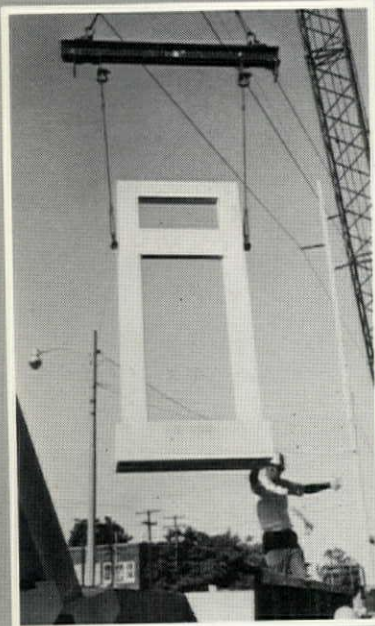


ANNUAL

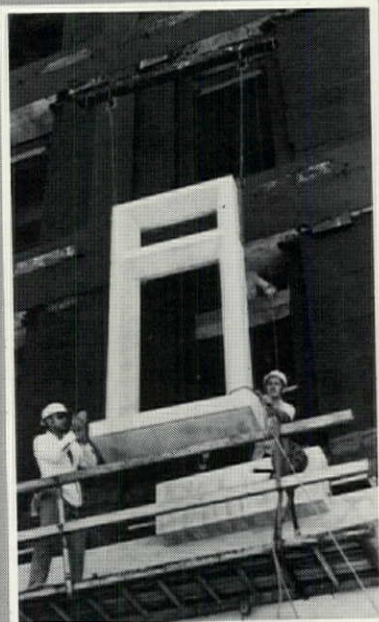




Shadow Vein Limestone was selected by LBC&W Associates, architects for the new South Carolina office building complex.



The 6'-6" x 14' window units are composed of five pieces of Shadow Vein Limestone bonded together.



With conventional setting methods each of the five pieces of stone would have been handled individually.

Now beautiful limestone can cost less than concrete

NEW PRE-ASSEMBLY TECHNIQUES
BRING THE QUALITY OF NATURAL STONE
WITHIN REACH OF TIGHT BUDGETS

Every time a piece of material is lifted, it costs money. The fewer the lifts on a given job the lower the cost. That's one reason why in-plant limestone assemblies are so easy on the budget. Several pieces of Shadow Vein Limestone* can go to the jobsite in one big, integral unit that goes into place in one lift.

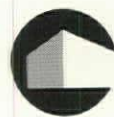
Anchoring is quick and simple, too; and because there are no open joints in the plant-assembled units, there are fewer joints to seal and less chance of leakage.

Beautiful Shadow Vein Limestone jobs like the new South Carolina State Office Building will frequently cost out at less than precast concrete—as much as two dollars a foot less!

When you can get natural stone for less money, why settle for a substitute?

*Shadow Vein Limestone is an exclusive product of Georgia Marble Company distinguished by its distinctive though delicate veining.

WRITE FOR THE LATEST BROCHURE
ON SHADOW VEIN LIMESTONE

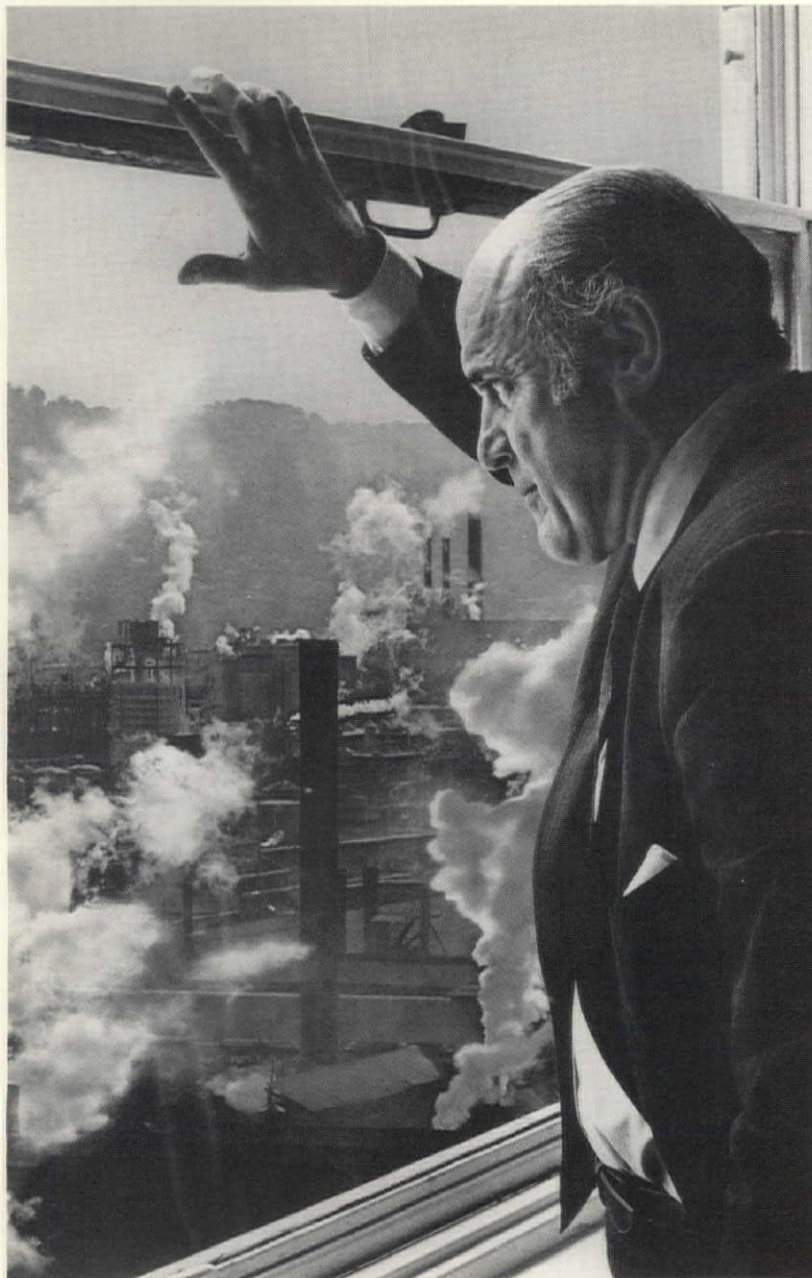


Georgia Marble
Company

11 Pryor St., S.W., Atlanta, Ga. 30303
Phone: 404/688-2861

A subsidiary of Jim Walter Corporation

Circle 6 on information card



Hearings before a regional planning commission, warning of hopeless traffic snarls each time your work-shifts change...

A tough ad, signed by a conservation group, predicting "highly dangerous" pollution once the plant starts operating...

It's all deadly serious stuff, and to have dealt with it well (as one frustrated executive put it) "You'd need a full-blown, full-time Corporate Vice President of Environment!"

Architects: The Corporate Vice-Presidents of Environment

Architects are trained to be just that. Which is why, today, far-seeing companies are signing on the architect's team earlier than ever before.

Will the State demand an Environmental Impact Statement from you? Are the regional land-use guidelines changing? Anything new from the Feds? The architect does this digging — through layer after layer of government, department after department.

The Fisheries people (let's say) turn out to be pussycats but the Air Resources people are tigers, and architects have learned that the *spirit* of the enforcers often matters more than the letter of the laws they enforce. So, meeting follows meeting. Surprisingly, architects report that the input from these sessions often produces a better building from the client's point of view, as well!

Then, the architect checks in with local conservation clubs. What are their pet worries? Your architect presents your case, mediates any disputes. He has a special advantage here: He speaks the environmentalists' language.

It's painstaking, time-consuming work — whole new layers of review before construction

Will you be remembered for your product or your by-products?

Let's say you run a company. And this morning you wake up to find yourself suddenly, disastrously famous:

An injunction filed, halting construction on your plant, because silt is clogging the river downstream...

A stiff fine, slapped on you because your building process exceeds the maximum decibel count set by the new Noise Code...

even begins. So, intelligent builders are signing on the architectural team months, even *years* earlier than they used to. Want a glimpse of this business-architect relationship at its best? Then send for the new booklet, "10 BUSINESSMEN TALK ABOUT THEIR ARCHITECTS." Just

ask your secretary to drop a card to American Institute of Architects, 1735 New York Avenue, N.W., Washington, D.C. 20006.

**what's
the
big
new
idea
behind
this
door?**



John Bolles, FAIA	An American City's Tradition of Art	A coordination of art and architecture goes on in San Francisco which lifts the city even further above the ordinary	18
Art Brenner	The Humanizing Role of Sculpture	Do you know the contemporary art world? If not, the author claims, your work will miss a qualitative dimension	24
Kris R. Nielsen	Tax Considerations in Building Design	It's "38/1245 property" in governmentese; the closer a project to this classification, the less tax for the client	28
H. H. Waechter, AIA	Prophets of Future Environments	Discovered by the English-speaking world at last: Scheerbart and Taut, leading exponents of the Jugendstil	32
	RR Station to Ruins to Modern-Day Bank	See what love and respect, a good client and a fair amount of architectural ingenuity can do for an old building	38
Charles E. Peterson, FAIA	Pioneer Prefabs in Honolulu	They go back to 1809, when Russians in Alaska beat the Yanks with export of the first precut frames to Hawaii	42
William R. Fleming	Building Solid Employee Relations	The foundation is laid at first contact; how healthy the structure depends on the amount of care it is given	48
Earle A. Stillwell, AIA	Communication and the Design Process	Covering 2,000 miles to attend the Aspen Conference raises questions on why	52
E. V. Bertoia, AIA	A Matter of Choice	Work with nonarchitectural corporations seen on par with usual practice	54
	Departments	Comment and Opinion 6 Going On 8 Institute Page 14 Books 56	Letters 60 Events 61 Advertisers 68

Cover: Balcony frieze by Ernest Born, FAIA, in the North Ping Yuen housing project in San Francisco's Chinatown. John Bolles, FAIA. Photograph by Pirkle Jones (see p. 18).

Acknowledgements: 19, Pirkle Jones; 20, John Lyon Reid; 21, Roy Flamm Photography; 22, Gabriel Moulin Studios; 23, Karl H. Riek; 32, reprinted from *Phantastische Architektur* with permission of Verlag Gerd Hatje; 34, 35, 36, 37, drawings by H. H. Waechter, AIA; 42, courtesy Peabody Museum, Salem, Mass.; 44 above, Lonnie Wilson, USNR; 44-45, Ray Jerome Baker copy negative; 45, courtesy Hawaiian Mission Childrens Society; 46, courtesy Heney E. Huntington Library; 47, courtesy Honolulu Academy of Arts.

Robert E. Koehler, Hon. AIA, Editor
Bess Balchen, Managing Editor
Mary E. Osman, Associate Editor
James E. Ellison, AIA; Dave Clarke, Institute Department of Education and Research, Consulting Editors
Suzy Thomas, Art Director
Michael J. Hanley, Publisher
Michael M. Wood, Sales Manager
George L. Dant, Production Manager
Michael A. Benoit, Circulation Manager

AIA JOURNAL, official magazine of The American Institute of Architects, published monthly at 1735 New York Ave. N.W., Washington, D.C., 20006. Telephone: (202) 785-7300. **Subscriptions:** for those who are, by title, architects, architectural employees, and to those in architectural education (faculty and schools), and to libraries, building construction trade associa-

tions and building product manufacturers: basic rate \$5 a year, \$8 two years, \$4 to architectural students in the US, its possessions and Canada. For all others: \$10 a year in the US, its possessions and Canada; other countries to those who are, by title, architects: \$10 a year. All others outside the US, its possessions and Canada: \$20 a year. Single copy: \$2, payable in advance. Publisher reserves the right to refuse unqualified subscriptions. **Change of address:** Give Circulation Department both old and new addresses; allow six weeks. **Second class postage** paid at Washington, D.C. Microfilm copies available from University Microfilms, 300 N. Zeeb Road, Ann Arbor, Mich. 48106. Referenced in *The Architectural Index*, *Architectural Periodicals Index* and *Art Index*. © 1973 by The American Institute of Architects. Opinions expressed by contributors are not necessarily those of the AIA.® VOL. 60, NO. 3

The AIA's 1973 Honor Awards Revisited: Do the designs which received Honor Awards this year convey the message that architecture is in a sad state? One widely quoted critic thinks so, and he adds that on the few projects that satisfied him "the architects have done what you would expect them to do. But they have hardly opened 'new horizons for the profession,' which is what the jury said the Honor Awards are supposed to do."

Writing in the *Washington Post* of April 28, Wolf Von Eckardt, Hon. AIA, thus described the 12 works shown in the AIA JOURNAL for May: "They range from the cute to the contrived and from the *déjà vu* to the exotic. It is an eclectic lot, a confusing collection that shows no hope or direction and that rarely rises above the trite. It seems overwhelming irrelevant to our needs."

The recipient of the 1972 Architecture Critics' Medal continued: "Is American architecture as stagnant as America's social condition? Or is it merely that the architectural establishment somehow has missed the more hope-inspiring trends . . . ?"

"A jury, of course, can judge only what has been submitted. . . . Each building under consideration was visited by at least one of the five jurors to assure that architecture rather than photography was ultimately chosen for an Honor Award. The choice, said the jury statement, was a matter of placing 'skill, originality, motivation, integrity, restraint, scale, purpose, etc., on some kind of uneasy balance.'"

Von Eckardt also stated: "The only satisfaction I get from looking at this honored dozen was a pleasant village of shingle covered homes for old folks that has some folksy warmth (public housing for the elderly at Wayne, Michigan, by William Kessler & Associates, Inc.), an unpretentious public square in Cincinnati (by RTKL Associates Inc.) and a student union for the California Polytechnic State University (by Esherick Homsey Dodge & Davis)."

In a letter to AIA President S. Scott Ferebee Jr., FAIA, the partners of a Washington, D.C., architectural firm—Joseph Miller, FAIA, and Grosvenor Chapman, FAIA—pointed out that Von Eckardt "thoughtfully questions the direction of American architecture as exemplified by this year's AIA award winners. Members should do likewise; some of us have been doing this for a long time."

On the other side of the fence are a number of columnists who are familiar with premiated projects in their areas, whose reactions suggest that, indeed, some architects, at least, have found "a kind of self-searching, a kind of artistic integrity."

Rob Cuscaden, for example, architecture critic of the *Chicago Sun-Times*, praised two Illinois structures which were cited in 1973, calling St. Procopius Abbey in Lisle (Loebl Schlossman Bennett & Dart) and the Time Inc. Building in Chicago (Harry Weese & Associates) both "gifted examples of all that is fine and decent in contemporary architecture."

Referring to May as "one of the best issues of the AIA JOURNAL ever published," Jeanne M. Davern, Hon. AIA, former architectural editor and now a free-lancer, in a letter declared: "It is an imaginative and evocative editorial interpretation of a major AIA activity—awards programs—which is too little understood and appreciated either by Institute members or the public. And for once it gives the annual Honor Awards the podium they deserve; after all, they are Architecture USA 1973, or as close as we can get to such an assessment."

All of which brings us back to the query: Is a reevaluation of the Honor Awards programs, at the national as well as local levels, in order? The Commission on Institute Affairs invites the comments of its colleagues, which may be addressed to the director, Awards Programs, at AIA Headquarters. *Robert E. Koehler*

Board of Directors

Officers

S. Scott Ferebee Jr., FAIA, *President*
 Archibald C. Rogers, FAIA, *First Vice President*
 Van B. Bruner Jr., AIA, *Vice President*
 Louis de Moll, FAIA, *Vice President*
 David A. Pugh, FAIA, *Vice President*
 Hilliard T. Smith Jr., FAIA, *Secretary*
 Elmer E. Botsai, AIA, *Treasurer*

William L. Slayton, Hon. AIA
Executive Vice President

Directors (Year indicates expiration of term)

Arthur Froehlich, FAIA ('73), *California*
 Frank L. Hope Jr., FAIA ('74), *California*
 Eugene Crawford, FAIA ('75), *California*
 Floyd O. Wolfenbarger, FAIA ('73), *Central States*
 Herbert E. Duncan, AIA ('75), *Central States*
 Carl L. Bradley, FAIA ('73), *East Central States*
 H. Leslie Walker Jr., AIA ('75), *Florida*
 Matt L. Virden III, FAIA ('74), *Gulf States*
 John F. Hartray Jr., AIA ('75), *Illinois*
 Clarence H. Rosa, FAIA ('74), *Michigan*
 Alexander S. Cochran, FAIA ('74),
Middle Atlantic
 William L. Ensign, FAIA ('75), *Middle Atlantic*
 Hugh McK. Jones Jr., FAIA ('73), *New England*
 Robert A. Burley, AIA ('74), *New England*
 Arthur E. Rigolo, FAIA ('74), *New Jersey*
 Darrel D. Rippeteau, FAIA ('73), *New York*
 Frederick G. Frost Jr., FAIA ('74), *New York*
 Herbert Epstein, AIA ('75), *New York*
 Louis R. Lundgren, FAIA ('73),
North Central States
 Robert E. Fehlberg, FAIA ('74), *Northwest*
 Vladimir Ossipoff, FAIA ('75), *Northwest*
 James J. Foley, FAIA ('73), *Ohio*
 Ehrman B. Mitchell Jr., FAIA ('75),
Pennsylvania
 William A. Carlisle, FAIA ('74), *South Atlantic*
 Daniel Boone, FAIA ('73), *Texas*
 Thomas A. Bullock, FAIA ('75), *Texas*
 Max Flatow, FAIA ('73), *Western Mountain*

Student Adviser

Fay DeAvignon, *ex officio, President, ASC/AIA*

Headquarters

William L. Slayton, Hon. AIA
Executive Vice President
 James A. Scheeler, AIA
Deputy Executive Vice President
 William G. Wolverton, *Administrator*
Business Management
 Ralph Johnson, *Administrator*
Community Services
 James E. Ellison, AIA, *Administrator*
Education & Research
 Michael B. Barker, *Administrator*
Environment & Design
 Arnold J. Prima Jr., AIA, *Administrator*
Government Affairs
 J. Winfield Rankin, Hon. AIA, *Administrator*
Institute Affairs
 Arthur T. Kornblut, AIA, *Administrator*
Professional Services
 Muriel Campaglia, *Administrator*
Public Relations
 John P. Eberhard, AIA, *President*
AIA Research Corporation
 Michael J. Hanley, *Publisher, AIA Journal*

FORUM '73

UNIVERSITY OF MIAMI ... NOVEMBER 23,24,25



**ARCHITECTS
PLANNERS
LANDSCAPE
ARCHITECTS
INTERIOR DESIGNERS**

You are invited to join us in our search . . .
a search for a better tomorrow, free of the problems that face
us today — pollution, transportation, housing, and
energy consumption to name a few.

Forum '73 will look at the survival of that which is most
precious to us all, MANKIND. "A NEW APPROACH, PEOPLE" hopes
to develop a new awareness of our own responsibility
to one another. Maybe there is a second chance.

Won't you join us?

the association of student chapters/the american institute of architects

Design Elements Stressed in Libby Dam; Sculpture Competition Winner Named Sculptor Albert Wein of Encino, Calif., has been named first place winner in the final judging for the Libby Dam Treaty Tower commemorative sculpture competition. He received a \$15,000 award and will negotiate a contract with the US Army Corps of Engineers for professional services for the final construction of the winning design. Donald DeLue of Leonardo,



Colonel Walter O. Bachus (right) presents a check to sculptor Albert Wein.

N.J., is second place winner; in third place is Joseph Kiselewski of New York City.

Last winter the three finalists were chosen from among 240 entrants in the sculpture competition. They visited Libby Dam in March to inspect the site where the sculpture will be placed. The models created by these three men were then judged by a jury whose members included Michael Lantz, president of the National Sculpture Society; John Harbeson, FAIA, consultant to the American Battle Monuments Commission; Alfred Easton Poor, FAIA, president of the National Academy of Design; George Vernon Russell, FAIA, of Los Angeles; Walter O. Bachus, Seattle District Engineer; Frederick A. Craggs, architect, North Pacific Division, Corps of Engineers; and Paul Thiry, FAIA, of Seattle, who was in charge of the design work for Libby Dam.

Libby Dam is the first dam in this country to involve an architect in the design to provide esthetic considerations to the engineering concepts and also the first to use a major piece of sculpture. The dam is located on the Kootenai River in north-west Montana. Its dominant architectural

feature is the Treaty Tower which rises more than 50 feet above the crest of the dam. The tower, conceived by Thiry, commemorates the Columbia River Treaty of 1961 under which this country and Canada agreed to the cooperative development of the Columbia River Basin, located in both countries. The sculpture will be in the upstream face of the tower and will hail the cooperation between the two countries.

The AIA Honors Venezuela's President; Colorful Ceremonies Held in Caracas

"The mission that has brought us here today is a happy one. It indicates that we recognize and salute the tremendous achievements of our American colleagues to the south," said Max O. Urbahn, FAIA, former president of the Institute, when he presented the AIA's Special Presidential Citation to Venezuela's Presi-



Venezuela's President (right) receives AIA citation and medal from Urbahn.

dent Rafael Caldera recently. Commenting on the Venezuela leader's contributions, Urbahn said that "the achievement of worthwhile architecture requires the encouragement and active support of public officials who are capable of recognizing excellence."

This was the second time in history that the Institute has presented its citation to a head of state. At the AIA recessed convention in Mexico City in 1972, Urbahn, who was then AIA president, presented the award to Luis Echeverria, president of Mexico.

Urbahn presented a gold medal to President Caldera at ceremonies in the Presidential Palace in Caracas. President Jorge

The cooperative efforts of this country and Canada will be the theme of a major piece of sculpture at Libby Dam, the first in the US to use a major piece of art. Also indicative of international goodwill is the presentation of the AIA Special Presidential Citation to Venezuela's chief of state.

Azpuru of the College of Architects of Venezuela and other of the society's officials also participated.

The ceremonies were part of the activities associated with the fifth Biennial of Architecture in Caracas. Other special events of the week in which Urbahn represented the AIA included a ceremony at which time the Venezuelan society of architects received custody of an ancient hacienda in Caracas from the Historic Society of Venezuela. The building will become the society's new headquarters.

Two Extensive Surveys by NCARB Generate Data About Profession

Research is playing a big part in the overall activities of the National Council of Architectural Registration Boards, and the initial results of that program got their share of attention during the annual convention in Atlanta at the end of June.

Two basic surveys have been conducted by the research committee: one, a questioning of NCARB certificate holders; the other, of examinees across the country who took the professional examination last December.

Both surveys are regarded as unusually expressive of attitudes by each group because of the extraordinary size and response of the sample. Of some 10,800 certificate holders queried, nearly 10,300 responded; and since the examinees were questioned in connection with their actual exam taking, the committee managed to elicit the views of 2,900 participants.

Key findings of the certificate holders' survey:

- About 79 percent are members of the AIA (as compared to an estimated 44 percent in 1950).
- About 7,300 of them are principals in a firm, e.g., owner, partner or corporate stockholder, and 85 percent have a professional degree.
- A healthy majority feel that the caliber of young architectural school graduates coming to work are "good" or better.
- A majority express a favorable attitude toward developing more effective training programs for young students and graduates entering the profession.
- Although young graduates have had

continued on page 13

Circle 4 on information card

going on from page 8

no great difficulty in finding jobs, 93 percent say they received no help from their schools.

Two points from the examinees' survey:

- Scores in "site and design" are among the lowest for the seven-part exam, but certificate holders indicate that young graduates generally are "good" or better in this area of performance in their offices.
- Seventy-two percent hold a bachelor's degree or higher; and the difference in results between all degree holders and nondegree-holding examiners is significant, the former's performance being appreciably higher.

During the Atlanta sessions, delegates also were briefed on the upcoming new exams. With the first four-part, machine-graded professional exam scheduled for December, a candidate will need, at a minimum, an accredited degree in architecture and three years' experience.

The candidate who lacks these qualifications will take the equivalency exam, which requires education and/or experience adding up to at least 12 years—with educational credits to be multiplied by 2—plus three years' training. For example, the maximum credit for a bachelor's degree holder from a university or college in an academic area other than architecture is two years. Thus a candidate would also need eight years' experience in architectural offices to qualify for this exam.

Heading the new slate of officers is E. G. Hamilton, FAIA, Dallas, who served as chairman of the examination development committee from 1969-72. Others are John M. O'Brien, AIA, Memphis, first vice president; William C. Muchow, FAIA, Denver, second vice president; Paul H. Graven, AIA, Madison, Wis., secretary; and Jack H. Swing, AIA, Urbana, Ill., treasurer.

Members noted the passing of Paul Woodhull Drake, FAIA, NCARB's president in 1963-64 who began attending conventions in the 1950s. He died on February 7 in Morristown, N.J.

NAAB Will Limit '73-74 Visitations As It Launches Self-Study Program

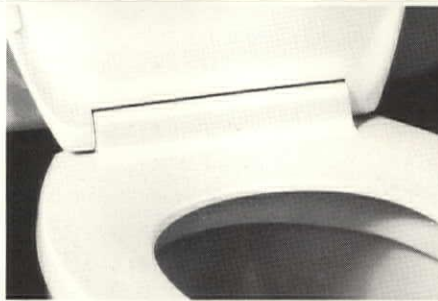
With John M. Amundson, AIA, Springfield, Ore., at the helm, the National Architectural Accrediting Board will devote a good share of the coming months to a self-study approved and backed by its parent organizations. Therefore, school visits for the 1973-74 academic year will be limited to those institutions seeking initial accreditation or reaccreditation.

At its annual meeting in Atlanta recently, NAAB also named James J. Foley, FAIA, Columbus, Ohio, as secretary and president-designate. He represents the AIA, along with Jack D. Train, FAIA, Chicago.

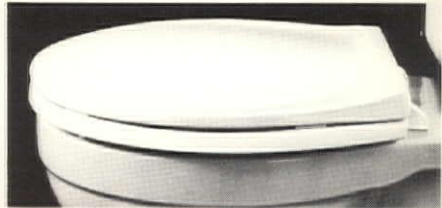
The representatives of the National

continued on page 62

EASY TO CLEAN HI-RISE®



The new Beneke HI-RISE® features smooth surfaces and an exclusive hinge which permits seat to be raised away from bowl a full 1½"! Prevents bacteria buildup. Protects hinge assembly from wetness. Seat and bowl can be cleaned easier, faster and more thoroughly. High impact solid plastic makes seat virtually indestructible. It's good looking. Comfortable. Six marbled colors, solid colors to match all fixtures, plus black and white. Open and closed front models for regular or elongated bowls. Send for details.



BENEKE CORPORATION

the new idea people!

Columbus, Miss. • Chicago • New York • Washington, D. C. • San Francisco • Toronto • Paris

Circle 3 on information card

Questions About Your Subscription

To insure fast service on inquiries concerning your *AIA JOURNAL* subscription, please include the address label from the most recent issue received.

ATTACH
LABEL
HERE

Change of Address

Four weeks' notice required for change of address. Include address label from most recent issue and new address information in space provided below.

NEW SUBSCRIPTION

Please check here if you wish subscription rate information.

Name _____

Address _____

City _____

State _____ Zip _____

MAIL TO:

AIA JOURNAL
Circulation Dept.
1735 New York Ave., N.W.
Washington, D.C. 20006

John P. Eberhard, AIA

New Directions in Research: There is a shifting climate in the attitude of this country toward large-scale science and high-technology research. With the loss of glamor for space exploration, loss of support for more and more weapons systems development and clear questions about atomic energy research, there is a searching for new "targets of opportunity."

We have been placing 80 percent of our federal research dollars into three areas of space, weapons and atomic energy; programming the role of our universities in society; challenging the brightest and best students into such intellectual pursuits; and creating what President Dwight D. Eisenhower called the military-industrial complex. Now a lot of us are beginning to ask about what science and technology can do regarding the quality of life—right here on earth.

Architects can play a major role in shaping this new direction for our national research efforts. At least, they can be the humanists among the scientists, asking searching questions of the scientific communities' value systems, reminding them that human needs are the basis for new developments and checking their "scientism" when it is believed that only variables which are quantifiable are worth measuring.

At best, the architect can become a key member of the research team. Academic researchers are good at intellectual activities which produce and broaden the base of knowledge. Both they and the new research "think tanks" are good for analyzing and for identifying the characteristics of problems. Both groups are weak at *synthesis*—taking the results of new knowledge or analysis and using them to achieve solutions to real problems.

And that's what architects, by their training and practice, are skilled in doing—taking complex problem statements, knowledge and analysis, and producing results. Unlike the cautious research professional in the academic setting who is satisfied with *publishing* his results, the architect has a long history of *producing* results in the marketplace, often in the face of

Mr. Eberhard is president and chief executive officer of the AIA/RC.

insufficient information and major institutional obstacles. His synthesizing skills are often overlaid with imagination and insight, and at times with a spark of genius.

The mission of the AIA Research Corporation, then, is to create opportunities for practicing professionals to use their skills of synthesis in complex problem-solving areas and their humanity in situations of policy formulation. The man-made environment will be the principal focus of our efforts, and the combination of governmental, private industry and professional interests will be our forum. Emphasis will be placed upon problems of national consequence. In 1973-1974, for example, the AIA/RC will be working with three important Institute task forces: Recreating the Inner City, whose chairman is Harry Weese, FAIA; Creative Economics, chaired by Robert F. Hastings, FAIA; and Energy Conservation, with Leo A. Daly, FAIA, as chairman. In addition, several new research programs, supported by federal agencies, are now in the formative stage and will be reported upon at appropriate times.

It seems important to outline the background of the formation of the AIA/RC. In 1969 the Institute formed the Urban Design and Development Corporation. Its charter is retained by the AIA/RC.

In 1972 the UDDC was phased out and became the AIA Research Corporation. The Executive Committee of the Institute was made the corporation's Board of Trustees. During 1972 and until June 1973, James Scheeler, AIA, deputy executive vice president of the AIA, served as president of the AIA/RC. Under his stewardship, several projects in the area of energy conservation in building design were initiated with support from government agencies and the Ford Foundation. I became the AIA/RC's first full-time president and chief executive officer in June.

The many Institute members who know Don Conway, AIA, and the active role he has taken as director of the AIA's research programs, will want to know of his relationship to the AIA/RC. By way of explanation, it needs to be emphasized that the AIA/RC is not a new department or activity of the Institute. It is a separate corporation which, although established by

By training and practice, the architect has synthesizing skills that are of great value in the application of research. The primary mission of the AIA/RC is to create opportunities for the professional to use his talents in solving complex problems. Inquiries about the new corporation are invited, and AIA members are encouraged to participate actively in research projects.

the AIA, has a life of its own. Conway will continue his responsibilities with the Institute. These include providing staff assistance to the profession in matters involving information about what is going on in the research community, especially the universities; advising architects on the role of the schools in educating new research professionals; assisting the AIA Board of Directors in matters of legislation that affect the climate for research; administering programs for the nomination of candidates for the AIA Research Medal and for research scholarships; and serving as the American editor of the new international venture with the Royal Institute of British Architects in the joint publication of the magazine *Architectural Research and Training*.

There are some things that the AIA/RC cannot do because the corporation is new and our staff is small. We cannot act as an agent for schools or other interested persons who would like us to find possible support for research projects, although we hope someday that we can provide this service. As a matter of policy, we will not respond to government requests for proposals either on our own or in concert with other organizations.

We promise to send periodic information about what the AIA/RC is doing to anyone who is interested in having his name placed on our mailing list. Just send a note on your firm's letterhead indicating that you would like to have your name on the mailing list. Requests may be sent to me at the AIA Research Corporation, 1735 New York Avenue N.W., Washington, D.C. 20006.

We are interested in knowing about professionals interested in participating in future research projects. If you are, write to us telling us about your areas of interest and the kinds of skills you or your staff represent. □

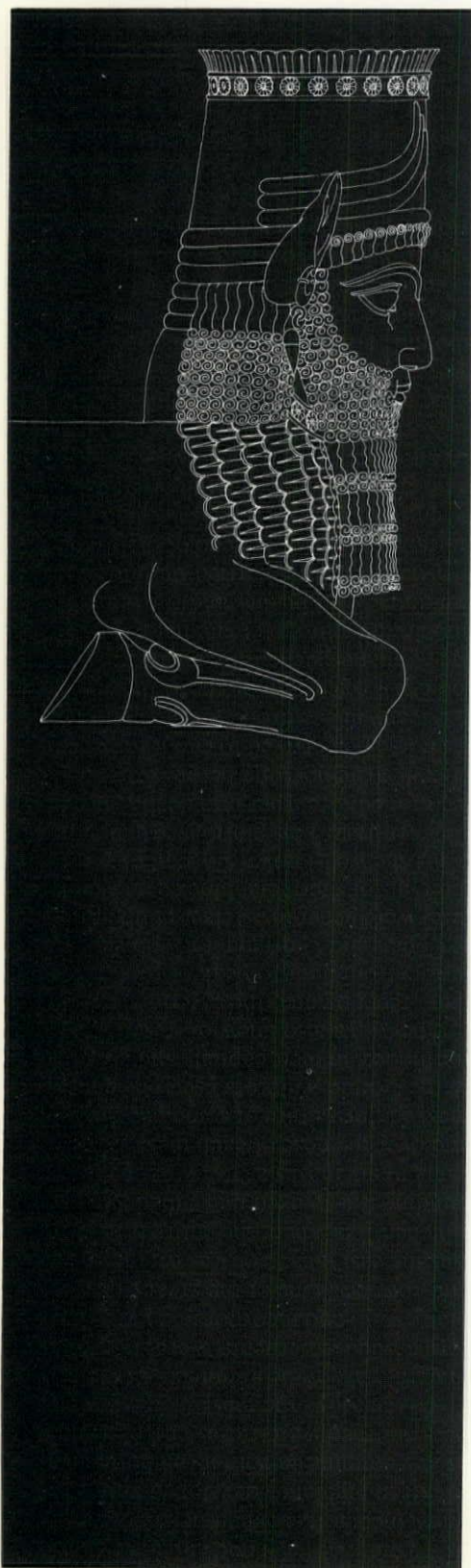
ED. NOTE: John Eberhard has a long history of research experience. Most recently, he was dean of the School of Architecture and Environmental Design, State University of New York at Buffalo, a new school which he formed with a graduate program organized to produce persons with a professional capability in research.

AIA JOURNAL

Art and Architecture: There is a European myth that this country is dominated by a soulless business ethic, commented a writer in a widely read magazine recently. Yet, he said, more money is spent on art museums here than in the rest of the world combined, most of the money coming from businessmen. And increasingly this group commissions works of art for architectural complexes. The federal government, as well, is a supporter of the arts and in 1972 renewed a program that permits a percentage of construction costs for art. It is paradoxical, then, that critics accuse the architect of neglecting his traditional role as integrator of art and architecture. Perhaps the prodding of business and government as clients will lead him to give appropriate recognition to art as a force in the life of a people. Two writers in this issue help point the way. The Editors

An American City's Tradition of Art

John Bolles, FAIA



The current reawakening of interest by government and corporate clients in art as applied to and incorporated in architecture brings to mind the long history of this association. At the same time there is concern as to why only a few architects today seem able to understand or to cope with the forces now calling upon them to lead in a field to which they belong historically.

To trace the history of art in architecture, one might begin with the Elgin marbles from the Parthenon and work both ways in time and then recall briefly other totally unrelated developments in China, India and Central America. But perhaps the example of the Maya may be better to cite since there were no trade routes giving contact, however remote, with the developing cultures of Crete, Egypt, Persia and Greece.

Justifiably, the Parthenon represents the high point of several thousands of years of the development of art and architecture and a blending of the two, however stylized, into an elegance seldom achieved. The columns, the frieze, the subtlety of the crown of the base, the polychrome colors which adorned it at first and the use of sculpture in the pediment and in the round as the focal point of the interior gave the structure a totality of art and architecture.

Leading up to this culmination were many forces, commencing with the simple timber post and beam followed by the stone columns which retained these forms, some of the best preserved being at Beni Hasan in the cliffs along the Nile valley. Later sculpture and painting embellishment, which generally adopted natural forms, led to the beautiful columns of Egypt and the use of bas-reliefs and paintings in overall wall and column decoration

Mr. Bolles, who heads his own architectural firm in San Francisco, has served as chairman of the board of the San Francisco Art Institute. He has run for 15 years one of the city's leading contemporary art galleries. A sculpture in the new Gund Hall at Harvard University by artist Gerald Gladstone of Toronto, selected by architect John Andrews, was given in honor of Bolles' contributions to art in architecture.

to tell the glories of the period. Great tombs, including that of Seti, were carved deep into the rocks with stairs and halls and were adorned by overall frescoes. Massive figures of the kings were carved to guard solemnly the entrances to the temples, such as at Abû Simbel.

Meanwhile, in early Mesopotamia, bricks were being fired and glazed to form the great bas-relief bulls at Khorsabad and other cities. A thousand years before Christ the Persians stirred, and by 600 BC they had a fully developed art form in architecture comparable to and in some ways exceeding that of their Assyrian neighbors. One cannot look at the columns of Persepolis with their magnificent bull heads without realizing that here was a blending of sculpture and architecture. Parenthetically, I remember well the massive bull that the Shah gave to the Oriental Institute at the University of Chicago, it falling my lot to transport him from Persepolis to his American home. Few more handsome animals were ever carved from stone.

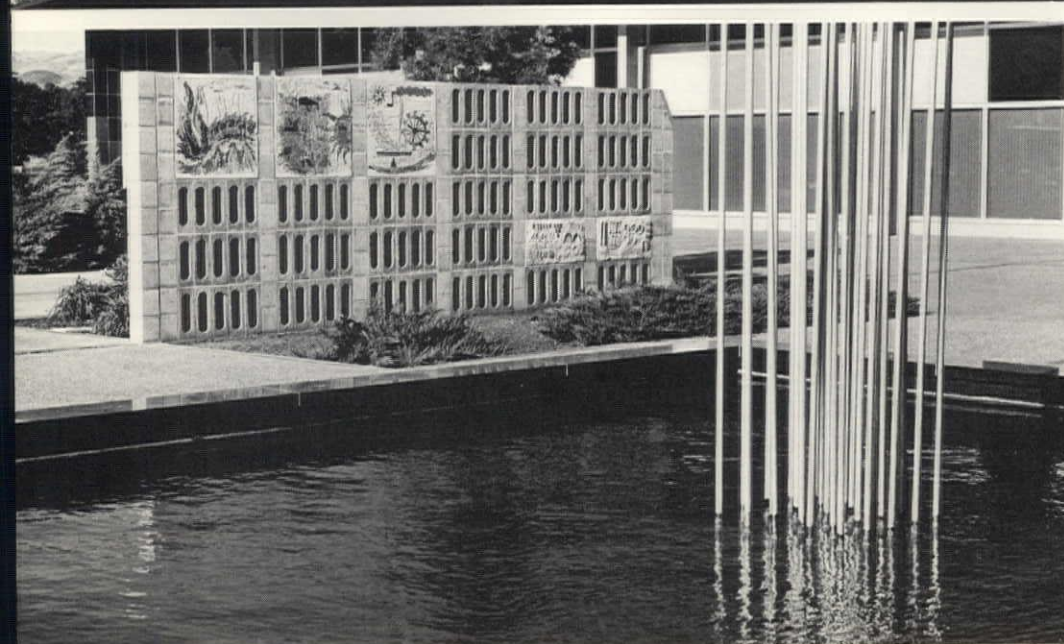
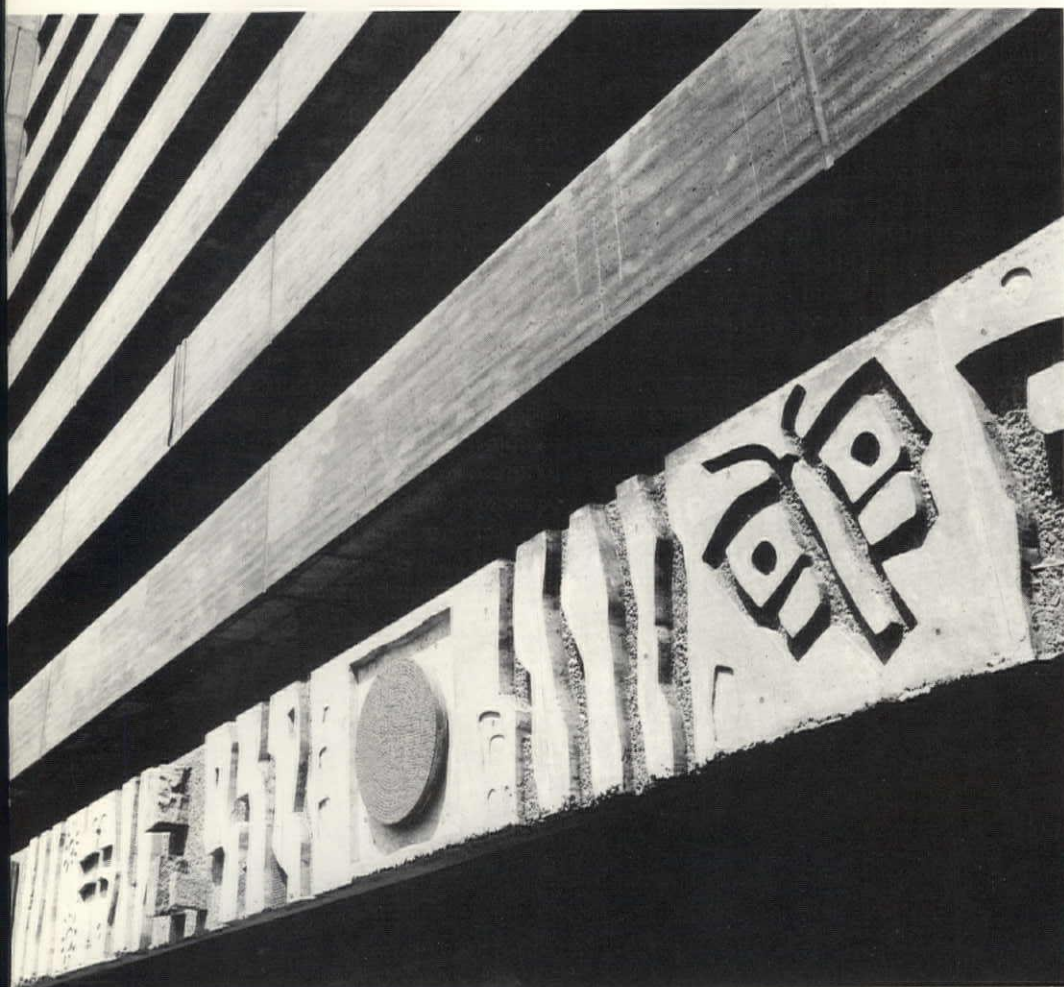
The long bas-reliefs at Persepolis told of the conquests of the kings and were conceived as part of the architectural design. All that is missing from the scene today are the heavy gold reliefs from the timber ceilings, most of which were lost when Alexander the Great's troops threw what must have been the world's "hottest" party after Darius III abandoned his impenetrable winter palace.

By the time of the blossoming of Rome, sculpture was a formal pattern of architecture, and fashion dictated the borrowing or copying of "originals" from Greece.

Ravenna, Italy, however, saw a new form emerging with the use of mosaics. When Constantine moved to Constantinople, the mosaic spirit went there with him, culminating a few hundred years later in another of the world's great structures: Saint Sophia. Only those who saw it when its interiors were covered with plaster and with huge Moslem discs hanging from the dome can really appreciate its truly great beauty now, resulting from the uncovering of its fabulous mosaic murals. Today the building is magnificent in its open plaza, an effect that was conceived originally by Justinian's architects and artists.

The columns at Persepolis, with their splendid bull heads, are but one manifestation of the long history of art in architecture. Such an integration has been neglected for many years, but we are slowly developing a consciousness of its importance. This reawakening is becoming evident in San Francisco where there is a growing acceptance of art in architecture.

The author himself has been responsible for commissioning many works of art for his firm's projects. One example is the long balcony frieze sculpture, by Ernest Born, FAIA, in a housing complex in Chinatown; another is the award-winning 220-acre IBM campus at San José. One ensemble at the campus is shown here. Screen by Bella Feldman; fountain reeds by Keith Monroe.



While mosaics and murals and the great Byzantine columns and capitals were coming into their own, in another unknown world the people of Central America were developing an architecture and art that went hand in hand for nearly a thousand years. From Copán and Tikal the trail led through such beautiful cities as Yaxchilán, Palenque and into Uxmal and Chichén Itzá. Their neighbors in the Mexican highlands developed grand plans as at Teotihuacán with its elaborate edifices adorned with friezes and bas-reliefs.

To the Maya the mask element was an integral part of the architecture. Natural forms, such as serpents, were stylized in many ways and incorporated in the friezes and cornices. One of the great examples was the east facade of Las Monjas in Chichén Itzá where the entire face of the building is a stylized mask made up by using many masks as its component parts; and over the nose of each mask is the masked portraiture of some person, much as the Gothic sculptors used one another for models in their capitals and gargoyles.

The Maya also knew of frescoes, and they freely painted the exteriors and interiors from floor to peak of roof. Except at Copán and Quiriguá, the "object" sculptures were generally stelae set up at regular intervals or sacrificial blocks, an example being the well-known Chacmool at Chichén Itzá. This glorious art and architectural culture went into decline because of civil strife not long before Cortez and his horsemen arrived to end it forever.

Meanwhile, Europe was emerging from the Dark Ages, and by the 10th century the Romanesque culture again united art and architecture to create handsome buildings. This beauty and freedom of artistic expression carried on into Gothic times, and even at the end of that period, when stylization or clichés became the rule, an occasional triumph of art and architecture arose.

North Italy came to the rescue, and great achievements in the combined resources of architects, artists and artisans abound. The only pity is that the cities were so crowded that there is little room to get back and admire the whole of many of their works. To wander the streets of Florence, enter doorways and find stair-

Under the leadership of M. Justin Herman, who once headed the San Francisco Redevelopment Agency, a policy was made which requires that at least 1 percent of construction costs for major public projects be spent on works of art. The "Grand Fountain" by sculptor Armand Vaillancourt, which now graces the M. Justin Herman Plaza, was paid for with city and urban renewal funds.

ways, like the one created by Michelangelo, overshadows the lack of city planning.

From the French Renaissance on, it seemed that too often the art of the building became only an architect's or decorator's tool, conforming too rigidly to doctrines. This probably was brought to a culmination point under what I call "Beaux-Arts Renaissance" upon which our American civic standards were set. To the credit of these two periods, however, must be given the new consciousness of open space and gardens — a consciousness which, like art in architecture, seems to be slowly reawakening in this country at this time.

It is a broad jump from this historical glimpse to San Francisco, but the reawakening — this rapid growth of the acceptance of art in architecture — is seen in that city today. It is probably similar to the emergence of Bay area architecture which occurred in the residential field in the 1940s. The short history of the area placed few restraints upon traditions. There was more freedom of space, a plethora of gifted designers and an art environment which produced such artists as Clyfford Still, Richard Diebenkorn, Elmer Bischoff, David Park and others.

The history of the area is simple: a long tradition of Spanish-Mexican rule suddenly overturned by the intrusions from the north of the Hudson Bay Company and the Russian sea otter hunters, plus a few Yankees. Then in 1849, there was gold, and the area became a madhouse which was warmed over again by the Yukon rush.

By the turn of this century Daniel Burnham was engaged to develop a master plan for San Francisco and its environs; and Bernard R. Maybeck and Willis Polk were toying with native woods, cast iron and stucco finishes. With the fire of 1906 Burnham saw his dream burn. Polk became a master builder, and Maybeck took to the Berkeley hills and started creating the structures for which he is now famous. It was not until 1915 that he designed the Palace of Fine Arts in the grand Beaux-Arts forms, using wood, steel and stucco.

The federal government's Work Projects Administration in the 1930s created much



fine art in new and existing buildings, but it served more to help the artists than to coordinate art and architecture. Again architects failed to comprehend their role.

The man to pick up the crusade next for art in all of its uses in and about a building was Timothy Phlueger, who was one of San Francisco's outstanding architects in the 1920s through 1940, one of his best structures being the San Francisco Stock Exchange Building. He became chairman of the board of the San Francisco Art Institute. Phlueger brought Mexican painter Diego Rivera to San Francisco to paint murals and also commissioned him to execute the murals in

the stock exchange building. On the same project Phlueger retained Ralph Stackpole to design the exterior sculptured figures.

With Phlueger as their champion, the artists found a companionship with architecture, a happy relationship that continued through the Golden Gate International Exposition of 1939, although it was one in which, with a few notable exceptions, the architects were the reluctant dragons. The exposition, which celebrated the completion of the Bay and Golden Gate Bridges, created "Treasure Island" out of the shoals north of Yerba Buena Island.

Ernest Born, FAIA, was authorized by

The Bay Area Rapid Transit System has encouraged the use of art as part of the architecture. Balboa Park (below) and Glen Park Stations, both designed by Ernest Born, FAIA, are the only stations in the system where the architect has elected to accept the challenge of exposing vital engineering needs and giving them an esthetic importance.



the exposition to create a large mural in the San Francisco building. This is gone, of course, but an example of his artwork is the long balcony frieze sculpture in the North Ping Yuen housing project in Chinatown, which I commissioned.

Born served as chairman of the board of the Art Institute and had his offices in the Jackson Square district when it was still the center of art activities. He will be remembered for his many beautiful covers for architectural magazines. As an architect, he recently completed one of the most successful of the BART stations. It was not long ago that he resigned as a member of the Art Commission.

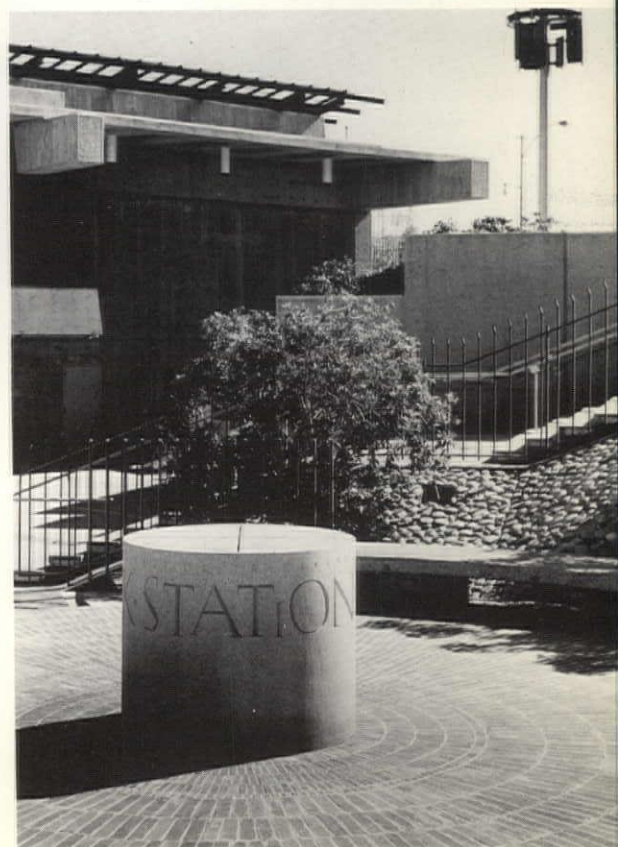
A number of isolated art and architectural examples took place in San Francisco in the '40s and '50s, but the first large coordinated project was the IBM campus at San José, which I designed. Some 40 artists were given commissions, and an artist with architectural training was engaged to coordinate their work. For over 10 years buildings were constructed on the 220-acre campus. There is a blending of fountains, sculpture, friezes and ceramic and concrete "tapestry" walls. The project has received numerous awards, and *Life* magazine published a full-page color spread of the campus. Some of the art was lent by Thomas Watson Jr.,

chairman of the board of IBM, which was made the focal point of one of San Francisco's Art Festivals, for which the city gave an award to IBM.

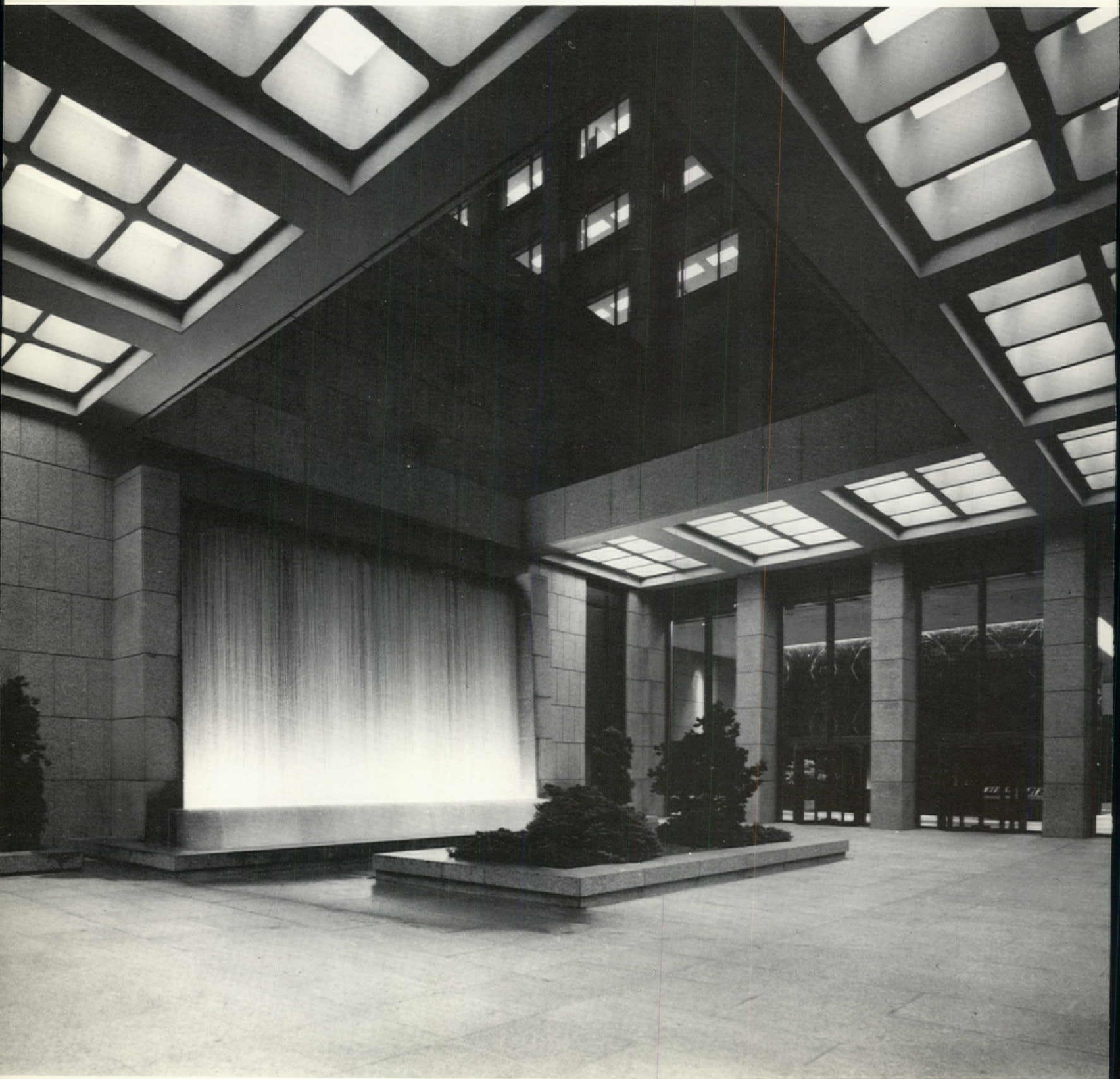
Our fountain for the Paul Masson Champagne Cellars, executed by Gurdon Woods, was also a major attraction at one of the Art Festivals, and again the city gave an award to Masson, the architect and the artist. As an interesting aside, Masson was so entranced with a ceramic mural at his firm's plant, which was designed by José Moya del Pinto, that the artist was engaged to design a commemorative brandy bottle!

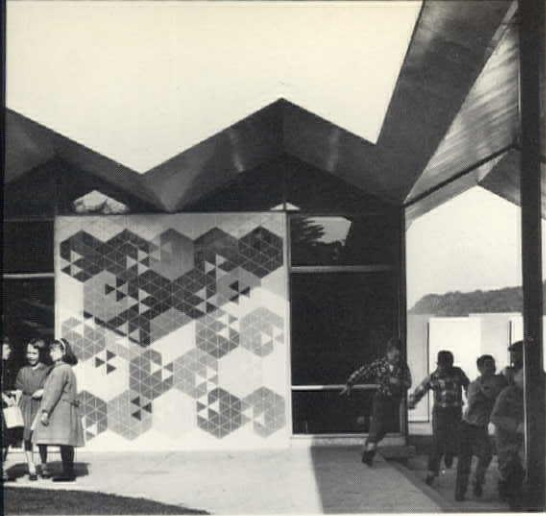
It would seem that the next stimulus to art in architecture in San Francisco would have come from the city ordinance which requires 1 percent to be allocated for art in public buildings. Still too few architects, however, understood the nature of art and its history of association with architecture. The old phrase that "architecture is the mother of the arts" seemed dead.

With the gradual emergence of the re-



An atrium in the Pacific Gas & Electric Building (Hertzka & Knowles) serves as the principal entrance for a new and an old structure, uniting the two. Featured is a 20-foot high waterfall which was conceived as a symbol of the creation of power analogous to the services of the company. Special lighting lines its inner base.





The Fernando Rivera School and Newman Hall at the University of California at Berkeley (Mario Ciampi, FAIA) combine architectural and sculptural forms. Both were important in the development of integrated art and architecture in the Bay area. Artist for the school courtyard panel: Allyn Martin, AIA; for Newman Hall, Stephen De Staebler, who worked with the architect from the project's start.

development program under the iron hand of M. Justin Herman, then executive director of the San Francisco Redevelopment Agency, architects and developers were forced to use art. Some of it has been outstanding, for example, the Vailancourt Fountain in the Embarcadero Plaza. Here Mario Ciampi, FAIA; Lawrence Halprin, the landscape architect; and I insisted upon being the jury in an international competition, and we selected the sculpture as being by far the best to fulfill our demand for monumentality, spatial concept and at the same time intimacy of feeling.

The new 1966 downtown zoning "amenity" ordinance, for which Walter Bogner, FAIA, served as a consultant, also had its effect on producing plazas with sculptural possibilities. The "corporate image" in art has led to the commissioning or purchase of paintings, murals and sculpture on a scale not dreamed of before. It also made the art more acceptable since many buildings were in or adjacent to redevelopment areas over which Herman had control. Still the examples of integrated work are sporadic, but one must take heart in that such a volume is bound to produce some good work — as often, probably, as it produces good architecture.

The BART program also has encouraged the use of art, and by its very nature has forced art as a part of the architecture rather than as objects to be purchased and placed, as is true with many of the redevelopment and private projects.

The new Market Street project by Ciampi and John Carl Warnecke, FAIA, with Halprin as landscape architect, is using several of the triangular plazas for fountains. The pattern will extend the theme of Embarcadero Plaza (now the M. Justin Herman Plaza) for several miles through the heart of the city. Halprin has caught the spirit of art in architecture more intensely than most contemporary architects, unquestionably because of his familiarity with the great fountains and plazas of Europe. The overwhelming tendency in architecture in San Francisco, however, follows the national pattern in that color and art forms are absent except where objects of art are interest points.



Ciampi's Fernando Rivera School in Daly City, in 1960, and his Newman Hall at the University of California at Berkeley were forward marks in the development of integrated art and architecture in the Bay area. The school represents one of the best examples, the architect having provided small courtyards sufficiently well sheltered to allow for fragile sculpture. It is interesting to note that the project received the 1961 Gold Medal from the New York Architectural League for excellence in landscape architecture, with Ciampi as the landscape architect. Artist Stephen DeStaebler worked with the architect from the initial concept of Newman Hall.

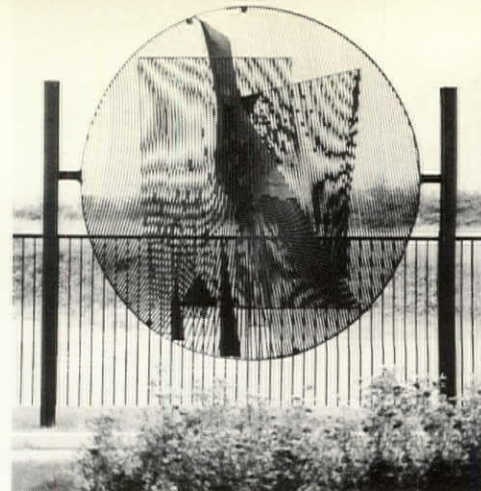
Probably the cliché of today is a striving for form — often without function — and we will have to settle for the time being with objects of art, trusting that these will be sympathetically used. An example is the simple but forceful fountain wall by Hertzka & Knowles at the

Pacific Gas & Electric Building in San Francisco. This wall of water delightfully expresses the source of power from which the company derives its electricity. Above grade level, however, most buildings over 12 or 16 stories seem to rely for facades on poor imitations of I. M. Pei's exquisite detailing of Society Hill with the obvious effect that one can feel free to add or subtract with no damage to the design.

The educational programs of the past 30 years or more were, of course, in a great way responsible for our situation today. It is refreshing to note, however, that many architectural schools are again requiring history and drawing in the curriculum. With students aware of past developments and their origins and with an ability to express their thoughts with line and brush, added to the fact that some clients are now reawakened to art, we may find again buildings like Louis Sullivan's which arise in beauty out of a static environment. □

The Humanizing Role of Sculpture

Art Brenner



The extreme pressures for renovation of the urban environment have too often resulted in quantitative solutions only. This may account for the proliferation of studies which emphasize the qualitative aspect of space as essential to both the human and urban environments. One example of such research is Edward T. Hall's *The Hidden Dimension*. The use of sculpture in architecture is a dimension of the qualitative scheme and is one means of concretizing man's images and dreams.

In past centuries the alliance of sculptor and architect was the source of a "public" art that greatly enriched the daily visual environment. Today modern sculpture, by its tendency to monumental scale, is in a position to renew this integral relationship with architecture and its function in the public sector. Yet the contribution sculpture can make in this area, its potential role in a particular project and its value as a general source of inspiration appears to have been largely overlooked.

This is all the more strange since the architect shares with the sculptor an esthetic based on their common origins as craftsmen in stone and wood and on their mutual involvement with volume and form, structure and plastic relationships. Since both work in real space, their concepts and the terms used to express them are quite alike: They speak much the same language. Although one might expect general accord, issues such as differing education, goals and the utility of their designs may have led to artificial barriers.

In talking to architects in France, England and the United States, this writer has been shocked by how few are aware of the contemporary art world around them, how few take time to visit galleries and exhibitions. How, then, can the architect think meaningfully about sculpture? How can he incorporate it in his design? It should be helpful to quickly differentiate the various types of sculpture before discussing how to relate sculpture to architecture.

Mr. Brenner is an American sculptor now residing in Paris. His article is based in part on one which he originally prepared for *Leonardo*, Vol. 4, 1971, p. 99, and is published with permission of Pergamon Press, Ltd.

Fundamental to the problem-solving activity of the artist are his intent and the scale of his sculpture, i.e., how the latter interacts with its surroundings and its size in relation to a viewer. This suggests one means of categorizing sculpture.

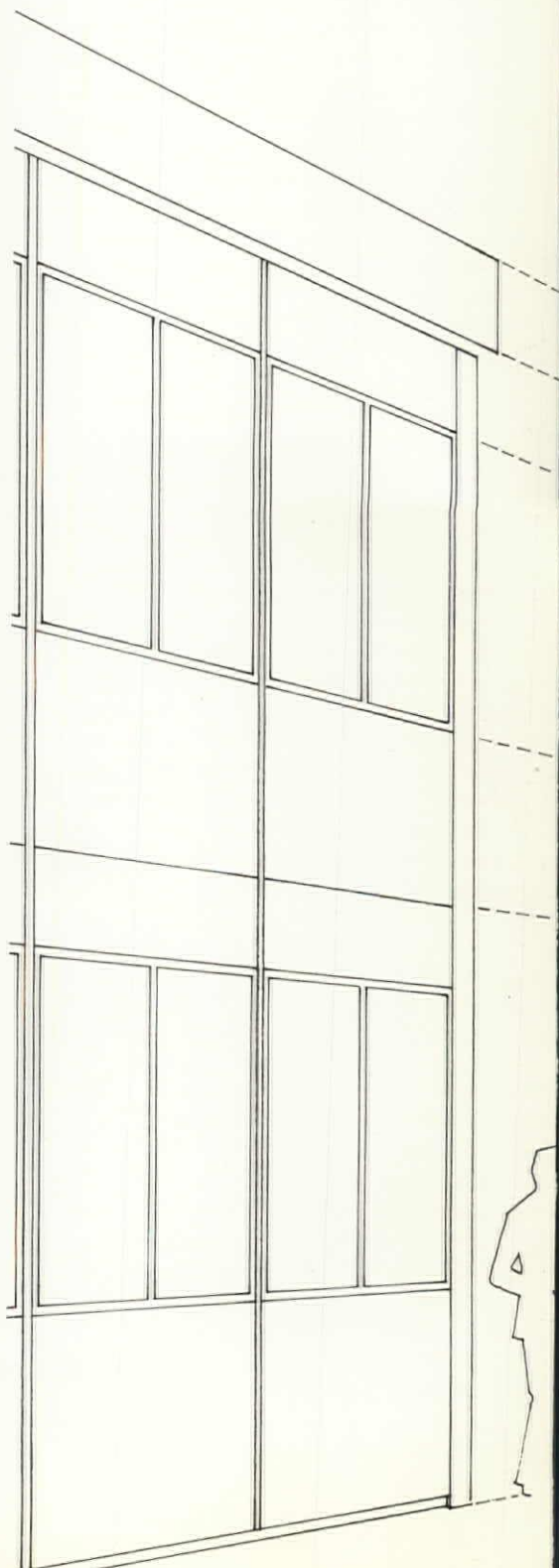
Sculpture-as-object, or "free" sculpture, is conceived as an independent piece intended to be appreciated solely on its own esthetic merits. Too often such a work installed in an architectural setting is of disservice to both, for it rarely meets the requirements for relating one plastic volume with another.

Sculpture-as-architecture may be defined as an environmental shell in which man may live, work or play: an enclosed sculptured volume seen from both inside and out. It might equally be called architecture as sculpture, but either way it remains an individual object.

Sculpture-in-architecture is a category too often ignored perhaps because of its rigorous demands. Neither a "free object" nor a "building," it is an integral part of the architectural design just as the architectural forms are integral to the artistic conception of the sculpture. Sculpture used as applied ornamentation is clearly foreign to this concept of integration. In this category sculpture and architecture interrelate by design. What, then, are the major design factors to consider?

The simplest application of a sculpture to a building is probably in the form of a relief since such a sculpture on a wall participates naturally in the architectural ensemble. The architect's concern for the scale of a wall in relation to the building as a whole gives the sculptor more or less valid guidelines. A detached relief used as a screen or sign makes ready use of the "extended" lines of the building design to determine size and proportion, thereby promoting integration. Reliefs are not unrelated to architectural problems of shadow lines in detailing a facade; full-round sculpture parallels architecture more generally in its use of space and volume, creating the more difficult problem of integrating the whole system.

The coherence in the system results from a proper interaction between mass and void, between positive and negative volumes. Clearly, sculpture and architec-



What are the compelling reasons for nurturing the relationship between architect and sculptor? Aside from the physical fact of sculpture, what is the nature of the sculptor's contribution? In probing these questions, an artist makes some suggestions, illustrating a number of points with his own works. Sculpture in weathering steel for a concrete school in France (Jean Monge) becomes

a sign on the entrance path, leading to a covered passageway whose height was adopted for the frame's diameter. (The fence was an unfortunate unforeseen addition.) For the French school below (Guillaume Barbé), the sculpture's height is the same as the building's. Intervening "extended" lines determine the limits of the various forms.

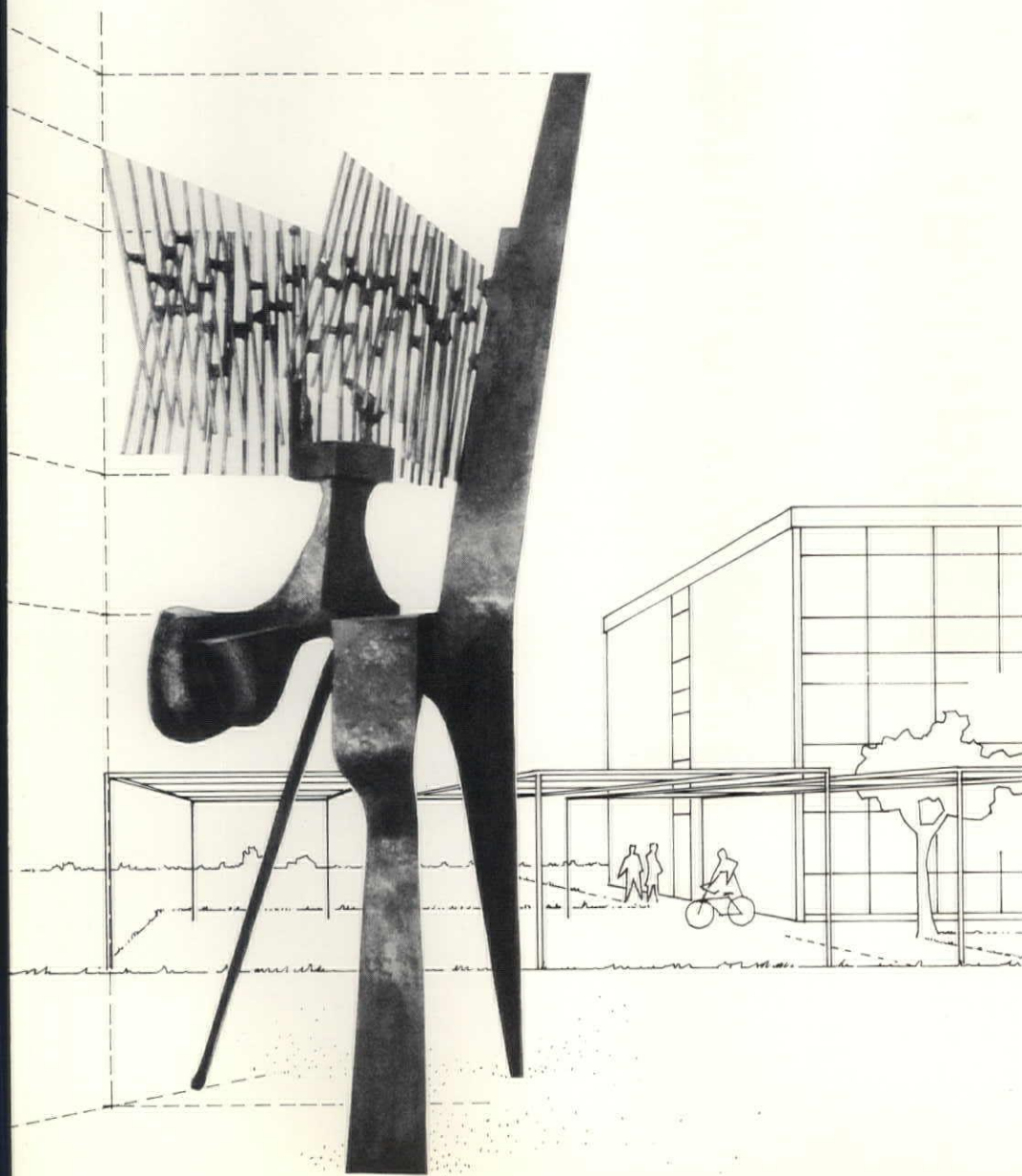
ture reach beyond their own inherent limits to model the space around and between them. Just as the space within a hole in sculpture is intensified, so the "void" between a sculpture and surrounding architectural forms is shaped and compressed and can take on meaning. Thus the interrelationship of solid and surrounding space modify both and cause a sense of tension or "charge" between sculpture and architecture. In the large scale of sculpture-in-architecture, this charge can dissipate and be lost unless otherwise contained within the invisible, though felt, lines of tension allying the forms of the sculpture to those of the building.

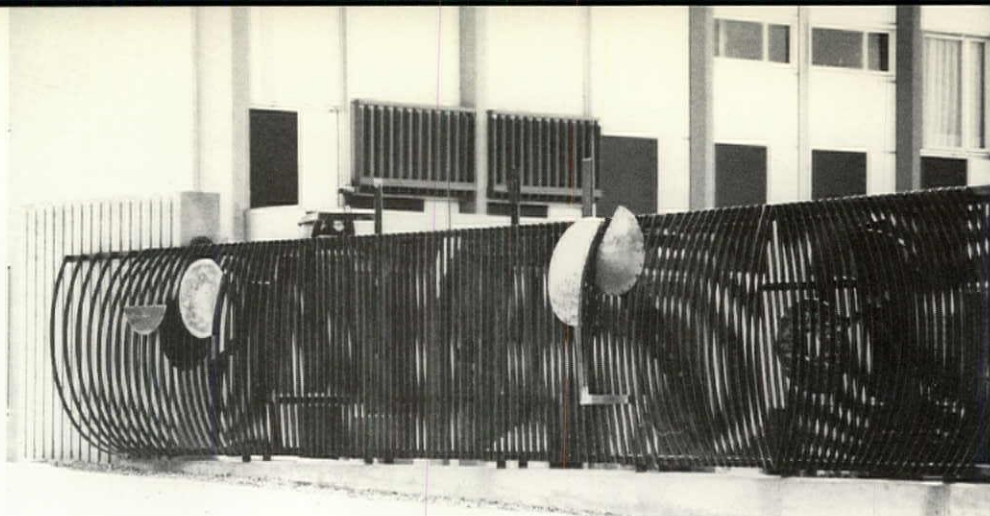
Those lines of tension aid in the development of size. To conceptualize the space and to interconnect a sculpture with the architecture of a large-scale project, it is often useful to make a rough model of the intended sculpture in position. It is possible to resolve many problems of proportion in this way as well as to make determinations of density (or compactness) and color which necessarily affect and are affected by scale and the proposed location of the work.

A large, heavy piece with compacted forms or one with thin, airy forms might be out of place in one situation but desirable in another; or the density might be maintained but the scale changed. There are two qualities of density: the massing of forms in the total configuration of a sculpture and the quantity of materials used in defining the forms themselves. For example, a sculpture made up of massed forms defined by thin rods would have a high density of forms yet would maintain a light airy effect.

Function and location are determinants of density of form, too, affecting the handling and positioning of the mass in a sculpture. A piece standing at street level in front of show windows, for instance, could be dense in its upper sections, but it would certainly be desirable for it to be very light within the sightlines of the displays.

Color acts on scale in much the same way as density. A piece rendered in dark wood appears different in size from the same one in aluminum. A concrete sculpture against a concrete background could





be much larger than if colored (or another material used) for contrast.

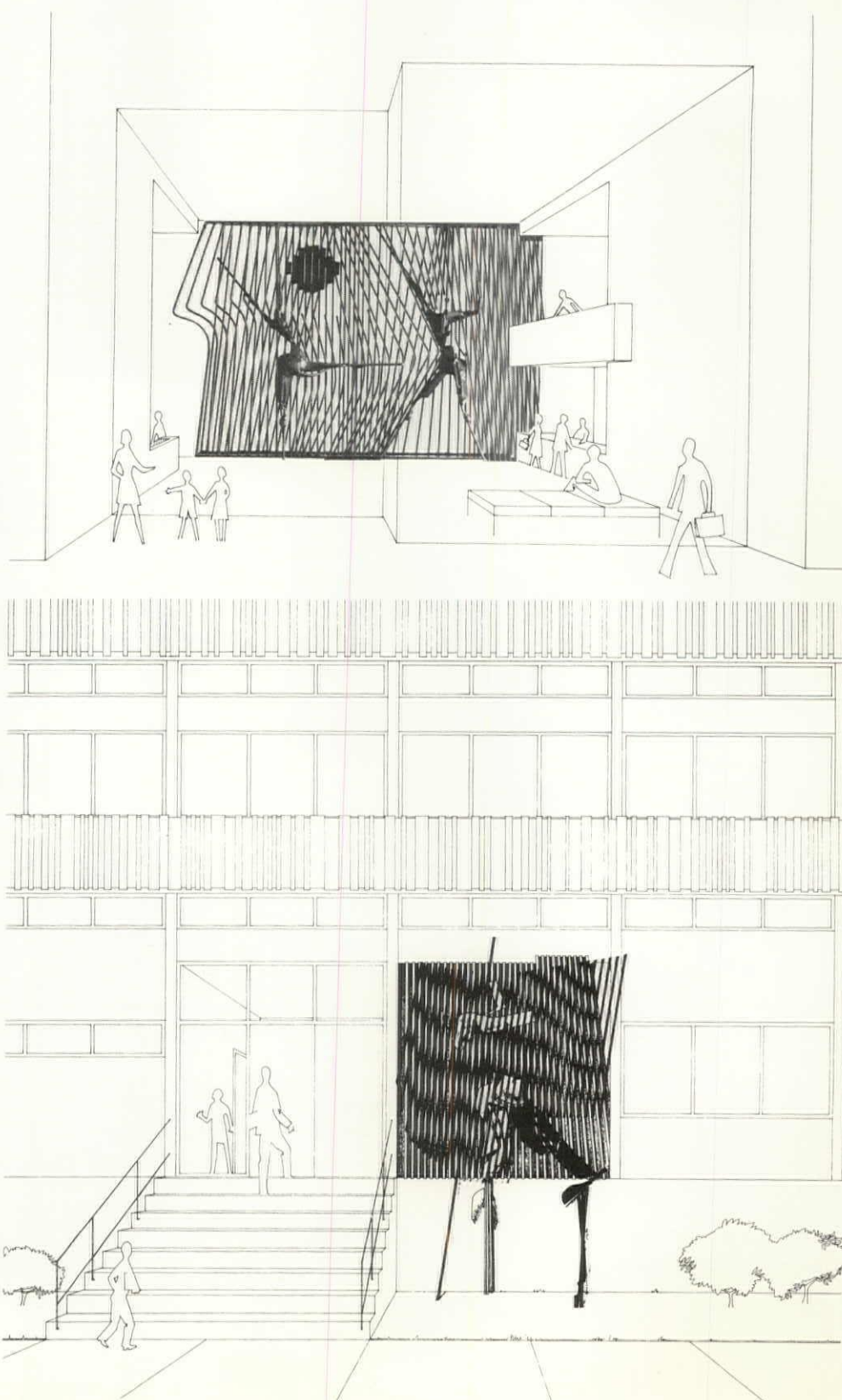
The degree to which a sculpture should blend with its environment or contrast with it, qualified by considerations of density and scale, involve highly qualitative judgments whose success depends upon the sensibilities of the parties concerned.

Fundamental to a rewarding venture is the relationship between sculptor and architect. The goal of harmony between sculpture and architecture should not be the burden of the sculptor alone nor be at the expense of his work; such problem solving should be the mutual concern of both sculptor and architect at the very inception of a project before decisions and commitments have become firm.

The importance of opening discussion on sculpture at the early design stage cannot be overemphasized. This permits free exploration of possibilities and may be of help in the resolution of some architectural problems as well. At least sculpture and architecture are more likely to achieve a greater cohesiveness.

In practice, however, plans are often drawn and finalized — and construction begun — before an artist is involved. In such situations a blank wall is designated for a relief, or an open space for another form of sculpture. "Let's put something there," is a typical remark. The opportunity for changes that might be desirable, from all points of view, to improve the architecture/sculpture relationship is thereby lost. The sensitive designer, disturbed by a sculpture that is almost, but not quite, allied to his building cannot but wonder if some minor alterations in his designs at the beginning might have made the critical difference toward a satisfactory integration.

On the other hand, it would be unfair not to recognize the preoccupation of the architect during the early design stages of a project. How, then, is he to select a sculptor? As already noted, it seems to be the rare architect who takes a real interest in the art world around him. Although the latest large sculptural commissions might be reported in local newspapers or in professional journals, this presents a most limited view. If the architect uses these sources in seeking a sculptor, he



Considerations in density and scale are expressed by the three projects at the left: the sculpture at the entrance of a French school (Pierre A. Le Breton); a proposal for the entrance hall of a major institution; and, in a piece still pending, the panel next to the entrance of another school in France designated by the architects (Société d'Urbanisme et d'Architecture) for a relief work.

The 30-foot high bay of the Tufts/ New England Medical Center in Boston (The Architects Collaborative) determines the outer limits of a suggested sculpture with the functions of the complex — teaching, treating, research — reflected by means of three hands utilizing a common thumb.

does so from among a handful that have been well publicized. Moreover, their fees may often be beyond his budget.

Another method, the selection of a sculptor through a competition, requires a great amount of preparation to be effective and should certainly be conducted under conditions comparable to those recommended by The American Institute of Architects for architectural competitions. This method may genuinely discover new talent, but its real drawback is that it generally comes after the building is designed — and perhaps built — which precludes any preliminary creative interplay. There is a better way.

The architect today avails himself of the services of a large number of specialists in discharging his function. Sculptors, too, have a specialized contribution to make. It could be best accomplished by the creation of a new position in architectural firms for a collaborating sculptor.

The role of the proposed collaborating

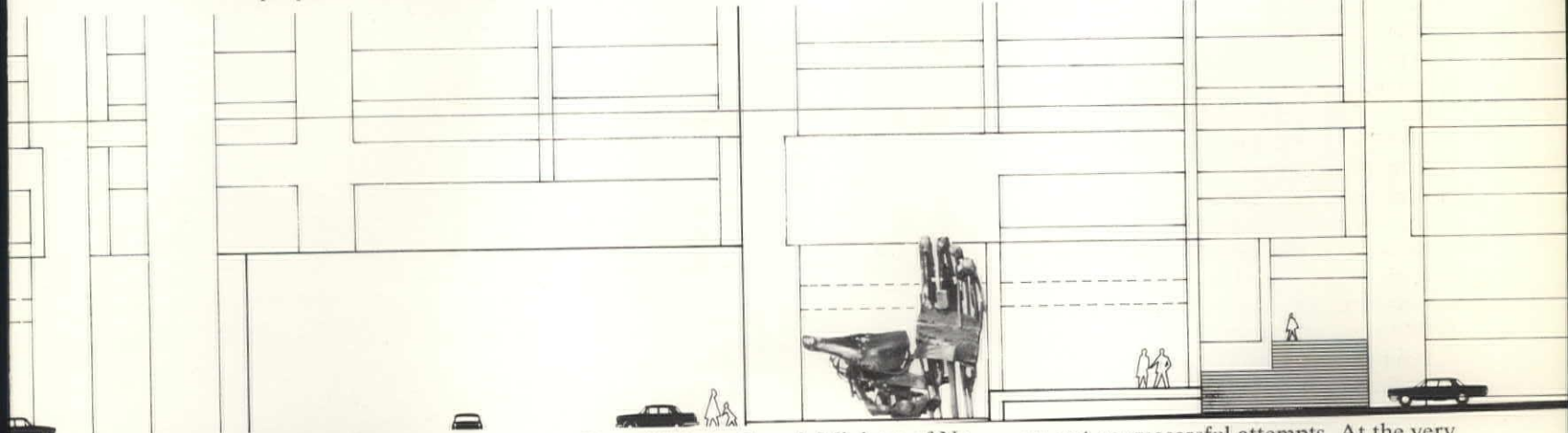
sculptor needs a clear job definition. This position would be filled by a practicing sculptor who could contribute to the design process in selected states. He would review preliminary architectural drawings for the possible incorporation of sculpture and suggest qualified artists. He should not have easy access to all the sculptural commissions from that firm; in fact, there should be severe limitations. Instead, his function here would be to keep abreast of works by other sculptors through visits to studios and exhibitions, keeping in mind their possible use in connection with architecture. Finally, he would follow through

by checking progress of a commissioned piece, aid in installation details, etc. The collaborating sculptor would perform a valuable professional service as well as serving as a sympathetic sounding board to the architect. It would be an exciting and stimulating position that would require but a few hours each week and thus would neither take the artist away from his regular work nor be beyond the means of a small architectural firm.

For obvious reasons, the accomplishment of these functions requires an artist with some minimum experience in both large and architectural sculpture. An important benefit resulting from this proposal would be the increase in the number of sculptors working on architectural projects. This is desirable in view of the wider recognition of the need for the incorporation of works of art in public buildings. And this is happening, as is demonstrated by the actions of various governmental agencies.

tion of such funds mandatory. It should be noted that the architect's fee is in no way reduced. Other French ministries have instituted similar programs, although they are not so comprehensive. This is a means of subsidizing the arts and the artists; more importantly, the program contributes to the cultural and esthetic wealth of the nation. It is also a stimulus to the private sector to do likewise.

The proposal for a collaborating sculptor with American architectural firms offers a promising point of departure for further investigation of the issues involved in sculpture-in-architecture. There have been very few books on the subject in the past 20 years, and many of them, unfortunately, have been little more than collections of pictures. We need to develop a theory of space relationships for sculpture-in-architecture based upon research and analysis of both successful ventures (even where the success is based more upon intuition than on preplanning) and



sculptor needs a clear job definition. This position would be filled by a practicing sculptor who could contribute to the design process in selected states. He would review preliminary architectural drawings for the possible incorporation of sculpture and suggest qualified artists. He should not have easy access to all the sculptural commissions from that firm; in fact, there should be severe limitations. Instead, his function here would be to keep abreast of works by other sculptors through visits to studios and exhibitions, keeping in mind their possible use in connection with architecture. Finally, he would follow through

Since 1951 the French Ministry of National Education has reserved 1 percent of its contribution to school construction for artwork. The artist is selected by the architect who can turn for help in this matter to a section of the Ministry of Cultural Affairs, which is responsible for the whole program. In practice, a model is submitted for final approval to a commission comprised of architects, artists and administrative personnel concerned with art and architecture. The use of these funds has been optional for the architect, but nonetheless it has been widespread.

There is a move to make the applica-

on not-so-successful attempts. At the very least, the experience gained by architects, collaborating sculptors and project sculptors should open new insights and solutions to all concerned.

As the architect seeks new forms and new focus in this changing period, so the sculptor looks for a fresh matrix and new symbols to define new purposes. Cooperative effort toward such congruent goals can produce a creative fertilization of the two disciplines which would enrich not only the participants themselves but also the work in which they have been united. □

Tax Considerations in Building Design

Kris R. Nielsen

Through the federal tax laws, Congress provides business with incentives to invest in new facilities construction. These incentives are designed to reduce the owner's federal income tax burden through provisions in the Internal Revenue Code concerning new facilities construction—specifically, investment tax credit and accelerated depreciation through proper allocation of construction costs.

Of what significance is this to the design team? Construction costs continue to escalate, and considerable effort is expended in the development of cost reduction techniques, including value engineering and life-cycle costing. Additional application of tax reduction techniques on new construction can result in further significant reductions in the owner's construction cost burden.

At the present time eligible facilities generally are not recognized nor dealt with until completion of construction. A thorough review of such tax eligibility areas during the design process can lead to the maximization of the benefits provided, which is impossible to attain once construction is substantially complete.

The tax laws covering new physical facilities are well defined, and any discussion of these laws must start with an understanding of the two basic depreciable property types. First, that property which is eligible for short-term or rapid depreciation is known as "38/1245 property"; see Internal Revenue Code of 1954, Sections 38 and 1245(a)(3).

Such property must be depreciable and amortizable with a useful life of at least three years and includes (see Income Tax Regulations, Section 1.48-1):

- Tangible personal property such as production machinery, printing presses, transportation and office equipment, refrigerators, grocery counters, testing equipment, display racks and shelves, neon and other signs and most fixed and movable equipment which is attached to or contained in a building.
- Other tangible property (not including

Mr. Nielsen, an engineer and attorney, is vice president, Construction Cost Management Services, McKee-Berger-Mansueto Inc., in New York City.

EQUIPMENT USEFUL LIFE DEPRECIATION GUIDE

Industry Group	Equipment Life in Years
Aerospace industry	8
Agriculture, machinery equipment	10
Apparel and fabricated textile manufacturing	9
Automobile repair shops	10
Bakery and confectionery products	12
Barber and beauty shops	10
Brewery equipment	12
Broadcasting	6
Cannery and frozen food production	12
Cement manufacturing	20
Cereal manufacturing	17
Chemical and allied production	11
Clay products manufacturing	15
Clock and watch manufacturing	12
Construction equipment	5
Dairy products manufacturing	12
Distilling	12
Electrical equipment manufacturing	12
Electronic equipment manufacturing	8
Fabricated metal products	12
Fur processing	11
Glass and glass products	14
Gypsum products	15
Hotel/motel furnishing and equipment	10
Jewelry products and pens	12
Knitwear and knit products	9
Laundry equipment	10
Leather and leather products	11
Logging	6

Figure 1

a building and its structural components) but only if such other property is used as an integral part of manufacturing, production or extraction, or as an integral part of furnishing transportation, communications, electrical energy, gas, water or sew-

age disposal services. Such property would include machine foundations, environmental control systems, shipping and receiving docks, crane superstructure and foundations, industrial process HVAC and piping, etc.

With construction costs steadily escalating, every technique must be employed which will lead to cost reductions. The owner's burden will be decreased even more if eligible tax reductions are understood and applied—not after construction, as is usually the case, but during the early stages of the design process.

Practice Aids 16

LINES BY INDUSTRY GROUP FOR 38/1245 PROPERTY

Meat packing	12
Metalworking machinery manufacturing	12
Mining and quarrying	10
Motor vehicle and parts manufacturing	12
Office furniture and equipment	10
Optical lens instrument manufacturing	12
Paints and varnishes	11
Paper and pulp products	16
Paper finishing and converting	12
Plastics manufacturing	11
Plastic products manufacturing	11
Primary metal production, ferrous	18
Primary metal production, nonferrous	14
Printing and publishing	11
Professional and scientific instruments	12
Railroad transportation equipment manufacturing	12
Recreation and amusement	10
Retail trades, fixtures and equipment	10
Rubber products manufacturing	14
Sawmills, permanent	10
Sawmills, portable	6
Service establishments	10
Ship and boat building	12
Soft drink manufacturing	12
Stone products manufacturing	15
Sugar/sugar products manufacturing	18
Textile products	14
Textile finishing/dyeing	12
Theater equipment	10
Tobacco and tobacco products	15
Vegetable oil products	18
Wholesale trade fixtures and equipment	10
Wood products and furniture	10

• Research facilities or storage facilities (bulk storage of fungible commodities, i.e., materials whose nature is such that one unit can be substituted for another such as most gases and liquids, grains, etc.) provided that such facilities are in-

tegrally used with a manufacturing, production or extraction process.

• Elevators and escalators installed after June 30, 1963.

The second property type, which is eligible for long-term depreciation, is known

as "1250 property"; see Internal Revenue Code of 1954, Section 1250(c). It is defined as property which is depreciated or amortizable and which is not 38/1245 property. Thus it generally is the structural or permanent part of a building.

The differentiation between the two property types is important for a number of reasons. First, the Federal Revenue Act of 1971 added a new Section 50 to the 1954 code which makes most 38/1245 property eligible for a "job development credit" or, as it is more commonly called, an investment tax credit. For 38/1245 property with a useful life of eight years or more, the taxpayer is eligible for a tax credit of 7 percent of the cost (or value) of such property.

In addition, 38/1245 property is depreciated over the useful life of the manufacturing, production or extraction process equipment with which it is integrally used. Figure 1 (the information has been obtained from the Internal Revenue Service Publication No. 456, dated 7/64, revised 8/65 and/or Revenue Procedure 71-25) indicates the equipment useful life guideline for various industries, which are the periods over which associated 38/1245 property would be depreciated. Under the new Asset Depreciation Range System, the taxpayer is allowed to reduce (or lengthen) the useful guidelines to reflect changing conditions such as technological improvements, automation, increased foreign competition, etc.; see Income Tax Regulations 1.167(a)(11).

On the other hand, 1250 property is not eligible for investment tax credit and must be depreciated over the life of the building, as seen in Figure 2, and no accelerated depreciation method greater than the 150 percent declining balance method may be used. The useful life of a particular building type, such as factories, can be reduced if actual recorded experience so indicates.

An owner can reap substantially more benefits in the form of tax credits and increased cost flow (or cost flow value) the more that a new facility is classified as 38/1245 property. This classification process commonly is called asset or property allocation.

Since commercial structures do not by

**USEFUL LIFE DEPRECIATION GUIDELINES BY
BUILDING TYPE FOR 1250 PROPERTY**

Building Type	Useful Life in Years		Useful Life in Years
Apartments	40	Hotels	40
Banks	50	Loft buildings	50
Dwellings	45	Machine shops	45
Factories	45	Office buildings	45
Garages	45	Stores	50
Grain elevators	60	Theaters	40
		Warehouses	60

Figure 2

their nature have substantial areas devoted to manufacturing, production or extraction, a technique which may be used in addition to asset allocation is component depreciation of real property.* Through this technique, a building is fragmented into various substantive parts, and a useful life is assigned to each part. The cost (or value) of these parts is depreciated over each part's useful life. The useful life guideline of a commercial building as a whole, shown in Figure 2, often can be reduced to an effective useful life of 20 to 30 years using component depreciation. Any 38/1245 property eligible for investment tax credit remains so when component depreciation is used. Parenthetically, when the commercial property is held for investment, i.e., not used in a trade or business, component depreciation may not be as useful when tenants have net or net net leases.

A typical component depreciation analysis for an office building is shown in Figure 3. The effective depreciable useful life of the building is reduced to 27.5 years with an average increase of \$62,500 per year in cash flow. This is the additional cash flow after taxes using the straight-line depreciation method versus the straight-line depreciation of the total building over the 45-year building life.

The means of maximizing tax advantages requires three different types of operations. The first embodies the identification of the various properties, assignment of useful lives and the proper allocation of all direct and indirect construction costs.

An example of complete cost allocation is the cost of a typical loading dock. Since it is an integral part of the manufacturing or production process, the loading dock is 38/1245 property, the cost of which is eligible for investment tax credit. The structural steel and concrete comprising the loading dock are easy to identify

* The following cases have established component depreciation as an allowable technique for new property: *Shainberg*, 33 TC 241 (1959); *Fort Walton Square, Inc.*, 54 TC 653 (1970); and for used property the precedent case is *Harsh Investment Corp. v. US, D.C., Ore., No. 69-154*, 1/9/70.

**TYPICAL COMPONENT DEPRECIATION ANALYSIS SUMMARY
FOR AN OFFICE BUILDING**

		Amount	Useful Life in Years
Main structure		\$1,495,693	45
Building roofing		19,510	10
HVAC		1,205,942	20
Plumbing: fixtures and equipment	\$73,915		20
Steel pipe	28,321		25
Cast iron pipe	27,051		35
Copper pipe	8,141		30
Fire protection	51,378		25
		188,806	
Electrical: equipment and system	534,955		20
Fluorescent fixtures	226,857		10
Other fixtures	43,457		15
		805,269	
Elevator		20,906	25
Building partitions			
Partitions	26,188		
Partitions: movable metal	29,472		
Partitions: movable wood	6,300		
Specialities	10,870		
		72,830	15
Wall finish			
Vinyl and plaster	18,897		10
Brick and tile	49,995		25
		68,892	
Ceiling finishes		159,349	15
Floor covering			
Tile and waterproof	16,408		20
Resilient tile	7,275		10
Rubber mats	550		5
		24,233	
Computer floor		74,081	10
Painting		5,390	5
Special equipment		55,360	15
Site improvements		215,361	20
Site lighting		19,913	20
Site plumbing		37,565	30
Total		\$4,469,100	

Figure 3

Tax laws covering new buildings are well defined. There must be an understanding of two basic depreciable property types. The first is that property which is eligible for rapid depreciation; the second applies generally to the structural part of a building. Differentiation between the two is of major importance.

The architect can be of great help to his client if he develops the design of a building with the client's tax position in mind. A team approach is required with legal and accounting disciplines added to those of design and construction.

and allocate. In order to achieve a maximum tax credit, however, the less recognizable but equally important costs also must be identified, e.g., the grading and excavation for the dock and its associated truck turn-around; the truck turn-around paving; the load levelers (including the concrete pit to house the leveler, freight, cartage and installation charges); the canopy over the loading dock; the floor drains and service connections for electrical and plumbing facilities; and a prorated amount of the design fees and contractor's insurance, taxes, overhead and profit.

The architect/engineer in conjunction with the owner's engineering, accounting and tax personnel or consultants can establish property accounts for complete construction cost property allocation. If the limits and extent of the accounts are shown on and included in the drawings and specifications, the contractor can be required to submit his request for payment according to these property accounts. In this manner, costs will not have to be reconstructed after the fact with the potential oversight of eligible costs.

The second maximization operation, which only now is receiving the attention it deserves, is the tax orientation of design decisions. When inputting tax considerations into the design decision process, these Internal Revenue Service positions must be remembered:

1. When considering nonproductive machinery such as HVAC equipment, the "sole justification" for the machinery installation must be to meet requirements which are essential for the operation of other production process machinery. Machinery may meet this sole justification test even though it incidentally provides for the comfort of employees, or serves to an insubstantial degree, areas where the control requirements (such as environment) are not essential; *see* Income Tax Regulations, Section 1.48-1(e)(2).

2. "Integral part" of a manufacturing production or extraction process means the property is used directly in the activity and is essential to the completeness of the activity; *see* Income Tax Regulations, Section 1.48-1(d)(4).

3. Property which is a complete entity, such as slabs, may not be split into

amounts some of which meet the integral part and sole justification tests, and some of which do not. The rule is all or none.

What then are typical design decisions which can result in better value for the owner through a decreased income tax burden? In some cases, the decision can be quite simple. Light fixtures are considered 1250 property even when installed over a production area. The fixtures, however, are susceptible to classification as tangible personal (38/1245) property if they are mounted on and plugged into a trolley duct—the owner can reposition the fixtures as needed or remove them when he leaves the facility. The slight increase in initial cost is more than offset by the ability to depreciate the fixture cost over a short period.

The overhead cranes found in most large manufacturing bays usually are 38/1245 property. The crane structure is an eligible part of the crane cost as can be the supporting structure if it is identifiable. Often this support is integrated into the building superstructure, and its cost is not eligible for 38/1245 property treatment as a result of the all or none rule. Since the crane support cost can be sizable, the design of a stand-alone system with its own foundation can result in more return to the owner than the additional initial cost.

Similarly, if a production area slab is designed at 12 inches, it would seem reasonable that the additional 9 inches that are there only because of production needs should be 38/1245 property. This is considered unacceptable apportioning. The various tests can be met, however, by pouring the usual 3-inch slab under the building base contract and adding the remaining 9 inches required under a separate and subsequent contract.

Computer hardware areas require special environmental control, but if the control is furnished by the building's HVAC system, the "sole justification" test is difficult to meet. The design of a separate HVAC system to serve the computer environment will allow all of its cost to be treated as 38/1245 property and depreciated over the useful life of the computer equipment.

Railroad track and truck marshaling

areas are eligible 38/1245 property, and any associated site grading, drainage, paving, fencing and lighting are eligible. The fencing and lighting are examples where incidental benefit to noneligible land improvements can result through careful design without the costs receiving 1250 treatment.

If the structure is a commercial office building, the tenant improvements can be designed with a component depreciation useful life corresponding to that of the lease period. For example, under a 10-year lease, the use of wall, ceiling and floor coverings with a 10-year useful life will allow for their cost to be fully depreciated at lease termination. Improvements for a new tenant can then be provided without any depreciation loss.

Elevators are 38/1245 property and as such make the masonry partition enclosing the core a 38/1245 eligible cost, provided it is not part of the structural design. Any additional cost attributed to increased core size due to provision of space for the services risers would also be eligible if such additional quantity and cost are only incidental.

In many instances production areas and equipment require special mezzanines, extensive plumbing or enclosure in a building within a building. The eligibility of these items often can be jeopardized by improper labeling on design documents. Proper labeling results in mezzanines becoming equipment platforms; production equipment plumbing becomes process piping; and interior buildings become safety enclosures, sound abatement enclosures, etc.

Architects and engineers have an opportunity to work with their clients to develop their designs with the client's tax position being another aspect of the needs to be considered in the facility design. The tax area represents a need which will become increasingly important as the economy expands, construction costs escalate and taxable business profits rise.

The challenge for the design profession is to recognize the need and to work with the owner. It cannot be met by the architect alone but will require a team approach that combines design, construction, legal and accounting disciplines. □

Prophets of Future Environments

H. H. Waechter, AIA

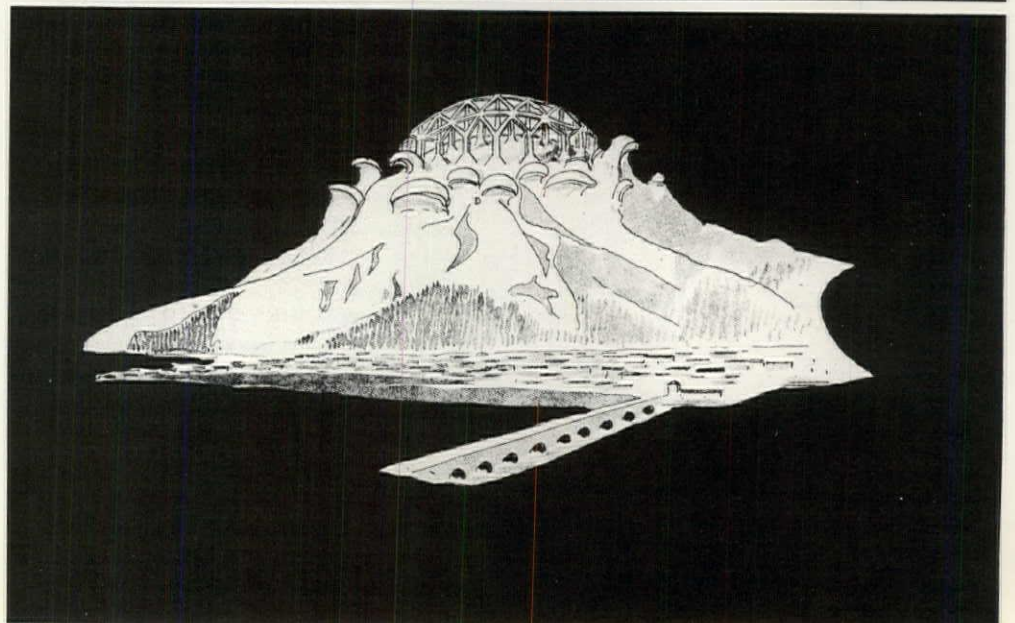
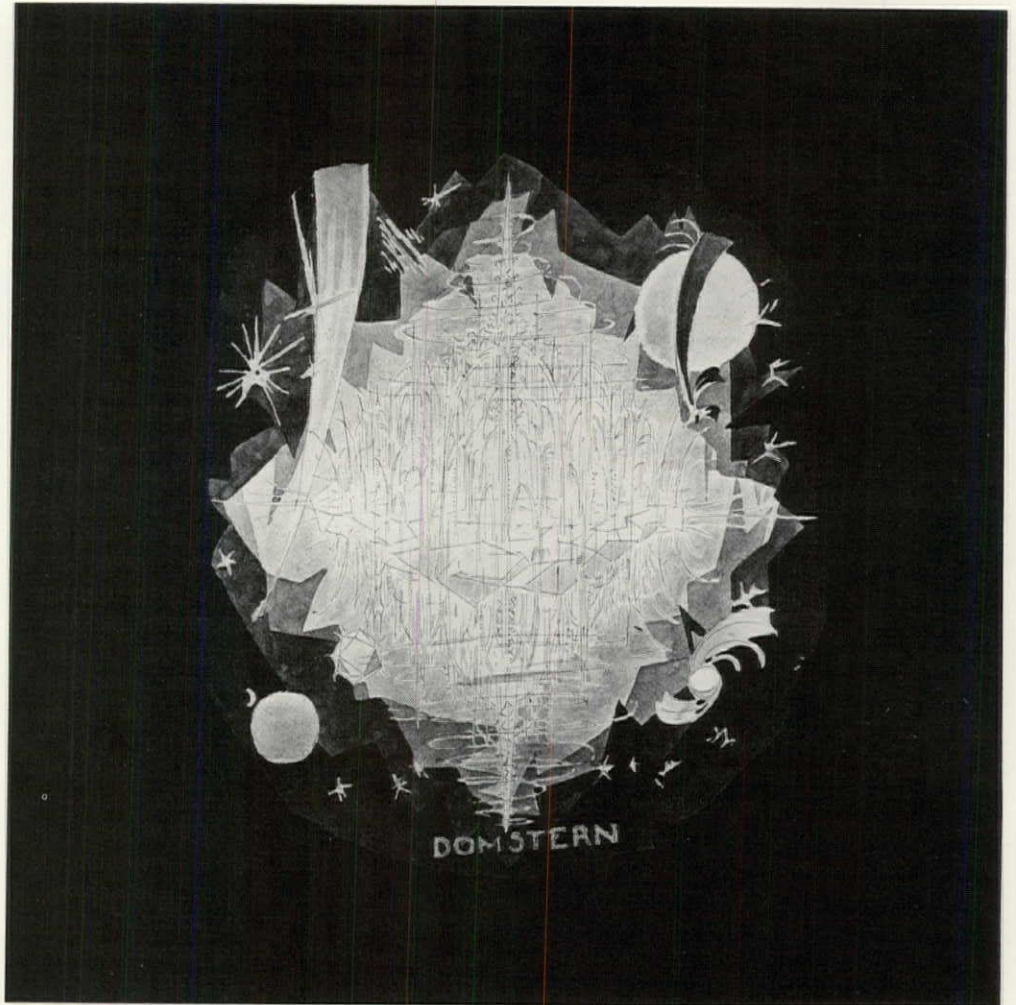
It has been difficult for me to understand how it was possible for two major prophets of a successful revolutionary architectural movement to have been virtually ignored by the English-speaking world for more than 50 years. Therefore, it seems to me that the publication in one small volume of Paul Scheerbart's *Glass Architecture* and Bruno Taut's *Alpine Architecture* (New York: Praeger, 1972) is a momentous event in English-language publishing. Its editor, Dennis Sharp, can rightly claim to have unearthed the wonders of architectural expressionism.

It was the British architectural critic Reyner Banham who finally wrote about Scheerbart in 1959, and an exhibition in 1960 at the Museum of Modern Art in New York City gave the first retrospective glimpse of modern architecture's ancestry in Europe under the title of "Visionary Architecture."

The translation of Ulrich Conrads' and Hans G. Sperlich's book *The Architecture of Fantasy* by George Collins (New York: Praeger, 1962), which added further examples, helped to break the ice. It is fortunate that students of architectural history are able now to read at least two of the many remarkable documents of that period. Architectural historians usually limit themselves to the expressionistic characteristics of the architecture of that time and find classification generally difficult. Embarrassed silence was added later by those former expressionists who produced the modern architecture of the 1940s and '50s.

The idea that Art Nouveau, which lost the battle but not necessarily the war, was an undesirable element in the history of modern architecture was one of the reasons for many misunderstandings of later analysts. Paul Scheerbart was, of course, a part of the "Jugendstil" era, as the German Art Nouveau was called, and the leading exponent of the architecture of expressionism. Bruno Taut was his

Mr. Waechter, a student of Bruno Taut and an employee in the Berlin firm of Taut & Hoffman in 1930-32, practices architecture in Oregon. His drawings of some of Taut's work are depicted on pages 34 through 37.



More than 50 years ago two Germans, a poet and an architect, had a "dream of a world revived by glass architecture." They had a profound influence on modern architecture, and yet until recently the English-speaking world ignored these futuristic thinkers who foresaw much that is commonplace today. The architect visualized the poet's theories in drawings of superstructures and cities of glass.

close friend, and one naturally influenced the other. Scheerbart, in fact, dedicated *Glass Architecture* to Taut.

It appears perfectly logical, therefore, that Sharp combined the two books into one volume. A study of them introduces the reader to concepts which were considered "futuristic" at the time. To set the record straight about events of early 20th century European architecture and personalities who became legendary, it may help lift the veil from many other now obscured documents.

Scheerbart was born in 1863. He was a poet of unusual gifts who was familiar to his friends and enthusiastic followers but who lived a life ignored by the rest of humanity. His life ended in poverty and early death in 1915. *Glass Architecture*, first published in 1914, had the greatest influence on architects. It is a prose work of 111 short chapters or, rather, paragraphs. Something that young readers may not fully appreciate is the curious feeling that one can get from realizing that so many futuristic visions became reality after a few short years and that many statements of so many later architectural prophets and celebrities were already made by Scheerbart.

Despite Sharp's informative introduction on Scheerbart's background, the real extent of this man's influence on his and, for that matter, on our own time is still awaiting further research. The artistically fermenting years just before and directly after World War I are remote now, but their influence lingers on indirectly, perhaps subconsciously, in the minds of architects and artists today. Historians have only just begun to clear the debris and to penetrate the propaganda which developed since the '30s. Many ideas, forms and tastes that seem to come up here and there on the contemporary architectural scene, caused perhaps by somewhat similar social fermentation, can be related to the wellsprings of that fertile albeit often confused period.

We often forget that Taut, who became during the early '20s the major force in the "Berlin School of Architecture," was pointing the way "toward a new architecture," a slogan which Le Corbusier later used as title for his influential theoretical

book. Taut also coined the generally regretted term for the house as a "machine for living."

The first program for the Bauhaus reflected Taut's language of the manifesto of "Arbeitsrat für Kunst," or Workers Council for the Arts, an informal group of architects, artists, writers and others in Berlin. Incidentally, the term "Arbeitsrat," or Workers Council, was rather innocently radical and typical for architectural romanticism. Literally the term has an affinity to "Arbeiterrat," which means "sovjet." The professions sought a role in the general upheaval of a revolution which came after defeat in World War I, bringing a complete change from a monarchy to a republic with an idealistic democratic constitution. Architects, as a rule, are people who are not often standing at the barricades. Some researchers seem to be misled in thinking that these architectural revolutionaries must have been party members of some kind, although a few of them, such as Hannes Meyer, were.

Wolfgang Pehnt, who wrote a postscript to the new German edition of *Glass Architecture*, says that Scheerbart belonged to those authors who formed circles of admirers during that period between naturalism and the "Neue Sachlichkeit." This term, incidentally, was later imprecisely equated with functionalism. Although the term *Neue Sachlichkeit*, or new objectivity, was first used by painters, architects usually meant to give a designation for their designs which were done with a matter-of-fact treatment in planning and structure in the interest of a new social philosophy. This was often taken by bandwagon followers as something entirely utilitarian. Any of us of the then younger generation could observe, of course, that the term functionalism was not really the spiritual one that we found in *Neue Sachlichkeit*. It became a barren form of utilitarianism. Taut's pronouncement that "nothing that is impractical can be beautiful" was a wording that he modified greatly in his book *Architectural Theory* written shortly before his death in Turkey.

The revolutionary method with which Scheerbart debunked formalistic pomposity was a form of "anti-literature" that

suddenly could change from cosmic views to absolutely mundane expressions of the man in the street. As Pehnt says, this artless and naive procedure, at that point in time, constituted the significance of Scheerbart's progressiveness. It needed the amateur in environmental criticism to produce new images which were free from any conventions. This approach enabled Scheerbart to comprehend knowledge from many sources of science and technology and to weld the information into a culturally holistic concept. It is small wonder, then, that without apparent difficulty he derived integrated concepts which sound often like science fiction or pure fantasy.

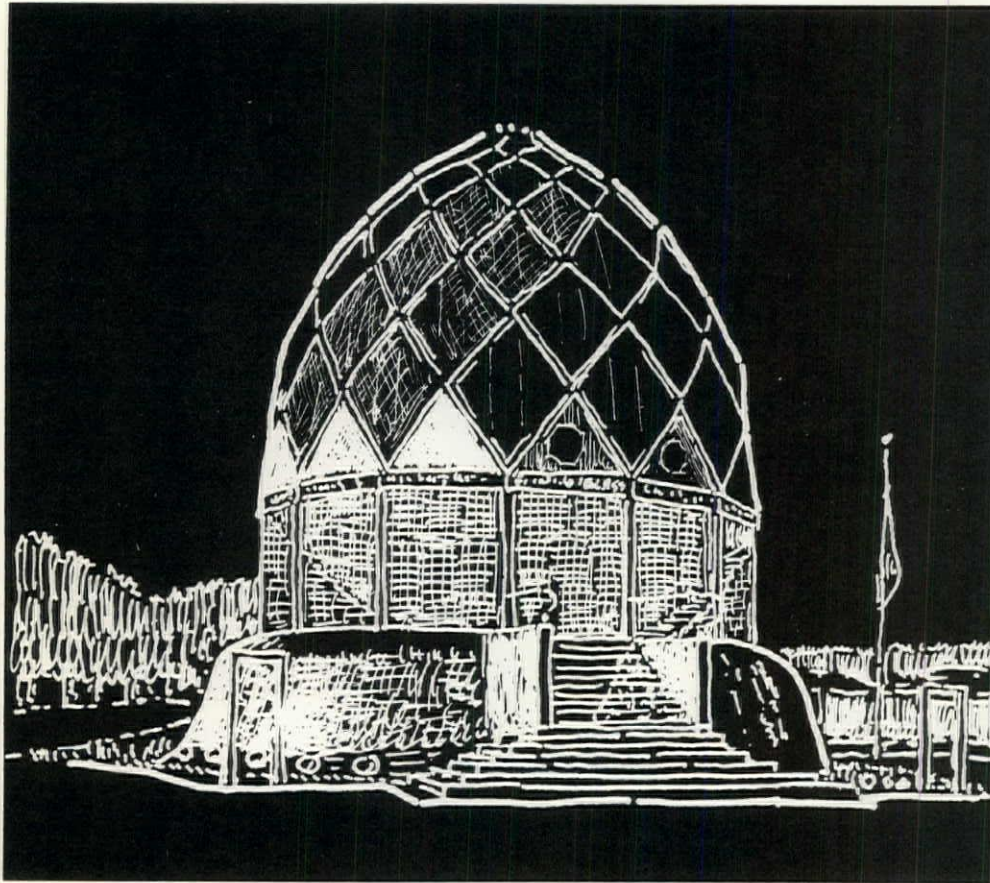
Among the miniature chapters of *Glass Architecture*, each devoted to a different topic, we find many quotable passages and expressions which are based on perplexing imagination, yet were presented in common sense terms as if they are or could become instant reality. Out of Scheerbart's reasoning about household drudgery and catching germs, for example, he predicted the vacuum cleaner, although he had little to go on that would have told him about the mechanics involved in this machinery.

Scheerbart said that cities in their present form are not yet 50 years old (this was 60 years ago) and, therefore, they can vanish as quickly as they came. This is not quite true, as we know, but we are still working at it. Then he speculated about changes in the surface of the earth, mountain illumination and endless dreams of colorful glass.

Scheerbart, the dreamer and poet par excellence, stubs his toe easily as soon as he tries to prove the correctness of his futuristic thinking. Uncertain knowledge of scientific principles and technical errors tend to devaluate a great concept which can easily wait for its technical solution. He envisioned, for example, the floating city which "could swim around in regions of large lakes—perhaps into the sea."

This challenging concept had to wait for today to become seriously considered and will have to wait for tomorrow when it will perhaps be made to work without getting into the ecological snarls that baffle the world today. But Scheerbart felt

Bruno Taut, the architect, designed a glass pavilion for an exhibition in Cologne in 1914, which was an early prototype for future international exposition buildings. He and the poet Paul Scheerbart "provided the transition which made glass architecture a viable esthetic concept," says a critic.



in need of justifying his daring thought by pointing out that reinforced concrete ships could float. Though this bespeaks the remarkable characteristic of the material to be strong, waterproof and floating, it does not take into account the large degree of inefficiency because of weight. The point here, of course, is that the whole comparison with ships was unnecessary to make the concept plausible.

It is this sort of thing that helped to obscure the value of great imaginative thinking, giving the wrong impression that his ideas were naive. Taut, by contrast, never bothered with literal details to justify his dreams. As architect, his concepts were always sweeping and grandiose. Whenever he envisioned forms of the future, he just made them visible in his masterful drawings, leaving technical detailing to a later day.

Scheerbart believed that glass architecture per se is fireproof. It turns out to be that we are still not ready for the advantages of total glass architecture and find

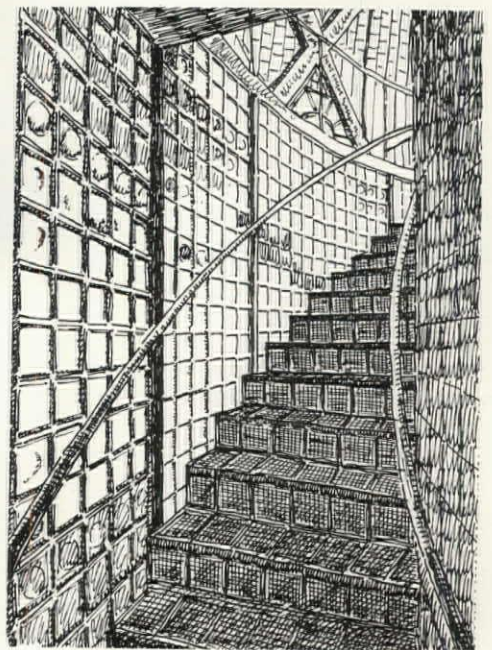
ourselves oversold in view of poor performance of skyscrapers in case of fire and in such matters as the enormous waste of energy because of airconditioning loads. Even tempered glass, tinted glass and other expensive specialties do not match Scheerbart's images. Again, the concept of colored and illuminated glass architecture is great without the postulate of being fireproof. To feel this need for rationalization seems to indicate that Scheerbart himself became shocked by his own magnificent imagination which saw the use of glass, color and colored light just everywhere, from the brilliant scenery on earth to the stars in outer space.

There are many other amusing misconceptions which break up the earnest of prophecy. What would Scheerbart have said about the celebrated metal chairs of Mies van der Rohe, for example, which were designed only a few years after his pronouncement that a "metal chair seems to be an esthetic impossibility"?

A statement that is repeated in various

forms that "brittle brick and inflammable wood have no right to exist" seems particularly absurd. Brick was used by expressionistic architects to great advantage, and Mies put that material to most exacting use. Today, brick in reinforced panels achieves importance in prefabricated construction.

Scheerbart's prejudice against wood was boundless. He did not think of the reckless consumption of an ever-shrinking limited resource versus the possibility of giving trees the chance of growing in tune with their life cycles and as part of the ecological system. Some technical misconceptions, noted by translator James Palmes, led Scheerbart astray and into underestimating the difficulties of building construction. He did not foresee the developing sophistication of a new wood technology. Yet it is astonishing how his



simple reasoning is combined with a most facile imagination. Thus he achieves meaningful visions. Considering his personal oblivion to comfortable living, the visions of color, glass and music must have served as an almost religious substitute for his earthly wants.

Scheerbart often speaks of the illumination of glass architecture by night and the creation of ghostly effects. Electrical illumination was then in its infancy, and the prevailing gas and kerosene lighting

Taut's artistry is evidenced in his use of color and novel detailing in the buildings that he designed. The glass roof in the hall of offices at Magdeburg shows that he wanted glass architecture to be more than just a flat glazing of large cubes.

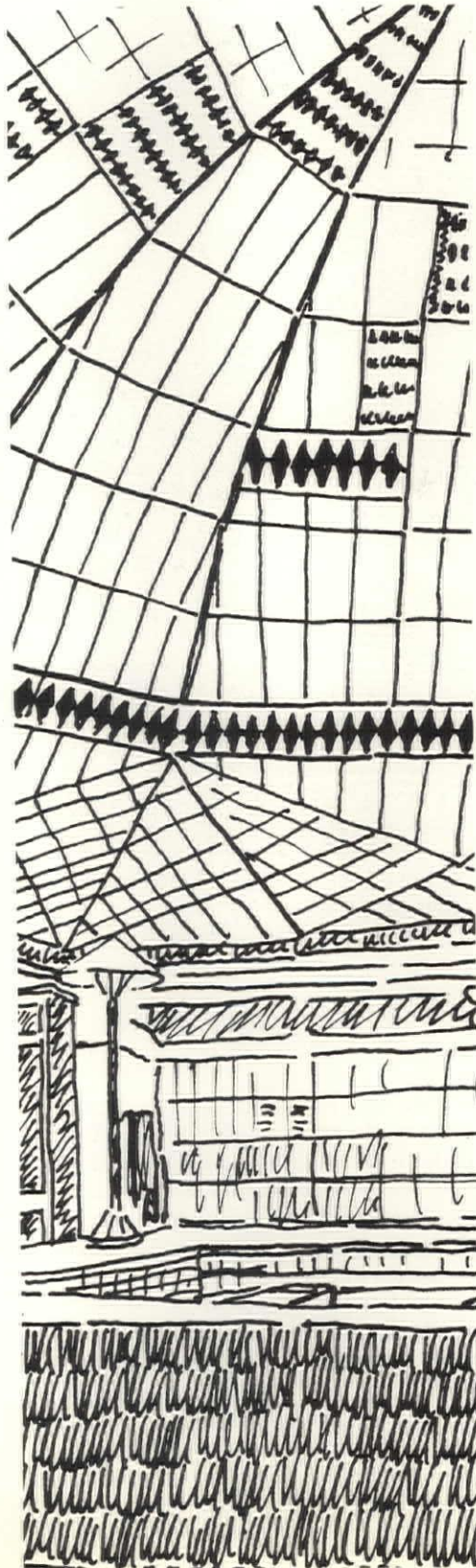
did not suggest such effects. He saw the whole of nature appear in "another hue" because of the "wealth of colored glass."

Scheerbart had great hopes that America would take the leadership in building with steel and glass in "impressive dimensions." He sighed that "Europe is too conservative and slow." Surely he would have liked Buckminster Fuller's dome at the international exposition in Montreal, although he had no notion that transparencies and play of light could be achieved with plastic instead of glass.

Scheerbart was concerned about the social implications in the use of glass, steel and color changing entire modes of technology. He consoled people in other trades that they would have plenty of time to adjust to the forthcoming changes. He warned of government architects who as bureaucrats are conservative, shying away from the risks of being ridiculed if they would suggest color and new materials. He speculated on the psychological effects of glass that would change behavior and produce a composed nation. With the myriad of possibilities, he prophesized the coming of a "glass culture" which would "completely transform mankind."

Scheerbart shared his remarkable prescience with the 13 years younger Bruno Taut. A tremendous sense of empathy and a matching imagination brought these two men together in their desire to visualize a more tolerable society. While Taut as an architect was able to convey three-dimensional concepts of future environments, Scheerbart had to argue for glass architecture by literary means. The total vision, however, does not suffer. It shows, despite the pitfalls mentioned, a remarkable accuracy in describing the things to come.

Scheerbart's book makes for breathtaking reading. He believed in the beneficial use of technology. Our present idealistic youth, which is so often suspicious of technology, may take courage from the possibilities that are inherent in such advanced concepts. Palmes, the translator, had a formidable task on hand in order to convey the visions contained in Scheerbart's deceptively simple language. Despite some minor phrases which I could challenge, the rendering into



English is admirable and makes for good reading.

Taut's 30 lithographs make up the second book in the volume. In *Alpine Architecture* he demonstrated a unified view of his philosophy, imagination and artistry. Conceived during the gruesome years of World War I, the book was first published in 1919 soon after the German revolution. The English translation by Shirley Palmer of Taut's notes are not always precise.

The plates are divided into five chapters: "The Crystal House," "Architecture in the Mountains," "Alpine Building," "Terrestrial Building" and "Astral Building." All the text is written on the plates, and the language is in fervent manifesto style.

The Crystal House is a fairy tale affair of colored glass. We ascend to it through a narrow Alpine valley with many arches over the whitewater cascades. Inside this architectural glass temple, which inspires nobility, there can be heard from time to time orchestra and organ music.

Architecture in the Mountains reveals many decorations on mountaintops and light and color effects, as well as visions of futuristic structures, including suspended mobiles. Although *Alpine Architecture* offers no such direct prophesy as one finds in Taut's *Dissolution of Cities* of the same period, we see clearly advanced structural suggestions, including polyhedra and all kinds of space frames. Also this work on building in the Alps shows how contemporary developments of today were anticipated as part of a new environment. A built example is the pavilion at the 1914 Cologne, Germany, exposition, which is described in Sharp's introductory chapter. By speaking of glass architecture, Taut did not think of restricting ourselves to flat glazing of large cubes. He wanted to see rich form, color and music combined in support and expression of a higher social ethos.

This indeed was no empty dream. Today, after having added another decade of bloody warfare to the long train of mad destruction, mankind is much in need of understanding the message of *Alpine Architecture*. This work was created by an artist who was not only trying to

Taut made effective use of glass in his house at Dahlewitz. He was always a champion of color by contrast with the subdued treatments of many modern architectural leaders.

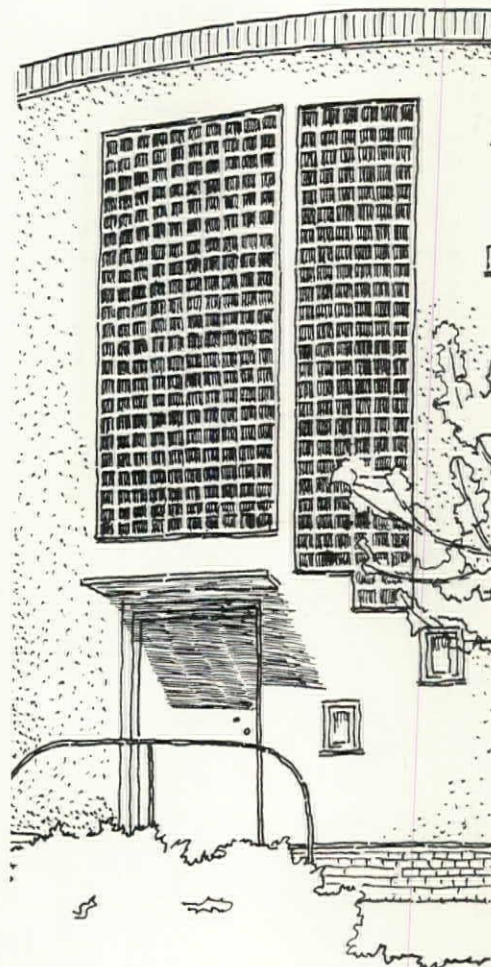
demonstrate the possibilities in the use of glass but who did this with the gripping awareness of war and its futility. Taut's vision of world government was filled with the need for active creative work on the part of every person in order to give our existence meaning. In his idealistic enthusiasm, he did not hesitate to call for striving "for the unattainable if we are to achieve the attainable."

Consciously placed in the center of the work is Taut's manifesto to the "people of Europe." Here he is unfolding the master plan and explaining its purpose: "Yes! Impracticable and without profit! But has the useful ever made us happy? Profit and even more profit. Comfort, conveniences . . . and then—guns, bombs, instruments for killing!" Taut decried boredom and preached peace, the social concept, the brotherhood of man. He called for a "gigantic task" where "each man will see his own handiwork clearly in the common achievement."

It is no accident that Taut's friends in Japan, at great personal risk, during World War II used the same protest against the infamy of war by republishing with the Japanese translation a facsimile edition of *Alpine Architecture*. In this pacifism Taut was in agreement with Scheerbart, but his work surpasses Scheerbart's concepts.

In his introduction Sharp does not deal with these important problems of art and social philosophy. He gives space rather to a general discussion of the architecture of other architects. There are asides, such as the curious statement that neither Scheerbart nor Taut was a trained architect. What about Mies, Corbusier and many other nonacademic pioneers of the time? And there is the unfortunate and abrupt remark that after World War I, when the need for mass housing under extremely stringent conditions was pressing, Taut's work "reverted to the dull brick and window tradition he had so much abhorred. For Taut the spark had gone out."

This statement is uncalled for in view of the fact that to this day Taut's housing developments in Berlin are still among the best planned and most livable. Neither does the remark take cognizance of Taut's



philosophy: Human needs were in the center of his interests. Only because the goals of "peace, love and beauty" through monumental efforts in "glass architecture" cannot be attained at a moment's notice, there would certainly be no reason to abstain from producing greatly needed good housing. Besides, Taut made successfully splendid efforts to refine the architecture of his housing developments through scrupulously worked out proportions, the use of color and novel detailing. This artistry would be better understood by the theoreticians if Taut's last book, published only in Turkish, were accessible.

His book *Dissolution of Cities* has

drawings which depict Utopia. They are a parable, paraphrasing the third millennium. It ought to be opportune to be prepared for the possibility of our rebirth, he said, in case we are not destined to demise. While Taut had no illusions about the realization of his visions, in his drawings we see, nevertheless, ideas which have found realization such as freeways, connecting satellite towns, mass demolition of slums and a system of prefabrication of houses.

Throughout his career as a practitioner of the art, Taut remained the champion of color by contrast with the gray subdued treatments of many modern architectural leaders. His work done during his last years in Turkey is altogether different from what he did previously and fits a different cultural setting. Had he lived longer and managed to suffer through another world war, he might have seen new opportunities for a glass/color/music architecture for man's edification. But architecture as a social art must by its very nature cause many frustrations in all of us until the right moment may just be at hand to make another step toward the "impossible."

To make more explicit why Scheerbart and Taut were prophets of future environments would need considerable detailing of their thinking and a better accessibility of their work in English. The major difficulty with translating Scheerbart's work, as is the case with any good poetry and fiction, will be to derive an enjoyable transposing into English idiomatic expression without losing meaning and flavor. This may be a bit easier with Taut, despite his Kantian depth of expression which in translation often results in stilted language. Fortunately for visually oriented people, there is always the help from drawings and photographs. Yet he produced in his early period easy to read manifestos and polemic journalism.

Unrelated to Taut's significance and early prominence during the '20s in Europe were his later years in Japan and Turkey as a refugee from German fascism. There he dealt with different cultures and excelled in understanding them with great empathy. His former friends, Gropius and Mies, had come to this country and

Human needs were the center of Taut's interests. His housing developments in Berlin are still among the best planned and the most livable in that city.

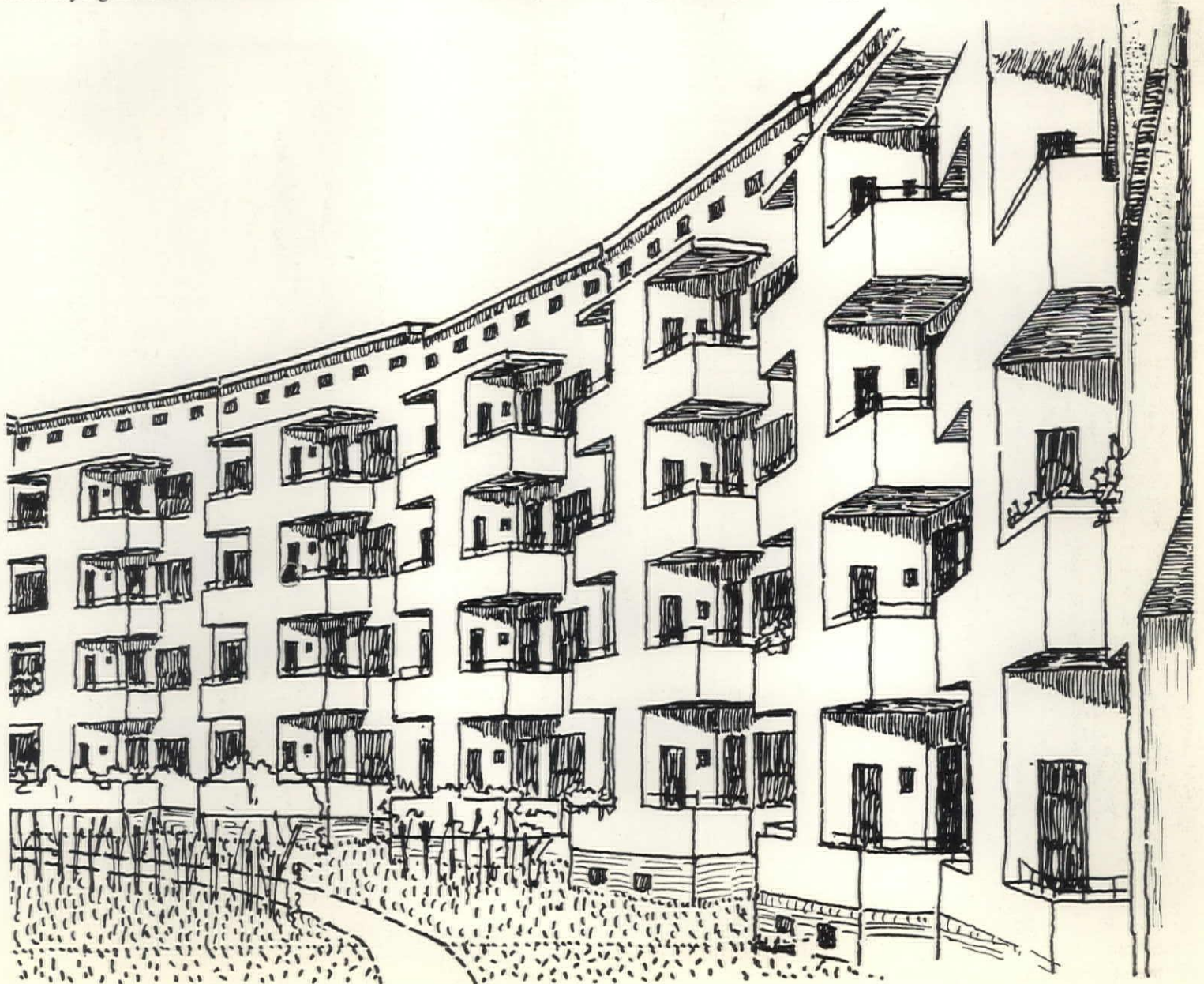
developed their new careers with spectacular success after Taut's untimely death in 1938. They formed their own schools, both in the academic and the stylistic sense, which influenced a whole generation during the '40s and '50s.

Young historians, however, are beginning to discover a more complete picture of the origins of modern architecture in Europe. They sense that the yield from the social and artistic struggle of that time has still much to offer for the hopes of today's generation. Various new studies

on expressionism seem to be underway. One researcher speculated in a communication with me on Taut's supposed intention to come to this country when he was in Turkey and what this might have meant for our architectural development. It might have changed, it is claimed, the whole course of international style architecture, our view of it and architectural education.

It is, of course, redundant to raise such hypothetical questions, but they reveal a new curiosity in much neglected aspects

of the history and theory of architecture. Thoughts and artistic concepts have their way of staying alive through periods of supposedly opposing styles. Considering that *Alpine Architecture* reflected as well the city planning ideas of Theodor Fischer, with whom Taut worked and studied (as did Erich Mendelsohn, Dominikus Böhm, Hugo Häring, Paul Bonatz and J. J. P. Oud), it can be easily surmised that Taut's influence on civic design will be recognized as a timely stimulant by an upcoming generation. □



RR Station to Ruins to Modern-Day Bank



That's the original terminal in 1850, below right, and the north facade as it looks today as a bank.



Now and then a work of architecture comes about which draws admiration from the entire profession. With what he refers to as "my simple work," Hannes Westermann scored in this category when he restored the 130-year-old main railroad station in his home town Braunschweig, West Germany.

For generations the station had the reputation of being Germany's handsomest terminal. Its original designer was Carl Theodor Ottmer (1800-1843), who died two years before the station was completed and for whom it is now named.

World War II left it with the interior in ruins and a heavily battered shell. It was repaired only in a makeshift manner since plans for a new station were underway. When the German Federal Rail-



The station is left in ruins during World War II; respect for architectural heritage sees it restored to serve a modern-day function.

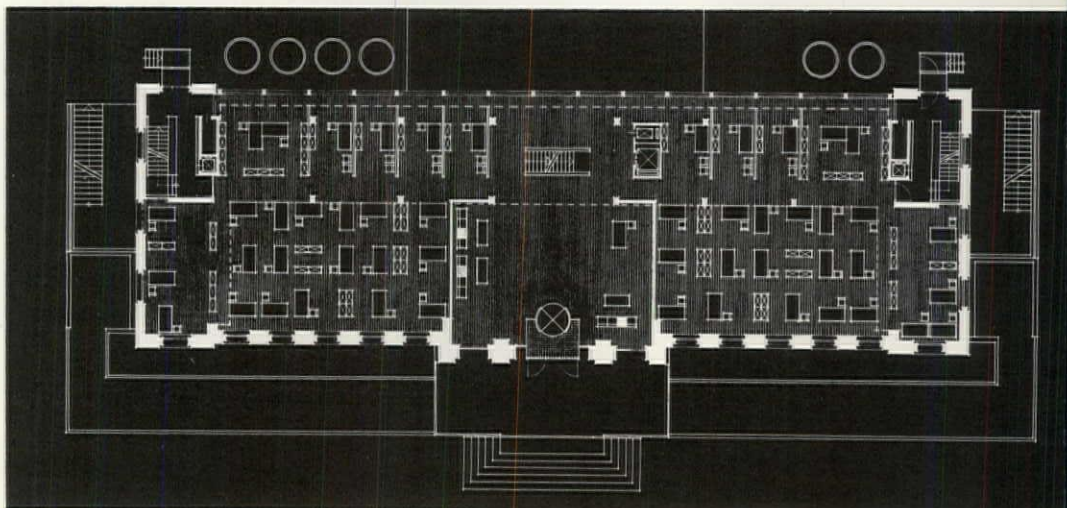


ways had taken the latter into use, the Norddeutsche Landesbank (then the Braunschweigische Staatsbank) in 1961 bought the property with the idea of erecting a new headquarters building. Invitations were sent out for a limited architectural competition, according to whose rules the authors would be free to incorporate the remains of the Ottmer Building in the overall plan. When the submittals were studied, the bank's board of directors decided to retain what was left of the historic structure, to restore it and to complete it to suit a modern-day bank's needs.

This, then, was the problem facing Westermann as the final winner of the competition: to integrate the new function with the existing parts of the building.

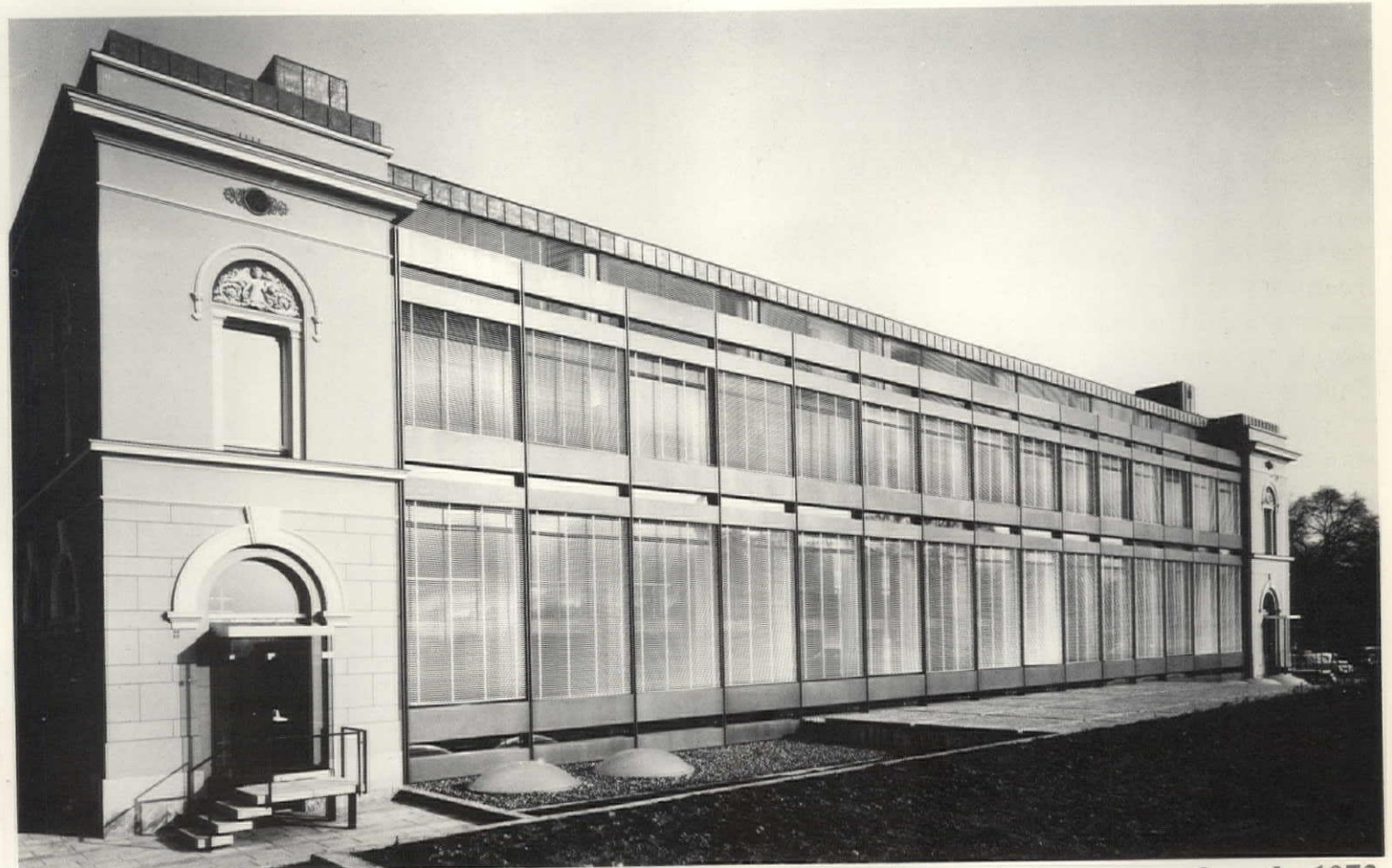
The foundation was in such a poor condition, it turned out, that an almost complete renewal was called for. There was heavy damage from blight, and subsoil water had caused the piles to shift. Water had at times seeped into the basement and had completely covered the floor. In other words, before the restoration could begin, the foundation had to undergo extensive repair. That, of course, was a technical problem. This was followed by the restoration proper and the completion of the new interior.

The restoration of the north facade and the sides was relatively simple since their original appearance could be documented.





The south facade, never before closed, is an understatement to play up the historical part of the building.



Only the doorway positions at the corner projections on the north facade could not be reconstructed accurately; some time or another, during several rebuildings over the years, they had been eliminated. Even several years before the war damage, their locations did not show.

As far as possible, the original building was used as a model. The decorations on the facades were followed in detail, although this meant that all new drawings of the old cornices had to be made. From what could be ascertained, the original hue of the structure was a soft yellow, com-

bined with the white plasterwork decorations.

However, the south facade was like an open wound after the war activities; furthermore, it had never been an integral part of the building since it had served as the train concourse. Efforts to complete this part of the structure made it clear to Westermann that it would be most honest to carry it out with a simple, modern design that would neither overwhelm nor steal from the historic part of the building. He finished it in aluminum and glass.

The Ottmer Building has won for its restoration architect sev-

eral prizes, among them the 1973 R. S. Reynolds Memorial Architectural Award, which is conferred annually for distinguished works making significant use of aluminum. Jury for this award program was Max O. Urbahn, FAIA; Worley K. Wong, FAIA, and Willi Walter of Zürich, Switzerland, 1972 recipient of the award. Says Urbahn of Westermann's work: "It is an inspiration and an example how an old building can be redesigned with sensitivity and with respect for its historic elements while making it suitable for active, 20th century use, not as a dusty museum." □

Pioneer Prefabs in Honolulu

Charles E. Peterson, FAIA





Wherever housing is needed in a hurry, there is a demand for prefabricated structures. Russian Alaska introduced the first precut frame to Honolulu in 1809, starting a trend. An early landmark on the waterfront was a prefab frame house shipped from Boston in 1819. Two years later an artist painted a harbor view, showing the prefab standing at Kawaiahao among the native grass huts.

The prefabrication of American buildings goes back to the beginnings of the trans-Atlantic immigration. Framed houses were an early article of overseas trade; and before long, the American colonies, in their turn, were making and shipping houses to the Caribbean sugar islands. Later both Europe and the Eastern Seaboard produced them for the settlement of Australia and California. At the height of the Gold Rush in 1849, port cities around the world were sending large numbers of buildings to San Francisco. Hawaii—and especially Honolulu—was soon to share them.

The spectacular development of this industry in the middle 19th century was made possible by the proliferation of steam-powered sawmills and woodworking factories at shipping points and by the increasing size of cargo ships. Rapid advances in the techniques of rolling iron allowed metal houses to become both feasible and popular after 1840.

Discovered at the end of the 18th century, Honolulu Harbor early became a place of importance. Wooden walls dominated the waterfront, while adobe and stone types trailed. Such wooden houses were hard to come by, however, for there never were many good timber trees on the island of Oahu. Even the natives had difficulty in getting large enough poles to frame their grass houses. Shipwrecks were eagerly sought after. The American Mission bought the remains of the ship *Ruby* to saw the masts into boards and make door and window frames.

One of the first houses at Honolulu was a prefabricated import from Russian Alaska. The town was no more than a cluster of grass huts on the harbor's edge when the frigate *Neva* arrived from Sitka in January 1809. The native monarch Kamehameha had recently moved from Maui and for the royal residences had only a clutch of native style houses. But as he was paddled out to meet Captain Leontii Hagemeister's ship, he was wearing a blue coat

Mr. Peterson, a Philadelphian, is an architectural historian, restorationist and planner. This is a condensation of an article by him that was published in *The Hawaiian Journal of History*, Vol. 5, 1971.

and gray pantaloons. To go with this European finery, he was soon to acquire a frame house.

At that time the Russians had wide commercial and territorial ambitions in the Pacific and had earlier visited the islands enroute to their Alaskan colony. "The American Company," as it was called then, had been actively trading in furs with British and Yankee ship captains on the mainland and was then moving south toward the California fur hunting grounds. Hopeful of setting up a station in Hawaii for growing foodstuffs, and to edge into the profitable Chinese sandalwood trade, Governor Baranov had dispatched Hagemeister to the islands. Archibald Campbell, later to write an account of his travels, came to Honolulu on this ship, noting that they had "a house in frame on board." In the face of the local hostility, the Russians were not able to establish a foothold, but the king, a shrewd trader, got the house. The next year it was set up.

Foreign residents were not then allowed to erect permanent houses in Honolulu, but three years later pioneer resident Francisco de Paula Marin, a trusted associate of the king, noted in his *Journal* that he had "made a Contract for a house all of wood for a piece of iron and three fathoms of White Cloth." From whom it was bought or what it was like is not revealed. Then the Boston sandalwood trader, Captain Nathan Winship, who had an establishment next door to Marin about the years 1811-16, put up a frame house. Little is now known about these early buildings.

Another early landmark on the waterfront was the two-story house of Boston traders Marshall and Wildes, later to become the American Consulate. Its erection was begun on September 27, 1819. An old account book lists the materials used, which included two frames at \$200 each; 5,000 feet of lumber at \$100; four casks and 25 pounds of nails at \$75; 20,000 shingles, one box of glass and a case of "paper hangings" (wallpaper). Freight from America, probably brought out in the company's ship, was charged off at \$500. Edward Jackson, best known of Honolulu's early carpenters, got \$90 for his work in putting it up, in which he was

assisted by three others. This exotic structure, with the first wallpaper to reach Hawaii, created a new level of consumption, judging by the number of frame houses sold to the native aristocracy in the next few years.

Marshall and Wildes offered for sale ready-made houses, which included a small blockhouse, a 10-foot house frame and another finished up "in an elegant style" which the king was persuaded to buy. Daniel Castle, an outsider, got into the local market with a small frame house for the high chieftess Kaahumanu, who was so pleased that she tried to persuade Castle to stay on the islands. Tamoree, King of the island of Kauai, a rival of Kamehameha, naturally had to have one too. In the meantime, the newly founded American Mission at Kawaiahao just east of the harbor had got its first frame house.

In practice, the erection of these Yankee-style houses posed many problems. The frame and other materials sent to the mission had arrived from Boston by ship on Christmas Day of 1820, but it was some weeks before the King would permit its erection. Construction began in April, but the frame by that time had been injured by exposure to the tropical sun. The boards for the roof could not be found, and it was concluded that they were never put aboard ship. Other lumber had been damaged enroute, and some was stolen after arrival in Honolulu. The balance had to be eked out by boards purchased locally.

Despite further troubles, the structure was completed and occupied the same year. It stands today in restored condition as a major landmark on King Street.

Skilled labor was always scarce in Honolulu. The more complete the house parts as received, the cheaper the finished product. Levi Chamberlain wrote home to Henry Hill that carpenters' wages were "enormously high," even \$3 a day!

One of the best-known frame buildings was the Seaman's Bethel, which went out from New London, Connecticut, with the Reverend John Diell in 1832. It was erected on the waterfront in the summer of the following year, "without the aid of ardent spirits," wrote Diell virtuously.

He described the building: "It is of



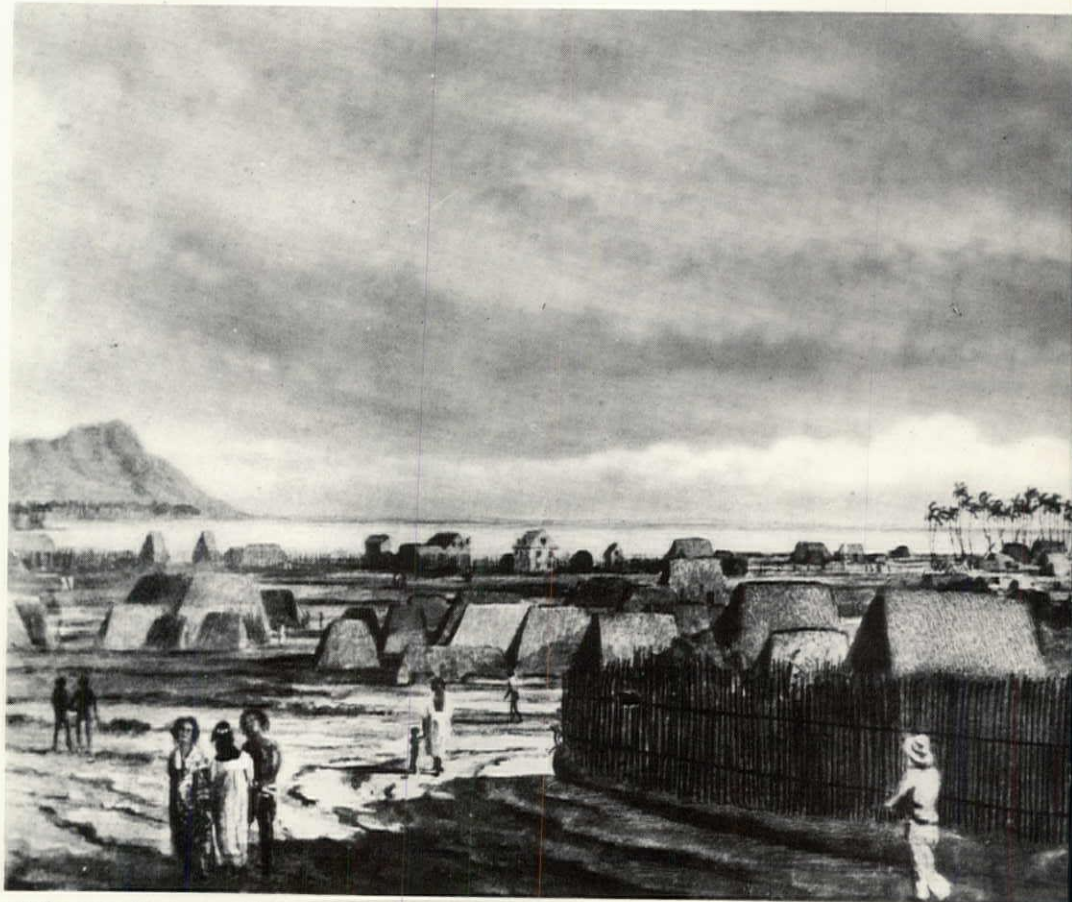
The erection of Yankee-styled prefabs posed problems, as the American Mission discovered when it wanted to erect a frame house with materials sent from Boston in 1820. When construction was delayed, frames were injured in the tropical sun, boards were lost and lumber was stolen. But the building was finally dedicated in 1833 and stands today as a historic landmark on King Street.

wood, the roof covered with zinc, with a basement of stone. It is 48 feet long and 30 wide, calculated to seat 500 persons. The basement affords good rooms for a reading room for officers, and another for seamen, with a private study where the minister can meet those who may wish to converse with him. The cost of the building, in addition to the materials carried from this country, will not exceed \$1,800." But here again an important item had been left behind—the ceiling boards; so the church had to be finished at a higher cost with plastering. It was dedicated November 28, 1833. Honolulu continued to use such prefabs.

The problems of sun and trade winds had been kept in mind by at least one designer, for when Charles Brewer's house (brought out in frame from the United States) was brought up for sale in 1846, an advertisement in the *Sandwich Islands News* could declare that it "was planned expressly for this climate. It contains seven pleasant and airy rooms, a cellar and convenient out buildings and bathing room attached."

These traditional frame houses as brought to Hawaii were a common product of carpenter shops on the American East Coast. In any case, the heavy mortised and tenoned frames used in those days had to be specially prefitted in a timber yard before they were hauled to the place of erection. Loading them aboard a ship was only a further step in a familiar process. As to the cladding of these frames with boards, it was also economical to finish in advance as much of the lumber as possible to save shipping space as well as carpenters' work at the site. The making of doors and windows offsite was common practice, especially after the invention of steam-powered woodworking machinery. Glass, almost universally cut to standard sizes, customarily came in wooden cases.

In the meantime, the colonization of Australia had stepped up the prefabricated industry in Britain, and the new steam-powered mills for sawing, planing, molding and mortising woodwork brought forth more sophisticated designs with paneled walls. This was to be followed by new techniques for casting and rolling iron which produced factory-made components



all the way from machine-made nails and bolts to cast and wrought iron columns and beams. Most important of all were the sheets of corrugated and galvanized iron so practical for walls and roofs.

British settlements in the Southwest Pacific were benefited by these inventions. As early as 1790 a prefabricated hospital designed by architect Samuel Wyatt, together with a storehouse and some cottages, had been shipped to Sydney, recently established in New South Wales. As the building industry developed there, Sydney was soon able to supply woden houses for Newcastle up the east coast and for the island of Tasmania to the south.

The so-called *sectional* house first made its appearance in Australia a generation later. A London builder by the name of Henry Manning invented a "portable cottage for the use of emigrants and others" which was announced by the eminent architectural writer and publisher John Claudius Loudon: "The principal object of this portable cottage is to supply emi-

grants with comfortable and secure lodgings immediately on their arrival at a foreign settlement. It is well known that in all new countries, the rent of houses or lodgings is extremely high." Loudon goes on to say that the portable cottages "which costs in London 50 pounds, will afford, though only containing two rooms, a considerable saving." He points out "security from thieves, and protection from vermin, are also other recommendations." And he speaks of secondary uses of the portable cottage: "It may be carried in ships making long voyages, for the purpose of being set up on shore wherever any stay is made, either for the benefit of invalids, or the use of scientific persons" and also "it may be employed as a shooting-box, wherever there are tolerable roads, as it weighs little more than a ton, and might therefore be easily drawn by one horse."

These sectional houses made their first appearance at the Swan River settlement in western Australia where one of Manning's sons erected some of them. The de-

A painting of Honolulu in 1826 shows frame buildings on the distant shoreline. One of the best known was the Seaman's Bethel sent from New London, Connecticut, in 1832. It had a coral stone basement and a zinc roof. Ceiling boards were left behind, and the church had to be finished at a higher cost with plastering. Prefabs continued in use.



signs, incidentally, were soon to be pirated by a Baltimore architect, John Hall, in a little book unashamedly titled *A Series of Select and Original Modern Designs for Dwelling Houses*. While it might be difficult to learn the extent of Manning's production, there is no question that the invention was followed by many ingenious types of ready-made houses all the way down to modern times.

That the Gold Rush gave great impetus to the idea of prefabrication is shown by an article in Honolulu's *The Polynesian* for March 2, 1850, which said in part: "From all parts of the world we hear that houses, in perfect order to be set up in a short time, are being constructed for California. From the humble wooden tenement of a single room to immense iron and framed building of three stories, and of almost every possible form of construction. Belgium, France, England, the British Colonies, the South American States and China, are all sending their quota . . . from New York and its immediate vicinity

alone; 5,000 houses have been, ere this, shipped for El Dorado. Boston, and contiguous places, in Massachusetts and Maine have probably exceeded New York and vicinity; so that an immense city will have been shipped to that country, from all parts of the earth . . . Altogether, California will prove an anomaly in architecture, as it is in every other respect. The ships required for the transportation of houses alone would form a large fleet." Two weeks later an advertisement for an auction of 13 houses at Honolulu "in frame" shows that the California market was indeed spilling over into the islands.

Some of these houses had been carried over the Isthmus of Panama on muleback and the rest went around the Horn. The newspapers and customs records of San Francisco described a variety of types as they were unloaded there. Gold dust was plentiful and the demand great. For a time there were enormous profits in the business, certain examples bringing as much as 14 times the New York price.

It was too good to last. By 1850 the California lumber industry, undeveloped by the earlier Spaniards, was producing enough to compete with the imported houses. The building material market was soon oversupplied, and ships had to sell their houses at a loss or carry them away to other markets. Some traveled as far as Honolulu. Yankee merchant Stephen Reynolds, who frequently dabbled in the building business, took a great interest in these new houses. In his diary he made a number of references to them as they began to arrive in 1850.

It was a common custom in Honolulu to dispose of ships' cargoes at auctions, and Reynolds went to two of them. Prices were low. New Zealand houses were going for only \$250 and Hobart Town, Tasmania, blue gum frames with boards and shingles for slightly less. Reynolds, canny trader that he was, considered them cheap but bided his time.

The westbound Pacific ships were dropping their prices rather than return home

The Gold Rush gave great impetus to prefab houses, and iron houses did even better than wooden ones. They were "fireproof, easily erected and very economical," as one dealer claimed. Peter Naylor, a New York roofer, sent hundreds of iron houses to California, and at least one of them reached Honolulu. But there was a prejudice against them there because of the unfamiliar material.

25

PORTABLE IRON HOUSES,
RUST PROOF.



THE GALVANIZED IRON HOUSES
CONSTRUCTED BY ME FOR CALIFORNIA,

HAVING met with so much approval, I am thus induced to call the attention of those going to California to an examination of them. The iron is grooved in such a manner that all parts of the house, roof, and sides, slide together, and a house 20 x 15 can be put up in less than a day. They are far cheaper than wood, are fire-proof, and much more comfortable than tents. A house of the above size can be shipped in two boxes, 9 feet long, 1 foot deep, and 2 feet wide, the freight on which would be about \$15 to San Francisco. There will also be no trouble in removing from one part of the country to another, as the house can in a few hours be taken down and put up. They require no paint, and will not rust; while the surface being bright, the rays of the sun are reflected, so that they are much cooler than either tents or painted iron-houses. They can be made of any size that may be desired, varying in price, according to size and finish, from One Hundred Dollars and upwards.

Although more particularly calling the attention of parties going to California to these Houses, I would also bring them to the notice of those either residing or trading with

SOUTH AMERICA AND THE WEST INDIES,

As being equally suitable to those climates. A specimen House of the above description can be seen by calling upon

PETER NAYLOR,
12 Stone Street, N. Y.

with their houses. On May 17 Reynolds noted more arrivals from New Zealand carrying houses, potatoes and onions. On the 22nd he finally bought a Hobart Town house for only \$103. This house, two stories high and consisting of 200 pieces with plans included, was reputed to be 16 x 36 feet in size. It was assembled for \$103. When raised, it was found to be only 13 feet 10 inches x 28 feet. "A Scotch cheat," observed Reynolds sourly. By the purchase of floor boards and lumber for a verandah, the new house was made ready by the middle of the summer.

All of Honolulu seemed to be taking advantage of the bargain housing. Nearly 400 frame houses were put up in a single year—15 times as many as had been erected in the first half century of Honolulu. "Persons returning, after an absence of a few months, are hardly able to identify the place," declared *The Polynesian*. Prefabricated houses had made this boom possible. In after years the ready-made house market tapered off, reflecting the collapse of the demand in California.

Hong Kong also sent houses, but it is not easy to account for them. The new British port and naval station on a barren island at the mouth of the Pearl River below Canton had been founded only in 1841, and the builders were having troubles of their own.

The region offered no native lumber, and the first "mat sheds" put up by the local Chinese were followed directly by brick and stone houses for the trading establishment. Where the necessary lumber for floors and roofs came from is not clear, but there is no doubt it had to be shipped in. In Hong Kong at that time there were 17 carpenter shops, but the mechanics were not experienced in European construction, and there were four fatal accidents in one week. The local press charged it to "the wretched ignorance or deplorable stupidity of our Chinese builders."

The situation must have soon improved, for two years later Osmond Tiffany, a visitor from Baltimore, noted that buildings "were run up and finished with magic ease." But even in 1850 we find Charles St. George Cleverly, the surveyor-general, longing for a "good practical workman" such as he had known at home.

The California Gold Rush contributed to making Honolulu a city. In one year's time 400 wooden houses, many of them prefabricated, were erected. A lithographic view by Paul Emmert, published in 1854, affords a view of the fast-growing city. During World War II, the Navy's Quonset huts demonstrated again that prefabs can be a boon.



Wooden-walled houses seem to have been more or less unknown on the Chinese coast, and how they were obtained for export in 1849 is not at all clear. But from the San Francisco newspapers we know that two American vessels arrived there from Hong Kong—the schooner *Petrel* on August 21 and the ship *Mariposa* on September 7—with prefabricated houses.

In any case, the business was considerable. According to the *Hong Kong Blue Book* for the year 1850, 248 wooden houses were exported to San Francisco, but 60 were imported at Hong Kong. This may indicate that 188 were sold in California or Hawaii, if not lost at sea, and the balance returned to China as unsalable. As we have seen, the market for such houses had failed before the end of the year 1849.

Littell's Living Age (Boston) of 1849 described the Oriental imports at San Francisco as “generally 20 feet square, one story in height and 12 feet from the floor to the ceiling. The timbers are round, and many of them are crooked. We have noticed, in several instances, the erection of China buildings of double the size described above—but we suppose that in such cases two separate frames are erected together, thus forming a single building.

The first movement after raising the frame is to attach the window, which consists of a frame and blinds, without sash. The blind is so constructed as to close itself by its own weight—the slat being of double width outside. The timber is very uniform in size, and about 6 or 8 inches in diameter. The boards are well seasoned and resemble American cedar. The price of a Chinese building, such as we have described, including the erection, is \$1,500. The building, however, consists of simply the frame and coverings.”

Jessie Benton Fremont, who arrived in the summer of 1849 with her celebrated husband, described a Chinese house they had erected in Happy Valley: “It was put up without nails, except the shingling on the roof, all the rest fitting in together like a puzzle, and was of pretty smooth wood, making a very good temporary lodging. . . . Our little house had but two rooms, but they were large and clean.” Some of the Canton houses were accompanied by Chinese carpenters to put them up.

Prefabricated “iron houses” clad with corrugated galvanized sheets were made in great numbers for California by English and American manufacturers, but only a few of them seem to have found their way to Hawaii. The first notice in the Honolulu

newspaper turned up in the *Times* for November 14, 1849, with Sharkey, Janion & Co., local commission merchants, advertising two expected on the *Daniel Grant* from Liverpool, England.

In the following year, the iron houses were advertised in *The Polynesian* by a California dealer, W. H. Palmer, who claimed they were “fireproof, easily erected and very economical” with sizes varying from 10 x 12 feet to 15 x 40. The ad stated that the houses “are admirably adapted to the Sandwich Islands, and will be put on board free of extra expense, and warranted complete.”

These iron structures did better than wooden ones on the California market, but at least one of them reached Honolulu, “complete, and tools for putting it together.” It was a warehouse 30 x 50 feet advertised for sale “at a bargain” by W. S. Anner & Co. But a prejudice against the unfamiliar appearance of this material seems to have stood in the way of its early popularity.

Nearly a century was to pass before the US Navy would flood the entire Pacific with the Quonset hut, a round-topped, corrugated iron house, demonstrating again the great boon of prefabrication for people in a hurry on distant shores. □

Building Solid Employee Relations

A good employee relations program encompasses the three R's of personnel practice: recruiting, retention and release. It begins with the first contact with an employee and ends only on his last day of employment.

William R. Fleming

lull can undo months or even years of otherwise positive effort.

Those principals who are charged with employee relations planning and activity must see that their program is consistent. For too long in business, generally, the personnel aspect—and paperwork is not meant here—has been sloughed off on some unsuspecting soul who “likes people.” Liking people is not enough. Keeping an employee's professional development and career in focus calls for much more than a fondness for the human race.

We all “like” people. How we treat and lead them are the keys to a good employee relations program. Running from start to finish, it encompasses the three R's of personnel practice: recruiting, retention and release.

Recruiting does not necessarily begin when the initial in-house interview is conducted. Telephoned or walk-in interest must be dealt with professionally and directly. A prospective employee's first view of a firm comes at that moment, and an employer's response whether it is written or verbal, personal or routine, is vitally important.

All firms receive correspondence, résumés and/or samples of work unsolicited from persons seeking employment. It is good policy to see that each is treated professionally. From the time of the individual's inquiry until he or she gets a reply should not exceed 10 days. Often it will not be possible to give a definite yes or no answer, but correspondence should indicate one of several things: more information is needed; no appropriate position is now open; an interview will be scheduled; the firm has no interest in employing the particular individual. Whether communication is in writing or in person, the inquirer deserves open, direct and positive treatment.

Having discussed the unsolicited applicant, let us look at recruiting methods for the individuals a firm seeks and pursues. The same fundamentals apply. There are, however, methods which are most likely to be productive and to make optimum use of the recruiter's time.

The No. 1 tenet is to recruit by plan, not by chance. Even relatively small firms

sign up for interview times at nearby professional/technical schools. What often happens is that, at best, one or two out of 14 interviewees are suited for work in a particular firm. In addition, the traditional half-hour interview does not allow for more than the most cursory mutual examination. Recruiting via third-party assistance can be done by cementing relationships with a dean or professor, a university or an agency. Such a liaison has the added advantage of closer academic/

A professional firm must remember that good employee relations begin with the first contact and end only at the completion of one's last day of employment. There is no luxury time in between where such a program can be ignored. Such a

Mr. Fleming is director of personnel for the Detroit-based firm of Smith, Hinchman & Grylls Associates, Inc., and consultant to the AIA's Personnel Practices Committee.

**Recruit by plan, not by chance.
Learn and use the methods of good
communications to provide a suc-
cessful and productive relationship.
Make an employee's release a more
positive and valuable action for both
him and the firm that employed him.**

professional ties where each is kept aware of what the other is doing.

Liaison recruiting provides the recruiter with a deeper knowledge about the education and background of a candidate. At the same time, any dean, faculty member or employment counselor involved in the placement process should know the areas of specialization, expertise and need in the firm. Such shared knowledge saves time in referral and provides a better foundation on which to begin employment.

Many professional firms do not utilize their in-house capability in recruiting. If, for example, an employee has solidity and reputation in any area of architectural design, his expertise should be used as a recruiting tool. A talk or informal discussion to potential employees followed by an opportunity for rap sessions and interviewing by a skilled person is an excellent avenue to attract talented people. Here, as with the unsolicited applicant, professionalism and directness apply.

Any firm seeking to grow and improve needs a continuous flow of new—and not just confined to young—blood. Recruiting, therefore, assumes real importance. One principle that successful employers have always used is what this writer calls "future thought." The individual who, by the employer's decision or his own, does not join the firm now may still become a key employee five or ten years later. One's professional treatment of him at this time will have a direct bearing on how he views the organization at some future date.

After an offer is given and accepted, the new employee's entrance into the firm is the next critical step. An effective introductory procedure is vital to the person's overall attitude. Specifically, what ought to be done will depend upon the individual office. Certain fundamentals are critical to solid employee relations:

- Be sure the new employee completely understands all personnel benefits. Nothing is worse than to "surprise" him with omissions or additional costs on the first day of employment. Let a person knowledgeable in benefits handle this area.
- Be sure the new employee is well introduced into the firm. Show and describe the operation and facility; introduce him to key people and to his co-workers.

• Be sure the new employee is well grounded in the table of organization. Where does he fit? What are his channels of development and communication and responsibility? Such a positive introduction gives credence to the saying, "Well begun is half done."

Retention and development (training, experience or whatever) are inherently tied to various levels of communication. *Good corporate communication is critical.* How many times have we heard or made that statement? Yet few of us can really be specific. What is good communication? Is it really important? How does one achieve it? How does it affect the firm?

Good communication within a firm does not happen by accident. It results from a clearly defined, conscientious effort on the part of management and employees. It is rarely as good as it can be, and few people give it the significant place it deserves on the corporate priority list.

Employees have a right to know where their firm is headed and how it proposes to achieve its goals and objectives. This is not accomplished solely, or even primarily, by annual reports, office brochures or similar documents.

Several principles are basic to a solid communication program:

- Top management must take the lead and expect and demand middle-management cooperation.
- The realization that effective communication can increase productivity and improve employee relations must be understood.
- A clearly defined approach, regardless of firm size, must be undertaken. Too often a nonstructured one leads to a "non-approach."

Once the hiring has taken place, a continuing program of employer/employee information exchange is vital. Obviously, in many architectural firms, because of size, an internal publication is not feasible. A continuing information flow is, however. The employee will want to know: What are the prospects for the firm? What changes, if any, are planned? In short, share all possible information with employees. When in doubt, tell. Personnel experts agree that rumors are far worse than facts, unpleasant though the latter

may be. Employers must continuously ask themselves what access do employees have to top management? A casual meeting is far less valuable than time specifically set apart for the employee to ask the firm what its directions are and to question them. This give-and-take approach provides insights for the employee and allows top management to feel the pulse of its personnel.

On day-to-day communication, many employees would say that they prefer informal exchange of information with their supervisors. To some extent this is true. More critical, though, is for the employee to have the feeling that his supervisor really knows his people and understands their needs. The employee must be more than a face or a number.

Essential to a successful and productive relationship between supervisor and employee are these considerations:

- The supervisor must be accessible to his people.
- A positive atmosphere must be prevalent in the supervisor's sphere of influence.
- The supervisor's capability and integrity as a manager and as a person must be solid.
- The supervisor must work to know what motivates each individual employee.
- The supervisor must foster and reward good performances and penalize slipshod work.

One of the most critical facets of good employee relations and communication is the actual employee evaluation. Again, certain tenets apply. The evaluation should be done on a regular basis (annually, semi-annually), privately and uninterrupted, written and shared with the employee, open to his reaction and a part of his permanent record.

The evaluation is done under the premise that the employer has an obligation to inform an employee about his performance. Many managers have a reluctance to give an honest, critical review. But their people have goals and have a right to know what in their performance contributes to and/or detracts from reaching those objectives.

The actual format of the evaluation, i.e., what areas are covered, will differ from firm to firm. The following aspects,

Every step is critical in the development of a solid employee relations program. If the principles pertaining to recruiting, retention and release are applied, an employment experience can be a profitable period for both the firm and the individuals it employs.

however, should be included in some form: an evaluation of job performance; an analysis of the employee's attitude toward his position, his firm and his profession; suggestions to correct problem areas, a vehicle to enable the employee to improve his performance; and, finally, an evaluation of his potential for professional growth.

The entire communication effort is a two-way street, and without allowing the meeting to degenerate into a gripe period or retaliation session, the employee's comments and reactions should be solicited and recorded. The evaluation then becomes a part of the permanent personnel record.

A valuable evaluation is not an easy thing to accomplish. But being a manager/supervisor entails the responsibility to evaluate an employee positively and negatively. Very few people ever really resent a sincere effort to help them get ahead. If we consider it from this aspect, the evaluation has great potential in the area of employee relations.

Another key factor is the way in which employees are recognized. Here are some suggested ways:

- Acknowledge through publication—internal and external—his accomplishments or those of his team.
- Allow him symbols of his position such as personal stationery, business cards, note pads, etc., where feasible.
- Provide a structured system to have his ideas and suggestions not only heard but considered, which means that the firm must respond on action taken or not taken.
- Make appropriate compensation adjustments tied to performance, effort and profitability.
- Give him responsibility not only for his job but also for assistance in the development of other employees.

The specific suggestions noted regarding retention must, of course, be adapted to individual firms and situations. Despite continual verbal concern, good communication remains the single largest roadblock to positive employer/employee relations and an ongoing constructive association.

Finally, we turn to the matter of release. Almost without exception people view the

termination of employment as a negative step. If the employee leaves on his own accord, the firm is concerned; if on the other hand he is terminated, the opposite is true. In many ways this situation is unavoidable. Yet there are various methods to make this action more positive and therefore more valuable to employees and employers alike.

First and foremost, any firm, regardless of size, should have standardized termination procedures. If circumstances dictate, exceptions can be made, but fewer problems result from a system which treats every employee the same regardless of position. The following steps are to be included in the standardization:

- Handle the termination notice firmly and realistically with a clear definition of who is responsible for this step.
- Give reasons for termination.
- Spell out clearly the details of termination and compensation.
- Conduct an exit interview and analyze the data obtained.

Second, it is becoming increasingly difficult to terminate employees without sufficient background information and reasons. Every release must have a documented history of the problem, records of discussion with the employee about it and resultant action and changes, if any. Exceptions may, of course, be made in cases of gross misconduct.

Many firms conduct exit or termination interviews despite some problem areas. Termination may find the employee unwilling to share his thought due to hostile or negative feelings. This is, of course, particularly true when an employee is being released, but this can be the case in resignations as well. An employee may be reluctant to discuss touchy issues in fear of jeopardizing his chances of rehire—particularly true in the architectural profession.

Conversely, this is a unique time in his employment, and he has gained valuable data, ideas and insights which are wasted if taken with him and not shared with the employer. At the time of termination the employee may be more willing to share his thoughts, especially if absolute confidentiality is assured.

The exit interview is a vital part of the

termination process. To be meaningful the following principles for the sessions must be observed:

- A thorough explanation of the interview, its purposes and format must be given.
- The assurance of confidentiality must be observed to put the employee at ease.
- The interviewer must be nondirective to avoid expected answers.
- The interview must be private and uninterrupted.
- The interview must be recorded in some fashion—with the employee's permission—to become a part of a larger report on turnover.

An architectural office should always attempt to place employees who are being laid off due to a reduction in work. This is a negative time in the employee's life, and directions on where to go for possible employment, strong references and other assistance are important. Some firms make personal contacts for departing employees. Any assistance given is a positive step in employee relations.

What about the actual termination benefits? Remembering that the employee generally is deeply concerned, these recommendations are offered: two weeks' severance pay and compensation of employee benefits for a period of two months or until other employment is found when layoff is due to reduction in workload; one week's pay in lieu of notice when released for cause; no pay when release for gross misconduct, i.e., theft.

In a profession which is somewhat fluid, the termination process becomes even more critical. It is quite possible that many employees, particularly those laid off, will be rehired. Therefore, the points outlined are designed to offer a termination procedure which is professional and positive in its various aspects. The process, by definition, is a time of concern. By following these steps, it can be a more profitable period for both employee and employer.

Recruiting, retention and release are the outline of solid employee relations. Each step and its various aspects are critical in their own right. Put together they signal the success or failure of an employment experience on the part of both firm and individual. □

To the person standing next to you, this looks like a cross-eyed baboon. That doesn't mean you have to see it that way.

It's easy to understand why some people might get upset when they look at a sculpture or painting or hear a piece of music for the first time.

They may feel the artist or composer is trying to put one over on them.

They may feel frustrated because they don't see or hear what somebody else does.

They may feel they lack some

special training that's necessary to understand it.

Whatever the reason, the result is that they avoid new sights and sounds like the plague and return to what's known and familiar.

Now, we don't know what you see when you look at a sculpture by Picasso or watch a dance performance by Merce Cunningham. Or what you hear when you listen to electronic music by Édgar Varèse.

The way you see or hear anything is yours alone.

But we do know this about today's art and music and dance and theatre.

The more you look the more you'll see and the more you listen the more you'll hear.

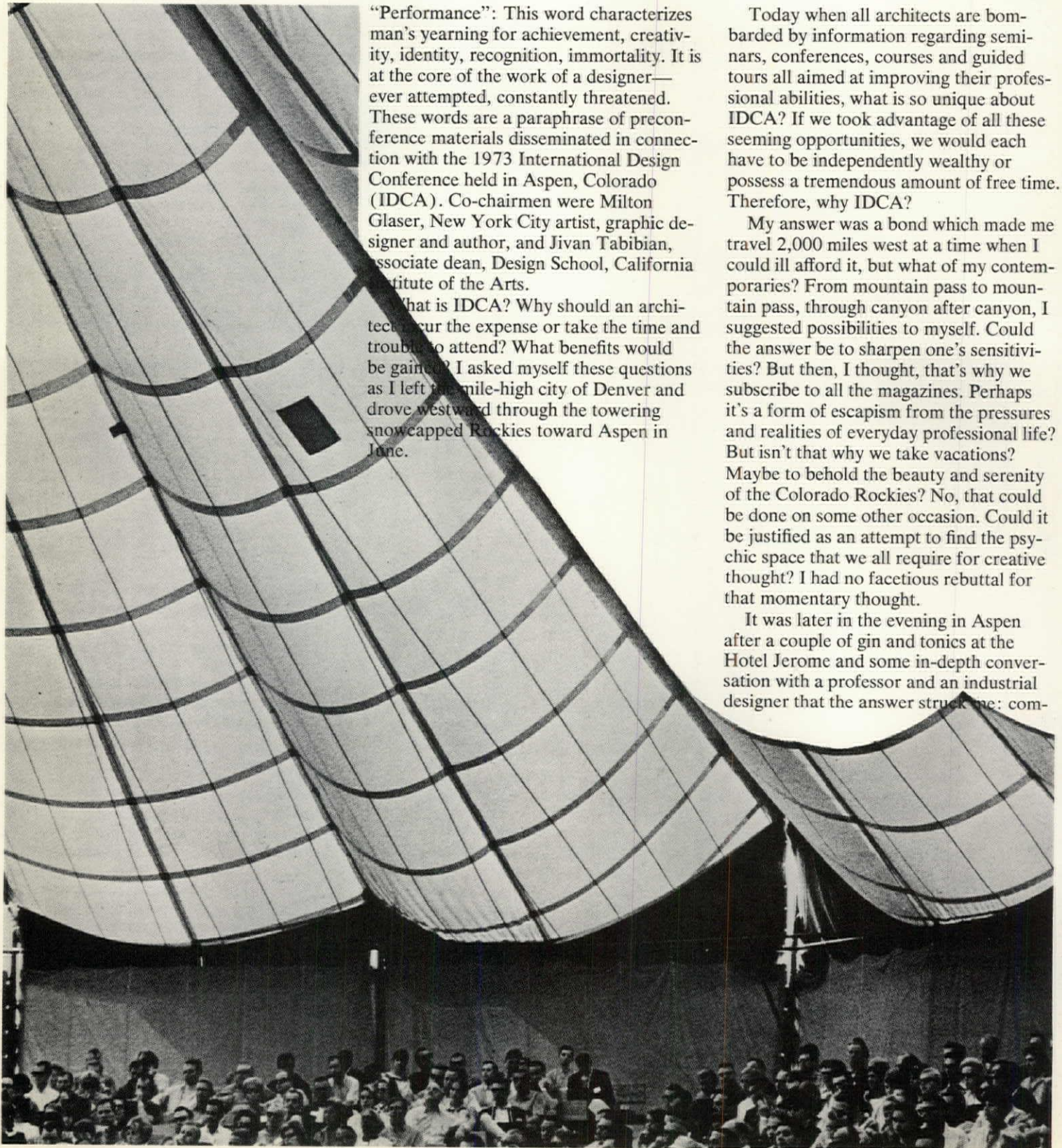
**ART IS
FOR MAN'S SAKE**
Support the arts for your sake



PRESENTED BY THE BUSINESS COMMITTEE FOR THE ARTS, 1700 BROADWAY, NEW YORK, N.Y. 10019

Communication and the Design Process

The theme of this year's International Design Conference in Aspen, Colorado, was "performance." Earle A. Stillwell, AIA, who is associated with the Washington, D.C., firm of Mills & Peticord Partnership, attended the conference. He reports that he had a good experience there, and has some words of admonition to fellow architects.



"Performance": This word characterizes man's yearning for achievement, creativity, identity, recognition, immortality. It is at the core of the work of a designer—ever attempted, constantly threatened. These words are a paraphrase of preconference materials disseminated in connection with the 1973 International Design Conference held in Aspen, Colorado (IDCA). Co-chairmen were Milton Glaser, New York City artist, graphic designer and author, and Jivan Tabibian, associate dean, Design School, California Institute of the Arts.

What is IDCA? Why should an architect incur the expense or take the time and trouble to attend? What benefits would be gained? I asked myself these questions as I left the mile-high city of Denver and drove westward through the towering snowcapped Rockies toward Aspen in June.

Today when all architects are bombarded by information regarding seminars, conferences, courses and guided tours all aimed at improving their professional abilities, what is so unique about IDCA? If we took advantage of all these seeming opportunities, we would each have to be independently wealthy or possess a tremendous amount of free time. Therefore, why IDCA?

My answer was a bond which made me travel 2,000 miles west at a time when I could ill afford it, but what of my contemporaries? From mountain pass to mountain pass, through canyon after canyon, I suggested possibilities to myself. Could the answer be to sharpen one's sensitivities? But then, I thought, that's why we subscribe to all the magazines. Perhaps it's a form of escapism from the pressures and realities of everyday professional life? But isn't that why we take vacations? Maybe to behold the beauty and serenity of the Colorado Rockies? No, that could be done on some other occasion. Could it be justified as an attempt to find the psychic space that we all require for creative thought? I had no facetious rebuttal for that momentary thought.

It was later in the evening in Aspen after a couple of gin and tonics at the Hotel Jerome and some in-depth conversation with a professor and an industrial designer that the answer struck me: com-



munication. But communication beyond the scope of the tunnel-vision that we risk if we only communicate within our own profession.

Architecture is still essentially a creative profession, although the forms of our endeavors are greatly influenced by strong technological overtones that seem all too often to stifle the creative processes. A creative profession requires nourishment and stimulation of all those processes that when combined together are "creativity." This nourishment and stimulation comes from many sources.

In his opening address Glaser said that information and learning are acquired by seeing people in the process of doing things. Although witnessing the product of people's endeavors can stimulate, doesn't communication with other creative individuals produce an even greater stimulus? In the process of observing others, we learn how to do things, but do we learn what not to do? What are the viable alternatives? We design buildings that are used by others, but what communication do we have with the ultimate users who may really be the best critics of our work?

I suspect that we listen little except to those affiliated with our profession because professionals tend to elevate themselves above nonprofessionals. This is understandable, but to become better architects it is necessary to view ourselves occasionally through other eyes. IDCA provides a forum for all design professionals, as well as for others directly or indirectly involved in all creative processes. Here they may communicate with each other and learn.

The conference location in the midst of nature's most gigantic productions cannot but be conducive to creative thought. Most scheduled activities are conducted in a unique tent of folded plate roof design. From the tent and the surrounding parkland, one can look through the aspen toward the towering mountains that circumscribe this historical silver mining town.

I was particularly impressed by Patricia Schroeder, Congresswoman from Denver. She spoke of women and performance in the political process. She stressed not getting hung up on the form so that one fails

to get to the substance. Landscape architect M. Paul Friedberg spoke of space and the community and afterward directed conference participants in the design and erection of an outdoor space. Unfortunately, the wind failed to cooperate, and the small park that was to have been used by conference participants for the rest of the week had difficulty materializing.

That wind was a prelude to the freezing cold that forced several of us to leave an evening performance in the tent and walk 10 blocks in a snowstorm (in June) in search of warmth.

John Simon, theater critic for *New York* magazine, discussed the life and death of art, literature and poetry. In the process he fired many darts at his fellow art critics. If he had substituted architecture for art, he still would have transcended the form and got to the substance.

Planning consultant Carlos Campbell spoke on the experience and performance of new towns. Unfortunately, Robert Simon, the planner and initial developer of Reston, Virginia, who was to speak with Campbell, failed to appear as scheduled. I was disappointed since I am familiar with this new town.

Campbell also took part in a panel discussion on "Architecture, Planning and Human Performance." On the panel with him were Julian Beinart, professor of architecture at the Massachusetts Institute of Technology and next year's program chairman, and Reyner Banham, English author and critic. I found this topic rather interesting in view of the fact that out of some 1,100 conferees only 26 were architects. In the past IDCA has conflicted with the annual convention of The American Institute of Architects. Perhaps with the AIA conventions held in May rather than in June this conflict will be avoided in future years, and more architects will attend.

Glaser and Tabibian stated in their opening remarks that in developing the concept of this year's conference they were intrigued by two questions. Why do people perform and how are standards of excellence achieved? As they discussed performance, two significant points were noted. First, as I mentioned earlier: "In-

formation and learning are acquired more experientially by seeing people in the process of doing things." This is a communicative means in which it is vital to understand the how and the why.

The second point is: "In the best performances there is always an element of significant risk." Perhaps this explains much of the mediocrity that surrounds us, for mediocrity can be a result of compromise, and compromise is a result of an attempt to please all of the people all of the time.

Each of us will have to let his own conscience contend with the risk element in our performance, but the process of understanding performance, or the how and why, is best learned through the vehicle of communication with those other creative individuals whom we respect even though we may not necessarily agree with them. The experiential opportunity to witness performance analyzed through the eyes of other creative individuals during the scheduled events of the conference was a meaningful and useful experience for me. More invaluable, however, were the conversations I enjoyed while socializing with fellow conferees. During these opportunities, and in greater depth, I had the privilege of observing art and architecture—design and performance—through other creative eyes. I am sure what I learned from these experiences will be beneficial to me in days to come.

The AIA convention is very often a fun forum, and many of us do learn something. But the fact of reality is that we are still architects attending and talking with other architects. The same language is always spoken. I do not mean to criticize our conventions, but the broad spectrum required for the true stimulation of the creative processes requires us to speak to and to mix with those other personalities who seek to deepen their own creativity. This means that different people speaking a different language have different problems, but ultimately the goals are the same. The most tragic mistake that we architects could make would be to narrow our vision. And that is exactly what we will do so long as we design for architects, talk only to architects and are oblivious of the vision other people have of us. □

A Matter of Choice

Not all architects want to be individual practitioners, says E. V. Bertoia, AIA, who has been employed for more than 20 years by Bechtel Corporation in California and Louisville, Kentucky. Architects who work for such firms as Bechtel, which is not exclusively engaged in architectural practice, should be treated as fellow professionals.

For many years The American Institute of Architects seemed to frown on any architect who became affiliated with a firm that was not devoted exclusively to the practice of architecture. It was inconceivable to many AIA members that a licensed architect could, in fact, act in a professional manner as an employee of, say, an engineering firm. As an employee of such a firm for more than 20 years, I experienced the gamut of behavior from fellow professionals, and I am grateful to those who treated me with the dignity due an AIA member regardless of employment.

There was an "orphan" stigma attached to any architect employed by a corporation, except a corporation or partnership directly engaged in architecture. This attitude did not deter some corporate architects from continuing their membership and participation in the AIA. They maintained a hopeful outlook that at some point in time the stigma would be removed and they would be accorded the same professional status as any other architect. This was finally realized by the passage in 1970 of the new Standards of Ethical Practice by the Institute.

Thus a more realistic attitude has been adopted toward an expanding segment of the membership that is not engaged in the exclusive practice of architecture. The era of specialization has become an accepted fact of professional life.

It is academic, but obviously necessary, to define the term "corporate architect" because we find him in many types of professional groups and associations. I set forth that a corporate architect is an individual who is licensed to practice architecture by the state and who becomes an employee of a corporation, another architect, an engineering/construction firm, a manufacturing firm, a business organization, a financial institution or a federal, state or municipal agency.

As a member of any one of these firms he must use all of his professional training in dealing with clients, consultants and professional associates just as must his employer, except that the financial responsibility of the corporate architect may not be directly involved.

The corporate architect must be knowledgeable in the legal aspects of profes-

sional practice to assure that the corporation which he represents will be spared any liability. This is just as though he were a principal. He must have complete familiarity with the zoning, grading, building, electrical, mechanical, fire, health and safety requirements.

The corporate architect must know his materials and their proper use, limitations, cost and availability. He is also encouraged to know construction methods and to develop more economical systems by working closely with the civil, structural, mechanical and electrical engineers.

An area of concern to which the corporate architect is exposed is in the assignment of personnel to his projects. Not always does he have the choice of technical expertise that is required to produce a quality project. There are times when the personnel available within the organizational structure is not competent, a situation which may not be determined until the project is well along. The result is a loss of time, excessive costs and, if allowed to go too far, client dissatisfaction.

Why this circumstance cannot be avoided is a legitimate question. Company policy runs throughout the fabric of the corporation. In some cases the training and background of applicants cannot be verified in time, resulting in the catching of misrepresentation of ability or some other deficiency after it is too late. In such a situation all individuals involved are hurt, but the project architect, who is responsible, is harmed most of all. His professional ego suffers because the project faces a loss; his confidence in his consultants is shaken; his control of the project is compromised. The same could happen in a strictly A/E office, but perhaps corrective measures and adjustments would be made sooner.

Speaking from my own experience, I have been employed by a corporation which prefers that its professionals be licensed in whatever discipline they are trained. This requirement gives me a great deal of confidence in the management, and I have the added advantage of being treated as a professional. My employer encourages membership and supports participation in professional societies. We are encouraged also to be a part of community activities. Courses on technical and busi-

ness subjects are made available at the office or at an accredited school.

The advantages which accrue to an architect employed by a corporation, such as the one which employs me, are numerous. There is an interesting variety of projects, all of which require completely different design approaches and solutions. The responsibilities include project scope determination, feasibility studies, site development research, budget and construction cost estimates, management of projects and follow-up after project completion. A project can envelop the complete spectrum or be limited to a feasibility study only.

Other advantages include participation in the earnings of the corporation, a comprehensive medical plan and vacation opportunities which become more significant as one's tenure of employment increases.

There are some thorns in this bed of roses, of course, and one must accept and adjust as the vagaries of human interfacing dictate. A corporate architect is not completely independent in some areas of professional judgment, but then everybody must answer to someone other than himself. There may be instances when an engineering judgment is superimposed upon an architecturally desirable solution. This is an irritant, but I have found that corporate architects achieve more pluses than minuses.

With the innovations in architectural practice brought about by the computer, photography, CPM, etc., the role of the architect as an individual practitioner has become something of an enigma, which further justifies the corporate architect. No longer is the architect self-sufficient; rather, he is forced to revise his role in the scheme of things to become one of a team, albeit a very important one.

Once the individual architect has made the decision regarding where he can best use his talents and if he elects to join a company or agency whose primary discipline is not the practice of architecture but which nevertheless requires architectural expertise in-house, the situation tends to become permanent. The architect then recognizes that he is an employee in any case and that his primary objective is to achieve the highest level possible within the chosen firm. □

MASTERSPEC®

IS

AIA



PRODUCTION SYSTEMS FOR ARCHITECTS & ENGINEERS, INC. • 1735 NEW YORK AVENUE, N.W.; WASHINGTON, D.C. 20006

The American Endless Weekend. C. Ray Smith, AIA. Developed by the Committee on Architecture for the Arts and Recreation, AIA. Washington, D.C.: The American Institute of Architects, 1973. 64 pp. \$5 AIA members, \$7 nonmembers.

In 1971 the AIA's Committee on Architecture for the Arts and Recreation was asked to report on weekend recreation in this country for presentation to the 11th Congress of the International Union of Architects held in Varna, Bulgaria (see AIA JOURNAL, Sept. '72).

The committee's initial approach was to collect data in the house regions of its members. It also identified leads to be followed in Washington, D.C., by a professional writer who would be assigned to the project after the research had been completed. The data, however, seemed to accumulate without suggesting a clear direction for the report. It was soon apparent that we were faced with a formidable literary effort.

C. Ray Smith, a member of the committee and now its chairman, was pressed into service as both editor and author. This was a happy choice because of his familiarity with the origins of the project and because he is a good writer. It still seems amazing to me that he was able to assemble such a large amount of diverse material into highly readable prose without losing track of the details.

Part of Smith's assignment coincided with the committee's previous interest in learning what had happened to the Department of the Interior's National Plan for Recreation. The threat of actually writing this report opened doors in a number of agencies which had previously not been overly hospitable to the committee.

Smith's findings fell short of our more sinister suspicions. He found the Bureau of Outdoor Recreation staffed with good men laboring under a somewhat confused legislative mandate. He also learned that none of the agencies responsible for the operation of our parks and other recreational facilities were collecting statistical data which reflected weekend peak loads. This rather surprising omission aggravates the problems of planning facilities for urban populations who are already far removed from most available open space.

SURVEYS OF MOST POPULAR OUTDOOR RECREATION ACTIVITIES

BOR Survey

picnicking	fishing
driving	watching sports
sightseeing	boating
swimming	bicycling
walking	nature walks
playing sports	

BURDGE: Weekend Trips

swimming	picnicking
visiting	relaxing
fishing	hunting
sightseeing	movies
walking	concerts, plays
driving	golf

The private sector proved to be a richer source of statistical data. The report offers some interesting insights into the extent to which the total economy is stimulated by our leisure activities. One wonders about the natural economic limits to this aspect of our national life. The report tells of a number of instances where the physical environment has begun to collapse under the stress of leisure paraphernalia. These problems have yet to be treated seriously by planners. In this respect, the report is far from optimistic.

The film "Weekend USA," which was produced to accompany the report for the Varna congress, is a more joyous presentation of the same material. In the film, as in life, the motion and color of Americans at play distract us from concern for the problems generated by our leisure explosion. With so much of this happy vitality fueled by foreign petroleum, there is little doubt that things will soon quiet down to a point where we can seriously study our priorities for leisure and the facilities for its exploitation. *The American Endless Weekend* will be a valuable beginning text for this effort. *John F. Hartray Jr., AIA*

Tired Dragons: Adapting Church Architecture to Changing Needs. Edwin C. Lynn. Boston: Beacon Press, 1972. 276 pp. \$12.50.

This book follows in the steps of a number of previous ones on church architecture (for example, *Before You Build* by Edwin Frye). In each a plea is made that

How architects can better approach the design aspects of two nationwide contemporary phenomena—ever-increasing leisure and the changing role of the church—are among current offerings.

good church planning can result only when prefaced by a carefully developed program and introspection into the basic role of the church. *Tired Dragons* attempts to show how religious buildings can be designed or, in many instances, redesigned to encourage individual participation and to provide more meaningful worship and community service. The author presents his concept of what he calls "full-functioning environment" in a detailed comparative analysis.

Lynn premises his book on the deficiencies of those existing church structures which like a "tired dragon" are ineffective in serving as the church's tool in today's society. The book provides a thoughtful analysis of all parts of the typical church plant. The author's conclusions will be endorsed generally by both architects and clergy who are interested in the subject. For the serious student of church architecture, *Tired Dragons* is a valuable addition to a growing list of similar books.

To some degree this book is more of a sermon than an architectural treatise. Lynn is both an architect and a minister. He has some strong opinions about what today's church should be doing in society. We all have, but this is not the primary role of a church's architectural counsel. Lynn attempts to make his recommendations applicable to all faiths and religious interpretations, but his personal philosophy appears to override his primary recommendation that a church look into its own particular philosophy and role in the community.

If the reader seriously accepted all of the author's recommendations, the program would be already written for every church. As any architect who has designed more than a single church knows, this is an oversimplification. Differences in people make each new commission fresh and unusual.

The author is right in emphasizing the changing church. This change and the unlimited interpretations of religious faith as well as anticipated action in society are what makes the design of churches and synagogues exciting to many architects.

Each practitioner facing a new commission with the average "community" church would do well to recommend that the

building committee read *Tired Dragons*. A thoughtful review of Lynn's recommendations would produce a better client, and better clients always produce better architecture. *Robert L. Durham, FAIA*

Tidewater Towns: City Planning in Colonial Virginia and Maryland. John W. Reps. Williamsburg, Va.: The Colonial Williamsburg Foundation (distributed by the University Press of Virginia), 1972. 345 pp. \$15.

It is difficult — if not impossible — to be objective about a book that deals with several of the reviewer's enthusiasms — in this case, planning, colonial history and all of the marshes, creeks, rivers, inlets and bays that encompass Tidewater country.

So let it be said without equivocation: This book will be at home in the library of everyone who seeks understanding of the culture of his country today. Perhaps it will be even more at home in the libraries of those who also seek an understanding of their cities and how and why they became what they are today.

The book is an impressive example of one of the things that organizations such as the Colonial Williamsburg Foundation do best, funding scholarships in somewhat esoteric subjects. And it is an equally impressive example of what its author, John Reps, does best. It is a well-documented, closely reasoned blockbuster of a book.

Reps has filed the 345 pages of the book with information. A discussion of the English planning traditions to which the early colonial planners adhered in almost every case is followed by a chapter on the earliest settlements at Fort Raleigh and Jamestown. He describes in detail the development of the colonial town planning policies that led to the new towns of the 17th century. Two of these, Norfolk and Baltimore, became the chief seaports of their states; two others, Richmond and Annapolis, became the capitals of theirs.

One of the most interesting aspects of the book is the discussion of the departure of three of the new towns — Annapolis, Williamsburg and later Washington, D.C. — from the traditional English gridiron plan.

Francis Nicolson, successively royal governor of Maryland and Virginia but not a planner or architect, emerges here as the very sensitive designer, if he can be called that, of both Annapolis and Williamsburg. Seemingly influenced by the plan for rebuilding London by John Evelyn in 1666 and that of the same year by Christopher Wren, Nicolson incorporated some of the features of the London plans, radial or diagonal streets and open spaces in both of these colonial towns. The Nicolson plans seem as sophisticated for their time as the later design of Pierre Charles L'Enfant for the nation's capital.

The author devotes a full chapter to

Annapolis, two to Williamsburg and another to Richmond and Baltimore. There is only half a chapter on Washington, but then it is not, strictly speaking, a colonial town. The book ends with two chapters on 18th century planning and a wrap-up chapter that puts the rest of the book into proper historical perspective.

This is a beautiful book in an oversized, horizontal 12x9-inch format. It is filled with maps, plans and other illustrations from the era covered by the subject matter. The two-color binding is elegant, as is the paper stock. There are extensive footnotes (happily gathered into an appen-

dix), an adequate bibliography and a list of sources for all illustrations.

All in all, it's a handsome and worthwhile book, unlike so many others published these days. For browsing, for looking, for contemplation, for reference — the book will be invaluable. Though many will choose to own it, probably not so many will read it through. The content transcends the attention span of all but the most dedicated.

Can one expect more from a reviewer seated before a window open to the vista of the North River which flows into Mobjack Bay and then into the Ches-

Opening doors for the handicapped involves more than just being polite.

It involves giving them jobs. By hiring the handicapped you do yourself a favor. You'll get skilled people who will be dependable and hard working. Some of the best attendance records, in many businesses, belong to handicapped employees. Next time you have a job opening, fill it with a handicapped worker. You'll help yourself by helping someone else.

Hire the handicapped.

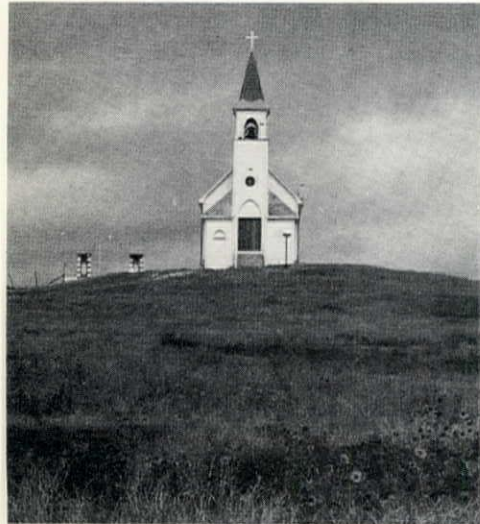
PAS
PUBLIC ADVERTISING SYSTEM
A DIVISION OF THE SCHOOL OF VISUAL ARTS



peake, the pathway to all of the Tidewater country and its towns? *Wm. Dudley Hunt Jr., FAIA*

Observations on American Architecture. Ivan Chermayeff, with photographs by Elliott Erwit. New York: Viking, 1972. 143 pp. \$16.95.

This book is a visual presentation of a cross section of American architecture. The beautiful photographs are by Elliott Erwit, many of which were included in an exhibit at the World Exposition in Osaka, Japan, in 1970. The buildings provide a broad survey of American architecture, ranging from the Sacred Heart Church at



Wounded Knee, South Dakota, by an unknown architect, to the housing for married students at Harvard University, designed by Sert, Jackson & Gourley.

The selection of the photographs is by graphic designer Ivan Chermayeff. As he says, it's a "menu of personal choices. While it recognizes many architectural staples that have been prepared with grace and talent, it also includes a number of baked Alaskas, parfaits, napoleons, blanchmanges, crepes suzette and other extravaganzas." In his brief accompanying text, he analyzes the forces that produce good design and influence new developments.

Good Old Modern: An Intimate Portrait of the Museum of Modern Art. Russell Lynes. New York: Atheneum, 1973. 490 pp. \$13.95.

New York City's Museum of Modern Art is an institution in more ways than one. This chatty history of MOMA is entertaining. Lynes, who has written other highly readable books on the social history of art, evidently has a respect for his present subject, although he's not one to quibble if he thinks a somewhat carping criticism is deserved.

Those who know this marvelous museum will enjoy this book. Architects may be interested especially in the chapter on "Home Is Where You Hang Your Collection" which relates the history of the design of the museum's own building.

MOMA, of course, has had a great influence on American architecture through its many architectural exhibits and publications and its own collection as well.

This reader was intrigued to find Henry Saylor mentioned in the book. As many will remember, he was once the editor of the *Journal of the A.I.A.* In case your curiosity is aroused, the reference to him concerns a remark he made about a Bauhaus show held at MOMA back in 1938. Saylor tells about talking with Frederick Ackerman and asking him what "the present agglomeration of abstracts . . . and distorted forms meant" apropos of the Bauhaus show. He quotes Ackerman as saying, "I spent about 10 years of my life trying to find out, and now my complacency with regard to the whole thing is summed up in 'What the hell does it matter?'"

The Environment Index 72: A Guide to the Key Environmental Literature of the Year. New York: Environment Information Center Inc., 1972. 775 pp. \$75.

This second annual cumulative index of environmental literature reflects that the increased output of published materials on the subject has increased even over 1971 (see Aug. '72, p. 57, for comments on the 1971 index). New professional magazines to appear include *Environment Entomology* and *Journal of Environmental Quality*. Moreover, the publisher states that in 1972 there were fewer "light" books published and that the mass appeal environmental press declined, indicating "that environment has arrived as a profession."

The 1972 volume contains 40 percent more data than previously, including such materials as a recap of the Stockholm international environmental conference, a listing of over 600 films and a survey of the year's legislative action. It contains references to more than 60,000 magazine articles, government documents, conference papers, technical reports and miscellaneous publications. The citations are classified by subject going from "abalone" to "zinc."

Full transcripts of all documents in the index may be retrieved upon request from the Environment Information Center Inc., 124 E. 39th St., New York, N.Y. 10016. The index also provides a cumulative subject index for EIC's semimonthly abstract journal *Environment Information ACCESS*.

Report on a Plan for San Francisco. Daniel Burnham, assisted by Edward H. Bennett. Berkeley, Calif.: Urban Books, 1971. 219 pp. \$25.

Excerpts from Daniel Burnham's *Report on a Plan for San Francisco*, issued in 1906, were published in the April AIA JOURNAL. It was mentioned then that copies of it are rare, indeed. Here is a facsimile reprint of the entire Burn-

ham plan which will be welcomed by urbanists who find the original edition hard to find. When that edition is found, librarians are often reluctant to have it leave the premises.

This reprint, which is called "a labor of love" by its publishers, is limited to 200 copies; so it, too, may be hard to find soon. If you want a copy, order it from Urban Books, 295 Grizzly Peak Blvd., Berkeley, Calif. 94708. The reprint contains an excellent introduction written by James R. McCarthy, who was director of planning for the city and county of San Francisco from 1958 to 1966 and is now director of planning, Tudor Engineering Company, San Francisco.

Rivers in the City. Roy Mann. New York: Praeger, 1973. 256 pp. \$20.

The most intensely used and most often abused resource on earth, says the author of this copiously illustrated and interestingly written book, is the river. Here he surveys 15 major urban regions' rivers and riverine systems within their environmental and historical contexts.

The systems analyzed are the Arno in Florence, Italy; the canals of Venice; the Amstel and canals of Amsterdam; the Seine in Paris; the Seine, Oise and Marne in the Paris region; the Saone and Rhone in Lyons, France; the Limmat and Sihl in Zürich, Switzerland; the Thames in London; the Lea in London; the Ruhr in the Ruhr region; the Rhine and Meuse in Rotterdam; the Tyne in Tyneside, England; the Potomac in Washington, D.C.; the Charles in Boston; and the Hudson in New York.

Mann focuses on such topics as transportation, recreation, flood control, sewage management, pollution abatement, ecological protection, etc., with each chapter's topics varied to give "most relevance for the river under discussion." In the chapter on the Potomac, he discusses the many plans of the nation's capital, relating them to the river and its changing urban shores.

The river, says Mann, is the "last open valley of the urban terrain." Riversides "hold the greatest hope for beginning a revival of confidence in the urban physical environment." This book will help us gain an understanding of an irreplaceable resource and show us better how to use it wisely and well. Mann, who heads his own firm of landscape architects and environmental planners, has served often as a consultant on riverside use and coastal problems. It is evident that he has deep respect for his subject.

Federally Assisted New Communities: New Dimensions in Urban Development. Hugh Miels Jr. Washington, D.C.: Urban Land Institute, 1973. 278 pp. \$16.

The opportunities, problems and accomplishments of the federal government's new community development program are

detailed in this book by an authority on new towns. He describes the application process, giving information about requirements, proposals, forms, regulations and eligibility. Miels says that despite recent terminations of some categorical grants and moratoriums on federal housing programs that federal involvement will continue in new town development to include 10 new Title VII approvals in 1973 and an additional 10 in 1974.

The first eight new communities approved by the Department of Housing and Urban Development are discussed in depth, and project characteristics of HUD-approved new communities are analyzed. There is also a discussion of the economics and financing of new towns. A chapter is devoted to new towns-in-town.

The book provides a background on new towns in general. Perhaps its most important aspect is the analysis of just how far the federal government is willing to assist and encourage both private and public developers to undertake the building of new towns. The appendices contain a great deal of helpful information in the form of documents such as the Housing and Urban Development Act of 1970 and the Ohio New Communities Act.

Adobe Architecture. Myrtle and Wilfred Stedman. Santa Fe, N.M.: Sunstone Press, 1973. 42 pp. \$3.95.

The layman who wants an adobe home will find useful information in this booklet. Drawings and plans supplement the text to explain such things as foundations, fireplaces, windows, central heating, etc. Details are given about how adobes are made, laid and finished.

Lamps and Lighting. 2d ed. Members of the Staff of Thorn Lighting Ltd. General editors: S. T. Henderson and A. M. Marsden. New York: Crane, Russak & Co., 1972. 602 pp. \$20.50.

The first edition of this work, published in 1966, drew praise from a number of technical journals. About half of the authors who contributed to the first edition are participants in the updated version, but few of them have written on the same topics as previously. The edition is a completely new one, omitting obsolete information and containing more recent materials.

The four major sections of the book cover fundamentals, lamps, luminaires and circuits, and lighting. The last part on lighting appears to be of special interest for the architect who may not be so concerned about the technical information regarding trichromatic colorimetry, production of radiation and other subjects covered thoroughly in the first three sections. Here are essays on such topics as the interior environment, daylight in interiors, office lighting, street lighting, home lighting, floodlighting, and so forth.

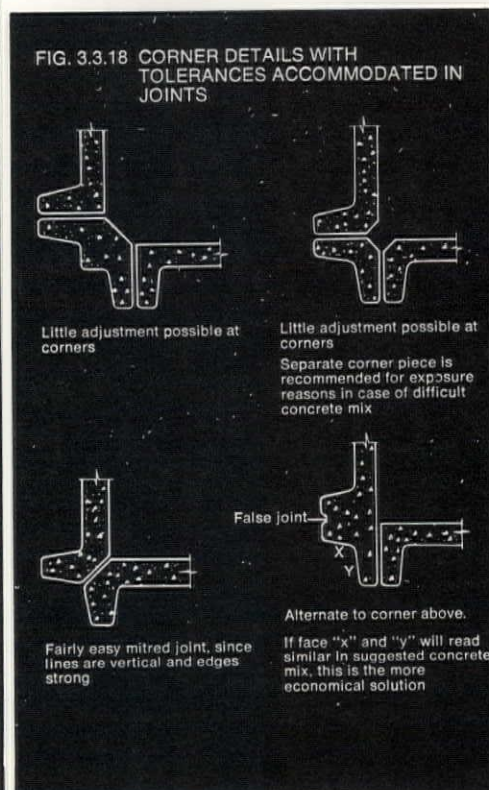
The lighting engineer and designer will find both theoretical principles and practical application in the book. Much of the information is directed to the British scene; for example, the section on lighting economics gives costs in pounds. But lighting problems are universal, and this book will be a valuable reference source for anyone who is concerned about an important branch of environmental engineering.

The Colleges of Cambridge, 1286-1973. Bryan Little. New York: Arco Publishing Co., 1973. 192 pp. \$8.95.

Anyone who has attended Cambridge University will surely enjoy this book. It is a record of the traditions and the architecture of all the colleges which comprise this great place of learning.

Architectural Precast Concrete. Chicago: Prestressed Concrete Institute, 1973. 173 pp. \$15.

Architectural precast concrete, that child of the 20th century and modern technology, is a material without precedent, comments the Prestressed Concrete In-



stitute in this comprehensive and authoritative manual. The book is an essential reference for any architect who uses this material.

The opening chapter is on the state of the art, providing a general background. This is followed by a chapter on design concepts related to usage and economics for the initial evaluation and selection of architectural precast concrete for a project. The third section, on design considerations, discusses such matters as shape, form and sizes; colors and textures; weathering; tolerances; etc. Chapter 4 is directed specifically to the job captain, draftsman and detailer. The final two

chapters are an aid for specification writers.

As is explained, there is some duplication of information because each chapter is considered as an entity for the appropriate department to use as a project proceeds through its various stages.

The book is illustrated with photographs, diagrams and charts. The statement is made that the manual "will help the architect to define his own potential and will provide a basis for providing it, through proper knowledge of this exciting material." It will be a valuable addition to any architectural firm's office library.

Architectural Registration Handbook: Test Guide for Professional Exam Candidates. Washington, D.C., and New York: National Council of Architectural Registration Boards and *Architectural Record*, 1973. 135 pp. \$16.50, AIA members; \$18.50, nonmembers.

Anyone who is facing the professional examination for architectural registration ought to have access to this book. It is packed with information. A model exam, with questions similar to those on actual professional examinations, is given. There are detailed instructions regarding application, the grading and scoring, what to expect, etc. The glossary of terms is useful as well as the bibliography of recommended readings and references.

Repairing and Remodeling Guide for Home Interiors: Planning, Materials, Methods. 2nd edition. J. Ralph Dalzell. Revised by Frederick S. Merritt. New York: McGraw-Hill, 1973. 408 pp. \$7.95.

Detailed instructions for almost every kind of home repair and remodeling jobs are given here. There are chapters on woods, fasteners, insulation, ceilings, walls, floors, basements, kitchens, attics, bathrooms, storage spaces, lighting and airconditioning. This second edition has been revised to reflect recent changes in homebuilding and remodeling practices.

SOM: A Method for Space Allocation. Edited by W. R. Spillers and S. Al Banna. **SOMI: An Interactive Graphics Space Allocation System.** Edited by S. Al Banna and W. R. Spillers. New York: Columbia University, Department of Civil Engineering and Engineering Mechanics, Department of Graphics, 1972. 2 vols. No price given.

These books describe a computer program written for use in space planning. They were prepared under a grant from the National Science Foundation.

The program utilizes a computer graphic system and receives the following input: number of spatial elements and the area of each; number of floors in the building; relationship between spaces; and physical envelope constraints of the building. The output, or result, is a graphic

representation of the floor plans which best meet the input requirements.

The computer system, the application of the program and the actual program listing are described.

Western Woods Use Book: Structural Data and Design Tables. Portland, Ore.: Western Wood Products Association, 1973. 316 pp. \$10.

The Western Wood Products Association has performed a service for architects, engineers and students who require reliable information on the qualities and uses of western woods.

Predecessors of the present book are *Structural Timber Handbook on Pacific Coast Woods*, published in 1916, and the *Douglas Fir Book*, issued first in 1930 with its latest revision in 1961. Major changes were necessary to change from a book devoted to the Douglas fir to this one which covers the western species. Thus all design tables related to varying species properties have been revised. Chapters have been updated to reflect information contained in the latest standards. There is a new chapter titled "Sound Control," and plywood has been added to the section on "Design — Lateral Forces."

In brief, the book is replete with recent information.

Contemporary Concrete Structures.

August E. Komendant. New York: McGraw-Hill, 1972. 670 pp. \$22.50.

The theory of structures, materials and structural systems and methods of construction are covered comprehensively in the three major parts of this book. Komendant states that advanced structural theories are extensive, complex and abstract and mainly presented in special papers, proceedings and technical periodicals not readily available to professors and students, to practicing engineers and especially to architects. The book's purpose is to discuss "the required, most applicable structural theories, material characteristics and construction methods."

The first part, on the theory of structures, is highly mathematical, but the author contends that no difficulty in understanding should be encountered because equations are developed in general cases and presented in a direct and readable manner for their meaning and application. In this part, Komendant says, the interest of the architect "would be to widen his knowledge about what is structurally available and required to avoid failures and to secure success."

Of particular interest to the architect are the second part on concrete technology and the third on structural systems and related construction methods for a number of building types such as high-rises, prefabricated houses, etc. There is a concluding chapter on why structures collapse or fail.

Lightning Protection. J. L. Marshall. New York: Wiley, 1973. 190 pp. No price given.

Lightning is a force to be reckoned with. In this country the annual destruction of property by lightning is estimated at \$100 million. Lightning kills 600 people every year and inflicts injuries on 1,500 others. The author of this book maintains rightly that any effort to reduce the losses in life and property by even a fraction is worthwhile.

There are chapters which summarize the losses from lightning and show how lightning plays a part in a balanced world electrical system. The chapter on the magnitude of voltage, current and energy in lightning is followed by one on the earth as a discharge terminal. Sections follow on protective grounding systems, safety of life and the grounding of communications towers and systems.

Of particular interest to the architect is the chapter on the protection systems for buildings. Here the principles of protection are applied to such structures as tall buildings and those isolated at high elevation. The concluding chapter is on the protection of power-transmission systems.

Paints & Coatings Handbook for Contractors, Architects, Builders and Engineers.

Abel Banov. Farmington, Mich.: Structures Publishing Co., 1973. 399 pp. \$20.

Probably the single most expensive element in the maintenance of a building is painting. But this does not have to be true, says the author of this book who is senior editor of three magazines in the paints and coatings field. Surface protection is an area in which tremendous technological strides have been made in recent years. This comprehensive book will give the user current information on paints and coatings specifications, the preparation of surfaces and application of coatings. Both exteriors and interiors of structures are covered.

In an informative chapter on the economics of structural coatings, Banov chides builders who "save" in a short-sighted way, causing wasteful future expenditures. He gives specific advice on the return on investment through the use of high quality paint.

Cold-Formed Steel Structures: Design, Analysis, Construction. Wei-Wen Yu. New York: McGraw-Hill, 1973. 463 pp. \$19.50.

The design, analysis and construction of thin-walled steel structures are presented comprehensively in this book by a professor of civil engineering who has extensive experience in the field of cold-formed steel. There is a great deal of information to help the structural engineer gain an understanding of this medium and its efficient and economical application in many areas of construction.

LETTERS

Just in Time: The article by Archibald C. Rogers, FAIA, titled "Target for Tomorrow" in the June issue came at a very important time for our firm. We are in the process of revising project evaluation criteria, and the points that he made so well have served to expand our own vision. We are grateful for the leadership which he is helping to provide a profession which seeks to satisfy the needs of a changing society. *Robert Lawton Jones, FAIA
Tulsa, Okla.*

The Architects Speak: I enjoyed very much the June issue. There are some stories in it, like the history of the garden, which were news to me. The device of describing the new building as one walks and lives in it complemented by the exposition of the AIA's various thrusts was a creative idea. The cover was strong and fresh.

Needless to say, The Architects Collaborative Inc., architects of the Octagon Building, is honored to have been so handsomely recognized.

*Norman C. Fletcher, FAIA
Cambridge, Mass.*

I was not only pleased with the thoughtful and well-presented coverage of the buildings and the history that belongs to it but with the juxtaposition of AIA activities at this moment in time as well.

It is the interrelationship of the two that has always been for us the heart of the design challenge. If the building wears well from this viewpoint and if it architecturally achieves that timeless quality which the symbolic role of the profession demands, then the AIA's new headquarters will live up to the historic company described in Comment and Opinion.

I congratulate the AIA JOURNAL on its "new look." The magazine, I believe, very effectively conveys the overriding spirit of the dedication: rededication.

*Howard F. Elkus, AIA
Cambridge, Mass.*

Our 'New Look': I am pleased with what I have seen of the magazine's new format. I like the "new look." Because the architect's business is based upon graphic communications, we are especially sensitive to the quality of such communications. It's reassuring to have the AIA JOURNAL back in a position of leadership in this regard—a place which it should vigorously continue to maintain. *Fred L. Creager, AIA
Spokane, Wash.*

Merits of Metric: Having read recently of AIA testimony regarding metric conversion at Congressional hearings, I am reminded of a comment made by the late

Oscar Stonorov while a guest crit at the University of Minnesota School of Architecture in 1961: "Don't give up your English system of measure." His reasons centered on the fact that the English system is tied to the size and scale of the human anatomy. I was impressed at the time, and I still am, that a man born into the metric system was an English system convert.

Is the building industry so heavily involved with foreign trade that it will be to our advantage to convert? Bilingual is good; bimeasural is better!

*Courtney Nystuen, AIA
Menomonie, Wis.*

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

EVENTS

Sept. 19-21: Capital Development Board Energy Conference, McCormick Place, Chicago.

Sept. 20-21: Recycling Cities Conference on Maximizing Physical and Social Resources, Holiday Inn, New York City.

Sept. 23-25: Northwest Regional AIA Conference, Victoria, B.C., Canada.

Sept. 27-28: Virginia Chapter AIA Fall Meeting, The Homestead, Hot Springs, Va.

Oct. 1-3: Architects in Industry Conference, AIA Headquarters Building, Washington, D.C.

Oct. 1-4: Council of Educational Facility Planners Annual International Conference, Queen Elizabeth Hotel, Montreal.

Oct. 4-21: Workshop Tour of Five European Cities. Contact: William Houseman, *The Environment Monthly*, 420 Lexington Ave., New York, N.Y. 10017.

Oct. 10-12: Central States Regional AIA Conference, Wichita, Kan.

Oct. 10-13: Pennsylvania Society of Architects Annual Forum, Pittsburgh Hilton Hotel, Pittsburgh.

Oct. 11-14: National Trust for Historic Preservation Annual Meeting and Preservation Conference, Cleveland.

Oct. 11-14: Seminar on the Techniques of Noise Control, Shoreham Hotel, Washington, D.C.

Oct. 14-17: New York State Association of Architects Convention, Kutshar's, Monticello, N.Y.

Oct. 15-17: National Noise Control Engineering Conference, Shoreham Hotel, Washington, D.C.

Oct. 16: Seminar on Women in the Profession, Kutshar's, Monticello, N.Y.

Oct. 18-19: Institute on Site Development and Building Design to Support Human Performance, University of Wisconsin, Madison, Wis.

Oct. 26-28: Louisiana Architects Association Convention, Lake Charles, La.

Oct. 31-Nov. 2: Texas Society of Architects Annual Meeting, Convention Center, San Antonio, Tex.

Nov. 12-13: Seminar on Feedback Systems in Architecture, University of Wisconsin, Madison, Wis.

Nov. 23-25: Forum '73, Association of Student Chapters/AIA, University of Miami, Miami.

Nov. 27-29: Building Research Institute Fall Conferences, Sheraton-Park Hotel, Washington, D.C.

Nov. 27-29: Annual Industrialized Build-

ing Exposition and Congress, McCormick Place, Chicago.

Dec. 11-14: Invitational Symposium on Housing and Environmental Design for Older Adults, State Department Conference Center, Washington, D.C.

Dec. 12-14: Bicycle Pedestrian Planning and Design Seminar, Disney World, Fla.

Dec. 15: Entries due, One-Stage International Competition for the Building of a Library in Damascus, Syria. Contact: Comité de l' Aménagement de la Bibliothèque Publique de Dams, Ministère des Travaux Publics et des Ressources Hydrauliques, Damascus, Syria. □

The case of the disappearing paycheck and what to do about it.

Some people learn the hard way. Paychecks disappear fast.

Day-to-day living expenses eat up a lot. And maybe part goes in the savings account for this year's vacation or another immediate goal.

A good chunk of that money seems to disappear by itself.

So it's no wonder that when it comes to long-term goals, or when an emergency comes up, there simply aren't funds to meet the need.

Unless there was a nest egg building up all that time.

A good way to build that nest egg is with U.S. Savings Bonds. The easy way to buy them is to sign up for the Payroll Savings Plan where you work. An amount you specify will be set aside from your paycheck and used to buy Bonds.

And while you're going through grocery bills, car repairs, vacation weekends, kids' toys and nights out on the town, you'll know you're saving money too.

That's good to know.



Now E Bonds pay 5 1/4% interest when held to maturity of 5 years, 10 months (4% the first year). Bonds are replaced if lost, stolen, or destroyed. When needed they can be cashed at your bank. Interest is not subject to state or local income taxes, and federal tax may be deferred until redemption.



GOING ON

going on from page 13

Council of Architectural Registration Boards, besides Amundson, are William J. Geddis, FAIA, Cambridge, Mass., and Arthur F. Sidells, AIA, Warren, Ohio, who remains on the board an additional year in the newly created position of past president.

Other directors and their organizations are George C. Winterowd, AIA, University of Minnesota, and John H. Spencer, AIA, Hampton Institute—Association of Collegiate Schools of Architecture; international planner Julian E. Kulski, AIA, McLean, Va., and civil engineer and planner Edgardo Contini, Los Angeles— allied design professions; William J. Burke, Arizona State University—general education; John C. Livengood, Syracuse University—ACSA student; and Richard W. Zipperly, University of Florida— Association of Student Chapters/AIA.

Elevators Will Be 'Kinetic Sculpture' In Self-Contained Manhattan Hotel

Times Square in New York City was once a glittering place, but in recent years it has become rather seedy in appearance. At a press conference recently, the city's Mayor John V. Lindsay announced that the area's redevelopment and resurgence had begun.

Mayor Lindsay said that a \$150 million hotel, designed by John Portman & Associates, "will be solid evidence of the resurgence of this world-famous district." The structure, he commented, is the result of careful planning. He stated that he had worked personally on the project along with designer John Portman, FAIA, of Atlanta; Jaquelin Robertson, AIA, former director of the Mayor's Office of Midtown Planning and Development; and William G. Bardell, the present director.

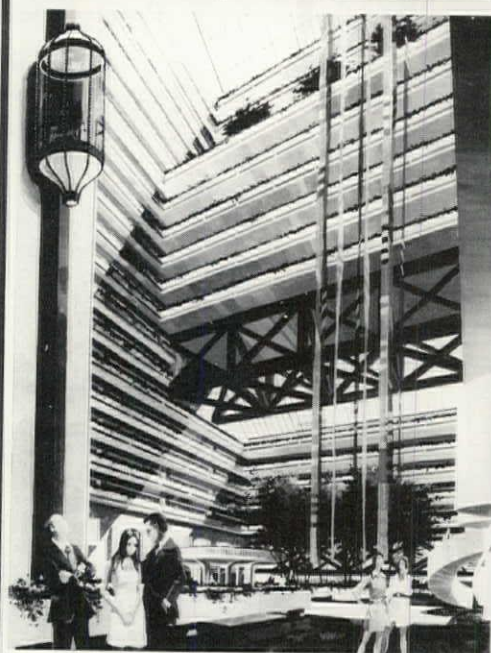
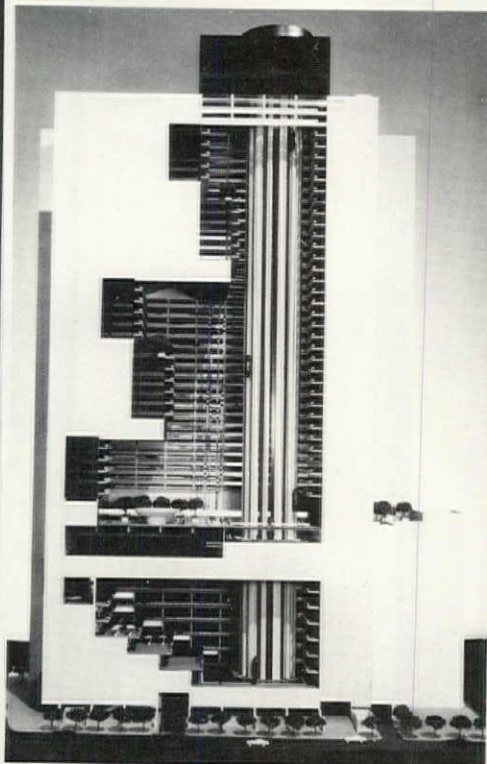
The 54-story hotel will be Manhattan's tallest, rising 618 feet above street level. The first seven levels will contain retail shops; a 1,050-seat theater will be located beneath the entry plaza. An enclosed sidewalk cafe with stadium-like stepped seating will face Broadway.

At the ninth floor, a terrace will extend the width of the hotel, north to south. A bridge will link the terrace to a revolving cocktail lounge. There will be an exhibition hall on the 10th floor and a balconied ballroom on the 11th and 12th floors. Atop the hotel will be a sky-level cocktail lounge, and one flight of circular stairs below will be a revolving restaurant. Both will be within a bronzed glass penthouse.

Twelve glass-cab elevators will rise along a pillar exposed to the atrium through tubes from the street-level plaza and will merge into the open from the base of a pool in the lower atrium. Before

they enter another set of tubes at the 13th floor, they will come into the open again at a second pool. Portman says that these elevators will serve as kinetic sculpture. "A ride in one will be an exciting event which will visually unfold the architecture."

Portman comments that the design tries to capture the spirit of New York, which is a vertical city. "The total effect is to



One of two major guest room wings has been removed in the model, with Broadway at the left and 46th Street in the foreground. Lobby is on the 13th floor.

create a self-contained pedestrian village—one that will respond to all the things that man loves in nature as well as meet the needs of the particular situation."

Construction will begin in 1974; it is anticipated that the hotel complex will be finished in 36 months.

The 10 Criteria of Effective Design Illustrated in Touring Exhibition

An exhibit prepared for the first Federal Design Assembly held in Washington, D.C., last April will tour nine states through May 1974. It illustrates the 10 performance criteria of effective design. The exhibit is accompanied by a 16mm, 10-minute, color animated film entitled "What Do You Mean by Design?"

The exhibit is sponsored by the Federal Council on the Arts and the Humanities under a grant from the National Endowment for the Arts and gifts from General Mills, Inc., and Hallmark Cards, Inc. The exhibit, says Nancy Hanks, Hon. AIA, chairman of the Endowment, "is intended to enhance the viewers' understanding that design is essential to the performance of every program in the federal government."

The exhibit was designed by Peter Bradford (who is responsible for the new format of the AIA JOURNAL). It was written by Ralph Caplan and researched by Jane Clark under the supervision of New York City designer Ivan Chermayeff and Richard Saul Wurman, AIA, of Philadelphia.

Already shown in Washington, D.C., Des Moines, Iowa, and Milwaukee, the exhibit will be on display in the following cities: Chattanooga (Sept. 15-Oct. 7); Kansas City, Mo. (Oct. 20-Nov. 11); Bloomington, Ill. (Nov. 24-Dec. 16); Minneapolis (Jan. 6-27); Detroit (Feb. 9-Mar. 3); Columbus, Ohio (Mar. 16-Apr. 7); and Lexington, Ky. (Apr. 20-May 12). Interested persons are asked to check their local newspapers for the places where the exhibit will be on display.

Homes for Better Living Awards Program Attracts More Than 400 Submissions

Certificates have gone to seven first honor and twelve award of merit winners of the 1973 Homes for Better Living Awards Program. Over 400 entries were submitted in three categories: custom designed houses for specific clients, houses designed for sale and multifamily housing.

The annual awards program, instituted 18 years ago, is sponsored by the AIA in cooperation with the magazines *House & Home* and *American Home*. Winning projects are being carried in those publications.

First honor awards went to: Burger & Coplans Inc., for a year-round custom house in San Francisco; Agora Architects & Planners, for a year-round custom house in Marin County, Calif.; Frank L. Hope & Associates, for a multibuilding project in Watsonville, Calif.; Harry Weese & Associates, for a custom vacation home in Door County, Wis.; David Kenneth Specter, AIA, for a year-round custom house in Stamford, Conn.; Hardy Holzman Pfeiffer Associates, for attached housing in Cincinnati; Robert Billsbrough Price, FAIA, for a multibuilding project

in Olympia, Wash.; and Keith R. Kolb, AIA, for a custom addition in Seattle.

The jury for custom designed houses was comprised of George E. Hartman Jr., AIA, chairman, Washington, D.C.; Don M. Hisaka, AIA, Cleveland; R. W. Huygens, AIA, Boston; Barrie H. Groen, AIA, Phoenix, Ariz.; and Guy Henle, architecture and environment critic of *American Home*. The designed-for-sale and multifamily submissions were judged by Claude Oakland, AIA, chairman, San Francisco; Stanley Tigerman, FAIA, Chicago; Don L. Stull, AIA, Boston; Barry L. Donaldson, architectural student, University of Kentucky; Nick Pappas, AIA, Washington, D.C.; Gerson Bakar, builder, San Francisco; and June R. Vollman, associate editor of *House & Home*.

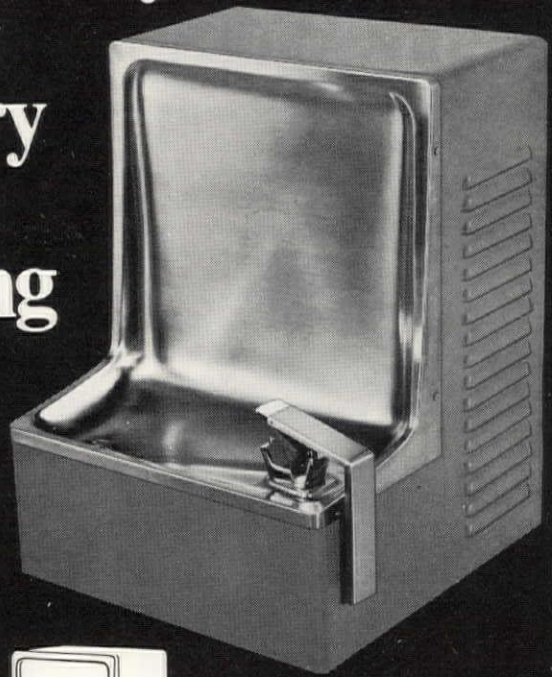
Community Development Guidelines Suggested to Congress by the AIA

"We believe that community development should be supported at the local level by relatively constant federal funding programs," said Archibald C. Rogers, FAIA, first vice president of the AIA, in testimony before a Senate subcommittee on housing and urban affairs. The AIA recommended that Congress adopt a comprehensive approach to building and rebuilding cities which would consolidate federal grants, guarantee a constant supply of federal funds and include incentives for large-scale development. Rogers declared that "one of the most frustrating characteristics of the existing community development programs, particularly to local agencies, is the inconsistent and unpredictable nature of program funding."

The Institute's views on community development, stated Rogers, have resulted from a 10-year concern which culminated, in part, with the publication in 1972 of the report of the Task Force on National Policy. The report, in brief, calls for changes in the "ground rules that now shape, and distort the shape, of American communities; create a new and useful scale for planning and building in urban areas; and commit the nation to a major land acquisition policy to guide development in and around key urban centers," Rogers explained.

He said that the AIA generally supports the provisions of the Community Development Assistance Act of 1973 (S. 1744) over those in the Administration's Better Communities Act (S. 1743). The latter "almost totally ignores the prosecution of national community development goals." The AIA holds that community development legislation should assure that federal goals are being met at the local level and should encourage creation of local governmental units which can adequately coordinate development at the metropolitan level. Rogers said that the AIA welcomes the initiatives of Congress and the Administration to consoli-

A necessary facility for every public building



Haws HWC-6 water cooler is designed for persons in wheelchairs. It extends out from the wall and is mounted at a convenient height from the floor so that a person can easily wheel up to it. A compound-action bubbler valve actuates the cooler from a push on the side or top, making it easy to operate by handicapped persons.

Model HWC-6 helps you comply with public law 90-480 which states that buildings constructed, leased, or financed by the federal government must provide facilities suitable for use by the physically handicapped.

Available in stainless steel at extra cost. Dual height water cooler fountains also available. Write for detailed information. **Haws Drinking Faucet Co., 4th & Page Sts., Berkeley, Ca. 94710.**



WATER COOLERS

date "the present patchwork of categorical grants programs for community development into a revenue sharing or block grant format."

Rogers declared that there is a need for incentives for large-scale development. "Unless substantial incentives are provided in the community development legislation for institutional change, we will merely continue the present piecemeal, inefficient and inequitable community development processes which have led to unattractive, socially imbalanced and often ill-conceived and mislocated urbanization."

Elimination of Architectural Barriers Wins UCPA Award for Florida Airport

The United Cerebral Palsy Associations has presented its 1972 Man-Made Environment Award for the design and construction of a public facility which recognizes the need of handicapped persons to the Tampa International Airport. The award was presented to George J. Bean, director of the Hillsborough County Aviation Authority.

In the Tampa airport, ramps have been installed at all appropriate points; special parking stalls, each 12 feet wide, have been reserved in the airport garage for handicapped drivers and vehicles which carry wheelchairs; and toilets are equipped with free wheelchair stalls without doors. Entrances have self-opening doors wide enough for wheelchairs. Elevators are conveniently located near stairways, and the airport shuttle car system permits the handicapped travelers to move easily from airplane arrival and departure areas into the terminal.

Associated in the design of the airport were Leigh Fisher, airport consultant; Leigh Fisher Associates, aviation consultant; J. E. Greiner Company, general and technical consultants; and Reynolds, Smith & Hills, architects. George J. Schweizer, president of the UCPA, said that the airport is "an outstanding example of how architectural barriers which limit use by handicapped persons can be minimized and often totally eliminated."

Marketing Approaches to Be Studied To Develop Solar Climate Controls

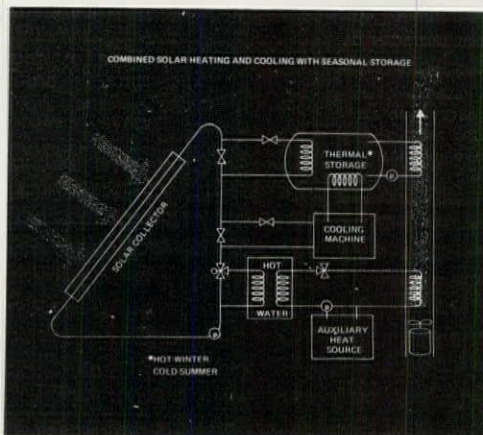
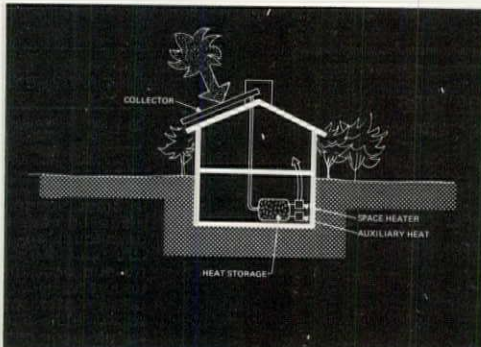
A solar energy panel of the National Science Foundation and the National Aeronautics and Space Administration has concluded that if solar climate control were developed vigorously in the US, such systems would be incorporated in 10 percent of new building construction by 1985. By that year sales of solar heating and cooling equipment should reach an annual gross value of \$750 million.

Experts at the Arthur D. Little, Inc., consulting firm say, "If solar energy provided 1 percent of the nation's energy needs by 1983, this would conserve approximately 100 million barrels of oil

per year." The firm has initiated a three-phase program to identify potentially successful businesses associated with solar climate control; to evaluate specific hardware and formulate more detailed business approaches; and to assist individual sponsors who decide to initiate business activities in solar climate control. A group of major firms in this country is supporting the program, including several building products manufacturers.

Arthur D. Little says that the firm anticipates new markets for solar climate control systems which will approach \$1 billion worth of equipment over the next 10 years. It reports that the systems will include:

- solar collector—a means of capturing solar thermal radiation with a glass surface
- heat storage system—material which has a high specific heat or experiences a change of phase to accept collected solar



heat as available, allowing it to be withdrawn as needed

- source of auxiliary energy—fuel or electricity to provide heat during extended cloudy periods and to avoid the need for uneconomically large collection and storage facilities
- heat-actuated airconditioner—a unit that can be driven by collected solar heat
- auxiliary equipment—the necessary piping, controls, heat exchangers, pumps, etc., to couple the essential elements into an operating system
- on-site power generation—the use of solar cells to convert solar energy directly to electricity.

These systems, say Little officials, could be integrated into buildings designed for efficient thermal control through the choice of appropriate insulation, materials

for windows, roofs and floors, while maintaining esthetic architectural design.

The director of the project, Peter E. Glaser, explains, "This is not a solar energy research program but a project to develop practical applications in heating and cooling which conserve conventional energy resources with no detrimental effects on the environment."

Funds Donated by Institute Members Provide Scholarships to 25 Youths

As a result of the AIA Minority Disadvantaged Scholarship Program, 25 young people who might not otherwise have had the opportunity will enter schools of architecture soon. The winners are from 15 different states and will attend 19 different schools of architecture. These winners now bring the total to 120 students who have been helped by the AIA program. Three previous groups received scholarships from the now discontinued program which was sponsored jointly by the AIA and the Ford Foundation. The 1973 group is the first to have been financed solely by Institute members.

These young people will be able to enter architectural schools because of the contributions made to a fund-raising drive for the scholarship program. The drive is still in progress, and the goal is \$600,000 by 1975. The amount and number of future scholarships depend upon the continued success of the fund drive.

The 1973 recipients of scholarship aid were selected from among 102 applicants on the basis of need, scholastic record and interest and experiences in architecture. They were nominated by architects, AIA component organizations, architectural schools as well as high school guidance counselors.

Report Calls for Life-Cycle Costing For Optimum Use of Electric Energy

An architect and consulting engineer have been working together in recent months to recommend courses of action and research for the Illuminating Engineering Society to follow in its energy optimization goals. John Flynn, AIA, who runs a private consulting practice in Cleveland, and William Tao have presented their findings to IES President Robert T. Dorsey.

They report that the "current four-step design method which determines the level of illumination needed, selects the luminaire, calculates the number needed and lays out the system to produce uniform illumination is outdated and does not provide for optimum use of either human resources or energy."

Flynn and Tao recommend that illuminating engineering analysis be made in terms of life-cycle costing. They note that in recent years the tendency to create installations at minimum cost have resulted in higher energy consumption.

The suggestion is made that the IES establish a task force to establish the new design methodology and that workshops be conducted throughout the country to teach the life-cycle costing concept and other new approaches and technologies in the optimum use of human and electric energy resources. The report also calls for the IES and its independent research organization, the Illuminating Research Institute, to "analyze specifically what workers have to see to perform their tasks more efficiently, the relationship between the visual display and the visual task which includes the different dynamics of people doing different kinds of visual work and the relation between visual performance and the performance of the whole human being."

Development Planned for New Orleans To Revitalize Historic Waterfront

The downtown riverfront redevelopment of New Orleans has required several years of negotiations for an intricate "land swap" among various owners of properties. Tracts have now been consolidated, and a megastructure will soon rise on the river's edge. International Rivercenter, a joint venture of various businesses and family interests, will construct a \$200 million complex from Poydras Street to Julia Street and from the river's edge to

South Front Street, encompassing 23.3 acres of former freight-handling yards and buildings.

The megastructure, designed by joint venture architects Neuhaus + Taylor and Hellmuth, Obata & Kassabaum, is the first phase of the project. The \$97 million



Looking toward the Mississippi, the view here shows the rear of the hotel and the first 200-unit condominium at the right.

complex will contain a 30-story hotel, a 200-unit condominium, a parking facility, a shopping mall, restaurants, a passenger terminal for cruise ships and an enclosed tennis club. The plaza will be adorned with fountains and promenades.

The "people-oriented" megastructure is expected to provide an "around-the-clock environment where people can live,

work, be entertained, eat and shop," comments Harwood Taylor, FAIA, Neuhaus + Taylor's board chairman and head of the firm's design group. The individual structures within the megastructure will be incorporated into the whole in such a way that each will have its own identity and character, say the architects.

Federal Funding for CDCs Recommended To Provide Planning Help for Poor

The AIA has recommended to Congress that \$4 million be appropriated within the Office of Economic Opportunity budget to provide financial aid for Community Design Centers. Robert Nash, FAIA, of Washington, D.C., a past vice president of the Institute, told the Subcommittee on Labor, Health, Education and Welfare that CDCs would allow "design and planning assistance to persons in urban and rural poverty areas" in such ways as legal and health services are provided to the poor through other government programs.

Nash said that "conditions in urban slums and remote rural areas continue to deteriorate" and that housing is inadequate. He declared that the poor are defenseless, "lost in the maze of planning jargon and procedures" as freeways and renewal projects rip up neighborhoods.

The \$4 million recommended appro-

continued on page 67



polyvinyl chloride
heat-fused to
galvanized steel.

**OFFERS SO MANY WAYS
TO IMPROVE CONSTRUCTION
...AND CUT COST!**

underground air duct, corrosive fume systems, architectural fascia, 5 colors, flashing, coping, gravel stops.

UNDERWRITERS LAB, INC.
LISTED AIR DUCT
CLASS 1, SPEC. 181
F.H.A. RELEASE NO. 632
I.C.B.O. REPORT NO. 2782

P.V.S. is available nationwide from a national network of licensed producers and distributors. For the name of the one nearest you, and full information on the application you have in mind

—write or call.



**POLY VINYL
Producer's Council**

2444 TAFT ST.
Hollywood, Fla. 33020
Ph. (305) 929-3713

P.V.S. IS A REGISTERED TRADE NAME PRODUCT BY WHEELING SERVICE & SUPPLY, INC.

AT LAST!

a complete line of
AUTOMATIC DOOR BOTTOMS
including 3 new heavy-duty models

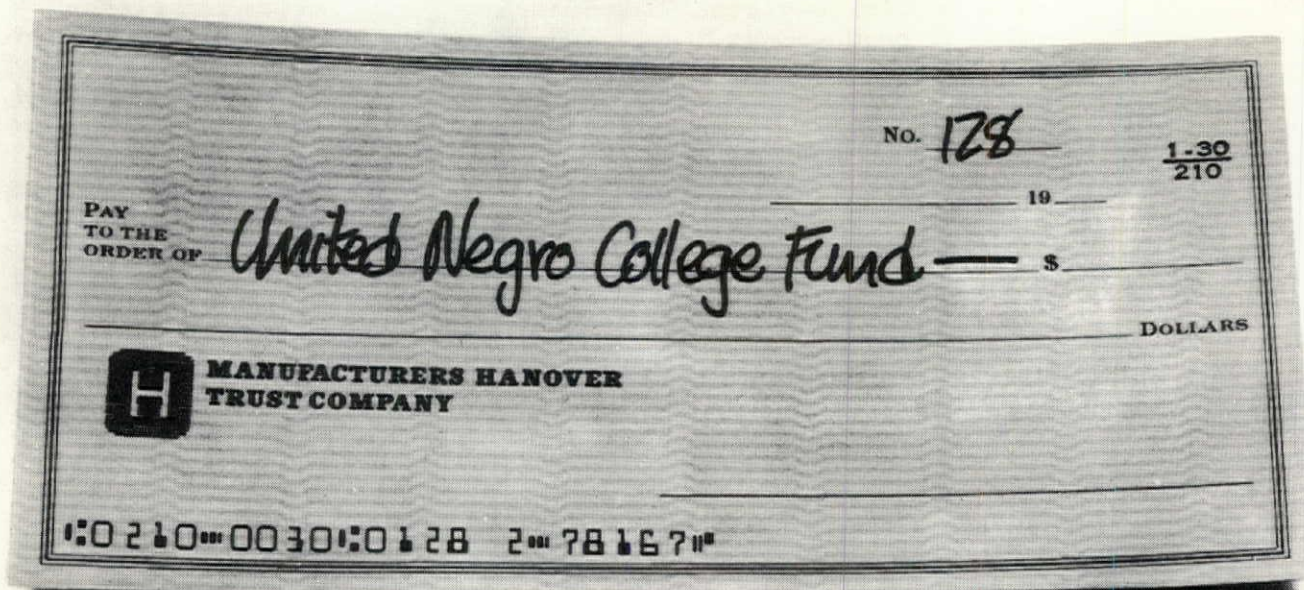


- 434A New! Heavy Duty mortise
- 430AM New! Heavy Duty semi-mortise.
(#431A has 5 1/2" integral kick-plate)
- 430AS New! Heavy Duty surface mount

Plus 11 other automatic door bottom models for all types of commercial, industrial and residential use.

Three new heavy duty models have these exclusive features: 1) By moving only one screw the door bottom can be changed for a right- or left-hand door. 2) The length of the mechanism easily may be shortened a few inches, without disassembly, to fit smaller doors. 3) All three models seal up to 3/4" opening 4) Drop bars are themselves sealed on both sides, by means of vinyl inserts, to prevent infiltration of air and noise up and over the bar (so solid a seal it actually pumps air you can feel with your hand). 5) Drop bar adjustment rod is hexagonal so that it does not vibrate out of adjustment. 6) Made of very heavy extruded aluminum. 7) Standard finish is clear anodized; optional is Duranodic #313.

PEMCO SEE US IN SWEET'S
Manufacturing Company
5755 LANDREGAN STREET • EMERYVILLE, CALIFORNIA 94608



DON'T THINK OF IT AS CHARITY. THINK OF IT AS AN INVESTMENT.

And a good one. Because we can guarantee a substantial return for your money. It pays off in more black college graduates, with more training in more areas. People to recruit. Consumers to buy your goods and services. Just plain better citizens.

What we need is operating capital. Money we can put to work supporting forty private, four-year colleges.

These schools educate a lot of promising young kids who'd never get to college on their own. Almost three-quarters need some kind of aid. Over half come from families earning less than \$5,000 a year.

With your help, we can help more.

A \$5,000 donation will give four students one year at an average UNCF college. With \$20,000 we can buy the machinery and equipment for a business education course. \$100,000 will support an entire economics department.

We think it's one of the best investments you'll make all year. A deal?

A MIND IS A TERRIBLE THING TO WASTE. GIVE TO THE UNITED NEGRO COLLEGE FUND.

55 East 52nd Street, New York, N.Y. 10022



advertising contributed for the public good

going on from page 65

priation would provide an average of \$60,000 annually to 50 CDCs already existing; \$100,000 each to six expanded rural design centers serving broad geographical regions; and \$40,000 each to 10 new centers. The money would come from the funding recommendation of \$10 million authorized in Section 226 of the 1972 amendment to the Economic Opportunity Act. The AIA also recommended that OEO delegate authority to administer the program to the Department of Housing and Urban Development.

OEO has granted research and demonstration funds to three existing CDCs in New York City, Boston and San Francisco. Nash said that "those have been a clear success according to an OEO evaluation report."

Comprehensive Forest Management Plan Is Supported in Testimony by the AIA

Congress has been encouraged by the AIA to establish a truly comprehensive forest management program. In testimony before the Senate Subcommittee on Environment, Soil Conservation and Forestry, a member of the Institute Board of Directors, John F. Hartray Jr., of Chicago, argued that effective management must include more than programs for increased timber production.

Hartray said that the AIA recognizes that adequate funds have not been available in the past for proper management of federal forest land, but it questions the advisability of setting up a federal forest land management fund in place of normal Congressional appropriations since there is no assurance that there will be an increase in funds.

"We fear," he added, "that such a fund could result in increased pressures on federal timber harvesting in order to provide greater revenues for the fund. And if such a fund is established, we believe that it should fully support, not jeopardize, the multiple use principle." He said that the AIA favors incentives for private forest management.

Referring to guidelines drawn up in the report of the Senate Interior Subcommittee on Public Lands, Hartray stated that the AIA recommends that clearcut areas not exceed 50 acres and that each clearcut strip not exceed 500 feet.

Nuclear Fallout Shelter Design Expert, Administrator of Awards Programs

Robert Berne, AIA, who was chief architect of the Defense Civil Preparedness Agency of the Department of Defense, was widely known in architectural and engineering circles for his work in promoting the design of new buildings to include inherent protection against radioactive fallout and such other hazards as vandalism and sound pollution. His articles on these and related subjects have

been published in the AIA JOURNAL and other architectural magazines.

Berne died on July 30 of a heart attack at Kennedy International Airport in New York City. He was 56 years of age. He had just returned from a visit to Israel.

He created and administered several fallout shelter design competitions and a national awards program to honor buildings—and their owners and architects—that were designed with fallout shelters. He served as a member of the North Atlantic Treaty Organization's working party on shelters in 1965.

He was the editor of the *Building Products Register* for the AIA, published in 1962. He served as a member of the AIA Public Relations Committee from 1955-60.

Berne's architectural career included professional practice, mostly in Denver, Colorado, from 1946-60. He was a graduate of Columbia University.

Architect of Watergate Complex, Designer of Worldwide Projects

The Watergate residential complex in Washington, D.C., is a grouping of curvilinear buildings on a landscaped site near the John F. Kennedy Center for the Performing Arts. When plans for it were first presented to the Commission of Fine Arts, there were objections regarding its height and massiveness.

Watergate's designer, Italian architect Luigi Moretti, died while sailing in the Tyrrhenian Sea on July 14 at the age of 66. In the controversy about his Watergate design he insisted that it was in the best architectural tradition for the nation's capital. He said that the strength of this tradition "is that it serves as a springboard for new ideas." He remarked that the Watergate complex represented his concept of "a large garden, a petrified garden caught in flower and blended to the natural turns" of the Potomac River. He claimed that most public buildings are too conformist, showing no evidence "of either the inner spirit of the designer or the function of the government." The Washington, D.C., firm of Corning, Moore, Elmore & Fischer was associated with Moretti on the Watergate project.

Moretti designed a number of worldwide projects, including the Olympic Village in Rome for the 1960 games and the Stock Exchange Tower in Montreal.

Deaths

ROY W. BANWELL, Penllyn, Pa.
ALBERT E. BECK, Philadelphia
GIOVANNI COSCO, Philadelphia
AUGUST GEIGER, Miami Beach, Fla.
ROGER GRISWOLD, Harrington, Me.
BENJAMIN HUNTER, Boston
NORMAN K. KANN, Southfield, Me.
RICHARD MACKAY, Bay Village, Ohio
GEORGE J. SOLE, New York City
JOHN TRICH, Oradell, N.J.
ALBERT P. WOODARD, Tallahassee, Fla.

Newslines

Two member of the Indianapolis Chapter AIA have been inducted into the Indiana Academy in recognition of their contributions to Indiana culture. They are H. Roll McLaughlin, FAIA, and Evans Woollen III, AIA. The academy, a project of the 18 institutions affiliated with the Associated Colleges of Indiana, was formed to honor persons who have been of outstanding service to the state.

Herbert H. Swinburne, FAIA, of Philadelphia has been appointed chairman of the Building Research Advisory Board of the National Research Council. A member since 1966, he previously served as vice chairman.

The architectural community will have a voice in Kansas City, Mo., as well. E. Crichton Singleton, AIA, has been appointed by Mayor Charles B. Wheeler Jr. as chairman of the Kansas City City Plan Commission. Singleton is a partner in the firm of Urban Architects located in the Missouri city.

A new trend in apartment design is built-in day care centers, reports *Land Use Digest*. They range from "lightly supervised playrooms to well-equipped educational centers, complete with teaching machines." Those that emphasize educational rather than only custodial features are popular. Between 25 and 50 percent of the women who use such centers for their children do not hold jobs outside the home.

Pedro Aguirre, AIA, partner in the Dallas firm of Aguirre & Dabney, has been elected to the Dallas City Council. A colleague reports that "the architectural community in Dallas feels that this is a significant step toward better communication with city government." He says that Aguirre "fought hard for the position" and that undoubtedly "he will be dedicated as a professional to the betterment of Dallas."

Robert L. Reiting is the new president of the National Society of Professional Engineers. He is chief engineer for the Philadelphia plant of Rohm & Haas Co.

A \$510 million internationally funded project to keep Venice, Italy, from sinking into its lagoons has been approved by the Italian government. The industrial expansion of the area has been halted, a point which caused most debate by Italian Senators.

Dorian Hunter, a fellow of the American Institute of Designers who resides in Fullerton, Calif., is the first woman and non-architect to become president of the University of Southern California's Architectural Guild, support group for USC's School of Architecture and Fine Arts. □

Michael J. Hanley

Publisher

Michael M. Wood

Advertising Sales Manager

Tom Crow

National Accounts Manager

George L. Dant

Production Manager

1735 New York Ave. N.W.

Washington, D. C. 20006

(202) 785-7300

ADVERTISING SALES OFFICES

Atlanta (404) 233-6729

Morgan Pirnie

Harold Brown

Charles I. Reynolds

G. Spencer Prankard

Pirnie & Brown

3108 Piedmont Road N.E.

Atlanta, Ga. 30305

(Alabama, Georgia, Mississippi, North Carolina, South Carolina, Tennessee)

Chicago (312) 787-4477

Larry Benson

William Coffee

Phil Davis

Laurence F. Benson Co., Inc.

200 East Ontario Street

Chicago, Ill. 60611

(Illinois, Indiana, Iowa, Kansas,

Michigan, Minnesota, Missouri, Nebraska

North Dakota, South Dakota, Wisconsin)

Dallas (214) 369-8621

Stanley T. Poag

Pirnie & Brown

6617 Snider Plaza

Dallas, Tex. 75205

(Arkansas, Louisiana, Oklahoma

Texas)

Denver (303) 758-3325

Robert H. Heidersbach

Roy McDonald Associates

3540 S. Poplar St.

Denver, Colo. 80237

(Colorado, New Mexico, Utah, Wyoming)

Los Angeles (213) 381-6106

Gordon Sutton

Roy McDonald Associates

500 S. Virgil Ave.

Los Angeles, Calif. 90020

(Arizona, southern California)

Miami (305) 891-2414

John J. Kelly

1005 N.E. 125th St.

North Miami, Fla. 33161

(Florida)

New York (201) 335-0522

Tom Crow

200 Baldwin Road, #6G

Parsippany, N. J. 07054

(Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont)

Portland (503) 292-8521

Frank M. Eaton

Roy McDonald Associates

P.O. Box 25150

Portland, Ore. 97225

(Idaho, Montana, Oregon, Washington)

San Francisco (415) 653-2122

Morton McDonald

M. Jeffrey Kaufman

Roy McDonald Associates

Baybridge Office Plaza

5801 Christie Ave.

Emeryville, Calif. 94608

(northern California, Nevada)

Washington, D.C. (202) 785-7282

Michael M. Wood

1735 New York Ave. N.W.

Washington, D. C. 20006

(Kentucky, Maryland, Ohio, West

Virginia, Metropolitan Washington D.C.)

Advertisers

Amarlite/Anaconda Aluminum Co. . 2-3

Peitscher, Janda Associates, Inc.

American Endless Weekend 15

AIA Publishing

Beneke Corporation 13

George & Glover

Electric Energy Association 9-10-11-12

Charles E. Root, Inc.

Georgia Marble Company Cov. 2

Lowe & Stevens

Haws Drinking Faucet Company . . . 87

Pacific Advertising Staff

National Electrical Contractors

Assoc. (NECA) Cov. 3

Van Sant Dugdale

Parker Hardware Mfg. Corp. Cov. 4

Michael W. Schoen Co.

Pemko Manufacturing Co. 89

Svenson & Associates

Poly Vinyl Producers Council 89

Creative Advertising Consultants

Red Cedar Shingle & Handsplit

Shake Bureau 4

N.W. Ayer/F. E. Baker, Inc.

Scharf, Edward G. & Sons 16

Sherm-Ad