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Journal

April 1966



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**Cover:** From the work of photographer Morley Baer (p. 59), a California condominium (Moore, Lyndon, Turnbull & Whitaker, architects)

## LOOKING AHEAD TO MAY

**Cities on the Move:** "Transportation is a critical problem for all major urban centers, and what is done here will have significance far beyond this region." So wrote the President of the United States to Walter J. McCarter, administrator of the National Capital Transportation Agency. The February letter became, in essence, a guidepost to transit officials throughout the land with Mr. Johnson's declaration: "In selecting the architects for this system, you must seek those who can best combine utility with good urban design. As you search for the new and innovative, you must also take advantage of the experience of other cities."

What has happened in other parts of the world will be graphically highlighted in a 16-page section on urban transportation, which looks at its broader aspects in terms of the architectural profession. For as Donn Emmons FAIA told a transit symposium earlier this year: "All the skill in the world will be ineffective without the authority to put adequate emphasis on sound urban planning and quality of design."

**A Turn to the West:** As architects and their families make plans for the AIA annual convention in Denver June 26-July 1, it is timely indeed to focus in on the host Western Mountain Region (Arizona, Colorado, Nevada, New Mexico, Utah, Wyoming). An architect-educator, in considering the possibility of water as a design element for arid regions, explains: "Where the desert blossoms a scale is restored to it which enables man to regain his happy intimacy with nature." The companion portfolio highlights "One Hundred Years of Colorado Architecture," ranging from the Brown Palace Hotel's addition to an 1869 house.

**Light Through the Ages:** With our rapidly growing technology, the coordination of the various factors affecting total environment, particularly thermal, sonic and visual, is becoming more important as an architectural concern. Light, about which ancient architects and builders were most aware, is, in fact, beginning to be rediscovered as a design medium.

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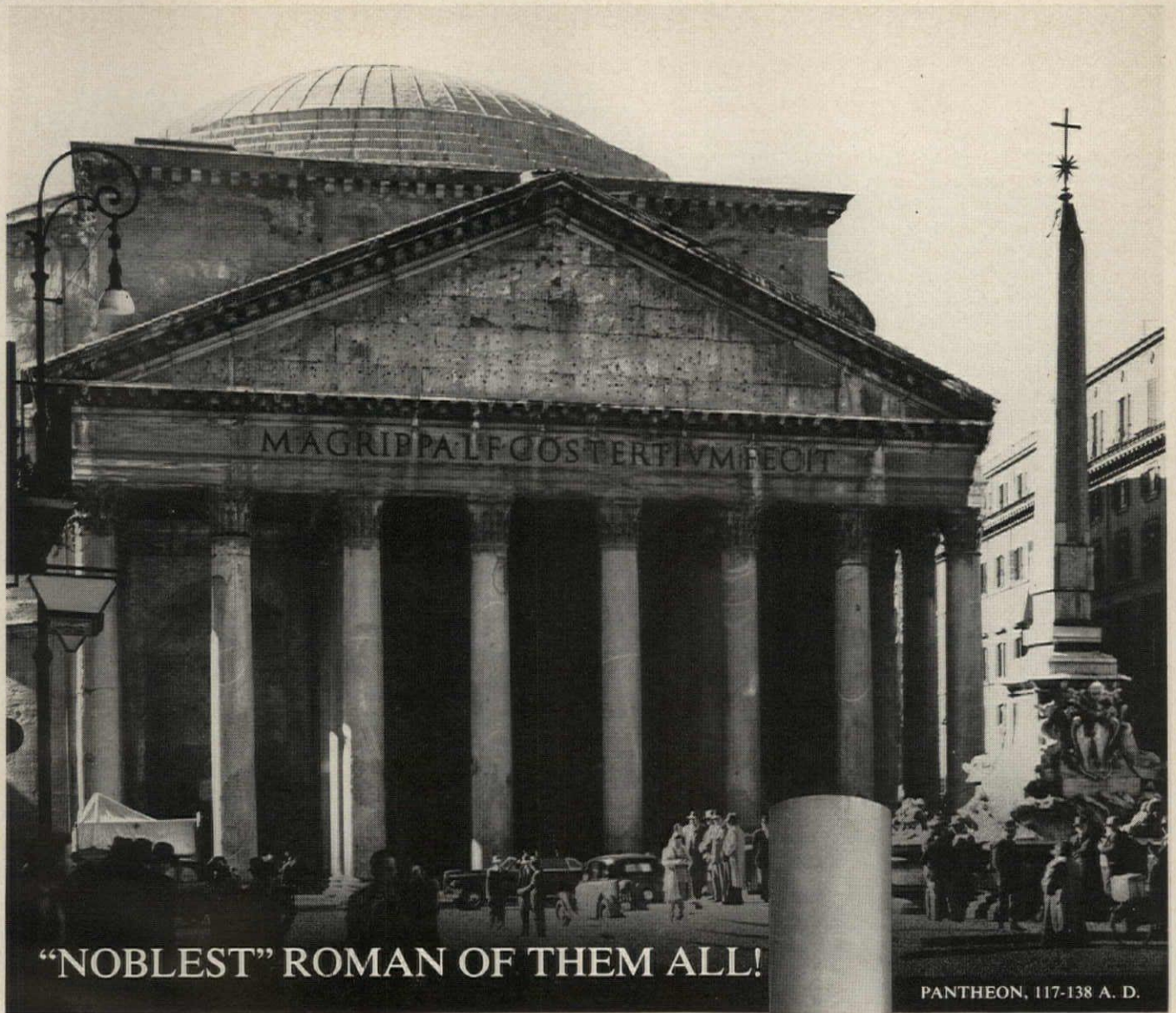
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**"NOBLEST" ROMAN OF THEM ALL!**

PANTHEON, 117-138 A. D.

The virtues of "roundness" served the Romans well. Few today have reason to consider duplicating the superb granite columns, fifty feet tall, still standing in the Pantheon—nor would many of us be called on to create such a magnificent hemispherical dome, rising 140 ft., in circles of splendor to the final roundness . . . 28 feet of circular opening at the summit.

Nor do we commemorate so many victories as the Romans chose to honor with triumphant arches, the circled form above the marching legions associating itself with success.

But victory today—in design—still goes to "roundness" in architectural techniques. Just as the practical Romans found ways to adapt and apply Greek "perfection of form" to everyday life . . . so, around the world, do men of skill and finesse apply "roundness" to construction—ON ITS MERITS, where it works the best.

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## COMMENT AND OPINION

**Our Own Little War:** "Is this sort of gibberish necessary?" was the pointed question posed by the New York City architect after quoting from articles in three recent issues of the AIA JOURNAL.

"Isn't life and environmental problems of our Great Society complex enough without these artificially created obfuscations?" he further asked. And finally, "Is there a reason why such fuzzy Whiz Kids' verbiage is printed?"

After much soul-searching, and with complete candor, we had to answer "No!" although we did not agree with the writer's excerpted examples all down the line. But more significantly, the letter has prompted a question of our own: Why is it that architectural educators and/or practitioners cannot communicate with words that *all concerned* can understand? If they cannot communicate with one another, how in heaven can they expect to reach their clients, let alone the public at large?

And so the JOURNAL courageously begins its War on Printed Gibberish, but we can't win the battle alone. We hope all of our readers—which means most of our contributors—will join the noble cause.

**Words, Words, Words:** Speaking of communication, another New Yorker—landscape architect Charles Middelmeer—is working on his own Short Dictionary for Environmental Designers. "If we are going to develop a national art," he submits, "should we not agree on the meaning of the fundamental words?"

Anyone could quarrel with some of his definitions, of course. He defines *artist* as "one who understands how to effect sensations and feelings by inventing combinations of ideas, words, shapes, colors, sounds or movements (dances). As for *architect*, he is an "engineer specializing in the design of buildings; should also be an artist"—a meaning that none of us could live with.

Nevertheless, Middelmeer's dictionary is an interesting concept. Some other random samplings:

- *Client*—The anchor at the end of the chain.
- *Custom*—"Magnetized" mental framework of habits and concepts, some good and some bad.
- *Function*—Final use of a finished design, including effects on senses and feelings; not a style.

- *Harmony*—Arrangement where the parts are related and therefore easily understood.

- *Landscape architect*—Exterior designer trained in integrating buildings and other elements and their surroundings with necessary circulation or producing outdoor attractions in four dimensions by the use of engineering and horticultural skills. Should also be an artist.

- *Meaning*—Clear, biased expression.

- *Planner*—Engineer specializing in locating buildings in relation to circulation and utilities.

- *Sensation*—Transitory stimulation of the five senses by external influences.

- *Style*—Certain mannerisms or collections of habits associated with certain periods or geographic locations, or excellence in expression.

- *Technology*—Application of science to human endeavors.

- *Tradition*—Habits and beliefs (good and bad) inherited from preceding generations.

**The Creative Camera:** Presentation of the work of the winner of the 1966 Architectural Photography Medal in this month's JOURNAL brings to mind the exhibition which hung at the Yale University Art Gallery last fall. "Photography in America 1850-1965" was indeed a fitting theme, for the School of Art and Architecture teaches the subject as part of its graphic arts curriculum. In fact, Yale has on its faculty an internationally recognized photographer, Walker Evans, as visiting critic this year.

In the catalog's preface, Gallery Director Andrew Carnduff Ritchie made some observations worth repeating:

"Despite the fact that still photography is over a hundred years old, as an art it has not yet received the full recognition it deserves. There are at least two reasons for this: the refusal of many painters and printmakers to accept photography as anything more than a mechanical copying device; and the wide popular use of the camera, by artists and laymen alike, which has led to great confusion in establishing critical standards of accomplishment. Furthermore, the introduction of the moving picture camera in the late 19th century and the dramatic extension of the camera's expressive power thus made possible has overshadowed the less spectacular but infinitely subtle visual imagery of many exponents of still photography.

"... With the extraordinary improvements which have been made in cameras in recent years, such as built-in light meters and automatic focusing devices, it is becoming harder and harder to make a bad photograph, technically speaking. There is now, then, all the more reason to point up the difference between mere technical virtuosity and photography as an expressive art medium."

Mr. Ritchie has, in fact, explained the why behind the Institute's Architectural Photography Medal.

**We'll Cry Today:** Among the new publications which have come across our desk of late is the initial edition of a quarterly with the intriguing title *Cry California*. It is the journal of California Tomorrow, a nonprofit statewide organization dedicated to achieving greater public awareness of problems faced in maintaining a beautiful and productive state.

Here are some of the intriguing titles which have or will appear in the 40-page magazine:

- Reshaping Los Angeles: the monster task
- The assessor: his bounty and his victim
- The wires of Woodside: where do they lead?
- Elysian Park: a grisly case of terricide
- Garbage: what can San Francisco learn from San Diego?
- The virgin redwood "surplus"
- Billboard economics and the public interest
- The amenities vs. the Army Corps of Engineers.

**Mr. Paley's Park:** Without a doubt, the Samuel Paley Plaza (AIA JOURNAL, March) has already received more publicity per square foot than any other park in the nation. It consists of, after all, only a 42x100-foot site—formerly the Stork Club—in the middle of Manhattan.

The concept prompted the *Washington Post* to editorialize in part: "According to New York officials this will be the first privately financed public park plaza in the city. Despite its staggering cost, around \$1 million for purchase and construction and up to \$400,000 a year for maintenance, there is cause to hope that Mr. Paley's park will inspire similar gifts from corporations and individuals in years to come.

ROBERT E. KOEHLER  
Editor

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## NEWSLINES

### Weese Chosen for Design Of Washington Subway

Harry M. Weese FAIA has been selected as architect for the transit system President Johnson hopes will "set an example for the nation."

Weese said the chance to "start from scratch" on what he termed the nation's rapid transit system—"I say the nation's because it belongs to all the people"—was one that most architects would "give their eye teeth for."

The Chicago architect was presented at a press conference of the National Capital Transportation Agency shortly after he and the agency entered into a \$165,000 concept design contract.

Also announced was the formation within the agency of an Office of Architecture—parallel to the Office of Engineering—with John Rannells AIA as director.

"The Office of Architecture is responsible for the quality of design of all components of the rail rapid transit system that are used or seen by the public," said a NCTA statement.

"The impact of new stations and



Weese, center, at press conference with Rannells, left, and McCarter.

structures on their surroundings will require the most competent architectural design treatment and the development of continuing good relationships with the affected interests along the route."

See page 4 for a preview of a special transit section in the May issue.

In selecting architects for the individual stations, the press conference disclosed, NCTA will devise a procedure to obtain designers "of the caliber of Mr. Weese."

The President in a letter to Walter J. McCarter, NCTA administrator, said selected architects "must be those who can best combine utility with good urban design."

Weese said that "together with the engineers (De Leuw, Cather & Co.), and working with NCTA, the various official agencies and the people of the Washington area, we can make the rapid rail system for the capital of the nation an example of the highest state of the art."

He forecast that "every city in

the country will have something like this before long."

Present schedules for the 25-mile (above- and below-ground) \$431 million Washington system call for groundbreaking in about 18 months. The first trains could be running in 1970 with all routes in operation by 1972, NCTA said.

The architectural program is to consist of four phases. The contract with Weese, covering the first, deals with coordination, investigation of other systems in the world and concept designs, to be submitted by June 30, covering approaches to and circulation within stations, organization of spaces, graphics, landscaping, rolling stock, appearance, etc.

The *Washington Post* declared: "In other cities, architects have been called in only to dress up the work of the engineers. McCarter, who directed transit operations in Chicago, is the first transportation executive to seek design integration of all aspects of the mass transit system."

President Johnson in his message to Congress calling for a new Department of Transportation had this to say about urban transportation:

"The Departments of Transportation and Housing and Urban Development must cooperate in decisions affecting urban transportation.

"The future of urban transportation—the safety, convenience, and indeed the livelihood of its users—depends upon widescale, rational planning. If the federal government is to contribute to that planning it must speak with a coherent voice.

"The Department of Housing and Urban Development bears the principal responsibility for a unified federal approach to urban problems. Yet it cannot perform this task without the counsel, support and cooperation of the Department of Transportation.

"I shall ask the two secretaries to recommend to me, within a year after the creation of the new department, the means and procedures by which this cooperation can be best achieved—not only in principle but in practical effect."

### convention

### Kemper Award to Eshbach; Ghirardelli Square Cited For Collaborative Achievement in Architecture

William W. Eshbach FAIA has won the Institute's 1966 Edward C. Kemper Award for "significant contribution to the Institute and to the profession of architecture."



The recipient of another honor also to be conferred at the AIA convention in Denver June 26-July 1 is Ghirardelli Square in San Fran-

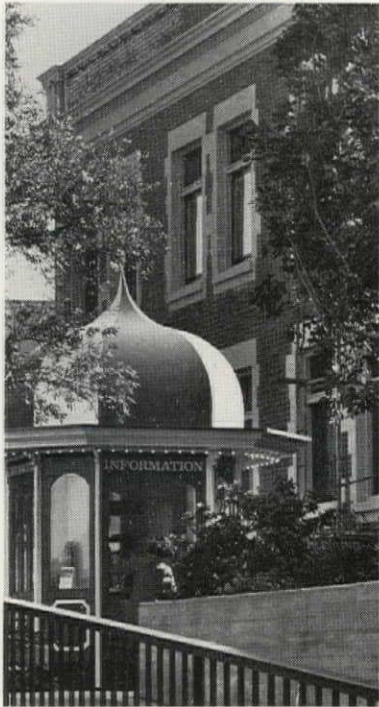
cisco for Collaborative Achievement in Architecture.

Eshbach is a partner in the Philadelphia firm of Eshbach-Pullinger-Stevens & Bruder. His award is in memory of the late Edward C. Kemper, Institute executive director from 1914 to 1948.

Eshbach has been active in the AIA at all levels, having served as director of the Philadelphia Chapter, president of the Pennsylvania Society of Architects, director from

Continued on page 15

the Pennsylvania Region, and finally, in 1964-65, national vice president. He has served on a number of national committees and at present is chairman of the Institute's Nominating Committee.



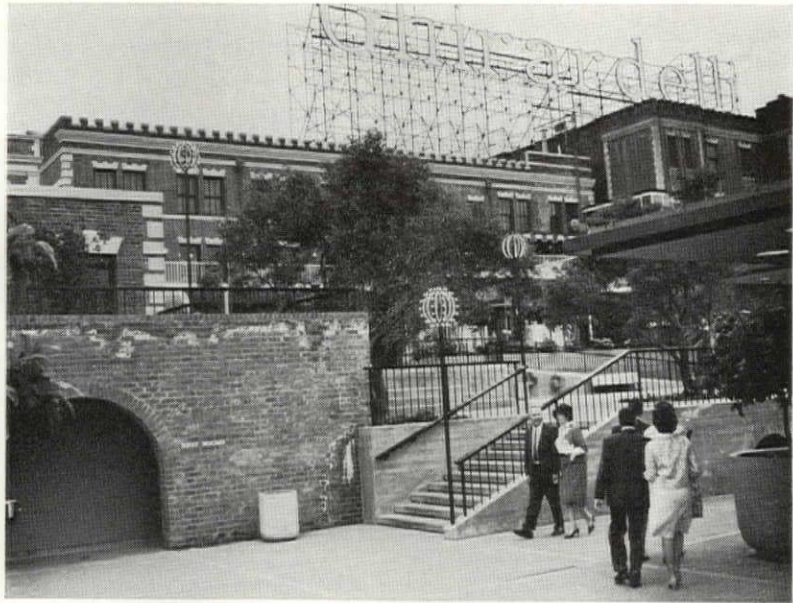
Bright spot: the Ghirardelli kiosk.

Ghirardelli Square, once a cluster of old chocolate factory buildings along San Francisco's waterfront, is notable as a collaboration of history and nature but particularly of people.

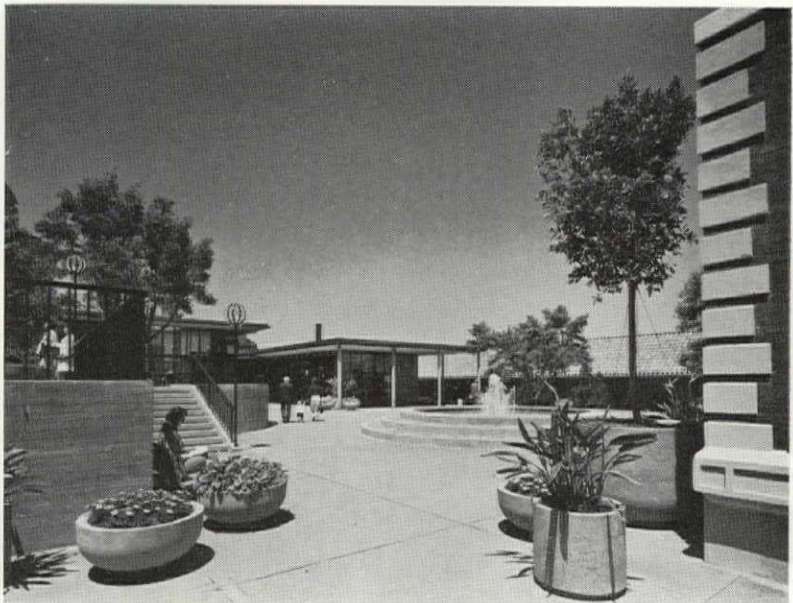
While full use was made of the century-old buildings—the complex has been described as “very San Francisco”—their restoration was modern, and new buildings were integrated through similar materials and forms, not through the revival of period details.

The collection of shops, restaurants and other amenities is virtually a handcrafted job from the tip of its clock tower to the bottom of its 300-car underground garage. The collaborators:

William M. Roth, owner; Wurster, Bernardi & Emmons, architects; Lawrence Halprin & Associates, landscape architects; Gilbert-Forsberg-Diekmann-Schmidt, structural engineers; G. L. Gendler & Associates, mechanical and electrical engineers; Swinerton & Walberg Co., general contractor; John I. Matthias (plaza shops) and Barbara Stauffacher (graphics), design consultants; and Beniamino Bufano, sculptor.



Old factory sign calls San Franciscans and tourists to Ghirardelli gaiety.



Handsomely appointed open area of square is counterpoint to bustle.

## Research Center to Serve Religious Architecture

An Interfaith Research Center on Religious Architecture has been formed to aid the creation of greater worship environments.

The center was established by the AIA, the Commission on Church Building and Architecture of the National Council of Churches of Christ in the USA, the Commission on Synagogue Administration of the Union of American Hebrew Congregations and Central Conference of American Rabbis, and Catholicism's Liturgical Conference.

Center President Milton L. Grigg

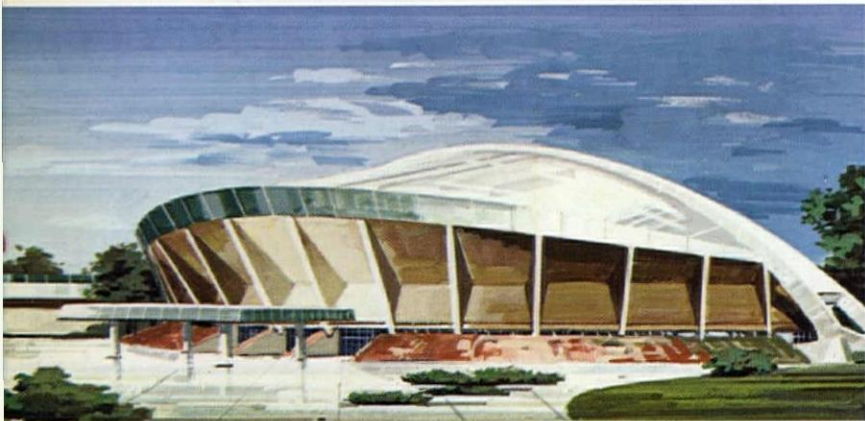
FAIA says the center, the result of a two-year study of the religious needs of today's society, hopes to provide guidelines that will “vastly improve the significance of our joint services to the religious and lay community, both functionally and esthetically.”

Support for the center, which will be administered by a board of directors and have a professional staff of specialists responsible for research, education and publications, is being solicited from business and foundation funds as well as through personal contributions.

Headquarters during the organizing period will be at the Octagon.

*Continued on page 18*

*Look what they're doing with  
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## Auto Club Asks No Part Of Mass Transit Cost

The Automobile Club of New York has reacted in no small way to Mayor John Lindsay's designs for the city's transportation complex.

"Transit Package Could Cost Motorists Millions," trumpets the March issue of the club's newspaper, *New York Motorist*.

The club turned out a 20-page report which said New York's transportation problems have stemmed from "a disposition on the part of public officials to accept at face value the claim that the salvation of mass transit depends on discouraging the use of the automobile."

Adds the report: "To support this case against the only healthy element in the transportation complex, mass transit interests have systematically circulated misinformation and abstract comparisons in high places of government, in our institutions of learning, and among certain planners, economists and architects who have served as intellectual spokesmen for 'the cause.'"

The club says it supports the creation of any agency which will improve liaison among transportation elements and provide more comprehensive planning, but that it opposes any package transit plan that would pool revenues of all forms of transportation and "impose on the motorist the burden of subsidizing mass transit as a substitute for the broad public solution which the problem of mass transit requires."

## Taxes Are Major Cost Of Shopping Centers

Real estate taxes are the major operating expense in shopping centers, says the Urban Land Institute.

In the big regional shopping centers, taxes amount to 44 percent of total operating expenses, according to a ULI study. Community centers show taxes amounting to 39 percent. Neighborhood centers report 40 percent.

The largest single category of expense in almost every shopping center is real estate taxes, the survey of 259 centers in the US and Canada disclosed.

*Continued on page 23*

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American architects  
are using Marmet

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### RESEARCH INSTITUTE OF THE ILLINOIS INSTITUTE OF TECHNOLOGY CHICAGO

One of the newest structures in the growing research complex at the Illinois Institute of Technology's Research Center is this twenty story Research and Administration Building.

All fenestration components are finished in a rich black Reynocolor which provides striking contrast to the light masonry structural members. Special five inch extrusions were custom engineered and fabricated by MARMET for the quarter inch plate glass windows. On the main floor, ultra slim stile MARMET 2200 service doors complement custom engineered entrance sections. Doors and lobby fenestrations are also treated in the black Reynocolor as well as the upper level, aluminum louvers which cover heating and air conditioning units.

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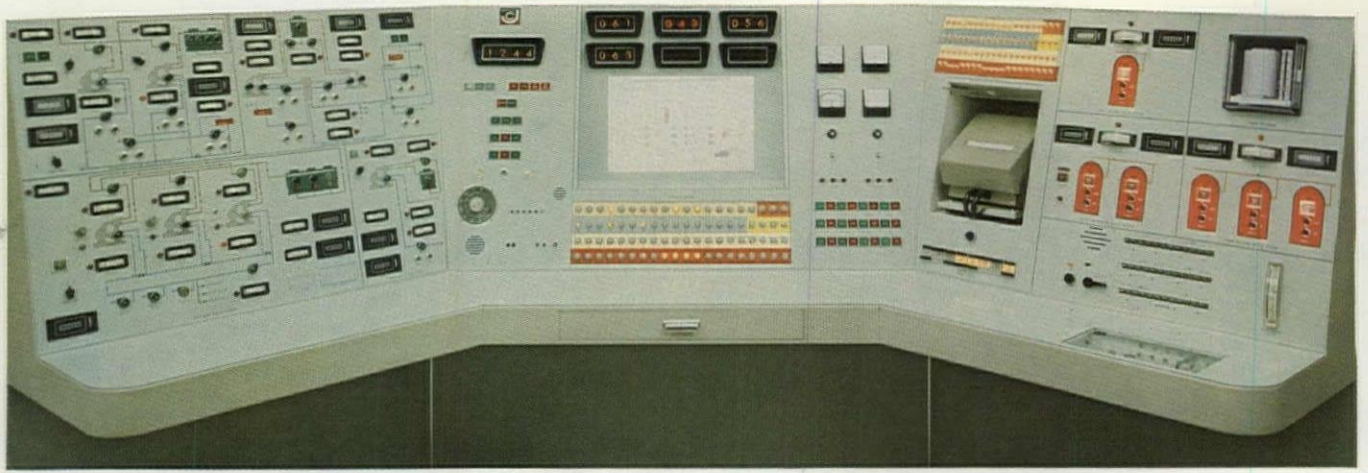
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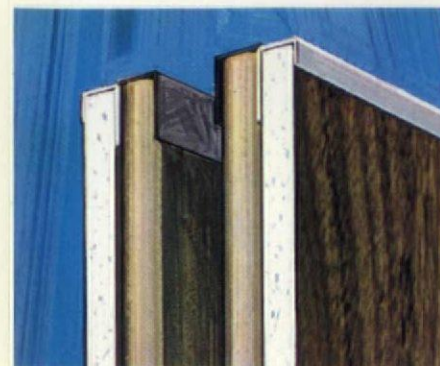
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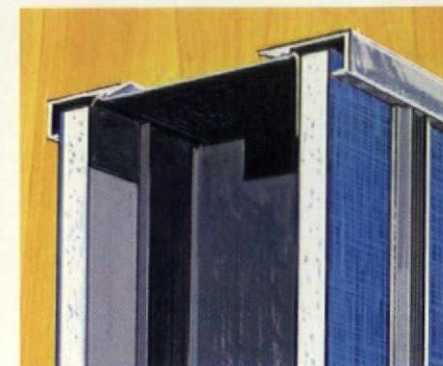
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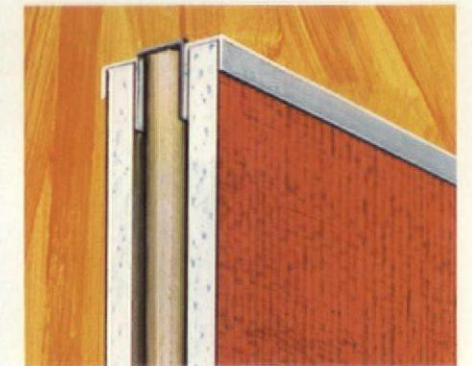
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## Scully Wants Buildings To Chat—Not Salute

A judiciousness of scope in urban design approaches was urged by Vincent J. Scully Jr. in a recent press interview.

Scully thought it a mistake to rebuild the entire north side of Pennsylvania Avenue as a ceremonial route—"like Nazi parade grounds," was the phrase the *Washington Post* quoted him as using.

Preferring "a little junk" instead, the architectural critic and Yale professor of art history declared:

"What we need here is a dialogue between the old buildings and the new. A little mess. . . [that is] full of ideas, excitement and promise."

Another aspect of the Pennsylvania Avenue Plan, the proposed National Square, left Scully doubtful. The ceremonial route, having its beginning at the Capitol, would gain, through the square, a terminus accent near the White House.

But Scully asked: "What will happen here other than that people will be windswept and sun struck?"

Nathaniel Owings FAIA, chairman of the President's Temporary Commission on Pennsylvania Avenue, has characterized the square as essential to avenue plans.

Scully commented that everyone is going to Europe and coming back with ideas for squares. Said he: "Squares are not normal to us in America."

## University Competition Won by Home Team

The team of George Anselevicius, Roger Montgomery AIA and Dolf Schnebli has won Washington University's national competition for the design of a new law school building and a social science center.

The winning team, which will be commissioned for the \$3.5 million building complex on the St. Louis campus, was chosen from among four finalists.

The university announced the competition last July, and more than 150 architects entered. The field was narrowed to four finalists, each of whom received \$6,000 for design completion.

The winning design was cited for its adaptability and conscientious concern for possible future needs. Judges were Washington University

Chancellor Thomas H. Eliot; G. Holmes Perkins FAIA, dean of the University of Pennsylvania Graduate School of Fine Arts; and Harry Weese FAIA of Chicago.

The winners entered the competition while serving on the faculty of Washington University's School of Architecture.

Anselevicius, chairman of the professional program in the school, went to the university in 1956 from the St. Louis firm of Hellmuth, Obata & Kassabaum. Montgomery heads the school's Urban Renewal Design Center and directs the graduate program in urban design. Schnebli, who in 1963-64 served as visiting professor of architecture, heads an architectural firm in Agno, Switzerland.

## Differences over Costs Afflict GAO, PHA

Maybe it is a question of mere shelter vs. decent, safe and sanitary housing, with due emphasis on "decent."

It is usually portrayed as a battle between decent, safe and sanitary housing and esthetics.

The struggle, at any rate, is on again between the General Accounting Office and the Public Housing Administration.

A GAO report has criticized the use of balconies and higher cost brick in a number of PHA projects. Construction costs at 31 sites were increased by some \$2.1 million, GAO explains.

"Under the current PHA policy, the local housing authorities are encouraged to improve housing through the use of new designs and better materials without necessarily increasing project costs," says the report.

"We recognize the advantages of such a policy, where this can be economically accomplished; however, we believe substantially higher costs for esthetic features not related to providing decent, safe and sanitary housing is inconsistent with the legislative history . . . of the Housing Act."

Public Housing Commissioner Marie McGuire, who had been called upon to defend so-called frills two years ago, told GAO, according to the report, that balconies are one of several ways of avoiding a grim, institutionalized appearance in housing projects.

Other PHA officials also justified balconies as living space, and they said the higher cost brick was used

### TOO LITTLE ATTENTION

Ours being a system of popular government, community design decisions reside ultimately with the people.

But what do people want in their most immediate environment, their homes?

A business professor told house builders in Syracuse, N.Y., that too little attention is paid such customer concerns as where electrical outlets are placed, how close sidewalks are to the house and where lighting fixtures are installed.

Somewhere in this, and in a recent survey revealing popular preoccupation with separate dining rooms, formal entrances, etc., lies a suggestion that if design, like charity, begins at home, it will have no little trouble making the street scene—sidewalk proximity notwithstanding.

for both esthetic and lower maintenance cost purposes.

GAO, however, says evidence to support the latter claim was not furnished.

The agency recommended to the Secretary of Housing and Urban Development that the PHA Commissioner be required to:

- Establish criteria providing for the construction of low-rent housing projects at the most economical cost consistent with decent, safe and sanitary dwellings, simple in design and constructed, as far as possible, with inexpensive materials.
- Instruct PHA regional directors not to concur in plans for future projects which do not conform with such criteria.

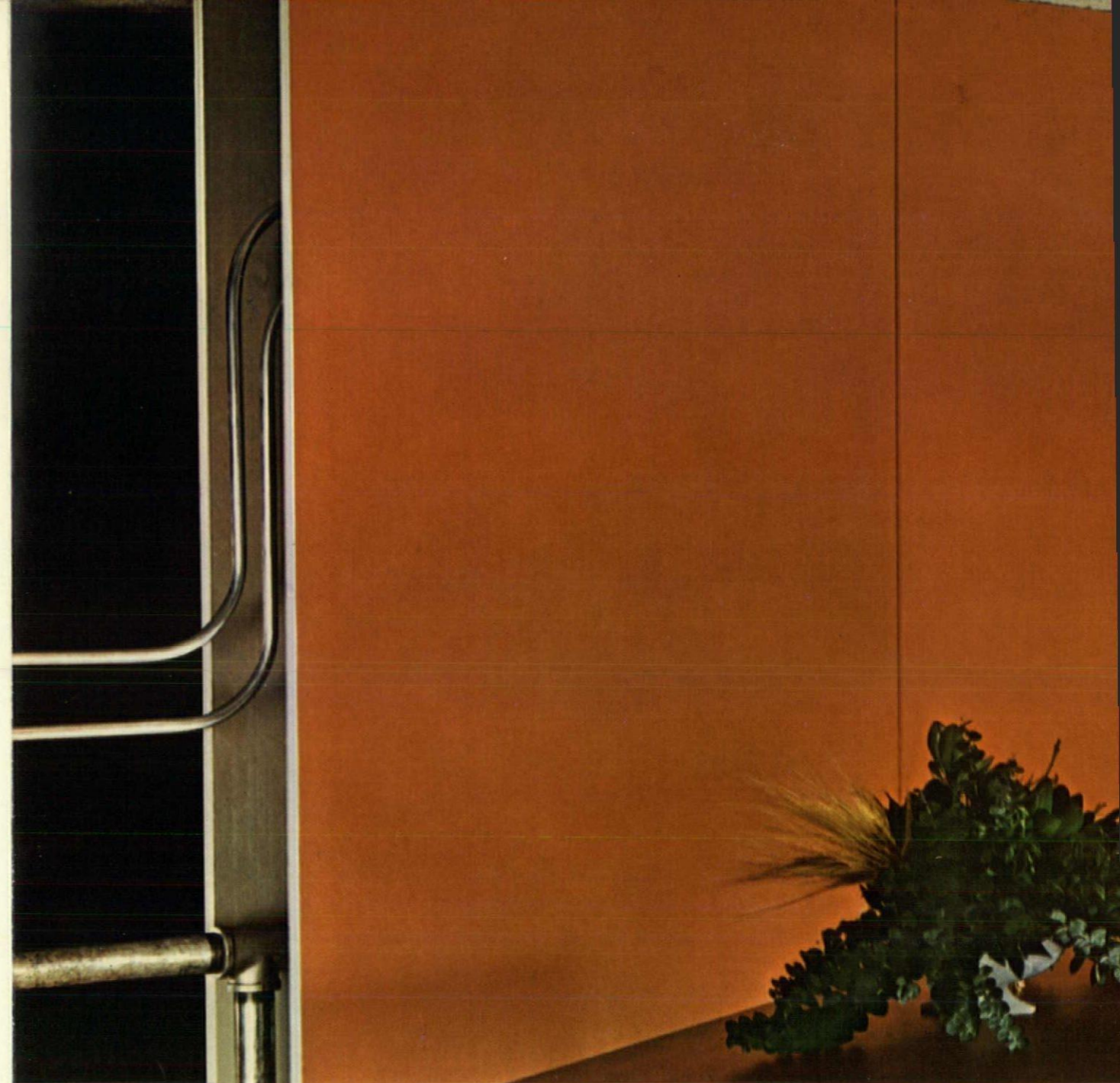
## Liaison Group Approves Collaboration Outline

A document outlining principles of professional relationship between architects, engineers and landscape architects has been approved by the Architect-Engineer Liaison Commission.

The document, "Professional Collaboration in Environmental Design," won the endorsement of the American Society of Civil Engineers and the American Society of Landscape Architects, in addition to the organizations making up the commission—the AIA, National Society of Professional Engineers and Consulting Engineers Council.

The commission, of which F. Spencer Roach AIA was elected chairman and Harold King of CEC

*Continued on page 28*



## How to make a "working" wall



Vinyl color shown above is Apricot. Ceiling is AIRSON ACOUSTONE\* Air Distribution System (Glacier Pattern). Original wall sculpture, "Composition in Copper," is by Irv Teitel.

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### CHINC

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#### SPANDO DESIGN



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Newsline from page 23

vice chairman, also approved the Construction Industry Arbitration Rules which establish a procedure for arbitration of industry disputes and is to be administered by the American Arbitration Association.

Besides the approvals, the commission's February meeting produced concern that current educational methods are failing to turn out enough qualified professionals in building design.

The commission by resolution asked that an AIA study of architectural education include related interests of other design professions in building construction.

Also discussed were architectural and engineering fees. It was resolved that the AIA be requested to conduct its pending study of architectural design costs in collaboration with NSPE and CEC in order to make the results as broadly significant as possible for both architectural and engineering aspects of the fee structure.

people

## Historians Bestow Award On Wellesley Professor

John McAndrew, professor of art at Wellesley College, has received the Society of Architectural Historians' annual Alice Davis Hitchcock Award.

McAndrew's book *The Open Air Churches of Sixteenth-Century Mexico* was cited as the most distinguished work in the history of architecture by a North American scholar in 1965.

► Howard E. McElhaney AIA of Montgomery is running for the Alabama House of Representatives.

► Frederick G. Frost Jr. FAIA has been elected for a second term as president of the Citizens' Housing and Planning Council of New York.

► The New York Chapter AIA at its 99th anniversary dinner-dance honored Interior Secretary Stewart Udall, CBS President Frank Stanton, Institute President Morris Ketchum Jr. FAIA, *New York Times* architectural critic Ada Louise Huxtable, the Rev. James A. Gusweller for efforts to improve the urban environment of his parish, and William J. Conklin AIA for leadership in the design of new towns such as Reston, Va.

► Ambrose M. Richardson AIA has been named to represent the Institute on the National Architectural

Continued on page 32



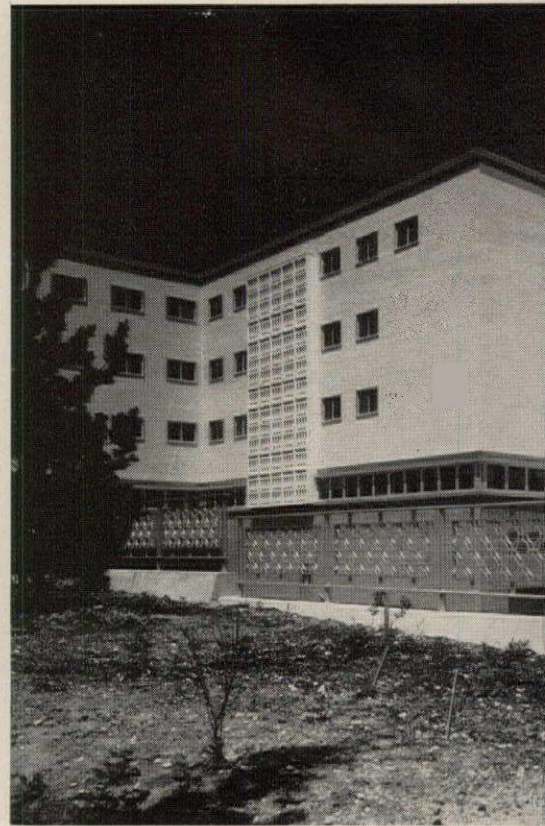
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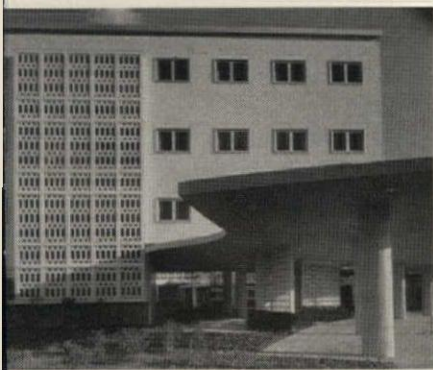
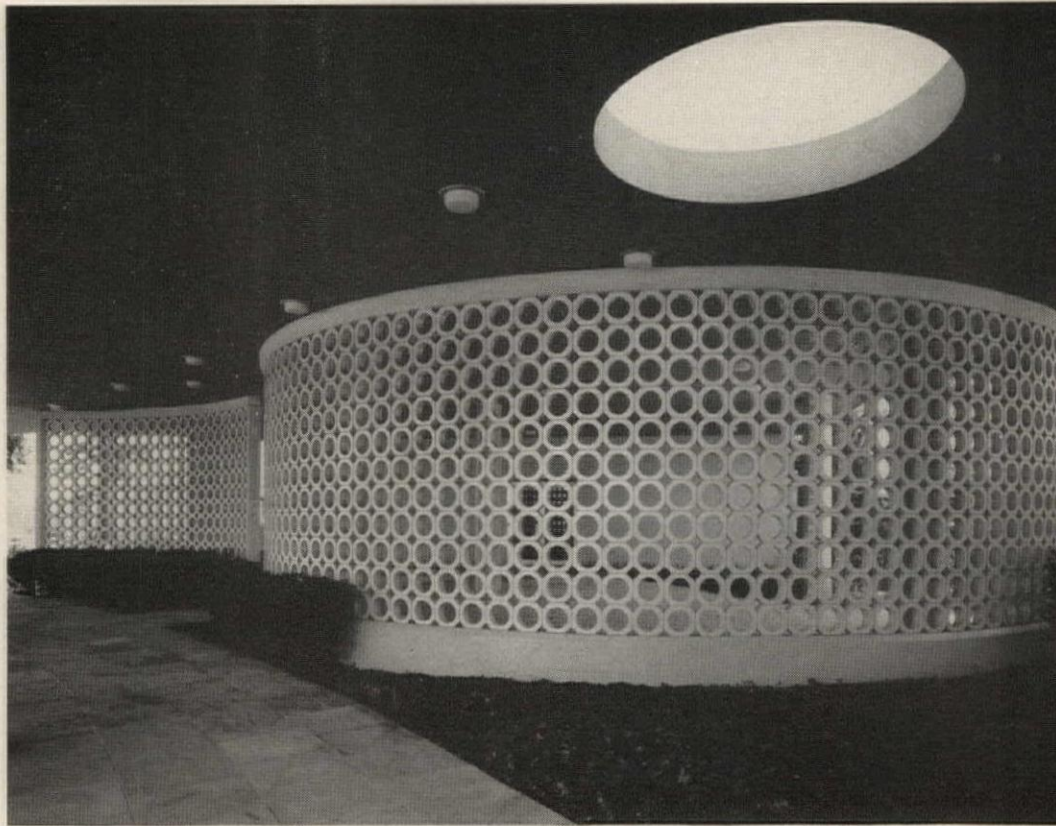


CREATIVE USE OF MODERN ARCHITECTURAL TERRA COTTA in hospital design is exemplified by these screen walls that enclose mechanical equipment, utilize daylight, provide sun control, ensure privacy, and enhance the overall appearance.

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In addition to grilles, Architectural Terra Cotta can be specified in sculptured patterns or smooth plain surfaces, polychrome panels or sculpture. In fact, the utilization of this time-tested ceramic material for exteriors and interiors of buildings of all types is almost unlimited. Write for the facts. Construction detail, data, color guide brochure, advice and estimates on preliminary sketches will be furnished promptly.

# Terra Cotta grilles can do for a great hospital



*Veterans Administration Hospital, Washington, D.C. Designed by Eggers and Higgins, and Edwin A. Keeble Associates, Inc., architects. More than 27,000 glazed white Terra Cotta grilles in various sizes up to 10" x 20" x 4" were specified for screens enclosing mechanical penthouse, terraces, stairs and animal laboratory for this, the world's most fully automated hospital. Grille design FS-K was specified for serpentine screens at entrance. Trim for spandrel beams and structural columns also was selected in matching Terra Cotta.*

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► Paul D. McCurry, president of the Chicago Chapter AIA, said in a luncheon talk on the problem of intruding highways: "Look backward for a moment to the time when our fathers permitted the railroads and elevated lines to slash through our city and strangle large sections of it. We have lived to regret their shortsightedness and to pay the bill for the removal of these ugly structures."

► Leonard W. Anderson, president of the Minneapolis Chapter, AIA, has been appointed to the Minneapolis Housing and Redevelopment Authority.

## AIA and AGC Oppose Secondary Boycott Bill

The Institute has registered with the House Rules Committee its opposition to legislation that would legalize secondary boycotts in the construction industry.

"Permitting complete work stoppages at job sites would result in the loss of many thousands of man-hours by those not directly involved in the dispute, would increase labor costs and would inevitably result in higher consumer prices," Institute President Morris Ketchum Jr. FAIA informed the committee.

Meantime, the Associated General Contractors of America in a letter "to all architects" declared the proposed legislation, H.R. 10027, would allow unions to dictate to architects "the products you specify in your designs. . . . In a recent case, a sheet metal union picketed a construction site to prevent the sheet metal contractor from using a specified air damper manufactured by a firm having a dispute with the union.

"Under the present statute the NLRB had the pickets removed. If H.R. 10027 passes, the pickets could not be removed, and architects would have to know that products they specify might be boycotted or face having their projects shut down."

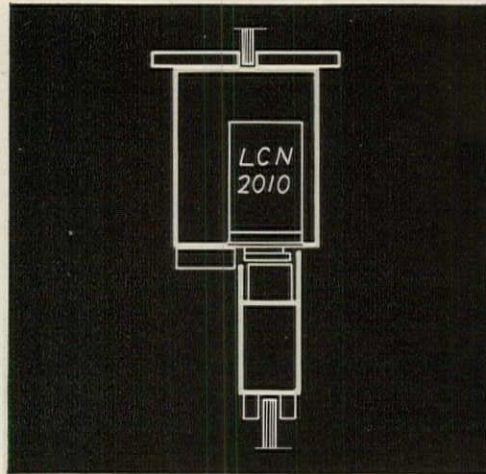
### education

## Mies Is First to Receive Thomas Jefferson Medal

Ludwig Mies van der Rohe FAIA is the first recipient of the Univer-

*Continued on page 34*

## LCN for modern door control



Detail at head for LCN overhead concealed closer shown in photograph

### Main points of the LCN 2010 series closer:

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The advantages are numerous. Work proceeds immediately and more easily, as workmen have safe, convenient access stairs which are sometimes many stories high. Money is saved, for off-site labor is much less expensive. Deadlines are more easily met, and since Pico stairs are quality engineered to be plumb and true, they serve as guide for the building process.

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Write for particulars.

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### Newslines from page 32

sity of Virginia's Thomas Jefferson Memorial Foundation Medal in architecture.

The medal, carrying a \$5,000 prize, was established to recognize persons who have distinguished themselves in architecture.

"The three giants in architecture during the 20th century have been Mies, Frank Lloyd Wright and Le Corbusier," said Thomas K. Fitz Patrick FAIA, dean of the university's School of Architecture, in announcing the selection.

"Of these," he added, "Mies ranks in the forefront and has been the most influential of the three in directing the course of architecture throughout the world."

► The Joint Center for Urban Studies of MIT and Harvard University received a \$1.4 million grant from the Ford Foundation to support its research activities for seven years.

► Gerald M. McCue AIA has been named chairman of the Department of Architecture of the University of California at Berkeley. The San Francisco architect is 37. William H. Liskamm AIA was named vice chairman.

► Glen Paulsen AIA, head of the Department of Architecture at Cranbrook Academy of Art, has been named academy president.

► Keith McPheeters AIA, for 10 years a member of the faculty of the University of Arkansas' school of architecture, will become dean of Rensselaer Polytechnic Institute's School of Architecture July 1.

He will head programs in architecture, construction and research. *Continued on page 97*

### NECROLOGY

EDWARDS, JAY PARKER  
Madison, N.J.

KELLY, HUGH A.  
Jersey City, N.J.

LEHMANN, EDWARD A.  
Keansburg, N.J.

MASON, E. B.  
New Orleans, La.

MEYERS, W. W.  
Erie, Pa.

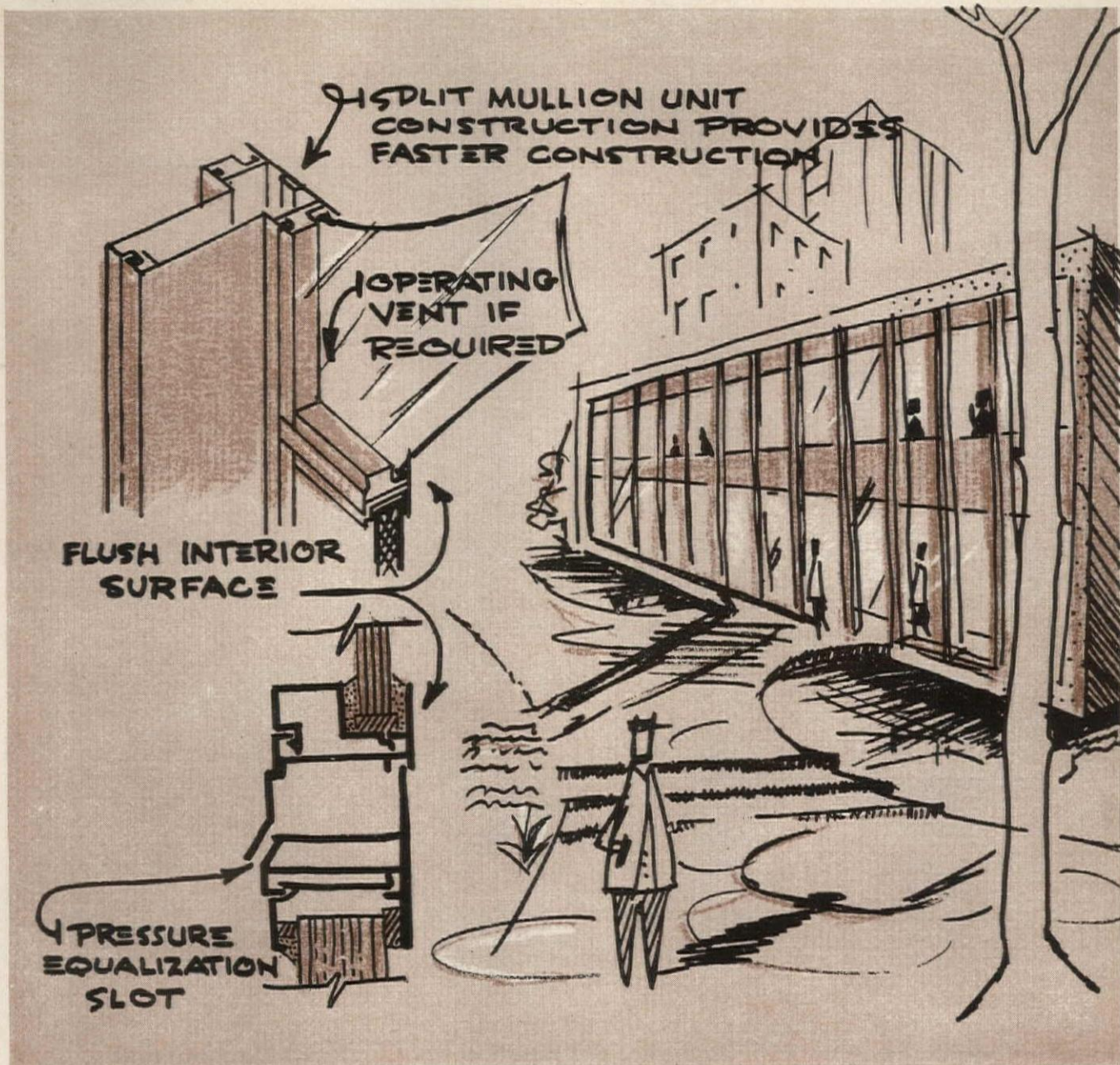
MOONEY, WALTER E.  
San Francisco, Calif.

POTTER, W. M.  
Honolulu, Hawaii

TALBUTT, JAMES F.  
Philadelphia, Pa.

TAXIN, THEODORE  
Washington, D.C.

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## Grassroots—Report to Stockholders



DURING the past several years, as the Institute has grown manifold in scope and in numbers, it has become increasingly apparent

that the written word is an inadequate method of communication. Realizing the urgent need to alleviate this vacuum, the Institute initiated a series of internal conferences appropriately entitled "Operation Grassroots" to increase the dialogue on a person-to-person basis between the membership and the leadership.

These meetings were held in late January and early February at three central locations across the nation, and replaced the annual State Presidents' Meeting scheduled each February at the Octagon.

In this pilot effort to improve communication, increase interest in national programs and develop and implement Institute objectives, all AIA components nationwide were divided along state lines into three major divisions approximately equal in architectural population. Their presidents assembled, at Institute expense, in Washington, D.C., St. Louis and San Francisco, and participated in the discussions aimed at acquainting all with AIA operations down to the finest detail; likewise, their valued opinions of projects and policies were fed back to the headquarters staff.

A program to insure the maximum involvement of each attendee was developed by the Commission on the Professional Society. The three-day conferences were moderated by the chairman of the Council of Commissioners: Vice President Robert L. Durham FAIA.

Separately, the Institute's five

commission chairmen (Professional Society, Education and Research, Professional Practice, Architectural Design and Public Affairs) gave brief résumés of the activity within their scope of responsibility. The remainder of their allotted time was given to thorough and frank discussions—appraisals of the profession's health, welfare and problems. Quite basically, it was devoted to learning just what the Institute was or should be doing in behalf of each.

Some examples of topics aired were 1) raising the standards of professional practice, 2) the new direction of architectural education, 3) documents (specifically B-131), 4) architectural criticism and 5) the necessity of educating the public to demand quality in its environment.

Following the commission seminars, all participants were divided into workshops according to their interests, i.e., small chapters, large chapters, state organizations and executive staffs. The breaking point for small and large was defined as those with below or above 100 corporate members, respectively. However, since problems and programs transcend names or designations, all attendees were free to roam from discussion to discussion if they so chose.

In these smaller, more intimate groups, component by component outlined activity in its specific locale, noting both success and failure. These roundtable discussions brought forth a complete cross-fertilization of ideas as flat spots were made apparent, future courses of action decided upon and new areas of interest engendered.

Perhaps the clearest statement of the need and the resulting worth

of the meetings was made by a member who said: "I have belonged to the Institute for 15 years and have been acquainted with it for 20, but until now I have never had any true picture of why or exactly what the AIA is doing in behalf of the profession. I am utterly amazed and pleasantly surprised at the vastness of its scope and the completeness of its activity."

National committees and projects, membership, the Institute's War on Community Ugliness, supplemental dues, the new headquarters building and the possible establishment of a national professional associate membership category were among other subjects reviewed and studied during the two-day sessions.

Since the completion of Operation Grassroots in mid-February, the participants have gone home, digested what they learned and have either held or have scheduled their own grassroots conferences at state and local levels. Thus every member becomes involved in decision-making as well as committee work, benefitting the profession as a whole rather than the interests of a selected few.

The success of this pilot project is best judged by the avalanche of mail received at headquarters this past month urging unqualified continuation of the meetings each year.

For those interested, a brief report of Operation Grassroots listing the participants, the commissioners' opening remarks and the questions raised during each of the sessions may be obtained by writing the director of State and Chapter Affairs at the Octagon.

ROBERT H. LEVISON, AIA  
Member & Past Chairman  
Commission on the Professional  
Society



A · I · A

Journal

## More Capitol Punishment

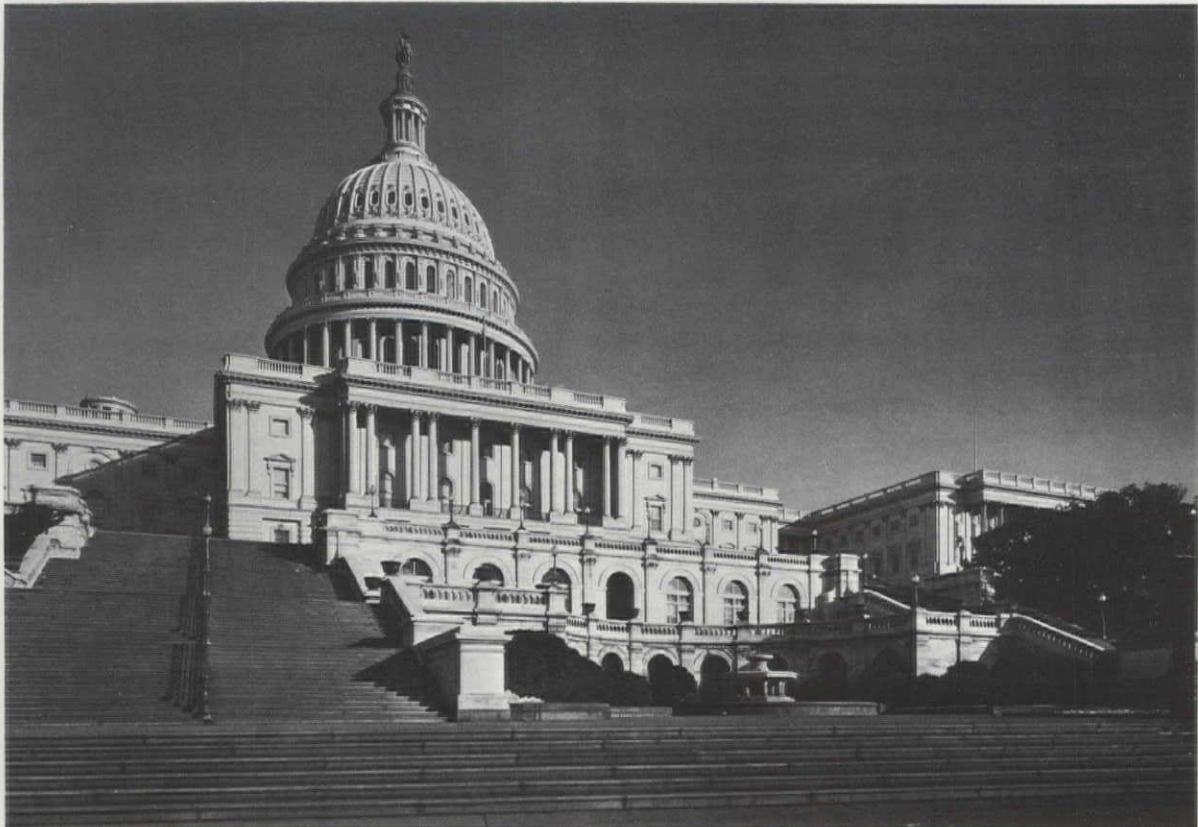
BY FRANCIS D. LETHBRIDGE, AIA

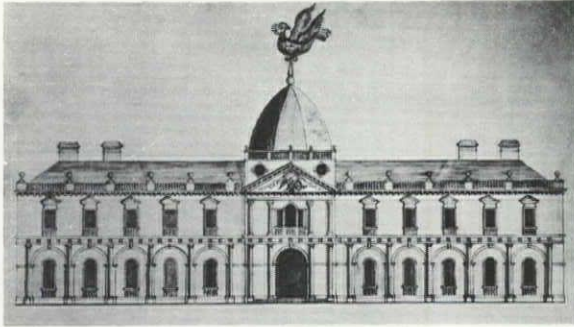
*Chairman of the Joint Committee on Landmarks for the National Capital and a practicing architect in Washington, D.C., the author presents his views on the West Front extension.*

IT WAS EIGHT YEARS AGO that a public hearing was held on the proposed extension of the United States Capitol, and to read the transcript of that hearing today makes one realize that more than just the eastern facade of the building has changed. Some of the architects who appeared before the Senate Committee on that occasion have passed beyond any further controversy, and others, in their efforts to prevent alteration of the East Front, so compromised their position on extensions to the West Front that they have since had little to say publicly on the subject.

The Architect of the Capitol, J. George Stewart, nevertheless, has persisted in his intention to carry out all of the proposed "improvements" described in his report of August 1957, and the time draws near when any further discussion on the merits of the West Front extension will be purely academic.

The arguments for the East Front extension, it will be recalled, were threefold. First, that the change would correct an architectural inconsistency that had occurred at the time the new dome was erected over the walls of the existing rotunda, causing the skirt of the dome to project over the front portico, a flaw that the architect of the dome, Thomas U. Walter, had been anxious to rectify from the time of its construction. Second, that the original sandstone and rubble walls of the older, central portion of the building were in poor structural condition, and that the surface of





*Elevation of James Diamond's competitive design. The weathercock may have been an act of desperation on his part when he saw what he had done, or may possibly be the addition of some wag after submittal.*

the porous Acquia sandstone was corroded and caked with the innumerable coats of paint that had been applied since 1819. Third, that the additional space obtained by moving the east wall 32 feet 6 inches forward was needed by Congress in addition to that space which might be obtained by the proposed extension of the West Front.

Opponents of the change, on the other hand, argued that the original walls had unique historical values which should be preserved; that the projection of the dome beyond the walls of the building had been a happy esthetic accident which should be perpetuated; and that the cost of the extension, in terms of space gained, was outrageously high.

In retrospect it appears clear that the first argument for the East Front extension—that of improving the architectural relationship of the front portico to the dome—was a valid one, and that the new relationship of the central portion of the building to the wings is an acceptable change, if no improvement. It was undeniably true that serious problems of erosion and structural failure were present, but it was never established that they could not have been corrected without the construction of new walls some distance forward of the old, if this had been considered of paramount importance. This last point is still a real issue, for the central portion of the West Front is today in essentially the same state of disrepair as was the East Front eight years ago. It is only fair to point out that the Architect of the Capitol, and the consultants who have been retained by him to study the structural problems, have never argued that the conditions of the exterior walls could not be corrected except by building new outside walls to buttress them. They have merely said this method of reconstruction would be effective and economical, that it would provide additional space and would be least disruptive to continued activities within the building.

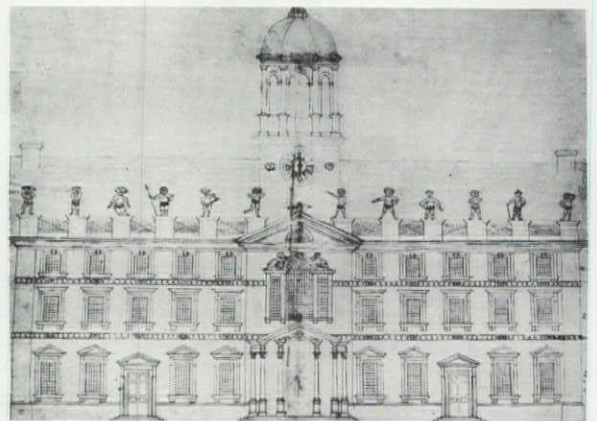
The Associated Architects\* who were commis-

\*Roscoe DeWitt and Fred L. Hardison of Dallas; Alfred Easton Poor and Albert Homer Swanke of New York City; and Jesse M. Shelton and Alan G. Stanford of Atlanta.

sioned "to furnish necessary architectural and engineering services for the extension of the Capitol and other authorized changes and improvements" developed the need, to use Mr. Stewart's words, for 139,250 additional square feet of floor space to accommodate present needs of Congress, with some allowance for future growth. Since the extension of the east central front has already provided 44,930 square feet of the total, the remaining 94,320 square feet are scheduled for construction in the proposed extension of the West Front.

It has been proposed that the Senate and House restaurant facilities be moved to the west terrace, together with an additional visitors' and employees' restaurant, their combined area to be about 55,000 square feet with seating accommodations for 1,305 persons. In addition to the new Capitol restaurant space, the West Front additions are scheduled to provide 8 committee rooms, 55 offices, 7 storage rooms and extensive additions to the facilities for vertical circulation in the building, including 6 passenger elevators, 2 freight elevators and 6 escalators.

Obviously, the proposed extension of the West Front is in response to these estimated needs, some of which, such as the improvements in vertical circulation, would be difficult, if not impossible to build without further enlarging the central portion of the building. We are in no position to challenge these needs without the benefit of an up-to-date study, but we should challenge whether providing this additional space by further alteration of the Capitol is going to be at a price—historical-



*Main elevation of Philip Hart's competitive design. The figures on the cornice, which were probably sketched in later by someone else, seem to imply criticism of its crudity, with heroes clad in loincloths and skins.*

ly or esthetically—that is too great to pay. Specifically the questions to be answered are these:

- 1) Should the walls of the West Front be repaired or restored in their present position?
- 2) Should the entire facade of the central portion of the West Front be rebuilt some distance forward of the present walls?

3) Should the West Front be redesigned and rebuilt in a basically different manner some distance forward of the present walls?

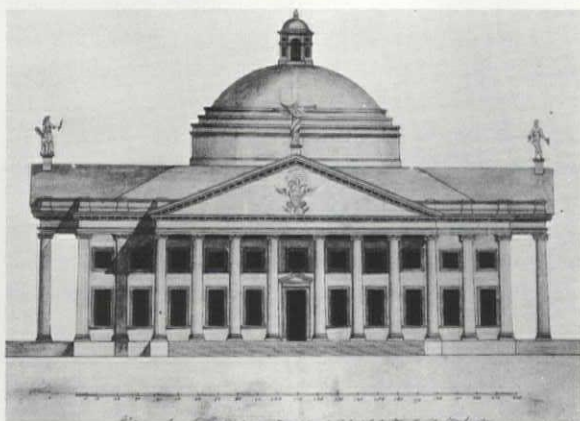
Probably few people are aware that it is the third alternative which is being carried forward at the present time by the Architect of the Capitol. The report of August 1957 states, "It is proposed to extend the basement story of the west central portion of the Capitol, across the courtyards, to the west terrace structure. It is also proposed to partially extend the west terrace structure and to relocate the west steps and approaches. It is further proposed to extend the original north and south wings of the west central portion of the Capitol, and the House and Senate connections, by erection of additions to these portions of the central structure, from the first floor to the attic floor, inclusive; also, to enlarge the West Portico." (See plan at the end of the article.)

The widening of the west portico, if carried out, will alter the proportions of the entire West Front, will obliterate all external evidence of the original Thornton-Latrobe wings and will present a broad, almost unbroken facade at the line of the House and Senate Wings. The proposed terrace alterations will also radically change the appearance of that structure from the Capitol grounds, for the two great flights of steps designed by Olmsted which cascade down from either side of the central portico will be moved so far apart as to present an entirely different effect. Another subtlety will be lost as well, for these flights now

instance is not simply a matter of preserving the stones and mortar of the old walls, but rather a question of preserving the present proportions of the building, of preserving any visible evidence of the original work of Thornton, Latrobe or Bulfinch, and of preserving the quality of the design of Olmsted's terraces and grounds. There is no reasonable doubt that extensive repairs are required, and it would probably be perverse at this point, with the East Front reconstruction completed in marble, to insist that the damaged sandstone be replaced with the original material.

The recommendations of Carrere & Hastings in 1905 were to extend the East Front in marble, but to reface the West Front in marble *in its present position*. Those preservationists who were vigorously espousing the cause of Senate Bill S-2883 in 1958, to "eliminate the requirement that the extension, reconstruction and replacement of the central portion of the United States Capitol be in substantial accord with Scheme B [the Carrere & Hastings recommendations] of the architectural plan of March 3, 1905," might well at this point be arguing that the Architect of the Capitol be held strictly to that plan.

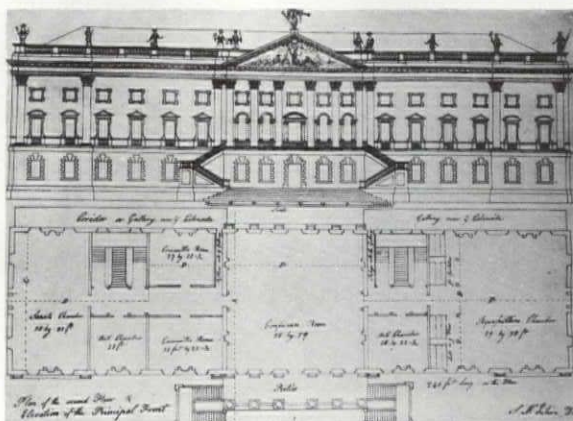
The existing Senate and House dining rooms were enlarged to an adequate size when the East Front was extended, so that an additional dining room for employees and visitors might be provided within the space between the existing steps on the west terrace, even though that arrangement would probably involve a less efficient separation of kitchen facilities.



Elevation of Samuel Dobie's competitive design. More sophisticated than some of the other submittals, Jefferson's influence may be witnessed here. Dobie had supervised construction of the Virginia State Capitol.

terminate at walks which are an extension of the lines of Pennsylvania and Maryland Avenues, the terminus of L'Enfant's *patte d'oie*.

Let us return, however, to the first alternative—preservation or restoration of the existing walls. It can be seen from an examination of the proposed plan of extension that preservation in this



Elevation of Samuel McIntire's competitive design. As foursquare and direct as his great textbook Georgian houses, it falls short of the monumentality that might have been expected for the design of the Capitol.

There is no esthetic or practical reason why the courts between the west side of the Capitol and the terraces cannot be developed as interior spaces as proposed, and it is quite possible that a well-designed revision of the north and south terraces could provide an amount of space for offices and committee rooms equivalent to or greater than

that provided under Scheme C, the proposed extension of the West Front.

The charge by the Joint Committee on Landmarks of the National Capital that the present plans amount to "historical vandalism" was anticipated by Mr. Stewart as early as 1958 when he said, "From the viewpoint of those concerned with sentiment and with the preservation of the Capitol intact, in its present state and condition, it must be remembered that extension of the West Front also affects the work of our first three architects and, on such basis, would fall into the same category of 'desecration' and 'vandalism' as is alleged against the East Front extension. Should it happen that the same hue and cry which has been raised over the extension of the East Front should occur if the extension of the West Front were attempted, the Congress would really be in a sorry plight for adequate space in which to do its work."

That this "sorry plight" isn't necessarily so is made clear in his own report from the Associated Architects. It outlined five additional possible solutions to future needs for expansion, the first two of which involve extension of the House and Senate Wings, but the last three of which are concerned with further possible revisions of the terrace area. Mr. Stewart was guilty of some exaggeration, too, in his fears that "sentimentalists" would insist upon "preservation intact, in its present state and condition."

The architecture of the Capitol is inextricably bound up with its history, with the men who designed the building as well as the men who have helped to make the country's history within its walls. It is the wonderful building it is, in part at least, because it still exhibits each of the stages of its development as a distinct part in the composition of the total mass of the building.

I have never heard an argument for the proposed changes to the West Front saying there would be an effort to improve the existing work of Thornton, Latrobe, Bulfinch, Walter and Olmsted. Whether this is simply modesty on the part of the architects, or a stern conviction that "form follows function," I cannot tell. I would maintain, nevertheless, that such changes are undesirable even if they were improvements in form, for they would destroy or obscure something of even greater value.

There is bound to be a limit to the amount of

space that can be added to the main body of the Capitol without its becoming a formless and confused mass, and that limit might as well be accepted now as 10 years from now when irreparable damage might already have been committed. It is a procedure, furthermore, that can never hope to solve all of the foreseeable future needs of Congress, for which purpose a new study and master plan of the entire Capitol grounds should be prepared.

The second alternative of reconstructing the west central facade, in its present form but some distance forward of the existing walls, is less desirable from the historical-architectural standpoint than restoration in place. But it can be preferred, nonetheless, to currently published plans if the functional advantages of gaining more space above the basement floor cause Congress to insist upon such additions, or if the reconstruction of the existing walls cannot be accomplished without intolerable interference with the business of the House and Senate.

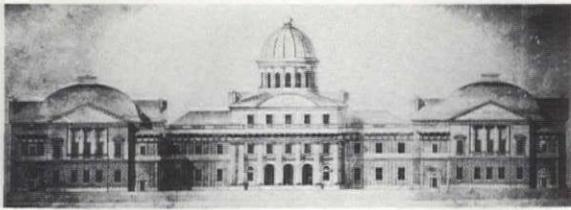
Now that "the deed has been done" on the East Front, there is a certain classical logic in rebalancing the basically symmetrical form of the plan by adding an equal amount of space on the west side. It would amount to another strip 32 feet 6 inches wide, a distance that represents approximately the width of two bays of the flanking Senate and House Wings. Such a procedure would involve the extension of the central portico as well as the old wings in order to retain their existing relationship to one another.

This would cause further interference with the view of the Capitol dome from points due west of the portico, but less than in the presently proposed plan from an oblique angle. It would probably not seriously affect the long view from the Mall or Pennsylvania Avenue.

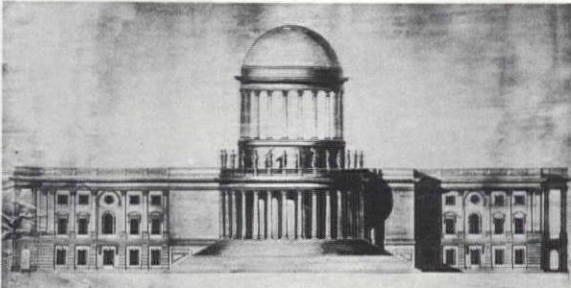
It is interesting to note that Olmsted showed an extended west portico on his plans and perspectives of the west terraces at the time they were proposed in 1874. Under such a scheme the image, if not the reality, of the older portions of the building would be preserved and the need for extensive remodeling of the terraces might be eliminated.

The third alternative, which so far as we know is the plan that is now being followed, has already been described. It is the least desirable of the three and should join the file of never-carried-out

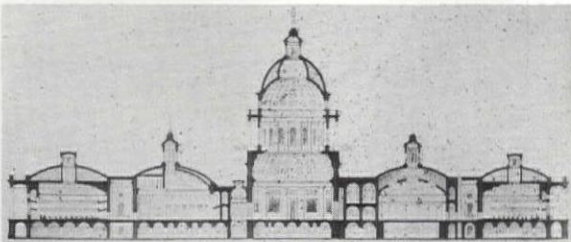




*Design by Hallet, 1793. His drawings, which show the professional competence of a trained architect, are prophetic, in a distorted way, of the present building.*



*Alternative elevation of a design of the West Front by Dr. Thornton. Known as the two-dome proposal, it has a circular conference room beyond the central rotunda.*



*Section of a design proposed by Robert Mills in 1850. The great masonry dome—similar in concept but not in detail to St. Peter's—was to be built over the existing rotunda, with new wings for the Senate and House.*

plans for the Capitol. Such proposals have a history that dates back to the original competition held in the spring of 1792. The brief invitation to submit drawings brought forth a variety of responses, none of which was totally satisfactory to the Commissioners or to the President.

The submissions included a very respectable and conservative Georgian design by Samuel McIntire; a charmingly naive proposal by Philip Hart that in detail is vaguely reminiscent of Independence Hall; an adaptation of Palladio's Villa Rotunda submitted by Samuel Dobie; a strange melange of medieval and Georgian detail on a building that surrounded a square open courtyard by James Diamond of Maryland; and a fairly sophisticated design, to judge by later drawings which have survived, by Stephen (Etienne Sulpice) Hallet, a French emigre who was then residing in Philadelphia.

Thornton's winning design, which was submitted after the close of the competition (setting a precedent for confusion in federal architectural competitions persisting to the present time),

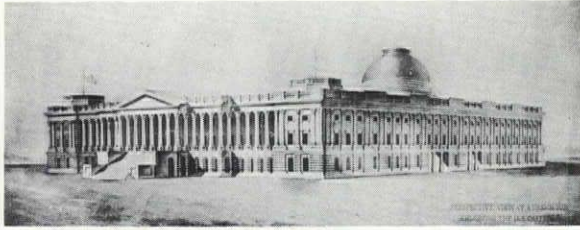
was a far simpler, more monumental conception than any of the previous designs. It was one that more clearly reflected the desires of Washington and Jefferson for a Capitol that would somehow express the strength and virtues of the infant republic.

Thornton never had clear sailing in the execution of his design. He declined to supervise its construction; he lacked the technical experience to carry through the work on a major public building in a day when the architect was obliged to provide truly "comprehensive services." The short-tempered doctor thereupon had a succession of difficulties with Hallet, who was retained as supervising architect, and George Hadfield who later succeeded to the job. Both had sought to alter his design, and the even-tempered James Hoban assumed the responsibility for construction from the year 1798, until the appointment of Benjamin Latrobe in March 1803.

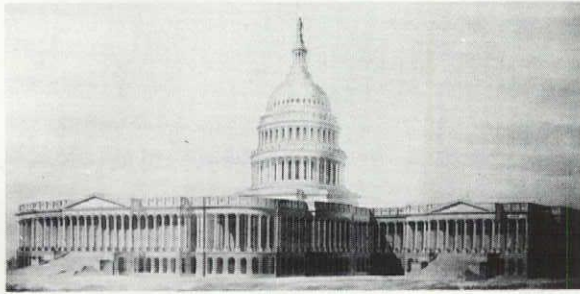
Latrobe brought to the position an already established reputation as an architect of great talent and skill. He was much respected by President Jefferson and managed to impose his own ideas upon the interior design and in plans for the central portion of the building which were carried out, after his retirement in 1817, by Charles Bulfinch who completed the original building in 1829.

Robert Mills, who was Architect of Public Buildings at the time, proposed several forms of extension to the Capitol in the year 1850. Mills' designs deserve special mention for it is hard to believe that they were not the genesis of Walter's final designs for the wings and dome. The few sketches of Mills that have survived are much more like the Capitol as we see it today than were Walter's first competition drawings of the same period, for Mills had already seized upon the idea of a great dome, modeled in scale and form after that of St. Peter's, to be constructed over the foundations of the rotunda.

He evidently was intrigued by the idea of developing the expanded building in the form of a cross, the enlarged dome to act as a dominant focal point at the center, but he also prepared drawings of an extension of wings to the sides attached with an ingenious arrangement of interior courts to prevent blanking the windows of the older building. Mills' plans were not accepted by the Senate, which insisted that a competition be



*Perspective view of Thomas U. Walter's competitive design for the enlargement of the Capitol, 1851.*

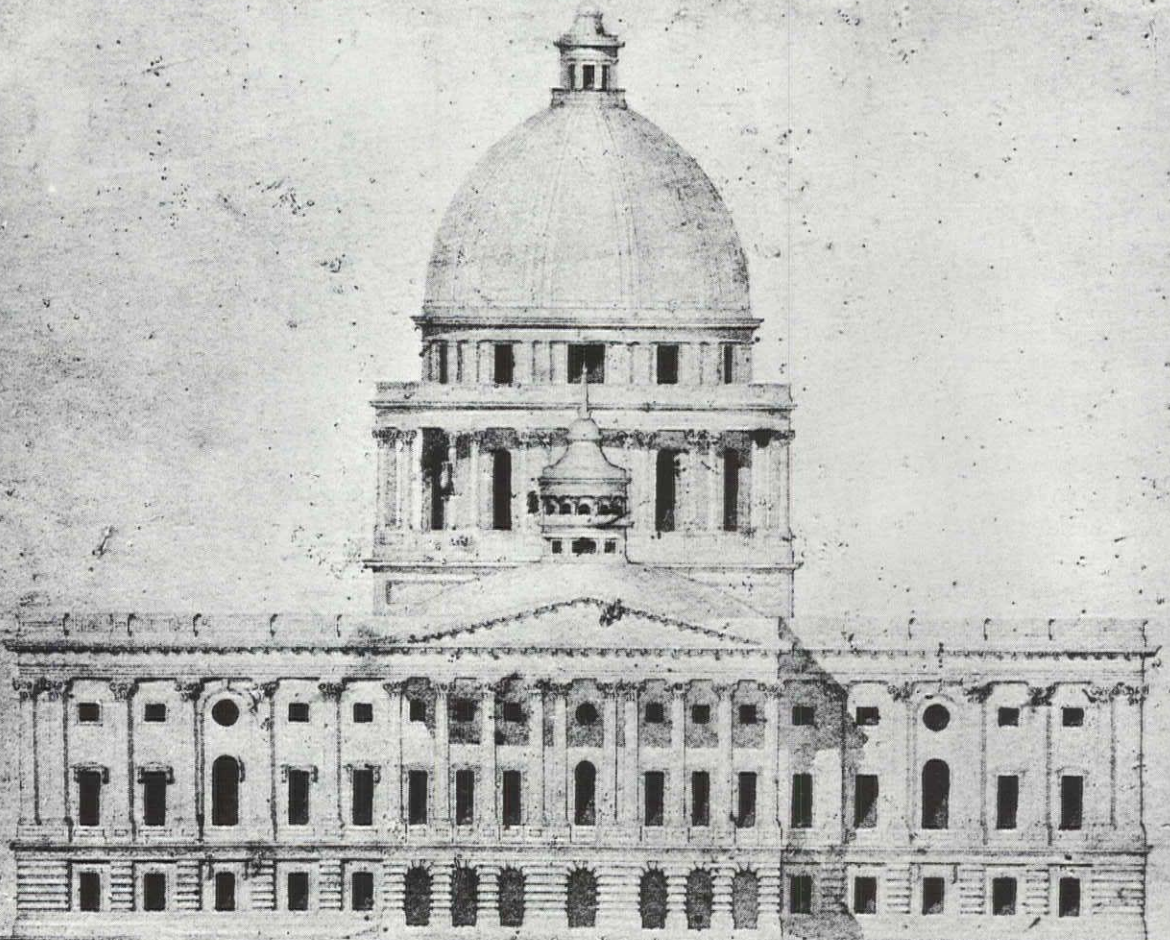


*Perspective view from the northeast of Walter's proposal for the enlargement of the Capitol, 1874.*

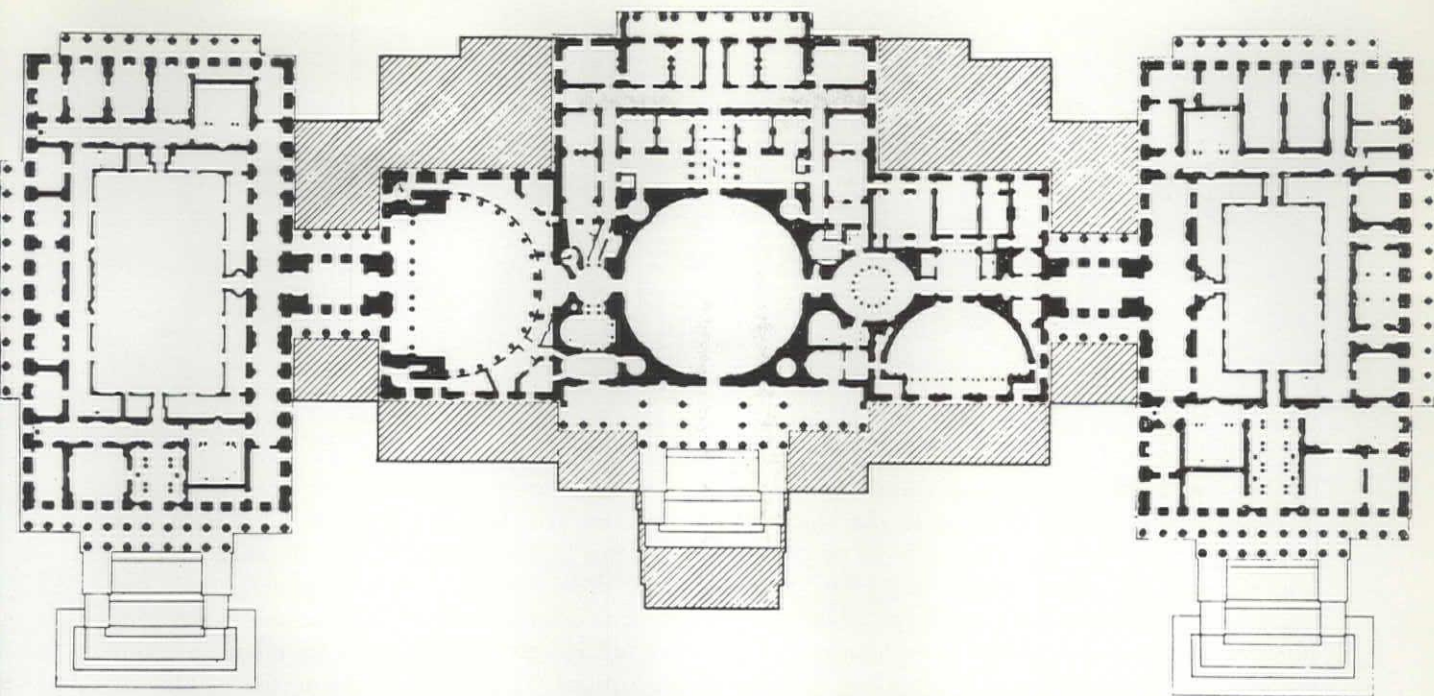


*Perspective view from the northeast of Smithmeyer & Pelz's design for the central-portion extension, 1881.*

*End elevation of Robert Mills' design, 1850. This is a view of the north or south wing, in the style of Thornton's original facade, that Mills proposed to add to the original building, fully aware the extension needed a great central dome.*



*Drawn by W. J. Fenwick, 1850*



*Plan of the proposed extensions to the Capitol, presented by the Architect of the Capitol at public hearings before the Senate on February 17, 1958. The shaded portion below represents the extension of the East Front completed in 1962. The shaded portion at the top illustrates the proposed extension of the West Front.*

held, and in 1851 President Millard Fillmore appointed Thomas U. Walter as Architect of the Capitol. Mills at that time was already 70 and died four years later, in March 1855. Walter was 47 and destined to work on the Capitol for the next 14 years.

The list of designs for "the Capitol that never was" continued to the turn of the century, and the more familiar proposals of Carrere & Hastings for expansion of the building in the year 1905 by the survival of two plans for monstrous enlargements submitted by Thomas Walter in 1874, nine years after his retirement as Architect of the Capitol.

Walter had apparently never completely given up an infatuation with his earliest competition studies, which extended a vast interior gallery eastward from the rotunda, and the years he had spent since leaving Washington, working on Philadelphia's City Hall, might have clouded the esthetic judgment of any man. The ubiquitous Washington firm of Smithmeyer & Pelz submitted a grotesque scheme in 1881 that would have left nothing of the original central portion of the building but the rotunda and dome, which they planned to embellish with eight additional domed turrets.

Admittedly the present proposal for the extension of the West Front is more modest than some that have been discarded in the past, but it has neither the merit of sensitive historic preservation nor the merit of bold architectural concepts. It falls to the inevitable level of an unhappy compromise, for it fails to recognize that time has

changed what can and cannot be done to this one building that symbolizes the aspirations and growth of the country from the time of its founding through the age of confidence and material prosperity which characterized the last decades of the 19th century.

If the old stones of the Capitol are crumbling let them be restored, or replaced if need be, but let us refrain from padding its bones with layers of rooms until it becomes a shapeless mass signifying nothing but its own bulk. Congress deserves a mid-20th century answer to its space needs, not a misguided mid-19th century alteration to a venerable building deserving of respectful preservation. ■

**Statement of The American Institute of Architects:**

The Institute believes that the Capitol of the United States is a vitally important symbol of our nation's government. As such, it should be preserved. If reconstruction is structurally necessary, it should be carried out in strict accordance with the present design. If the Capitol continues to expand, it will rapidly lose all resemblance to the original building. The AIA believes that it should be a permanent policy of the Congress that the exterior of the Capitol is to remain unchanged. Today, the West Front contains the last remaining external vestiges of the Capitol as it was originally designed and built. It is the only important link with the beginnings of the building. If the West Front of the Capitol is extended, we will have buried the last of those walls that date from the early years of the Republic, and will have obscured a part of our history that can never be restored. —OCT. 13, 1965

# CHICAGO

*A year-long study of the central area as a Graham Foundation Fellow has resulted in the planner's proposal for the restructuring of a large portion of the Windy City. More significantly, this report suggests how professionals might go about performing similar studies in their communities.*

CHICAGO'S CENTRAL AREA, stretching 4.5 miles along Lake Michigan, contains the most varied and intense concentration of activities and transport systems between New York and Los Angeles. Most of the major entertainment, business, shopping and cultural institutions serving the city and its region are located here.

Its 14 square miles represents less than 1 percent of the region's urbanized area but contains 16 percent of the total developed floor space in metropolitan Chicago. More than 250,000 persons, almost 14 percent of the region's labor force, are employed in the core and an additional 16 percent is employed in the remainder of the central area, bringing total jobs to just over one-half million. Some 300,000 persons are housed within the study area's boundaries, from North Avenue to 26th Street, extending inland an average of 3 miles to Ashland Avenue on the west.

Several indexes show, however, that since World War II, the area has been declining in relative and even absolute importance. Daytime population dropped 25 percent and core employment 20 percent between 1947 and 1961. State Street department store sales declined 10 percent between 1955 and 1961. Physical deterioration and functional obsolescence are evident everywhere, even within the core. Vast portions of the central area need total reconstruction. Large, obsolete railyards border the core on three sides. The elevated system built in the 1900s is overdue for removal. Rush-hour congestion makes surface traffic crawl.

On the positive side, employment in the core appears to have "bottomed out." Activities such

as manufacturing and wholesaling have all but disappeared from the core since World War II, but there has been a significant gain in office employment since the mid-1950s. Beginning with the Prudential Building in 1955, office-space construction in Chicago in recent years has taken on boom proportions. This is due in part to the backlog of demand created by inactivity in the period from 1927 to 1955 and to the nationwide shift to administrative and service employment since World War II.

The demand for high-density residential units near the core, especially on the Near North Side, has steadily strengthened since the early 1950s. But today the amenities that attract people are in danger of destruction through overbuilding permitted by present-day zoning. The present rate of office and residential construction is expected to extend until at least 1980, even without aggressive public action to improve the physical environment, action which would undoubtedly increase demand.

Thus, a number of factors converge at this time to present a unique opportunity for fundamentally restructuring central Chicago: the necessity of rebuilding extensive areas peripheral to the core, the opportunity for greater utilization of close-in railroad properties, the need for fundamental improvements in the movement system serving the core, and a large and sustained market for new residential and office space construction. It is interesting that this same combination of factors last presented itself with such force in the first decade of this century and was seized upon by Daniel Burnham.

Despite its modern appearance, Chicago is in reality a 19th century city shaped by the railroads, the electric streetcar and the elevated. As such, this great industrial colossus, spreading inexorably over the prairie, laced with railroads and expressways, endowed with vast urban parks, pockmarked with deep social and economic problems and advancing physical decay, is the most American of all cities. Here the forces that created 19th century America were almost totally unfettered. It is for this reason that foreign visitors—archi-

Currently with the Twin Cities Metropolitan Planning Commission, the author will join the University of Pennsylvania next fall as an associate professor of civic design.

## American Spirit of Urbanism

pects and planners in particular—look at Chicago with such horror and fascination as the embodiment of the American spirit of urbanism.

Like so many other cities, Chicago is awakening from a long period of self-satisfaction to find itself engaged in a classic struggle between forces of dispersal and pressures of centralization. The political and business leaders are firmly committed to a policy of recentralization throughout the city but especially in the central area where stakes are highest. Underway are programs to regain high accessibility to the central area, to remove the worst of the slum conditions in the city and to alleviate the daily impact of people and vehicles on the core.

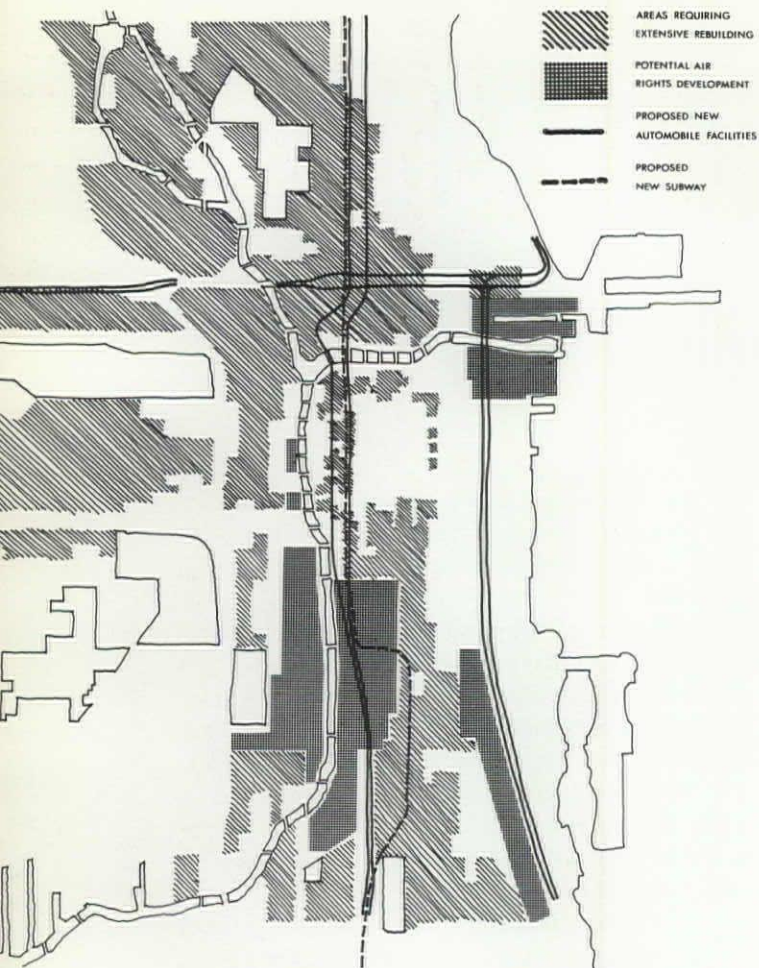
Chicago possesses tremendous energy for self-renewal and a latent capacity for city building only now being mobilized. Lacking a coherent 20th

century self-image, however, the city dissipates this energy in diverse, sometimes ambitious but often uncoordinated transportation and renewal programs.

Realization of the need for a fundamental re-examination of its programs and directions has gradually increased the magnitude and importance of planning operations since the early 1950s, ending with a sweeping reorganization as the Department of Planning and Community Development in 1965. Efforts are ultimately focused on the preparation of what will be the first true comprehensive plan for the city.

It was within the context of this long-range staff effort that a preliminary design plan for the central area was to be executed. The central intent of this study was to prepare, under the sponsorship of the Graham Foundation for Advanced Studies in the





*Factors affecting development in the central area.*

Fine Arts and with the cooperation and participation of Chicago's planning staff, a preliminary yet comprehensive proposal for the development of the central area as a starting point for deeper subsequent studies.

The potential role of visual form in the planning process was to be given particular emphasis as was the development of a forceful visual image, however general, for the entire study area. The study was organized into four basic phases: 1) reconnaissance and formulation of objectives, 2) survey and analysis, 3) construction of a city-wide design framework and central area alternatives and 4) development of the preferred alternative.

### **First, Get Facts and Set Aims**

During the first phase, substantial time was devoted to detailed personal and photographic reconnaissance, review of past planning reports and proposals, and study of the city's historical development. The nature of the problems, possibilities and planning objectives of the central area was noted, discussed and formalized during this period of time.

The basic issues involved in restructuring the central area are 1) improvement of core accessibility from throughout the region, 2) effective re-

newal of the areas peripheral to the core and 3) improvement of the physical environment of the core itself.

The number and close spacing of streets carrying high volumes of traffic across areas peripheral to the core have contributed heavily to the decline of these areas. The old block pattern circa 1833 is acutely inadequate due to poor traffic movement, auto and pedestrian conflict, the severe winter climate and the scale of contemporary construction projects. The core itself, measuring 3,600 feet across, is too large to be comfortably crossed on foot, a condition compounded by the location of the commuter rail terminals on the perimeter of the core. The river system, the only inland natural amenity in the central area, is obliterated by obsolete industry. The core is noisy and dirty. Apparently little value is attached to historic buildings.

### **Second, Survey Objectives**

Basic design objectives were set up in direct response to these issues and problems. The more important objectives in brief:

- 1) Improve accessibility to the core by thoroughly integrating commuter rail, rapid transit, expressway and feeder bus networks.
- 2) Channel traffic crossing peripheral areas into a few major corridors.
- 3) Introduce and improve inland amenities to create a market for residential construction away from the lakefront.
- 4) Reduce auto-pedestrian conflict wherever possible and provide all-weather pedestrian movement systems within the core.
- 5) Use the railroad properties ringing the core through consolidation and air-rights development.
- 6) Evolve a core movement system allowing for the penetration and storage of the automobile in a way that would not violate the pedestrian's needs.
- 7) Evolve a physical development pattern possessing sharp, structural clarity with identifiable and expressive parts.

During the second phase of the study, surveys were carried out by the planning staff in response to these objectives. Existing land use, the present movement system, the concentrations, mixing and linkages of activities, buildings of economic and historic value, and areas of high or low stability were documented in varying degrees of detail.

Also used was data from the Chicago Area Transportation Study, the Chicago Transit Authority, the Chicago Bureau of Street Traffic and the Chicago Bureau of Parking pertaining to the number and distribution of core commuters by transportation modes, trends in traffic volumes, daytime population, core employment and parking demand and costs.

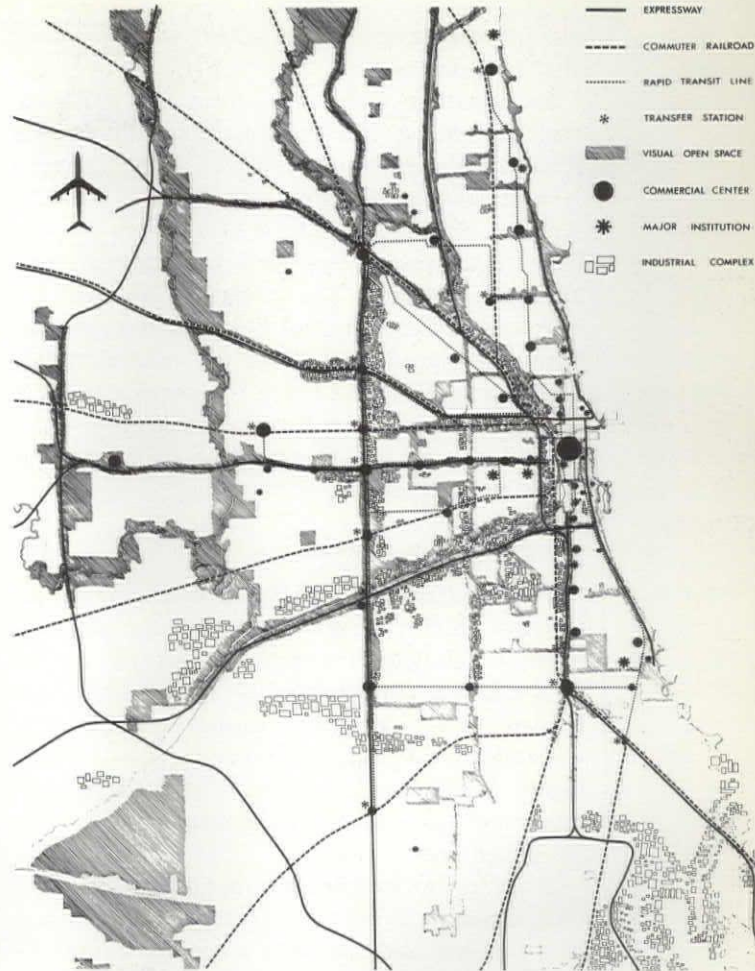
An unusual survey of ground-floor use in the core was of great interest, revealing a rich mixture of restaurants, bars and service facilities spread evenly across the core and clearly identifying the importance in the severe winter months of frequent arcades through the interior of business blocks. (This knowledge supported subsequent proposals for pedestrian movement systems in the core.)

Many of the staff surveys were undertaken to help delineate precisely the "hard and soft" areas for the core and to establish a more generalized delineation for the frame. By combining all buildings capable of a long economic life, buildings of special historic value, and public buildings and open space, a clear picture of the committed portion of the core was obtained. In general, the area bounded by Randolph, Wells, Jackson and Michigan Avenues is virtually all firmly committed, as are the northern and western banks of the Chicago River. Proposals for significantly altering development in these areas would be unreasonable.

Conversely, the pattern and extent of the uncommitted areas suggest important opportunities. As might be expected, parking lots and garages serving the core form a horseshoe around this committed area, identifying the soft areas by implication. Moving outward from the core, the obsolete railroad yards and those deteriorated portions of the periphery that will require almost total reconstruction in the next generation (including the majority of the industrial establishments along the rivers) were also identified as areas of opportunity.

Transportation studies indicated that when the long overdue removal of the elevated system takes place, a new subway line under the core will be necessary. The most logical alignment for a new subway was determined to be under Wells Street from Division to Roosevelt Road, thus falling within areas in need of general reconstruction for most of its length. This is also true of several key segments of the expressway system. The coincidence of these factors presents a special opportunity for coordinating renewal activities with the construction of new transportation facilities.

Concurrent with this staff activity, the existing visual form or image of the central area was ex-

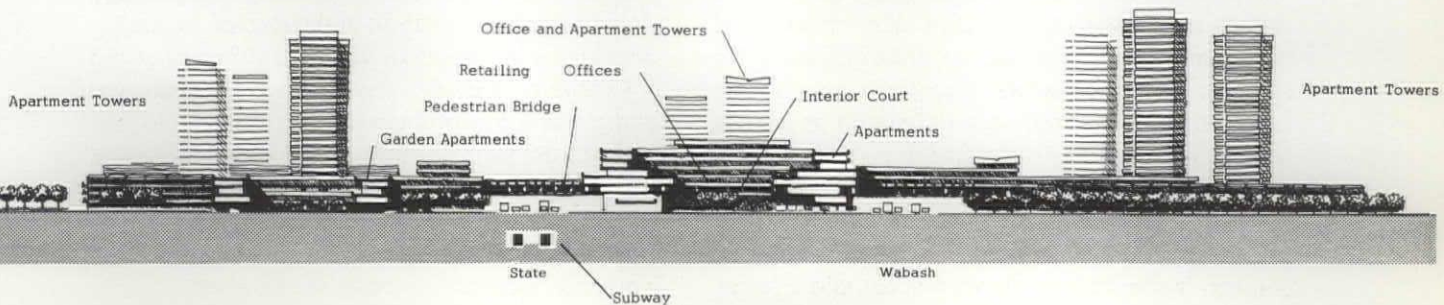


Regional movement system—expressway, railroad, transit.

amined and was represented graphically by the use of various notation systems. Although focusing mostly on macroform, consideration was also given to avenues of approach, points of arrival or entrance, areas, places or streets with distinct characteristics, and the pattern of landmarks.

An analysis was made of the correlation between image and functional groupings, between image and quality of development, and between recognizable amenity and intensity of development. In general, such correlations were high and mutually reinforcing. Amenity, vivid image and new construction went hand in hand in most cases. Techniques used in this instance were purposely kept quite general to develop a fluid tool for direct

Typical section through the north-south spine, with the proposed new subway as an underpass connection to either side.



use in later design studies rather than a precise analytical device.

Examination of the visual form as it exists reveals the relative cohesiveness of the core and the strong continuity of development along Michigan Avenue and Lake Shore Drive north of Chicago Avenue. Moving inland from these rather obvious features, the visual form quickly disintegrates and loses differentiation. The rivers are obscured except at the core. The rail lines cut through uniformly developed areas. Even the areas alongside new expressways have not yet responded to these new routes and are indistinguishable from other less strategic areas. The view from expressways is as yet virtually devoid of meaning.

### Third, Develop Alternatives

While a sharp line marking the beginning of prescriptive studies cannot be drawn, the development of full-fledged alternatives for the central area and the construction of a citywide design framework as a context for further work can conveniently be called the third phase. As a first step, highly generalized sketches of future regional movement, open space and activity systems were developed and reviewed.

Even cursory examination reveals two dominant characteristics of the Chicago region: the flatness of the prairie landscape with a corresponding uniform intensity of urban development (except at the core and along the lakefront) and the strong radial bias of the present regional movement system. The expressways, commuter rail lines, rapid transit lines, the inland waterways and the surface bus network all focus on the core. A close examination of these characteristics leads to a number of broad conclusions.

The location of the primary radial routes relative to the few important natural features of the area suggests a basis for sharper differentiation of the urbanized prairie. If the river system were visually "unlocked," persons moving parallel to the waterways on high-speed expressways or trains would penetrate to the core through long troughs of open land. An additional benefit of this action would be the introduction of major open space inland where none now exists.

Conversely very intense development should be encouraged where rapid transit routes exist in the interstices between the rivers to take advantage of the tremendous capacities of these facilities for moving masses of people. Major new arterials for autos and buses would need to be built to parallel and complement these transit lines.

There is a need for drastic renewal action in the industrial areas along the river system to make adequate sites available for new or expanding industry. It should be grouped in complexes (using

pockets of good structures as nuclei) with open landscaped areas between, creating the impression of continuous open space surrounding large-scale structures. This approach, linked with rigid pollution controls and other cleanup programs, could establish the river system as a major recreational amenity and a significant visual element, while retaining its still important industrial function.

At the present time there is a decided lack of coordination between various transportation networks resulting in wasteful duplication of service on parallel routes, a condition particularly true of rapid transit and commuter rail lines. But the basic characteristics of the different modes suggest a separate and unique role for each. In a fully coordinated system, commuter trains originating 30 to 60 miles from the core would stop inbound every 3 to 6 miles until reaching a transfer station 6 to 10 miles from the core. Passengers with core destinations would remain on the same trains and be carried nonstop to the central terminal. At the transfer station, passengers with intermediate destinations would board rapid transit trains with stops about every mile as they move toward the core.

Bus operating more than 3 miles from the core would be routed to primarily feed commuter rail and rapid transit stations. Generous parking facilities would be provided at outlying stations and transfer points. Bus routes within three miles would continue to converge on the core.

Major new commercial complexes would be built at key junctions and stations on such a movement system, resulting in a gradual restructuring of the older areas of the city into a more hierarchical organization reflective of the scale, speed and interdependence of modern transportation systems. Institutions and recreation facilities would, over time, be similarly relocated. The new pattern would be based on a structure of strong nodes of activity closely fitted to the primary movement systems.

Guided by the design framework provided by this sketch study of the Chicago region, detailed design concepts for the core area were explored. Gradually, divergent and fragmentary ideas were grouped and related into four alternative approaches, each intended to satisfy the same set of general objectives. A quick review of the salient features of each is helpful in developing an understanding of the basis for the final proposal.

*Continue current trends*—No fundamental changes in the existing movement system are proposed, with the exception of the completion of a few central area expressway links. Keep all surface streets now in use open to traffic. Allow parking lots and structures to continue to proliferate randomly. Low capital costs are involved.



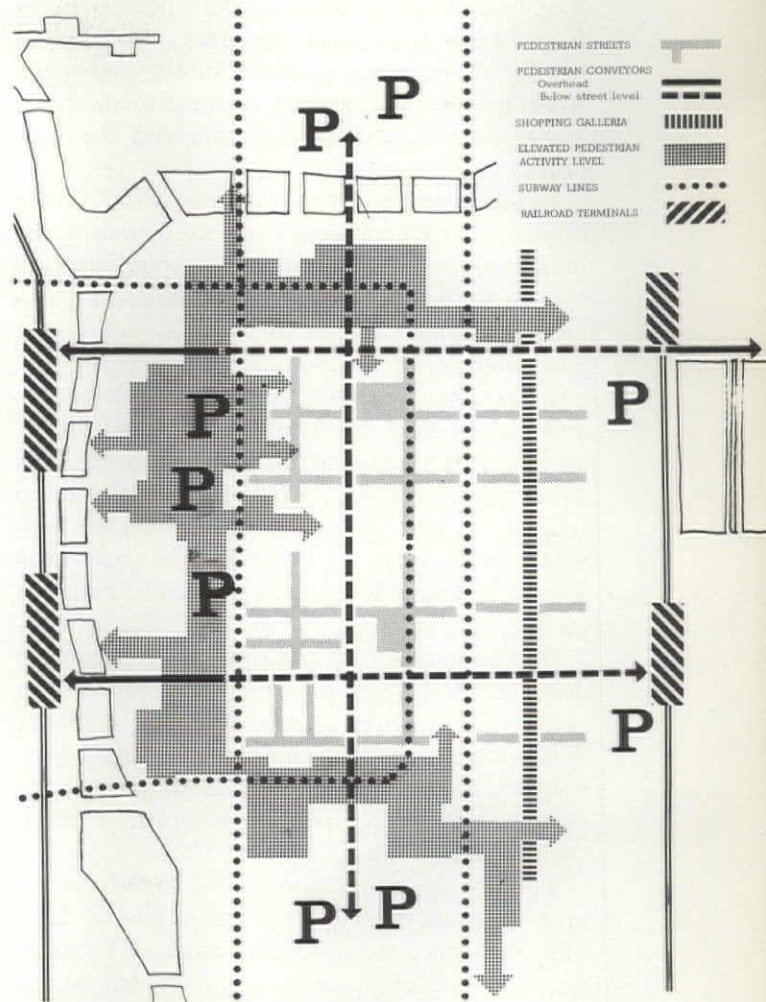
*Limit vehicular penetration*—Construct a major north-south transportation corridor passing through the western edge of the core. Create superblocks within the “committed” portion of the core, thus prohibiting direct vehicular access to some of the existing structures in this area except for emergency and nighttime service vehicles. Remove the elevated system and construct a new subway under Wells Street. Limit parking structures to the periphery of the core. Consolidate commuter rail terminals west of the river and provide mechanical pedestrian movement systems to serve major commuter rail and auto terminals. This scheme involves moderate capital costs.

*Channelize and depress vehicular traffic in core*—Depress Wells and State Streets as grade-separated north-south movement channels through the core. Locate major new underground parking facilities directly off these depressed streets and off Michigan Avenue and Wacker Drive, while prohibiting scattered parking elsewhere. Treat these depressed streets as linear terminals for buses, subways and autos. Keep the majority of surface streets in the core open to all vehicles. High capital costs are involved. Numerous engineering and utility relocation problems would be encountered.

*Completely separate vehicles and pedestrians vertically*—Create a true multilevel core by gradually shifting all pedestrian movement to an extensive second level platform. Keep most existing surface streets open to traffic for access to parking structures and core buildings. Construct a new consolidated commuter railroad terminal under Wells Street in coordination with a new subway line. Virtually all transportation networks for auto, bus, rapid transit and commuter rail would terminate within the core encouraging very intense and compact development. This scheme involves very high capital costs because of extensive upper level remodeling, in addition to the construction of the pedestrian platform and a new rail terminal.

#### Fourth, Develop Final Proposal

After graphic development and review of the feasibility vs. the effectiveness of each alternative, a preferred scheme was selected with key aspects of each of the others woven in. The superblocks for the “committed” central core were retained, respecting the unreasonableness of drastic change in that area. The device of channeling vehicles through the core on major north-south streets was retained (although at grade level) as an effective means of allowing the auto to penetrate in a controlled manner. An upper pedestrian circulation level was included for those portions of the core subject to extensive rebuilding. Pedestrian elevated and subsurface conveyors (segmented moving



*Pedestrian movement system in the core.*

belt sidewalks) and concourses linked the core to major rail and auto terminals. Substantial new parking facilities integrated with office structures were to be provided in the Wells-Franklin area, reflecting a strong current trend there.

North and south of the core, traffic was to be channeled into major one-way couples serving spines of intense development. To the west, the Eisenhower Expressway would continue to carry the lion's share. So constituted, the preferred alternative underwent several cycles of further development and study prior to the preparation of a final proposal.

The final proposal was developed to give equal weight to three components: movement, activities and urban form. The first component dealt with network layout and terminal facilities for all modes of transportation in a highly integrated system. The second indicated diagrammatically the organization of major activity concentration relative to this movement system and their relationship to the areas of elevated pedestrian ways. The third consisted of a highly personal interpretation of the

urban form potential of the basic concepts embodied in the movement and activity proposals. The final proposal can best be appreciated by focusing briefly on three sub areas: the spines of intense development radiating north and south from the core, the projects oriented to the river, southwest and east of the core, and the core proper.

Vehicles moving toward the core from the north or south are channeled onto one-way arterials passing directly through the core. Each spine is served by express bus and subway lines. Substantial parking is provided between the one-way arterials at and below grade. Structures located between these one-way routes average from two to six stories, and ground level within these structures is devoted to parking, auto sales and services, and auto-oriented retailing, while pedestrian-oriented retailing, motels, restaurants, entertainment, business offices, many residential units, and even schools and other institutions are located on upper levels.

Bridges spanning the wide one-way routes touch down at clusters of high-rise residential towers surrounded by garden apartments and townhouses. A high percentage of the housing along each spine is within a quarter mile of the shops and services contained within the spine by way of all-weather, enclosed walkways.

Through the reservation of 200 to 300 feet of open space to either side, a high degree of flexibility is afforded the movement channels. The open space allows for an increase in the number of lanes or the introduction of a new transportation mode without dislocating the activities alongside. Conversely, the activities located within such an arrangement of roads can expand or intensify easily and independent of the ground plane. Thus, a long-term stable relationship between movement channels and adjacent activities would then be established.

Southwest of the core the river channel is widened to its original configuration creating a large boating basin with extensive docking facilities. The east and west bank housing complexes are organized around large commons fronting on this basin. By the complementary arrangement of high and low structures on opposite sides of the basin, a single cohesive visual community results. This housing is constructed over the rail lines west of the river and over the expressway running along the east bank at the river's level. Travelers on the expressway would enjoy a panoramic view of the river.

The air-rights development suggested for the railroad yards east of the core indicates the extremely high dollar value placed on the air rights of this land. At a density of approximately 300

persons per acre as shown, the necessary parking facilities would require a two-level structure covering the entire site. Such unique conditions demand an equally unique design solution.

To achieve this density above such a platform in massive slab buildings would result in an overscaled and dehumanized environment lacking visual continuity with the rest of the core. What is suggested instead is a series of small, relatively shallow and individually detailed courts. By providing broad terraces for each apartment, preserving outward views and allowing penetration of sunlight, the whole development escapes over-institutionalization. Generally similar development is proposed across the river to the north.

In the core itself, all but emergency vehicles are excluded from alternate surface streets within the nine super blocks bounded by Michigan, Randolph, Wells and Congress. Pedestrian underpasses constructed beneath major streets are integrated with subway ticket concourses. The three pedestrian conveyors are located either over or under traffic-bearing streets.

Outside of the area of superblocks virtually all streets are open to vehicular traffic, and most pedestrian movement takes place on the second level where an extensive network of broad arcades, flanked by retailing and service establishments, passes through and between buildings and above streets. In this area, individual construction projects might easily transcend the old tight-block pattern. In addition, Wabash is transformed into a covered shopping galleria and is connected at both ends to this upper-level pedestrian system. All transit stops are interconnected with the enclosed pedestrian ways. As a result, the core becomes one continuous building, allowing fast and comfortable pedestrian movement with climate protection year round and a minimum of auto-pedestrian conflict. No major shift in functional groupings in the core is anticipated, although office-space construction west of LaSalle would be increased greatly. A series of 60- to 70-story office structures attracted by the new subway and the concentration of parking is located in the one-block strip between Wells and Franklin. As the most intensely developed portion of the central area, it would read as the ridge or backbone of the core and as the hub of the radiating spines. The form envisaged should have a high degree of overall structural clarity, clear congruence between movement and activity systems, and visually expressive component parts.

The proposal dwells on the overall organization and visual impact of the study area. It represents one concept of a total set of relationships capable of providing a framework for much needed detail studies that should follow. ■

# For Whom Will We Toil?

*Liberty and Equality  
and the  
Almost Peculiar Condition  
of Our Cities*

BY  
DANIEL P. MOYNIHAN

HOW WELL AND FOR WHOM will we build to satisfy an exponential population growth? Staggering as the sheer quantitative job may be, we *will* build enough.

But well enough? This is the point, and you cannot have been closely involved with unemployment, poverty and all the other circumstances of the not well-off without being visibly impressed with this fact: The present urban environment is not working well for large numbers of people.

Certainly, our standards of poverty, of dependency, have been made more generous. But there are also standards of disorganization, standards of disadvantage, which are continuing. It is true that the poor live well, that is, that they live better than the poor of half a century ago. Still, they are on welfare—and human dignity has not changed. That their condition is not the absolute, utter deprivation that would have put them on welfare half a century ago is the very reason their condition is frightening.

The circumstances of the poor must be reckoned with. A third of Washington's newborn in 1964 were delivered at D. C. General Hospital. Half the mothers had no prenatal care. Half the newborn were illegitimate. Seven percent of the newborn died—a medieval rate, and in the nation's capital.

We have had, and usefully, some criticism of the crime statistics thrown around in this country. The statistics are often misleading, but there is little

question of a steady rise in crimes of violence in our cities. To the urban people who commit them and to the urban victims, the fact is absolute. It is not relative. Murder is as sinful, as bad, as horrible today as it was in 1870. Rape is still the same anguished experience for the victim.

In many of our central cities the rate of illegitimate births is now well past one-third and is approaching one-half. This is not a reflection of better statistics. It is a reflection of changed circumstances, of a changed social condition, of a changed position of the poor in America. The fact that these people do not starve to death, that they have television sets, that they get medical care, etc., does not reduce their anguish as dependent, ineffective, disorganized beings. It is a problem of the people left in the centers of our cities—Negroes, yes, and others, too.

It is useful, since our problems have no origin in material necessities, to address ourselves to ideological causation. Our cities are the way we made them, and in this context it is important to consider the experience of Europe over the past 20 years. In this country, we have had a great awakening to the problems of poverty; it became a problem when it started to become a serious inconvenience to the middle class. We sort of discovered it right before our eyes.

An interesting viewpoint has it—the question of whether this is a fact will have to stay open until

## TWO CITIES

No student in the Western Hemisphere should be allowed to graduate as an architect or urban designer without first visiting Brazil. Surely there is no country in the world in which architecture so completely mirrors the enthusiasm, vigor and genius of a great people.

I was in Sao Paulo 2½ years ago at a meeting of the Alliance for Progress. We adjourned over a weekend, and I flew up to Brasilia to see it.

It's an enormous experience. You get off the plane and you whip into town on great four-lane highways and you feel suddenly diminished, as if you yourself were one of those little plastic people designers put on the streets of their big models.

You sense, however, that you are in the presence of a great creation. Everything leads to great government buildings. All people are diminished to non-people size.

Right next to Brasilia is another city—no less striking in its own way. There seems to me to be great significance in the fact it is known as Cidaje Libre: the Free City.

The Free City began when the workers arrived to build the new capital city. First they put up a tent city, and then, little by little, as they unpacked building material crates, they put the crates together and moved in on them.

All this was temporary. It wasn't to be workers' housing; Brasilia was to be a balanced community. Trouble was that when housing for the workers was built it was the bureaucrats who moved in. Or perhaps it was just that more workers arrived. But, gradually, people started to fix up the shacks in Cidaje Libre.

Nothing could be more fantastic than to move through the practically lifeless and enormous Brasilia, then move on to the Free City—which is made up almost exclusively of barrooms, boarding houses, mortuaries and chapels.

But it roars. Night and day it roars. It sings. It fights. It dies. It makes love. And it dies again. It goes on all night. It goes on and on, and then it prays on Sunday.

Never will I forget the last thing I saw as we were leaving for the airport. Imagine the scene: They had taken one of the great roadbuilding machines used in Brasilia, and as we raced over a superhighway I looked up the side of a ravine and saw the machine, like some monstrous araneid, trying to pave the streets of Cidaje Libre.

We in the United States are not about to build anything on quite so dramatic and pioneering a scale as Brasilia; but it is no less a fact that in the lifetime of those who will practice architecture we will build, in a sense, the equivalent of 400 Brasilias. We must think about that.

D.P.M.

it has been carefully studied—that the most spectacular event in Europe in the past two decades is that without making much to-do about it the nations of western Europe have quietly rid themselves of poverty.

The money to get rid of poverty appeared and the job was done. It has not happened in this country, and there is a general reason for this. It has not happened for the same reason that up until our day in American life, we have been almost conspicuous for the absence of certain types of government programs. Until just now we have been, for example, practically the only industrialized country in the world without a system of national aid to education.

**T**he explanation for this goes back to an original dichotomy in the American conception of the good society and the good life. The American Republic was founded on two principles: liberty and equality.

As you recall, the first statement of the Declaration of Independence begins: "We hold these truths to be self-evident, that all men are created equal. . . ." In the history of Western political thought, the ideal of equality is at least as old as that of liberty, and it has had just as many adherents at different times in history. But it is a fact, and an important fact, that they are not the same thing.

Liberty is not the same as equality. And, what is more, they do not attract the same people. All of us know men who would almost thoughtlessly give their lives for liberty but who are ambiguous at best on the question of equality.

Liberty has been the middle-class virtue *par excellence* in America. It has always enjoyed the highest prestige. Equality has not. There have been many, many Americans passionately devoted to the cause of equality who, if anything, are troubled by liberty. It is a complicated and difficult thing for them. But they on the whole have not had their place in the sun. They have rarely been the dominant group.

Notice the fact that the Declaration of In-

dependence begins with the proposition about equality and that the word does not appear in the American Constitution. The latter was drafted by men who were nothing if not honest with themselves, and how could they talk about equality in a nation where one man in five was a slave? And this is what the population was in 1787 and remained until the Irish arrived in America in the 1830s. Equality does not, of course, appear in the American Constitution until the 14th Amendment. What has happened is, that by the social arrangements of the United States, over the past century and a half of our economy, the resources on the whole have been allocated on the strong principle that "some get plenty and some get none."

This is quintessentially the principle of people who believe in liberty—and anyone who doubts that belief, anyone who questions the sincerity of that belief, seems to me very wrong. It is genuine and legitimate, and there is no one who would say, if it really came to a choice between liberty and equality, that he would come down on the side of liberty.

But need we choose? On the whole we have chosen. In hundreds of unconscious, small ways, we have chosen. And we have never acknowledged the legitimacy of the need for, the demand for, equality in our lives. It simply is not in our bone and blood. But you ignore it at your peril.

We ignore it at the peril of our cities; at the peril of the commonwealth. Because the inequalities of our lives, the inequalities of the city, of a section of the city where half the children born are fatherless and of another section where three-quarters of the children born will go to Ivy League colleges, are intolerable.

And remember the most important single fact about the poor in the world, in this country today, and all through history: If they can't outwit you, and they can't outthink you, they will always outbreed you. They are doing it right now.

A third of the children living in America today are growing up in families which are by the spare definition of poverty developed in Washington, poor families. A third of the children—only 20 percent of the families—but a third of the children, because, finally, you will be interested to

learn, after considerable expenditure of time and effort, the Bureau of Labor Statistics has demonstrated that the poor get children.

In trying to master the problem of the city in this country of ours, we are simply going to have to acknowledge the legitimacy and social necessity of equality as a working, operating principle of this democracy. In terms of the resources available to do this, there is one overwhelmingly important fact of life we can anticipate in the next half-century, and that is that at long last we have the money we need. This is so because of an event which I think is different and is new and has occurred in our time. I would like briefly to sketch it.

You have heard, you have read in the papers, a great deal of talk about automation and the Triple Revolution, and urban jobs disappearing, and all those things. It seems to me that on the whole, this is not the case. These are not new events. They are incremental ones and are clearly part of a general process.

Jobs are not disappearing. Productivity and labor are not going through the roof or anything like that; we have got a somewhat accelerating rate of change, but it is in a steady continuum of the events of the 17th and 18th centuries which we associate with the Industrial Revolution. A logical sequence has continued to occur, no more than that.

**O**n the other hand, there has been, in our time, a genuine discontinuity. A real change has occurred that will profoundly change our lives and which we didn't know much about yet. We are hardly aware of its existence. I have given it—for working purposes—the title of the Econometric Revolution, because I learned that word in Washington, and I am still fascinated with it.

"Econometric" and "discontinuity" are wonderful words. And what I mean by the Econometric Revolution is simply this: We have finally learned how to make an industrial economy work. This will profoundly change the patterns of our lives and, most particularly, of our politics.

The events that have led up to this seem very

typically the events that have led up to many such scientific breakthroughs, technological breakthroughs. You have accumulated over long, long years data about the phenomenon involved, namely, how the economy works. The Bureau of Labor Statistics, with which I was associated, was begun in the 1880s. Its wage series is now continuous for 56 years. Along with this accumulation of data, great theorists have appeared—of whom Lord Keynes is simply one of the best known—to speculate about how the system was working while data was steadily accumulated against which those speculations could then be measured.

Certain techniques of analysis appeared which made it possible to devise new tests. The computer made it possible to make calculations otherwise not possible. And—not suddenly, not overnight—but in a very short space of time, it turns out that you know how to make the system work, where before you did not.

Remember that in the past century and a half the principal political issue, the main question in just about every industrial nation in the world was: How do you make an economy work? People had different views, and those views were transformed into vast ideological issues of which not the least is the difference between socialism, communism and capitalism.

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*“Our cities desperately need design,  
but design will flower  
and endure only if social problems  
are solved, jurisdictional  
obstacles are removed  
and an appropriate civic and political  
foundation is laid for it.”*

AIA FIRST VICE PRESIDENT CHARLES M. NES JR., FAIA  
in a speech before  
the Mason Contractors Association  
of America

●

But observe what has happened in America over the past five years. When John Kennedy took office, our economy was not working well at all. A series of measures was begun which has led us through the longest, strongest economic expansion in US history. This, surely, must be dramatically apparent to us all.

Why do I think this can be described as a genuine discontinuity of events? I think so because it has happened all over the world at about the same time. It is the true mark of genuine technological advance. You remember C. P. Snow's

insightful comment about technology. The secret of technology, he said, is that it is easy. Once anybody can do it, everybody can do it.

If you recall, it was not necessary for the Japanese to steal the plans of our battleships and indeed they made very good ones of their own to prosecute their World War II interests. Once anybody learned how to make a battleship, soon everybody could. The same thing is true of the atom bomb—and very much the same thing is true of managing an economy.

Almost every one of the participants of World War II has been able to manage its economy on a high and continuing expansion for some 20 years. I am still terrified enough by this wonder to feel anxious about calling attention to it for fear of angering the economic gods. But consider what happened to those countries in the 20 years following the first World War as against the second and you will get a measure of the change that has taken place.

**H**owever, there is one fundamental distinction between our situation today and that of our former allies and adversaries in the industrial nations of the world: Oddly enough, before they entered the era of Econometric Revolution, they made a social commitment to full employment and a measure of equality. We are today almost the only industrial democracy in the world running a high and persistent rate of unemployment, although recently our idle percentage of the work force has been lowered. There is a social pathology implicit in our unemployment picture. As every sensitive, thinking American knows, the rate is exaggerated for the Negro members of our work force—and sharply so.

Yet, it seems there is a measure of public spiritedness, of commitment to these problems in our country today which has never existed in anything resembling this extent before. It is one that urban designers will be able to use to their advantage and to the advantage of their communities. The national government has come very fully and seriously to recognize the concerns which afflict our cities and its responsibilities to associate with efforts to cope and master them.

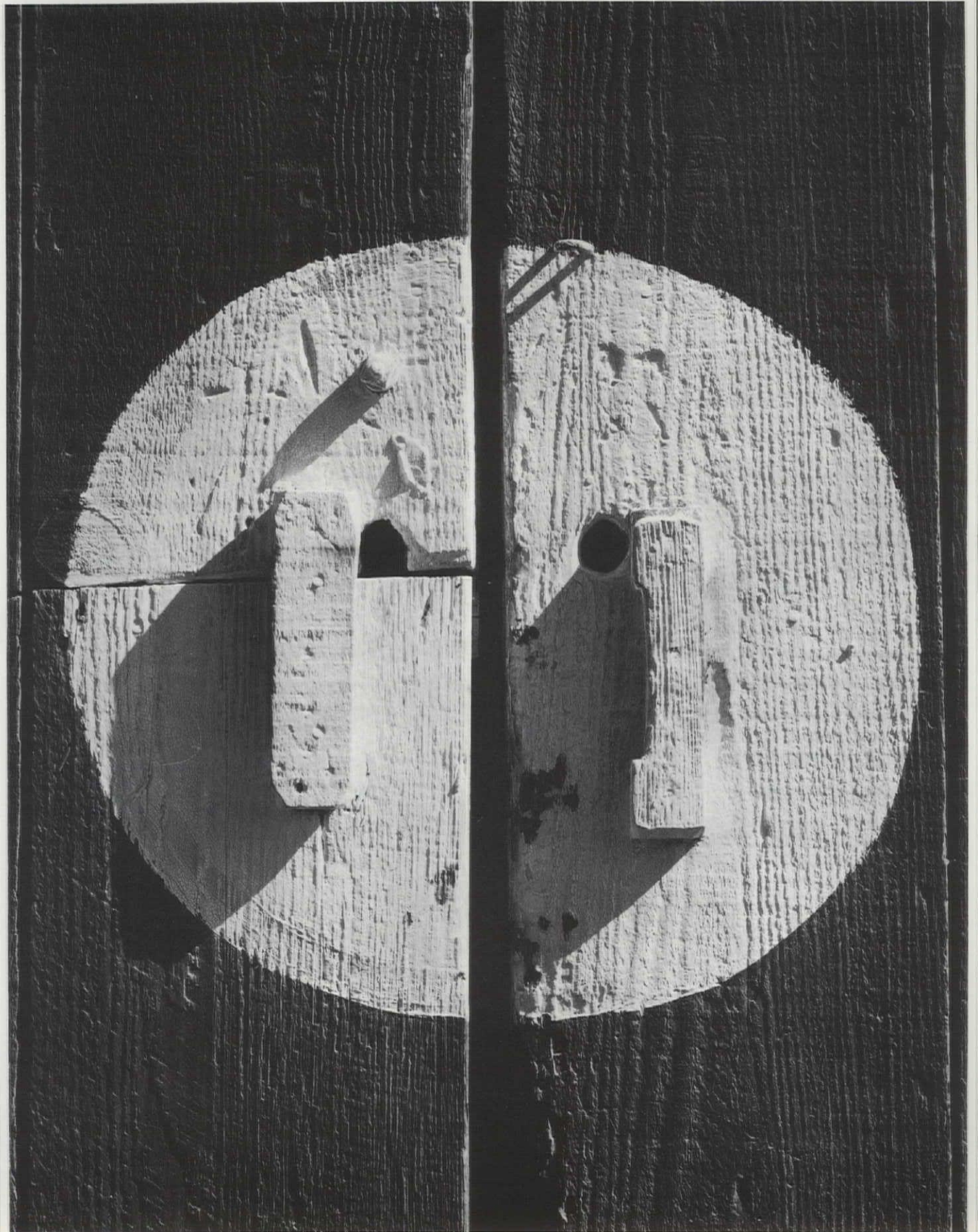
The Department of Housing and Urban Development is at last a reality, and President Johnson's Message on the Cities to the Congress holds far-reaching promise. All indications point toward markedly major federal aid for our cities. ■

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Adapted from an address given at the 1965 Urban Design Conference, Harvard Graduate School of Design. The author, a former assistant secretary of labor, is a fellow of the Center for Advanced Studies, Wesleyan University, and is vice chairman of the President's Temporary Commission on Pennsylvania Avenue.

# Seeing Is Creating—Morley Baer's Art

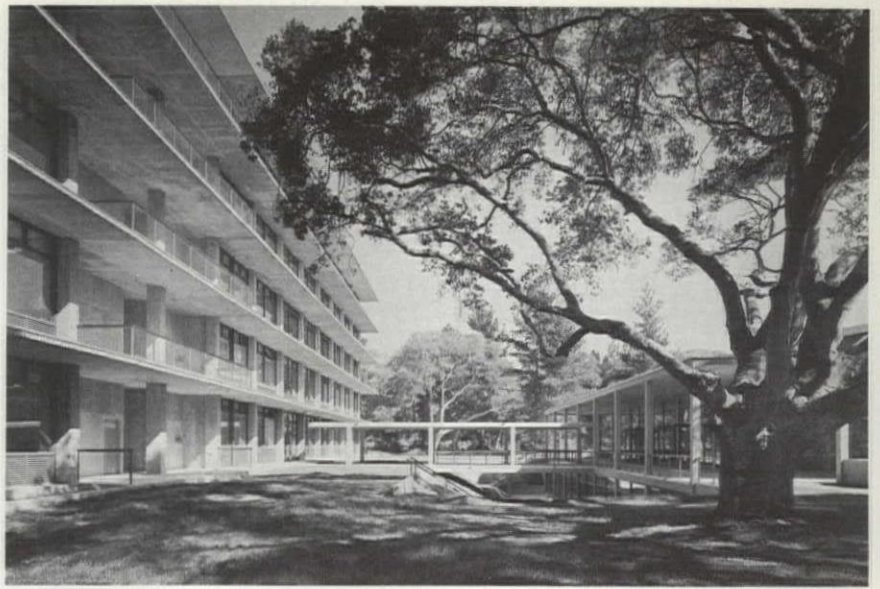
*Work of the 1966 Photography Medalist*



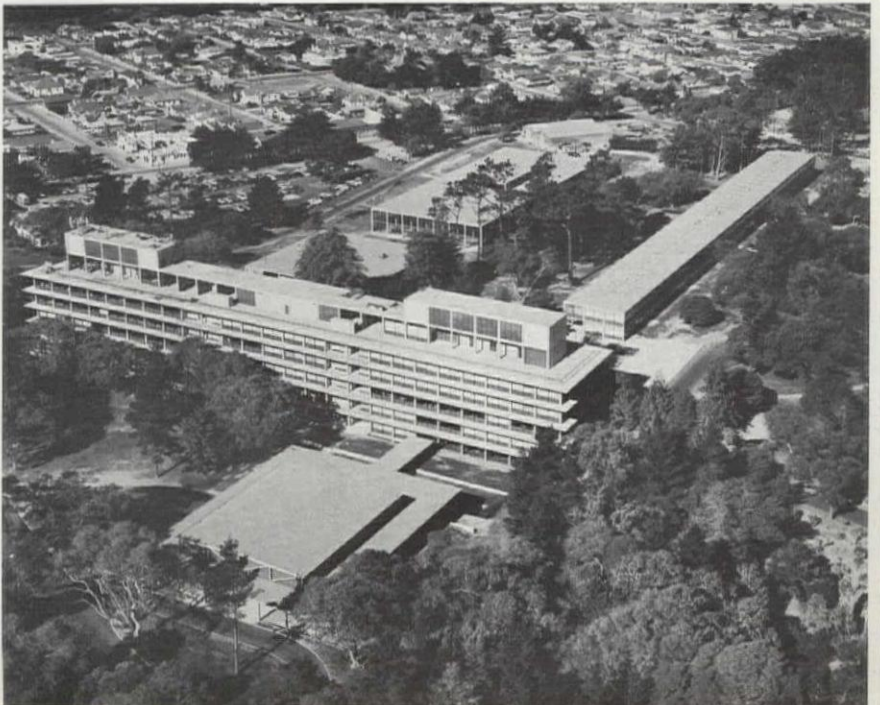
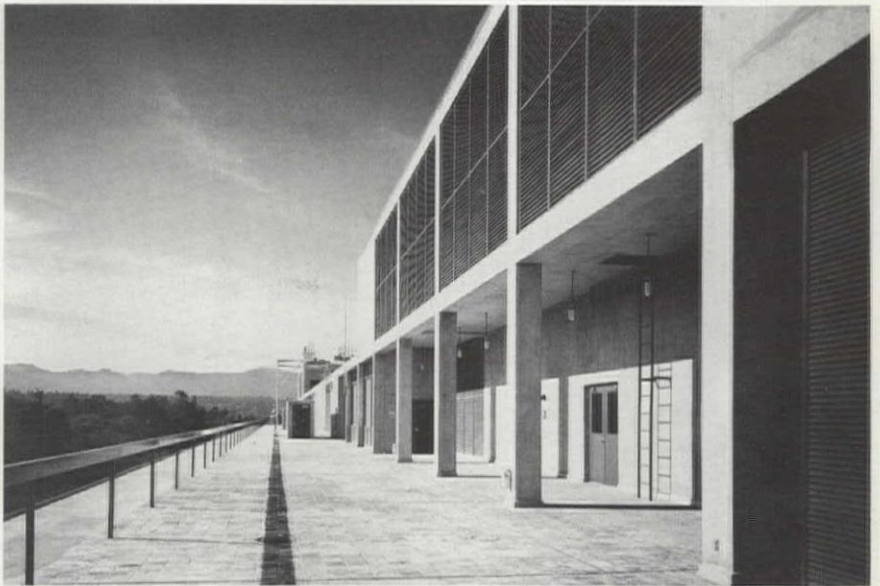


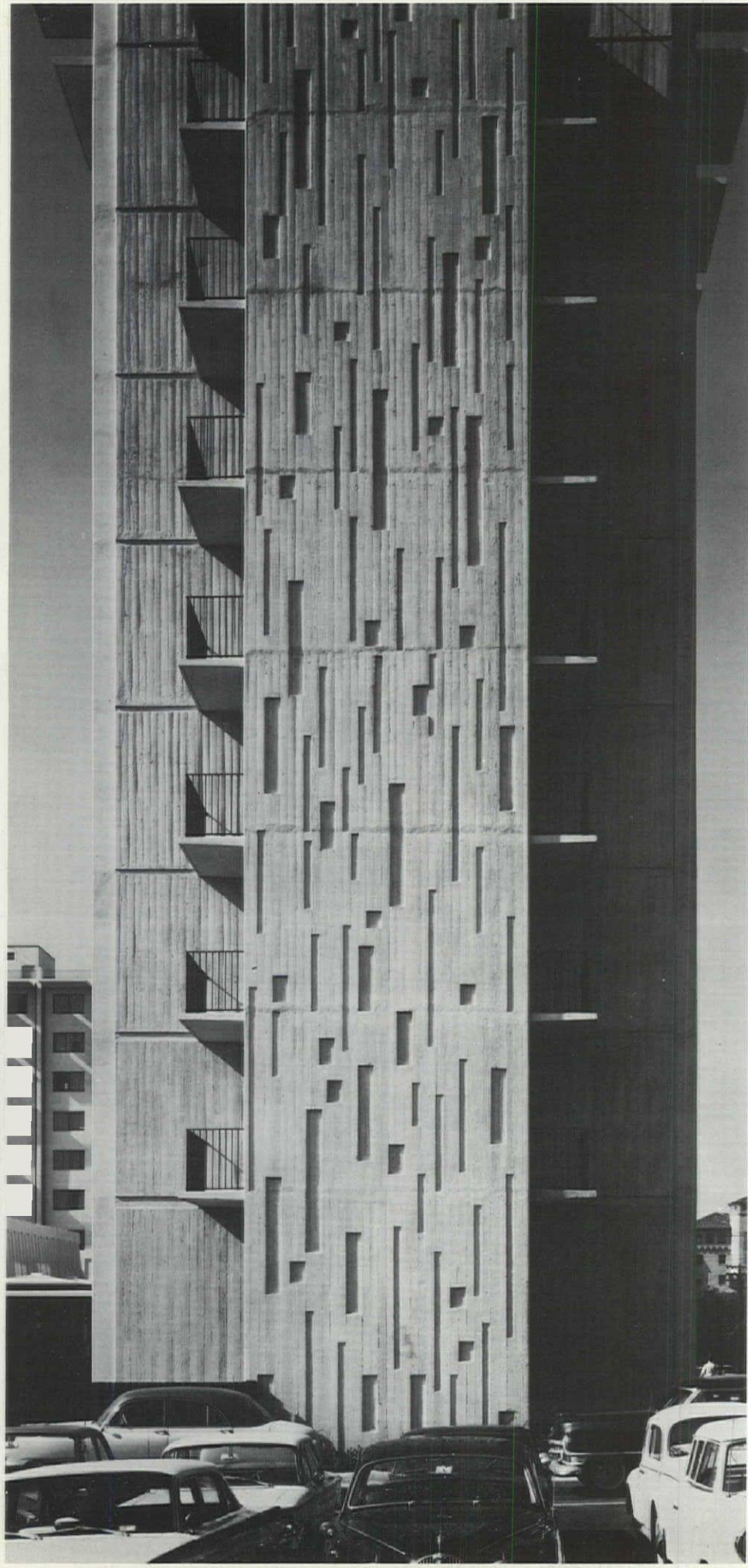


Morley Baer creates. He communicates his art through photography. For him, verbalization is often a pitfall. "Any definitive statement had best come through the photography," he says, "or not at all." Baer, a native of Toledo, Ohio, for many years has been examining—not analyzing, he points out—what he sees about him. And since he lives in Berkeley, California, much of what he sees is on the West Coast. "I started using the camera on what was an exciting new environment when I came out here in the 1940s," he observes. "The camera was my tool to use on the natural scene as well as the man-made objects that often fit miraculously into it." This year's recipient of the Architectural Photography Medal of The American Institute of Architects holds a Master of Arts degree from the University of Michigan. He will receive his medal during the AIA's 98th convention in Denver June 26-July 1.



*The United States Navy Postgraduate School at Monterey, California, demonstrates the photographer's sensitive approach in encompassing a large building complex, then sighting in on the smaller elements. The project, which earned an AIA Award of Merit for Skidmore, Owings & Merrill in 1955, is one of Baer's best-known assignments.*

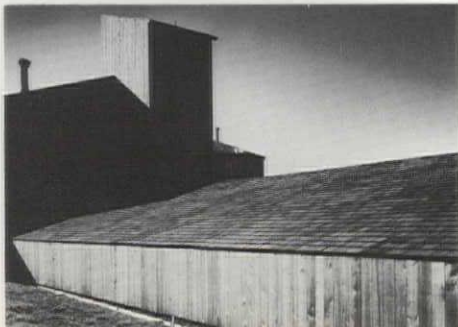




*Baer's architectural eye catches a detail of a University of California residence hall by John Carl Warnecke & Associates.*



*His camera captures the mood of a condominium at Sea Ranch, California, by Moore, Lyndon, Turnbull & Whitaker.*





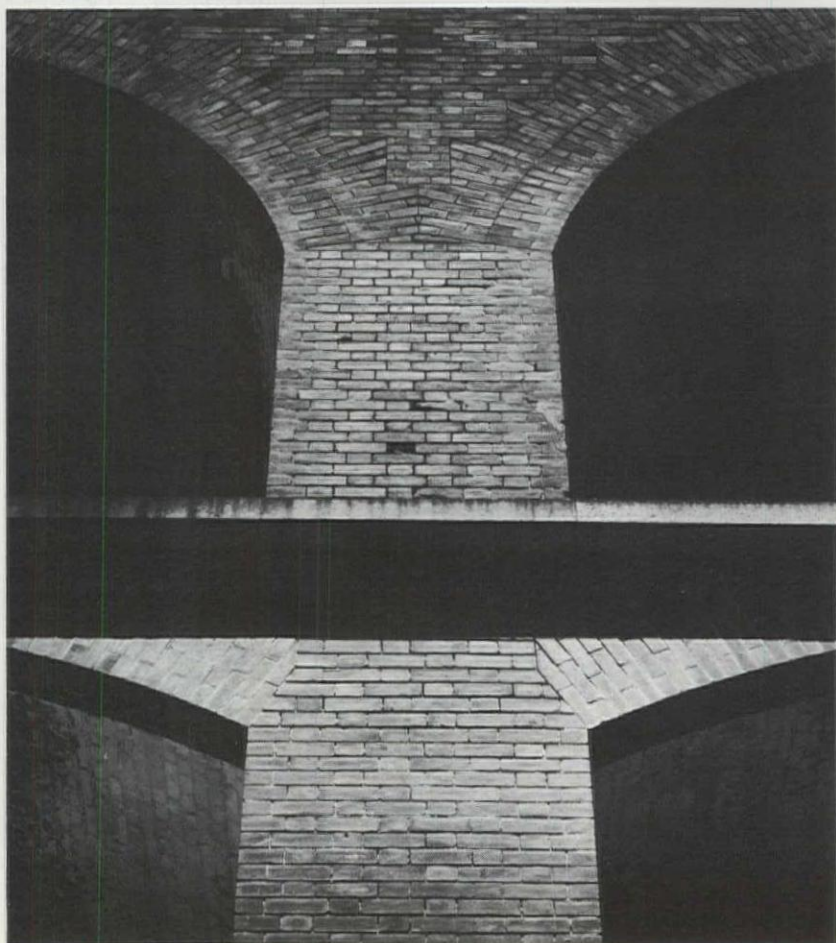
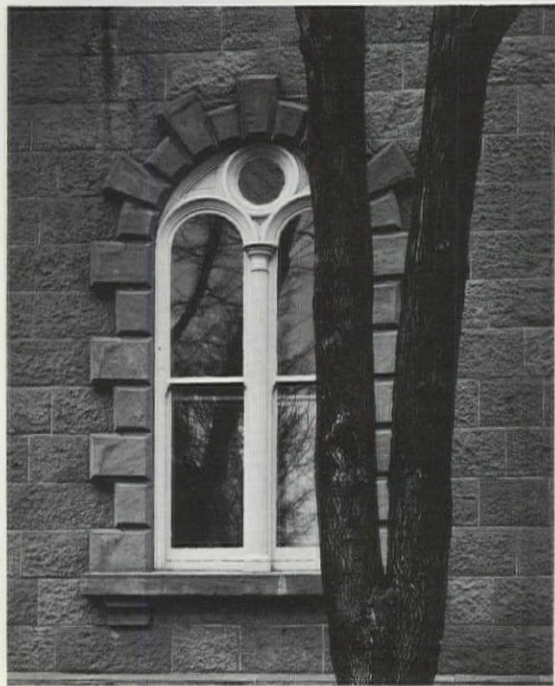
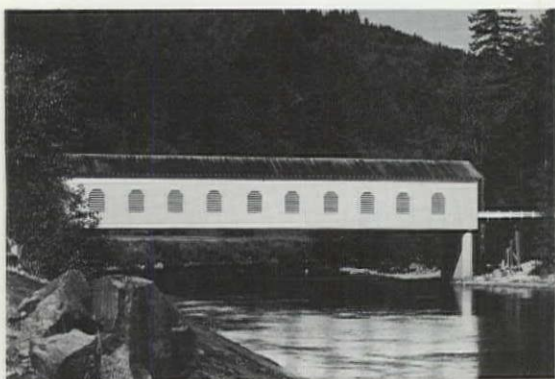
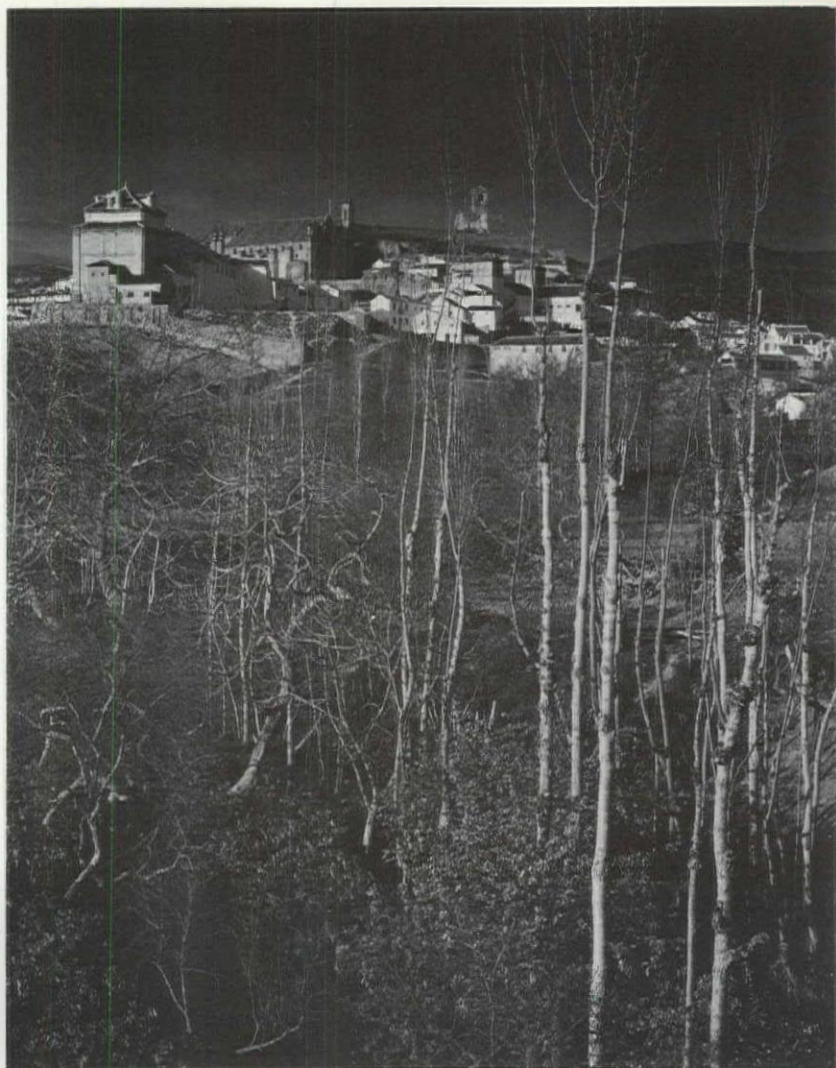
“Extremely simple objects—a rock, a tree or a house on this California coast—still excite me the most,” Baer declares. Yet it is important to him “to communicate something of that special, ordered intelligence that makes architecture significant in all our lives. I get a tremendous exhilaration in watching buildings come alive and a delight in living where they do so.”



*Baer's art may take him to a town in France or in Spain or to burned timberland on the Oregon coast.*



His probing with eyes and camera and his disdain for dissection have “transmitted a fair amount of information and feeling about architecture. “And I am too far gone,” adds Morley Baer, “to make any arbitrary or complying change in this approach.”



*A bridge over the McKenzie River, the statehouse in Carson City, creek willows at Antequera, gun emplacements at Fort Point—all the photographer's game.*

# XI Pan American Congress of Architects

*A Review by the Chairman of the Subcommittee on Themes in the Light of a Recently Published Report*

BY MARGARET VAN PELT VILAS, AIA

NORTH AND SOUTH AMERICANS seem to share the concept that the United States is "advanced," while Latin America is "developing." For US architects, the wisdom of being lulled by this notion is questionable.

The word "developing" as used in current terminology applies neither to Latin America's sophisticated cities nor to its burgeoning industries. Still the use of such terms persists in our thinking. No one denies that US professionals, along with all the others of the hemisphere, are searching for solutions to our long-range planning problems; yet when we gather together with Latin Americans at the conference table, we tend to sit down with the preconceived idea that they are there to learn from us.

In the wake of last June's combined Congress-Convention, many US architects were unaware that the XI Pan American Congress had carried out its own program of deliberations concurrent with the business meetings of The American Institute of Architects. Many of us, however, had signed up for the Congress sessions and took an active part in them. By the time the resolutions were thoroughly discussed, edited and finally accepted in the plenary session, we were left with confused impressions of a lot of fine resolutions; and unanswered was the question of how could all this work contribute toward any concrete benefits.

Records of the Congress were still being compiled as published reports of the convention were circulated. This tended to reinforce the general impression that the only Congress results were those of the joint activities with the AIA.

The official report of the Congress has recently

been published in Spanish, a fat tome of between 200 and 300 pages. Even so, a few of the papers, and very interesting ones at that, were omitted—probably just lost in the shuffle. But they were, in essence at least, included in a summation of the working session minutes.

The voluminousness of the report necessarily obscures a clear impression of the final conclusions of the Pan American meetings, and any idea of their significance for US architects is lost. Yet it is both instructive and thought-provoking to review the recommendations discussed in the Congress, not only those which throw light on mutual problems of the US and Latin America but also those that stimulated debate because of their very nature. The fate of the latter is interesting to follow. In addition, it is hoped that this review will afford insight into and appreciation of the accomplishments of the XI Congress of the Pan American Federation of Architectural Societies (FPAA).

Subject matter of the proposals selected varies widely. Dealt with were the population explosion, decentralization of large cities, transit, financing and expropriation of land. It is not easy for North Americans to extract for ourselves some message from these Latin American-oriented conferences; indeed the Latins themselves do not necessarily get through to one another.

Worth noting is the striking difference between deliberations of a Latin Congress and a US architectural body. Latins are sensitive to economic and social problems which we tend to dismiss as not being "architecture." In recent years the "broader aspects of architecture" have been impressed upon AIA members, but we do not accept as our purview the broad scope of socio-economic concerns Latin Americans espouse as their professional responsibility.

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## Birth Control

An example of such a socio-economic paper co-authored by Jorge Frías and Nestor Siciliano, both members of the Argentine delegation.<sup>1</sup> It concerns the fact that due to the population explosion the housing problem is growing progressively worse in various countries<sup>2</sup> (in spite of tremendous achievements in this field over the past decade). The paper presented to the Congress<sup>3</sup> referred to the world's present and projected population density and pointed out the dangerous disadvantages of overpopulation. It concluded that "control of the birth rate is a concern of the architects of America."

The proposal recommended a letter to His Holiness Pope Paul VI requesting assistance in the solution of the problem. It also urged a letter to the Organization of American States asking it to take action and, in developing this point, it proposed the inauguration of a program of education in problem areas and a program of subsidies for birth control measures.

Reactions of architects from other countries to this motion varied considerably, one Colombian going so far as to state that control of the birth rate would have no effect on the population explosion. The consensus was to strike the word "control" as being offensive to some of the delegates. Thus the motion, generalized to make it acceptable to everyone, was worded as follows: "Resolved, to make an appeal to the appropriate organizations and institutions that they accelerate the studies now being carried out on the serious problem of the population explosion, for the purpose of finding solutions for the countries of the hemisphere, that will result in efficient long-range planning and an organized provision of space for man's needs."<sup>4</sup>

The motion carried unanimously. This is the closest that architects from 13 countries could get to taking united action on a problem that is deeply rooted in our various cultures. US architects may feel this issue no longer concerns their country since present reports indicate the birth rate here is falling. But shortly after the Congress we had the Watts riots, and subsequent investigation cited overcrowded slums and unemployed youths, for the most part reared in fatherless homes as contributing factors. South American architects would identify a crisis such as Watts as their immediate concern. Is there a lesson here for US architects?

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## Decentralization

The expanding birth rate did not get all the blame for the population explosion. Dean Leonard Currie AIA of the US delegation, in his paper on

"Housing in the Caribbean,"<sup>5</sup> listed the success of modern health programs and the resultant declining death rate. Arq. Julio Villalobos AIA<sup>6</sup> mentioned the often cited phenomenon of population densities caused by the rush from rurality to the cities, causing slums and unemployment.

Once more we are reminded that the US is not immune to this symptom, when we recall an analysis of the conditions contributing to the problems in Watts and elsewhere. Here, too, the cities have experienced an influx from rural Southern areas, while lacking proper housing and jobs.

In this regard the recommendations of Arq. Jorge Ferrari Hardoy<sup>7</sup> in his paper on the relation between housing and the city have double significance. He recommends that the development of cities be controlled, that their growth be broken down into units where housing will be located *near* employment. His aim is to cut down on time and space now consumed by the daily transportation of masses of workers. He believes each unit must have a predetermined population density and a ceiling beyond which it is prohibited from going. In the US we already subscribe to the concept of a certain control of population density in our zoning laws. However, the proposal of Ferrari goes a great deal further and, in limiting the size of urban units, would incidentally control the influx of people to given cities. His proposal implies legislation that would limit free migration within the boundaries of a single country.

While referring to Ferrari's thesis, we should note his timely remarks enlarging further on the problems of transportation. The following quotation from his paper is frighteningly prophetic: "The dependence on mechanical means of transportation, expanding simultaneously with the growth of our cities, consumes our time, our energy and our nerves. . . . Little by little the automobile occupies more space and conditions more and more the entire functioning of urban life today. A transit strike could paralyze the life of a city just as effectively as a bomb!"

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## A Controversial Paper

The subject of another paper by Villalobos<sup>8</sup> was so hotly debated that the author finally withdrew it. It confuted the widely held theory that large holdings of land in Latin America should be broken up into plots for the poor. We in the US have learned long since that efficient mechanized production requires extensive land areas and is not suitable to sites fragmented into small lots (nor can small farms feed present populations). However, the tenet that "each family has a right to own its own home"<sup>9</sup> has been reiterated



so often that Latin American reform seems to be inexorably committed to land parceling.

Over the years Mexico, Bolivia, Cuba and now Peru have dedicated themselves to this ideology, and once begun there is no turning back. By latest reports,<sup>10</sup> repeating the experience of the other countries, land tracts in Peru, recently broken up and allotted to families, have decreased in productivity. However, the Peruvian Government will continue to pursue this policy because of the impatience of an indigent population which has been promised this form of relief.

It is exactly these problems that Villalobos maintains can be avoided through a totally different approach, outlined in his paper entitled "Free Enterprise in Latin America." His program for development in Latin America of the extensive underdeveloped holdings of absentee owners would proceed without infringing the landowner's title. Large tracts would remain intact, suitable for broad scientific planning, along residential, agricultural or industrial lines as required.

The resulting appreciation in value as plans are implemented would pay dividends to the owner for the use of his land, as well as repay the government expenditures for planning and development costs. Villalobos mentions details such as the administrative structure of the planned areas and the means for the people's participation in the program. The paper is, in fact, a plan worked out by Villalobos, while head of planning for Argentina's National Reclamation Department in the 1940s, for the utilization of reclamation lands and later expanded in the master plan for Balcarce, Argentina. With revisions it also figures in the master plan for the Delta of the Paraná River (1962). Because this treatise was finally withdrawn, it is not published in the report; but necessarily the discussions it excited are recorded in the minutes of Commission No. 3,<sup>11</sup> which mention that there were objections to the proposal "because the legal aspects of it were not clear," and it was emphasized that such a plan would provide an opportunity for monopolistic control with rising prices for lands which border on urban centers.

Discussion was animated. It seemed that those dedicated to championship of the underprivileged rejected instinctively any plan suggesting action by private enterprise—a term that to them was perhaps synonymous with exploitation of the poor.

It is interesting to note a basic similarity in the recommendations of Ferrari and Villalobos, though their emphases differ. Neither is content to consider the mere provision of housing for the people to be enough; rather each insists on addressing the larger problem of providing housing and employment planned integrally.

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## Financing Mortgages

The preceding papers have such dramatic impact that the subject of mortgage financing may seem mundane until we realize that "it can happen here." Three papers presented by the Argentine delegation dealt with the subject.

The difficulty in many countries experiencing inflation is finding lenders willing to invest in long-term mortgages. Continuing inflation devalues the principal and interest payments of long-term loans. Each of the three papers proposes different solutions for attracting mortgage money. Two of the papers<sup>12</sup> report plans already in operation and give tabulation of payments and all other information pertaining to the project in complete detail.

The current rate of interest on mortgages is around 20 percent in Argentina, but still there seems to be insufficient incentive for investors to want to risk their money on long-term loans. To attract financing Arq. Federico Ugarte,<sup>12</sup> in his report on the housing project "Confiva," describes a system of re-evaluating the mortgage each year during the 10- or 20-year term, as the case may be, in proportion to the salary of the homeowner. Another device referred to by Nestor Siciliano,<sup>13</sup> in his paper on planning and financing health and recreation buildings, is the recommendation of "flexible" mortgages to be adjusted by a cost of living index.

Let us hope that in the US construction continues to boom, that inflation continues to be only a minor threat and that these problems remain purely academic. At the same time it is desirable that we be forewarned by the experience of our Latin colleagues.

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## Latin Neighbors' Advice

Finally, even at the risk of digressing from the current report of the XI Congress, mention should be made of one more message that Latin American architects have been trying without success to get across to us.

Repeated earnestly and insistently at the roundtable conference held in Sao Paulo in 1962 and Lima in 1960 for organization of a Latin American Common Market for housing and school construction were requests that the AIA consider a change to the metric system for the US construction industry.

At the present time the Latin countries suffer confusion from an infiltration of two systems of measurement. For instance, for pipe sizes the diameters are given in inches, their length in meters. The stock width for wallboard manufactured in Brazil is 1.22 meters—the origin of

this circumstance being that wallboard was originally imported from the US (1.22m=4'-0"). Latin Americans have much organizing ahead of them before international uniformity can be worked out. They do not stop to think what this would entail for the US, i.e., new modules, new stock sizes and retooling for products and equipment, new land surveys and revision of building codes.

If done at all the conversion should be national rather than industrywide. Britain is converting to the metric system because of her interest in entering the European market. Indications are that the Latin American Common Market will not be limited to construction but will be a general common market. If the US eventually comes to the conclusion that she must go along with the rest of the world in this regard, then architects should consider whether this is not the time to act. New modules and stock sizes should be established simultaneously with the movement in Latin America so there will be uniformity and interchangeability throughout the hemisphere.

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## Conclusions

Just what were the overall conclusions of the Congress? What did it accomplish? Did it really make some concrete contribution?

There were three subthemes as in the AIA convention: "Housing, Commerce and Industry" was one; "Health, Education and Recreation" was another; and "Transport, Urban and Suburban Planning" was the third. There were separate working sessions for each subtheme at which the papers in the form of motions were read. The resolutions were then rejected, modified or passed much as a bill would be handled in our own Congress.

This is serious for the Latin American architect, not only for the future course of his country but for his own personal prestige at home. The working sessions were well attended, with standing room only in one. Debate at times was tense, and clerical help was kept busy translating from one language to the other two (English, Spanish and Portuguese). Mimeographs and typewriters clicked away far into the night so papers would be available before the next day's session began.

The final plenary sessions passed on the recommendations of the working sessions, the final acts being organized under the same three divisions. The first, on "Housing, Commerce and Industry," called for more housing to be planned integrally with community services.

Under "Health, Education and Recreation," it was recommended that specialized courses on the

subject of architecture for education be included in the curriculum of American universities, and that a roundtable on school architecture be called. It also included a specific international program for health, education and recreation buildings, to be fostered by the OAS and financed with "flexible mortgages" as described earlier.

The third division of the final acts sounded a new note. It resolved that future congresses focus on the one theme "Cities of the Americas" and, with the backing of the OAS, that a permanent international commission be established, a planning team with experts from all the fields concerned, to serve as a continuous clearing house for research and planning. It would report back to each FPAA Congress and be guided by the subjects assigned. The findings of this body would be distributed to planning commissions and AID institutions and would foster and take cognizance of all planning groups in the hemisphere, collecting and distributing information. The authority of this committee would give weight to its findings so that governments throughout the continent would heed its message.

There will be varying appraisals of this document. Some may question whether this last resolution does not herald the birth of one more, proliferating bureaucratic commission, while others will feel, that handled properly, such a body might well become the needed lifeline for those who are working to save the urban complexes of North and South America.

## References

1. Doc. No. 16, "Control de la Natalidad," Arqs. Jorge Frías and Nestor Siciliano; Argentine Delegation (not published in the report).
2. Also see reference in Introduction, Doc. No. 5, "Tres Aspectos de la Vivienda de Interés Social," Arq. Hugo Navarro; Panama Delegation.
3. Quoted from Doc. No. 20, Minutes of Commission II, First Session, June 14.
4. Quoted from Doc. No. 27, Minutes of Commission II, Third Session, June 16.
5. Doc. No. 12, "Housing in the Caribbean," Dean Leonard J. Currie AIA; US Delegation.
6. Doc. No. 7, "Planning for Free Enterprise in Latin America," Arq. Julio Villalobos AIA; US Delegation (not published in the report).
7. Doc. No. 15, "Hacia una Relación mas Armónica entre la Vivienda y la Ciudad," Arq. Jorge Ferrari H.; Argentine Delegation.
8. Doc. No. 7, *op. cit.*
9. Quotation from Introduction, Doc. No. 5, "Tres Aspectos de la Vivienda de Interés Social," Arq. Hugo Navarro; Panama Delegation.
10. *Time* magazine, Dec. 31, 1965, pp. 28-29.
11. Doc. No. 24, Minutes of Commission III, June 15.
12. Doc. No. 3, "Préstamos Hipotecarios Adecuados a la Inflación," Arq. José Fernandez Díaz; Argentine Delegation. Doc. No. 13, "Plan Integral de Viviendas para el I.A.F.P.R.P.M.," Arq. Federico Ugarte; Argentine Delegation.
13. Doc. No. 17, "Habitación, Educación, Salud, y Recreación; Hipotecas," Arq. Nestor Siciliano; Argentine Delegation (not published in the report). ■

# URBAN DESIGN WORKSHEET 8



PREPARED BY PAUL D. SPREIREGEN, AIA, FOR THE COMMITTEE ON URBAN DESIGN

## The Road Stops Here

BY S. B. ZISMAN, AIA

NEVER BEFORE in the history of man has there been as much movement without destination as there is now in the United States.

"These crowds on the road," writes August Heckscher, "might be presumed to be going somewhere. It turns out too often that they are not—or at least not in the precise and definite sense that people in former ages took journeys or made pilgrimages. In other times . . . a journey had a beginning and an end, a setting forth and a homecoming. . . . Travel now becomes motion, as remorseless, anonymous and repetitive as the tides."

This great flow of movement without end has developed largely, if not predominantly, as a result of the use of the motor vehicle. It has made available to anyone, regardless of age, status or purpose, the command of an enormous amount of motor power at the touch of a fingertip. The sheer availability of the means and power to move has increased; it has intensified, almost deified movement as an end in itself.

### Urban Impact

By and large, most transportation studies and planning, at least up until now, have been approached as a problem of keeping vehicles on the move. We solemnly calculate "origin and destination" and "traffic volumes." Traffic on the move may be surveyed in 24-hour periods and the findings taken as determinations for planning, rather than studying the findings and land uses which cause the traffic and which the traffic should serve.

The Buchanan report points out that "the characteristic which distinguishes the motor vehicle from other forms of mechanical transport is

*its ability to provide a door-to-door service."* We are, perhaps, at the beginning of a new approach for taking into proper account the "doors" of this door-to-door service. It may be that the time has come to question the nature and use of our present methods and set about developing techniques for determining where the doors are and where they will be in the future.

Until now, the great road development of the United States has been a magnificent achievement of the highway engineer. A tremendous program of construction now ribbons the entire country with smooth flowing lanes of concrete and asphalt, dotted with sweeping interchanges and soaring grade separations. "Until now," that is, because most of this great work had been done in the country where movement per se was the essence of the trip, where a stop was a kind of detour and where portals were completely disregarded.

But now there is before us the problem of the urban complex and the problems not of movement as movement alone but of the destination as well. The country is confronted by the city.

The central city—the city's center as well as its sprawl—emerges as the true mate of movement in transportation planning. The courtship has already begun. We are now to have highway planning wedded to "comprehensive land-use" planning—or so the wedding certificate of the Transportation Act of 1962 says. Whether this is to be a marriage of convenience or true love is yet to be revealed.

### Urban Circulation

The urban planner is concerned with urban transportation as a system of circulation into, through and about urban spaces.

Circulation is a combination of movement and landing; one without the other is meaningless. No

architect would design a stair without landings at the beginning and end of the stair run, or without a landing at a turn of direction, or without a landing to break up a long stair run.

No planner worthy of his work can plan an urban circulation system without providing landing places to begin and terminate movement, without proper space to ease change of direction, or without landing places to provide for stops in the long, flow of traffic to serve the activities—activities which in the end generate and receive the traffic.

As highway planning meets the central city and its complex problems, it must take the landing place into account. The landing place must be an integral part of the system of movement. The place to park is as vital designwise as the road bed.

In some instances this principle has been honored in highway building: the roadside park, the roadside turnoff for scenic view, the extra lane for repairs and emergencies. Even the common street has given some recognition to parking at curbside or on an adjoining lot.

In the urban context we must go further than these few attempts. If the highway engineer and the urban planner are to meet the urban problem, they must plan both road and parking as one and the same system. It is not enough to build an expressway with ramps on and off and let the motorist be damned from then on. The road and ramp must lead to some landing: a specific parking facility or an organized system of traffic landings. Change-over to different modes of motion, whether mechanical or pedestrian, must also be included.

Quite simply, urban highway building must include landing facilities. Highway funds must be used not only for the road but for parking. It is as valid to build parking as part of the road system as it is to build wharves, piers and slips as parts of water transportation systems.

In the future it may be that the matching contribution of the city may be directed not to the purchase of rights-of-way but to the provision of parking facilities as part of the road system. The logic of this is that the city could effectively make local determinations of land-use activities and thus join in the development of the road *terminal system*, linked directly to the road network.

In the fundamental understanding that urban movement has to have a "there"—an objective—we can begin to meet the urban problem. The significance of the central city in urban transportation is that the center is where the road stops.

### **Nature of the Urban Center**

It is commonplace to point out the decay and disintegration of the urban center. With few ex-

An address presented at the Environmental Engineering Conference, American Society of Civil Engineers, in Salt Lake City, and adapted from the *Utah Architect*, Vol. 35, Spring 1965.

ceptions, such as New York or San Francisco, the urban center has lost much of the pulling power that once characterized it as the central magnet of the urban complex.

Yet, vigorous efforts are now being made to revitalize the urban center. In the course of time the scale of this revitalization may grow to meet or even exceed that of the highway building program.

A new reading of the form and functions of the central area is now taking place, and in it are new interpretations of the planning of urban transportation in relation to the urban center.

The central area will remain as the highest concentration of varied activities. It will continue to be the main headquarters for all kinds of exchange of goods, services and ideas. There is even a trend in the return of close-in residential development.

The very sprawl which has torn the central area apart works in reverse to recreate it, even if in different terms. By multiplying the subcenters in all directions, there grows a need for a main center to provide what the individual subcenters alone cannot afford to duplicate.

### **Role of Convention Centers**

By way of example, one of the major functions of the urban center is what may be called "the visitor function." The very mobility afforded by the transportation system makes it possible for more and more people to visit places, to gather for meetings, to convene at conferences.

All over the country new convention centers are being built, planned and promoted. Here, indeed, will be destinations for thousands, for tens of thousands. In most of these projects there has been and is controversy over location: Should it be downtown or out in the country? The weight of the argument is on the side of downtown location, near all the activities needed to serve intimately all the visitor requirements that are bound up with the assembly of large numbers of people—hotels, restaurants, entertainment and headquarters activities in great variety. As a major destination of movement, the convention center along with the closely related facilities and activities of the central area should be planned in direct connection with the transportation system.

This very problem occurs in Salt Lake City, for example. A new convention center has been approved by public bond issue vote. After long and thorough discussion, it is to be located in the heart of the central area. At the same time, a major expressway has been projected to serve the Salt Lake City area. It was laid out prior to the convention center decisions—and without regard to the center at all.

It has been proposed that the expressway be tied directly to the convention center complex by

a finger system. This would reach from the expressway to the center itself, penetrating to the center as a major landing place. It has also been suggested that these fingers, part of the expressway system, be designed as large-scale parking facilities. This would involve airspace over a railroad area which must be crossed. By combining road branch and parking facility a direct channel of movement and a needed landing place would be created. This would serve the convention center and the city center at the same time, and the convention center itself could be better designed to receive traffic at appropriate levels.

This grand concept, as extravagant as it may appear, underscores both the nature of the problem and the kind of solution that lies ahead—if we are to move ahead. In this kind of situation, there is no true conflict between the immediate and the long-term gain. What is lacking now will be bitterly regretted later.

But all solutions will not be extravagant. As we sort out the problems of tying the highway system to the central area, unifying road and landing, we will find a great range in sizes and types of solution, as varied as the ranges in type and size of central city areas themselves. It is essential that there be a major attack on the problem itself: the central area as landing place for urban traffic. The gap between urban planning and highway planning must be closed, as promised now in the law of the land.

The central area, now being brought to new life, must be appreciated as a prime generator and attractor of traffic. The amount of traffic having business in the central area will grow rather than lessen. New systems of handling this traffic must be worked out with a hierarchy of distributors of traffic. Regional networks must be combined with internal circulation systems, including pedestrian

movement. Vehicular traffic must be related to other forms of transportation. Ring roads and by-passes must be adjusted to systems of access and penetration reaching to the very urban centers themselves.

### Road to a Better Environment

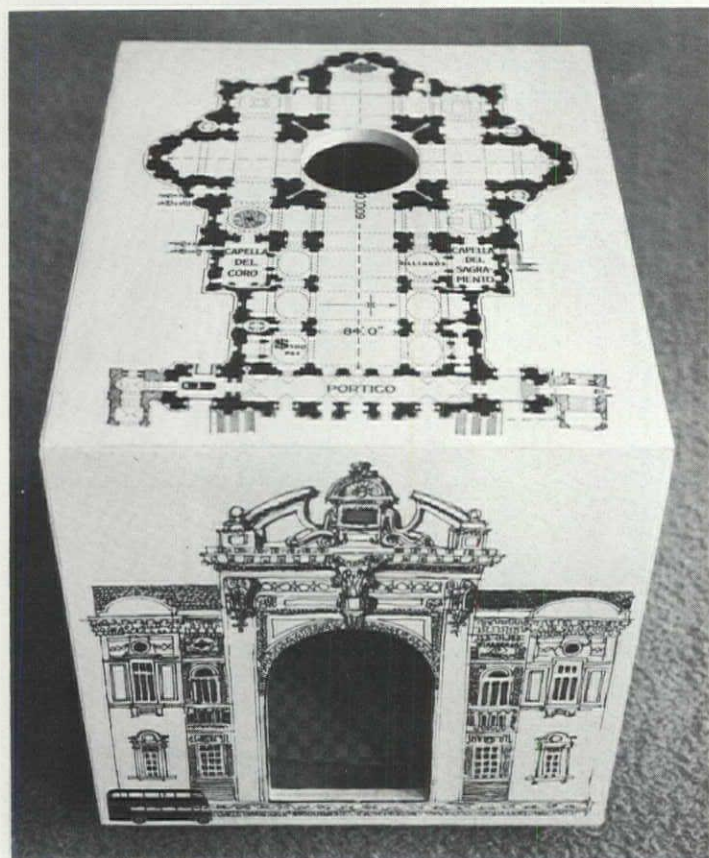
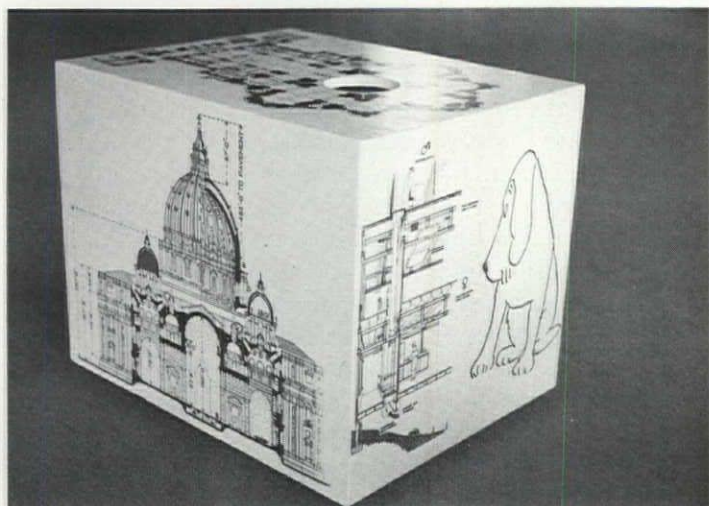
Above all, we must give honest attention to the impact of the highway on the urban environment. The great engineering achievements of our highway system cannot progress very far by brutalizing the appearance and amenity of the urban area. No longer can we ruthlessly disregard all considerations other than the free flow of traffic. No matter how ingenious the engineering, roads are not ends in themselves. They are services and utilities toward the end of better environment.

It is in the urban area, and particularly in the urban center, where the challenge is greatest, where the threat is most ominous and the problems most difficult. If urban planners and engineers cannot meet the problems of noise, air pollution, vibration, severance of community, and visual intrusion as well as the problems of safety and congestion; if transportation planning cannot be developed to meet the high competition for land in the central area without destroying parks, college campuses and open spaces needed by the people—then others will take over to impose restrictions and conditions that will intensify the problems far beyond what they are today.

It is the urban central area which is both the major problem and major challenge in urban transportation. It is here that the future attack on an integrated system of urban circulation must be made. In this sense, the central area has a major role to play—and a far-reaching significance—in planning transportation for what is now an urbanized nation. ■



# Architecture Going to the Dogs *or* The Bowhouse Was Never Like This

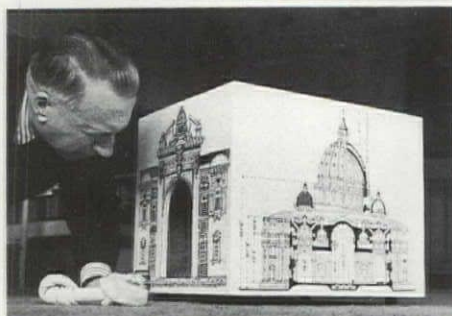


**PROJECT**  
Residence for a Domestic Dog  
Sioux Falls, South Dakota

**ARCHITECTS**  
Staff of Harold Spitznagel & Associates

**PHOTOGRAPHY**  
Joel

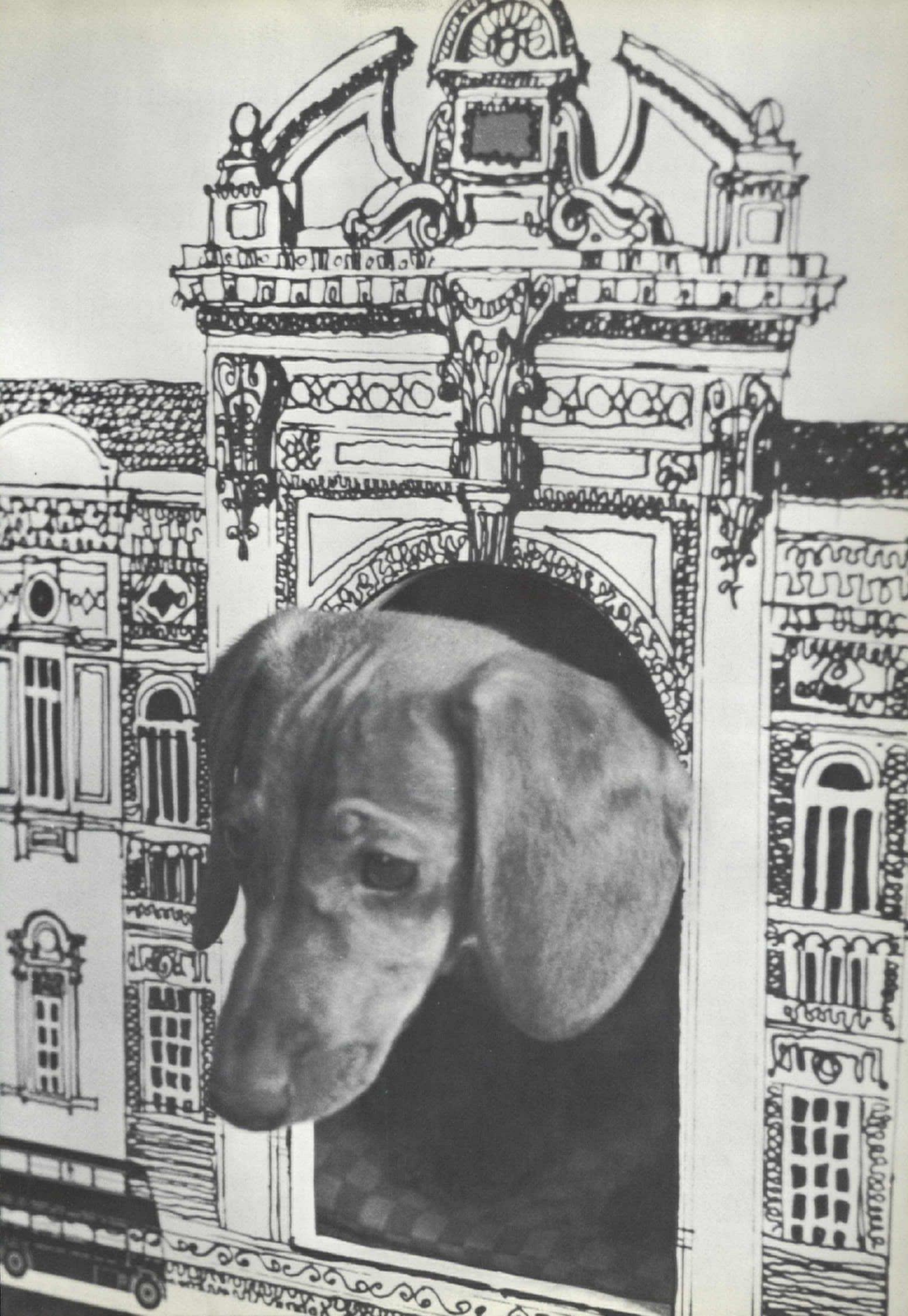
**THE PROGRAM:** A young registered dachshund (Trina) requires a portable house which will provide relatively complete privacy when she wishes to escape either excessive attention or punishment by her owners. A sense of structure is essential since the client, plagued by the complexities of contemporary society, demands an understanding of her own, most intimate environment. A single entrance need not be larger than 12 centimeters in width and 20 in height. The dwelling must be ventilated.



While the occupant is not traditional minded, she would like a habitat that is playful, friendly and, above all, in canine scale and good taste. Although she has indicated an interest in historical buildings, she would not favor an archaeological restoration.

**CLIENT'S COMMENT:** My new residence fulfills my requirements, both spatially and spiritually.\* I have gnawed on the small pillars which support the structure and have found them to be delicious. My friends are intrigued by the montage of historical illustrations, and the ventilation is superb. ■

\* ED. NOTE.—The critics don't agree. Two observations: "The house has a Queen Anne front and a Mary Ann behind. No wonder the dog is unhappy. The office should get an 'A' for effort."—Samuel E. Homsey FAIA. "These are the same plans Spitznagel used for his office building."—Linn Smith FAIA.



# The New Church: A Criticism

BY JOHN W. LAWRENCE, FAIA

*The following is a precis of an address given by the dean of the School of Architecture, Tulane University, before a liturgical conference at the University of Detroit.*

ALMOST ANY CHURCH commissioned today will be more failure than success, even when undertaken by very good architects and well-motivated members of the clergy. Despite our emancipating technology, few churches have been free to explore what they should be.

Today, perhaps for the first time in the church's long history, we can build a church solely for worship, without the political or economic overtones of the Gothic or of the Renaissance. The problem is entirely new, and the kind of building that the church has to be has never existed before. Dare we do it?

The point is often made by religious leaders and by architects that congregations will be uncomfortable with the "new." If by new we mean merely the adaptation of an old prototype, then it is not surprising that uneasiness ensues. The trouble is not that the forms are new but that they are not new enough. Pseudo-modernism is our problem, and the devices of the past in only slightly different garb is totally inhibitive. Using technology merely to gussy up the old into abberations of structural exhibitionism will no longer suffice. An average parish will respond with enthusiasm to a creative work of art but not to one that hesitates. Can we build the new churches without thinking of monuments?

Almost all churches are nostalgic and rely on the devices of other times designed for other needs. For example, the reliance upon the campanile as a sure exclamation point to proclaim the presence of a church serves too often as disguise for a poor design. And how we do labor over our campaniles, and how badly they always seem to come out! Can much of a case be made for this ornament which was once a necessity but now can justify itself with only the greatest difficulty? This nostalgia for old forms prevents the logical evolution of the new church.

Almost all churches are too big. A church for 600 faithful is probably the upper limit if one is to cope with the new opportunities and the new attitudes. Smaller churches should be built—and more of them as needed. The use of height as a *sine qua non* for achieving church "atmosphere" is a favorite cliché which has prevented the de-

velopment of more suitable alternatives. This obsession with "cathedralitis" is one of our heaviest burdens which must be uprooted, with ruthlessness if need be. The cathedral as a prototype is downright disastrous.

The cathedrals of the Middle Ages and the Renaissance or Baroque churches were built with the fulfillment of far more than only religious aspirations in mind. We have too readily assumed that the church form of the Middle Ages was developed for purely religious reasons. Nothing could be more untrue or more misleading as a point of departure for today's churches.

In the medieval world, it was quite natural that aspirations and manifestations of power be expressed through the vehicle of church building. The cathedrals represented secular aspirations as well as religious ones. The Munster cathedral at Ulm had to be higher than the Dom at Cologne, not for any religious reason but to proclaim the political and economic importance of the free city. Today's counterpart for similar motives is the corporate office building or our rockets for which total economic commitment is made in the presentation of an image.

Another prevalent error in our approach to the contemporary church is the 20th century phenomenon of the church architectural expert: the church specialist. This development is not always the result of overt action; and it is easy enough to see how it happens. A popular church, a spectacular or perhaps a good church is built by an architect, and this success encourages others to seek similar services. This tendency toward specialization is to be deplored.

In the first place, experts generally will deliver an adequate and workable solution but rarely a brilliant one after they have earned the "expert" accolade. Past successes make it difficult to depart from the norms which brought about the success, and the increments of design evolution become smaller from one building to the next.

In the second place, the church specialist will sooner or later develop a dangerous familiarity with the new liturgical forms. Having experienced the agonies of discovery in earlier works and faced with a greater demand on his time, it is only human that he will tend to confine himself to the accepted formula. Each act may become part of a commonplace routine. While the building of churches is a fairly common occurrence these days, there is no room for the commonplace. ■



## 1. SPECIFICATION WRITERS

- (A) Deliver and set in prominent places able writers, adequate in number.
- (B) Provide for their supply through programs of education.
- (C) Broaden the range of such programs to include practical application and all stages of professional development.

# A Most Educated Man

BENJAMIN M. GRUZEN, AIA

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THE SCOPE of educational programs in specification writing should be broadened to emphasize practical application of theoretical principles. And such programs should span the three stages of professional development—undergraduate, internship and post-licensing—each reviewed in the following pages.

These are firmly held views of the AIA Committee on Specifications. The complexity of today's buildings and the fiercely competitive atmosphere in which they are bid, the Committee feels, demand that contract documents be prepared with expert care. Incompleteness, errors and lack of coordination can result in misunderstanding, delay, increased cost, poor workmanship, unforeseen liability, even lawsuit.

The architect recognizes that the production of clear, complete project drawings requires a highly developed facility, and in the process of his education and training he is normally provided adequate opportunity to develop the skills required. However, similar opportunity to develop technical writing skills rarely presents itself, and project manuals continue to be composed by amateur writers, often almost as an afterthought. A manual prepared under such conditions is destined to be inadequate, and because they are complementary, the drawings are adversely affected.

Architecture is increasingly a team effort; and often on the team with the design architect, struc-

tural engineer, mechanical and electrical engineers and project representative there should be an architect who is a specification specialist. He can make an important contribution, not only in the production of contract documents and in project administration, but in the continuing evolution of office practices and philosophies.

It is sometimes the responsibility of the architect-specification specialist to select building materials and equipment. It is his responsibility to describe clearly materials and techniques that best fulfill project requirements of appearance, function and cost. His ability to express those requirements in verbal form enhances and extends the graphic presentation made by the drawings. His responsibility includes all portions of the project manual, the bidding documents, the agreement and conditions of the contract, as well as the specifications themselves. (For more on the project manual concept, see the AIA JOURNAL, Nov. '65.)

It is difficult for the young architect-employee to gain experience in writing specifications. Some offices expect the project captain to write the specifications as well as direct the preparation of drawings. This is an excellent procedure if the project captain knows what the specifications should include and how they should be written, but he often combines a lack of sufficient training in this field, with a tendency to underestimate the importance of specifications. Even if he has developed an interest in specifications, he is usually too busy to digest new product literature and is often unwilling to see manufacturers' representatives except when product data is needed for particular project documents in preparation.

If he has not acquired adequate skill as an employee, the architect will find it even more difficult in his own newly established practice to master

the art of writing specifications. The beneficial advice of experienced former associates is no longer readily available, and he may continue to find time for adequate review of new product literature.

Even seasoned practitioners of architecture or engineering recognize that their professional development would have benefited from better training in specification writing during their undergraduate and internship years. Most would add that continuing education throughout one's professional life is highly desirable, perhaps even essential, if one remains involved in the technical aspects of project development.

### Six Basic Subjects

The Committee on Specifications is acutely aware of the need to improve specification writing skills and believes that educational programs in this area should encompass six basic subjects. These subjects are not new, but the scope of each should be broadened to emphasize not only a mastery of theory but subsequent practical application of theoretical principles.

1) *English*—Specifications must "say what they mean" in the clearest and briefest manner possible. The specification specialist must know how to organize specification material in logical sequence as well as construct readable and precise sentences. Vocabulary building, specification and legal terminology, connotations of words and phrases, spelling and punctuation must all be studied until correct usage becomes natural. Written material governing building construction differs markedly from other literary forms; variety of terminology is not a virtue in specifications.

2) *Properties of Materials*—Specification writers must at all times maintain an extremely sophisticated and comprehensive knowledge of the physical and chemical properties of building materials. Both traditional and new materials, familiar materials used in new ways, and testing procedures for establishing product performance criteria must all be expertly appraised by the specification writer. He must be aware not only of a product's strong points but, more importantly, its weaknesses. Study of this subject should include basic principles of analysis and even blast and radiation theory pertaining to protective construction.

3) *Engineering Design*—The specification writer does not require all the specialized capabilities of the structural, mechanical or electrical engineer. However, he must develop an instinct to spot a faulty design whether the flaw be one of tolerance, size, weight, proportion, strength, chemical interaction, fastening, maintenance, color or finish. The required course of study encompasses mathematics, physics and general engineering.

4) *Office Practice*—An intimate knowledge of

current trade practices, field observation techniques and requirements, manufacturing processes, drawing preparation and checking, and office procedures is essential to the specification writer. This knowledge is gained largely through experience, first under the tutelage and supervision of a more experienced colleague, then by continued self-criticism and analysis of actual project specifications, AIA Specification Worksheets and other guidelines.

5) *Law*—A good grasp of the legal aspects of specifications is highly important. Study should include the bidding documents, the conditions of the contract, law of contracts and bids, litigation, arbitration, building regulations, insurance and business and professional relationships.

6) *Economics*—The qualified specification writer should be familiar with techniques of appraisal, cost accounting and quantity estimating, and with current costs of labor and materials. Because of the time that normally elapses between writing of the specifications and construction of the project, he must remain currently informed of economic, even of political trends.

The Committee on Specifications also believes that a program for training architects and engineers in writing construction specifications is best pursued at all three stages of professional development: 1) undergraduate stage, 2) internship or pre-licensing stage and 3) post-licensing stage.

### Undergraduate Stage

Teaching the skills necessary for building engineering seems to present no problem except insufficient time. This can be minimized by coupling the teaching of technical skills with the teaching of liberal arts. Just as the teaching of architectural history in a foreign language imparts language and history simultaneously, so might an English course teach both English and specification writing style.

These engineering skills are familiar ones dealing essentially with the health, safety and welfare of the public. In acquiring these skills the normal first step is completion of a series of academic courses in each of the six subject areas described. These courses are commonly offered by colleges and universities throughout the nation, though some are poorly taught by teachers of limited experience or by teachers unsympathetic to the needs of the undergraduate.

Care must be taken to avoid too much specialization at the undergraduate level. All students need to establish a broad base on which to build their future careers. The average undergraduate student is too immature to specialize; he may blossom later in a totally unexpected fashion. D. Kenneth Sargent FAIA, dean of architecture at Syracuse University, takes this view in recommending

Second Year	1st. Semester No. of Hours	2nd. Semester No. of Hours
Materials of Construction—Basic Manufacture	2	
Materials of Construction—Fabrication & Erection		2
Building Codes: National, State, Local Trade Associations	2	
Construction Practice—Business & Professional Relations		2
Third Year		
Insurance—Construction Insurance, Bonds, Sureties, etc.	2	
Banking & Finance—Economics of Finance, etc.		2
Accounting—Cost Estimating, Cost Records, Taxes, Financial Records	2	
Business Law—Contracts, Sales, Liens, Litigations, Labor Laws, Arbitration, Form of Business Venture		2
Fourth Year		
Specification Writing—Theory	2	
Specification Writing—General & Technical Provisions		3
Professional Practice (of Engineering & Architecture)	2	
Contract Documents—Types of Contracts, Bidding Procedures, etc.		2

an introductory survey course on the project manual, its legal importance, its organization and some elementary experience in its writing.

The Education Committee of the Construction Specifications Institute has proposed the inclusion of a series of courses related to specification writing in the basic curriculum in architecture or engineering, beginning with the second year (above).

In the second year, the six hours listed for teaching materials of construction and building codes seems insufficient. Chemistry, metallurgy, construction materials and techniques, and laboratory testing should be covered. Twelve to 14 hours would seem the proper minimum for these subjects.

The offering of such courses in the basic curriculum for bachelor or master's degrees is certainly not improbable. The University of Florida's Department of Building Construction offers a four-year course leading to the Bachelor of Science degree in Building Construction, as well as advanced work leading to the Master of Science degree.

The first and second years' work includes liberal arts courses plus specialized courses in drafting, construction materials and the mathematics prerequisite to later courses in structural design. The third and fourth years' work includes courses in structural design, construction methods, materials and estimating, sanitary facilities, accounting, real estate, finance, construction management, the critical path method and surveying.

A similar program should be made available to the student in architecture or engineering wanting to prepare for a career as a full-time specialist in specifications, contracts and office management.

This might require a five- or six-year course of study.

A bachelor's degree in architecture now requires a minimum of 10 semesters' work. In accordance with the recommendations of the AIA Special Committee on Education, some schools are considering the addition of a sixth year to academic requirements for the bachelor's degree in architecture. Syracuse University now confers a Bachelor of Arts degree on completion of 10 semesters' work and requires two additional semesters for the Bachelor of Architecture degree. Professional and technical courses are identical for both degrees, but the six-year curriculum provides a broadening of course material not possible in the shorter period. Harvard, Princeton and Yale Universities and the University of Pennsylvania now require completion of the Bachelor of Arts or Bachelor of Science degree plus completion of work leading to a master's degree. Seven years or more are normally required under these circumstances for completion of both degrees.

#### Internship Stage

Training during the internship or pre-licensing stage should continue the process of learning begun during the academic years, with strong emphasis on specialized and detailed study in each of the six subject areas noted. Architectural graduates should be encouraged to build upon the theoretical background gained as undergraduates by studying in depth subjects in which they can excel, whether these be in design, administration, research or specification writing.

Continued study of the subjects recommended here will help to develop special specification writ-

ing qualifications so strongly in demand. There is a severe shortage of good specification writers, and the pressure of technological development requires that trained minds be brought into this field.

Graduate architects and engineers in increasing numbers each year return to school for advanced study. A significant increase was first noted in the engineering schools and, with more architects recognizing the importance of graduate studies, is now evident in schools of architecture. Many enroll as full-time graduate students, but others attend night or summer classes offered in most metropolitan areas, in research-study programs, or in special short courses offered as refreshers for the licensing examination or for bringing personal knowledge up to date.

A two-year course in specification writing at Pasadena (Calif.) City College shows a technical institute can, with careful planning, teach a great deal in that time. Such a course is not a substitute for a portion of the baccalaureate work in architecture or engineering. Rather, it is a supplement and should be designed to encourage the graduate professional to pursue a relatively short and intensive course of further training as part of his continuing development. A technical course of this sort can also satisfy the needs of the high school graduate who wishes to achieve a certain proficiency in specification writing preparing for further apprenticeship in architecture or allied fields.

### Post-Licensing Stage

"No curriculum can produce a full-blown specification writer," S. C. Hollister, dean emeritus of Cornell University's College of Engineering, told the 1964 CSI convention. He added: "Good specifications reflect large experience in construction, in selection of materials and equipment, and in a knowledge of the intended design. Such experience cannot be simulated in a curriculum in college."

The post-licensing stage is characteristically a time of continuing professional development through 1) thoughtful analysis of personal experiences, 2) specific personal study programs, 3) reading, 4) writing (an excellent way to consolidate one's thinking), 5) participation in seminars, regional conferences, conventions, 6) travel (to examine other problems and solutions, 7) exchange of information with fellow professionals, 8) return to school as frequently and for as long a period as possible, 9) development of in-service training programs (benefiting trainer and trainee alike) and 10) teaching.

It seems almost a foregone conclusion that concerted action is necessary if architecture and engineering are to keep their specification writing abilities abreast of technology. The importance of specification writing to architectural practice must be recognized by the architectural generalist if this specialty is to gain the stature needed to attract and develop capable people. The specification specialist must be one of the most intensively educated men in the construction field. His proper training requires continued and specialized attention if this is to come about.

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## UNIFORM SYSTEM NEARS PUBLICATION

THE WAY has been paved for the immediate publication of the Uniform System for Construction Specifications, Data Filing & Cost Accounting—Title One, Buildings, which will supersede the Standard Filing System. It got the green light from the Fifth Industry Conference on Uniform Indexing.

The new document is organized in three basic parts: a specification outline and, related to it, a filing system and a cost accounting guide for contractors' use. An exhaustive Index of Key Words also is included.

Beginning in April, producers requesting classifications of their product literature will be assigned Uniform System file designations, and a

cross index will be published tying the Uniform System to Document E301, 1963 edition. This should minimize the time and effort required in reclassifying current literature bearing old numbers.

To maintain order within product literature files, it is essential that premarked literature be classified in a consistent and uniform manner and that certain regularities in format be observed. The correct designation will be assigned to any piece of product literature meeting certain general requirements. Such literature, for which a nominal classification fee will be charged, should be submitted in triplicate to Uniform System, 1735 New York Ave. N.W., Washington, D.C. 20006.

# Ice Is Found Innocent

LONG LABELED the most important cause for the breakdown of some crushed rock used in concrete, ice now stands for acquittal.

Disintegration of concrete in buildings, roads and bridges was so "obviously" the result of ice forming within the rock aggregate that little verifying research was undertaken.

Now a team of geologists at Rensselaer Polytechnic Institute reports that water freezing in the pores of most rock is not the reason.

Instead of freezing-thawing action, it was discovered that the less ice forming in proportion to total water present in most of the tested rocks, the more sensitive were the rocks to breakdown.

These findings were made by Dr. James R. Dunn, associate professor of geology at Rensselaer, and Dr. Peter P. Hudec, a Canadian geologist and a former Rensselaer graduate student.

Certain rock deterioration, they discovered, is caused chiefly by simple wetting and drying combined with natural temperature changes. The real culprits, said Dunn, are clay materials in rock.

This form of deterioration applies to fine-pore rocks such as shales, porous cherts, dolomite and limestone, the latter two important sources of aggregate for concrete.

The research was done under contract with the New York State Department of Public Works in cooperation with the US Bureau of Public Roads.

Accidental discovery that some rocks which deteriorate by freezing and thawing also break down by wetting and drying provided impetus, the authors state in their paper.

Since freezing liberates heat, a sensitive device to measure temperature changes was constructed in Rensselaer's aggregate laboratory—Cold Differential Thermal Analysis equipment.

Although the basic concept of DTA is not new, its application in the cold ranges, its high sensitivity, and quantitative calorimetric approach are unique. This is the first instrument to make possible the detection of a temperature change of 1/1000 degree C.

"We used cores from 32 samples of representative carbonate rocks taken from quarries throughout New York State," Dunn explained.

"These had been selected from 80 previously studied rock samples."

Unexpectedly, the researchers found "most or all the contained water froze in rocks normally not affected by freezing. Little or no water froze in 8 of 19 of the frost-sensitive rocks, even though tests were run up to four times and to as low as minus 40 degrees C. In the remaining 11 frost-sensitive rocks, usually less than half the contained water froze.

"Furthermore, we found that instead of gradual freezing, all the water that froze did so in a single pulse between minus 7 and minus 12 degrees C."

Tests indicated that when salt was added to the saturating solution, the frost-sensitivity was increased manyfold. To study the effect of salt on freezing, the geologists used a 10 percent solution.

In the cases checked, the quantity of ice formed was radically reduced from that formed in pure water. Explained Dunn:

"We found that even though less ice forms in rocks soaked in salt solution, the rocks are more sensitive to freezing temperatures. We

concluded that water in rocks which resists freezing is probably . . . strongly influenced by the surface on which it adheres, i.e., adsorbed water."

To learn how much of such water the rocks contained, different tests were performed with arrangements to determine the vapor pressure of adsorbed water. They revealed that the frost-sensitivity of rocks is due to adsorbed water, and not to the formation of ice.

"Adsorbed water," Dunn pointed out, "is water built up into micro-thin layers against the mineral surfaces within the rocks' cavities and pores. The clay surface is a particularly strong adsorbing surface. We found that the amount of water adsorbed can be directly correlated with the clay content."

If adsorption of water on the internal walls of rock pore causes breakdown, then any liquid with strong adsorbing properties should do the same.

Formamide, a strongly polar liquid, disrupted the "frost-sensitive" rocks after relatively few cycles of moderate warming. But rocks similarly immersed in carbon tetrachloride, a nonpolar liquid, were not affected.

From this the research team concluded that disruption of some unsound rocks could be caused by "ordering" of polar molecules (such as formamide and water) on adsorption surfaces in a warming and cooling environment, and that these rocks fail by freezing only because freezing represents temperature change.

"The parallel in nature is that rocks are torn apart by the constant ordering and disordering of internal water—the result of temperature changes occurring both in warm and cool climates," Dunn said. "Freezing temperatures are not necessary."

The significance of the research: • Deterioration of concrete should be reduced because of better understanding of the causes.

• Testing may become less expensive, more simplified, faster and more accurate by determining the direct cause—adsorbed water—without the need for costly refrigeration equipment now being used.

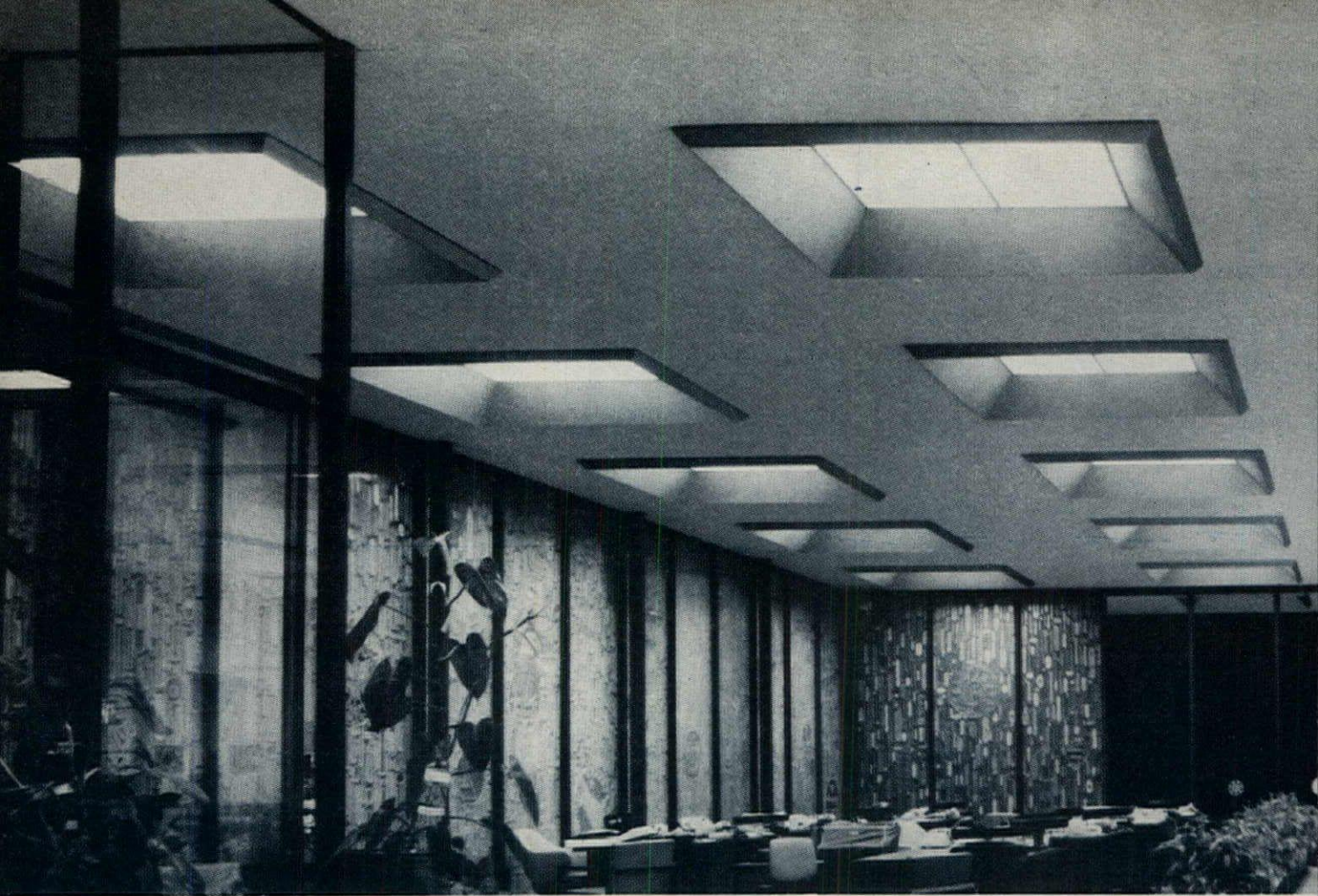
• If the work is scientifically verified by other researchers, all testing, worldwide, must take into consideration the new findings. ■



First stage: wetting-drying action has caused dolomite rocks to crack.



Second stage: edge of clay-rich dolomite crumbles under same action.



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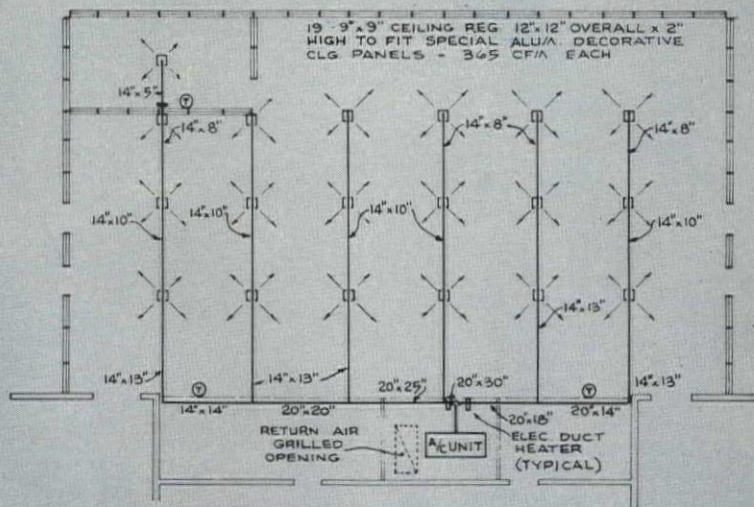
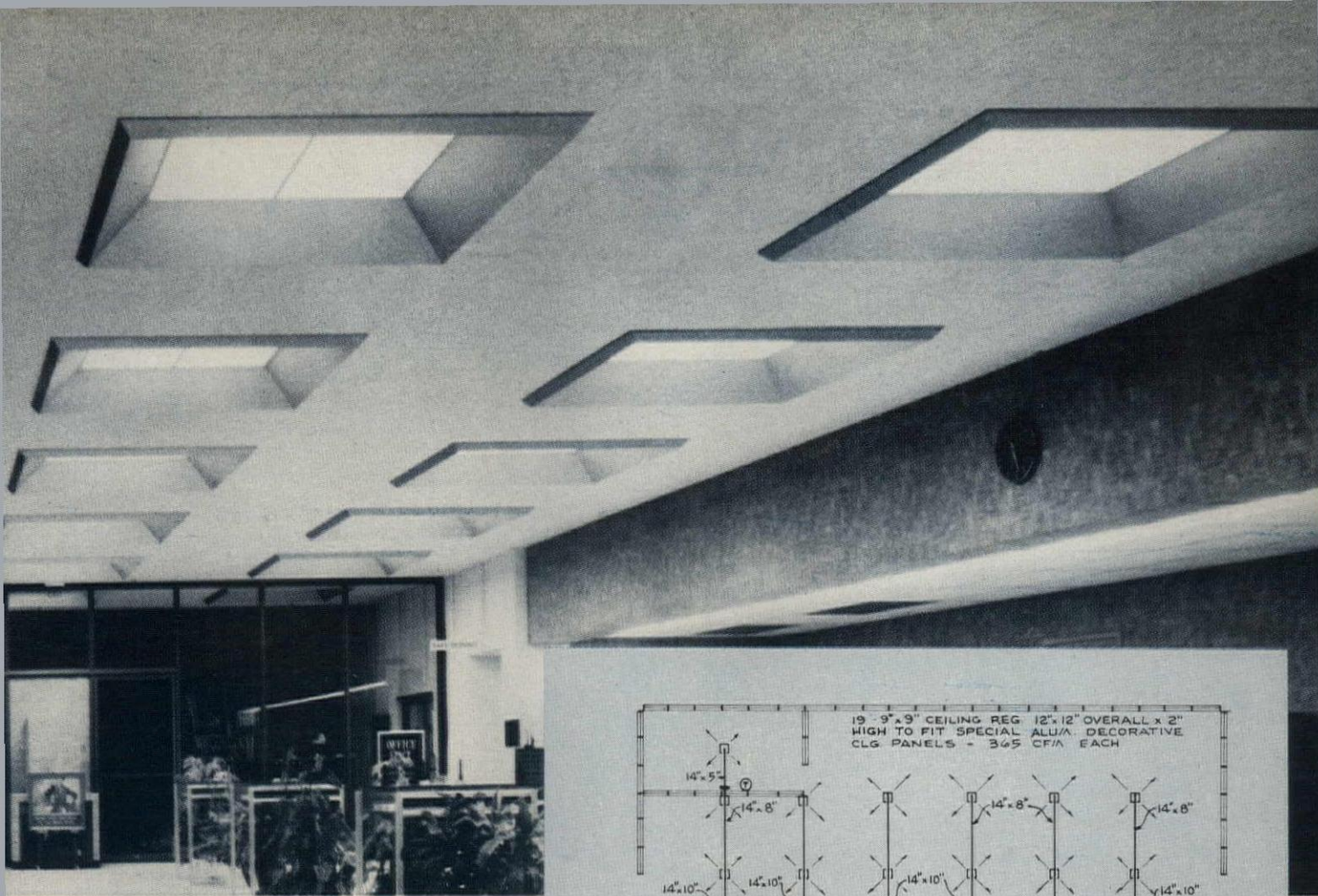
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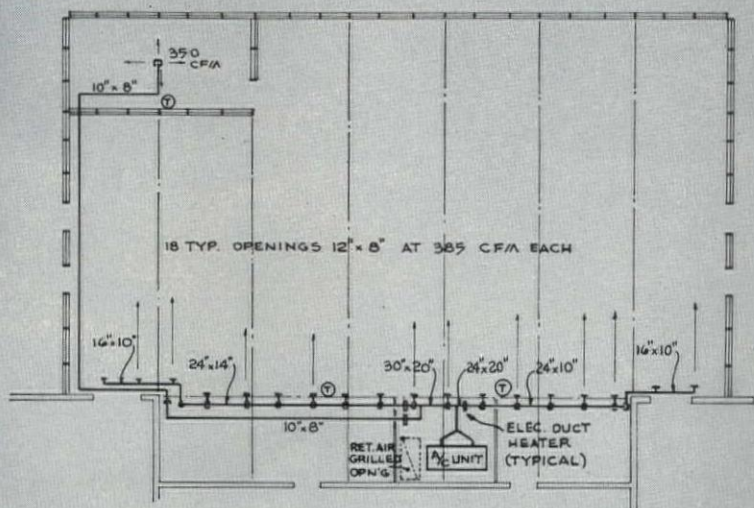
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*Layout if ordinary air distribution system used*

## \$2,472 SAVINGS IN THIS ONE AREA

These air conditioning take-off drawings show the ceiling of the bank's 3,465 sq. ft. main public area: (top) if ordinary air distribution system had been used, and (bottom) using the Celotex system. The savings in ducting, insulation and installation amounted to \$2,472.

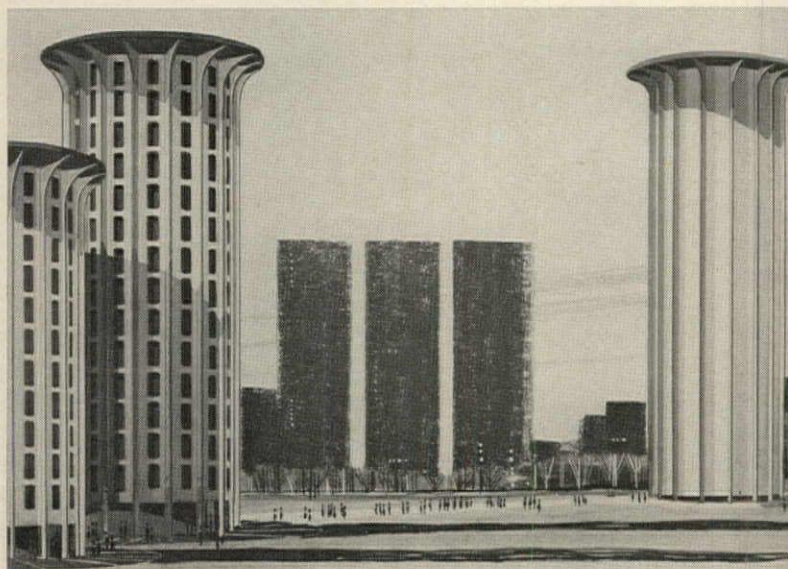
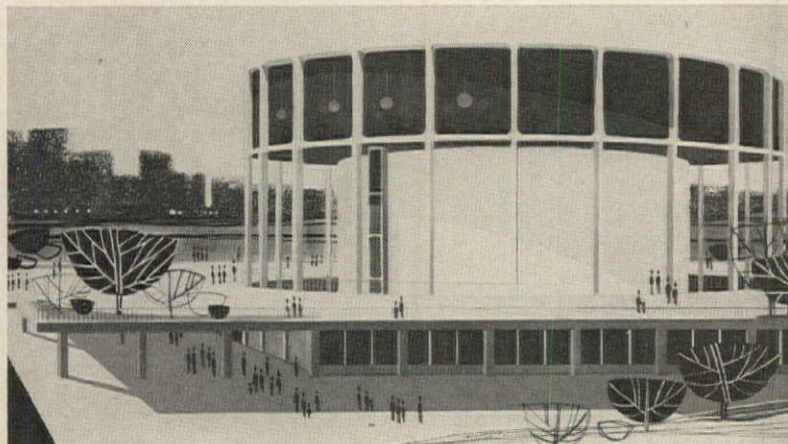
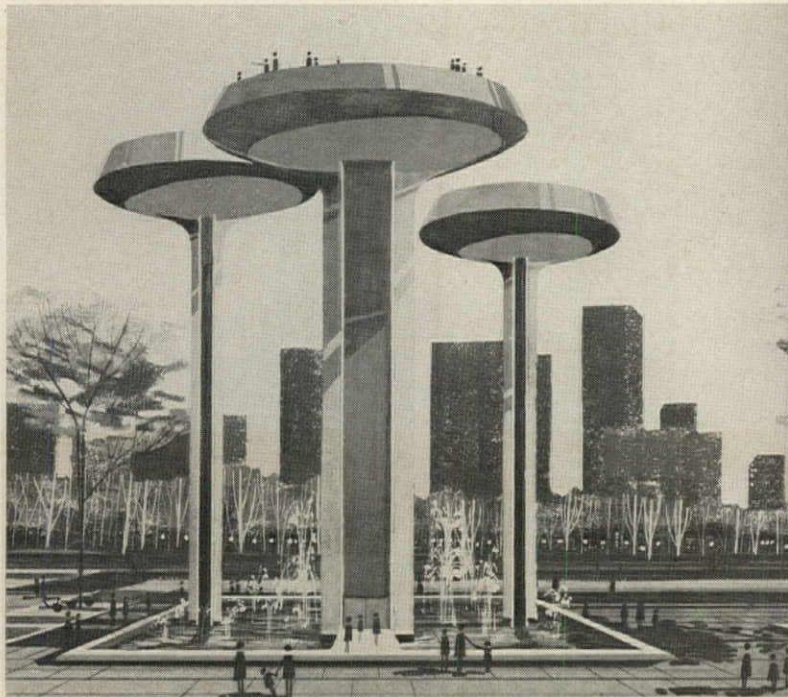


*Layout for Celotex air distribution system*



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# Tanks of Beauty



ONCE TAKEN for granted, water in community after community has become a precious product.

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Besides, per capita consumption keeps going up—it is now at something like 150 gallons a day—with consequent pressures on that critical factor in the water industry, the storage of water after it has been collected and treated and before it is distributed.

And since it is difficult these days to try to quietly hide storage structures, what with the population explosion and all, the Committee of Steel Plate Producers, American Iron and Steel Institute, had Peter Muller-Munk, a Pittsburgh industrial designer, develop some ideas.

**Clusters and Activities.** One of the scores of his designs is a ground-storage tank that could be an integral part of a community shopping center. In the design, the tank is surrounded at base level by a series of rent-producing shops leading onto an adjoining mall.

The cluster of tanks pictured at top add novel forms to the community's skyline. The summit of one tank serves as an observation platform. As more storage capacity is needed, more tanks can be added.

The middle picture shows the shopping center scheme. Besides the stores at the base there are offices in the upper structure for municipal or water utility officials. And, if desired, even the deck of the tank can be used for a park.

**Structural Qualities.** The concept pictured at bottom is aimed at blending the tanks into urban settings with high-rise buildings. In this illustration, envisaging a college campus setting, the tank at right bears a form relationship with the dormitory buildings at left.

In any event, the storage units can contrast refreshingly with the forms about them, serve multiple purposes or attempt to emulate neighboring configurations.

More important, they can become interesting forms in themselves.

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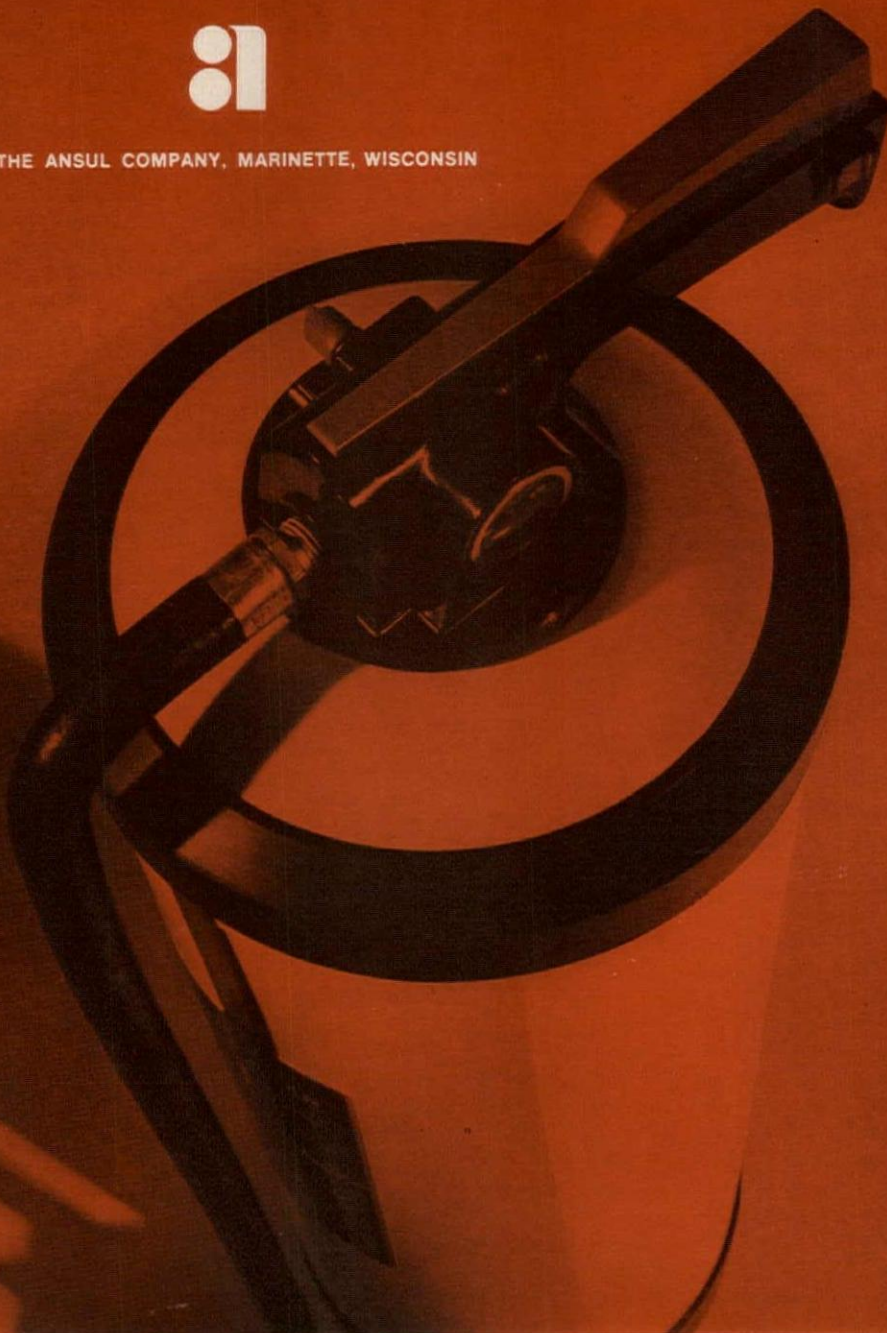
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# Focusing on the UIA

THE UNITED STATES section of the International Union of Architects will host, for the first time, a working commission of the UIA.

The Working Commission on Schools meets in closed sessions in San Francisco June 17-25. Mario C. Celli FAIA, US member of the commission, obtained a grant from Educational Facilities Laboratories, Inc., to defray expenses of visiting members while here.

Such defrayals satisfy a tradition, established early in UIA history, which regards working commission members as honored guests of the country hosting a meeting.

Besides permitting partial reciprocation for the generous hospitality other nations have shown US members of the UIA's five working commissions, the San Francisco sessions offer the chance to show foreign architects "what we have to offer," as the late Henry Churchill FAIA put it.

Writing in the AIA JOURNAL in March 1962, Mr. Churchill pleaded for increased US participation in UIA affairs: "I would like to see more members of the Institute become concerned with this movement, more chapters setting up formal committees, more willingness on the part of the Institute to reciprocate in showing the architects of other sections what we have to offer. . . . I do not claim that your interest will have any financial or other visible results. I just do not think we can afford to stand aloof."

There is less of a tendency to "stand aloof" today than there was four years ago. Institute members are involving themselves more deeply and enthusiastically in UIA matters, to the fullest extent financially feasible with AIA funds and such grants as are available from other sources.

There is something to be gained from an active, inquisitive US participation in at least some areas of UIA concern. And in others there is something to be gained—through sharing—as the recommendations of the recent Congress and Assembly of the UIA point up.

The recommendations on the training of the architect—all of relevance to the US—have already been implemented or are in the process of implementation here. Clearly the implication is that this

nation's architects are equipped to help make a contribution to the solution of many global problems.

That concern over architectural education is worldwide was apparent in that mid-summer gathering. France's Jean Demaret opened

dedicate themselves to our fine profession."

Congress registrants were asked to attend one of three group meetings, which were devoted to general, technical and artistic education of the architect. After three days of

## RECOMMENDATIONS OF THE UIA CONGRESS

1) That all public authorities should be made aware of the importance of architecture and town planning in the life of a nation and devote the means necessary to the training of the men who will be responsible for these.

2) That public opinion be informed of the problems of architecture and town planning and that its preparation, in this sphere, begin from childhood.

3) That elementary teaching programs give attention to stimulating, among the young, the natural need to create and to multiply the occasions for developing the gifts of sensibility, imagination and ingenuity.

4) That with the assistance of the architects and profession, teachers of basic education be initiated into the problems of architecture and town planning.

5) That UNESCO with the assistance of the UIA carry out the preceding recommendation.

6) That adolescents be given information concerning the nature of the architects' profession.

7) That admission to the schools of architecture be dependent on an adequate standard of general and scientific education.

8) That in order to permit the essential personal contacts between teachers and students, the teaching bodies of the schools of architecture be sufficiently large and qualified.

9) That teachers and students of architecture have the opportunity of working in common with those of other disciplines.

10) That artistic functional, and structural studies be conducted in parallel in order to accustom the student to thinking of architecture as a whole.

11) That the scientific and technical training of architecture be the subject of specific teaching.

12) That architecture be taught with a constant concern for integration into the social and economic setting and the physical environment.

13) That town planning be considered as one of the principal components of the full education of the architect.

14) That acquisition of information and furtherance of knowledge be held as indispensable during the entire length of the architect's career.

15) That courses or seminars for refreshing or perfecting the knowledge of architects and teachers be organized.

16) That teams of architects, technicians and specialists of the human and economic sciences be assembled with the aim of conducting complete studies on concrete cases.

17) That centers or institutes for architectural and town planning research be created under the responsibility of the architects to develop basic and applied research.

18) That the developing countries be urged to set up their own schools of architecture, that technical assistance be directed toward setting up of these schools.

19) That the UIA maintain permanent contacts with the International Union of Students of Architecture on all matters of common interest and in particular in respect to problems relating to programs exchanges, training periods and scholarships.

20) That encouragement be given to the publication of an international information and documentation bulletin for the use of architectural students and schools.

21) That a permanent body for the study of problems relating to architectural training and education be set up within the UIA.

the Paris Congress with the challenge: "If, through appropriate training, we can develop in our students [the necessary] sensitivity and keenness of intellect, in a spirit of synthesis, then we shall not have to worry about those who wish to

group sessions, the Congress reconvened in plenary session to formulate the 21 recommendations reproduced on this page.

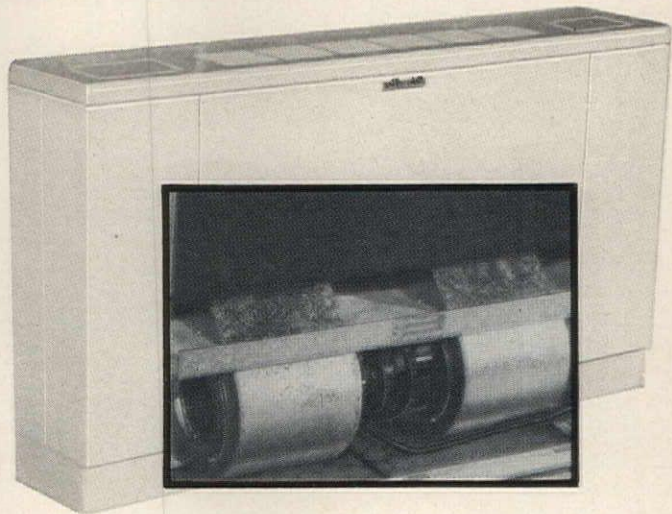
Everyone recognized the need to "start where you are" in implement-

*Continued on page 92*

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Whisper-quiet is the word for BOHN-AIRE fan coil units. □ BOHN took smooth running 1050 RPM three-speed motors, resilient mounted them and matched them with low tip speed fans. And because all motors have tapped windings, there's no annoying transformer buzz. □ Then, air passages were lined with acoustical and thermal insulation. Result? More quietness. □ But quietness is not BOHN-AIRE's only inside story. BOHN builds in convenience with finger-tip, three speed button controls with off position for instant selection of the desired air circulation rate. A variety of optional controls and valve packages can customize the BOHN-AIRE to your job specifications. All units are U/L listed. □ Serviceability is a snap. Filters can be changed without removal of the cabinet parts. The air vent can be adjusted through the pivoted top access door. And, the motor

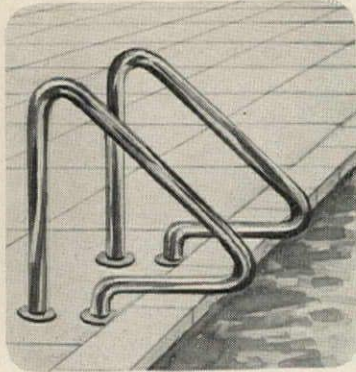


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**UIA from page 90**

to go. Sir Robert Matthew of Great Britain told the Congress, "We will have to discuss the pressing problems of aid to education in countries still developing, and the difficult problems of standards of qualification and their mutual recognition.

"We know of the extreme shortages of teachers and funds for research, of facilities of all kinds. It will be part of the job of this Congress to examine and measure their extent and then . . . to suggest imaginative and realistic ways and means to overcome the obstacles and, if necessary, strike out new paths for progress."

National sections of the UIA

were subsequently polled by the secretary-general as to the extent to which their countries could implement, or had already implemented, the recommendations of the Congress. A compilation of reports from the various national sections was then presented to the UIA Executive Committee at its March meeting.

The AIA will be represented at two UIA seminars this month—an industrial colloquium at Montreux, Switzerland, and a seminar on health facilities in Athens. Carl Feiss FAIA, a member of the UIA Working Commission on Town Planning, will chair a discussion group at the next Congress, which will be held in Prague, July 3-7, 1967. ■

## Convention Neighbor at Aspen

NEIGHBORING the 98th annual convention of the Institute—in distance, time and concern—will be the 16th International Design Conference in Aspen, Colo.

The conference will discuss resources for 20th century design June 19-24.

The June 26-July 1 AIA convention in Denver will probe man, his environment and his technology.

Internationally known architects, artists, designers, historians, critics and educators will concentrate on the increasingly complex problems facing the designer and design educator, according to Allen Hurlburt, Aspen conference chairman.

Added Hurlburt, art director of *Look*:

"There is today a growing awareness that if man is to cope with his environment, or for that matter survive it, he must begin with a better understanding of his own resources, and he must find ways to expand his own learning and creative capacity to take full advantage of his human potential."

Speakers and panelists for the conference have been chosen to cover all areas of design—architectural, industrial, graphic and communications—with special emphasis on education.

Among those to appear on the program are Dr. Reyner Banham, British architectural historian and critic who will present a review of

architectural style and the relation of new materials and textures as sources and resources of modern design, and Julian Beinart, architect, teacher and authority on contemporary African culture, who will discuss design and its relation to emerging culture.

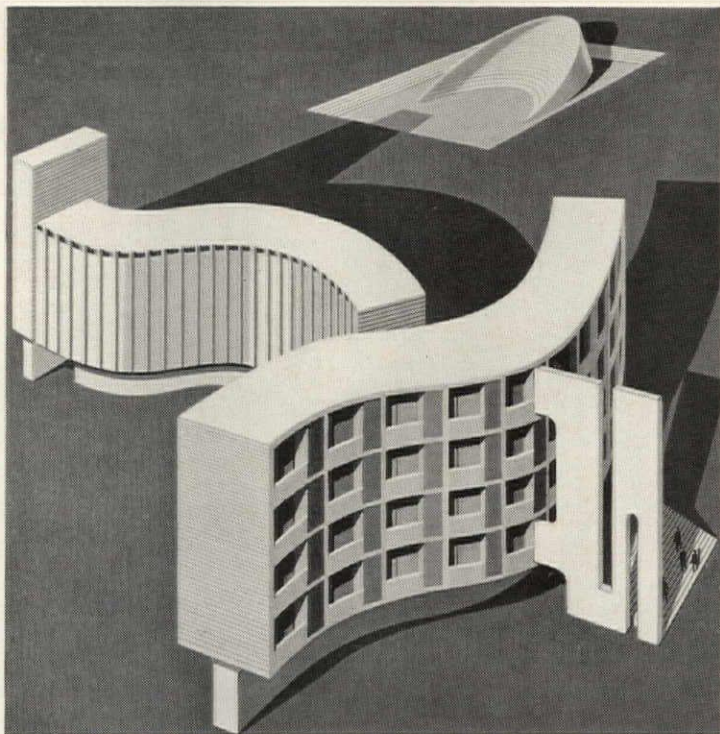
Charles Eames, architect, inventor, designer and creator of advanced audio-visual presentations, will discuss the need for new disciplines in design education and communication.

John Peter, designer and architectural commentator, will survey the influence architectural leaders have had on the profession, and architect Kevin Roche will talk on the new challenges of contemporary architecture.

The conference is open to anyone interested in design, particularly architects, designers, educators and representatives from business management, advertising and related fields.

A better understanding between the functions of management and design is the overall conference objective.

Advance registration fee is \$75; student registration is \$10. Additional information on the conference, accommodations and registration forms can be obtained from the International Design Conference in Aspen, P.O. Box 664, Aspen, Colo. ■



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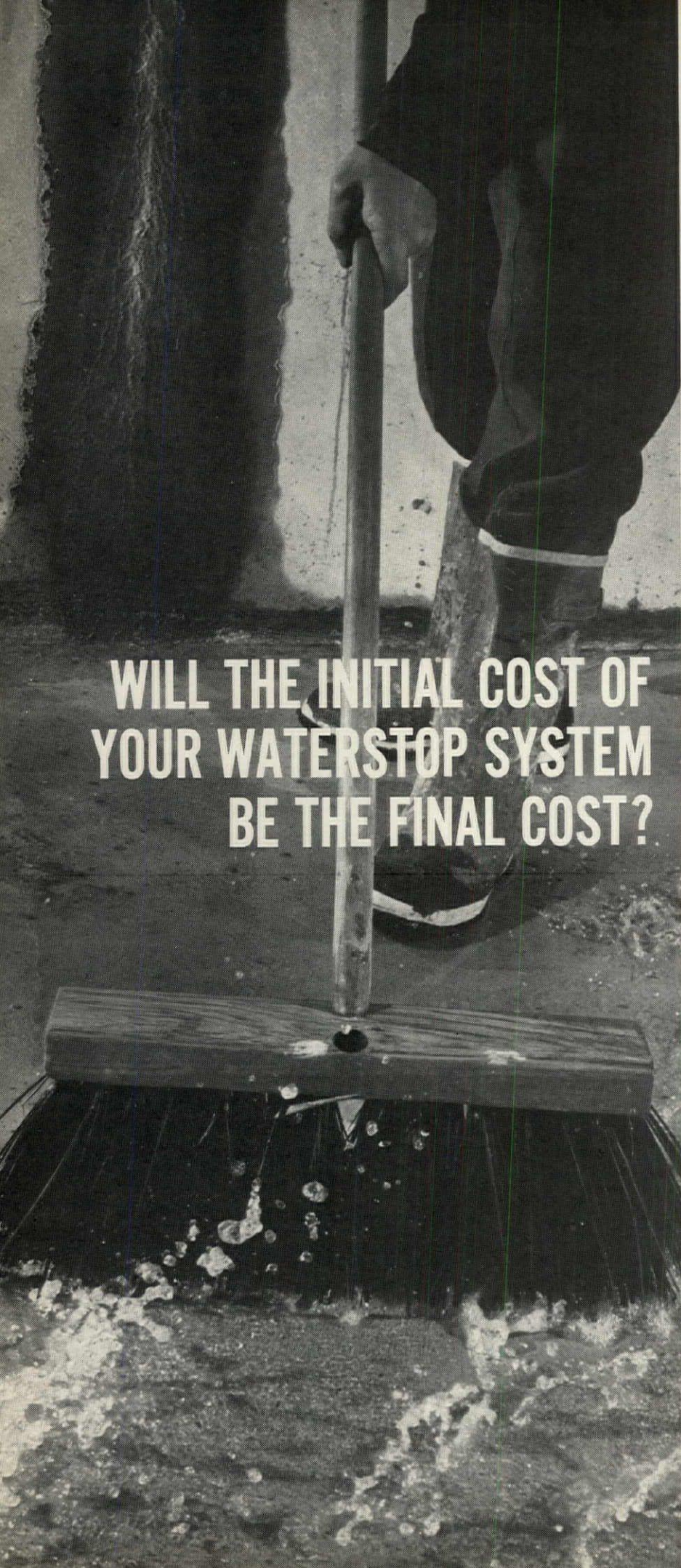


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Newslines from page 34

### Theater Submissions Invited for Exhibit

Architects are invited to submit projects for the second Theater Architecture Exhibit co-sponsored by the Institute and the American Educational Theatre Association.

The projects must have been constructed since Jan. 1, 1958, or under contract for construction, in the US, its territories or possessions, or Canada, Mexico, Great Britain, Europe, Japan and South Africa.

The exhibit will feature theatrical facilities for the performing arts and will open at AETA's annual convention in December.

Deadline for receipt of entry forms is July 1. Forms and additional information are available from AIA chapter officers or from Arthur C. Risser AIA, Exhibit Coordinator, School of Engineering, Wichita State University, Wichita, Kan. 67208.

### Structural Modules Take Reynolds Student Prize

William R. Mitchell and his school have won the \$5,000 Reynolds Aluminum Prize for Architectural Students.

Mitchell, 22, Wake Forest, N.C., native now living in Raleigh, is scheduled to receive his degree in architecture next year. He submitted a design for "An Educational Facility for the Peace Corps."

The selection from entries of 29 architectural schools was announced by the AIA, which administers the competition for "the best original design of a building component in aluminum."

Divided equally between student and school, the cash prize will be presented at the AIA convention in Denver, June 26-July 1.

Mitchell's design embodies a 6x6-foot stretch-formed aluminum module. Connected by key pins, the modules can be used to form almost any type of three-dimensional space frame.

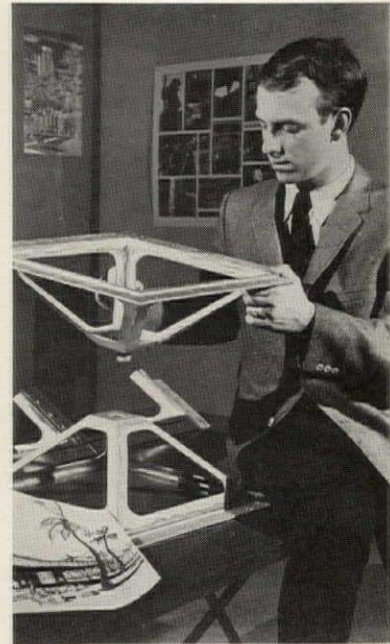
Structures—the Peace Corps building, for example—can be disassembled and rebuilt at other locations. The modules are "nestable," fitting into one another for compact, economical shipment.

They can be transported easily to difficult sites and assembled manually by unskilled labor to form a variety of types of shelter to meet local needs.

Open spaces in the modules will accommodate almost any type of service system such as utility lines. These features make the design suitable for structures for use by the Peace Corps, Mitchell noted.

Said the jury, made up of Chairman H. Samuel Krusé FAIA of Miami; James W. Elmore AIA, dean of the College of Architecture, University of Arizona; and Richard W. Snibbe AIA of New York:

"If this is representative of the skill with which the emerging generation of architects will delineate



Mitchell and structural modules.

their concepts, we are sure the future professionals will be able to communicate."

The jury also selected for special praise and honorable mention the design of Warren E. Keiding of Miami University, Ohio.

### Metric Study Legislation Takes Step in House

Legislation for a study of the possible adoption of the metric system of weights and measures, passed by the Senate last year, has been reported on favorably by the House Science and Astronautics Committee and sent to the Rules Committee for possible floor action.

The bill asks for a three-year study to evaluate the desirability, practicability and cost of a general conversion.

Under an amendment by the House committee, the Secretary of Commerce would be authorized to spend up to \$500,000 in the first

*Continued on page 98*

year of the study, with additional funds supplied according to need.

The study is to provide:

1) Extensive comparative studies of the standards of weights and measures used in engineering, manufacturing, commercial and scientific areas and in educational institutions.

2) Cooperation with other governmental agencies and private organizations in determining the advantages and disadvantages of a general conversion.

3) Determination of the advantages to the US in international trade and other relations, including military, under an internationally standardized system of weights and measures.

## Colored Film Available On Works of Gaudi

The work of Antonio Gaudi is surveyed in a 27-minute color motion picture available for purchase from the Center for Mass Communication, the Columbia University Press.

The 16 mm film was shot in and around Barcelona with Gaudi's credo, "originality is a return to the origin," used as a guideline.

It includes Gaudi's major buildings and shows how his personal sense of space derived from the Mediterranean landscape.

Starting with the Casa Vicens, the film "Antonio Gaudi" shows Palacio Guell, Finca Guell, Parque Guell, Casa Batlló, Casa Mila and the Sagrada Familia. Gaudi's flamboyant use of color and materials is emphasized with each building.

The film also investigates his relationship to art nouveau, surrealism and expressionism and his contributions to the plastic arts and architecture. For further information: Center for Mass Communication, 1125 Amsterdam Ave., New York, N. Y. 10025.

## Absence Makes Heart Grow Fonder in Russia

A Russian magazine that used to be called *Architecture* is now titled *Construction*, and some Soviet buildings are designed by organizations without architects on their staffs.

As a result, wrote Stuart Loory of the Herald Tribune News Service, things are pretty drab.

Loory quoted from a lamenting *Pravda*. "Faceless and boring city ensembles, streets and buildings," was a phrase used by the Soviet newspaper.

The newspaper indicated, said Loory, that the villain in the story of graceless construction is former Premier Khrushchev. One of the earliest and most persistent of his post-Stalin campaigns was to do away with the gingerbread, neo-classical facades Stalin liked to see on skyscrapers, palaces of culture, universities, subway stations, apartment buildings and stores, Loory said.

This was labeled "outmoded architecture which costs the state too dear." Called for instead was an architecture that "meets the people's urgent needs."

In 1956, the old Academy of Architecture was shut down and a new Academy of Construction and Architecture was created.

Even in *Pravda*, the new architecture found approval, at least until last October. The newspaper declared at that time:

"The designs of buildings and structures now more fully comply with the vital needs of the people, with the demands of present day industry, home life and culture. Overcoming dogmatic ideas in architecture, the architects have rejected the false notion of beauty and archaism."

But last month *Pravda* gave an architect space to write that Soviet architecture in recent years has been split into two camps: those who viewed design as a "technical appendix" and those who over-emphasized the esthetic value of the profession. The technicians have won out, the architect, G. Pavlov, wrote.

"Really, if there is no bit of art in architecture, if architecture's essence lies only in material production and everything else is only beauty," Pavlov said, "anybody can deal with architecture. No special abilities and gifts are required for it."

Pavlov wants architecture given back to trained architects. He wants the Academy of Architecture established anew, and he wants to see architects again honored for their designs.

Above all else, he wants to see architects rehired by building design organizations.

And he would give back the art to trained architects, taking it out of the hands of what he called "certain philosophers." ■

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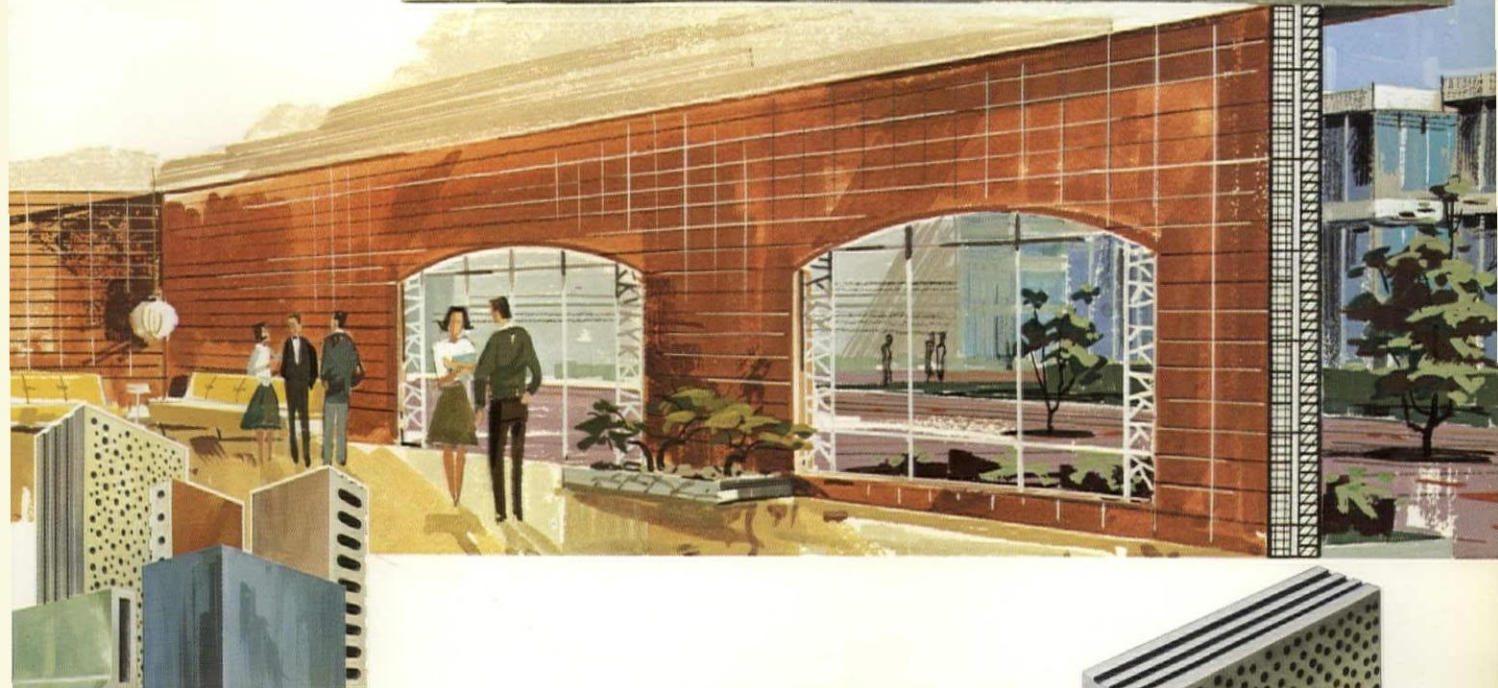


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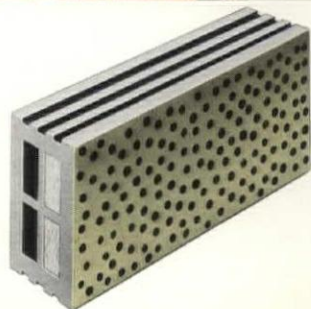
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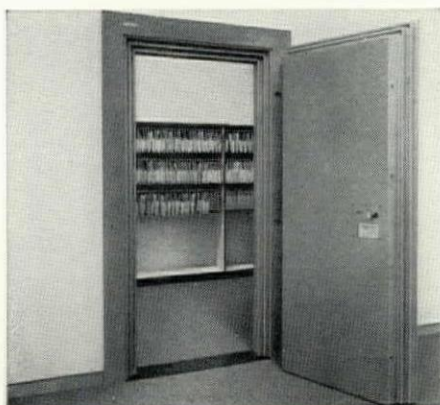


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## BOOKS

**Presence of the Past, a History of the Preservation Movement in the United States Before Williamsburg.** Charles B. Hosmer Jr. New York: Putnam's, 1965. 386 pp. \$7.50

As the nation has become older and has lost more and more of its buildings of the past, there has been a swelling tide of preservationism. Dr. Hosmer, in this volume, has presented a readable and informative account of the early history of preservation in this country, carrying it to 1926, i.e., before Williamsburg, as he phrases it.

Following a brief account of the early efforts at preservation from 1796 to 1850, he reviews the successful efforts of Ann Cunningham and the Mount Vernon Ladies Association to secure and maintain the home of the father of his country. In some detail he points out the techniques used, and which, subsequently attempted with other buildings, more often than not failed, either because the leader was not an Ann Cunningham, or simply because the structure involved was not a second Mount Vernon.

Preservation activities in the South, Middle Atlantic States, New England and the West are discussed in subsequent chapters, with attention paid to the different factors which have prompted preservation efforts. In all his reporting, the author has been selective in his choice of projects, rather than comprehensive, so that many structures are not mentioned here.

The story of Monticello, which is a long and complex one, is presented in great detail. This is followed by a chapter which should interest readers of the AIA JOURNAL more especially since it is entitled "Antiquaries, Architects and Museum Directors." Dr Hosmer relates among other items the main events in the acquisition of the Octagon by The American Institute of Architects, as well as noting some of the preservation activities of the chapters. Although cognizant of the contribution of architects in educating the public, the author seems to feel that the total contribution of the architectural profession was not as great as it might have been.

One other individual considered at length is William Sumner Appleton, the founder of the Society for the Preservation of New England

Antiquities, who devoted his career to the task of saving old houses. His principles and the methods he used so successfully are outlined by Dr. Hosmer at some length.

In three brief chapters he considers some preservation fundamentals—criteria for selecting buildings worthy of preservation, techniques of restoration and economics of preservation. Extensive notes document the book, and a bibliography gives many suggestions for further reading. An excellent account of the early years of preservation in this country, with numerous comments on the methods used to solve the differing problems and their applicability to other situations.

GEORGE E. PETTENGILL, HON. AIA

**Contemporary Theatre Architecture: An illustrated Survey,** by Maxwell Silverman; **A Checklist of Publications 1946-1964,** by Ned A. Bowman. New York Public Library, 1965. Unpagged. \$10

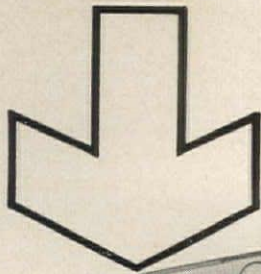
This is one volume in a series of books on the performing arts published by the New York Public Library. Its primary interest, as suggested in the foreword, is naturally upon the bibliography.

For some time its theater collection has been cooperating with Ned A. Bowman of the University of Pittsburgh on a bibliography of theater architecture. Indeed, the architect's interest in this book probably will be in the bibliography rather than in the plans and photographs of 50 new theaters and performing arts centers presented with an introductory essay and comment by Maxwell Silverman, producer of plays.

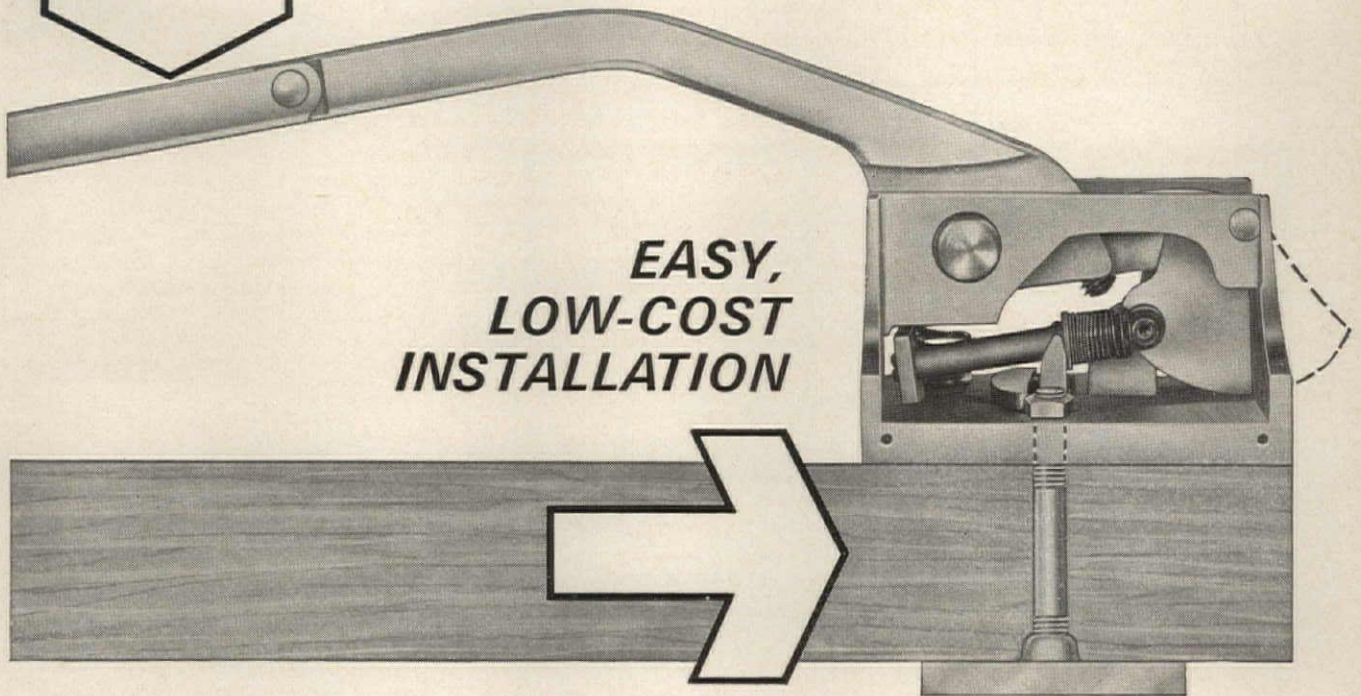
The illustrative material is generally grouped by form (arena, peripheral stage, end stage, thrust stage, proscenium, variable theater and performing arts centers). The photographs are primarily interior shots; the comments are descriptive rather than critical.

Bowman's comprehensive bibliography, which follows the section by Silverman, is arranged by country of publication and includes 1,741 items. He has provided a cross-reference index by subject and by location. For the United States he lists 70 books, 480 periodical articles and 48 items of unpublished materials—a rather impressive but formidable listing and so lengthy that one may be inclined to wish that Bowman had devised some

*Continued on page 104*

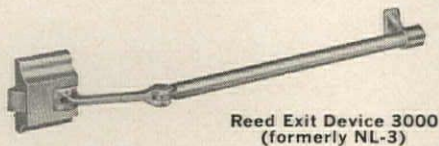


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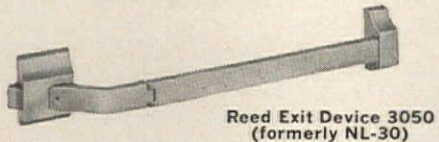


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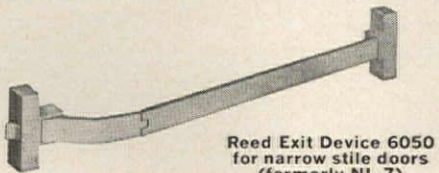
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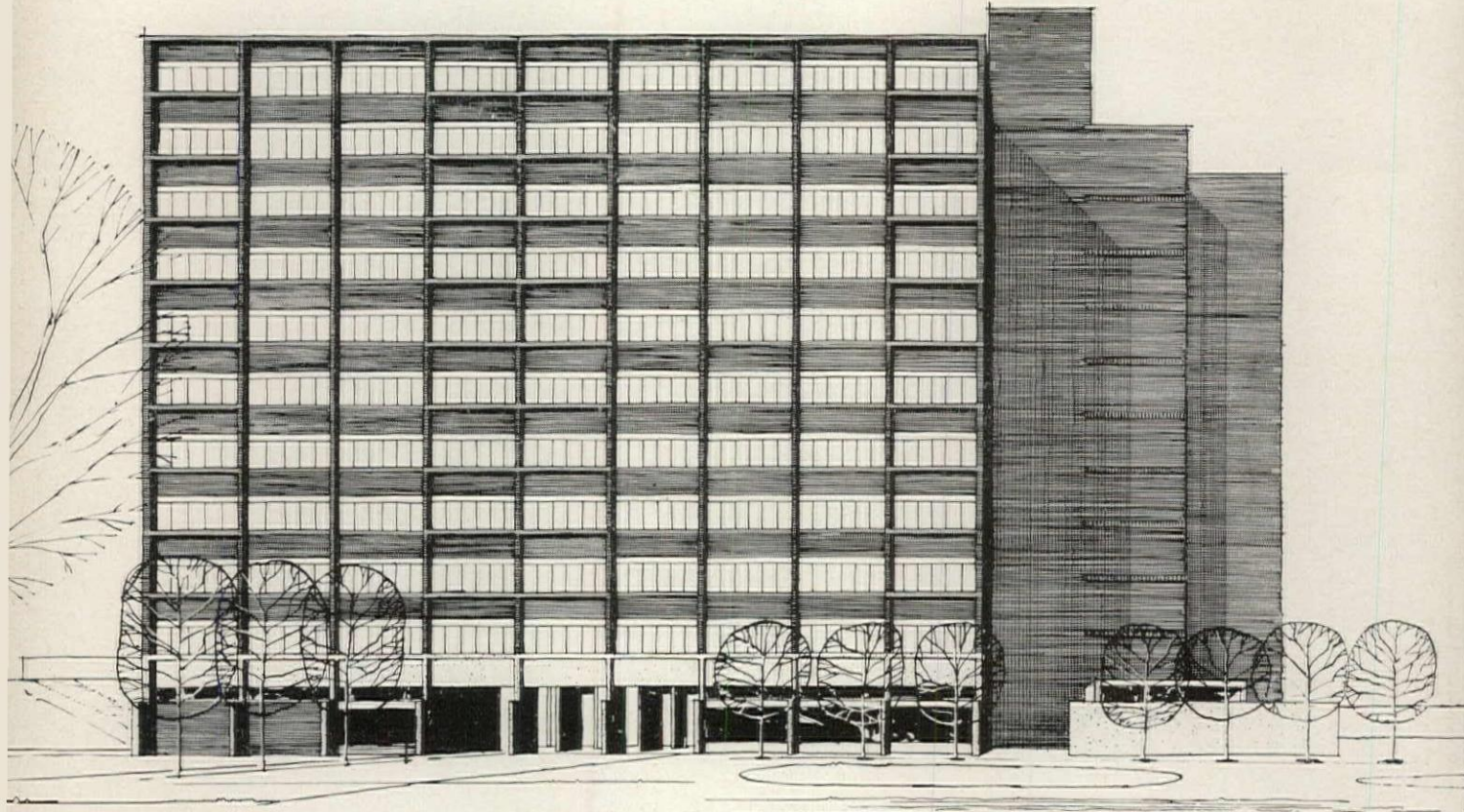
2003

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# THE CONTEMPORARY BRICK BEARING WALL

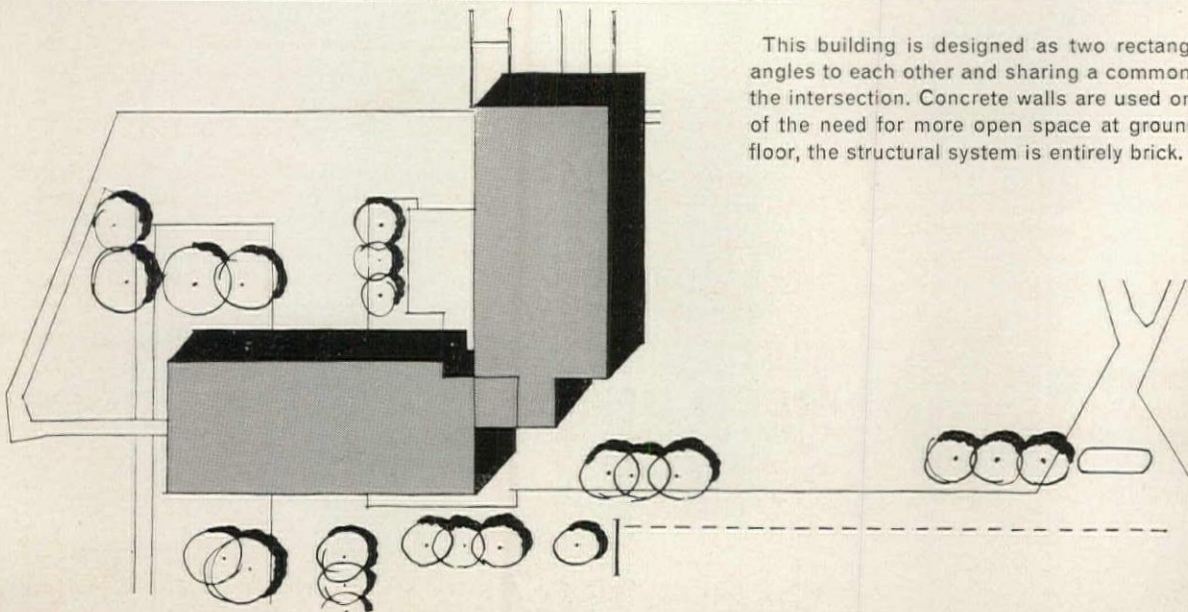
as designed by E. W. Angerer, AIA, and I. J. Milani, AIA

Eight-Inch Bearing Walls Provide Beauty, Economy, Efficiency



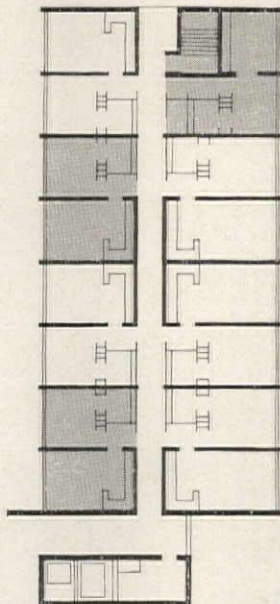
In designing this Housing for the Elderly apartment project in Rock Island, Illinois, we faced the problem of providing a durable, easily-maintained and attractive building with a high degree of fire resistance and sound control, within the limits of a modest budget. We chose the modern brick bearing wall structural system because it provided all these qualities. This building is 11 stories high and

provides 128,000 square feet of floor space divided into 160 dwelling units. Through the use of brick bearing and shear walls, we were able to separate each apartment by solid, unpenetrated brick walls, and we were able to do this within the \$14.06 per square foot of floor area cost for construction and site development.

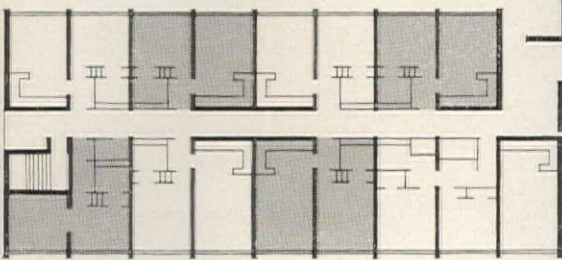
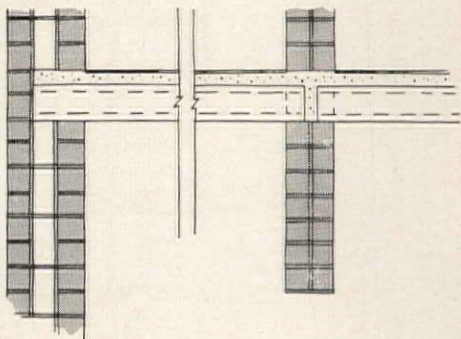


This building is designed as two rectangular wings set at right angles to each other and sharing a common service core located at the intersection. Concrete walls are used on the first floor because of the need for more open space at ground level. Above the first floor, the structural system is entirely brick.

The efficiency and economy of our structural system derives from two major factors: The use of solid, eight-inch-thick interior bearing walls, and the use of over-size, 4 x 4 x 12-inch, brick which cost less in place than standard-size brick. Above the first floor, the eight-inch transverse bearing walls are spaced 12 feet, eight inches, center to center. Because of the need for thermal insulation and resistance to moisture penetration, the end bearing walls are 12 inches thick and consist of two wythes of brick with clay tile units between them. Brick shear walls are used along corridors. Interior brick walls are left exposed. (Bearing and shear walls are shown in solid lines.)



The floor system consists of precast concrete hollow-core planks. These planks bear eight inches onto the end bearing walls and are joined over the center of the interior bearing walls. The planks are topped with two inches of concrete containing wire mesh, insuring diaphragm action. Sills and lintels are of precast concrete laid up with the masonry to be consistent with the layer-upon-layer technique of masonry construction. Corridor floors are supported by small precast beams spanning from one bearing wall to another.



Total construction and site development cost for the project is estimated at \$1.8 million. Approximately 550,000 dark brown, smooth-face, 4 x 4 x 12-inch brick are required. Mortar used is ASTM Type M. Fire rating for all brick walls is four hours.

In order to minimize construction co-ordination problems, the building is designed so that all mechanical trades install their work after the spaces are enclosed. No conduit or mechanical elements are embedded in the basic wall-floor systems. Plumbing and utilities rise vertically through spaces provided behind the bathrooms and kitchens of each unit. Electrical devices in apartments are placed in gypsum board partitions, with the exception of a surface raceway incorporated in a chair rail running along the brick partitions. This method of handling plumbing and other utilities greatly simplifies construction. In addition, because the entire structure and shell of the building consists of only brick and precast concrete, the problems involved in joining materials with dissimilar expansion and flexural characteristics have been minimized. We feel that the resulting simplicity of construction widened our field of qualified bidders.

Project: **Housing for the Elderly, Rock Island, Illinois**  
 Architects: **E. W. Angerer, AIA, and I.J. Milani, AIA, associated architects**  
 Structural Engineers: **Petersen & Appel**  
 Owner: **Housing Authority of the City of Rock Island, Illinois**

**BRICK:**  
 For  
 Bearing  
 And  
 Beauty

scheme for breaking the list into classified categories.

Nevertheless, anyone interested in the architecture of the theater is greatly indebted to him and to the New York Public Library for this bibliography. MARY E. OSMAN

**Buildings For Industry.** Walter Henn. London: Iliffe, 1965. 2 vol. 11 pounds each

Somewhat less practical for an American due to the use of the

metric system, these volumes, nevertheless, should have considerable appeal. The first edition, published in Munich by Callwey in 1955, was in German. So enthusiastic was its reception (the review in the *RIBA Journal* stated that it was "difficult to praise this publication too highly") that Henn decided upon a more ambitious project to be in four volumes which would deal with every aspect of industrial building: "planning, design and structure; design and building construction; examples of actual design; and social and welfare buildings."

Here we have an English translation of two volumes in the series. Each volume, for sale separately, is complete within itself, yet complementary to the others in the series.

The first volume, subtitled *Plans, Structures and Details*, is virtually an encyclopedia of building construction, following a logical order of arrangement rather than alphabetical. There are over 3,000 dimensioned drawings, each accompanied by a critical caption. Such topics as site layouts and external facilities, building work, services and their installation, lighting, heating and ventilation, etc., are covered in nine main headings with 70 sub-sections.

Vol. 2, *International Examples*, contains photographs and plans of 140 examples of industrial buildings in 27 countries. The groupings are by industry: food processing, drinks and luxury goods, textiles and leather, and 11 others. Included as well are sections on laboratory and research buildings, warehouses, heating and generating plants, and rentable industrial buildings. The captions, lucid and thorough, point out problems and indicate the manner in which they were overcome by the architect.

Henn, who heads the team of experts responsible for these volumes, is professor of building construction and industrial building, Technische Hochschule, Brunswick.

**Checklist For Physics Buildings.** American Institute of Physics. New York, 1965. 19 pp. \$1.50

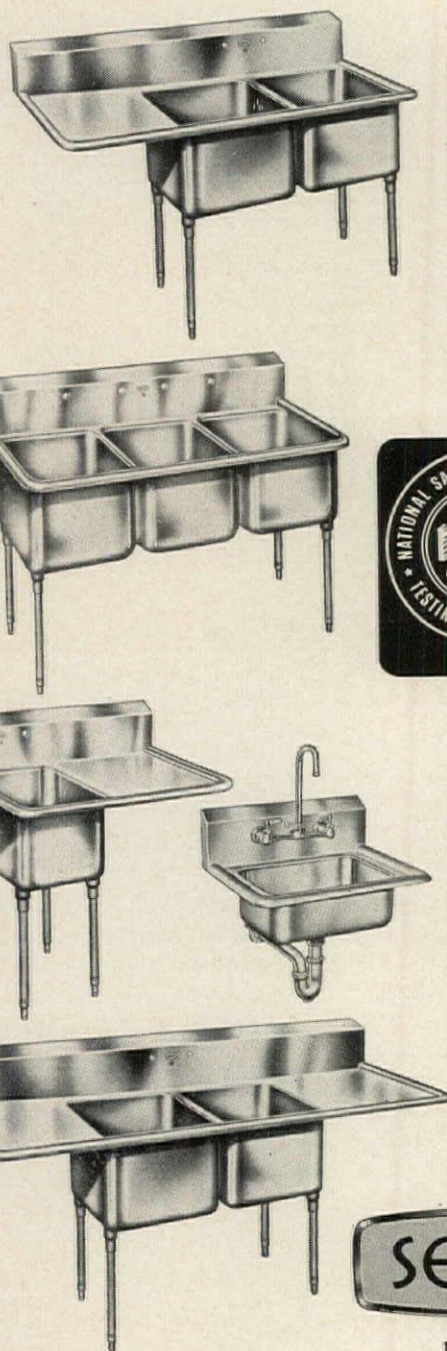
**Physics Buildings Today.** American Institute of Physics. New York, 1965. 64 pp. \$3

These two booklets, made possible by a grant from Educational Facilities Laboratories, Inc., are of interest to any architect who wants to be informed about the design of new physics buildings as a guide to the planning of such facilities.

*Physics Buildings Today* describes 26 projects that have been erected since *Modern Physics Buildings: Design and Function* was published in 1961. The range of examples includes structures for both small liberal arts colleges and large universities. There are photographs, renderings and floor plans. Information about each building includes name of architect, date of completion, gross building area and total cost.

The companion booklet, *Checklist for Physics Buildings* lists more than 300 items under 28 headings.

Continued on page 106



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CREDITS: St. John Bosco Church, Chicago; Architect: Belli & Belli, Chicago; General Contractor: Chell & Anderson, Inc., Chicago; Lathing and Plastering Contractor: William A. Duguid Company, Chicago

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**Books from page 104**

Its purpose is "to prevent planners from unintentionally overlooking important features of building design in physics and to encourage the painstaking and detailed consultation between architect and client that alone leads to satisfactory buildings."

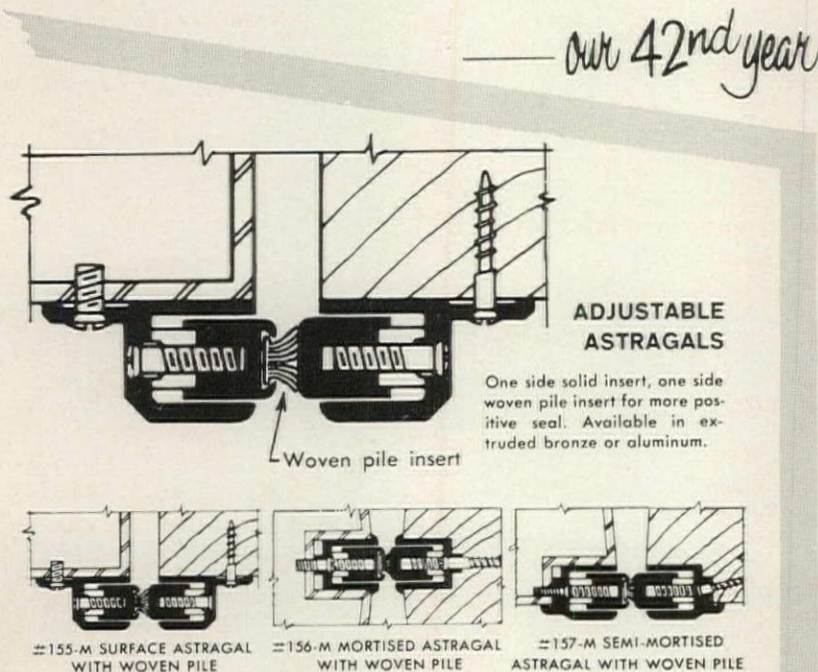
The treatment of "Transportation in Cities" by John Dyckman is a highly useful study of transportation as a comprehensive system involving all activities of a region.

The chapters on Calcutta, Stockholm and Ciudad Guayana provide new insights into much discussed foreign cities. As usual, Hans Blumenfeld's treatment of "The Modern Metropolis" is excellent. The volume is helpful in that it brings some new knowledge about urbanization to the attention of the reader. It is highly recommended with the suggestion that the reader take the trouble to look up the September issue itself and study the insightful illustrations.

**Brasilia.** Willy Stäubli. New York: Universe, 1965. 199 pp. \$15

Former president of Brazil, Juscelino Kubitschek, evidenced his pride in Brasilia in his introduction to this architectural study of the new capital city. Planned and built with native talent only—from Costa and Niemeyer down to the "candango," the most unskilled laborer—the architectural features of Brasilia reflect, writes Kubitschek, the country's "level of civilization and enterprising spirit." This city, built in the interior for the purpose of extending "westward a civilization seemingly rooted to the coastal strip," is surely an eloquent statement of man's abilities to overcome formidable conditions.

Stäubli, a Swiss who has spent a great deal of time in South America, presents here a study in depth of this amazing and beautiful city hewn from the jungle. After a brief historical introduction, he supplies us with the now famous report of Lúcio Costa and brief "thoughts on Brasilia" by Niemeyer. Following are detailed descriptions of the traffic plan, residential buildings, the monumental axis, the ministries, the cathedral, hotel and business areas and recreational facilities, as well as University City, the educational and medical systems and the embassy quarter. Precise accounts of buildings are augmented by sketches, floor plans and photographs. Scant attention is paid to the embassy quarter, but otherwise Stäubli is more thorough.



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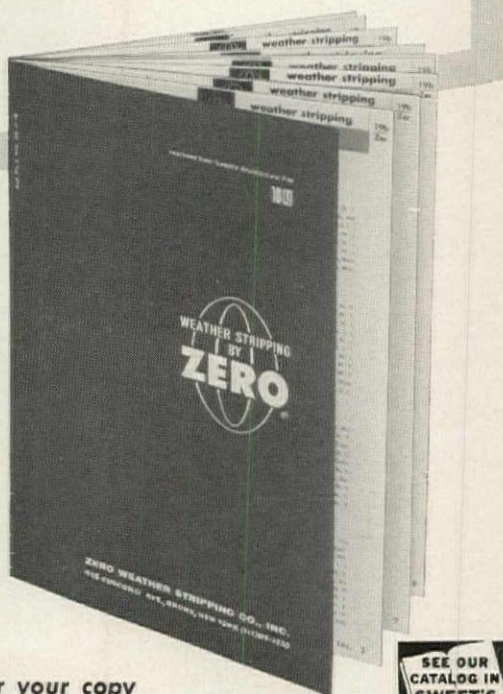


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**Persian Architecture: The Triumph of Form and Color.** Arthur Upham Pope. New York: Braziller, 1965. 288 pp. \$25

The author has devoted a lifetime to Persian scholarship, and over the past five decades has published erudite studies dealing with many of the monuments considered in this volume. His fluent prose unfolds the story of 6,000 years of continuous architectural history and reveals in depth the artistic genius of the Persians.

Pope concentrates on the masterpieces, and his enthusiasm for his subject is certainly contagious. "Controlled excitement" is his descriptive term for this gloriously magnificent architecture. He traces the manner in which the simple architectural form so richly adorned has been influenced by climate, landscape, available building materials, spiritual and cultural factors, and by patrons desirous of demon-

*Continued on page 108*



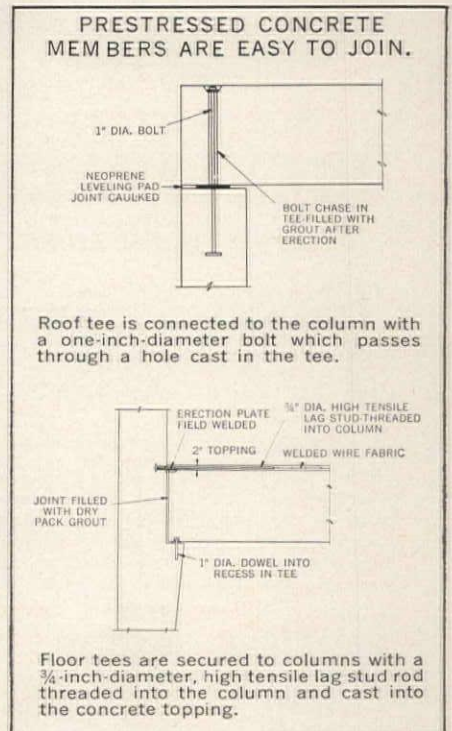
# Standard PRESTRESSED CONCRETE tees give motel a striking "custom" look

The University House Motel, a new Holiday Inn near Morgantown, W. Va., is the latest work in functional, eye-appealing motel construction. For "practical and aesthetic reasons" the designer chose standard prestressed concrete Lin Tees and slender, precast concrete supporting columns for the main components of the five buildings. Prestressed Lin Tees provided long, clear spans with minimum member depth, and without interior supports or bearing walls, thus assuring maximum use of space. Single tees were used for both roof and floor members. Floors and ceilings were completed by connecting tees with flush, cast-in-place reinforced concrete. Long sheltered balconies for upper

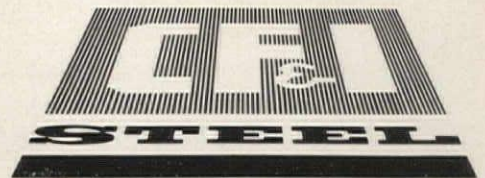
floors are provided by the prestressed tees. Precast concrete surfaces were easy to paint and made attractive, fire-resistant and durable interiors.

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C-19



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In this new motel, prestressed Lin Tees are 10 feet wide, 3 feet deep and 21 to 77 feet long. Columns are 8 inches wide and 18 to 30 inches deep. The five prestressed concrete buildings have a total floor space of 63,400 square feet. Owner: University House, Inc., Star City W. Va.; Design and Construction Supervision by: Panel Products, Inc., Waynesburg, Pa.; Prestressed Concrete Fabricator: Dickerson Structural Concrete Corp., Youngwood, Pa.



# RELY ON

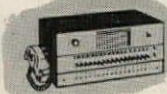
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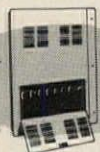
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Books from page 106

strating status and power through monumental structures.

Here is a knowledgeable and comprehensive account of the creative efforts of a people. Nourished by the Persian passion for color and consideration of beauty as a divine attribute, this architecture and its decoration are indeed the "triumph of form and color." The volume is profusely illustrated, most of the plates never having been published before.

**New Architecture in Boston.** Joan E. Goody. Cambridge: MIT Press, 1965. 102 pp. \$5 hardbound, \$2.95 paperback

If you are going to Boston soon, invest in this little book which will fit quite handily into your pocket. It will serve to introduce you to recent architecture in Boston by a variety of architects, including Gropius, Aalto, Sert, Rudolph, Pei and Le Corbusier. And exciting architecture it is, too.

Arranged in a roughly geographic order, the guide includes photographs, drawings and captions of each structure intended to play up the more noteworthy features of the buildings and to help the visitor find his way to and around them. Maps of Boston and its environs add to the general usefulness. Too bad there is not an index of architects.

**Stained Glass: An Architectural Art.** Robert Sowers. New York: Universe, 1965. 128 pp. \$12.50

In 1954 the author, designer of stained glass for such contemporary structures as the Temple Shalom in Greenwich, Connecticut, and Kennedy International Airport's American Airlines Terminal, wrote a book called *The Lost Art: A Survey of 1000 Years of Stained Glass*. His purpose was to plead for the revival of this art form, emphasizing that during the Renaissance this medium was discarded rather than lost.

In his latest book, Sowers' avowed purpose is to consider the basic hindrances to a revival of the ancient art of stained glass. He divides his book into three parts: "The Medium of Stained Glass"; "Stained Glass and Contemporary Architecture"; and "Themes and Variations." In the latter section he probes into the problem of the creation of religious art in a secular age. This book is recommended to anyone seeking a lucid explanation of the strangely moving art of stained glass wherein color is

wedded with ever-changing light. It is pertinent, too, to the architect who wonders if art and architecture can be fused harmoniously to the glory of both.

**Essentials of Structural Design.** Anthony Hoadley. New York: John Wiley & Sons, 1964. 609 pp. \$11.50

The emphasis of this book is upon buildings of moderate size. Its expressed purpose is to present information on design theories and methods and on the structural properties of steel, wood and reinforced concrete. Hoadley uses ACI, AISC and NLMA specifications and gives many illustrative examples of working stress, plastic and ultimate strength methods of design.

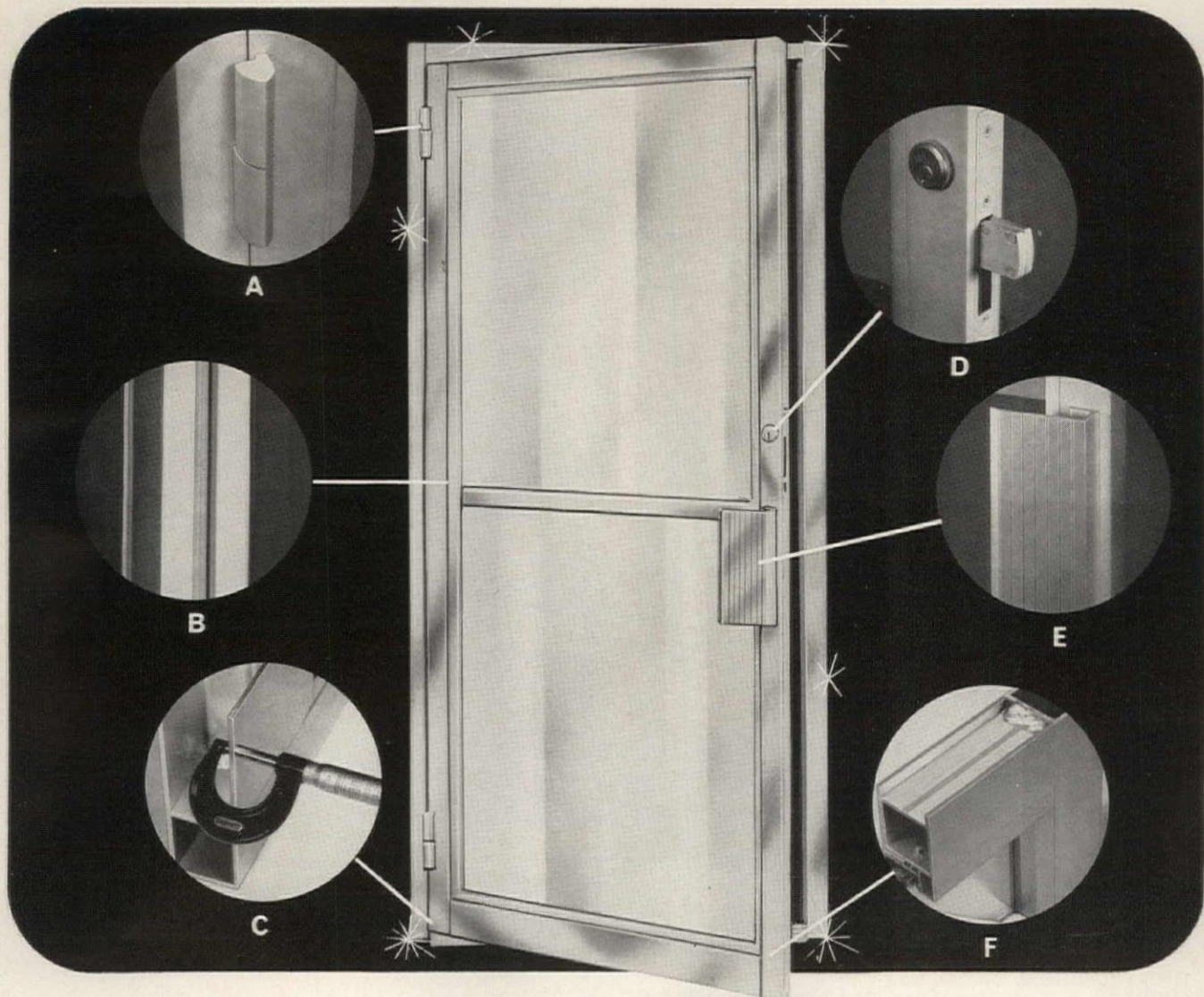
The book can serve as a college text for engineering students; it will be of value to the architect or engineer whose principal activity is not structural design work, but needs some knowledge of it; and it will be helpful to the man who specializes in the use of wood, steel or reinforced concrete and is called upon occasionally to develop a design in the other two materials.

**Urban Real Estate Research, 1963.** Jerome P. Pickard and Gene C. Tweraser. Washington: Urban Land Institute, 1965. 96 pp. \$4 (\$2 to ULI members, students, libraries and faculty members)

This volume continues the series of annual inventories supplementing *Urban Real Estate Research*, published in 1959. Its aim is "to review significant work completed or in process on physical, economic and social aspects of urban land use." Each entry for a published work is annotated, thus increasing the usefulness of the volume.

Research work in progress is listed under 47 topical headings and includes information about the principal research investigator or staff, the location of the project and a brief general description of the topic under study. It is interesting to note that there are 526 entries for published items, an increase of 43 percent over 1962's bibliography, thus indicating an ever-growing concern about urban affairs.

*All books reviewed on these pages are available on loan to corporate members of the Institute for a service charge of 50 cents for the first volume and 25 cents for each additional volume requested at the same time from the Library at AIA Headquarters.*



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**CALENDAR**

**April 14-15:** AISC Annual National Engineering Conference, Sheraton-Boston Hotel, Boston

**April 17-21:** North American Conference, University of Illinois, Urbana

**April 24-29:** National Association of Architectural Metal Manufacturers Annual Convention, Mark Hopkins Hotel, San Francisco

**April 26-28:** National Conference on Church Architecture, Sheraton-Palace Hotel, San Francisco

**May 4-6:** Consulting Engineers Council Annual Convention, Civic Center Assembly Hall, Tulsa, Okla.

**May 8-12:** ASLA Annual Meeting, Yosemite National Park, Calif.

**May 10-12:** Building Research Institute Spring Conferences, Statler Hilton Hotel, Washington, D.C.

**May 13-14:** "Future of Architecture" Conference, Boston Architectural Center, Boston

**June 24-25:** NCARB Annual Convention, Denver Hilton Hotel, Denver

**June 24-26:** ACSA Annual Convention, Brown Palace, Denver

**June 26-July 1:** AIA Annual Convention, Denver Hilton Hotel, Denver

*AIA Regional and State Conventions*

**April 13-15:** Gulf States Region, Hot Springs, Ark.

**May 10-12:** Wisconsin Chapter, Lake Lawn Lodge, Delavan

**May 20-21:** Tennessee Society of Architects, Claridge Hotel, Memphis

**July 21-23:** North Carolina Chapter, Grove Park Inn, Asheville

**Sept. 8-10:** New Jersey Society of Architects, Essex and Sussex Hotel, Spring Lake

**Sept. 29-Oct. 1:** Illinois Council, Ramada Inn, Champaign

**Oct. 5-8:** Florida Association of Architects, Deauville Hotel, Miami Beach

**Oct. 5-9:** California Council, Monterey County Fair Grounds, Monterey

**Oct. 6-9:** New York State Association of Architects, Whiteface Inn, Lake Placid; East-Central Region, Brown Hotel, Louisville, Ky.

**Oct. 7-9:** New England Region, Sturbridge Village, Mass.

**Oct. 13-15:** Louisiana Architects Association, Jack Tar Capitol House Hotel, Baton Rouge; Architects Society of Ohio, Carrousel Inn, Cincinnati

**Oct. 20-22:** Pennsylvania Society of Architects, Hotel Hershey, Hershey

**Oct. 24-26:** Northwest Region, Benjamin Franklin Hotel, Seattle

**Oct. 27-29:** South Atlantic Region, Queen Charlotte Hotel, Charlotte, N.C.

*AIA Committee and Related Meetings*

(At the Octagon unless otherwise noted)

**April 11-15:** Jury of Fellows

**April 14-16:** Urban Design Workshop, Washington University, St. Louis

**April 15:** AIA-American Medical Association Joint Committee on Environmental Health

**April 18:** Executive Committee, Williamsburg Lodge, Williamsburg, Va.

**April 19-21:** Board of Directors, Williamsburg Lodge Williamsburg, Va.

**April 25-26:** National Architectural Accrediting Board

**April 25-27:** Homes for Better Living Juries

**April 27-28:** Internship & Continuing Education

**April 29-30:** Office Procedures

**May 12-13:** Building Materials & Systems

**May 25:** Joint Commission on National Capital

**May 27-29:** Documents Review

**June 5-11:** AIA-ACSA Teachers Seminar, Cranbrook

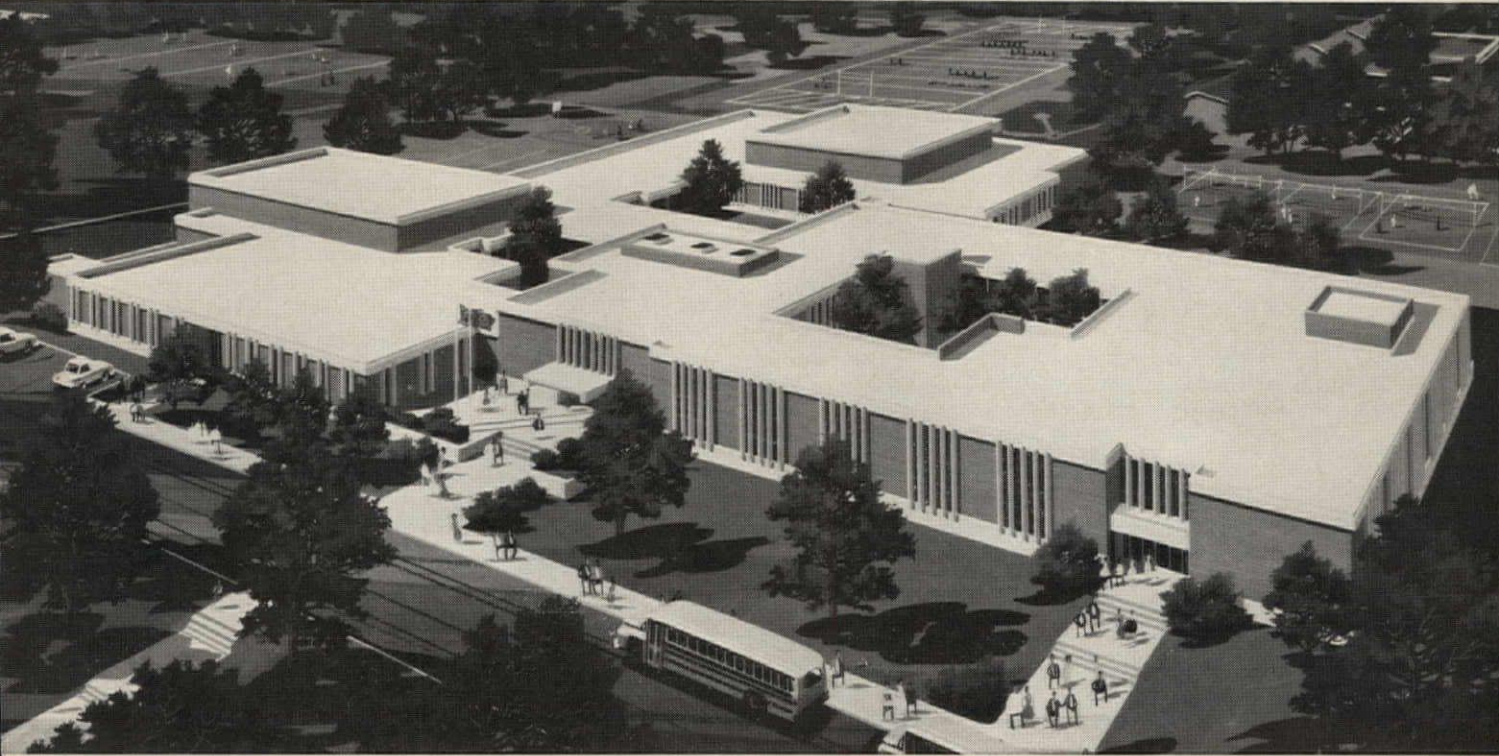
**June 24-25:** School & College Architecture in conjunction with UIA School Commission, San Francisco ■

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# LETTERS

## Basic Rights and the AIA

EDITOR:

The recent announcement [News-lines, Jan.] of the secretary of the Institute on the "rights of members" to "freedom of association" comes as a welcome restatement of basic rights regardless of what irritations may have caused this original problem.

This principle so dearly cherished by all free men and so important to fundamental rights should be obvious as a declared policy of such a great body as the Institute. The recent ill-advised and now happily abandoned effort in a contrary direction caused serious wonderment among many dedicated members with whom I discussed the matter. This was particularly pointed up in the decision to pass the duty of notification on to the chapter presidents, many of whom were totally unsympathetic with this strange "ukase" and had not been properly briefed. One is elected as a member of the Institute and not of a chapter, and the duty of disenfranchisement should be exercised by the former body.

I question the judgment behind what appears to be a series of attempts to foster the great egalitarian movement within our organization. The recent demand that certain members remove themselves from the list of qualified hospital architects and, before that, the totally unrealistic and ridiculous attempt to limit to \$25,000 yearly fees to any one firm on Defense Department work all fall into a pattern somehow—to equalize everything and everybody down to a dull level of conformity. This doesn't sound like high board policy.

It may be time to sound the warning bell and take a deep look at the possibility that administration is helping to determine policy. Influences consistently and subtly applied over the years can have a surprisingly effective result on the most alert and intelligent minds if they are not looking for such efforts. Am I seeing ghosts or is it real?

MARCELLUS WRIGHT JR., FAIA  
Richmond, Va.

## Tree House Revisited

EDITOR:

I would like to supply some information in reference to photog-

rapher Julius Shulman's "Environment USA" in the October issue, where you stated the architect for the tree house was unknown.

On page 78 of the June 1952 issue of *Sunset* magazine there is an article called "The Good Life . . . High in a Tree." Above the title is the Shulman picture which you showed on the cover. John Matthias is credited as the designer; Mr. and Mrs. Alexander Hixon of Pasadena as the owners.

VAN B. ELLIS JR.  
Landscape Architect  
Atlanta, Ga.

## More About Barns

EDITOR:

I was delighted to read the article on West Coast barns [Nov.]. In response to your editorial comment welcoming additional photographs, I am enclosing six of Lithuanian thatch-roofed barns taken from my collection of old village cottages and farm buildings. Perhaps they will be of some interest to authors Amos Rapoport and Henry Sanoff.

JURGIS GIMBUTAS  
Engineer  
Boston, Mass.



## More About Codes

EDITOR:

During my years of writing and reviewing building codes, I have repeatedly pleaded with AIA officers to authorize more than "this liaison effort" reported in the February article "AIA and the Code Problem."

We make little progress by matching the near zeros of the limited, inexperienced, relatively uninformed personal opinion of individual architects against the better informed and organized opinions of building officials, guided frequently by "administrative convenience," including the perpetuation of requirements proven safe (or ultra-safe) in the past.

Code progress will only be made when code objectives are redefined in terms of minimum requirements for safety, health and welfare, uninhibited by past practice and ex-

isting codes, and properly evaluated code provisions matched to the objectives. When the latter have been redefined, the nucleus of a performance code will have been written. Little will be gained by unification of the existing "national basic" codes if the end result does not serve the redefined objectives.

After the objectives have been redefined—or coincidentally—those "fundamental code considerations" for which "no reliable source of data is available" should be investigated so that recommendations based upon analysis, experience and knowledgeable opinion could be made to all those concerned with code writing or review.

To provide much needed information for those who have been cajoled into participation in code writing or review, the AIA should initiate immediately, with non-profit support if possible, research in the following areas: redefinition of code objectives; fire-safety requirements, including height and area regulations, occupancy separations, distances to exists, and maximum-permitted dead ends; regulations governing places of assembly, especially theaters; occupancy classifications; construction classifications; mandatory natural light and ventilation.

EMIL J. SZENDY, AIA  
Hicksville, L.I., N.Y.

ED. NOTE: Institute activity related to building regulations is certainly not limited to the liaison efforts noted, though these are considered quite worthwhile. Productive contact with numerous industry groups and government agencies, as well as with model code groups, is maintained on a continuing, sometimes informal, basis by key members of the staff and by members of the Committee on Building Regulations. Their opinions are anything but "limited, inexperienced, relatively uninformed" and, in fact, correspond clearly to those the writer states.

A nonprofit foundation now has under consideration an AIA proposal that would provide "a sound scientific basis for evaluating and improving building codes."

## Correction

In the course of editing the article "In Search of John Edelmann, Architect and Anarchist," by Donald D. Egbert and Paul E. Sprague, in the February AIA JOURNAL, Edelmann's age should have been made to read 47 instead of 43 (p. 41). Born on September 19, 1852, he died in 1900. Also, Edelmann's involvement in Henry George's campaign for mayor would have brought him to New York in 1886 instead of 1887 (p. 39).

PHOTO CREDITS: Roger Sturtevant—p. 15; Robert C. Lautman—p. 41; *History of the United States Capital*, Glenn Brown, Government Printing Office, 1900—pp. 42-46; Paul D. Spreiregen—p. 73; Juozas Lingis—p. 116.