetts Institute of Technology. Jurors were impressed with the project’s specific relationship to industrial technology but faulted it for its similarity to other solutions in recent years.

They declared, however, that “despite the criticism, all agreed to the worth of the concept of a total mechanical core which holds the unit together and permits it to expand, making it adaptable to the uses indicated by the student (primarily as a school) including the possibility of its use in future residential construction.” The jury also felt that with further study “this project might develop as a prototype in the industrial production of houses.”

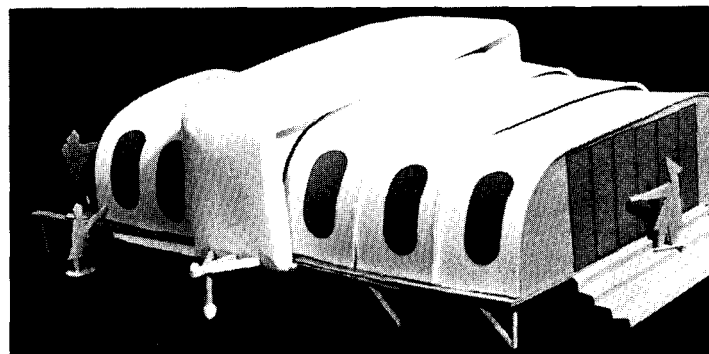
The two first Honorable Mentions each carried a \$1,000 award to be shared by the students and their schools. Two other projects were given noncash Honorable Awards.

They were “Zip! A Shelter,” an easily erected and moved shelter featuring a structural zippered technique, the work of Jon C. Crowder, University of Arizona; and “Low Income Housing and Community Developmental System,” by Roger Blair Macon, Kent State University.

Cited as “a very interesting solution” was the “Aluminized Plastic Sleeping Bag” of Mrs. Jerrily R. Kress, Montana State University. The jury also noted that “a very imaginative presentation” was made by Dennis Kimura and Norman Hong, University of Hawaii, under the title, “Modulated Aluminum Components.” □



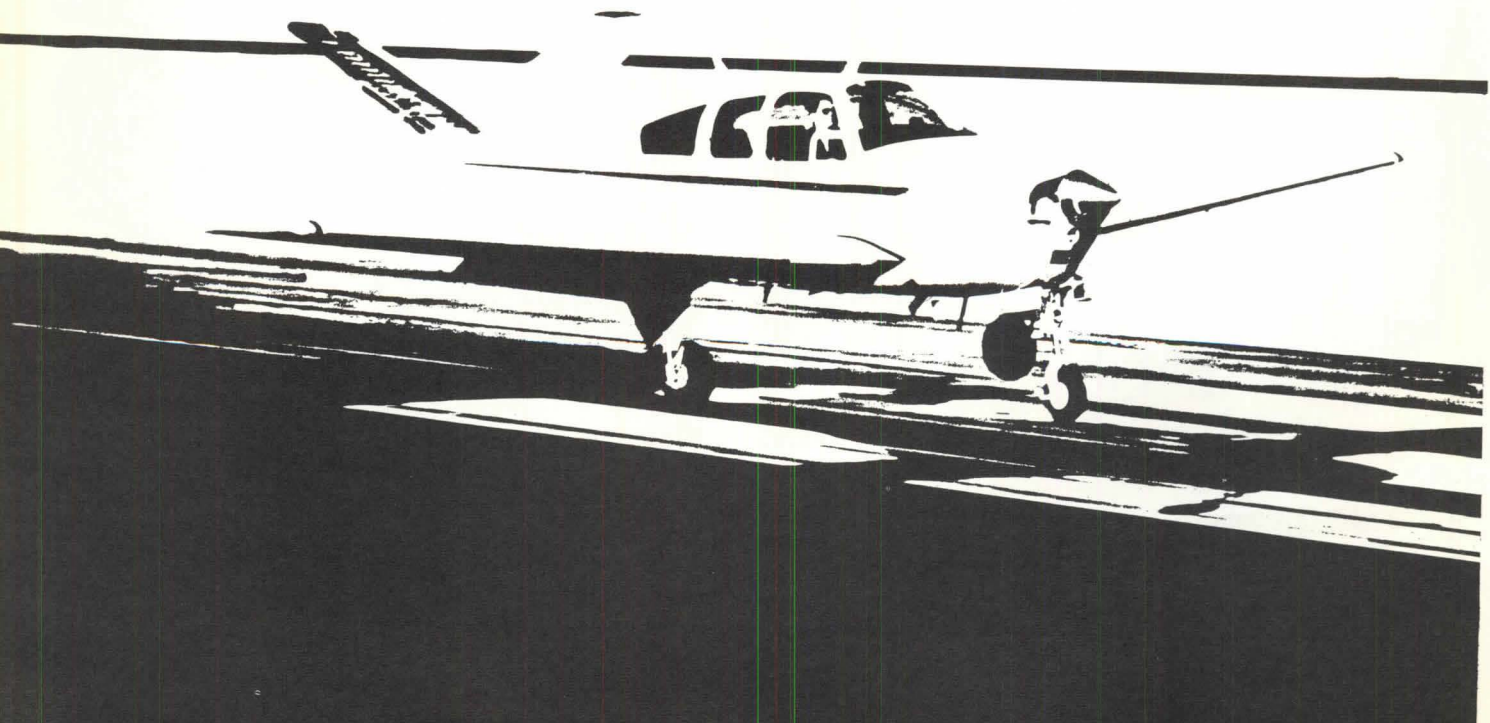
From left, “Soundfountain,” winner of the Reynolds Aluminum Prize for Architectural Students, and the two projects receiving Honorable Mentions in the 1969 program — “Living Unit for One,” which is shown in stacked multiple, and “Mobile Migrant School.” The jury termed the winning design with its noise-making water action “a total sight and sound experience.” It is the work of Ohio State University student Gerald D. Runkle. The living unit for vagrants is by Hal M. Moseley Jr., Cranbrook Academy of Art, and the mobile migrant school by Mark W. Vande, Massachusetts Institute of Technology.



A Practice Tool Named Juliet

BY JAMES L. HAECKER, AIA

*Decreased travel time
and increased mobility can often
be gained through the use
in practice of small, private
aircraft, suggests the author,
himself a private pilot
and owner of a 23-year-old
lightweight that cruises at a
breathtaking 75 miles per hour.
Mr. Haecker, director of
Research Programs,
The American Institute
of Architects, would like to
hear from architects who
use private aircraft
in their practices.*



It had been a good, productive day. The sun was now well inclined toward a flanking position and down below was Manassas, Virginia. "Dulles Approach Control: This is Cherokee 2525 Juliet at 4,000 over Manassas, landing Dulles. Over." A key tool of an architect's practice was about to be set down.

The single-engine aircraft had begun the day with an 8:00 a.m. takeoff from Dulles, the international airport outside of Washington, D. C. Two hours and 15 minutes later it was on ground 312 miles away, in an area reachable by other travel modes only through an inordinate investment of time.

Representatives of the building committee were waiting at the little airfield, and 13 minutes later the architect was unrolling site plan preliminaries. He was two minutes early for a 10:30 a.m. meeting in spite of a last-minute aerial check of the site.

To have driven to this particular destination—not New York or Chicago or Los Angeles but one of the countless Resume Speeds that dot this nation—would have meant a day on the road. Commercial air? Even more time-consuming because of a restricted flight schedule, layover time and some 60 miles of rental car travel to complete the trip. Rail connections were non-existent and bus prospects were

somewhere between poor and hopeless.

His meeting with the building committee continued through lunch and ran well into the afternoon, up until the moment he stepped out of the car and into his airplane.

Now he was all but home. He had wound up his back-and-forth with approach control and was talking with the Dulles control tower:

"Dulles Tower: This is Cherokee 2525 Juliet on one-half mile final, landing Runway 1 right, over—."

"2525 Juliet this is Dulles Tower. You are clear to land. Contact Dulles Ground Control 120.1."

It was 5:20 p.m. on a good and productive day, but a day that could have been every bit as good had our architect's meeting been in one of the metropolitan areas so amply served by the airlines. Such areas hardly blanket the nation, however. While it is true that the airlines serve more than 500 airports, it is also true that most of their service is concentrated on 22 metropolitan centers.

If an architect's practice is confined to metropolitan centers the obvious travel solution is to fly commercial. But if his practice takes him elsewhere, it is wise to make some comparisons.

It is then time to weigh alternatives including, along with the more visible ones of rail, bus and

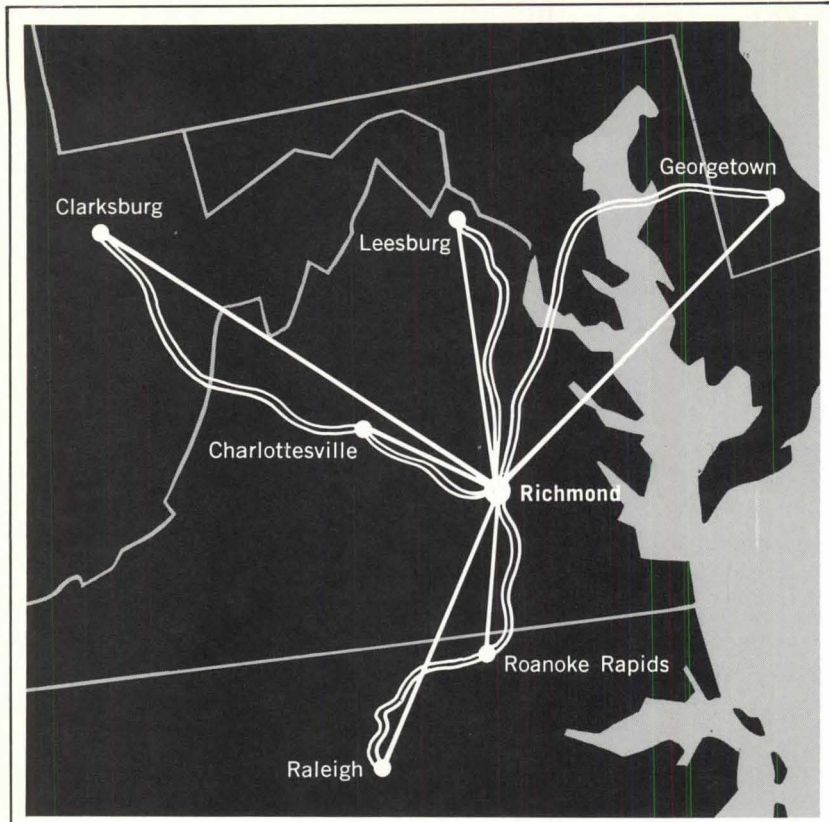
auto, the use of private or corporate aircraft. For reasons unknown to me, the latter is an option all too frequently overlooked by the architect.

There are in the United States more than 10,000 airports which are not served by scheduled airline flights but which are available to the light plane user. Remembering that there are something over 500 airports served in one form or another by the airlines, it is readily seen that the private flyer's mobility and opportunity for efficient rapid transportation is increased twentyfold.

To see the lopsided ratio in more digestible geographic terms, take the state of Ohio for example. Along with its 12 airliner-served airports, Ohio has more than 400 facilities available to the light plane.

Assume, now, that you are one of two principals in a 15-man firm and just to vary the geography let's place your office in Richmond, Virginia. You have 10 jobs in various phases of completion and you expect the volume of your work to remain relatively constant over the coming year.

Let's assume further that five of your jobs are located in and around Richmond while the other five are in Charlottesville, Fredericksburg and Leesburg along with the North



ROUND TRIP ROAD AND AIR COMPARISONS

Mileage, from Richmond, Va.		Time, from Richmond, Va.			
	ROAD	AIR	ROAD	AIR	
Leesburg, Va.	250	210	Leesburg, Va.	5 h. 0 m.	1 h. 28 m.
Georgetown, Dela.	392	270	Georgetown, Dela.	7 h. 40 m.	1 h. 54 m.
Raleigh, N. C.	292	260	Raleigh, N. C.	5 h. 54 m.	1 h. 50 m.
Charlottesville, Va	176	130	Charlottesville, Va.	2 h. 20 m.	55 m.
Clarksburg, W. Va.	558	390	Clarksburg, W. Va.	11 h. 0 m.	2 h. 40 m.
Roanoke Rapids, N. C.	164	152	Roanoke Rapids, N. C.	3 h. 16 m.	1 h. 12 m.

Time based on average auto speed of 50 mph, average aircraft cruising speed of 143 mph.

Carolina communities of Raleigh and Roanoke Rapids.

The accompanying table and map indicate the geographic relationships of the communities and a mileage/time comparison between auto and aircraft modes.

What may be more important to the practice of architecture than the sheer savings in time as shown by the table, however, is the factor of mobility. Private aircraft places the architect in the appropriate place at the appropriate time — sometimes the critical time.

Mobility allows the architect to increase the quality of his services through more on-site construction supervision, more frequent visits with his client, etc.

While increasing the quality of basic services, mobility also provides an opportunity to expand the scope of practice. Opportunities once unexploited because they required too much time away from the office can now be considered.

This increased scope can be in the form of more consulting contacts, greater research activity which heretofore required extended periods away from the office, and increased collaboration with other firms to offer amalgamated services both within the practice of architecture as we know it today and with disciplines of emergent relevance to architecture.

Most architects want a healthy growth for their practices in order

to enjoy increased revenues and a higher degree of capitalization along with an extension of overall capabilities in the professional world.

There are several approaches to take to achieve this desire. Assuming that the present profit margin remains constant, we can increase the number of our clients and by doing so increase our gross income. Assuming a constant growth rate, we can increase our efficiency and obtain a corresponding increase in profits.

By itself, either of these approaches is less than optimal and will fall short of reaching our objectives. The soundest approach is a combination of the two, i.e., an increase in the number and diversity of clients and a concurrent increase in office efficiency.

Mobility, in this connection, can be a vital requirement. It allows the architect to make more client contacts in more remote locations and to broaden the types of clients and projects with which he deals.

It contributes to the efficient management of key personnel by minimizing travel and unproductive time and strengthening the interaction of these personnel with their counterparts in client organizations.

The mobility afforded by private and corporate aircraft is free of the limitations in both the schedules and the routes of the airliners. Private flying is, in most instances, the most expeditious way to travel.

But it is open to only a qualified few, far too few in light of its ease, availability and economic advantages.

All that's required for this mode of travel is a private pilot's license and this can be obtained with relative ease. In all probability there is a facility within a 30-minute drive of your office that will provide the training, equipment and materials necessary.

The total cost of instruction leading to a pilot's license varies according to location but in general runs between \$700 and \$850. This includes approximately 40 hours of flight instruction.

How do you get started? It's really quite easy. You can check the yellow pages of your phone book to find an airport within convenient distance of your home or office. Every airport has instructors who give approved flight training courses. Most are responsible, courteous and eager to help.

The early part of training is entirely dual instruction in which you

are taught control of the aircraft, takeoff and landing techniques and basic flight maneuvers such as stalls, emergency procedures, climbing and descending, turns and coordination maneuvers. (A "stall," by the way, has nothing to do with whether the engine is working; it is a maneuver.) After about eight hours of dual instruction you will be ready to solo, before which, by the way, you will have had a medical exam to make sure that you have no problems which would interfere with your ability to fly.

Soloing is a memorable experience. Every pilot I have ever talked with remembers his first solo flight in detail. I can recall mine, vividly.

My instructor asked me to taxi over to the edge of a runway and stop—we had been practicing takeoffs and landings. I stopped and he got out. He told me to try a few on my own and, when finished, to come and see him. Then he

walked away, leaving me with sweaty palms and a certain anxiety.

Okay, I thought, full power. A little right rudder. Gain some speed, now back on the wheel. Boy, are my hands wet!

I'm at 500 feet, turn left, climb to 800 feet. Turn left and throttle back to cruise speed and what do you know? There's the runway I just left. Now for the landing. . . .

Carburetor heat on—oops, that's the parking brake release knob—there we are, carb heat on. Throttle back to 1,500 rpm, left turn to base leg. Okay, now one notch of flaps, one more left turn—and there's the runway right straight ahead. Full flaps. Now just wait till I'm almost down. Throttle all the way back. Now back on the stick, back, back. That was a gentle bump. Damn it! It was a good landing! I'm going to do it again!

After your solo flight, you will continue practicing various flight

maneuvers by yourself and with your flight instructor. You will cover navigation, radio phraseology and you will do some instrument work. You will take a couple of cross-country trips, both dual and solo. Soon you will be ready to take your flight test.

The written part of the test can be taken at any time during your training but generally precedes the flight part. It is a two-hour exercise in practical problems and is really quite enjoyable.

Your flight test consists of a cross-country trip with an examiner certified by the Federal Aviation Administration. He will check your competence in navigation, various maneuvers, landings and takeoffs and, to some extent, in the use of instruments.

Assuming you do everything within acceptable tolerances, you get your license immediately upon returning to your base airport. You

COST CONSIDERATIONS

It is not necessary to own an airplane in order to fly private. Aircraft can be rented as needed or leased for a given period. Nor is it necessary, in the case of purchase, to be the single owner. Joint ownerships and stock arrangements are common. But let's assume direct purchase and single ownership and consider economic approximations based on equipment with the following performance characteristics:

Top speed	152 mph
Optimum cruising speed (75% power @ 7,000')	143 mph
Stalling speed (flaps down)	57 mph
Takeoff run	720'
Landing roll (flaps down)	600'
Rate of climb	750 fpm
Service ceiling	16,400'
Fuel consumption (@ 75% power)	10 gph
Cruising range (@ 75% power)	725 miles
Gross weight	2,400 lbs
Luggage capacity	200 lbs
Seating	4

The aircraft is considered equipped with radio, lights, flight and engine instruments.

Purchase price	\$18,500
Interest (5-year loan @ 6%)	4,440
Total	\$22,940

Annual operating costs:

Hours flown	300
Miles flown	41,400
Direct hourly cost	\$5.95
Indirect hourly cost (including hangar rent @ \$35 per month, hull and liability insurance)	\$4.30
Total hourly operating cost	\$10.25

Determine average hourly costs over a 5-year period as follows:

300 hrs per year @ 5 years = 1,500 hrs. (major overhaul recommended @ 2,000 hrs.)	
Total hourly operating cost @ \$10.25 x 1,500 hrs	\$15,375
Purchase price and interest	22,940
Total expenditures for 5 years	\$38,315
Resale value at 5 years, deducted	\$11,100
Net expenditures @ 5 years	\$27,215
\$27,215 ÷ 1,500 hrs = total hourly cost of	\$18.16

Tax savings: There are several ways that the airplane can be depreciated over the five-year period—declining balance method, sum of digits method, straight line method. Aircraft manufacturers generally suggest that you consult your tax authority. One company, however, says an airplane can be depreciated over five years to a residual value of approximately 20 percent of the purchase price. Assuming a 52 percent tax rate, this indicates a tax saving equal to about 40 percent of the purchase price of the aircraft.

are now a far more mobile practitioner of architecture.

The next decision is one of logic. What is the most efficient and economic way to fly private? Should you rent an aircraft as needed, lease one for a definite period or buy one outright? The choice is up to you and can be made only after a comparison of the three alternatives' advantages and disadvantages, taking into consideration the nature of your work, distances to travel, your particular office structure, etc.

The "Cost Considerations" table on the preceding page shows the arithmetic involved in the purchase of a light plane. There is available, for your selection in meeting your own particular needs, a wide range of equipment with widely differing costs. There are also many plans for purchase, lease or direct rent, or purchase with lease-back to defray overall costs.

If there is a need for airborne mobility you will find that the methods for obtaining this capability are accommodatingly flexible.

So far, I have painted a picture in which it seems that all you have to do is to learn how to fly, put yourself in a plane and go whenever the need arises. Realistically, this is *almost* the case.

There are some other things that have to be considered. One is weather. For the average private pilot, weather will be an important factor in his use of an airplane; when the weather is bad he stays on the ground if he is not an instrument-rated pilot. On a national average, three out of four days can be flown under visual flight rules. This will vary according to locality, but as a private pilot you can expect to be able to use an aircraft almost as needed.

Another consideration is ground transportation at your destination. Generally, by calling ahead on the radio you can have transportation waiting for you. Rental cars are usually available at the larger facilities; ground transportation can be arranged through the smaller airfields' operators, many of whom are now providing cars for their patrons at greatly reduced rates.

All things considered, the advantages in the use of private or corporate aircraft as a professional tool far outweigh the disadvantages.

Statistics on the number of architects who use private aircraft in the conduct of their practices are not available. I have a sneaky suspicion, though, that in any group of 10 there is at least one pilot.

I'm no longer surprised when various members of the AIA enter my office at Headquarters and after spotting an aerial map behind my desk make known that they too are pilots. Invariably, they are as enthusiastic as I am over the pleasures and rewards of flying.

But the advantages of private aviation are also avowed by architects in strictly practice terms.

E. P. Dobson Jr., AIA, in practice for himself in Natchitoches, Louisiana, notes that no two architectural practices are alike and says the decision of whether to fly private must be made on the merits of each particular situation. But for practices such as his, Dobson says, "I really recommend flying."

Dobson on the same day can cover two jobs he has going — one in Lake Charles and the other in Monroe and each 120 miles in opposite directions from Natchitoches. He can fly his light plane to Baton Rouge, 200 miles away, for a morning meeting and be back on the boards at 1 p.m. This is an im-

portant consideration when you do all your own design, drafting, etc.

William T. Wick, AIA, of the Mankato, Minnesota, firm of Wick, Stansfield & Kagermeier, owned a piece of a four-seater but sold his stock after failing his FAA medical checkup because of a blood pressure problem. But, says the 61-year-old Wick, "if I get my medical back we will definitely use an airplane in our practice." The firm, he points out, had found private aircraft, "a money-saver anytime we went over 60 or 70 miles from the office."

Robert Osmond, executive partner of Shaver & Co., Architects, a Salina, Kansas, firm which has projects going in some 20 states, says the firm's full-time pilot makes the analysis of whether to go commercial or to fly private and that "nine out of 10 times" the decision is in favor of the latter.

Thomas H. Jones, AIA, specification writer and construction supervisor with Noland & Noland Inc., Louisville, Kentucky, notes that his firm is "sold 100 percent" on the value of the four-seater it uses. Private flying in some cases is cheaper than going by car when the lodging, meals, etc., which highway travel sometimes necessitates, is cranked into the comparison, Jones says.

The airplane is also a better place to do in-transit business. "We can get a lot accomplished in flight," comments Jones.

It is also an important instrument in client relations, Jones suggests. "We can say if there is any problem we can be there inside of two hours — we are never more than two or three hours away."

Ah, mobility. . . .

"Dulles Ground Control, this is Cherokee 2525 Juliet."

Home. It was a good, productive — and pleasurable — day. □



Health Care in Our Sick Inner Cities

BY HERMANN H. FIELD, AIA

Whether we are looking at the metropolitan hospital or teaching medical center, or at other less visible sites for the delivery of health care facilities, they must be considered 1) inwardly as direct instruments of care, treatment and professional education and 2) outwardly for their impact, benign or otherwise, on their troubled urban surrounds.

One of the biggest obstacles to effective planning and design of health care facilities is a misconception of their role. This confusion is part of our fragmented way of problem solving down narrow, highly perfected and specialized paths where means easily become ends, and the overall context is lost from sight. Thus for many — practitioner and public alike — health care is equated with hospital, the goal with one specific tool.

Actually, the most pervasive health care site, no matter how inadequate it may be, is one never identified as such: the home itself. Once on that track we begin to perceive a whole list of environments associated with health care which lie between these two poles. The more we look, the more they become a crazy quilt of haphazard and largely unrelated pieces. We find settings designed for the exercise of the most highly perfected medical skills and technology to cope with situations, many of which could have more effectively been dealt with earlier, under different circumstances and at a fraction of the cost and suffering. We find extremes of superb medical intervention in some places and for certain segments of the population. In between we find huge gaps in access even to what can be called the most minimal health care.

In another dimension we see great complexes of buildings in our midst dedicated to the treatment of overt sickness and the training of the health professionals who will be expected to cope with needs more wisely than we have done. Yet, what is most marked about these institutional entities is that they have largely ignored their surrounding neighborhoods and demonstrated little or no interest in their continued livability and health. Meanwhile, these health complexes find their growth blocked on restricted and fragmented sites and themselves suffering from hard-

ening traffic arteries, air pollution, noise, skyrocketing land values, spreading blight.

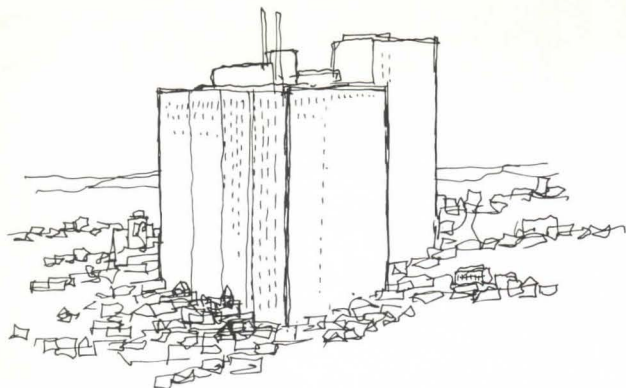
The neighborhoods, in turn, may well see these institutions more as threats to their embattled existence than as a boon to urban health. The reality of this paradox was given tragic expression as one of the factors that helped precipitate the 1967 riots in Newark: the proposed implanting of a large medical center with its narrowly conceived growth-needs into a troubled city neighborhood, ironically one especially lacking in adequate health services.

The Prime Need: Toward an Integrated System

What has gone wrong here has many causes which come together in one overriding shortcoming especially fatal to effective planning and design of facilities. This is our manifest failure so far to develop and maintain any real urban health-care system that could really match medical capacity to consumer need and encompass the

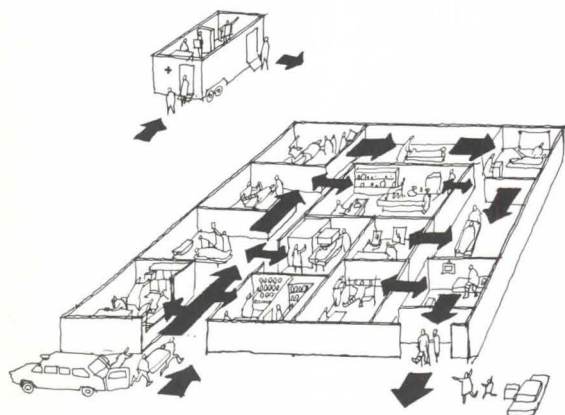
The author: Mr. Field, a member of the American Institute of Planners, is director of the Planning Office, Tufts-New England Medical Center in Boston. His article is based on a lecture in the Lowell Institute TV series called "Health in the Troubled City." Sketches by Andrejs R. Strikis.

entire population of our cities with health maintenance rather than sickness intervention as the main goal. In the absence of such a comprehensive approach to health care there is bound to be an overfocus of resources, skills, research and scarce manpower on the crisis: the life-threatening stage with its ever-climbing costs and a corresponding neglect of our most potent long-range tool — preventive and comprehensive health care facilities for the entire urban population.



Institutions that have ignored their neighborhoods.

When we speak of a health care system, what are some of its main characteristics? In the first place it is a people-processing system of great complexity and many component subsystems. A simple example of such a component is a mobile X-ray unit where one comes in through one door, is subjected to a quick, highly routinized procedure and then leaves by the other door. But not everything in health care is that simple. Take, for example, the surgical cycle with the much greater range of inputs and procedures, or the total flow of patients through an entire hospital, or the diverse but coordinated processing within a geographic area, involving a network of private and public agencies, home settings, workplaces, clinics, ambulances, doctors' offices and inpatient facilities among the many services offered.



People-processing system of great complexity.

This latter concept is not new. In greater or lesser degree it is found in most of the more advanced countries of Europe today. Limited systems have been developed with marked success here and there in this country, including the Bingham regional program in New England emanating from the Tufts-New England Medical Center, the United Mine Workers system and the Kaiser system out on the West Coast. However, all of these fall short of the kind of comprehensive community health care system so urgently needed within our troubled cities today.

Certain serious attempts at comprehensive community health care are in the planning stages under federal initiative with the carrot of substantial funding. Unfortunately, these systems still are built around categorical diseases rather than the health of the whole human being. But at least they can serve as testing grounds and models to build upon.

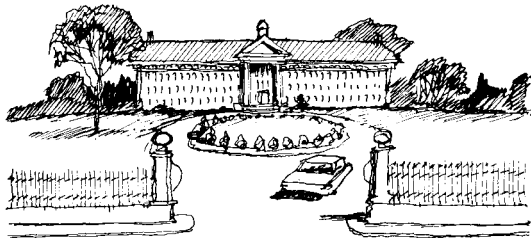
One system is the Regional Medical Programs, a coordinated national health network intended to deal comprehensively with the major health threats represented by cancer, stroke and heart disease. Eventually the programs will include all aspects of treatment, research and training with the types and locations of facilities to be a direct outgrowth of the component needs of the system. In part, major urban medical centers with their high level of treatment and investigative resources will become key components. These will be supplemented by smaller preventive and diagnostic units in the community, urban and rural.

Another comprehensive system relating to a specific disease entity is the Community Mental Health Centers program authorized by federal act in 1963. Mental sickness accounts for 50 percent of hospital occupancy at a staggering annual cost that runs into billions of dollars. The actual cost is doubtlessly much greater in the effects of unattended or unidentified mental sickness. Furthermore, a large part of mental sickness is handled by way of long-term and custodial facilities such as the familiar, isolated institutions conveniently removed from life, hope and cure.

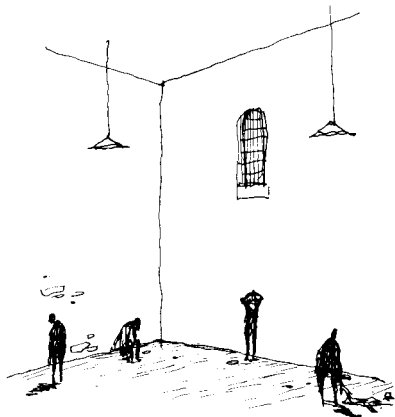
At the other end of the spectrum there is an almost total lack of preventive or early curative services in the spawning ground of acute mental sickness within the troubled city. Recognizing the wastage and suffering of this inverted approach in human terms and those of society, the new act proposes a range of interlocking services: inpatient, outpatient, partial hospitalization, emergency, consultation and education, diagnostic, rehabilitation, precare, aftercare, training of professionals, research and evaluation services.

The aim is to 1) locate facilities reasonably near the patients' homes, 2) provide a comprehensive range of services, 3) make services both immediately available and easily accessible and 4) provide continuity of care until restoration or rehabilitation is completed. Like the heart disease, cancer and stroke programs, it proposes to draw upon our urban medical and teaching centers as core elements. But this is to be done via a graft in which innovation is stressed on the assumption that future, not yet discernible, treatment patterns will be very different from current ones. Above all, such a system will be adaptable to patterns closely related to specific communities. Thus no standardized facility is visualized.

The Community Mental Health Center might be encompassed by a single, multiple-use facility covering all of the previously listed components. More likely it will focus the modalities of more acute sickness and its treatment at an existing core hospital, adapting a number of community agencies or shopfront operations as sites for other aspects and providing new components only to fill in the gaps. Or the mental health center could consist entirely of a network of dispersed elements, each designed for a specific function. Pervading the whole approach is the insistence, presently lacking throughout the urban health care spectrum, that "effective community action for mental health requires continuity of concern for the troubled individual in his involvements with society, regardless of awkward jurisdictional boundaries of agencies, institutions and professions," to quote from *The Community & the Community Mental Health Center* (American Psychological Association, 1956).

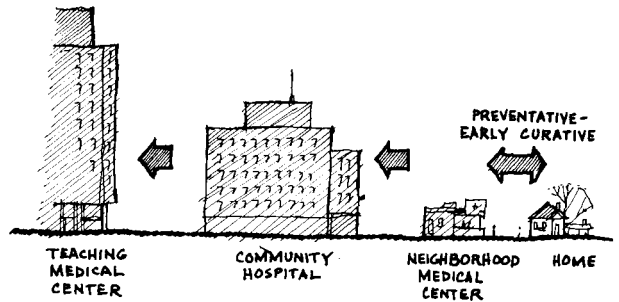


Isolated institutions conveniently removed . . .



. . . from life, hope and care.

I have dwelt at length on the specific example of mental health because it represents one model of the sort of restructuring and reorienting of our poorly used and largely ineffective health care resources within our urban communities. It also makes it evident that we must get away from mere tinkering with hand-me-down concepts. The emphasis in planning and design should be on change and innovation, on a new direct response to community need. Good examples of this approach include the Tufts health center in Boston's Columbia Point housing project, or the



Continuity of concern.

facility presently being improvised from the ground up in the Mississippi Delta community of Mound Bayou.

Rethinking the Hospital/Teaching Complex

Hospitals today clearly are not coping with key pieces of our health needs in the troubled city. What is the likely impact of the directions we have examined on their role and design? As an urban institution the hospital has a long and continuous history over many centuries, but until our own century its role was quite restricted. It centered around the isolation of communicable diseases that could threaten society as a whole, the containment of the wreckage of urban poverty or war and, to a limited degree, on support in death-threatening illnesses.

Above all, the hospital provided a kind of surrogate service for the urban poor with the well-to-do resorting to their own primarily home-based care. Upon this predominantly charity-based vehicle we have gradually grafted the highly sophisticated hospital services of today with their ever-expanding range of functions and capacities. In the process there has been a tendency toward great centralization and size, with accessibility to those seeking care and the neighborhood's ability to absorb it, socially and physically, in final collision.

Perhaps the urban hospital is on the way to becoming an anachronism. Perhaps we have reached the end of the road within the confines of an aging form. Has the very revolution in medical science which we are entering eliminated the need for these superconcentrations of resources? Will not the development of integrated health care networks with their multiple sites lead to the uncoupling and decentralizing of the various services the hospital now offers? Perhaps the urban hospital will shrink back to being the site only for the most critical life-supportive functions involving the whole panoply of specialized technology and intensive human skills, such as exemplified by the new Georgetown Hospital.

I think that such a withering away of the urban hospital is most unlikely in the foreseeable future. Added commitments to uncover sickness and the neglect of health on a scale previously un-

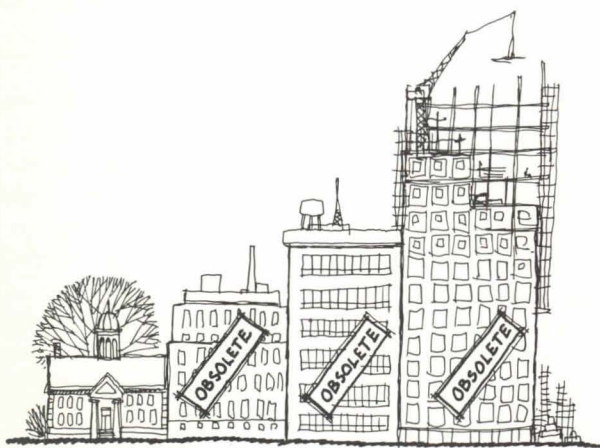
imagined will enhance its role. The introduction of Medicare is likely to increase initially the overall volume of demand for hospital care.

The Hospital in Change

In view of the above, the urban hospital will continue in one way or another to be a major point of investment and intervention, whether at a single or at multiple sites. It is also clear that its ability not only to adapt to change but to be the proving ground for such change will have an impact on the quality and effectiveness of the health care system as a whole. Thus a key responsibility lies with planners, architects, administrators and trustees to work untiringly toward new concepts that will stop the endless spawning of further hospital facilities that so often become obsolete before their doors open.

As space does not permit a detailed analysis of the factors of change that we must keep before us in planning and designing health facilities, I would like only to mention a few of the more important ones:

1. The hospital in a larger framework. The future hospital may develop off-site components or become one of the outposts of a community-centered network. Communication systems such as closed circuit television or computers will extend the reach of hospital functions far beyond strict physical boundaries.



Facilities so often obsolete before their doors open.

2. The impact of medical science on the nature and treatment of disease. The virtual elimination of serious infectious diseases, especially those of childhood or the middle years, has tended to shift the major hospital users toward the two ends of the age spectrum, infancy or early childhood and advanced years. Furthermore, modern life, especially the automobile, has greatly increased trauma as a cause for hospitalization and has created a greater need for a wide range of emergency and rehabilitative facilities.

3. A shifting emphasis from the acute health care

of the bedridden to the preventive health care of the ambulatory patient. With new methods of treatment, coupled with ever-rising costs of bed care, treatment on an ambulatory basis becomes an ever more important alternative. Implied in all this is a parallel shift in the teaching of health professionals away from the traditional bedside to the ambulatory setting.

4. A single service for all. The spread of third-party payment of hospital costs is steadily eroding the duality of accommodations for the indigent, on the one hand and the carriage trade on the other. The Ellis Island waiting room can still be found in some of our large hospital centers, but at least it seems to be disappearing from the drafting boards for new facilities.

5. Extended care. In the past, terminal years of one generation were assumed to be the responsibility of generations that followed. Mobility and current familial patterns increasingly have ejected such care from the home. The advent of Medicare has at last provided a tool for correcting this shabby neglect. Its effectiveness will depend, to a large extent, on how completely care for the aged becomes a part of the total health care continuum, and how creatively its various modalities are planned and conceived.

6. Care in the home. The degree to which the home setting is enlisted as a more appropriate and practical site for health care will have significant repercussions on the planning and design of new medical facilities.

7. Social and behavioral parameters of health. We can expect the urban medical institutions to become more involved in the human and environmental aspects of the urban condition as part of the total health picture of the city.

Impact on Planning and Design

Where does all this leave us in the matter of planning and designing better urban health care facilities? I think the first requirement is that we stop thinking in terms of static forms. Instead, we shall require a great capacity for continuous and often unpredictable change and innovation. We shall have to plan for continuous growth at both centralized and new neighborhood sites. Finally, we shall have to overcome fragmentation both within the operation of our facilities and outward from them. Only *within these* guidelines can our institutions become powerful contributors to the resynthesis of our urban life and environment. Binding all three requirements together is the need for transforming our health care buildings, our hospitals, our health centers and clinics from constraints into implements of change and innovation.

You may well reply that it is the very nature of structure or enclosure to be static. In part this is

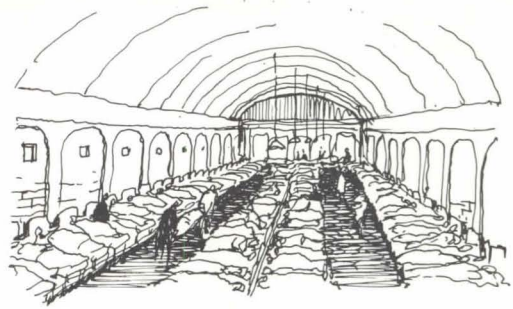
true. However, there is much that can be done in the way we plan and use present building technology to counter this rigidity. For one thing, we can conceive of buildings as staged entities instead of one-time monuments. This, in turn, will have a considerable impact on how we go about designing them. We can conceive of them more in terms of modular circulation grids, of communication, materials handling and activity systems rather than as fixed cubes of enclosed space. We can, from the outset, make growth an integral part of design.

At the same time, we must not forget that urbanized man is looking for identity, a sense of place, of compatible scale, of psychological support in sickness. This means countering hugeness and the ever-greater concentration of facilities for maximum utilization with a countervailing emphasis on a therapeutic environment in truly human terms.

Here I would like to illustrate by reference to the concept we have been developing for the Tufts-New England Medical Center in downtown Boston in close joint work of our planning office and the Cambridge firm of the Architects Collaborative. The design that our architects have evolved is basically a continuous four-story structure suspended over Washington Street and a vast plaza complex of shops, pedestrian ways, courtyards, hospital entrance lobbies and escalators down to a new subway station. The hospital itself is a series of horizontal, functionally related layers, the lower floors of which are adapted to the in-and-out movement of vertical or ambulatory patients, and to treatment and diagnostic procedures. The two upper floors represent the more residential bed-oriented portions.

The unusual design achieved with its system of interior courtyards or patios and multiple circulations grew out of a series of design directives which might be worth summarizing here. They evolved from one of our research projects and are examples of the kind of restatement we must make if we are to find new forms in which to cast our activities:

1. To develop a concept which would foster the dual roles of quality care and teaching.
2. To provide the greatest possible horizontal continuity of inpatient care to ensure flexibility in room use, better nurse-time utilization, less specialties fragmentation and a more interrelated educational setting than offered in traditional plans.
3. To foster individualized care through patient-centered nursing, continuity of care and a patient-oriented environment.
4. To develop the inpatient floor so as to recognize the significance of the patient's immediate environment as it relates to his well-being within



Search for identity, a sense of place . . .



. . . of compatible scale in sickness.

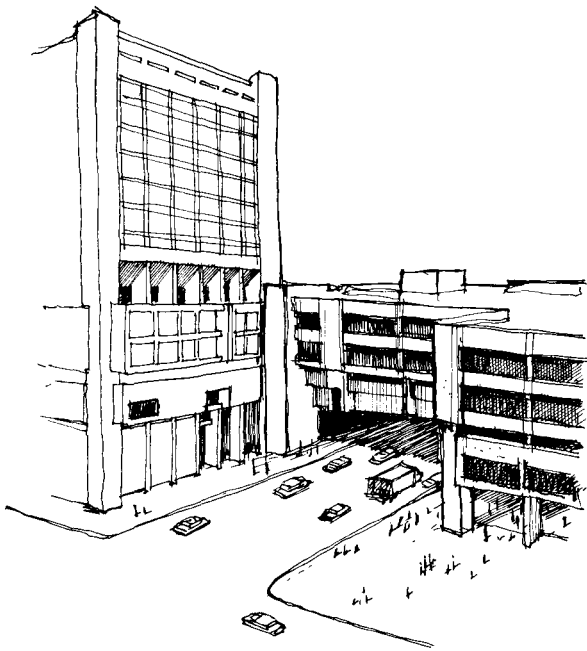
the hospital complex. In line with this, to group patient rooms into clusters with their own inner areas in contrast to the usual string along a central corridor; to supplement the building perimeter with a system of courtyards between room clusters, providing an external contact compatible with a central city location.

5. To increase bed utilization by linking clusters to adjust to fluctuations in their census.
6. To increase growth options and remove floor traffic not specifically related to patient rooms by replacing the linear corridor circulation with an open-ended four-way corridor grid for major and minor circulation.
7. To permit additive, horizontal, nursing-floor growth without temporary disruption or permanent imbalance between patient areas and those for treatment, service and circulation, and to permit staging in small increments instead of overbuilding in the form of shell space.

While care and patient-oriented teaching functions received priority for horizontal development, other aspects such as research and some of the basic teaching functions, including educational technology, were found more compatible with vertical growth and placed in corresponding high-rise zones.

The Urban Health Care Facility and the City

Similarly, we must find ways to make our structures continuous with the surrounding urban forms. Unfortunately, there is a built-in tendency to image making, a built-in monumental impera-



Continuous four-story structure over the street.

tive. Hugeness creates identification, loyalty, a funding goal essential under present begging mechanisms. It appeals alike to architect, planner, administrator, trustee and funding agency. Unlike the decentralized community-based components, it has the further advantage of protection from the messy processes of planning *with* rather than *for*. Clearly the client is not the people but is, instead, a corporate entity with its convenient ideological filters.

This brings me to the largely unexplored area of the broader impact of the institution on its surrounding urban neighborhood. Usually the institution is planned and designed with little or no consideration of its urban surroundings. Selection of site, traffic capacities, living accommodation, recreational space and other social amenities receive at most quite peripheral attention with the result that many such deficiencies are only exacerbated.

The edges around such an institution are likely to deteriorate because of uncertainties about the institution's further spread, its own faulty methods of land acquisition, inadequate maintenance of expansion areas and because of related, unrestrained, surface-parking policies. Estimated growth-needs continually rise from 1 acre to 10 to 100 and more until you get the equivalent of Newark's situation in the summer of '67. Despite all this sprawl caused by land speculation, existing high investment barriers and obsolete street patterns, successive additions are fragmented. They lack the desired continuity and are inefficient in operation and obsolete before they are put into operation.

Look around any American city and you can see what I mean. Not only are we here helping further to disrupt our urban environment but we are missing a great opportunity on all fronts to capitalize on the expanding investment in such

facilities, both in their direct health care utility and positive assist in revitalizing our cities.

Of course, you may ask: Why keep on putting such overbearing, land-hungry complexes into the heart of our cities? There are plenty of large airy tracts on the periphery where we can build spacious campuses to our hearts' content. This has been the decision made by many institutions faced with the strangulation of a blighted urban site. And, in fact, this is the question the Tufts-New England Medical Center was wrestling with some six years ago. Why did it decide instead to stay in that messed-up corner of downtown where everything seemed against it? Let's follow this road now both in general and in specific example, sizing up the consequences both for itself and for its urban community.

First, the greener pastures. How long would they remain green with the complexes' own popularity in the continual spillover of the expanding megalopolis? How does such splendid isolation in a beautifully sanitary setting relate to such an institution's goal and effectiveness: If urban health is our prime concern, can we really do it well from a point outside? Access will be excellent for some patients, professionals and students, but given the radial, centrifugal character of urban growth and communication lines, it will represent a lopsided benefit. Surely a point close to the hub will be more effective for a balanced system of access.

I am not speaking of the smaller community components whose place is obviously in the decentralized network reaching out from the center. From the city's point of view the route is even clearer. If we are to stop the bleeding out and hope to revitalize the hearts of our urban agglomerations rather than leave them behind as wastelands of poverty and social disease, the larger societal inputs constitute a stabilizer which will arrest the downward trend and provide a base for revitalizing urban life. In the forefront are the major contributors both in leadership and in service of the health care and education sector. Aside from the service strength to the ailing community, there is the inflow of skills, leadership, innovative thinking, activity and economic infusion, the sharing in service costs, the rebuilding of blighted structure.

At the heart of the dual problem is our search for creative pieces of the mosaic that we must assemble innovatively if we are to find a way out of our present critical urban dilemma. Let me try to outline the pieces of such a strategy in the urban health facilities sector. If I refer to our own project at Tufts-New England Medical Center again it is not because I think it *the* solution, or even an accomplished fact, but because it helps to define a direction — if only partially so.

The first point is one of attitude: Instead of merely being preoccupied with negatives such as how to break out of the constraints of fragmented and blighted urban land, or how to beat the high cost of property acquisition, or, from the city's point of view, how to hold the line on taxes or contain institutional sprawl — the starting point on both sides must be the cumulative snowballing of the opportunity created. This means a rethinking simultaneously at several levels.

For the institution it means embarking from the start on a double-pronged growth, service and educational strategy: the internal development of the institution itself, coupled at every point with continuous broad initiatives of leadership to reshape the environment and social fabric of its surrounding neighborhood. At Tufts-New England Medical Center this opportunity seemed to come with the vast urban revitalizing effort begun in 1960 in Boston under the leadership of Mayor John F. Collins and Edward J. Logue, then director of the Boston Redevelopment Authority. Through successive steps taken in close collaboration, interlocking plans began to take shape for the institution's long-range growth as a main catalyzer for reshaping a 90-acre surrounding downtown neighborhood which was sliding into blight.

With federal help it has led to the carefully conceived South Cove Urban Renewal Project entering the preliminary stages of execution. Out of the wasteland of parking lots, semideserted streets, decaying commercial structures and surviving fragments of former residential neighborhoods, the project visualizes a new multi-institutional and commercial core area embedded in a residential crescent of existing and new housing. Its population represents a rich mix in income levels, occupation, professions and ethnic backgrounds.

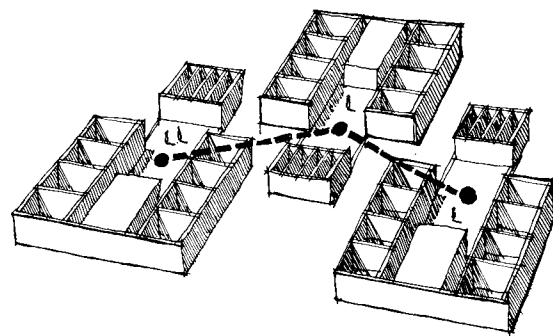
It is no accident that imminent new housing in the project is being sponsored by the Boston Chinese community and that recreation is being looked at by a group representing the main facets of the future community. It is by deliberate intent that the new elementary school for the area is being visualized as a total community learning environment — as a "neighborhood magnet" in the words of Boston School Superintendent Dr. Wm. H. Ohrenberger. Nor is it fortuitous that an existing parochial technical high school has come to visualize its development as part of this "magnet" setting and that a growing direct neighborhood participation in the conceptualizing of the new Quincy School is a natural outgrowth.

It is not by chance that the medical center, in rethinking its own role during the last six years, has emphatically added community health to its more traditional programs with the intention of

making comprehensive health coverage, in this same South Cove neighborhood, one of its first service priorities. This, in turn, has broadened the innovative thinking for the Quincy School as one of the important pieces of a community health system, not only as a base for preventive health care but also for early detection of illness among the children. The system provides access to family care and community health education and serves as a training point for medical students in dealing with health rather than sickness.

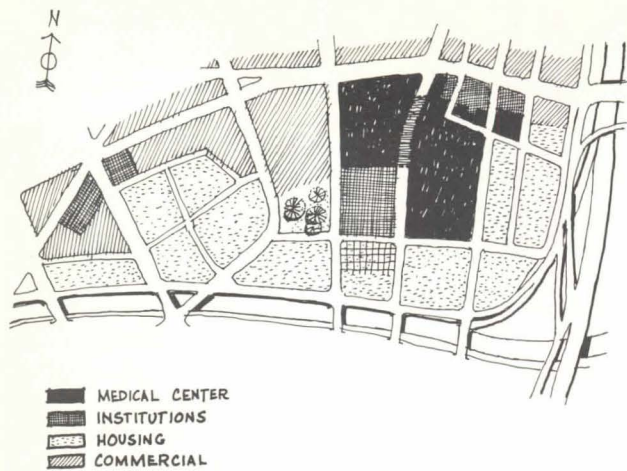
The proximity of the children's hospital services of the medical center provides further opportunities for experimentation such as the possible use of two-way bedside-classroom television. Through this device a hospitalized child can participate directly in school programs. Later, during convalescence, he can make an easy transition back to the classroom with which he has been in constant contact. Similarly, for the regular students in the school, the identification with members of their peer group in the hospital setting provides a broadening of their social experience. Already, under a federal grant, the medical center is providing, on an experimental basis, the beginnings of this health care program in the two existing neighborhood schools and in close cooperation with the Boston School Department.

Now, let us turn to the matter of imbedding the various environments of a medical complex having an anticipated population of 4,000 staffers, students and employees, up to 1,000 beds and anywhere from 100,000 to 227,000 outpatient visits per year depending on the eventual degree of centralization or dispersion. The first problem



Clustered rooms with their own inner areas.

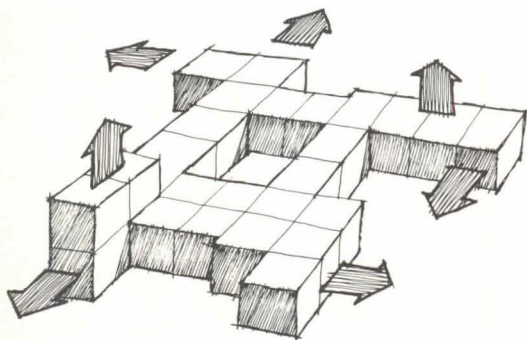
is obtaining an adequate number of square feet. The space needs seem to lead to sprawl and conflicts in land use. City street patterns seem to squeeze and fragment. The solution must provide the direct functional needs of medical care and education as well as those for community reinforcement. The path we followed was one of intensive consolidation and minimal long-term growth spread. It was certainly the only direction compatible with neighborhood responsibilities. I



New multi-institutional and commercial core.

think it has turned out to be highly satisfactory from an inner-functional point of view.

How radical this attempt has been is evident when we examine the usual growth assumptions of other similar large complexes. The smallest one I know is about 30 acres. Most are over 50 and some are looking to an expansion potential of up to 150 acres. Our 20-year stake is some 14 usable acres from a present 9. And even within these limits, major parts of this acreage are designated for presently nonexistent community amenities. The medical center, like the new elementary school, becomes a kind of magnet for



Single continuous area capable of growth.

community life rather than a boundary or wall between the worlds of the well and the sick.

The consolidation I speak of would not have been possible without close city and institutional partnership. Its basis was the creation of a more rational land assemblage than is normally possible. Most important is the elimination of some streets and the granting of air rights over others to create a single continuous area capable of growth in all directions. A second prerequisite is the creation of a much closer interlock of many of the usually fragmented systems within a hospital and teaching complex. Only in this way can full advantage be taken of the physical continuum

already created. The third essential element is the staging of increments in a manner that minimizes disruption of existing components. Growth should first be outward, using present facilities as a base, and later inward to replace these elements. Finally, it should enhance the normal flow of people through the area and, by using to advantage its size and central land assemblage, it should provide a linking element for activities in the community areas.

This also means a major design reorientation away from the traditional concept of isolated building entities to what, for want of a better word, urban planners call a megastructure. This feature, in turn, becomes part of the urban design of the area and opens up new ways of treating open spaces. For the institution, it replaces the extensive campus concept with more intimate and varied uses of space which are consistent with city living. It also presents the widely overlooked possibility of development at roof levels.

In the urban context the design concept developed by our architects has become an integral part of a total neighborhood concept and even beyond that, of the reshaping of downtown Boston. The bold and creative manner of bridging Washington Street with a continuous structure may well be a breakthrough in urban design not only for Boston but for other cities and their institutions. The medical center forms the southern gateway (even quite literally) to the city's retail core which, at its northern end, terminates in the new City Hall and Government Center.

Within the medical center is a segregation of communication paths. At the lowest level the new subway tunnel and station, above it Washington Street with its vehicular traffic and terminus points — again separated through several blocks of public pedestrian paths along both the north-south axis and from west to east — linking the Chinese neighborhood with the heart of the area. Studies are now being made on the feasibility of continuing the walkway south through the new parochial school and beyond it through the new public school and, perhaps, even to the divide of the turnpike and railway tracks that mark the edge of the area and separate it from Boston's South End renewal area.

This brings me briefly back to the new elementary school. Its preliminary planning is being done in our planning office as a community initiative under federal and foundation funding in close collaboration with the Boston School Department and the city's Public Facilities Commission as well as a number of other public and community groups. It started out merely as a replacement of an average neighborhood school. What is emerging instead is a quite innovative urban resource.

It is another application, on a smaller scale, of the intermeshing of internal relationships with surrounding ones in a kind of layered continuum. Gone is the separate, specially scaled school, set off in its playyard: the poor relative of its suburban counterpart. Instead, we have an intense use of scarce land in an entirely new synthesis, involving a number of users representing diverse ownership of parts of the total structure, but all oriented toward central neighborhood needs. Thus what we visualize is a complex containing, in addition to the school, such other elements as major community educational, recreational and informational resources, housing, public arcades, stores, parking and, for good measure, an extensive roof campus.

A Final Thought: The Planning Methodology

To try to pull the various strands of this strategy together, we might summarize them as follows:

1. The total health care system is the ultimate objective. Facilities are only a means to this end.
2. Design of the core hospital or the neighborhood clinic or any other portion can only become significant within the context of the system of which it is a part.
3. Health facilities must become positive participants in the reshaping of their own surroundings.
4. Service and education institutions will become an increasingly important segment of inner city renewal, enhancing their effectiveness and influence by exerting leadership in the process.
5. Health care planning by nature is continuous and interdisciplinary and must reflect an organizational setup providing a capacity for continuous self-renewal as against episodic intervention under special pressures.

This leads me to one final consideration: the planning methodology itself. It must embody a number of leadership facets alien to much of the neat, single-line and passive handbook planning coming out of academic programs.

It must always be dynamic and pragmatic. It won't work on prestructured sequences couched in reports that are handed on to a further specialist for the next stage of the process. It requires simultaneity on *all fronts*, moving along in successive approximations, cast and recast with ever greater richness, and able to shift into quite unanticipated directions. Only thus can we begin to cope with the fluidity of today's world of multiple change. Planning must be not only the interpreter and programmer of change but the agent of such change in situations where the barriers to it are much greater than the apparent openings. It involves the continual meshing of forces that are not evident at first, and in fact only emerge in the course of the planning. It requires the flexibility to shift emphasis, improvise, retreat and regroup.

Often long-term, laboriously-put-together initiatives involving the institution or the city are suddenly threatened for quick results in a specific sector. The same in the matter of community. It is a most fashionable word. The nice thing is that it can be turned on or off at convenience — or rather could. It doesn't work that way and more.

The point is brought home clearly by a story in the *New York Times* (Feb. 13, '68) on the same Newark case I cited earlier. It appeared under the caption "Negroes in Newark Accept Medical College Plan After Acreage Is Halved." The acceptance by the community groups "hinged on full



Southern gateway to the city's retail core.

implementation of several conditions guaranteeing housing for displaced residents, jobs, medical services and *participation of community representation in the planning and development of the college.* [Author's italics.] Furthermore, they stressed that participation by the community "does not mean going to a public hearing and getting talked to, but that we sit as equals in the planning." The warning was also added that failure to implement such an approach would mean that "there will be no medical school."

While this tone of confrontation may be unfortunate, it does emphasize the profound reorientation and relearning facing the urban planners and architects, as well as those concerned with delivery of urban health care. It hinges on our ability to shift from doing it *for* to doing it *with* the community, to find mechanisms that will be steps in shifting participation, initiative and responsibility much more substantially to those heretofore excluded from the process.

We shall never succeed if it is our ideology in design, in urban living, in health care that we impose as the model. In all our efforts we must develop a humility and intercommunication which will lead to new models being worked out at the grassroots themselves with our help and guidance. I fear that many who sincerely are concerned with the health in our troubled cities are only dimly aware of the deep attitudinal and ideological barriers which will have to be overcome on both sides. □

'The integrity is implicit; the

William Wilson Wurster Gold Medalist 1969

BY RICHARD C. PETERS

William Wilson Wurster has said, "Being proud of things; remembering constantly that the personal victory is nothing, the result everything. It is of no importance who furnished the idea, the main thing being that it is there." This statement, spoken with a genial sense of conviction, best typifies the recipient of The American Institute of Architects' 1969 Gold Medal.

Bill Wurster is both a prophet and a pioneer. His buildings are simple, direct and honest, qualities which, for those who know him, reflect precisely his philosophy of being — a philosophy of simplicity, directness and honesty of expression. As a person, Bill Wurster is a great humanitarian. As an architect, he is internationally known for

The author: Mr. Peters is associate professor of architecture, College of Environmental Design, University of California, Berkeley.

his leadership in the development of a regional architectural expression, and he is also known and loved by many as Dean Wurster, the man whose vision, leadership and determination expanded the scope of professional architectural education to include concern for the total environment. A creative architect, a broad-visioned planner and a dedicated educator, Wurster has exerted a profound influence on the profession and the community.

He was born on October 20, 1895, in the valley town of Stockton, California. His interest in architecture may be traced to his earliest childhood. Family legend has preserved one of his earliest inquiries, "How do chimneys stay on a roof?"

His formative years were exciting. Stockton, at that time, was expanding at a rapid pace. Family walks on Sunday to view the new construction helped to further stimulate his interest in buildings. At the same time, there still existed in him a strong sense of the pioneer past with its mixed tradition of coarseness and honesty, elegance and sophistication going hand in hand, so typical of all 19th century California towns. The Wurster family's teaching, "At least learn some one thing well; you can change to something else if a greater opportunity comes," is manifested in him.

Wurster received his earliest architectural training in Stockton during the summer vacations in the office of E. B. Brown, an Englishman of erudition who possessed a keen sense of humor. Brown loved his adopted California. His works captured the indigenous qualities of the San Joaquin area. As a result of his association with Brown, Wurster decided to continue his education and enrolled in John Galen Howard's School of Architecture at the University of California in Berkeley. His studies were temporarily interrupted by World War I during which time he served with the merchant marine and sailed the South Pacific. He returned to the University of California and was graduated with honors in 1919. He served his apprenticeship with John Reid Jr. of San Francisco and Charles Dean of Sacramento, and in 1922 he received his license to practice architecture in the State of California. At 26 he had designed and built three houses and had saved \$4,000 so he decided to take the Grand Tour of Europe and so complete his education.

Upon his return from Europe in 1923, he settled

'sincerely intense'

in New York for one year and worked in the office of Delano & Aldrich, leading architects at that time in the eastern United States.

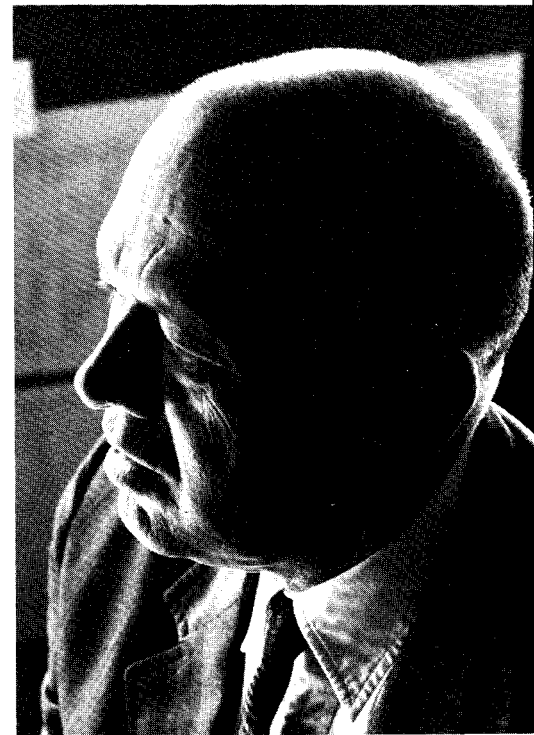
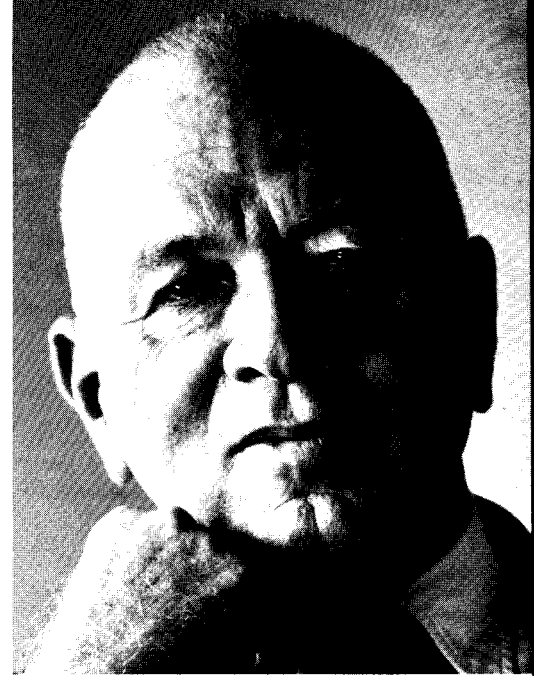
Wurster then returned to California and the Bay Region and began his career with renewed vitality and strength of conviction. He opened his own office in San Francisco and soon began work on a series of country houses which were to start a revolt against the then popular and ornate Spanish stucco style. The country houses offered simplicity and restraint in form, direct honesty of materials, total regard for the climate and economy in construction. These same principles had been held to by the early California pioneers in their building. A present-day visitor to these Wurster houses experiences a great feeling of regional tradition combined with the informality of California living.

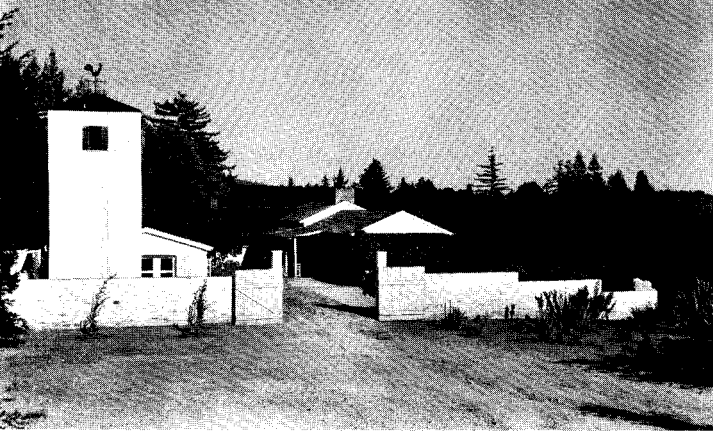
One of these early houses is the Warren Gregory Farmhouse, 1927-1929. The house won the *House Beautiful* award in 1927 and brought national recognition to Wurster. It is in this design that the feeling for an architecture of the region began to be evident. The simple forms, the generous open quality and the handling of local materials were indicative of the work to follow.

In 1933 a visit to the International Exposition in Chicago brought Wurster in direct contact with some of the leading architects from other parts of the country. In 1937 he again went to Europe and saw contemporary projects in England, Germany, France and Scandinavia. He was particularly impressed with Alvar Aalto and his work in Finland.

After his return to San Francisco, the jobs in the office increased, and in 1938 he and Theodore Bernardi, a long-time friend and associate, designed the Yerba Buena Women's Club for the Golden Gate International Exposition. This was a temporary structure built of plywood panels which received praise for its practical simplicity and beauty.

The office, in a period of only 10 years, had grown into a leading West Coast firm and its forceful statement of architectural expression became evident. The Valencia Gardens Housing Project in San Francisco, considered outstanding





Among the early works: Gregory Farmhouse, 1927, Santa Cruz Mountains; Yerbe Buena Women's Club, Golden Gateway International Exposition, 1938, San Francisco; and Valencia Gardens Housing Project, 1939, also in that city. (All buildings shown in California except as noted.)



among urban housing schemes, was produced in 1939 in association with Harry Thomson Jr. The Stern Dormitory at the University of California, completed in 1939, was done in association with Corbett & MacMurry. It avoids a stylistic approach including the so-called International Style.

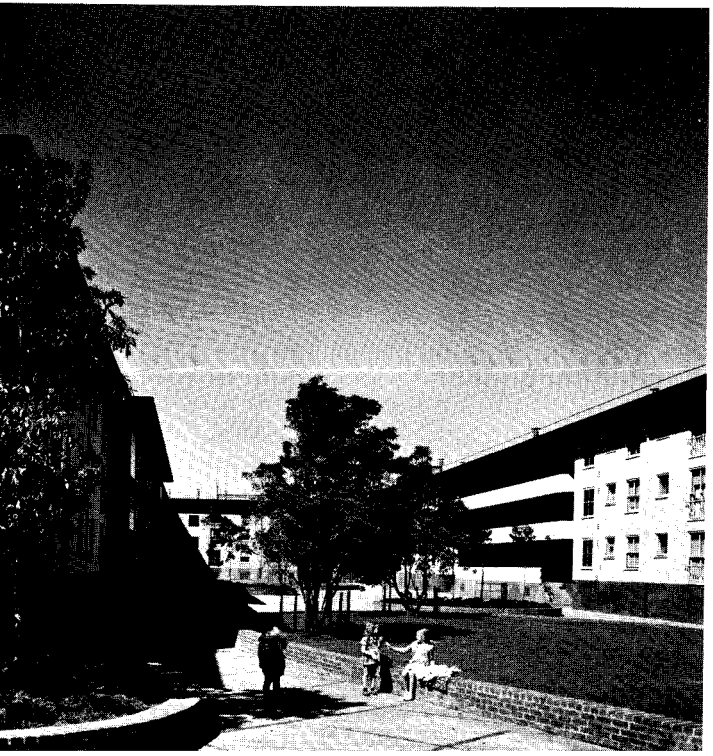
In 1940 Wurster married Catherine Bauer, then a visiting professor at the University of California. Mrs. Wurster was already a well-known housing authority and the author of the classic in that field, *Modern Housing*.

In the spring of 1941, there came a group of experimental defense housing projects which were commended for their use of simple domestic building techniques. The award-winning Schuckl Canning Company office building, Sunnyvale, California, was designed and built in 1942. Wurster considers this "one of my happiest experiences in cooperating with an industrial concern."

By 1943, in 16 years of practice, Wurster had completed several hundred houses and other types of buildings; and yet, when he was offered a fellowship to the Graduate School of Design at Harvard University, Wurster, in a characteristic move decided to become once more a student of his art. He left the office to the care of his associates and moved to Cambridge in the hope of updating his education and broadening his perspective of the world around him.

A year later, he was back in San Francisco and had formed a partnership with Theodore Bernardi and Donn Emmons. He then accepted the position of dean of architecture and planning at the Massachusetts Institute of Technology in Cambridge and returned east. He held that position until 1950. During his stay at MIT, President Truman appointed him a member of the National Park and Planning Commission of which he later became chairman. In 1950 Bill Wurster was appointed dean of architecture at the University of California at Berkeley, a position he held until 1959. He has been Dean Emeritus since 1963.

Wurster has received many honors and awards for his outstanding contributions to architecture. He is a Fellow of The American Institute of Architects, the Academy of Arts and Sciences, the Royal Academy of Fine Arts, Copenhagen, Denmark, and an honorary corresponding member of the Royal Institute of British Architects. He is also an academician of the National Academy of Design, a member of the American Institute of Planners and a member of Akademie der Künste of Germany. Among his awards are an Honorary



Doctor of Laws, University of California; the California Council AIA Certificate for Distinguished Service; Building Industry Conference Board "Man of the Year Award." His firm has been awarded many national design awards including the AIA's Firm Award in 1964.

With this biographical sketch, one can better comprehend Wurster, the architect. The same direct honesty so evident in his early works is and always will be present in his efforts. There are three important and inseparable sets of relationships in the thought of William Wurster: of Architecture and the Environment, of Architecture and Education, and of Architecture and the Client.

Architecture and the Environment

Architecture to Wurster is a "complicated social art," one which must acknowledge the total environment. "No longer can we lavish all our care on the single structure without consideration of that which surrounds it. It is the total environment that "touches architecture with the deepest query and the deepest challenge." To him an architect is one who is aware of this fuller context and is willing to accept the challenge of designing for a total environment.

In observing the works of Wurster, one is immediately struck by their intentional modesty, straightforwardness, informality and lack of strain. There is no bow to eclectic forms in the earlier works, nor is there any conscious concern with the evident clichés of other architects in his work today.

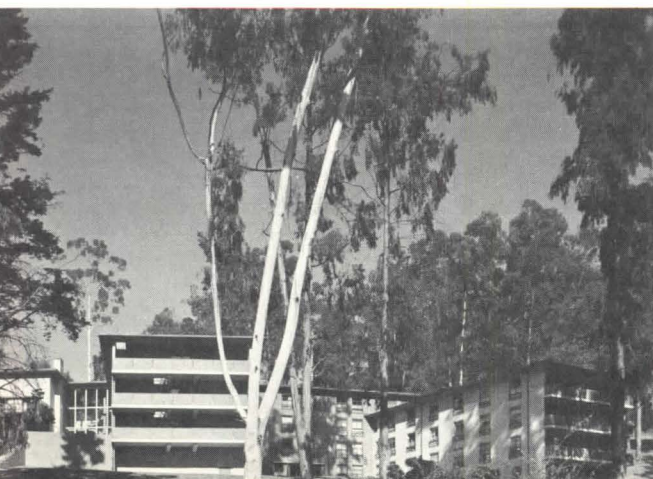
During the late 1920s and early '30s Wurster was developing an architecture which was suitable to the region. As one of his colleagues put it, "Wurster's indifference to style is as sincere as it is apparent." It was a straightforward architecture based on a good deal of knowledge and common sense. He said, "No indigenous architecture is produced by a self-conscious process of balancing off one form or idiom against another, and it has no feeling of 'now we are modern, now we are local!'"

His understanding of the social and economic conditions, climatic variances, materials, methods of building and the architectural heritage of the area, stimulated an architectural expression that has been described as the "Bay Region Style." One questions whether it is a style, however, in the sense of a conscious language of form. It is an honest rational answer to given conditions rather than the concretization of any predetermined visual concept. It is a vigorous solution to the immediate problems and in these terms has a sense of fitness as regional expression. Therefore, this natural quality which has derived from regional sources is a response to local human needs and transcends the fashionable. It searches for enduring qualities.

"Man-made environment," Wurster has said, "plays an increasingly important role in each of our lives." Be it rural, suburban or urban, architecture becomes a part of the life of the people. To Wurster, "The importance of all architectural things must be measured by its meaning for people" and must be concerned with the everyday things which shape their physical and psychological needs. "Buildings are designed to meet the requirements of a particular client, using the resources and technology of a particular time and place." Since we live in a continually changing society, this poses problems of which the architect must be aware.

It is not feasible to expect the architect to know all the detailed technological information of building, but it is important that he understand something of the economic and social conditions which shape his building and thus his environment. Only then will his efforts begin to have meaning and a clarity of purpose. "Today the architect's meat and drink must be the whole field of human environment and the entire process behind it. If we have real social understanding, we will not promote the bizarre for its own sake nor be contemptuous of the familiar just because it isn't novel." Architecture is not a costume ball but should strive to express a reflection of our age of civilization. Wurster urges "a glimpse into

Milestones of sorts: Stern Dormitory, Berkeley, 1939, and Schuckl Canning Company Office Building, 1942, Sunnyvale.



other areas so that you know the importance and difficulties of the economist, geographer, public official and the teacher." An environment created by an architect who is not innocent of other areas cannot help but influence the ultimate users.

Architecture and Education

On the occasion of his retirement as dean at the University of California, Berkeley, Wurster said, "Architecture is a corridor with many doors, opening into all aspects of human life. It unites many, many forces. I do not believe in embalming ideas. We, none of us, architects or others, have the privilege of building monuments to ourselves. Our work must be for people. I don't pretend to be a great teacher. I was a good administrator running fences for good teachers — my forte is in making it possible for things to happen. I do not teach facts, but teach as a process of arriving at facts."

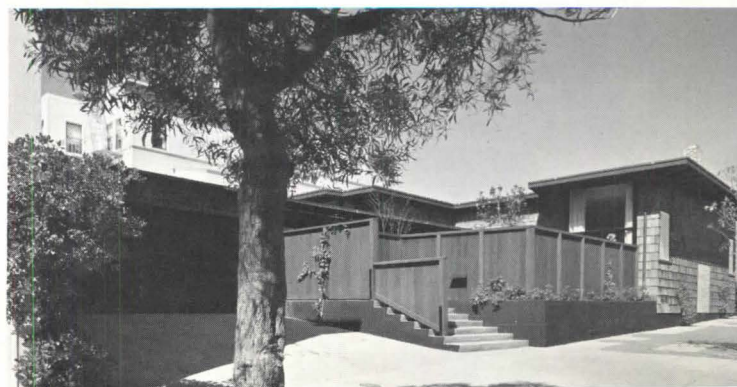
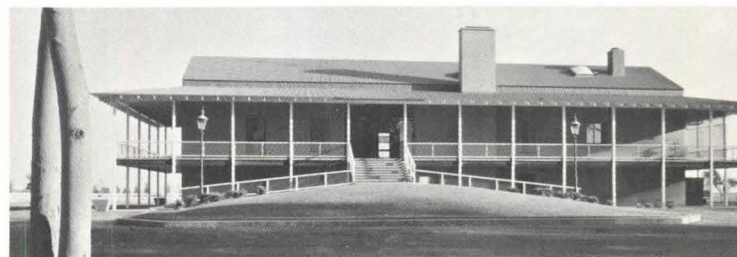
Wurster's role in education is a crucial part of his total influence. As dean at MIT and later at Berkeley, he recognized that the future of architectural education was dependent upon interdisciplinary attitudes. He saw the major fields of design, architecture, landscape architecture and planning as interrelated parts in the training process. This thinking was behind the creation of the College of Environmental Design at the University of California, one of the earliest uses of both the concept and term "environmental design."

Wurster regards an architect as "a responsible professional who is a well-rounded human being, an artist and a technician with a mature sense of social responsibility." His educational training is directed toward gaining a knowledge of skills and — far more important — developing a philosophy which sets his goals.

As a leading architectural educator, Wurster believes that a college education should afford a broad program of intense intellectual and cultural study which should be combined with the apprentice training received in an architectural office. This combination develops a sense of responsibility and maturity. In this sense, one's education is never terminated — an architect remains a student as long as he lives. While the architect is interning in an office, he should receive a well-rounded training, a tenet which includes studying the building, both before and after its completion.

Wurster's office is anything but a one-man design show. It runs as a series of teams and each team develops several jobs. He has always thought of his office as a training ground which gives total experience to the apprentices, preparing them for the time to go on their own.

To Wurster, "Architecture is an individual effort even when it is expressed in group action.



A residential palette: Heller House, 1951, Lake Tahoe, Nevada; Wurster Beach House, 1962, Stinson Beach; Pope Ranch House, 1958, Madera; Clark Beach House, 1937, Aptos; and Salz House, 1954, San Francisco.

The emerging result of the group comes from the sum of the individuals." Perhaps it is this statement that provides the clue to understanding how one office could have produced work so consistently personal in expression.

Architecture and the Client

"The architect must be many kinds of man but in every role what he mainly supplies is imagination — esthetic imagination, technical imagination and above all, *human* imagination." A personal interest in people, their activities, habits and desires is important to the architect since architecture is the shaping of spaces to meet human needs. The ability to translate these needs into beautiful structures or spaces depends not only on the highest qualities of knowledge, sensitivity and visual imagination, but on a mature leadership full of understanding and feeling for people. Perhaps no greater compliment could be paid to Wurster than what a client of his said to me, "I love my house and it loves me!"

This ability to impart a true feeling of ownership is reflected in the statement by Wurster, "Never obtain a decision from an owner based on anything else than what is under discussion. It is all too easy to drive clients into the need of asserting themselves. Be flexible in mind — nothing is impossible, at least as far as giving it consideration. Some crazy ideas may have a germ of truth or beauty or greatness. As architects we have the opportunity of dealing with people at a happy, expanding time in their existence. Now buildings usually reflect hope and faith in the future on the part of the owners, and it is the architects' job to help bring this hope and faith to realization." It is this concern for the human values in architecture that give to the works of Wurster a quality which is sympathetic to the rhythm of life.

In addition to these philosophical viewpoints on environment, architectural education and the client, there are certain architectural ideas manifested in the works of Wurster.

He is generally considered a regionalist. Therefore, it is necessary to understand his views on regionalism. Wurster claims that "Regionalism does not exist for its own sake but only if it fits the problem." His architectural expression is simply an adaptation of the California way of living which considers climate, natural resources, social structures, ideological aims and architectural heritage. He fits each design to its purpose, its occupants and its site.

A few examples would make this point clear. The already cited Gregory Farmhouse provides

an antidote for the complications of city living. It is a house intimately related to its natural setting and is an ageless reflection of the active informality of the western way of living. Situated on a high knoll in the Santa Cruz Mountains, it has a commanding view of the rolling valley to the southwest. The long low lines are harmonious with the surrounds and the overall effect of the massing implies the simplicity of the exterior interior relation. Organized around a large central court, the layout expresses simple, gracious hospitality and recognizes the love for out-of-doors living as well as for personal privacy. The unaffected simplicity of the forms and the intelligent use of simple materials give to this house the lasting charm of the best in a carpenter tradition.

The mountain retreat of the Edward Hellers built at Lake Tahoe, Nevada, has a lyric beauty in its harmonious integration of setting, form and materials. Located at the edge of the crystalline blue lake in the Sierra Nevada Mountains, it is a bold statement whose very form and mass seem to become a natural part of the rugged landscape which surrounds it. The large unobstructed interior spaces generate a feeling of relaxation, comfort and quiet while also affording a sense of protection from the climate and the terrain. The nature and use of each material becomes articulate and is an integral part of this approach to practical, easy living in close touch with its environment.

Wurster's Stinson Beach House, built as a "getting away place" for him, his family and friends, as well as the Clark Beach House in Aptos, California, both indicate a complete understanding of the unusual climatic conditions of the California coast. Both are on an exposed sandy beach facing the Pacific Ocean and reflect a concern for the often unpredictable weather as well as providing privacy from the beach itself. The open plans maximize on the beauty of the ocean and the backdrop of dunes and rolling hills.

The Pope House is a "ranch," located in the hot and dry San Joaquin Valley near Madera, California. The dramatically simple form is reminiscent of houses on the large ranches of early California and is a natural response to the climatic conditions of the area. The broad verandas, the thick adobe walls, the living quarters raised to the second level to take advantage of the cool evening breezes are all local solutions to the unique problems that arise from the intense heat of the valley.

The Salz Residence is a city house. It actually combines the advantages of urban convenience with the freedom of country living. Located on a noisy and busy street in San Francisco, it is sensibly set back and screened from the street by small gardens and fences which allow for maxi-



Continuance of scale: US Consulate, 1958, Hong Kong, and Center for Advanced Study, 1954, Palo Alto.

imum usability and privacy on a city lot. The major rooms flow into intimate garden courts and thus create a generous, open quality of enlarged space. Full of ordered surprises and contrasts it suggests an air of dignity and richness, as well as a deceptively casual expression of city life.

A nonresidential building which is most exemplary of Wurster's expression is the Ford Foundation's Center for Advanced Study of the Behavioral Sciences at Palo Alto. Built in 1954, in the remarkably short period of six months from the initial planning stage, the center represents a perfect unity of understanding and cooperation between the architect, landscape architect, contractor and the client. It is a humane approach designed to allow scholars and specialists the freedom necessary for concentrated study of man's behavior. Located in the hills overlooking the Leland Stanford University, it is sensitively adjusted to the wooded site. The arrangement of the study buildings around the central core allows the creation of beautifully landscaped garden courts, intimate spaces for relaxation, and scenic vistas through the group of the surrounding area.

The plan is predicated on a frank recognition of its educational, cultural and social function. It is deeply considerate of the necessary conditions for individual study and affords the requisite atmosphere for group participation. This design complex implies that the architects knew about people since they provided a truly relaxed and casual atmosphere as a stimulant to the strenuous

and complex tasks of the participants. The simple, wood framed buildings, sheathed in local redwood, are the utmost in honesty and clarity in detail and construction. The landscaping, by Thomas Church, a long-time friend and collaborator of Wurster, enriches the setting of the center with the natural integration of planting to the buildings. Thus the ideas of simplicity, practicality and beauty without pretentiousness are reiterated in the entire design.

In Wurster's architectural philosophy, involvement with the total environment has always been central. His own buildings and statements attest to that. He has never lost sight of the fact that architects have a responsibility to society and that civic problems require tremendous energy and imagination for their solutions.

The office of Wurster, Bernardi & Emmons, Inc. is now engaged in many large-scale projects. The implications of growth and development in an office handling work predominantly residential in scale are seen in such buildings as the United States Consulate in Hong Kong, the Golden Gateway Redevelopment Project, Ghirardelli Square and the soon-to-be-completed Bank of America World Headquarters, all in San Francisco.

These buildings are all indicative of the same inherent directness, simplicity and honesty as the Gregory Farmhouse. Only time will tell how successful these designs will be purposewise. The integrity is implicit, the sincerity intense. □



Editor: Philip Dole, School of Architecture and Allied Arts, University of Oregon, Eugene. **Contents:** *The Need for a University of the Building Industry* by Kenneth E. Boulding; *MEB or ECS: Training or Education?* by John S. Reynolds; *The Architectural Student in Architectural Society* by Kenneth H. Craik; *Periodicals in Environmental Design* by Jerry Finrow.

The Need for a University of the Building Industry

BY KENNETH E. BOULDING

It seems to be a universal characteristic of man that he dislikes nature in the raw and from his very earliest stage has been modifying his immediate environment. Once he has food, the next thing he turns to is always shelter, even perhaps before clothing, which can be regarded up to a point as shelter in the small. From the caveman to the high rise dweller the demand for shelter has been universal, and it is essentially a demand

The author: Professor Boulding is with the Institute of Behavioral Science, University of Colorado at Boulder. His most recent book is *The Meaning of the Twentieth Century*. This article expands on his informal remarks to the ACSA Western Region's November meeting at Boulder.

for a micro-environment which would be dry, warm, attractive to the eye and convenient to man's many activities.

One can extend the concepts of shelter to include not only the indoors but what might be called the "modified outdoors" — the garden, the city street, the square, the playground, etc., the essential thing here being that it is artificial, that is, a man-created environment. The wilderness, like New York, is very nice to visit, but few would want to live there, and if he did live there it would cease to be a wilderness. We might call

this whole problem of the creation of an attractive and suitable artificial environment for man the problem of human habitat.

A very casual inspection not only of the human habitats that we encounter every day but also of both the popular and the technical literature reveals that the human habitat is one of the major unsolved problems of our day. In the developed countries, at least, development is almost at the point where relatively few people are hungry or naked. This is not true in the countries which have not enjoyed a successful developmental process. Even in the developed countries, however, large numbers of people occupy habitats which are ugly, inconvenient, polluted, overcrowded and generally highly unsatisfactory, in spite of a considerable long-run improvement from, shall we say, the sod house to the garden suburb.

The lag in solving the problem of habitat is in sharp contrast with our remarkable success in development in some other fields, especially in agriculture, where in the United States, at least, after 200 years of development we have moved from a situation where it took about 90 percent of the people to feed 100 percent, to a situation today where about 7 or 8 percent of the labor force can feed all the rest of us and produce surpluses besides.

Since 1933, per capita productivity in agricul-

ture has increased by almost 6 percent per annum, which makes it by far the fastest developing major sector of the American economy in terms of technical progress. I have not been able to find any similar estimates for the building industry, but I would be surprised if its rate of technical progress is more than 1 percent per annum. It may not be so stagnant as education, but it certainly is not one of the more technically progressive sectors of the economy.

The contrast between agriculture and the building industry is all the more striking when we reflect that historically agriculture has been regarded as conservative and slow, whereas the cities, which are the main location of the building industry, have been regarded as progressive and ingenious. Moreover, it is only in the last hundred years that this striking contrast has developed between agriculture and the rest of the economy. The first place to look for an explanation of this phenomenon is in the educational industry, for the economics of growth and technological progress is essentially a problem in human learning, and human learning is supposed to be one of the principal products of the educational industry.

A quite casual glance at the educational industry suggests an immediate explanation of the paradox of progressive agriculture and stagnant cities. In 1862, the US Congress passed the Morrill Act which set up land grant colleges. These uniquely American institutions were able to divert intellectual resources into the problems of agriculture on a fairly major scale. They not only fostered the physical and biological sciences in their applications to agriculture, they also developed agricultural economics, rural sociology and related disciplines. This has meant that for the last hundred years, the agricultural industry has had an effective organization for keeping it in contact with the on-going developments in all the sciences — physical, biological and social. As a result, we see such things as soil science developing out of geology, artificial fertilizers out of chemistry, antibiotics and hybrids developing out of the biological sciences and so on.

Nor have the contributions of the social sciences been neglected. Technical progress in agriculture in the US actually was rather slow up until about 1933 and it is only since then that it has achieved such a spectacular success. This is not unrelated to improvements in farm management, in the information systems involved in farm decision-making and, though perhaps accidentally, to government agricultural policy. Agricultural price supports may have been instituted under false pretenses and for the wrong reasons, *for on the whole they were sold*

to the American public in the name of social justice, where they have had if anything a negative effect, for they have subsidized the rich farmer and driven the poor one off the land. From the point of view of technical progress, however, the diminution in uncertainty which followed the institution of price supports unquestionably encouraged investment in agriculture and has been an important factor in its astonishing technical progress.

We find nothing to correspond to this kind of organization in the building industry. Even though the land grant colleges did develop engineering, and special engineering institutions like MIT and California Institute of Technology made important contributions to the marriage of science and engineering, this expressed itself mainly in such things as bridges, roads, electrical equipment, machines, and only incidentally in the larger problems of human habitat.

A key problem here has been the role of architects and especially of the schools of architecture. On the whole, schools of architecture have been associated with art rather than with science. This was particularly true in what might be called the Beaux-Arts period, when the main function of schools of architecture seemed to be to teach people how to design a handsome facade rather than a liveable habitat. Even the functionalist reaction, however, did not really solve the problem. In many ways it made it worse, throwing out art without really including science, which has left the architects on a kind of traffic island in the middle of two thoroughways. The functionalist doctrine, that whatever is useful must be beautiful, has resulted in the vast proliferation of hideous shoeboxes and a sad loss of interest in the value of ornament. Ruskin certainly went too far in virtually identifying architecture with ornamentation, but the functionalists surely went too far in the other direction, for function and beauty are two problems and not one and they have to be solved together. Furthermore, functionalism never really promoted any thorough study of function. Function has always been what architects thought was function, usually drawn off the tops of their heads.

Architecture, therefore, *which* should unite the arts and the sciences, has in fact found itself divorced from both of them. The consequences of this divorce are seen in the ugliness and inconvenience of our cities, the festering sores of our slums and the deterioration of many, though by no means all, aspects of the human habitat.

The absence of appropriate educational and research organizations is the most probable cause of the massive failure to allocate intellec-

tual resources toward the problems of the human habitat. In economics, for instance, there are literally thousands of agricultural economists, probably too many indeed now that agriculture is such a small proportion of economic activity. The number of economists who have specialized in the economics of the building industry can almost be counted on the fingers of one hand. Ten or 20 names will give almost the whole literature of urban economics. It is one of the most neglected areas in the whole field, yet this surely cannot be because the study of the building trades would be intellectually unrewarding. Economics, like everything else, is governed by economic principles and the plain fact is that there is no market for building industry economists because there are no institutions that might support them.

In other fields of science the situation is not much different. Where are the sociologists, the political scientists, even more the physicists, chemists and even biologists who have specialized in applying their particular science to the building industry? The answer is that there are practically none. The building industry spends a minute proportion of its total revenue in re-

ARCHITECTURAL EDUCATION: FROM ITALY

"The same notion of needs and services so closely connected with the problems of architecture is the issue at the basis of today's student movements, which seek to understand what is false and what is true in such a situation, to understand the relationship between needs and those desires which, more than reason, form the dynamic element in history.

This transfer of attention from 'need' to 'desire' according to the French psychoanalyst Jacques Lacan, is not the luxury of a wealthy society but the hallmark of every society. The goal of architecture as a manufacturer of continuously different and continually new relationships, as the physical structuring of imagination, is indissolubly linked with it."

From *New Directions* by Vittorio Gregotti. Copyright 1968 by George Braziller, Inc. Reprinted with publisher's permission.

search, probably smaller than any other major segment of the economy. It benefits somewhat from spillovers from other sectors, from engineering, for instance, and from manufacturing. There are a few new materials, such as pressed wood and plastics, but these have developed largely as byproducts of other activities and have been developed by the suppliers rather than by the consumers.

The stagnant condition of the building industry is reflected admirably in the fact that between 1900 and 1960 there was no change at all in the proportion of the labor force employed in construction in a period when we were able to

release millions of people from agriculture. This figure suggests indeed that whatever improvement occurred in construction in this period originated almost wholly outside it in the shape of cheaper and better materials.

What we need is clearly a Morrill Act for the building industry. Whether we should set up completely new institutions to be called perhaps UBI's (Universities of the Building Industry), whether we should add schools of the building industry to other institutions, or whether we should expand existing schools of architecture to include architectural economics, architectural sociology, architectural physics, architectural chemistry and so on I do not really know. The name UBI has its attractions, being the Latin for "where," and what we need to create, if my readers will forgive the play on words, is "an awareness of whereness." It is the "where" of our society, that is, precisely the human habitat, which has been so scandalously neglected. A massive intellectual effort in this direction in the coming generation could hardly fail to have large payoffs in human welfare and satisfactions.

The establishment of universities of the building industry might have impacts far beyond the building industry itself. Architecture is probably the most strategically located discipline anywhere in the university system for the integration of what C. P. Snow calls "the two cultures." It is precisely in the study of landscape and habitat that the arts and the sciences need to combine.

I am not suggesting in any way that architecture should abandon its traditional association with the arts. This indeed is essential and it would be disastrous if the scientists got complete control of anything! On the other hand, if architecture can see itself as a mediator between the arts and the sciences, developing and encouraging the application of the sciences to the problems of the human habitat, it could become a keystone in the educational arch. By itself, however, architecture cannot do this. It simply does not have the financial resources. Agriculture by itself would never have developed the extraordinary intellectual effort which has gone into it had it not been for the assistance of government.

What is needed, therefore, is a combination of visions, a vision on the part of the architect as to what is possible and a vision on the part of government to make it so. I am not sure that we want alabaster cities, and I am not even sure that I want them to be undimmed by human tear, but there is in that famous national hymn a promise which has not yet been fulfilled. Architects, I suspect, have a quite vital role in fulfilling it. □

MEB or ECS: Training or Education?

BY JOHN S. REYNOLDS

Not quite a decade ago, as an undergraduate at a large school of architecture, I carried an 8-pound copy of the *Ashrae Guide* twice weekly to a lecture called Heating, Ventilating and Air Conditioning for Architects. I also carried a copy of the *IES Lighting Handbook* to a course called Electricity and Illumination for Architects. Both were hated by students and instructors alike.

There was little presentation of how the human body speeds or retards its own heat loss,

ON PEOPLE AND MODERN TECHNOLOGY

"Song and dance are, perhaps, only a little less old than man himself. It is with his music and dance, the recreation through art of the rhythms suggested by and implicit in the tempo of his life and cultural environment, that man purges his soul of the tensions of daily strife and maintains his harmony in the universe. In the increasingly mechanized, automated, cybernated environment of the modern world — a cold, bodiless world of wheels, smooth plastic surfaces, tubes, pushbuttons, transistors, computers, jet propulsion, rockets to the moon, atomic energy — man's need for affirmation of his biology has become that much more intense. He feels need for a clear definition of where his body ends and the machine begins, where man ends and the extensions of man begin. This great mass hunger, which transcends national or racial boundaries, recoils from the subtle subversions of the mechanical environment which modern technology is creating faster than man, with his present savage relationship to his fellow men, is able to receive and assimilate. This is the central contradiction of the 20th century; and it is against this backdrop that America's attempt to unite its Mind with its Body, to save its soul is taking place."

From *Soul on Ice* by Eldridge Cleaver. Copyright 1968 by Eldridge Cleaver. With permission of McGraw-Hill Book Co.

and how that process is affected by heated, moving, humidified air, etc. The human body was not the subject of these courses; we should have already had that, perhaps in an elective.

There was no elaboration upon the extent to which architects make climate decisions at the birth of a building, versus the extent to which occupants make those decisions during the life of that building: no differentiation of the climate needs of various activities, of energy sources in nature vs. those man-made, or a comparison between life expectancies of structural vs. mechanical systems. This was not the subject of these courses, either; we should have already had all

that in design, or it was just a common-sense kind of thing that needn't clutter up a specialized course in mechanical equipment.

Architecture, after all, was a process of making *all* the right decisions regarding how a building went together and how it looked upon completion. Occupants were the people who moved in afterward and who tended to constitute a threat to the carefully planned building. The only item in my notes from those mechanical-equipment courses regarding "occupants" was an admonition about machines, thermostats and people (in that order of importance): "When a lot of people occupy the same space, they each will want to control the temperature. Give them each a thermostat, but don't connect 'em. Give the janitor a key to the master thermostat, instead. It'll keep everybody happy."

Today, we call the course Environmental Control Systems instead of Mechanical Equipment for Buildings. We recognize that certain decisions are better made by an occupant during a building's life rather than by the architect at its birth. We revel in the changeability of environmental controls, at its shorter life-span and its beautiful capacity to respond directly to the needs and desires of the human occupant. We cherish the unpredictability of energy sources from nature, just as we value the predictability of man-made energy sources. We evaluate a site partially in terms of its collection of microclimates, and evaluate architecture partially in terms of its response to the threats and promises of that site. And we teach environmental controls as we teach design — as an opportunity to take many diverse influences, and to make any one of a number of valid syntheses from them which will benefit the human occupant.

First of all, ECS is an opportunity to look closely at ourselves. The human, his needs and responses, is central to the course. This very subjectivity gives a tantalizing variety to a subject which formerly was so very correct; it defies the "one answer" school (yet we can still enjoy the tangible foot-candle, decibel, Btuh, gpm) in favor of a multiple-possibility approach that is essential to the nurturing of the creative student. When humans are given priority over machines, the course becomes understandable, challenging and enjoyable to students who are still years away from choosing specific equipment for specific spaces. Our universities should encourage

thought and productive response to new ideas, not merely handing down established practices.

ECS is also an opportunity to look at our curriculum, as it is in fact a miniature compound of the program in architecture; combining the designer's skills of synthesizing and communication with the feel for calculations of an engineer. This course tends to be more specific than design, yet many of the relationships between product and people are highly intangible. ECS is less specific than structures, yet its relationship with the human is much more evident. A view of architectural history through attitudes and practices in ECS is most rewarding, as in the usage of daylight through the various cultures and periods. The attitude of the lecturer and the type of response demanded of the student can reinforce the "all-round-architect" nature of the course: When this is done, a student is given yet

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another opportunity to participate in the creative process and to test his strengths and weaknesses in the wide-ranging subject of architecture.

Another opportunity offered by ECS is an additional way to look at architecture. Too often, architectural criticism consists either of worshipful adoration of an acknowledged master, with emphasis on a highly specialized "gut reaction" (however enjoyable it undeniably is), or a sneering dismissal of a building which can be paraphrased as "it exists, therefore it's bad." ECS is a study of the relationship between the human occupant and the *changing* elements of architecture. The continuing process of adjusting is one area of architecture in which the layman — the occupant — has something very valid and often very specific to say. Not the least advantage of an ECS-filtered look at architecture is the opportunity it offers to communicate with the layman.

And so, ECS offers a chance to communicate with society. As our culture, at last, begins to look critically at its physical environment, architects could find themselves able to perform as lucid and relevant critics of our situation. When we teach environmental controls instead of mechanical equipment, we find that water pollution is a large portion of the "plumbing and sanitation" study. We find thermal and visual pollution influencing power generation-distribution, and sonic pollution affecting acoustics. ECS becomes in part a commentary on the evils of excess energy, created and released by the combination of an advanced technology and a retarded society. In this sense, ECS could become

the kind of course that is taken as an elective by students from throughout the university, their input contributing to the breadth of the course.

If the student is to receive the full benefit of a course which offers him a new look at himself, his curriculum, architecture and society, the lectures must be accompanied by ample opportunities for his response. Participation in the creative process, analysis of the machine/human relationship, calculations which support suppositions, communication with occupant/layman, and observation of impact upon surroundings are all necessary procedures to the student of ECS.

One technique for such an exercise is to assign an investigation of an existing facility, with the responsibility for evaluation and suggestions for improvement. To prepare a student so that his contact with a "real" situation will produce analysis rather than rejection, we give several lectures on a topic before assigning the problem. These start with a broad view, with emphasis on the productive controversy which can arise from a consideration of what is unknown about the subject.

As a specific example, this procedure was followed for the plumbing-sanitation section of the course, which we referred to as "water supply-use-return." The first lecture presented some of the massive water-supply schemes lately hatched and their relation to water usage practices ("while exciting to realize that we have the technological ability to move such masses of water, wouldn't it be even more exciting to find that we don't have to?").* Also included were lectures on sources — paths — treatments of water related to the evapotranspiration cycle, distribution and collection systems and waste treatment methods. This last lecture was given by an able young representative of a large sanitary engineering firm in our area, whose sense of urgency and commitment regarding water pollution-waste treatment was happily contagious. Films on water were optional, and the problem was issued:

1. Water source: Special treatments necessary?
2. Water usage: Appropriate quality — use relationship. Efficient in terms of quantity?
3. Water treatment and return: Returned to where? Who uses it next?
4. Interviews with water users and others affected by the installation.
5. Your evaluation of installation.
6. Recommendations for improvement.

The students were asked to work in teams of two to four, and were responsible for choosing both the facility to be investigated and the method of presentation of their findings.

In the process of investigating existing facili-

* James Crutchfield, "NAPAWA: A Continental Water System," Bulletin of the Atomic Scientists, Sept. '67.

ties, a great deal of specific information is fed to the investigator in ways many times more effective than would be possible in a lecture. His sense of urgency about such a problem, moreover, is greatly enhanced when he sees, for example, water pollution happening before his eyes. One team (1 architect, 1 business-construction major) studied water supply-use-return in a small river town near the Pacific. While investigating the return, they asked the owner of a cafe alongside the river what happened to the water supplied after usage. "He asked us what kind of sandwich we'd like." Continued questioning resulted in further evasion, so one went to the men's room and flushed down red vegetable dye. The other, on the river bank, recorded red river water 37 seconds after the first flush.

At the end of each project, a few teams are given the opportunity to present their investigation to their discussion section, receiving feedback from their peers and instructor. The red-dye-in-the-toilet team chose to present their project by color slides and succinct narrative, beginning with stunning shots of the clear cold mountain stream that supplied the town with water. They followed it through the collection pond, the chlorinator, and across the river in a main below a picturesque covered bridge. The cafe was shown, along with a diagram of the various water usages, then the few appalling shots of a river with a red streak (ducks and white covered bridge in background). A simple diagram suggesting the utilization of an adjacent railroad right-of-way for a septic tank leech field completed the project.

It might here be mentioned that we present two lectures per week, to about 100 students. In addition, there are five discussion sections (20 students each) where students are encouraged to ask questions that a lecture room inhibits.

Our course runs three terms during the student's third year. In the first two terms, the basic subject matter is presented (accompanied by student projects such as the above) in acoustics, plumbing-sanitation, fire prevention, HVAC, lighting, power and transportation. We are using McGuinness et al, *Mechanical and Electrical Equipment for Buildings*, 4th edition, and provide a tab-index to the most heavily used information within. The third term is a recycling of the entire course, but now the student project is the design of these systems within a single facility (a project to be shared this year with Structures I). Particularly at this time, the instructor of ECS is fortunate if he also holds a position in the design studio; for this third term is, most definitely, design.

The central point, however, is not which vehicle to use when, but that ECS can present an opportunity to exercise *all* of an architectural student's abilities, on scales ranging from one's own body to the entire society. It represents a kind of specialized design course that nonetheless could conceivably be challenging to any university student. For we are no longer training young architects to use the available machinery and techniques. We are instead educating people to respond creatively to ideas and possibilities. We have replaced one right answer with many, the machine with the man, how to with why. □

The Architectural Student in Architectural Society

BY KENNETH H. CRAIK

The entire contemporary architectural endeavor can be viewed as a vast, complex, perhaps little understood, certainly little studied, socio-psychological system. I will refer to this particular system as *architectural society*.

When I say society I do not use the term as in the phrase the Society for the Preservation of Historic Buildings, referring to a discrete voluntary association, but instead, I mean society as the sociologists and anthropologists use the term, designating a certain basic pattern and structure in the interacting behavior of people.

Viewing the everyday behaviors of all persons engaged in the architectural enterprise as components of architectural society is part of an even more ambitious undertaking — currently in the air — which seeks to formulate the notion of *environmental society*, providing a conceptual framework for studying the activities of *all* persons engaged in designing, planning, managing, constructing, maintaining and setting public policy about the everyday physical environment.

I anticipate that the very idea of environmental society will prove to be a useful and liberating tool in environmental policy formation. However, I plan to deal with a much more delimited

topic, in discussing the architectural student as he exists within architectural society.

Of course, the architectural student himself can be considered as a complex, little understood socio-psychological system in his own right, known as the human personality. So we now find ourselves with two complex, little studied socio-psychological systems, existing at different levels, one individual and one social, and possessing different temporal spans, but each usually seen as displaying such characteristics as: directional tendencies, capacities, structure, identity, unifying principals, sources of strain, techniques for controlling strain and emergent processes of change.¹ A double-complexity, at least, yet the description of *that* individual system as it develops within *that* social system would constitute a description of *the process of becoming an architect*.

We are a long way from achieving such a description — we are closer to the starting gate than to the finish line — but I would like to offer some observations about important stages and transition points in the process of becoming an architect, including recruitment and selection, educational programs and institutions, and the immediate post-educational career. I will have little to say at this time about the architect in maturity, in which we find the cycle of generations complete. However, if some young architects offered themselves for study, I am sure we could begin to make some headway on this topic also.

One set of observations will deal with implications of research on the creative person and the creative process; a second set will illustrate additional points at which readings might profitably be taken of the functioning of architectural society, and a final set of comments will touch upon the issue of change and continuity and its implications for the perspective I offer.

First let me briefly set the context for research on the creative process and the creative person. Many attempts have been made to describe the creative process. These descriptions, based upon the self-reports of individuals who have believed, with some justification, that they have experienced the creative process, display an encouraging amount of agreement.^{2,3} Indeed, it is from these descriptions that the classical account of the creative process has emerged, which identifies it as distinguishable phases: preparation, incubation, illumination and verification.

It is worth noting that in this consensual view, the creative process is not a unitary, homogeneous phenomenon, but rather is a temporal composition of distinct elements. Indeed, when the psychological demands of these elements are examined in fine grain, the creative process appears to be a most unnatural, ungainly, contra-

dictory and inharmonious psychological montage. In turn, the individual must be alert and dreamy, detached and engrossed, naive and skeptical, concentrated and distracted, diligent and lazy. But one overriding requirement looms large: that the person be capable of meeting not some, but all of these demands. Moreover, if the person possesses a disposition toward creativeness, it is likely that several strands of the creative process, relevant to different problems at different stages in the process, constantly coexist and interact.

The classical account of the creative process has gained additional credence recently from psychological studies of creative persons.⁴ For the pattern of traits, dispositions, personal attributes, motives, and capabilities that distinguish the more creative from the less creative person appear to be just those powers that would enable an individual to sustain and endure the creative process, so described. The extent of this compatibility between the demands of the creative process and the characteristics of the creative person can be gauged by a brief review of each.

I have noted that in a person with an enduring disposition toward creativeness, there will be an intermingling of stages and strands of the creative process, but for the sake of clarity, I will discuss the psychological demands of each stage.

Preparation. The stage of preparation entails several requirements. The individual must be sufficiently acquainted with the structure of his intellectual, artistic or scientific field to enable him to recognize or put to himself a problem, or discrepancy, or vision. In order to acknowledge the existence of a problem, he must often have the independence to perceive gaps and inadequacies in accepted understandings and in common sense wisdom. He must have the personal qualities that allow him to devote himself to the problem, to direct his attention and invest his energies in its solution.

Incubation. Having brought his skills, knowledge, and inquiring vigilance to bear upon the problem, along with the authority of his discipline and the indications of his own past experience, in a focused and conscious attempt to reach a solution, the individual must then be able to withdraw from the certainties of skill and knowledge to the uncertainties of his inner depths and processes, from the specifics of analysis to the haziness of an-as-yet-unrealized synthesis. He must become detached rather than engrossed, passive rather than active, openminded rather than critical, diffuse rather than concentrated. Here the ability to turn from analytical, differentiated thinking to analogical, metaphorical thinking becomes crucial.

Illumination. The stage of illumination is frequently described as a period of exhilaration,

excitement and elation. The long-awaited synthesis or insight may come in a flash of clarity, but as often comes in a swirl of ideas and images, tumbling upon each other in a frenzy of groupings and regroupings that gradually achieve a coherence and order which sparks off implications in all directions. This is an unusual state of consciousness, somewhat akin to dreaming and to ecstatic states. In order to reap the fruits of preparation and incubation, the individual must tolerate, even welcome, this strange state of mind. Now, he must suspend the boundaries of his daily consciousness, and also his critical judgment.

Verification, elaboration, realization. Having let go, the creative person must now pull himself and his insights together, to evaluate the results critically and, if so warranted, to ready himself for the working out of his insights in the actual world. He must evaluate his solution and carefully judge its appropriateness to the problem. This process involves a different, and even more demanding, kind of detachment than that achieved during incubation. Here he must appraise the merits of his own product. He must modify, elaborate, adapt, or even discard. If he can finally look with favor upon his solution, he must test it, express it, construct it, or in some

The author: Mr. Craik is assistant professor of psychology and assistant research psychologist with the Institute of Personality Assessment and Research, University of California, Berkeley. The text is an address he delivered at the June 1968 ACSA convention in Portland, Oregon.

similar way, realize it. While the periods preceding, with the possible exception of the stage of preparation, have been solitary periods, now the individual faces a period in which he must confront the hard reality of men, matter and events.

In describing the characteristics of the creative person, I will focus upon the study of mature architects, directed jointly by Donald W. MacKinnon and Wallace B. Hall of the Institute of Personality Assessment and Research.^{5,6,7,8} Many of the findings yielded by this project are similar to results of other investigations.⁴

The more creative architect possesses a sense of destiny with respect to his own career, an inner conviction in the worth and validity of his own efforts. He is strikingly independent, both in an ability to resist an experimental group pressure for consensus and in displaying a strong need for achievement in situations where autonomy and independence rather than conformance are positive behaviors. Although the majority of all architects studied, both more and less creative, were found to be introverted, the more creative architects demonstrate distinctive modes of social

alone, to neither be included in others' activities nor include others in their activities.

The more creative architects show above average intelligence, demonstrating more *pronounced* gifts in spatial rather than verbal intelligence. But their mental functioning is particularly characterized by a high degree of cognitive flexibility and ideational fluency, and by a uniqueness of perceptions and cognitions, i.e., images, symbols, word-associations, etc. In addition, they are more psychologically minded, more flexible, and more feminine in their interests.

Although the more creative architects display a preference for complexity that allows them to entertain discrepancies and discern anomalies, an intuitiveness and perceptiveness that allows them to make full use of the stages of incubation and illumination, and a flexibility that enables them to move through this diversity of psychological states and operations, also they display a firm, consistent and earnestly held set of standards and values.

On the basis of such research on the creative process of the creative architect, I would like to offer some comments on 1) the early identification of creative talent in architecture, 2) the care and management of creative students, and 3) the organization of the curriculum around the creative process.

The identification and selection of creative persons in architecture. The assessment study of mature architects, which involved the use of multifold tests and procedures, has identified several measuring instruments that show promise in the practical problem of predicting to the criterion of creative performance in architecture. The operational use of such procedures is still in a stage of experimentation and study.

The entire research program on creativeness, as well as the work of other researchers in the same field, has revealed several misplaced emphases in selection and admissions programs in many areas of endeavor.⁹ There has been an over-reliance upon traditional tests of general intelligence and upon tests of ability and aptitude. Many tests of professional aptitude have displayed surprisingly little validity in predicting to later professional performance. On the other hand, there has been a relative neglect and underestimation of the potential usefulness of measures of personality dispositions, motivation, interest patterns and value orientations in the identification of creative potential and in the prediction of creative professional performance. In the research on the mature architects, the most impressive correlates of the concurrent ratings on creativeness were demonstrated by such tests as the California Psychological Inventory, the Barron-

Blank, the Myers-Briggs Type Indicator and the Allport-Vernon-Lindzey Study of Values.

One further precaution. Talk of "the creative person" is misleading to the extent that it suggests a single, universal style of performance among creative individuals even within the same profession or discipline. On the contrary, there is a diversity of modes of approach to any field, even among a group of practitioners already selected as having in common the attribute of the high rated creativeness of their professional work. In a study of creative research scientists, for example, eight stylistic types of researchers have been tentatively identified, namely, the Zealot, the Initiator, the Diagnostician, the Scholar, the Artificer, the Esthetician, the Methodologist and the Independent.¹⁰ These types are distinct in their approach to research, in their styles of identifying and coping with problems and in their personal attributes.

The care and management of creative students.

Until the results of the studies of architectural students have been completed and analyzed, one must extrapolate from the results of the study of mature architects. A risky business, but if one does so, one imagines the creative young architect to be an independent, intelligent, introverted creature, free of excessive impulse control.

He will likely not make great demands upon the teacher for constant supervision, guidance and tutorial handholding. The demands he will make upon the teacher will be of a different order and will probably hit closer to home. The creative student may at first keep his distance but have the teacher under close surveillance, appraising his real commitment to the field, his scope and talent, his values and beliefs and, in a more basic sense, whether the teacher is truly "there" and whether he really "means it." If the teacher fails this assessment, the creative student may treat him with detachment and scorn.

However, if the teacher wins the student's confidence, he may find himself with the challenge to make himself appropriately useful to the student, responsible for fostering rather than hindering his development. Either way, the care and management of creative youngsters requires a special kind of devotion.

The organization of the curriculum around the creative process. The characteristics of the creative process and the creative person clearly speak against educational programs that feature rote learning, repeated drill of material and excessive concern with memorizing material in an isolated fashion.¹¹ What then ought to highlight the educational program in a creative profession? In sketching an appropriate framework, I shall borrow heavily from the principles that have been formulated by Crutchfield and Covington,¹² for

the methodology of programmed learning in creative problem solving. Although their concern has been with techniques for programmed instruction, I believe their principles are more generally applicable to curricula in the creative professions. Of course, Crutchfield and Covington should in no way share the responsibility which is mine for making this extrapolation.

First, provide an introduction which explains the concept of originality and illustrates how original ideas and solutions differ from common ones; provide guided practice in discriminating between original and unoriginal ideas; promote development of a sense of the nature and experience of the creative process; encourage and exercise the use of analogical and metaphorical thinking and imagery; instigate the search for symbolic equivalents of experience in the widest possible range of sensory and imaginal modalities, etc.

Second, give the student frequent, repeated practice in making creative responses directly within the context of meaningful creative tasks. Often, projects may be set for the student in architecture which meet the criteria of demanding creative responses to meaningful problems. But the projects may involve a considerable amount of ancillary work which takes valuable time and effort. Thereby, the criteria of eliciting repeated and frequent creative responses is not met. The concept of rehearsal in the performing arts may be relevant here. Rehearsal is the hallmark of music, the dance, drama, and in an individualized sense, often of literary endeavor. In many ways, architecture too is a performing art, the performance consisting of the solution of a certain class or domain of problems. Thus, rehearsal in the generating and confronting of problems demanding creative responses might be considered a crucial ingredient.

Third, insure the careful pacing of individuals through a range of problems, so that the increasing complexity and difficulty of the problems are in step with the rate of each student's development. In this way, his self-confidence in his own creative powers is reinforced; he experiences a greater feeling of assurance in coping with complex information lacking initial closure; he develops a trust in the intuitive approach to phenomena and becomes more familiar with the inescapable vicissitudes of creative activity.

Fourth, demonstrate an alertness to and appreciation of the crucial differences in preferred cognitive styles among individuals as they generate creative problems and work on them.

Finally, provide appropriate feedback. In the learning of specific skills and subject matter, the appropriate feedback by the teacher is the confirmation of the one "correct" response or answer. However, in the framework presented here, it is

advocated that the practice of specific skills not occur singly and separately, but, to the extent possible, within the global context of whole and relatively complex problems, for the creative act requires the complex integration and coordination of such part-function skills.

I remind you that these observations are based upon extrapolations from research studies. Some are being put to direct, empirical test currently; others could be, and should be, so tested. I will now point very briefly to several other facets of architectural society which are relevant to the student and worthy of systematic research.

The single model versus the mixed model in architectural education. Many architectural schools seem to direct their energies toward the education of a single type of architect, namely, the all-purpose creative designer. Yet, a visit to almost any architectural firm reveals that at some point in their careers, architects sort themselves out and come to perform a wide range of functions, including those who actually ultimately do function as all-purpose creative designers. The naive observer immediately poses the question: Would it not be more realistic as well as more beneficial with at least some tentative sorting out and specialized training of students?

In talking about this matter with both educators and young architects, the frequent reply is that the greatest prestige, as well as the greatest fulfillment, comes to the creative designer. This valuation seems to be shared by teachers and students alike and is reflected in the composition of the faculty, who apparently are, by and large, models and exemplars of this mode of performance. In addition, there is the oft-stated conviction that one cannot make a judgment upon a young architect of school age that he is without the potential for becoming a creative designer. In actuality, it is contended, many architects find the self-assurance and the proper modality for expressing themselves as designers a number of years beyond the school period. The general consensus therefore seems to be that all students should be able to go for the main chance.

In any case, this bridging relationship between the variety and kinds of educational careers in the schools and the variety and kinds of professional careers available in the post-school years deserves research attention. The mismatch can come in two forms: careers available in the field for which persons are not fully prepared, and new educational careers introduced in the schools whose counterparts do not exist in the field. A certain disequilibrium is inevitable, but what is its present magnitude and its consequences?

The temporal unit of maturation in architec-

the creative designer in architectural education raise other considerations. In mathematics, it is often said, with seriousness, that the mathematician who has not made an original, singular contribution by the age of 30 is not likely ever to make one. In architecture, it appears that the potentially creative designer may be just beginning to find himself and to channel and direct his energies at that age. At the other end of the lifespan, many have made their finest statements well beyond their 50th year.

If architecture is indeed an endeavor in which the temporal unit of maturation is much broader than in other fields, might it not be appropriate to spin out the traditional five years of architectural education in a much different manner over time, rather than clustering them in the second decade of the architect's life?

If it turns out to be true that the temporal unit of maturation in architecture is larger than in most professions, i.e., that architects grow more slowly, then architects in their early 30s, for example, might be undergoing a crucial phase in their creative development. And further, the optimal transition through this phase might require a release from the constraints of everyday practice and a return to the atmosphere of experimentation and self-discovery of the school. If this state of affairs does exist, I doubt that the current supply of fellowships for graduate study comes close to meeting the almost revolutionary implications of the situation.

In any case, I do consider the question of the single model versus the mixed model and the question of the distribution of architectural education over the total career of the architect important issues.

Research on the immediate post-school experiences of the young architect would also provide valuable feedback to the schools regarding their impact on the development of architects as persons. The phenomenon I call *professional bereavement* may serve as an illustration. I have observed architectural teams, including young architects, commit themselves wholeheartedly to the development of preliminary design proposals, work nights and weekends for long periods of time under tremendous pressure, come up with imaginative solutions, and then meet with the sudden discovery that the project could not be developed after all. The letdown is tremendous—I experienced it myself simply as an observer—and is not quickly dispelled.

Do the expectations instilled by the atmosphere and ideals of the schools heighten or mute the impact of professional bereavement? Do some psychosociological preparations for professional

within architectural society. Other professions may not handle the preparation for professional bereavement any better, but how well and by what means does architecture handle it?

Before turning to the issue of continuity and change in architectural society, let me note two significant institutions of architectural society that also deserve greater systematic research: the architectural school itself and the architectural firm. Techniques are now being developed which will allow descriptive assessments of educational institutions.¹³ An empirically based typology of architectural schools, in this country, founded on relevant and inclusive dimensions, would add greatly to our understanding of architectural society. Another area of research that may provide relevant findings is the socio-psychological study of the architectural firm. Increased understanding of the factors within architectural practice which appear to facilitate or to hinder creative performance would provide significant feedback to educators.

Now let me conclude with some considerations of continuity and change in architectural society. Barring genuine catastrophe in other spheres, the next 25 years may well come to be known as the Age of the Physical Environment. One clear consequence for architectural society is change, and one foreseeable mode of change is the emergence of new ways of being an architect.

I have already suggested that it would be possible to document the diversity of styles in practicing architecture which exist today, but it is clear that this range is bound to expand even further. This development may have consequences for the identification and selection of creative young architects. Will psychological measurements which may predict future performance in the present context serve in the new situation? Will specialties within architecture emerge, as they have in medicine, which require such distinctly different kinds of talents and dispositions that separate selection procedures will be appropriate for each? Certainly the trick of predicting future performance from admissions assessments is difficult enough at present and calls for constant monitoring of its adequacy throughout the entire system, from assessment and selection to appraisal of performance.

But the emergence of new ways of being an architect also raises the question of the essential identity of the architect. Are there enduring aspects of the architectural endeavor which require a stable array of identifiable talent and character?

I devoted a considerable portion of the spring of last year to completing a review chapter on environmental psychology, a new field of behavioral science which studies the interplay be-

tween human behavior and the everyday physical environment.¹⁴ At one point, when I was saturated with notions of user requirements, activity patterns in space and other behavioral aspects of commodious design, I chanced to go on a house tour displaying some of the residential work of a friend who is an outstanding Bay Area architect. The beauty of one house in particular moved me considerably and I found myself reminded that the architect remains, in part at least, one of the caretakers of the human spirit. As a psychologist with some interest in these matters, I was again impressed with the magic by which a gifted architect, using form and space, heightens the quality of experience and enhances the sense of dignity and well-being of other persons.

To conclude on this personal note, while I urge you and even admonish you to heed the demand for the new skills and competences required by the remarkable conditions now emerging, I entreat you never to relinquish your magic. □

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Periodicals in Environmental Design

BY JERRY FINROW

The only way, at the moment, for researchers of like interest to keep informed of one another's work is through a series of newsletter type publications known as special interest periodicals. Because of their vitalness in reporting current work, they enjoy a great deal of success among subscribers and deserve wider attention from students, educators and professionals. Contents consist primarily of abstracts, literature surveys and reviews of pertinent material related to specific topical areas in environmental design research. These major areas are either behaviorally or design methodologically directed.

Special interest publications differ from other periodicals for several reasons: They report 'hard' research; they tend to be more timely; and they present a more in-depth treatment of research than do other publications. Newsletters similar to these are not a new phenomenon to such disciplines as psychology, sociology or physics; indeed, they have contributed significantly to research development. Newsletters are, however, new to environmental design. Few of them have been published for more than two years, most of them a shorter time.

BEHAVIORAL

Man-Environment Studies. Two special interest publications, both dealing with behavioral material in environmental design research, have recently merged into one coordinated bimonthly periodical to provide expanded coverage of the field. *Man and His Environment Newsletter*, a publication by the American Association for the Advancement of Science, and *The Architectural Psychology Newsletter* of the Department of Architectural Psychology, University of Utah, have formed this new newsletter. Information concerning past issues of either of these publications can be sent to the address given below for the new publication. Primary focus for this newsletter will be behavioral material derived from environmental research in an expanded format from previous publications. Both social and psychological research issues will be dealt with.

Environment Relations, College of Human Development, Pennsylvania State University, University Park, Pennsylvania 16802. A subscription rate to be determined.

However, titles of past articles from the two newsletters which *Man-Environment Studies* will supersede can be given.

Architectural Psychology Autumn 1968. D. Carson, "Environ-

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mental Stress and the Urban Dweller." K. H. Craik, "Human Responsiveness to Landscape: An Environmental Psychological Perspective."

Man and His Environment Sept. 1968. D. Lowenthal, "Environmental Perception Project: Relevance of Research Hypotheses for Environmental Design," Nov. 1968. R. Hershberger, "A Study of Meaning and Architecture."

The DRS Newsletter. Building research in Britain has a much longer tradition than in the US. This quarterly covers the current general research going on in Britain and Europe and includes work on materials and construction methods.

Editors: P. J. Borher and Peter A. Slann; publisher, the Design Research Society, 38 Portland Place, London W.1, England. Subscriptions: \$2 a year. No issues were available for title listing for this article.

Environment and Behavior. This publication has been brought into being to report rigorous experimental and theoretical work focusing on the influence of the physical environment on human behavior at the individual, group and institutional scale. It will be presented in journal format with full-length articles and abstracts dealing with behavioral science issues relating to the environment. It will be published twice in 1969 but hopes to achieve quarterly status by 1971.

Editor: Gary Winkler; publisher, Sage Publications Inc., 275 South Beverly Drive, Beverly Hills, California 90212. Subscriptions for 1969-1971 are \$7 for individuals, \$10 for institutions for the year.

Milieu. Its purpose is to report interdisciplinary research conceptualization and research findings of potential interest to both design and behavioral science disciplines. The newsletter reports on research on a variety of concerns carried out by the Environmental Research Foundation. In addition to the newsletter, full reports are published on the foundation's research.

Editor: Letha Swank; published periodically by the Environmental Research Foundation, 2700 West 6th St., Topeka, Kansas 66606.

Recent articles: Series 1, Vol. 2, April 1968, C. K. Warriner, "Urban Multi-Family Housing"; E. V. Zeller, "Psychiatric Ward Environment and Behavior"; R. B. Bechtel, and R. Srivastava, "Human Movement and Architectural Environment." Subscription free.

METHODOLOGICAL

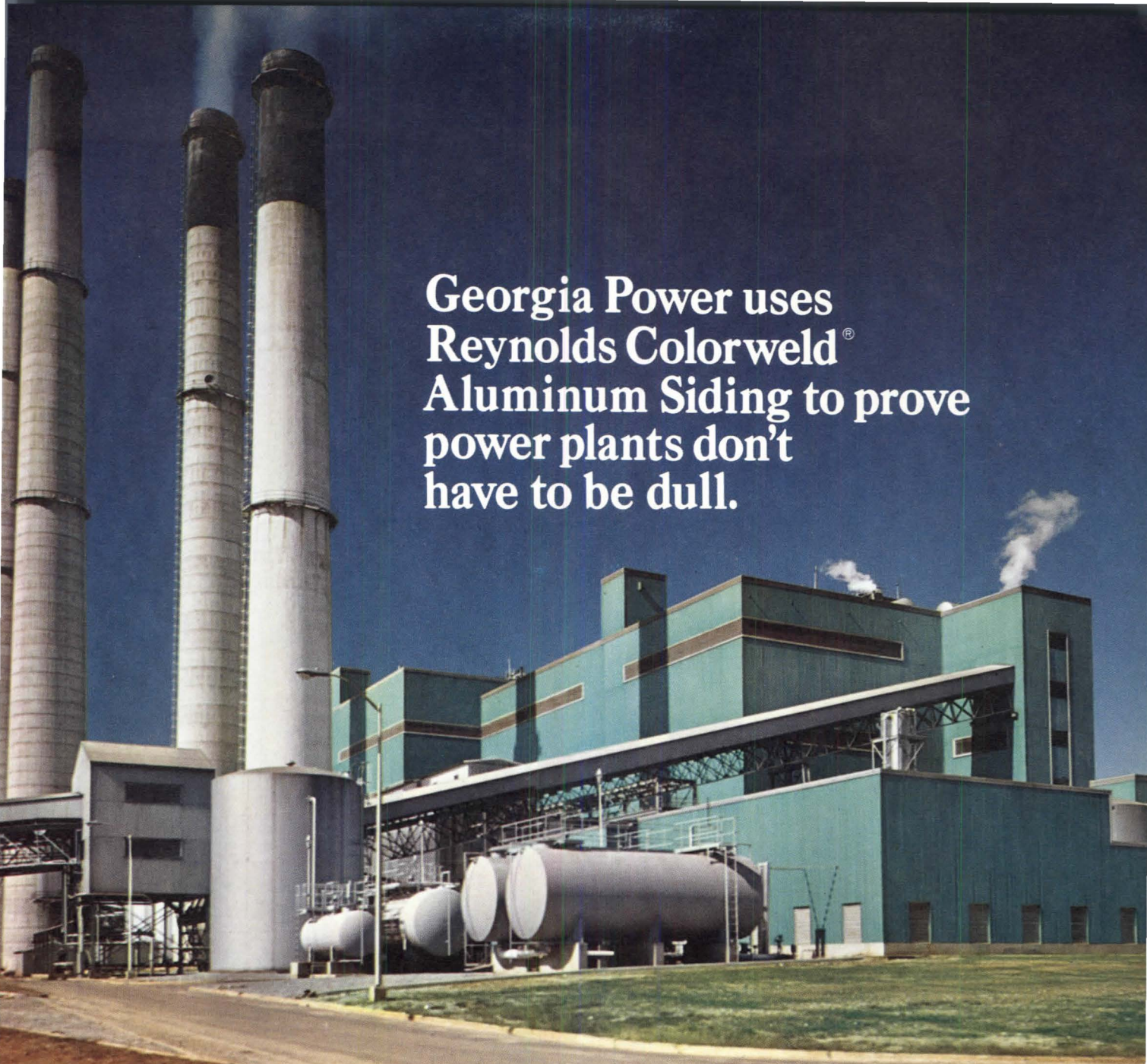
Design Methods Group Newsletter. This seeks to bring together current research on design methodology, encouraging not only 'hard' systems (computer aided, gaming, etc.) but also work on 'soft' systems (design behavior, creative problem solving, etc.).

Editor: Tom Thompson; publisher, Sage Publications Inc., 275 Beverly Hills, California, 10 times a year. Subscriptions: individual \$7.50, institutions \$10, student \$5.

Recent articles: January 1969, W. H. McWhinney, "Organizational Form, Decision Modalities and the Environment"; T. C. Schelling, "Game Theory and the Study of Ethical Systems"; G. Moore, "Developmental Analysis of Problem Solving."

Sigspac Bulletin. As a subgroup of the Association for Computing Machinery (ACM), this bulletin focuses on innovations and recent research into computer hardware and software, basically to provide communication on the role of computation for professions in environmental design. The special interest group areas represented are urban data systems, planning, architecture and civil engineering.

Alan Hershendorfer is chairman of this group. Published quarterly by the Association for Computing Machinery, 2111 East 43rd Street, New York, New York 10017. Subscriptions: non-ACM members, \$8.



Georgia Power uses Reynolds Colorweld® Aluminum Siding to prove power plants don't have to be dull.

Plant Harllee Branch, Georgia Power Company
Design: Southern Services, Inc., Birmingham, Alabama
Siding Contractor: Corbesco, New Orleans, Louisiana

Georgia Power Company's newly-completed Plant Harllee Branch, towering over the woods near Milledgeville, Georgia, gets high marks for combining functional beauty with economy in this handsome power installation.

500,000 square feet of Reynolds Aluminum V-Beam siding were furnished over the four-stage construction sequence of this project, underway since 1964. Of the total, 300,000 square feet of aluminum in panel sizes up to 45" X 30', were given an exterior Colorweld Mint green enamel finish as specified by the utility. The inner surface, in factory-applied yellow Colorweld brightens the building interior.

The remaining 200,000 square feet of lightweight Reynolds 4" Rib panels were easily installed as boiler and duct insulation. These panels were left in

natural aluminum for heat reflectivity.

Georgia Power Company chose aluminum over a variety of other materials suitable for enclosing this huge power installation. Based on extensive prior building experience, as well as a comprehensive testing program, aluminum offered more advantages, particularly in reduced maintenance expectations, at lower cost.

Aluminum's lighter weight reduces the structural load, cuts labor costs for materials handling and installation. Siliconized, baked acrylic enamels stay younger-looking much longer than conventional jobs. Best of all, the aluminum base offers a stable, homogeneous material that will not show red rust (even where cut or drilled), rot, or warp; resists corrosion even in the presence of combustion gases and chemicals.

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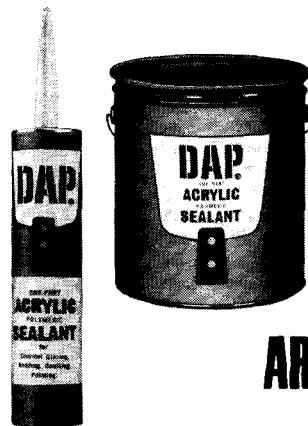
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THIS "TREE HOUSE", with glass-walled "branches" suspended from a center "trunk", offers interesting architectural possibilities, particularly for buildings on crowded, downtown land. With window placement along the entire length of each floor, and with the cantilevered floors tapered to not block daylight, the concept allows outdoor enjoyment throughout the interior space. The "tree house" was designed by Architect Haigh Jamgochian of Richmond, Va., and has been featured in Libbey • Owens • Ford national architectural promotions.



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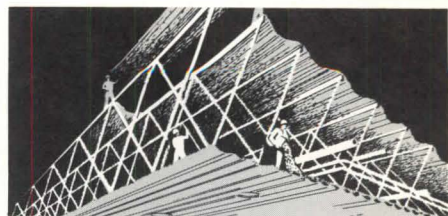
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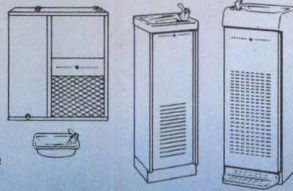
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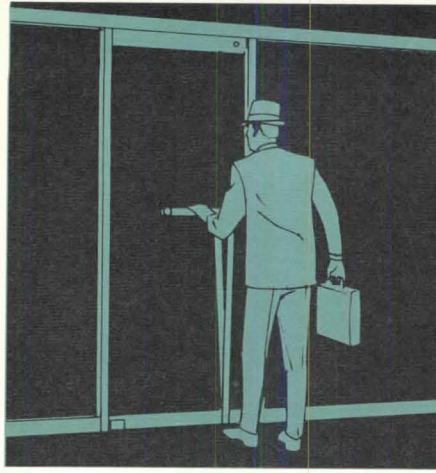
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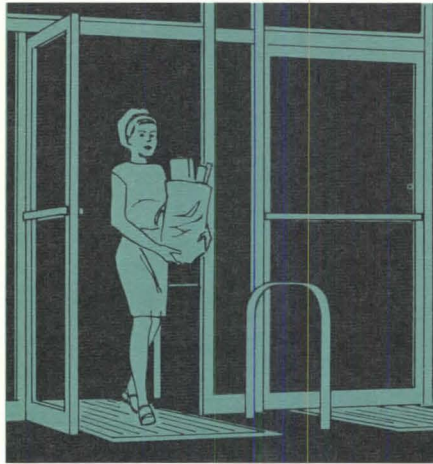
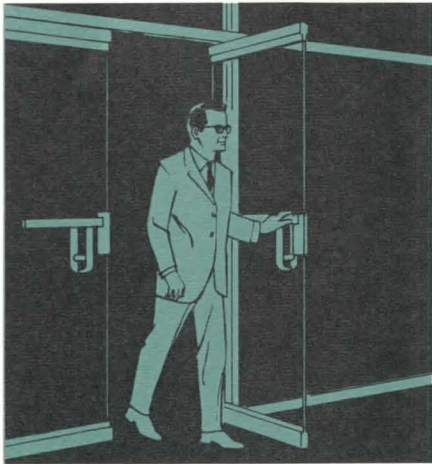
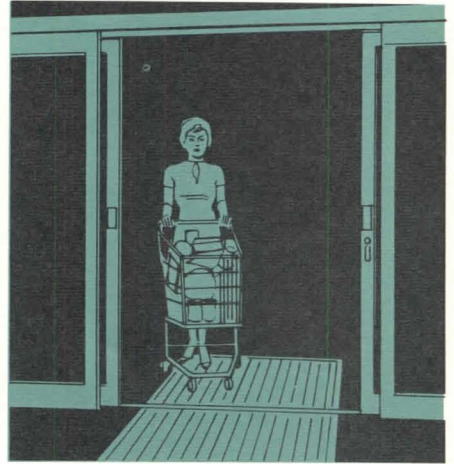
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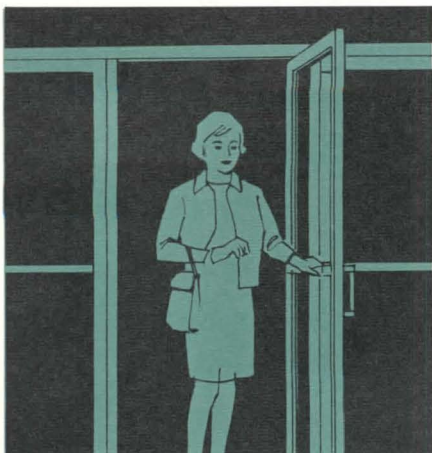
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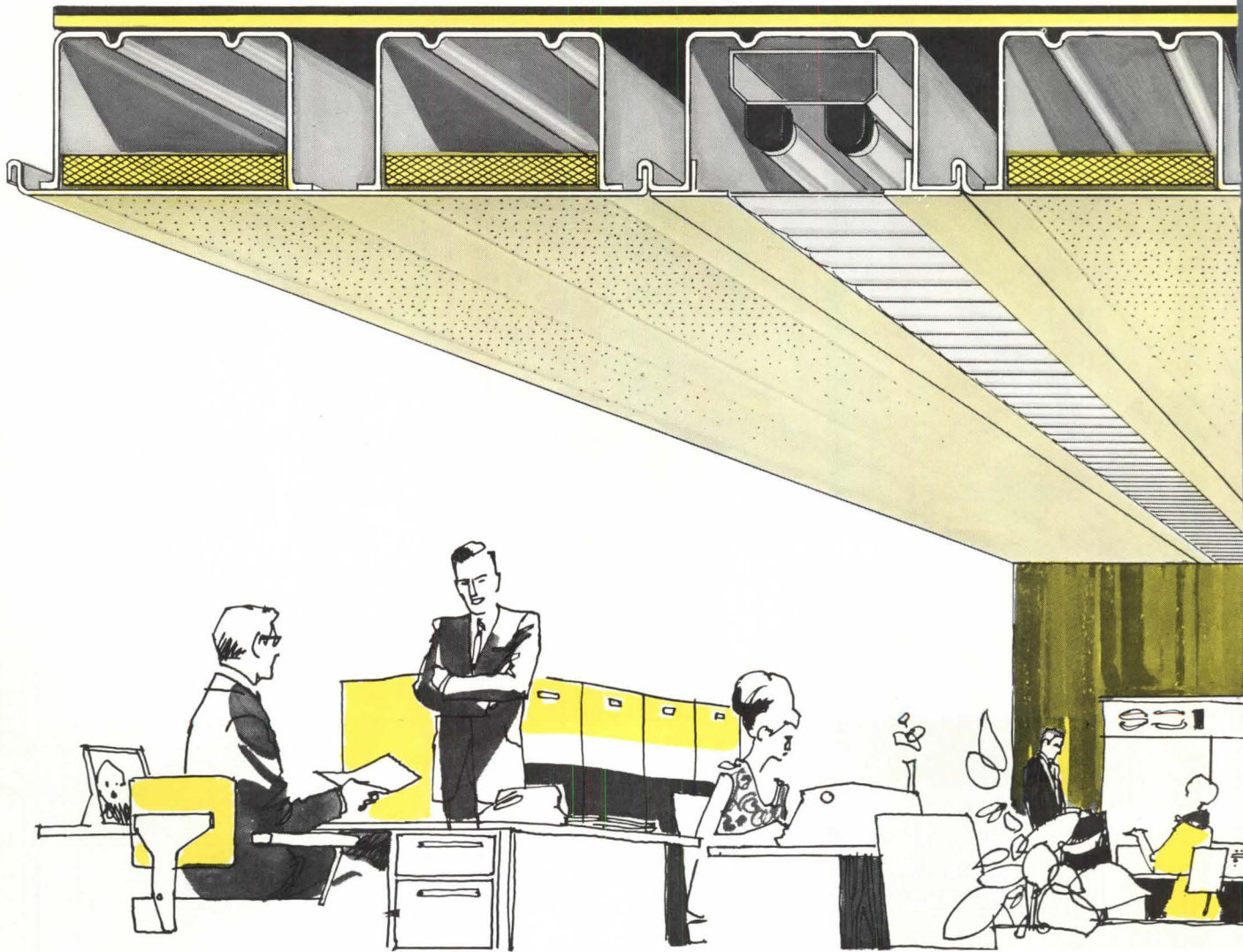
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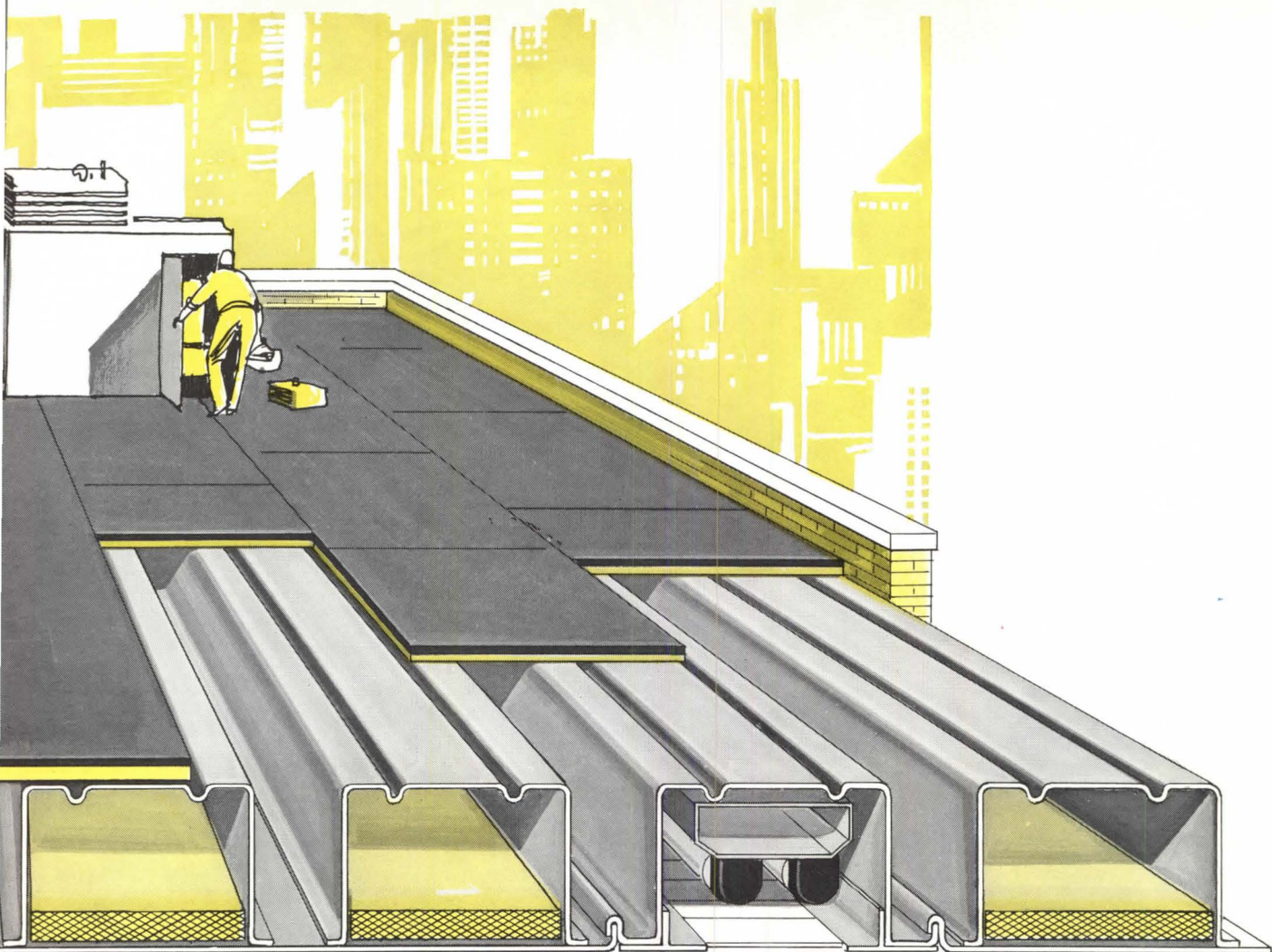
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To See the Redwoods

The long battle for a redwood national park is over. Now the question is: What will happen to the adjacent land, soon to be swamped by tourists? California writer/designer Terry Pimsleur, who has been involved in a number of environmental projects, tells of efforts to save these areas from blight.

In the interest of the public's right to see California's redwood forests, there have been proposals to cut a large swath right through them to put in a new roadway, causing one disgruntled environmentalist to define the state's version of a scenic highway as a "freeway through an area that was scenic before the road was built."

However, a proposal for a redwood route has been presented to the California Legislature that would create a low-speed, meandering recreation route of existing elements in the present transportation system, without adding new roadways in the conservation areas.

The route is seen as a main north-south trunk line with secondary loops branching off to complement it, providing such facilities as pedestrian, equestrian and bicycle trails, wayside parks and rests and the various commercial developments necessary to meet the needs of the traveling public.

Incompatible traffic would be discouraged by selecting roads that "go nowhere" or parallel to more heavily traveled ones. A tax relief for owners of open space lands is suggested, to insure preservation of scenic corridors.

The proposal recommends that present roads be brought up to scenic highway standards, where appropriate to parkway level, and that scenic and esthetic values of existing highways in the area be enhanced, where possible.

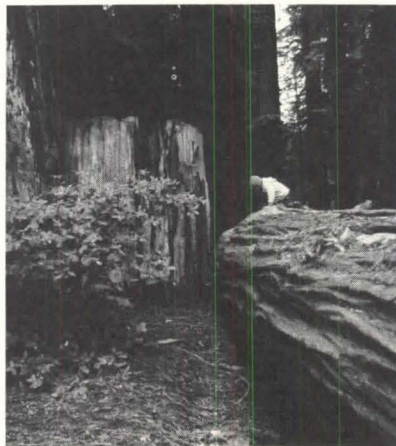
The initial plan for the route was published in a report to the Governor and the Legislature in February 1968 and introduced in the California Senate by State Senator Randolph Collier the same month.

The bill was the result of three years of work by the National California Coastal Scenic Redwood Road Committee, originally ap-

pointed by Governor Edmund G. Brown and reappointed, with all new members, by Governor Ronald Reagan.

The committee knew that a redwood national park, now a reality, would bring an ever greater influx of tourists from in and out of the state. Without careful planning, speculation in the land surrounding the park, honkey-tonk development and the worst kind of exploitation could spoil an area filled with natural wonder.

The heavily forested redwood counties are tied to the lumber in-



dustry economically; their planning and zoning regulations are not set up to cope with an influx of funds or for protection against inferior development.

A coastal scenic redwood road and trail system would not only be a first step toward making travel pleasant. Landscape architect Edward A. Williams, the committee's consultant, envisions it as a help to the local economy, like the Heritage Trail in New England. Research has shown that today's tourists do not stay in the redwood area but drive through, taking their recreation dollars with them.

The next step would be to create a scenic tourist-oriented route extending from Monterey County to the Oregon border.

The only thing missing is the money to implement the program. There had been hopes for \$150,000 in planning funds to establish the route — the \$10,000 budgeted would have been barely enough to keep the committee alive. The

actual demarcation of the route and development of the cultural, historic, recreational and commercial facilities to supplement it are all scheduled for the second phase.

The original report called for the continuation of the committee until a special entity was established which would oversee the completion of the route. But such a governmental agency would have been competing with the parkway program for funds, which in a year when conservationists were already battling for money and state taxes took an unprecedented jump, were a major hurdle. Staff of the Departments of Transportation and Resources tried to work out just where a redwood route program would fit within the administrative system.

A decision was reached by the departments and groups involved and last July Senator Collier withdrew his bill. He submitted instead a Senate Resolution, asking that the further study of the coastal redwood route be placed in the hands of the Advisory Committee for a Master Plan for Scenic Highways, an adjunct to the Transportation Agency.

Some conservationists take a dim view of the proposal's chances to remain intact in the hands of the controversial California Highway Department, but it is still alive in the scenic highway committee, which will report to the legislature this year. It is still too early to tell what the outcome may be, but those closest to the project fear that the redwood route may be chopped down in committee.

Senator Milton Marks of San Francisco, the most urban county along the route, made a strong statement in its support. "Walking and driving for pleasure," he reminded his constituents, "are but two of the primary activities to be provided by the redwood road. From a conservation standpoint, the state's scenic resources are a most important part of our environment and must be protected."

But the strength from the new legislature is from the south — and it remains to be seen how interested those members are in the redwoods. □



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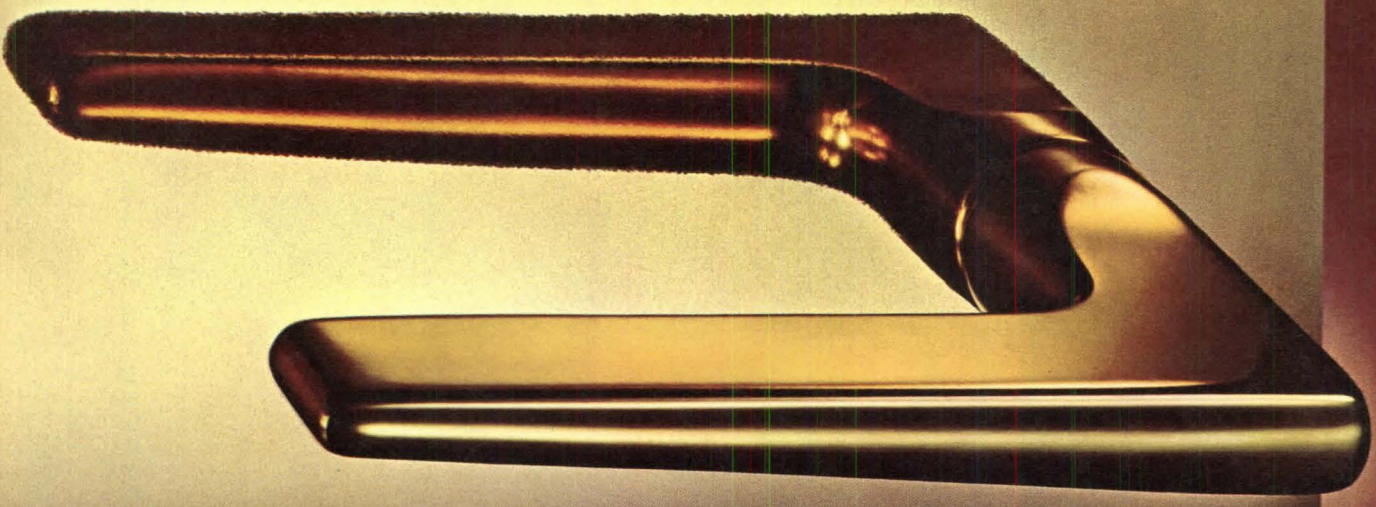
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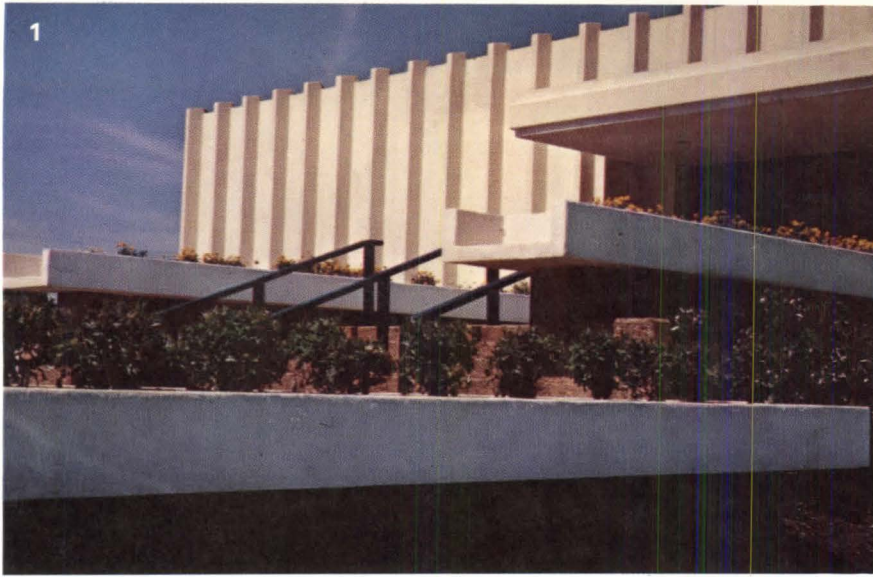
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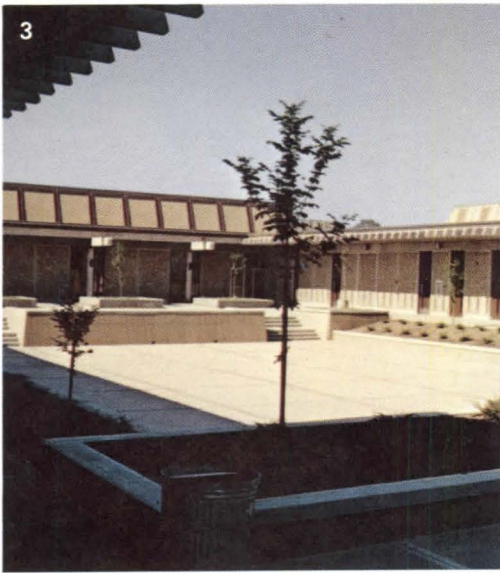


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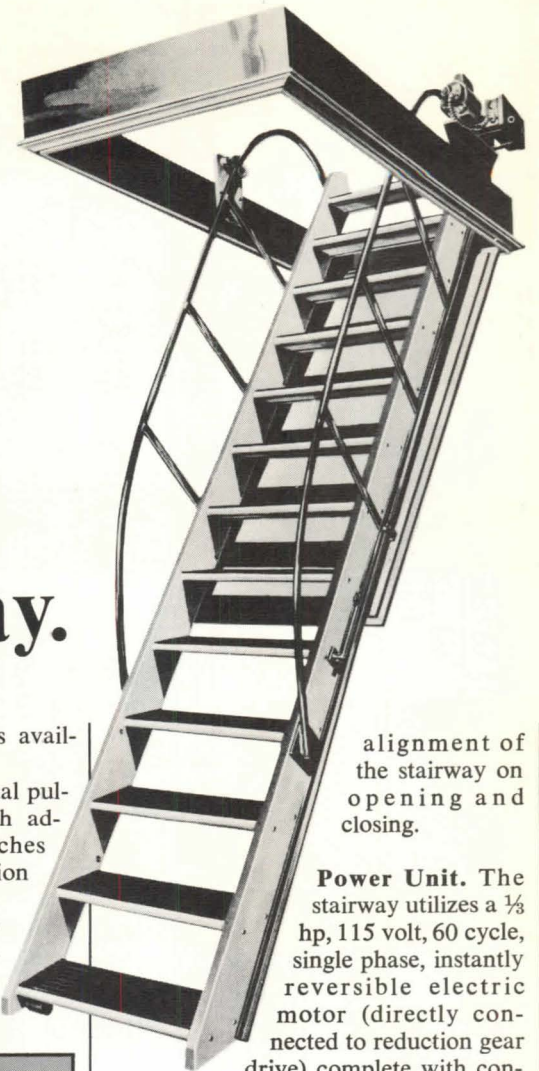
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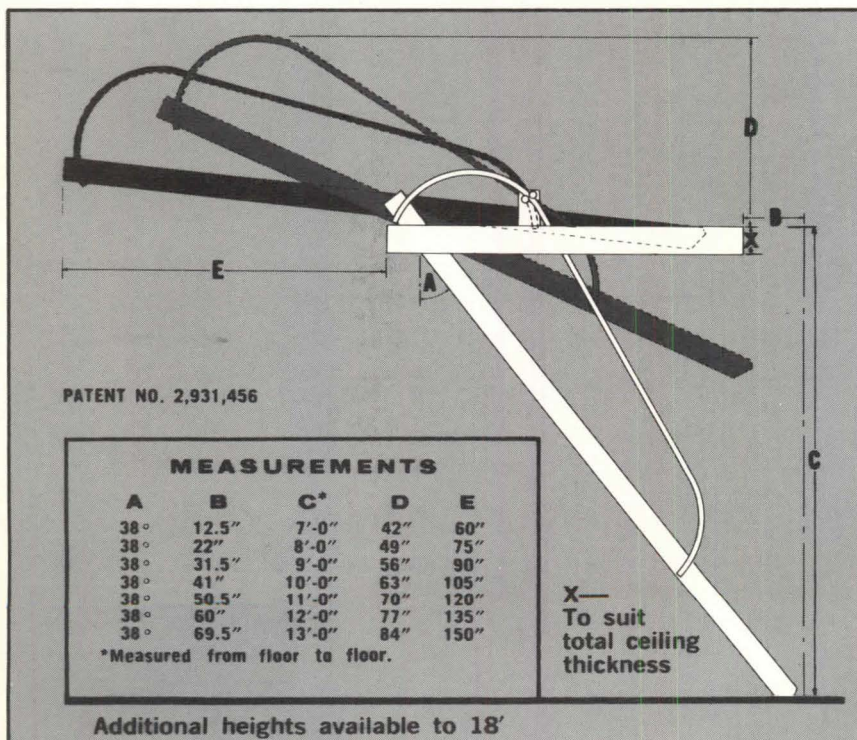
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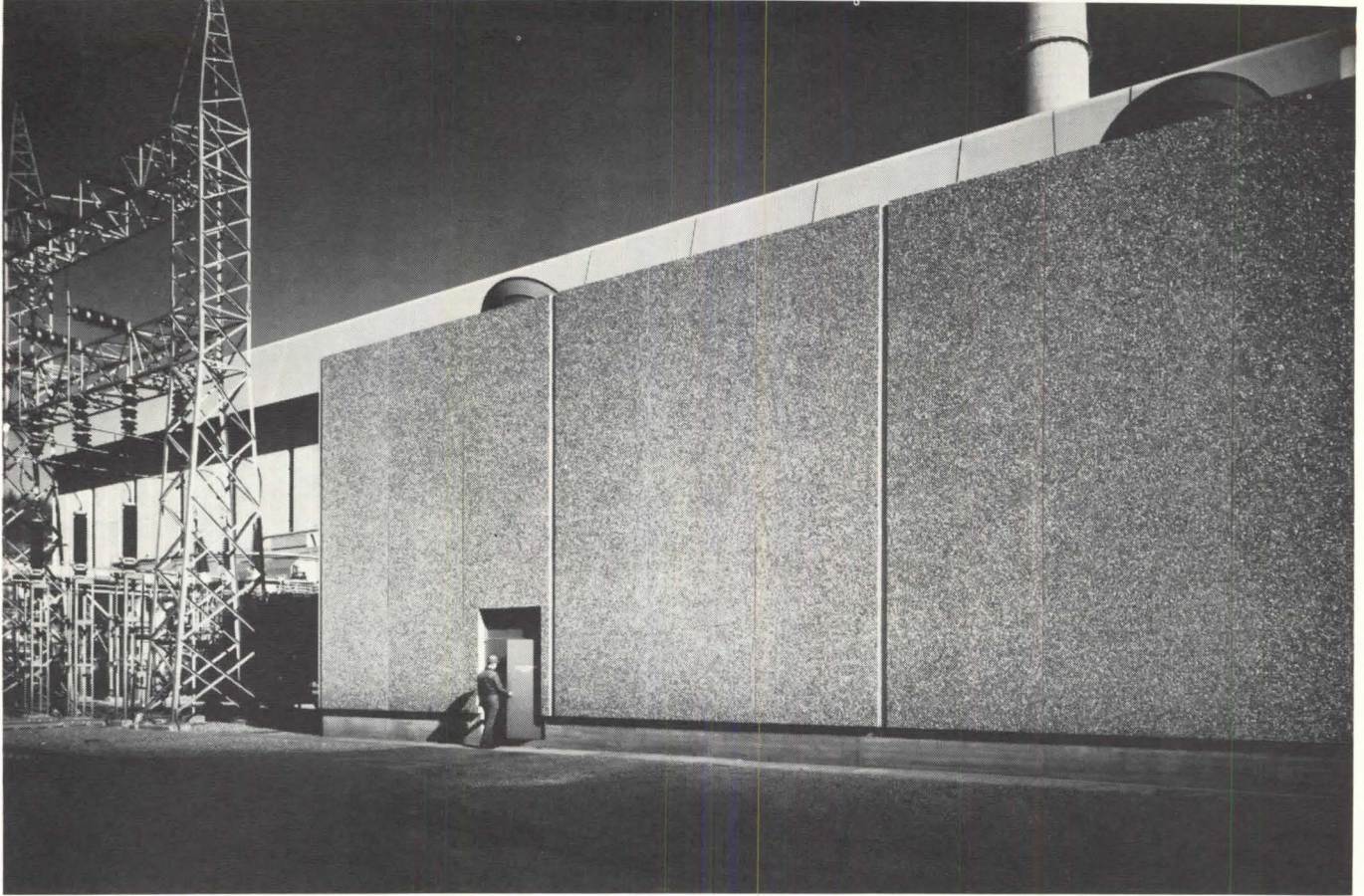
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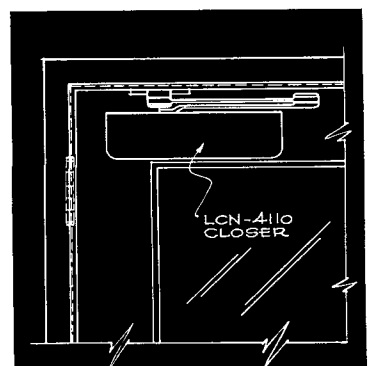


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Books

Architectural Environment and Our Mental Health. Clifford B. Moller. New York: Horizon Press, 1968. 159 pp. \$5.95.

A new challenge is presented to all architects in this psychological study of our environment, and ways are opened for the architect to help shape our civilization instead of simply leaving reflections of that civilization.

The author shows through the research and studies of many sociologists, psychiatrists and statisticians how the architect builds or destroys a healthful environment. One recent example of an urban renewal project shows a distinct worsening of environment at a cost of time, money and community pride. Recognition of human needs through architecture is clearly set forth in several planning fundamentals such as function, circulation, orientation and grouping of units.

A look at suburbia also shows little added except a place for withdrawal of affluent groups. Several ways are considered to bring about better interclass communication.

A better understanding and concentration on spatial qualities rather than form is presented as a way to an environment better suited to mental health.

The potential of architectural planning in achieving mental health is set forth both as a means of interrupting the present "vicious spiral" of the neurotic process, and of providing a healthy mental environment. All of this can be achieved only by research, study and application of these principles to our architectural planning. Although no specific guidelines are given as a technique for mental health environment, the need is shown; the architect must supply the solution.

ELBRIDGE B. WHITE, AIA

Sources of Modern Architecture: A Bibliography. Compiled by Dennis Sharp. New York: George Wittenborn, Inc., 1967. 56 pp. \$4.75.

In compiling his bibliography the author has chosen 101 individuals ranging in birth dates from 1831 to 1928 and, among others, names such as Shaw, Richardson, Sullivan, Wright, Le Corbusier and Gropius.

In each case there is a brief biographical sketch, usually accompanied by a portrait, then bibliograph-

ical references in three categories — writings by; books or monographs on; articles on the individual. This last section is rigidly selective.

Although the individuals are nearly all architects, a few painters and influential critics have been included. Following the main section there is a section on subject bibliography covering aspects of architectural theory, general studies of modern architecture and such topics as the Bauhaus and art nouveau.

There is also a section on references by country, with a concluding selected list of periodicals. Since the author has been selective and helpful in his occasional comments, this should, for some time, prove a useful guide.

Design of Steel Structures. 2nd edition. Boris Bresler, T. Y. Lin and John B. Scalzi. New York: Wiley, 1968. 830 pp. \$16.50.

The purpose of this book, which was first published in 1960, is "to present a rational approach to the design of steel structures and, wherever possible, to correlate this approach with current design practice." The book is intended as a textbook in engineering courses concerned with steel structures; it is useful also for reference. □



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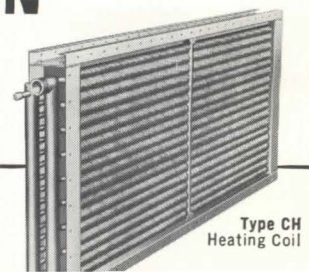
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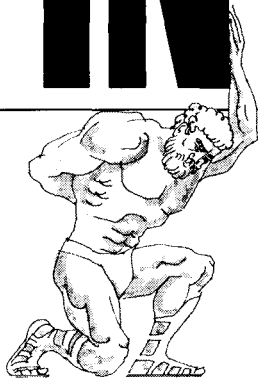
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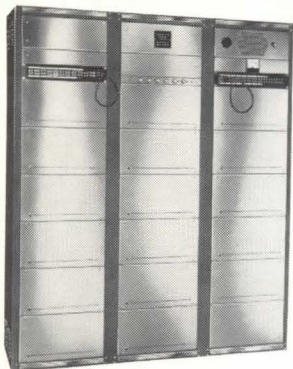
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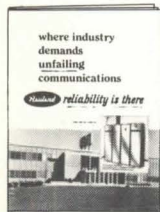


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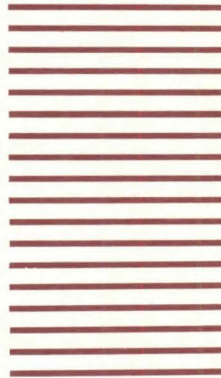
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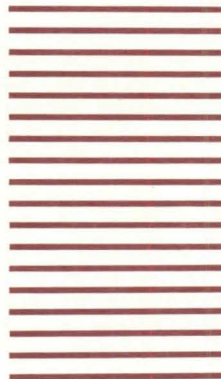
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Calendar

National

- May 22-25:** National Conference on Historic and Architectural Control Districts, Statler Hilton Hotel, Boston
- June 2-4:** Construction Specifications Institute Annual Convention, Convention and Civic Center, Houston
- June 8-11:** Environmental Design Research Association First Annual Conference, University of North Carolina, Chapel Hill
- June 15-20:** American Society of Landscape Architects Annual Meeting, Chase-Park Plaza Hotel, St. Louis
- June 19-21:** National Council of Architectural Registration Boards Annual Meeting, Palmer House, Chicago
- June 20-22:** Association of Collegiate Schools of Architects Annual Meeting, Blackstone Hotel, Chicago
- June 22-26:** AIA/RAIC Joint Annual Convention, Palmer House, Chicago
- June 22-27:** American Society for Testing and Materials Annual Meeting, Chalfonte-Haddon Hall, Atlantic City, N. J.

International

- June 15-20:** International Design Conference in Aspen, Colo.
- June 22-27:** International Hospital Federation World Congress of Hospitals, Düsseldorf

Continuing Education

- June 9-20:** Computer Graphics for Designers course at University of Michigan. Contact: Engineering Summer Conferences, Chrysler Center, University of Michigan, Ann Arbor, Mich. 48105.
- June 15-July 4:** Industrial Planning Seminars. Contact: Muther International, Parkring 53, 8027 Zurich, Switzerland.
- June 17-27:** Computer Aided Urban Design course at Massachusetts Institute of Technology. Contact: Director of Summer Sessions, Room E 19-356 MIT, Cambridge, Mass. 02139.
- July 1:** Applications due, Cintas Fellowship. Contact: Cintas Fellowship Program, Institute of International Education, 809 United Nations Plaza, New York, N. Y. 10017.

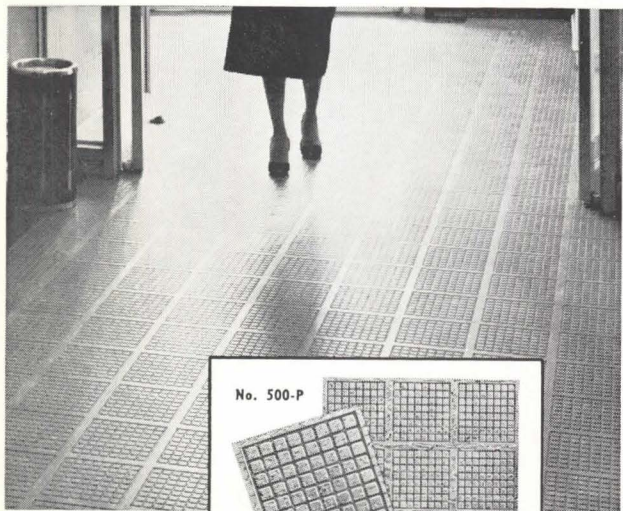
Awards Programs

- June 20:** Inquiries due, limited to postcards, Yamagiwa International Lighting-Fixture Competition. Contact: Yamagiwa Electric Co., Ltd., International Lighting Fixture Competition 1969, 1-1, 4 chome, Soto-Kanda, Chiyoda-ku, Tokyo, Japan.
- July 1:** Submissions due, commercial/industrial interiors in seven categories. Contact: Contract '69, National Expositions Co., 14 W. 40th St., New York, N.Y. 10018.

Tours

- June-Aug.:** Special Travel programs departing from New York, for AIA members. Contact: Travel Wholesalers International, 1707 L St. N.W., Washington, D.C. 20036.
- July 11-Aug. 9:** Art Tour of Mexico, with optional tours to Oaxaca or Acapulco, for academic credit. Contact: Dr. Gifford C. Loomer, Art Department, Western Illinois University, Macomb, Ill. 61455. □

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Letters

Barrier-Free Bouquets

EDITOR:

"Buildings for All to Use" was a stimulating analysis of the obligation of the profession to the development of a barrier-free architectural environment.

Mr. Hilleary's observation that adherence to design standards for the physically handicapped results in buildings more comfortably used by all logically refutes a common criticism that such standards are being legislated to satisfy a sociological minority.

To analyze the problem in our own province, the Newfoundland Rehabilitation Council created an Architectural Barriers Committee, and as its chairman I would like to order two dozen reprints of the article with permission to use for promotional work.

F. NOSEWORTHY, RAIC
St. John's, Newfoundland, Canada

EDITOR:

For several years I have been collecting information on why conference centers should be barrier free and have been looking for pictures and background material. The leadoff article in March looks like a breakthrough.

CHARLES L. SCHAFER
Conference Consultants
& Services
Corte Madera, Calif.

That 'Dirty Term' Again

EDITOR:

With due respect for David R. Dibner's point of view as indicated in his article in the March AIA JOURNAL, I submit that his friend's characterization of the expression *joint venture* as a "dirty term" might more appropriately be applied to the substantive than to the adjective.

In this era of long-range urban and other environmental planning and large-scale and complex building projects, there can be little question about the need for teamwork involving various kinds and degrees of association, or jointness, between members of the environmental design professions, and even beyond. Whether the diverse services rendered should be paid for under a single fee is merely a matter of how these arrangements can best serve the client's needs. But to employ joint venture in

describing the said services or the agreement between professionals as to the basis on which those services will be offered is the result of an overgeneralized use of a term implying commercial enterprise, and thus tending to erode concepts of professionalism. As such it falls in a category with current arguments favoring price competition as a means of securing professional commissions and acceptance of the package deal principle.

As defined by Webster, all current connotations of the word *venture* include the notion of risk, hazard, danger, etc., whereas good professional services are directed at eliminating risks to the success of the construction undertaking, be it from the standpoint of economy, safety, function or esthetics.

While nobody denies the need for a degree of business acumen in the successful conduct of a modern professional practice, material and other forms of progress in the United States have been well served, and will continue to be so, only as long as the design professions are able to maintain the separateness of their responsibility to their clients and to the community.

C. L. MOLINEAUX
Associate Member
Washington-
Metropolitan Chapter AIA
Washington, D. C.

Painting the Town

EDITOR:

In Neil Gallagher's interesting article in January entitled "The Next 100,000,000: Where Will They Live?" he noted that air pollution is credited with adding \$150 million annually to the metropolitan area's paint bill.

This is a very telling statement. I would like to know the source of the figure.

In addition, I would like to say that the subject matter of this article is a very important ingredient in the architect's outlook.

ALBERT MAYER, FAIA
New York, N. Y.

ED. NOTE: Mr. Mayer was sent a copy of New York City's paint bill.

Architectural X-rays

EDITOR:

It's surprising the little we know about our fellow architects. The "crisp little X-ray" on Kenneth W. Brooks, FAIA [Feb.] was quite revealing. The in-depth planning services offered should serve as a challenge to the many firms and

organizations, past and present, charged with the responsibility of replanning Spokane as well as other cities throughout the land.

JOHN W. MCGOUGH, AIA
Spokane, Wash.

Putting Light on the Arts

EDITOR:

The following letter sent to CBS News may be of interest to your readers as an example of an architectural response to an outstanding presentation:

On your fine "Lamp unto My Feet" program, March 16, showing Clare Leighton, wood engraver, and her career expanded into stained glass window design and other fields, you have touched very lightly on a much-needed message which needs reinforcing.

Many painters and sculptors working at the amateur, and especially the professional, level reach a stage in their work where they are composing and designing, not merely copying, a "setup" or a reality. It is not denied that many painters are really picture hunters who find, by searching, the accidental composition. I have heard an artist call himself a "picture hunter." Despite these, there is a large segment of the graphic artists who really develop fine design and compositional skill and insight.

One would think that there would be a great supply of talents available to the crafts and trades to produce a finer product in stained glass, mosaics, ornamental metal, sculptured structural forms, wood crafts and others required in our building arts. This is not the case, and the reason is seldom attacked and the gulf seldom bridged as did Clare Leighton. The cause, as I have found when I tried to enlist the services of the artist to a project, is hard to define, but, simply put, it is a childish mess.

There comes a time in the growth of a child when holding the ball to himself is transcended by the job of passing it back and forth to another. Most painters and sculptors whom I have known have never passed this barrier in their growth. They find it impossible to prepare something for other hands to touch. They must do it all. The entrance to crafts, machines and shops which become an extension of the artist is quite beyond them to accept.

We architects find a need for artists in our orchestra of producers and assistant creators.

FRANCIS R. WALTON, AIA
Daytona Beach, Fla.

a J-M asbestos built-up roof that's 57 years old and still wearing strong.



John M. Browning, president of Browning Mfg. Co., saw gray on one of the roofs of his Maysville, Ky., plant. Since it was 40 years old, he feared the worst.

But the discoloration proved to be merely oxidation of the asphalt coating, which revealed the color of the asbestos fiber. The roof was recoated and now, 17 years later, it's still wearing strong.

Customer satisfaction like this leads to repeat business. (Right now Browning Manufacturing is finishing


a large new plant addition. It's being topped off by J-M asbestos smooth surface built-up roofing.)

But long roof-life is just part of the story. Johns-Manville asbestos smooth surface built-up roofing needs less bitumen than organic felts. Organic roofs require about 300 to 400 lbs. per square of gravel or slag. Asbestos roofs need none. Results: big savings in time, labor, and money. And a much lighter roof.

You can visually check a smooth-surface roof by just taking a walk on it. Gravel surfaces require annoying, often expensive trouble-spotting to uncover leaks or defects.

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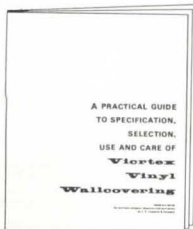
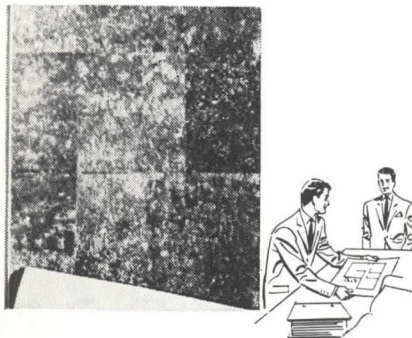

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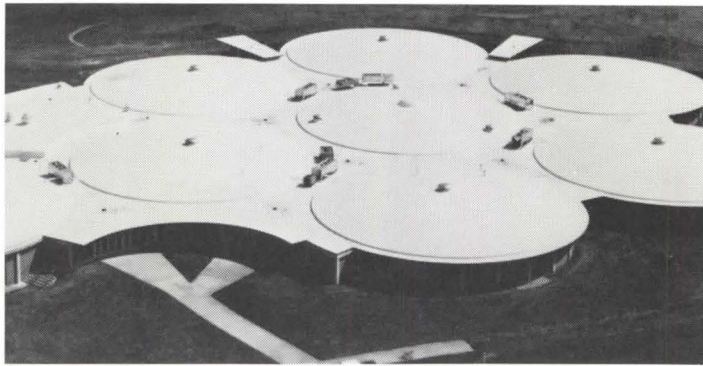
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Dominant in the blue mall is a majestic fountain that shoots 30 feet into the air. **Architect:** James H. Johnson & Associates, Denver.

General Contractor: W. R. Grimshaw Company, Tulsa, Okla.

Developer: Von Frellick Associates, Inc., Denver. **Owner:** Capitol Alliance Corp., New York, N.Y.

Flooring Contractor: Denver Building Supply Co.

Versatility is the reason Architect/Designer S. Corman Blumenthal, A.I.A., of Chicago used Armstrong Excelon® Vinyl-Asbestos Tile in the sales area of Stuart's, a national



RICHMAN BROTHERS COMPANY MEN'S STORE

women's wear chain. Excelon is handsome—as seen in Mr. Blumenthal's choice of the Presidential™ styling, accented by Excelon Feature Strips—budget-priced, easy to maintain, and durable.

Flooring requirements for the Richman Brothers Company men's store were similar to those for Stuart's. Thus, Lewis Resnick, A.I.A., staff architect of Richman Brothers, also specified Armstrong Excelon Tile—only in the Imperial® Modern styling. Which

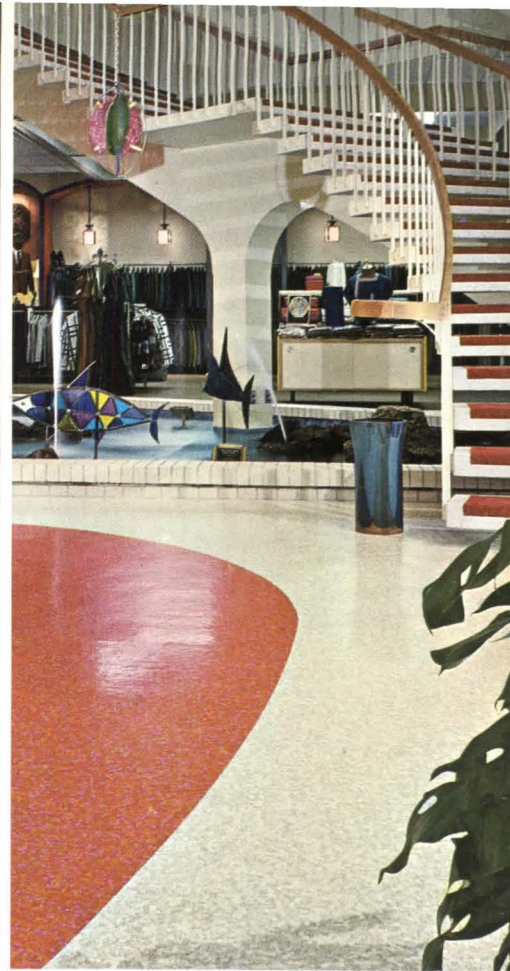


floor should you choose? Sheet vinyl or vinyl-asbestos tile? It all depends on the function, style, and economics of your project. Because Armstrong offers so many different contract floors, you're always sure to find the right one.

Yes, a floor can say "welcome" For Calandra's Card Shop, Architect/Designer Duane A. Hovorka, the chain's store planner, chose Armstrong Coronelle® Vinyl Corlon® in the Dungate Series. It has all the warmth of the inlaid brick and wood it's patterned after, adding elegance to the display of gifts. The bold pattern also serves another purpose: seams practically disappear in it.

To reflect the personality of McDonald's Fashion Center, Architect/Designer W. R. Kalsched & Associates of San Jose, Calif., created a custom

The floor plan of a shopping



MCDONALD'S FASHION CENTER

floor design of Armstrong Norager™ Vinyl Corlon. The sparkling, deep-glow red and mushroom colors bring the whole store to life. Practical, too. Norager's pebbly pattern helps hide scuff marks left by browsers and buyers.

The stores along the malls of Cinderella City present a new concept in shopping. But they illustrate an old truth: a flooring decision requires individual thinking. For your next project, talk the floor over with your Armstrong representative. You tell him your specific needs. He'll give you an objective recommendation. That's because only Armstrong has the complete selection of resilient flooring materials to meet your design requirements. Call him. Or write Armstrong, 1605 Sage St., Lancaster, Pa. 17604.



CALANDRA'S CARD SHOP

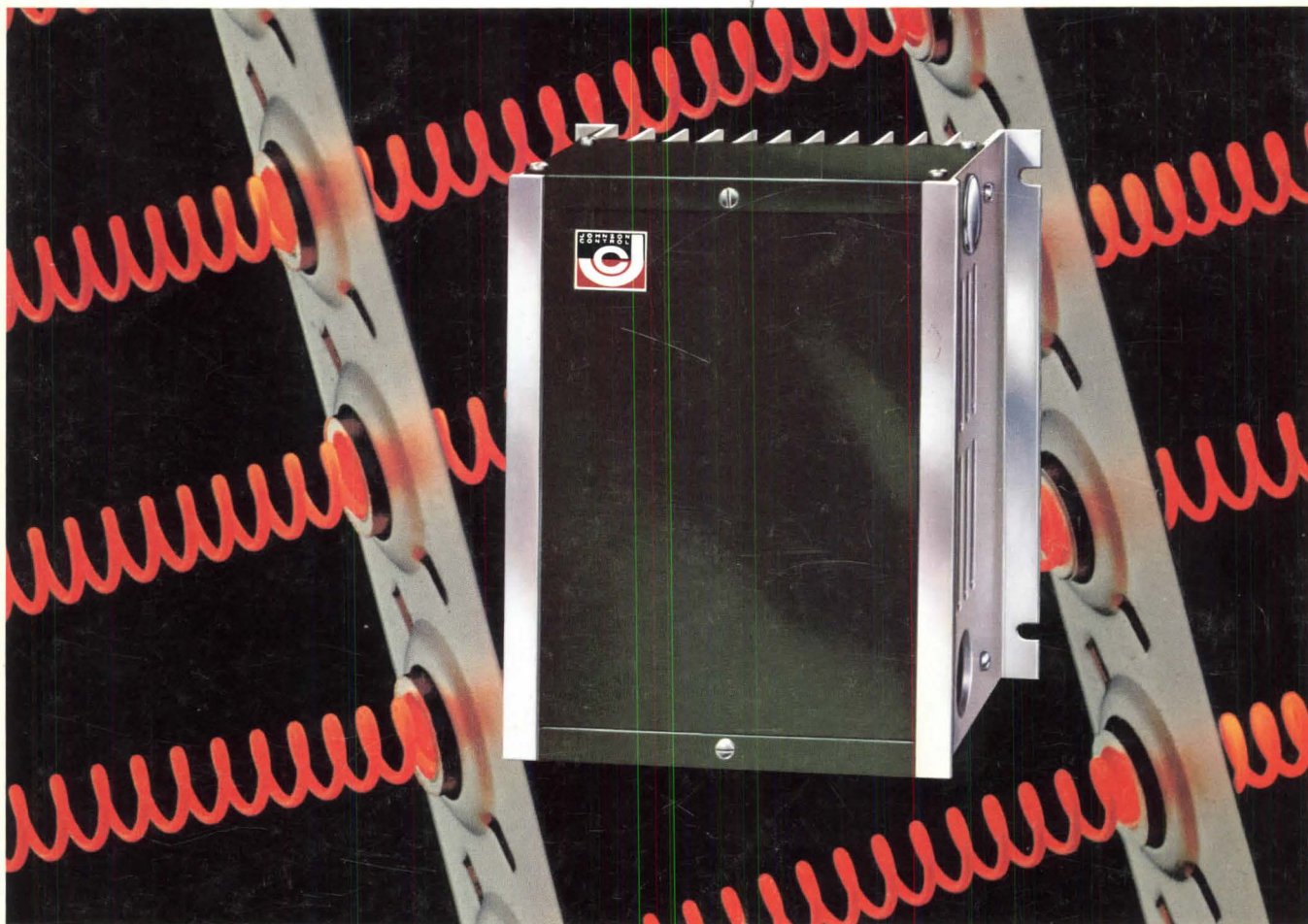


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