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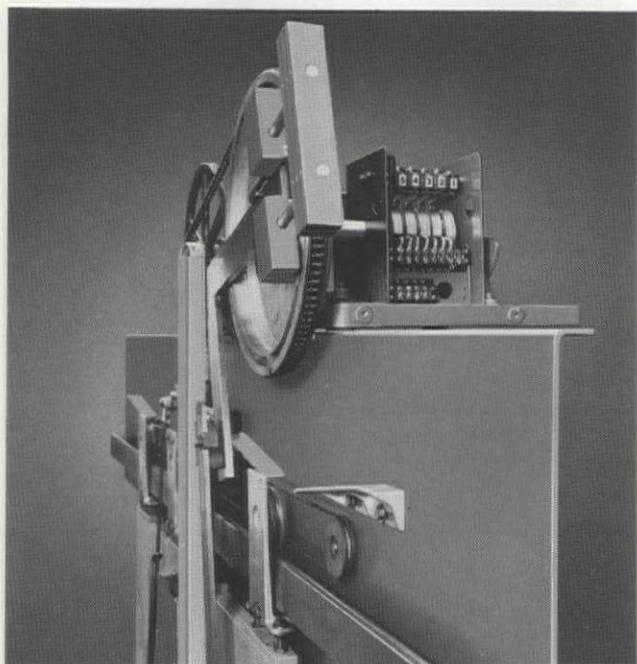


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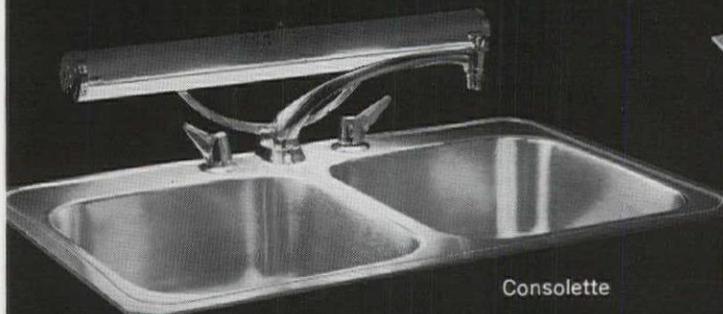
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BPA

VOL. XLVIII, NO. 2

Comment & Opinion

A New Kind of Report: "This is a generation of change, and our 1967 convention takes you into the heart of a city that has made change a way of life," said President Nes in his official welcome.

"New York is a symbol to the world of the central challenge of America's future: Can a nation that has carried personal freedoms to the outermost limits of tolerance solve massive problems that in all truth could more quickly be solved by the strong arm of managerial fiat? Our profession believes that it can."

It is only fitting, then, in light of such change and in response to the challenge, that the AIA JOURNAL has reassessed the presentation of its Convention Report issue. We hope that the results speak for themselves. Suffice it to say here that we have focused on the content of what was said in New York rather than what was done; yet at the same time we have attempted to catch the flavor of the 99th as we experienced it from our particular vantage point.

Behind the Speaker's Stand: An interesting story is related by Joe E. Smay about the lectern which is used at the national conventions. It seems that back in 1957 when Joe was serving one of his hitches as secretary-treasurer of the Oklahoma Chapter, he was concerned about the haphazard type of lecterns that cropped up at both the national and local levels.

"Sometimes it was a fairly presentable one, and at other times it was little more than an orange crate," comments Joe, professor of architecture at the University of Oklahoma. He felt that the AIA deserved better than that—and furthermore, "Why advertise a hotel?"

Joe prepared a design and drawings, and W. Alva Fry, Oklahoma's president, prevailed upon a local contractor, Larry Anderson, to build one for the chapter as a gift. A replica of the Institute seal which had been cast in bronze was purchased from a California manufacturer.

The chapter was so favorably impressed that it asked Anderson to construct another one for presentation to the Octagon. "He was such a liberal cuss and thought he could 'write it off' at little expense, so he built it," according to Joe. The solid walnut lectern was pre-

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Cover

A theme comes to life in New York. Sketches on pages 40-54 by Andrew Belschner of Caudill Rowlett Scott.

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sented at the 1958 convention in Philadelphia by Truett H. Coston, who then headed the Oklahoma Chapter.

As for the design itself, Joe had always objected to the side view of the usual lectern with its semi-triangular, poorly proportioned shape; thus he made it a triangle. The projecting portions of the sides above the sloping surface were intended for anchoring a mike or resting a glass of water. Joe admits that the contractor did not follow "the exact details of my drawings," but no one could really complain under the circumstances.

Joe's 13th year as secretary-treasurer terminated last fall, although his terms of office have not been continuous, and he served as chapter president from 1936-39. The other two original principals in the lectern story—Alva Fry and Larry Anderson—both died three years ago.

Go West and Beyond: Getting back to conventions themselves, the 1968 sessions will be divided between Portland, Ore. (June 23-26), and Hawaii (June 28-29). Details regarding travel arrangements, etc., will be circulated very soon.



And again, in reply to numerous requests for a listing of future sites, they are: Chicago, '69; Boston, '70; Detroit, '71; Houston, '72; San Francisco, '73; Atlanta, '74; Cincinnati, '75; Philadelphia, '76.

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SO 188



AIA Studies Next Move In Building Program As HQ Design Is Rejected

The American Institute of Architects is trying to resolve the latest in a series of obstacles to its building program, the rejection by Washington's Fine Arts Commission of the design for a new headquarters building.

The commission by a 6-to-1 vote disapproved the design solution of Mitchell/Giurgola, Associates, architects for the project.

Institute First Vice President George E. Kassabaum, FAIA, commenting in the absence of President Robert L. Durham, FAIA, in Europe at the time of the adverse decision, said:

"We regret very much that the Fine Arts Commission has arrived at this disappointing decision. As soon as more information is available from the commission's report, we will restudy the whole question and determine the Institute's future course of action."

The Fine Arts Commission's decision, it was reported, would have no effect on the AIA funds drive for the purchase and restoration of the Octagon House—by the AIA Foun-

dation—and the improvement of the equity in the building program.

The commission action, taken at a closed session and without disclosure of how individual members voted, appeared to stem from a belief that the headquarters concept was overly domineering of the Octagon in terms of scale and strength.

While the AIA's response was simply that it will consider alternative courses of action, several possible routes from the predicament were immediately visible. The Institute could appeal the decision, seek a new hearing on the design, or submit a revised design.

Or it could consider the suggestion of the commission itself, which was to build only over the site of the recently acquired Lemon Building, leaving the present headquarters building intact, or move into the Lemon Building.

Commission member Gordon Bunshaft, FAIA, said Mitchell/Giurgola were confronted with "an impossible task." To Bunshaft, the unity of the Octagon, the garden and headquarters should be "left alone." The proposed design, he said, is "too bold" for its setting.

But a disappointed Romaldo Giurgola, AIA, was quoted as saying the commission "failed to un-

derstand that the language of our time in architecture—in harmony with the old language of architecture—can enhance and supplement the total environment of the Nation's Capital."

The design had received the unanimous approval of the Institute's Board of Directors. It was enthusiastically received by AIA members attending the Institute's convention in New York, at which it was displayed and explained.

Willis N. Mills, FAIA, chairman of the Headquarters Committee, said in the wake of the commission decision that "we struggled through six schemes during a year and had the unanimous feeling that we were on the right track."

The original Mitchell-Giurgola design—the solution that won for them the headquarters design competition—would have encroached slightly on the Octagon garden, but the revised scheme would actually enlarge the garden by 25 percent, from 12,000 to 15,000 square feet.

This expansion was made possible by the purchase of the Lemon Building nextdoor to the AIA's present two-story headquarters.

The acquisition of the Lemon property, at a cost of \$678,000, brought up the buildable area by 11,240 square feet, to a total of 29,460. It was a move that, besides allowing for a greater setback from the Octagon and garden, permitted the erection of a building larger than originally envisaged.

An accelerating growth in membership dictated the revision of space needs, the Institute said.

But in the commission's view, as expressed by Bunshaft, the solution is "totally out of scale with the existing building, and especially its total concept as one huge element that makes this existing building and its gardens look like a toy."

Federal Panel Would Cover Philadelphia Expressway

A proposed solution to a conflict between an interstate highway and a historic site in Philadelphia is regarded as a significant step in federal interdepartmental cooperation.

Housing and Urban Development Secretary Robert C. Weaver called the recommendation of an interde-

Continued on page 12

COMMISSION CREATION, COMPOSITION AND CONTROL

The Fine Arts Commission exists by Act of Congress and consists of seven Presidential appointees—architects, painters, sculptors, landscape architects and laymen who are, in the legislation's language, "well-qualified judges of the fine arts."

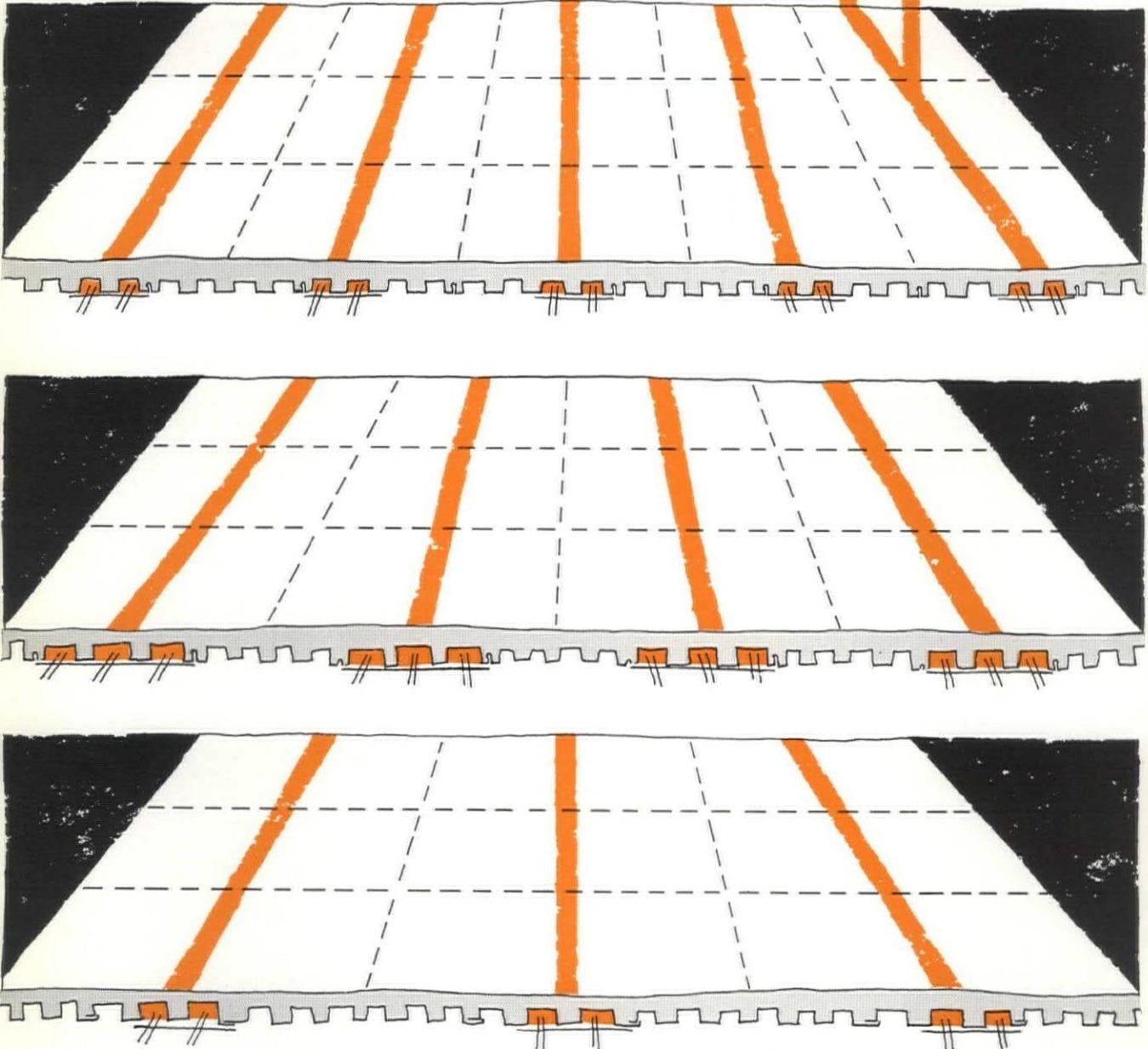
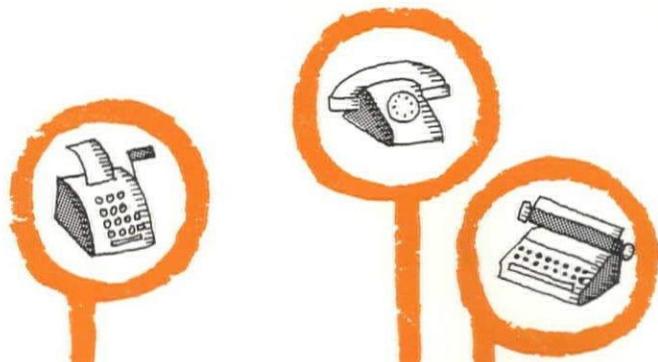
The purview of the commission, established in 1910, initially was limited to statues and the like. Gradually its authority was extended and then, in 1930, the Shipstead-Luce Act authorized the commission to exercise a reasonable degree of control over the architecture of private or semipublic buildings adjacent to public buildings or grounds of major importance, and to make recommendations to the District of Columbia Commissioners.

The Shipstead-Luce Act directed the D. C. Commissioners to prepare, in consultation with the National Capital Park and Planning Commission, plats defining the areas over which the Fine Arts body would have authority. The Octagon property, two blocks west of the White House, is situated in such an area.

Appointed for four-year terms, commission members may be reappointed at the discretion of the President. The current terms of all but one member will have expired by summer's end.

Present members are Gordon Bunshaft, FAIA; John Carl Warnecke, FAIA; Burnham Kelly, dean of Cornell University's College of Architecture, Art and Planning; landscape architect Hideo Sasaki; sculptor Theodore Roszak; layman (and art critic) Aline B. Saarinen; and painter William Walton, commission chairman.

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partmental task force, of which he was a member, "an outstanding example of how creative federalism can help solve local problems."

The task force proposed that a third of a mile of the Delaware Expressway (Interstate Route 95) be depressed and covered so that Historic Penn's Landing and Independence National Historical Park—extending from Independence Hall—are not severed from each other.

The panel further recommended that Delaware Avenue, running parallel to the expressway, be depressed and covered also.

A cover over the 10-lane expressway "at approximately ground level and suitable for landscaping," the task force said, "is essential to the unity of the historic area, the continuity of Philadelphia's link with its waterfront, the viability of existing public and private investments in the immediate area, and the future development potential

of both the waterfront and the central city."

The panel recommended that the highway program shoulder two-thirds of the estimated \$9 million for the cover. Ninety percent of this \$6 million, or \$5.4 million, would be federal funds from the interstate highway program and the remaining 10 percent would come from the State of Pennsylvania.

The remaining \$3 million is to be paid by the Pennsylvania Highway Department—builder and operator of the highway—with an arrangement to recover this amount from HUD's Open Space Land program and the Department of Interior's Land and Water Conservation Fund program.

The cost of depressing some portions and covering all of Delaware Avenue at about the same level as the expressway topping would be borne by the City of Philadelphia and the state government, according to the task force report.

Besides Weaver, the task force included Secretary of Transportation Alan S. Boyd and Interior Secretary Stewart L. Udall along with departmental designates. Charles L. Schultze, director of the Bureau of the Budget, was an official observer.

Architects Named to Head Urban America Design Unit

Two architects have been named to head the Urban Design Center of Urban America, Inc. They are James N. Kise, 30, and R. James Goodell, 25.

Both Kise, the center's director, and Goodell, who was named urban design researcher, hold master's degrees from the University of Pennsylvania in architecture and city planning, and both have been with the Philadelphia firm of Wallace, McHarg, Roberts & Todd in the practice of architecture, landscape architecture, city and regional planning.

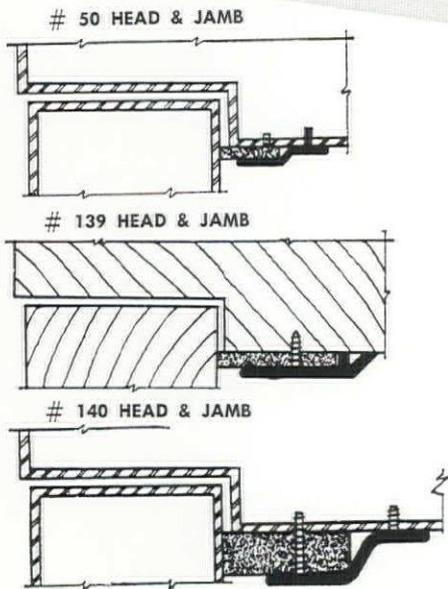
Kise is also a former staff member of the Philadelphia City Planning Commission.

Madison Library Lesson: Hill Needs Panel, Plan

An AIA advisory committee has found preliminary designs for a \$75 million Capitol Hill project to be inadequate in terms of both the operation it is to enclose and its relationship to its Hill neighborhood.

Continued on page 16

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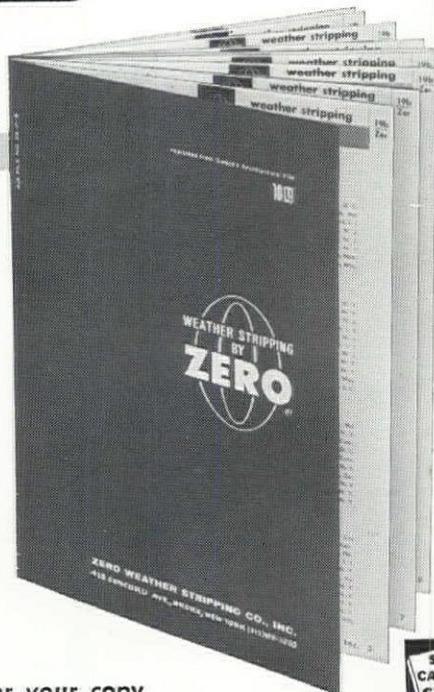


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Newslines from page 12

The committee found that severe and perhaps even contradictory limitations were imposed on the associated architects for the project, the James Madison Memorial Library, a branch of the Library of Congress, and declared that the "lesson to be learned" was clear:

"There is an immediate need for legislation through which situations of this sort may be avoided in the future. The advice of a permanent body of professional consultants, working within the framework of a master plan, could be of inestimable value to the Congress, the Architect of the Capitol and architects commissioned to design buildings on Capitol Hill."

The advisory committee was created after Congress directed Architect of the Capitol J. George Stewart to consult with the Institute for suggestions on designs, plans and specifications for the building.

It said that reconsideration of limitations and requirements of the venture would be preferable to the construction of a building "visually unsatisfying and functionally inadequate."

Chicago's Glessner House Acquired by Foundation

The Glessner House in Chicago, the last house designed by Henry Hobson Richardson, has been bought by the Chicago School of Architecture Foundation.

The foundation is planning exhibits, lectures, seminars and tours on Chicago architecture. Information relating to the Chicago School and the roots of modern architecture, and including original drawings from architects of the past, will go into foundation archives for the use of students and the public.

Work has begun on extensive restoration of the house, designed in 1886 and located at 1800 S. Prairie Ave.

Members Keep BRI Alive But Future Unknown

The Building Research Institute will apparently continue as an independent technical society as a result of the voice of the membership in a special June meeting.

A proposal to combine the activities of the BRI with those of

the Building Research Advisory Board under the National Academy of Sciences-National Academy of Engineering-National Research Council was defeated for the second time.

The vote was 253 to 185; 270 members did not vote. Two-thirds of all ballots and proxies cast would have been necessary for approval of the consolidation of the two organizations.

Just what course the BRI will take next is not known at this time. A spokesman said that the society is investigating ways to overcome financial and other problems which led to the initial consolidation proposal.

Wright's 100th Birthday Is Noted at Taliesin

Frank Lloyd Wright's centennial was commemorated June 8 at Taliesin near Spring Green, Wis., as the architect's widow ventured a belief that in another century a greater, more national celebration would be held in his honor "as it is always held for those who have suffered in the name of an idea."

In addressing the dinner gathering of some 200 people, Mrs. Wright added, "And it is right that it should come to him, in another century when his enemies will long have vanished from the face of the earth."

Mrs. Wright, who serves as president of the Frank Lloyd Wright Foundation, referred to the controversy over the year of Wright's birth (see Comment & Opinion in the July AIA JOURNAL citing documents which substantiate the 1867 birthdate).

"According to human measurements and divisions of time, she said, "today . . . would be his centennial. This impresses me very little because he is so much a part of our life, so much part of our present.

"All of you here," Mrs. Wright continued, "shared, one way or another, in his life, in his ideas, in his struggle, in his fight for integrity and beauty. Therefore, it seems rather strange to say here tonight that this is his centennial, placing him back into the past instead of projecting him into the future."

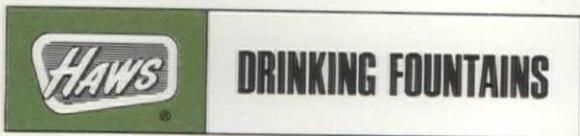
She termed those who share in his ideas the bridge to the future. As for the past, she said: "Dwelling in the past in itself has very little meaning." *Continued on page 22*

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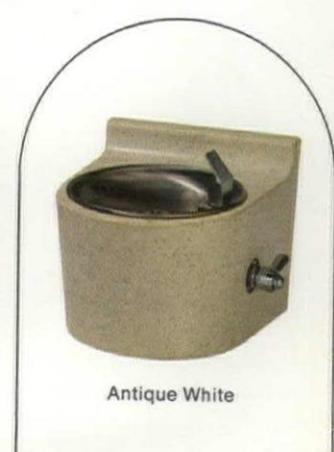
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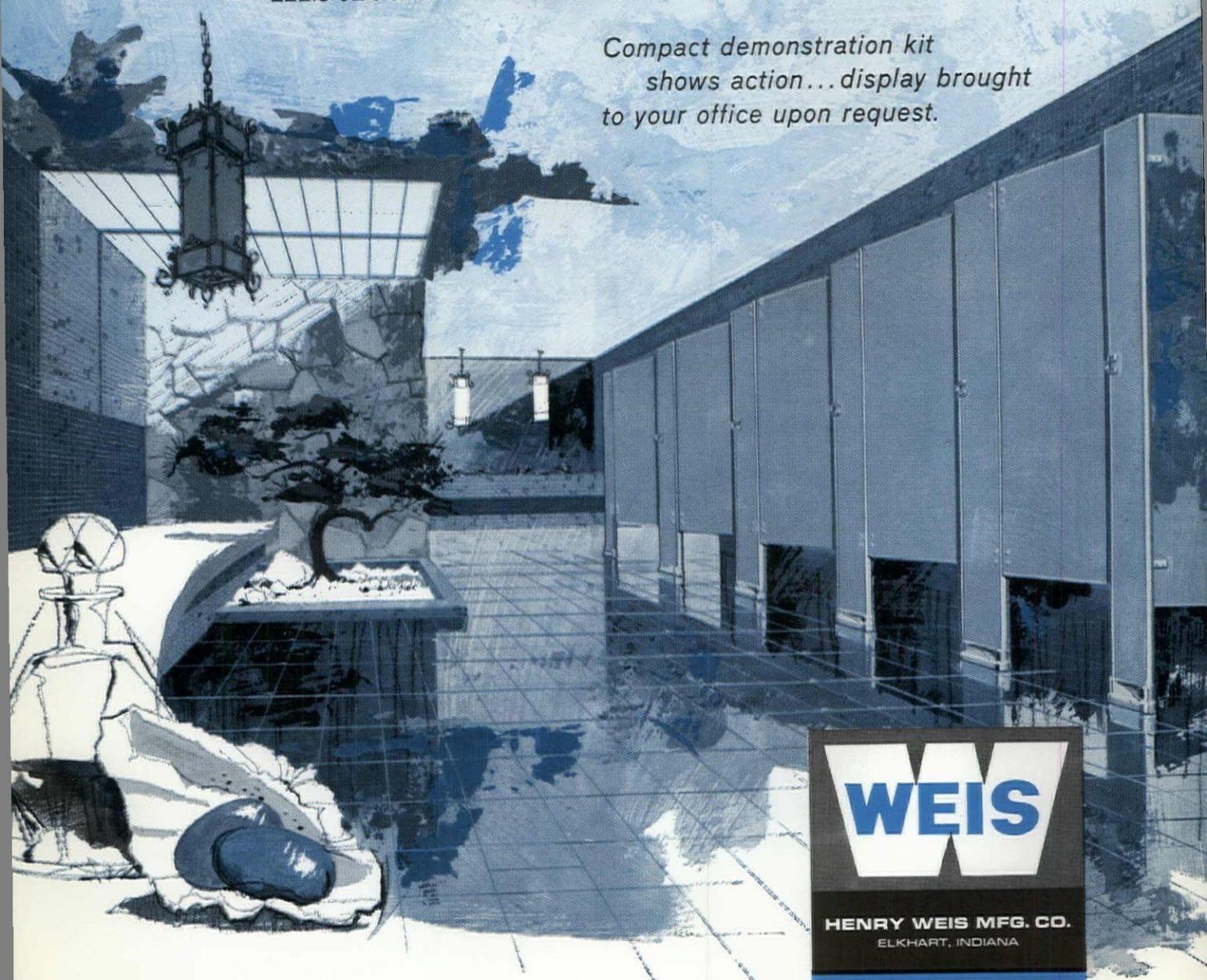
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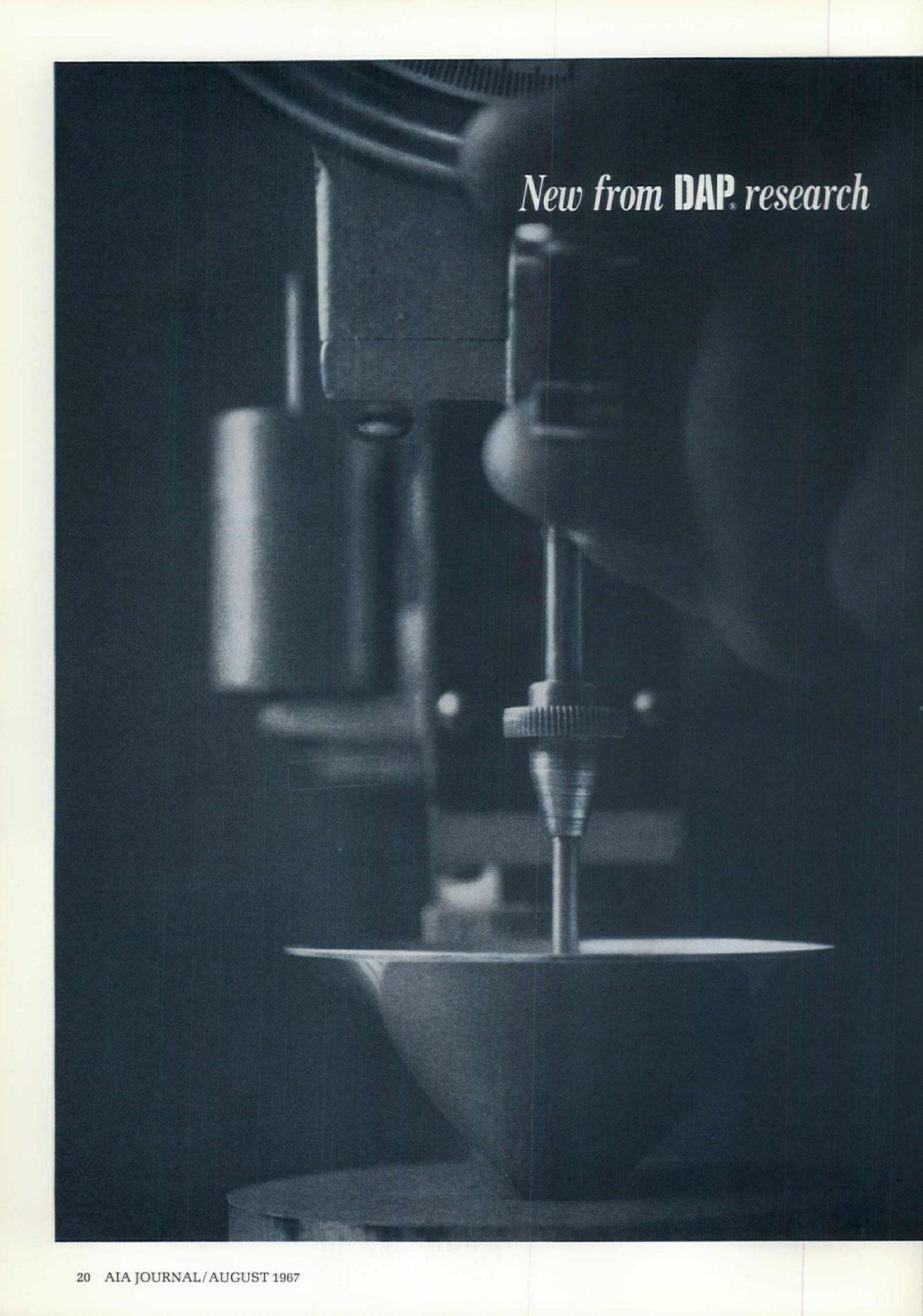
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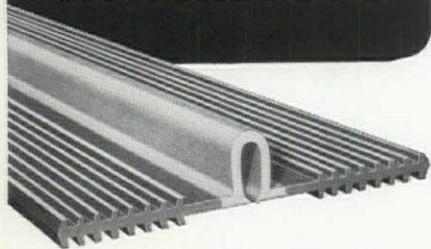
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Newslines from page 16

LBJ Committee to Study Industry's Rehab Role

President Johnson has appointed an 18-member committee made up mostly of businessmen and labor leaders to study, in Mr. Johnson's words, "this vital question: How can the resources and talents of private industry be directed into the rehabilitation of urban slums?"

Edgar F. Kaiser, president of Kaiser Industries, Inc., was named committee chairman.

In announcing formation of the committee, Mr. Johnson stressed the urgency of "reclaiming the corroded core of the American city." He said that "a substantial part of that task is the rebuilding of the slums—with their 7 million dilapidated dwellings—which shame this nation and its cities.

"So vast an undertaking represents, as well, an enormous potential market. American industry has sought and developed markets around the globe. This one lies waiting at its very doorstep."

The President said he has asked Housing and Urban Development Secretary Robert C. Weaver to "work closely" with the committee.

By naming the group, he said, he was calling upon "the inventive genius of private industry and the creative productivity of American labor."

Advisers, Executive Named To US Preservation Units

Nine architects and historians have been appointed to the Historic American Buildings Survey Advisory Board.

Sponsored by the National Park Service of the Department of Interior, the AIA and the Library of Congress, the survey is a long-range plan for assembling an archive of historic American architecture.

In another appointment, Robert R. Garvey Jr., 46, of Washington, has become the executive director of the Advisory Council on Historic Preservation, National Park Service.

The newly created council, made up of 10 members appointed by the President, six members of the President's cabinet and the chairman of the National Trust for Historic Preservation, advises the President and Congress on policies to strengthen preservation efforts.

Garvey was executive director of the National Trust.

Architects named to the survey board are: Orin M. Bullock Jr., AIA, Baltimore; Barkley Jones, AIA, Ithaca, N. Y.; Raymond Girvignian, AIA, Los Angeles; William J. Wagner Jr., FAIA, Des Moines; and H. Roll McLaughlin, AIA, of Carmel, Ind.

The National Trust, in addition to losing Garvey to the federal government, also gave up Dr. William J. Murtagh, 44, who has become keeper of the National Register for the Park Service's Office of Archeology and Historic Preservation.

Scheuer Expected to Seek Design Review for Capitol

An expected House measure that will parallel a Senate resolution calling for a comprehensive plan for Capitol Hill will include additional language setting up a permanent commission on architecture and planning for the capitol area.

Rep. James H. Scheuer (D-NY), long active in attempts to create such a commission, will include the proposal in a resolution he is preparing for the House, it was learned.

The joint resolution adopted by the Senate provides for an architects selection committee, but the Scheuer resolution would go beyond this, establishing an architecture and planning commission as well.

The commission would advise on all construction projects to be undertaken on capitol grounds or adjacent property.

It would function similar to the commission envisaged in legislation introduced—by Scheuer—last year and strongly supported by the AIA. The bill was pending as the 89th session of Congress expired.

OCD Tries Direct Mail With Owners, Architects

A direct mail procedure is being tested in seven states by the US Office of Civil Defense in an effort to get the owners of new buildings and their architects to provide for fallout gamma radiation.

The test, just begun and to be tried for up to a year, employs direct mail techniques along with personal contacts by state or local CD authorities.

OCD hopes to reach owners and architects at a point when there is

Continued on page 25

still time to design fallout protection into the buildings. Such design can be done at little or no extra expense, OCD maintains.

The states in which the test is underway are Arizona, Florida, Louisiana, Massachusetts, Tennessee, Texas and Wisconsin.

The direct mail program is based on information obtained and compiled by the F. W. Dodge Corp.

If the direct mail test proves successful, owners and architects of about 25,000 new buildings having substantial fallout shelter potential could be contacted each year, OCD officials say.

Rudolph Exhibition Shifts To Gainesville, Atlanta

A comprehensive exhibition of the works of Paul M. Rudolph, AIA, has been shown at the Tampa Bay Art Center of the University of Tampa and the Jacksonville Art Museum, and will be shown this fall at the University of Florida and the Georgia Institute of Technology.

Philip H. Hiss of Sarasota, president of the Florida Arts Council and friend and client of Rudolph (the "Umbrella House," 1953), is coordinator of the retrospective showing. Mark Hampton, FAIA, designed the premiere exhibition in Tampa.

The exhibition will be presented at the University of Florida Gallery, Gainesville, Sept. 10-Oct. 1, and at the Georgia Institute of Technology School of Architecture, Atlanta, Oct. 15-Nov. 5.

NECA Starts Information Service for Architects

The Electrical Design Library, a new type of service to architects and engineers, has been initiated by the National Electrical Contractors Association.

The service consists of four original monographs per year—the first of the series is an introduction to electric heating and airconditioning systems—plus reprints of pertinent articles from magazines. Distribution will be handled principally through NECA's 125 chapters across the country.

Speaking on behalf of the AIA, Thomas R. Hollenbach, AIA, director of Technical Services, said: "I am certain that every architect and

Continued on page 27

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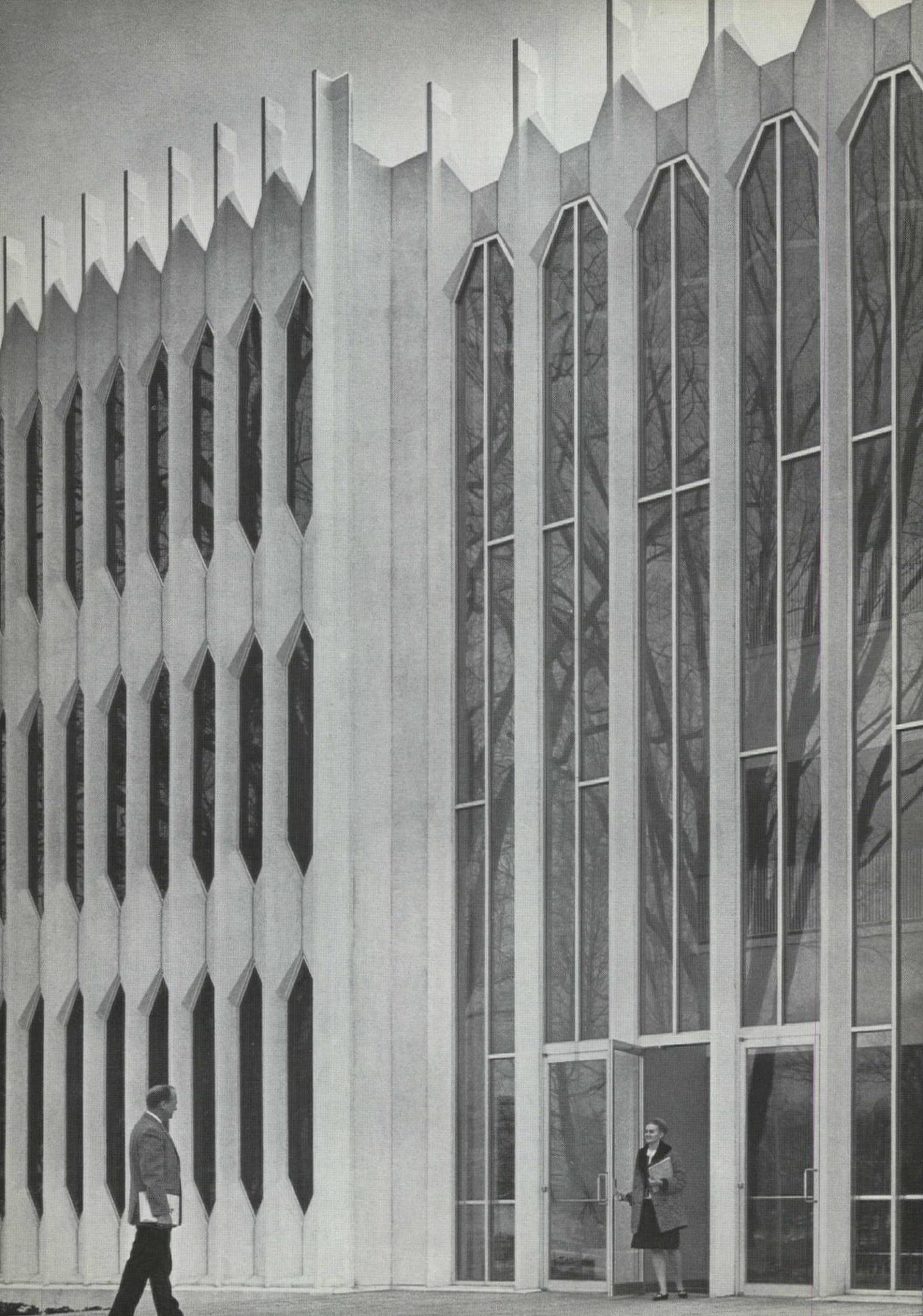
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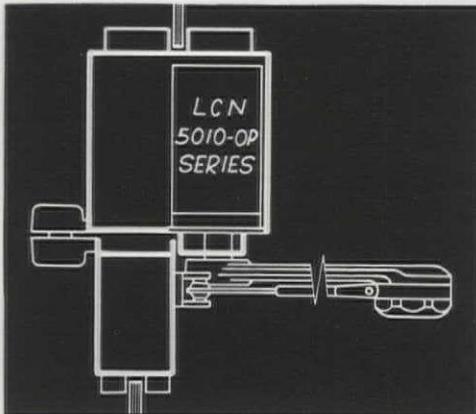
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Newslines from page 25

engineer who avails himself of the library—and a free subscription goes to all interested—will commend NECA and all concerned for a job well done.”

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Session Nears on Religion, Architecture, Visual Arts

Opening on Aug. 27, the International Congress on Religion, Architecture and the Visual Arts is expected to attract to New York representatives of every major world faith.

The meeting, the first of its kind, will take place in the New York Hilton, running through Sept. 1. Some of the registrants will leave by chartered plane on that date for a continuation of the program Sept. 2 and visits to Expo 67 Sept. 3-4.

Thirty-five national architectural and religious organizations from 20 countries are sponsoring the conference.

George Qualls Wins \$25M Birmingham Competition; Ralph Rapson Is Second

The design of George W. Qualls, AIA, has won first place for his firm, Geddes, Brecher, Qualls, Cunningham of Philadelphia, in the national Birmingham competition, the largest of its kind ever carried out under the regulations of the AIA.

Qualls' design for the \$25 million Birmingham-Jefferson Civic Center consists of architectural elements arranged around a large reflecting pool, creating what jurors termed “an inviting and self-contained outdoor public space.”

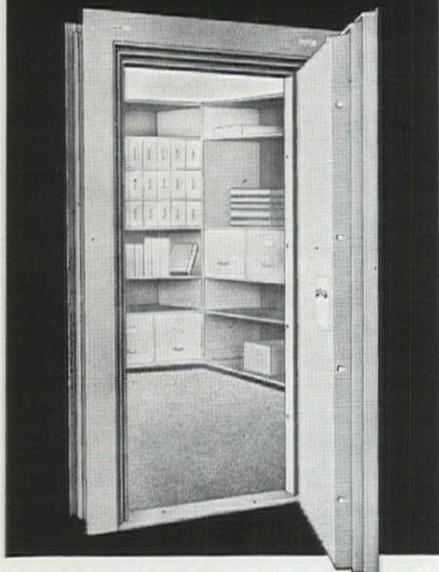
Jurors also praised the concept's integration with buildings and a park near the site and, terming the circulation approach “ingenious,” said people will move in and about the complex heightening “the enjoyment of the central space.”

Entries in the competition numbered 276. Besides a first place prize of \$25,000, the winning firm is automatically awarded the architectural contract for the center which, based on projected costs, is estimated in excess of \$1.3 million.

The complex includes a 13,000-seat sports coliseum, a 100,000-square-foot exhibition hall, a 3,000-seat concert hall and a 1,300-seat

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theater as well as restaurant, administration offices and special parking facilities. It will cover four city blocks.

Second prize, a cash award of \$15,000, went to the firm of Rapson Architects, Inc., of Minneapolis. The design of Ralph E. Rapson, FAIA, featured a strong, square coliseum related to a long, rectangular form containing theaters and exhibition. A large outdoor plaza was dominated by a sculptural restaurant group.

The Chicago firm of Fridstein & Fitch received the third place award of \$5,000.

Five entries won honorable mention. They came from Harris & Reed, Tacoma, Wash.; B. J. Hoffman and Hanford Yang Associates, Devon, Pa.; Beckhart & Mill, Los Angeles; Barry Elbasani, Donn Logan and Barakonski-Riley Associates, Berkeley, Calif.; and E. N. Turano & Associates, New York.

Seattle Architect to Lead International Symposium

A Seattle architect will preside in Montpellier, France, next month over one of three symposia on architectural planning in mental retardation.

He is Arnold Gangnes, AIA, chairman for one of the symposia. The sessions are part of the Sept. 12-20 International Congress on the Scientific Study of Mental Deficiency.

L. W. Pitts, Dead at 60, Is Paid High Tribute

"Both his profession and the people of his home town have lost a good friend," said the *Beaumont Enterprise* in an editorial tribute to Llewellyn W. Pitts, FAIA.

Mr. Pitts, recent member of the AIA Board of Directors representing the Texas Region, was dead at the age of 60. He had been ill for several months.

In Austin, Tex., another Fellow of the Institute, R. Max Brooks, with whom "Skeet" Pitts had been almost continually involved in joint architectural projects over the past 15 years, said:

"My life has been profoundly influenced, encouraged and enriched by this great architect, great man and revered friend."

Mr. Pitts served as chairman of the AIA Commission on Public Affairs from 1964 until last year when his term on the board expired. He was nominated for the first vice

presidency but lost in a contested race.

"Skeet made a great contribution to the profession that he loved," said Institute President Robert L. Durham, FAIA. "He was deeply concerned about the future of the architect, and at a time when the Institute is groping for programs that will prepare tomorrow's architect for a position of leadership, his enthusiasm, dreams and ideas will be sorely missed."

Among Mr. Pitts' best known works are the US Embassy Building in Mexico and a Houston bottling plant for which he received an AIA First Honor Award. His firm, Pitts, Mebane, Phelps & White, in joint venture with Brooks' firm of Brooks, Barr, Graeber & White, are architects for the new \$47.6 million Department of Labor building in Washington.

Mr. Pitts at the state level served as president of the Texas Society of Architects and the Texas Architectural Foundation. He also served as chairman of the Advisory Commission for the State Capitol Long-Range Development Program in Austin.

A native of Alabama and a graduate of the Georgia School of Technology, Mr. Pitts lived in Beaumont for the past 40 years. It was in his home there, at 1080 Thomas Road, that his June 23 death occurred.

He is survived by his wife, Garnete Northcott Pitts; a daughter, Mrs. James M. Stokes; and two grandchildren, all of Beaumont.

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UNFINISHED BUSINESS

BY WILLIAM H. SCHEICK, FAIA
Executive Director

Nature Abhors a Vacuum

A state of vacuum apparently is dandy in outer space. It gets rid of friction and offers no hindrance to the momentum of people going somewhere in a hurry. That's all I have to say in terms of physical science, about which I know precious little.

What I have in mind are states of vacuum here on earth as they affect organizations like the AIA. These nonphysical vacuums do pose a hindrance to some and provide a fast track for others. Friction develops between the hindered and unhampered. Occasionally we see some new organization materialize and grow like topsy. If it is accomplishing something we should be doing, it's a good bet that something we *should have been* doing left a vacuum.

This happens in all fields of endeavor. A new business succeeds where everyone thought the establishment had a corner on the market. Government steps into a vacuum that developed right under the nose of private enterprise.

I doubt that any organization willfully creates a vacuum except when its leaders use this device to manufacture a crisis. Vacuums develop because of the neglect of a market or a pressing need for some service; because of the absence of capability to perform; failure to recognize the symptoms of a vacuum in the making; or simply because everybody is too busy and preoccupied with current business to bother to look ahead.

Vacuums develop when the winds of change eddy around the rock of status quo. Change is always there—sometimes like a tradewind, sometimes like a tempest. In architecture, the underlying forces for change arise from

mankind's needs, expectations and aspirations for his physical environment. Change is inevitable as society changes, as the economy changes and as technology responds to the needs.

Those of us who would stand pat on the rock of traditional concepts are oblivious to the forces sweeping by.

Those of us who would do something have two choices. One is to watch the barometer and act before the lows become vacuums. The other is to wait and deal with vacuums as emergencies. The trouble with the latter is that someone else who found the vacuum to his liking may have already moved in to fill the void.

So much for a theory of vacuums; now to some concrete matters.

The Institute's leaders have been and are alert to the forces of change and determined to keep the profession in the jet stream of current events. The AIA tackles today's problems of the profession with an eye on the indicators of future vacuums.

The major research project in architectural education is a thrust to prevent a vacuum in the capabilities of the next generation of architects.

The major research project in costs of architectural practice is intended to deal with a prevalent deficiency in business management.

The major efforts to deal with liability problems through our documents recognize the proclivity of society to resort to lawsuits on any provocation.

Where else are low-pressure eddies generating? Some are being discovered by the Committee on the Future of the Profession. Some

are to be seen in the recent survey of public opinion for public relations planning. From these sources I select two examples.

There is a vacuum in the creative process of building—the sequence of teamwork that causes projects to be initiated, conceived, made feasible, financed and built. The vacuum is in the overall management of the process. The package dealer thrives in this vacuum. Others—perhaps the architect—should be able to fill it better. More likely it will be a new kind of team the architect assembles.

There is a vacuum seen in the use of the word "planner" by laymen responding to the public opinion poll. They seem to know what an "urban planner" is, but use "planner" in a different sense, as applied to any project. They are looking for someone to coordinate the functions of feasibility studies, programming and solutions to economic problems that assure the realization of the project. They are not at all sure the architect is such a "planner."

Nothing is to be gained by reacting defensively to the uncomplimentary opinions of others. Obviously the forces for change are making the creative process far more complex than it was. Should the architectural profession try to develop every capability required by it? Or, by educating itself to total comprehension of the process, can it make itself the director of the teamwork job?

We are fully aware of the folly of asserting claims to leadership from a platform surrounded by swirling low-pressure eddies. We are committed to watching the barometer and navigating accordingly. □

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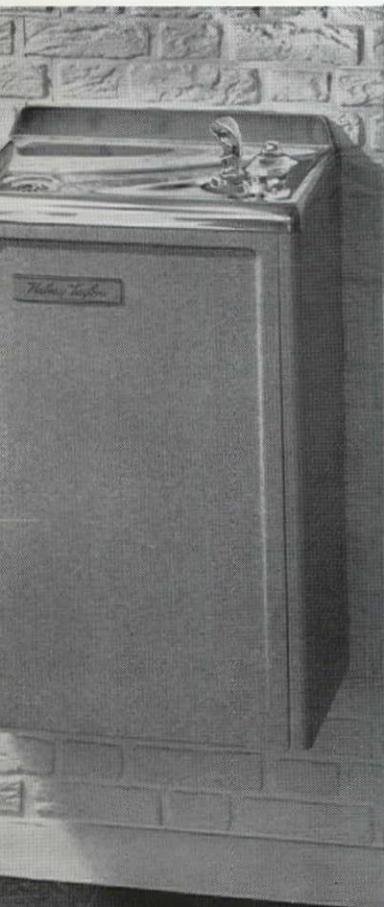
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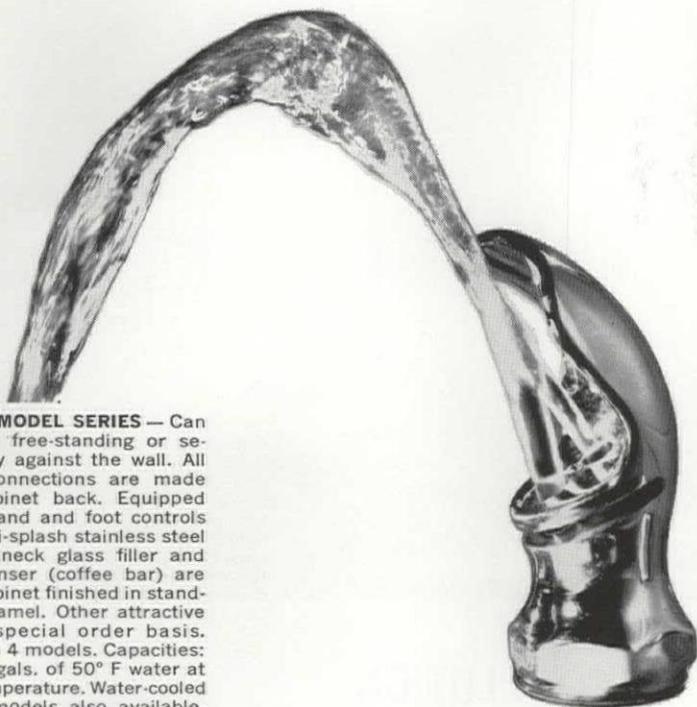
W SERIES WALL-MOUNTED WATER COOLERS — Designed for modern interiors. Contoured stainless steel top prevents splashing. Hot water dispenser (coffee bar) optional. Standard cabinet finish handsome, baked gray enamel. Available also in stainless or vinyl-clad steel with choice of attractive colors and textures. Choose from three models. Capacities: 9.4, 16.4 or 29.9 gals. of 50° F water at 70° room temperature. Water-cooled condenser models also available.

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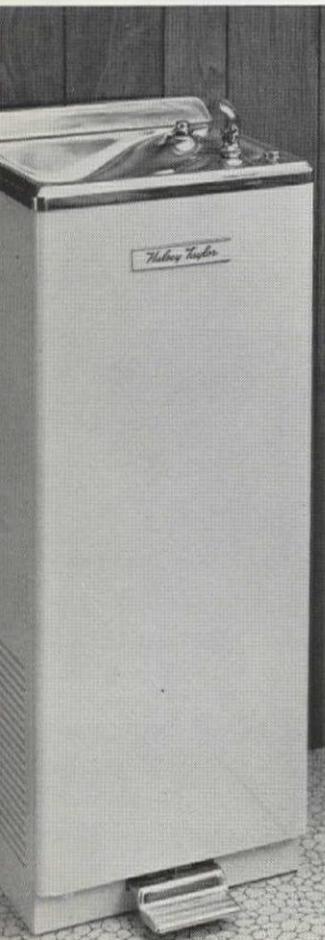
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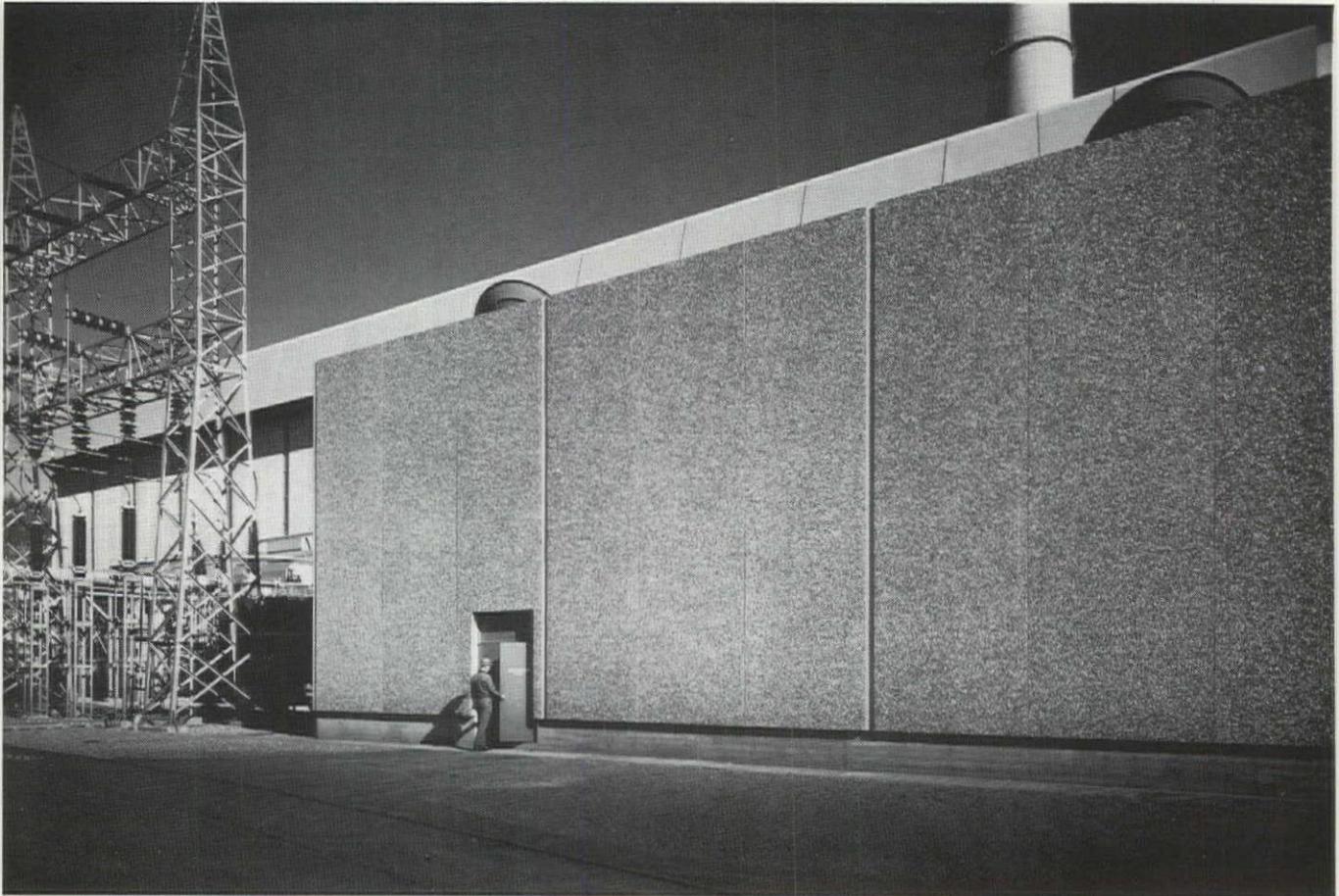
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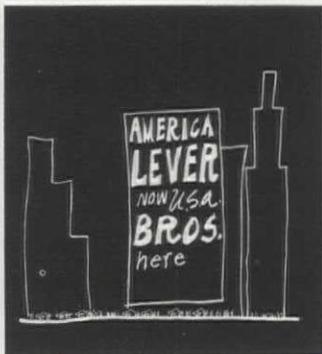


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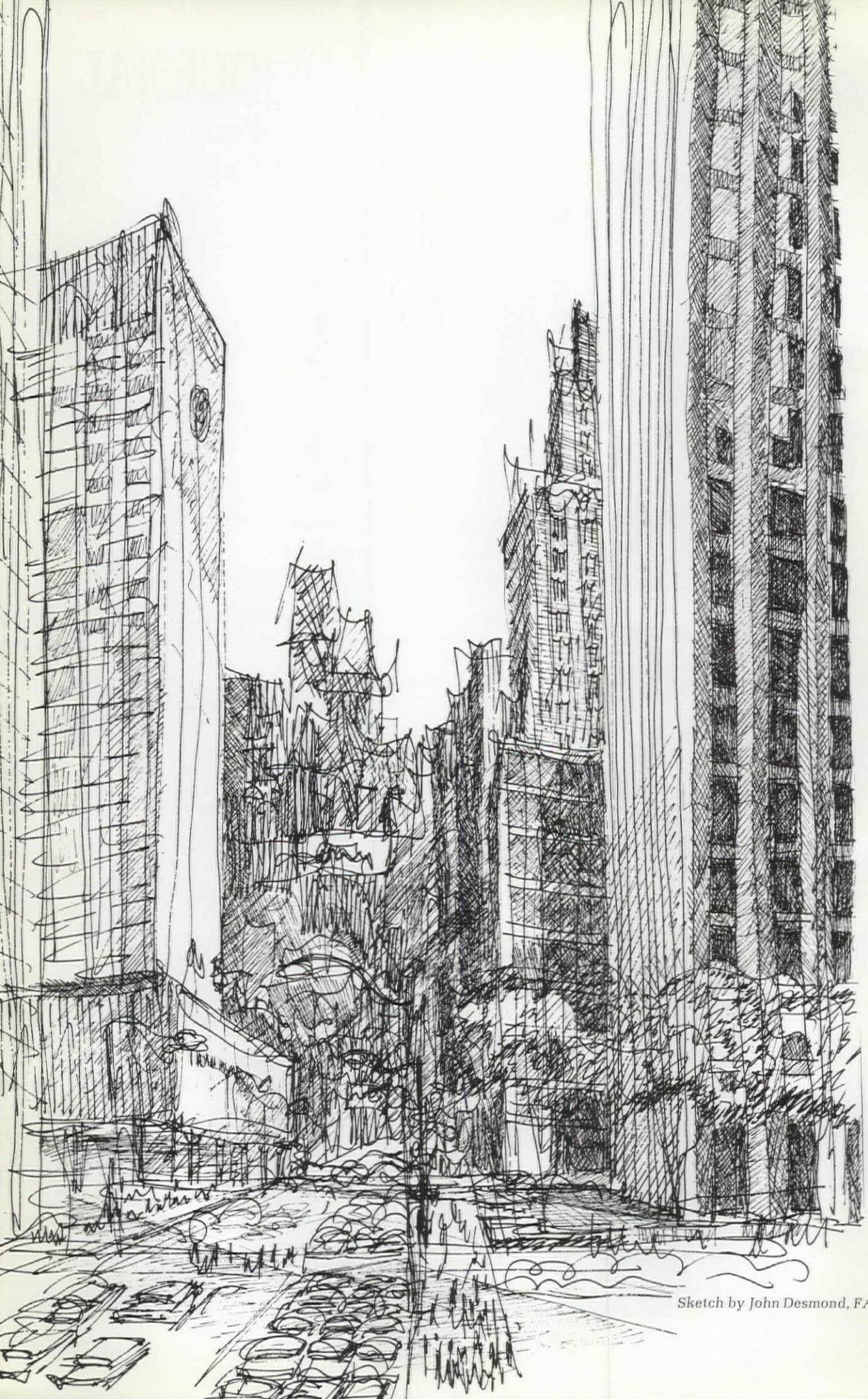


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Sketch by John Desmond, FAIA

Architecture in the McLuhan Age

*Philosopher, educator and iconoclast,
the Purves Memorial lecturer
describes environments of the future—
“invisible. Their ground rules,
pervasive structure and overall patterns
elude easy perception.”*

Have we achieved a true pop culture in which the symbol has superseded the thing symbolized and the container transcends the thing contained? Right, says Dr. Marshall McLuhan, chief apologist for the peculiar metonymy of the age. The medium is the message!

This may account for the sudden rash of bumper stickers which say BUMPER STICKER, or the lapel button which innocently proclaims BUTTON. (Among the BUTTON buttons, and those displaying more pungent pejoratives, there is one which says “Marshall McLuhan Reads Books.”)

Of course—despite his contention that the “hot,” linear, visual medium of the printed page is rapidly obsolescing in today’s “cool,” electronic, nonvisual environment—Dr. McLuhan not only reads books, he writes them. Moreover, architects apparently read them.

If the architects who crowded the Hilton Ballroom for the third annual Purves Memorial Lec-

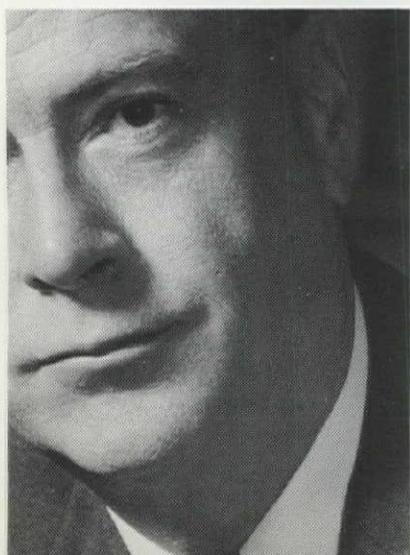
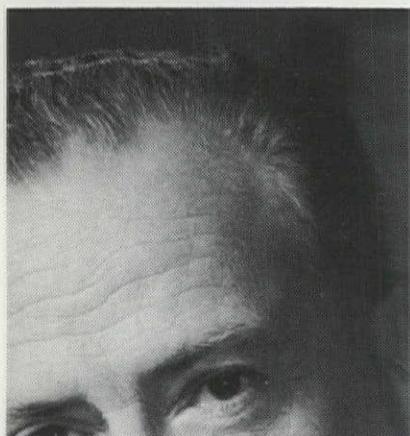
ture went in the hope that the live McLuhan would clear away a few obstacles to understanding of the typographic McLuhan, they were probably disappointed. The lecturer played a kind of verbal connect-the-dots game with his listeners, providing the nodes in a network of McLuhanesque logic and leaving them to draw the lines. He considers this sort of game the quintessence of modern communication. Of Edgar Allan Poe, he said, “He was the first of the moderns—he left out the connections.”

One conspicuously missing connection was the one linking the architecture of this electronic, nonvisual, retribalized age with its other cultural stigmata. Referring to the 2,500-year-old devotion of the Western world to what he calls “visual space,” Dr. McLuhan declared that auditory space—space which has neither a center nor margins—is characteristic of an electronic culture. “Instant movement of information creates a configuration of space/time in which no point of view is possible, and no single plane perceptible.” For example? Well, Buckminster Fuller’s geodesic domes, perhaps.

About this time, the audience began to tumble to the fact that the speaker was using the words “visual” and “auditory” on a somewhat more abstract level than that at which most of us customarily think. Or was he? Did “visual” really mean “visual?” Because abruptly he was quoting, “To the blind, all things are sudden,” and discussing Siegfried Giedion’s theory that the pyramids of Egypt did not actually enclose any space because the interior darkness made space impossible to perceive.

(An inveterate punster, McLuhan borrowed a phrase from Joyce, obviously one of his heroes of modern letters, to describe Bucky’s Expo 67 dome as “all experience in a not-shell.”)

But where does Dr. McLuhan place today’s architecture, being created daily by designers



With a note of appreciation to Newsweek

who have so far been permitted the illusion that they are hip, with it, switched on, or at least reasonably conscious of what's happening, baby? Again, the connections were missing. Noting that the process of retribalization, which results from the "allatonceness" of electronic communication, is not without its terrors, the speaker talked about the need of mankind to reduce its common angst and render it manageable through a preoccupation with things past—a view of life through the rear-view mirror. Is architecture, too, life seen in the rear-view mirror? Or does the architect dare to flatter himself that he is one of the artists who, says McLuhan, share the "terrifying candor" of the little boy who pointed out that the emperor wasn't wearing any clothes?

However he chooses to shape it, the architect can rest assured that he will continue to exert an enormous influence on the environment. Defining a "happening" as a "programmed art form—dealing with the total environment as a work of art," and citing the by-now-familiar statistics dealing with the construction explosion ("more space has been enclosed architecturally in the past 30 years than in the preceding 6,000"), Dr. McLuhan remarked mildly, "Without looking any further than architecture, it is possible to see the world as a happening."

McLuhan, like Ulysses (not Joyce's this time, but Tennyson's), is obviously a part of all that he has met. His store of information seems bottomless, his tastes catholic. His literary allusions range far and wide, from Sophocles to Baudelaire to Plato to Robert Ardrey. As author, editor and teacher of literature, he is understandably a highly literate man (a fact he appears not to rue particularly, even though literate man is rapidly becoming as extinct as the passenger pigeon). But how does an English professor get to know so much about Eskimo art or why a Volkswagen is like a miniskirt?

Leaping from atrocious pun to aphorism to major thesis (which, in his even, dry delivery, he is likely to throw away), he is stimulating and exhausting, and no doubt addictive. If there were any architects who weren't carrying around the paperback *Understanding Media* before they heard him, they probably are now.

Bookstores have had trouble keeping *Media* in stock; their second-hand book departments have been besieged with requests for the earlier *Gutenberg Galaxy* and *Mechanical Bride*. Apparently it's hard to get enough of McLuhan, once hooked. One can readily imagine little knots of wretched, tremorous addicts (terrorized by retribalization?), skulking around in the cool dusk outside Brentano's, waiting for their connection.

MARILYN E. LUDWIG

Learning and the Human Environment

BY HAROLD TAYLOR

A contemporary writer who expresses himself boldly and fairly often on a wide range of topics, most of which annoy him, says it is his continuing obsession that "the world is entering a time of plague." He adds that some people get rid of the plague by passing it on to others, some do not know they have it, others clear it up and help others to do so too.

"But," he says, "the plague remains, that mysterious force which erects huge, ugly and esthetically emaciated buildings as the world ostensibly grows richer, and proliferates new diseases as medicine presumably grows wiser, nonspecific diseases, families of viruses, with new names and no particular locations. And products deteriorate in workmanship as corporations improve their advertising, wars shift from carnage and patriotism to carnage and surrealism, sex shifts from whiskey to drugs. And all the food is poisoned. And the waters of the sea we are told. And there is always the sound of some electric motor in the ear."

This is Norman Mailer, not quite in full cry, but warming up to his theme, having said that our natural art form to suit the age is our own art, the art of the absurd, in a world which produces "mediocrities" at an accelerating rate and keeps them alive by surgical gymnastics.

One of our most distinguished critics of art tells us that "the vacuity of individuals and the supremacy of their metier have become the central theme of American culture. Whether in physics or in oil painting the responsible practitioner is the one who comes closest to resembling the computer. The arts are being pro-

grammed, and an empty mind has become a credential of both artists and critics."

This is Harold Rosenberg. What Mailer and Rosenberg are saying, and what we find in the literature of the stage and the novel, in sculpture, painting and dance, in avant-garde stand-up comics, is in one sense an indictment of the culture, and in another sense, a metaphor, useful for expressing dislikes and preferences.

Away with Tradition—In the formative years of the avant-garde of the 1920s, the task of the artists and the educators was to break with tradition and to reconstruct the idea of art itself, to free it from any hindrances to the imagination by adherence to forms and conventions. That has now been done, and Rosenberg's tradition of the new has taken the place of tradition, the culture itself being both the subject of art and its worst possible model.

This means that without an esthetic doctrine against which the arts can be measured, the standard of judgment lies within each object; each object can only be compared with itself; and there is almost nothing left to denounce except the mass culture, which, by certain manipulations on the part of the artist, can also be made into various kinds of art objects by simply isolating a soup can or an assemblage of mufflers, naming them and signing them.

What we have then is the acceptance of absurdity and vulgarity as a basic category of art and, for that matter, of life. We have the ultimate absurdity of a world full of exquisite machines used for the ugliest of purposes, killing; a world full of hungry people while American farmers pour away their milk; a vast supply of incredible technology and some of the ugliest architecture or, more properly, nonarchitecture man has ever devised.

When there is a failure of any kind in our culture it is customary, on the one hand, to say that it can be remedied by education—education for peace, for prosperity, for social responsibility, for a beautiful environment; and, on the other hand, that the educational system is at present so utterly lacking in quality that it is small wonder we are cultivating constant failures in our culture.

Many people—admirals, generals, journalists

"The citizens are the audience for architecture, but in few institutions of education is there any attempt to develop a sensitivity either to the visual arts in their formal sense—painting, sculpture, design—or to the visual art of the total environment."

and politicians—have achieved singular reputations by a simple talent for denunciation of the educational system, particularly by attacking John Dewey and the sloth of his disciples, who are said to be running the public schools and to have undermined the intellectual framework of the Republic by what they do in the teacher colleges. I can only wish the Dewey ideas were actually so powerfully in operation. Like Christianity, progressive education has never really been tried.

Back to the Child—If it were, it would go straight to the heart of absurdity and to the problems of a technological society by asking how each child can best come in touch with those sustaining and enriching forces of the mind and of the senses which come from direct involvement in the world of art.

Dr. Taylor, former president of Sarah Lawrence College, is chairman of the National Committee for Support of the Public Schools, which he was instrumental in founding, along with the National Research Council for Peace Strategy. Among the books he has authored are *Art and the Intellect* and *On Education and Freedom*.

The child learns from and through his senses, and what is primary in education are the feelings, attitudes, loves, desires and hopes of the child.

The child is a born poet, a painter, a sculptor, a builder, a storyteller, an actor, an artist who wants to work on his environment and who loves to express himself through art. Anyone who has learned to look at children's drawings, paintings and construction, has seen him pretend to be a horse, or has seen the delight in his face when he watches a play, hears a story or listens to music, knows that here is a primary mode of education through which his intelligence grows and his sensibility quickens.

Yet the conduct of education in the American 20th century does not reflect that obvious truth. Almost the last place in his education that the child has a full range of experience with the arts is in the nursery school and kindergarten, and even there educators are beginning to circle dangerously.

The child needs to be able to act on his environment for himself, to change it, to become aware of it by working in it, to see what shapes, forms, colors, sounds and ideas it contains. To deprive him at an early age of this opportunity to explore is to arrest a necessary part of his development.

If the American public school curriculum is analyzed from the point of view of the artist, it will be seen to be a process of slow attrition of

the sensibility and the substitution of categories of fact-gathering, conceptualizing and memorizing in place of the development of the creative faculties. By creative faculties I do not mean simply the capacity for making art objects, poems, plays, stories; I mean the faculty to think independently, to form one's own taste, conclusions and opinions, to decide what to do, to respond freshly to people and situations.

The hidden secret of American education is the fact that the creative arts, including design and architecture, when placed in a central position in the life of the school or college, have an enlivening effect on the entire environment.

This means an educational revolution. It means the opposite of most of what the conservatives, from Rickover to Conant, have been saying is the necessary format of the public school curriculum. Admiral Rickover calls for a common curriculum for all children, consisting of the "fundamentals," using the European model. He is against frills and doorbell ringing, terms by which he refers to the arts and empirical social research. Conant's curriculum is the conventional one, with art and music electives.

Apparently, education is not designed to nourish the sensibility, to create the capacity for joy, for openness to life, the capacity for intuitive judgment, the delight of thinking and reasoning, looking and listening.

Education is for plugging in the child to the information circuits of the academy in order that he may possess the information and the skills needed to staff the manpower charts. That is why the arts are considered to be unnecessary, a frill.

But nothing is truly learned that is not loved in the learning. I am not arguing that a modern post-industrial society needs no manpower, or that the subjects of the conventional curriculum should not be dealt with. I am arguing against the idea that education need be a succession of academic tasks, imposed on the young, constantly measured by tests and certified by grades and numbers in a competition for what is called academic achievement. I question the entire conception of achievement as it is now understood.

The Carrot and the Stick—We hear constantly of underachievers, dropouts and other social misfits and pariahs. But who would not want to drop out of a system of successive assignments which stress the retentiveness of the memory and the acquiescence of consciousness, a series of tasks whose relevance to one's own life is never made clear?

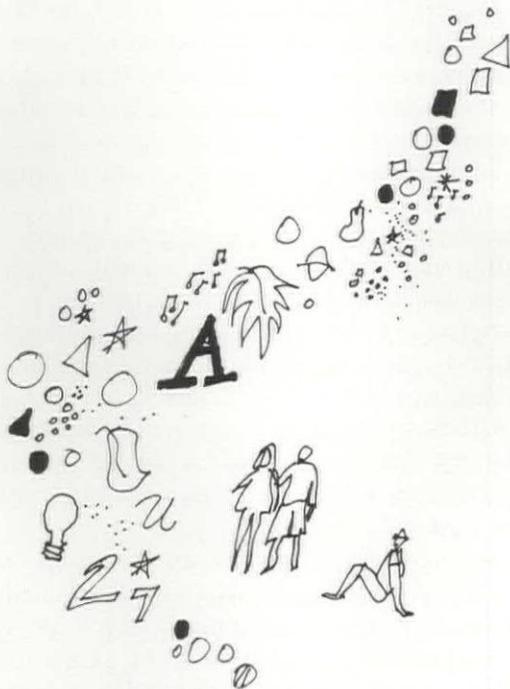
Since our educational system is based on the doctrine of the carrot and the stick—the carrot

of social success, of admission to college or graduating from high school, and the stick of the flunk-out—it will not work in the case of a boy or girl who is *not* interested in that kind of social success and has already become so inured to punishment that anything the school or even the police can do has no effect.

We know enough about the conditions for learning to know that until the motivation of the learner has been reached, no matter what else happens, the result will be a series of under-achievements. "To exist is to change," said Bergson, "to change is to mature, to mature is to go on creating oneself endlessly." I submit that until one wishes to engage in that kind of creation one has not learned what it means to be educated.

In moving from the grounds and conditions for esthetic growth in the young—I have not discussed the education of technologists or artists—let me be clear about one thing: I do not believe that it is possible to separate the vocational from the liberal in education, or the technological from the political, the social or the esthetic. When we come to the question of education in its relation to architecture and the architect, it is very clear that the capacity to design beautiful buildings and to plan lovely environments depends on a serious knowledge of engineering and human ecology and of the multitude of ways in which modern technology can be applied to the solution of modern design problems.

But we must always come back to the fact



"The child needs to act on his environment for himself."

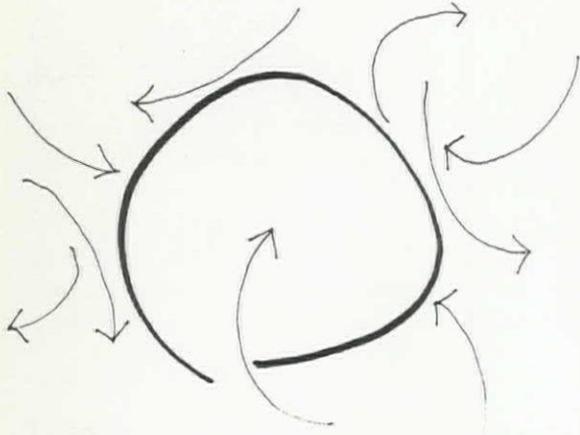
that the greatest works of art, in architecture or in life, are those which are based on the primary character of the judgment and creative imagination of the architect as artist and humanist. It is the capacity of the architect, on the one hand, to know how a building or a total environment will work, what it will force, encourage or influence its users to do and to value; and, on the other hand, to hold in imagination the visual form and the practical situation simultaneously, which marks the goal of all great architecture, or even that which claims only adequacy.

What I like about Marcel Breuer's Arts Center at Sarah Lawrence and his Whitney Museum is that the buildings work beautifully overtime, while continuing to give the user that constant flow of small surprises which come from the inner store of happy accidents and visual pleasures concealed within authentic works of art in architecture. The fact that Breuer was a painter and a sculptor before he was a designer and an architect is relevant to any analysis of his educational history. The fact that Buckminster Fuller was a naval engineer before he became involved in architecture indicates the importance of not making linear arguments about architectural education.

The Universal Client—Which brings me to the necessity of making some distinctions. I will leave to you the task of reforming your own architectural schools. But I do speak on behalf of the universal client, the consumer of architecture—the human race—in pointing out that when you think about education, in the professions or anywhere else, it is wise to think about intangibles as well as tangibles, it is wise to think about the total situation in which the profession and its educational system exist. Otherwise, the rituals and inhibitions of the profession may very well prevent the accomplishment of what is really wanted, and professional education may reinforce the habits and attitudes of the profession itself, rather than giving leadership to fresh thinking about the problems it is designed to meet.

Consider, for example, the opening sentence of an outline for education in architecture entitled "Key to the Two-Year Sequence of the Academic Programs": "The general structure proposed is aimed at achieving a wider range of career possibilities for the individual who enters the field of environmental design."

If the general structure is aimed at achieving a wider range of career possibilities, obviously its frame of reference is that of the manpower needs for certain kinds of professionals, not humanity's needs for livelier and more imaginative architects and designers. We read further



"You have a closed system with a narrow opening."

and discover that liberal education is to be included in conventional terms.

I am afraid that this does give you a problem. You have a closed system with a narrow opening. If liberal education is defined in the terms of the academy, and the embryo architect-designer is going to be subject to what is usually done in undergraduate courses in the liberal arts and sciences, where is the entering point for the social imagination, the visual imagination, the concern for human shelter and the human condition, the social problems raised by the clash of technology, politics and economics?

Would it not be wise to think, for example, of a two-year Peace Corps experience in which the student serving in a foreign country studied at close range the problems of human shelter and environment in relation to post-colonial economic systems? Or would it not be helpful for the student to study the social situation of the Negro ghetto by living there for a semester or a year and combining social research with design problems as he worked on matters connected with ghetto housing and school design?

Americans Abroad—Or if we want fresh insight from the architects of the future, would it not be wise to include the opportunity for a year abroad, in Asia, Africa, the Middle East or Europe, spent in the study of architectural forms and modern design problems, or in the art galleries and museums, or in engineering institutes, or in sculpture studies, or in crowded cities? This is the stuff of liberal education, these are the forms of experience out of which new ideas are likely to grow.

What has been recommended in the proposal is what the present generation of college students is already rebelling against—an education which is prescribed and uniform, which lacks the tang of reality or relevance to the concerns of the modern world. I should think that we

want our new architects to recognize the qualities and character of the world as it exists, and that rather than making a curriculum to produce professionals capable of taking jobs presently offered, we should be designing a program to develop professionals who are capable of giving leadership to architecture and society.

One concept which might reasonably be added to the idea of liberal education for architects is the concept of a world community in which human habitation of varying shapes, sizes and qualities occurs. The exposition in Montreal is in itself a branch of liberal education, not only in architecture but in developing a sense of the world community of men. In fact, no system of liberal education which does not base itself on the idea of a world society can be considered to be in touch with the roots of modern learning.

In the education of the consumers of architecture—I don't mean merely clients but everyone who inhabits human space—the problem, put at its simplest, consists in developing the sensibility of the young, and of everyone not young, toward visual experience, teaching people how to see. But this is too simple. To value architecture, to make it possible for a society to demand good architecture and to be willing to subsidize it, privately or publicly, it is necessary not only that the citizens learn to see, but that they learn to understand what is involved in the environment they are seeing.

Thousands of students and faculty members going in and out of Columbia University have seen the campus buildings but have not noticed their location in immediate proximity to Harlem, until the university wanted more property and Harlem residents did not want it to have it. Then the faculty members and administration saw Harlem because they had to. I would like to have some adventures in seeing which taught the naked eye to understand the nature of an environment in the way a geologist can look at the hills and see what is underneath and beyond.

There is also a parallel in architecture to be made between the relation of the opera, theater, ballet and music of all kinds to its own audience. Again, to state it at its simplest, great art cannot exist without an audience. In economic terms, you can't put the show on. In esthetic terms, there is no need to, if no one wants it or appreciates it.

In the case of the human environment, we have never thought of it this way as far as education is concerned, and only lately have we begun to think of it in relation to the performing arts. The citizens are the audience for architecture, but in few institutions of education is there

any attempt to develop a sensitivity either to the visual arts in their formal sense—painting, sculpture, design—or to the visual art of the total environment.

Esthetic Deprivation—Here I return to the general notion that the arts as a whole, or the arts taken one at a time, are the basic medium for developing sensibility. If we are raising a population of visual illiterates, we are also raising a population of children who are for the most part deprived of esthetic experience by the circumstances of their education.

The fact is that in the education of teachers for the public schools, it is very unlikely that the teacher who takes a degree and certificate to teach has had any direct experience with theater, music, dance, painting, poetry or sculpture, to say nothing of design. The taste of teachers in the field of the arts, visual or otherwise, is about that of the rest of the population.

Were it not for the fact that mass media—the picture magazines, the weeklies and television, for the most part—have paid considerable attention to the arts, at least through commercials, there would be very little resource for developing serious interest in cultural affairs and activities. In the absence of such resources in the schools, the public is the victim of the taste of the manipulators of the mass media and to the standards of mass culture.

I am not certain that the best remedy for the public ignorance of architecture is to have courses in architecture in the schools. Whenever formal instruction enters as a given discipline supplied to a curriculum, a certain spontaneity immediately leaves. I would argue that certainly in relation to existing work in the social sciences—history, for example—and the introduction of fresh materials drawn from the history of human shelter, case studies of the development of architectural styles ranging from the igloo to the palace, the reform of the curricular content can be a matter of real significance for our system of education. We need

to stop thinking of history as the history of lie literature, battles, governments and periods, and return to the idea of history as the development of certain patterns of life and the personal experience of those who have added their lives to the gradual creation of new forms of culture and social reorganization.

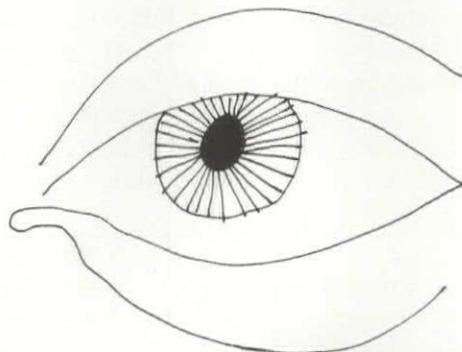
Seeing the Environment—If we were to teach the social sciences with this in mind, we would soon discover that our students were responding to the environment surrounding them with a critical and interested eye.

I would also argue that once we introduce theater, music, dance, poetry, painting, sculpture and design into the school and college curriculum as full-fledged subjects, in equal status to the respectable “hard” subjects, we will be preparing people to pay attention to the ugliness or beauty of what surrounds them.

We would be well advised to teach children to look at the cities, towns and villages in which they live as examples of what man has done to his environment and to include that form of direct experience in the school syllabus. In other words, the practice of the art of creating and of seeing, listening, moving and feeling is an essential ingredient of an education in perceiving and judging the environment.

If this is the age of absurdity, if our artists and writers are telling us that American culture is soft at the core, that its mediocrity is spreading like the plague, that our psychological and physical environment is polluted, there are some practical things to be done.

Perhaps the first thing is to take the measure of the artists and writers and to assess the nature of the truth they are telling. At the minimum, they are partly right. Or at least they have a consensus. The next thing to do is to find a way to teach the young to look at the world as it really exists, to look at it with the eye of an artist, the warmth of a humanist and the concern of a citizen. For it is literally true that the young are the architects of the future. □



“The practice of the art of creating and of seeing, listening, moving and feeling is an essential ingredient of an education in perceiving and judging the environment.”

Our Uncommon Profession

BY CHARLES LUCKMAN, FAIA

"What is the single most important problem facing architects today?" is the question I asked 42 architectural firms. Forty-one replied, which in itself is electrifying, but equally stimulating was the range and diversification of their answers. Of the 17 "hot potatoes" given me to juggle, I will touch upon six most frequently nominated.

1. The single most important problem is design—I am glad this was stated because it allows me the opportunity of expressing my earnest conviction that we architects will be set back 100 years unless we *integrate* the word "design" into architecture.

I must say immediately that if "architecture" may be said to be a precise profession, "design" must be designated as nearly the opposite. Design is a field in which a man may wander and gather as many nosegays of ideas as his fancy dictates. Architecture is the field in which the concept must be translated into reality.

Actually architects today are sharply divided by two schools of thought. One believes design is all-important, an overriding influence, with construction costs and engineering function secondary. I cannot, and do not, subscribe to this.

The second school believes that while design is of great importance, it must be a partner in the total concept. It must be brought into focus with the total-process architecture which includes design, fine arts, engineering, construction and the economic elements of a project. To this I must, and do, subscribe with all my heart.

I never have, and never will, disparage design itself. No project has merit unless it in-

cludes fine design. As my associates know only too well, I will have nothing to do with any project that does not embrace this priceless ingredient.

My theme is simply that we must never permit ourselves to be boxed in by the narrow viewpoint of the "what-does-it-look-like school" to whom the "dictum of design" is the beginning and end of all architectural wisdom. Architecture is too big for such smallness. Today's world is too dynamic for such demeanor.

In the total team effort which the architect must lead—designers, engineers, sculptors, painters, contractors, suppliers, real estate men, economists and financiers—there is no room for prima donnas, for dilettante day-dreamers, for eccentric egomaniacs. We are builders. We want to build. We want both the beautiful and the best. This is the cause for which I plead today.

How far the "architect as a designer" concept has failed in this total concept might be measured by the fact that in 1966 architects took part in only one-third of the \$72 billion worth of construction in the United States. The remaining two-thirds, or \$48 billion, was done by package dealers, contractors, engineers and by designers who possess poetic license but not an architectural license. It is not difficult to pin down the responsibility for this, but, like a hot poker, nobody wants to grab it.

2. The single most important problem is the influence of recent court decisions on the practice of architecture—There is, of course, no doubt that the judicial courts are having a profound effect on architecture, just as they are on our civilization. In the early days of the 13 colonies, during the uncomplicated life of that day and age, the courts found it easy to say, "The law is clear, and therefore our 'decision' is. . . ." In the infinitely more complicated fabric of our life today, the courts find it increasingly difficult to ferret out the "meaning" of the law and therefore say, "It is the 'opinion' of this court that. . . ."

But of great significance to us here today are the effects of those recent court opinions with respect to the professional responsibility and liability of the architect.

Twelve years ago, I gave a talk before the

"I think I am being reasonably nice when I say that the fee system which is based on a percentage of the cost of construction is archaic, impractical and immoral."

California Council of Architects on "Cost Control." I said, in part, that the term "cost estimating" was as antiquated and unrealistic as the age-old phrase in our contracts, "the architect is not legally responsible for the accuracy of his cost estimates." I observed then that while I recognized an architect was not legally responsible, he did, in my view, have a moral responsibility as great, or greater, than a legal one.

In the intervening years, the courts have proved that I—and our time-honored phrase disclaiming legal responsibility—were wrong; that we, in fact, do have a legal position to fulfill. The most recent and most far-reaching court opinion held that the drawings, as instruments of service, were worthless to the owner because the bids were so substantially above the agreed-upon budget that he could not make use of the drawings and thus was not obligated to pay the architect any fee.

Mr. Luckman is president of Charles Luckman Associates, one of the five largest architectural firms in the world with offices in Los Angeles and New York. He headed the Pepsodent Company at the age of 33 and all American companies of Lever Brothers at 37, returning to architecture in 1950 to found his own firm.

It is clear that what we desperately need to do today is to embrace the concept of "creative cost control." I use the word "creative" in this regard because we should make the budget work for us, not against us. It is easy to be creative without a budget; it is infinitely more difficult, but equally rewarding, to be creative within the budget.

Among successful clients—meaning those able to afford architects—it would be difficult to find a case in which budgeting, estimating, projections, record-keeping and analyses of costs are not highly developed, considered of utmost importance and handled in a manner consistent with their importance. For the most part, this is not currently true in architecture.

But it should be, for the results of such a process can be better design, better planning, more efficient professional services and more satisfied clients—in a phrase, better buildings: buildings that come within their budgets, not through arbitrary decisions made just before or after bidding but because of the application of creative cost control from the very beginning of services right through to the certificate of occupancy. Nothing could add more to our luster, to our volume, to our profits.

It follows that each time the architect ac-

cepts a commission, he puts the reputation of the profession on the line along with his own. Any embarrassment he causes himself through careless or incapable cost control rubs off on all architects. Conversely, credit reflects on us all. In our uncommon profession, this is our common bond.

3. The single most important problem is for the architect to assume leadership of a team—

I cannot stress too strongly my conviction that in all of our activities, we are learning—to an ever-increasing extent—that the architect cannot be regarded solely as a "specialist." He must have, rather, a combination of special abilities which make him a "generalist," capable of coordinating the work of many specialists. Since architecture is a *total* process, the architect must accept total responsibility for this totality.

This does not suggest that the architect must be a universal genius, equally at home in all fields of knowledge. But this does mean that the word "architect" must be accepted as parent. The architect, therefore, must be sympathetic to and understand the vast variety of disciplines and activities that go into the development of a total building concept. Otherwise, he is not entitled to be leader of the team.

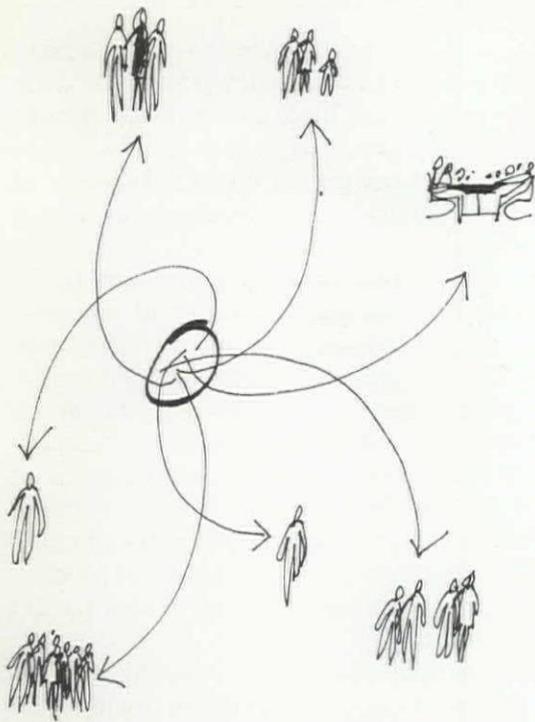
4. The single most important problem is client communications—

Perhaps one of the reasons we have so much trouble communicating with our clients lies in the fact that we architects have so much trouble communicating with each other.

If our clients, present or prospective, read the kind of double talk of claptrap, of hodgepodge that permeates architectural reports and symposiums, they must indeed pale at the prospect of having us spend their hard-earned dollars. Our world today is nervous enough without this kind of thoughtless thinking adding to its sense of instability.

The architect, in particular, faces challenges in planning and design today which have no tradition or pattern. He works often with a world that is far from beautiful or joyful; a world in turmoil; a world seeking, without success, some kind of order and balance in an era in which Humpty Dumpty is king.

The problem is one of communication indeed. The answer is not simply education, even though some of our pseudo-architectural critics could use some—hopefully from the school of hard knocks. As an astute editor recently remarked, "I have suffered considerable distress in reading what is being fed to the gen-



"Careful communication can be our salvation."

eral public by so-called architectural critics in the popular press. It is easy to rattle off the patter of the current preoccupations and make a great appearance of wisdom, but one has to doubt that the catchwords accomplish anything very much besides perhaps impressing the unwary listener."

These unblessed critics do irreparable harm; since 90 percent of our clients build only once, they are indeed "the unwary listeners."

The way for us to combat our erstwhile critics is to learn to talk freely and frankly with our clients; to support beauty for its own sake, and not as either an excuse or a justification for a strange functional solution; to handle our memos, reports and submissions in a businesslike manner; to recognize that in an era of change and confusion, careful communication can be our salvation; to deal with our clients as *equals*, for their money and our talent makes us so.

5. The single most important problem is our percentage fee system—I would like to make some observations here, even though at an early age my mother cautioned me, "If you don't have anything nice to say, don't say it."

In view of the intensity of my feelings on the subject, I think I am being reasonably nice when I say that the fee system which is based on a percentage of the cost of construction is archaic, impractical and immoral.

The percentage fee system is archaic be-

cause it presupposes that the architect is responsible for the cost of construction. This is not true. Instead, it is the requirements of the client which are responsible for the cost of construction. The architect's responsibility is either to fulfill the requirements in an esthetic and efficient manner within the budget or to advise the client, at an early date, that his requirements will result in a construction cost in excess of his proposed budget.

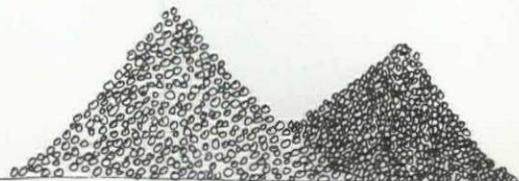
The percentage fee system is impractical because its fundamental premise is based on an irrational fallacy. Simply stated it is this: The more careful the architect is in trying to keep the cost of construction down, the less he gets paid. The more careless the architect is of the cost of construction, the more he gets paid. Not even a computer can make sense out of that!

The percentage fee system is immoral because it places the architect in the ambiguous position of having to defend his integrity. All of us, on occasion, advise the client to do something constructive even though it will add to the cost of the project. When this happens, why should we put ourselves in a position where we can be looked at with a jaundiced eye? We should no longer be willing to get ulcers from mountain climbing over molehills of suspicion.

Many of our clients believe that this entire process makes no sense; they agree there is no rhyme, reason or rationale for our present "percentage of the cost" fee system; they agree that it is nothing more than a rule-of-thumb gambling device, of which not even Las Vegas would be proud.

There are, however, three fee arrangements that are up to date, practical and moral:

- Where the scope of the work and the budget are agreed upon—the establishment of a lump sum fee for the architect.



"We should no longer be willing to get ulcers from mountain climbing over molehills of suspicion."

- Where the scope and budget are uncertain at the beginning of the project—the establishment of a percentage fee which will be convertible to a lump sum at the completion of the schematic drawings and the schematic cost estimate.

• Whether the scope and budget are known or unknown—the establishment of a lump sum professional fee for the architect plus his payroll costs, overhead costs and out-of-pocket costs.

It may be of passing interest to you to know that 87 percent of all the new contracts we have written in the last five years have been based on one of these three procedures. We don't make any more money, but we don't lose as much.

And the fee felony is frequently compounded if the architect is on a percentage fee and if, in turn, he places the structural and mechanical engineers on a similar percentage fee basis. For then, even though the client's total budget is met, if the final costs of the structural and mechanical systems go over their individual budgets, the architect must pay the engineers more dollars of fee and have less dollars left for himself. O Fate, thy name is Fickle!

A few years ago, I was criticized for suggesting that a much more appropriate fee basis would be for the client to decrease the amount of fee due us by 10 percent if we came in 10 percent over the agreed-upon budget and to increase the amount of fee due us by 10 percent if we came in 10 percent under the agreed-upon budget. The essence of the criticism leveled against my suggestion was that "it constituted the proverbial bag of oats in front of the mule" and, as such, was not consistent with our "professional status." My answer was the same as that of the besieged general commanding our American troops at the Battle of the Bulge, when asked to surrender: "Nuts!"

To the contrary, I feel it is high time architects gave more thought to the making of a better living for themselves and their families. For its practitioners, architecture has a soul-satisfying stimulation, but at best, it is a tortuous occupation. For it is inherent in the nature of what they do that architects, large and small, find it mandatory to sustain their life on a steady diet of trials and tribulations. Neither our "professional status" nor an increased profit can shield us from these daily doses of duress, but a more equitable fee arrangement could make them more palatable.

6. The single most important problem is to find out how you sold the concept of Lever House—To put the story into proper perspective, it must be viewed against the background of what is probably England's most successful business enterprise in America.

Unilever, a merger of English and Dutch companies, became in the 1920s one of the largest catels in history. It was started by William

Lever, a grocer's assistant, who as a merchandiser built an empire out of a bar of soap and who as an amateur architect built the first all-planned community of Port Sunlight with its soap factories, houses, churches, hospitals, schools and civic center. His son, the second Lord Leverhulmer, took a strong interest in the development of the American operations of Lever, which started more than a half-century ago. He, in fact, died of a sudden illness while touring with me our various American firms.

By the time I left the presidency in 1950 to return to the practice of architecture, Lever's expansion and growth had reached an all-time high, which consequently raised the question of



"A building that would help Americanize Lever Brothers."

administrative control; of trying to operate from a headquarters for the soap company in Cambridge, with subsidiary operations—from an administrative standpoint—in a new headquarters building in that city.

Unilever's directors in London approved my recommendation. After five months of the most detailed planning, and without a single rumor any place in the United States, we announced simultaneously in all of our main and subsidiary company headquarters, the centralized move to a temporary headquarters in New York and subsequently to the Park Avenue site on which we were going to build Lever House. As part of

the announcement, we distributed a 67-page brochure outlining the reasons for the move; methods of moving; the methods of reimbursement for the expenses involved; the formation of a real estate division to help with the sale and purchase of houses; lists of all public and private schools, together with their entrance requirements and costs; and a complete description of all the transportation systems and routes in and around the area.

At this point I had my first talk with Louis Skidmore, Nathaniel Owings and Gordon Bunshaft. I carefully explained to them that the biggest obstacle in further increasing our sales stemmed from a strong anti-British feeling on the part of many of our customers, most of whom were members of one or another minority group. Therefore, I asked for a building that would help Americanize Lever Brothers. I asked for a building that would look as machine-tooled as American industry; that would reflect American productive genius. I expressed a willingness to build no more than 50 percent of the allowable square footage in order to preserve forever a sense of air, light and space.

At this point, as you can well imagine, they had a glazed look in their eyes. The final straw that broke the back of their belief in my sanity was when I said I wanted the entire ground floor on Park Avenue left open so that people could walk in and feel a part of Lever; so that there might be a very human feeling at the ground level to contrast with the kind of slick and gleaming tower which I felt properly reflected a soap company.

To their everlasting credit, they gave me exactly what I asked for.

We then made a beautiful model, wrapped it in black velvet, and the partners saw me off on the Queen Mary, for I was London-bound to get approval of our fanciful creation.

The day I arrived at Unilever House on the Thames River, at the Black Friar's Bridge, is one that will forever be indelibly impressed on my memory. I was ushered up to the venerable, oak-paneled board room, and there seated around the table were my peers, the 22 English and Dutch members of the board of Unilever, Ltd.

I placed the model on the table and whisked off the black velvet cover. For perhaps 3¹/₂ minutes there was no movement in the room. Finally, one of the Dutch directors, Arthur Hartog, now retired and living in New York, and a very old and good friend of mine, raised his face toward me and said, "Chuck, it is different!"

Following this ice-breaking comment, I outlined to the board the same factors which I had discussed with the architect and then produced

my only supporting evidence—a single sheet of paper. On it were three rows of figures. In the first column, there was an indication of the amount of rent we could secure from the Park Avenue frontage if we put the usual banks and shops into my open plaza. The second column showed how much of that revenue we would have left, after taxes, when that income was added to our normal operating profits. It was, of course, a relatively modest amount. The third column was the cost of a page of advertising in magazines and newspapers. I then submitted my premise that if they would let me do what I wanted to, it would not only help our dealer relations, but it would get for them millions of dollars in free publicity, all around the world.

It was a seven-hour meeting—and I was given *neither* approval nor disapproval. The minutes of that hectic session ended with this typical bit of British understatement: "Mr. Luckman, as head of Lever Brothers, USA, has full authority for the entire American operations." Needless to say, I left while I was ahead—and no pun intended!

The excitement and stimulation of working with the architects on Lever House motivated my return to architecture. For me it was a wonderful experience; for others I hope it has served as a fine example of talented architects working with a client who knew what he wanted and was willing to pay for it. Three years later I received a cryptic note from Sir Geoffrey Heyworth, chairman of Unilever's board. It read: "Dear Chuck, The board has just been reviewing the hundreds of volumes of clippings that have come in from all around the world on Lever House. The purpose of this simple note is to thank you for being so damned stubborn."

That helped to offset some of the many criticisms I received when Lever House was dedicated: pathetic letters of complaint from dear old ladies who were accustomed to having their tea served while they watched a matinee movie in the Old Normandy Theatre on 54th Street; some real estate men who thought it was a blatant error to build an office structure on "the never-to-be-changed residential street of Park Avenue"; from businessmen and bankers who felt my "lavish waste of valuable property" would always be known as "Luckman's Folly." Oh well, into every life a little rain must fall!

Today I am able to have what I want above all else: the soul-stirring sense of satisfaction at seeing a concept become a reality. I believe with all my heart and mind that no one has as limitless an opportunity as we architects have today. For surely everything we do affects the living, labor and leisure of our people. □

A Public Servant Looks at Design

BY JOHN V. LINDSAY

John Ruskin once wrote that "architecture is a distinctively political art." If that is so, it seems conversely clear that we in politics have not yet mastered the art of attaining distinctive architecture.

Design, after all, has not been a particular forte of government in the country, as demonstrated by the architecture of most of our city, state and federal buildings. That governmental rigidity is breaking down; we are achieving a more sensible and imaginative relationship between design and politics, and I think that rapport is most evident in our major cities.

I have come to understand in this office that a strong kinship unites our two professions: We share anonymity in success, notoriety in failure. When a building is handsome and functional, people will admire the building. But if it is controversial or structurally deficient, they will blame the architect. Correspondingly, if all goes well in New York—assuming that a day of that description ever dawns—everyone tends to take it for granted. But when there is a subway strike, a water shortage or an equivalent civil calamity, people are quick to demand answers from City Hall.

The problems of our cities are more than ever before a subject of national concern; as the nation's largest, richest, most dynamic and most tempestuous, New York is the symbol of all that is best about our cities and all that has made them objects of frustration or disdain.

In no other city in America do the problems of urban living come into such sharp focus. In no other city do they confront dreamers and builders with such impact. And in no other city are we doing more to change the tangible aspects of urban life.

The responsibility for building is great; the opportunity to effect good design in these buildings is even greater.

My administration's capital construction budget for next year alone exceeds \$1 billion—a remarkable sum for a single municipality. The outlay will finance hospitals, schools, libraries, highways, police and fire stations and other buildings providing an innumerable variety of municipal services. No other city offers so many services to so many people, not only New Yorkers but visitors from all over the country and all over the world.

Structures of Excellence—We can change the face of New York. We can extend and enhance its beauty. But we can do so only if we fulfill our responsibility to engage the best planners, the best architects, and allow them the time and the license to design structures of excellence. We should, in fact, insist that this happen.

It is not enough for a politician to boast that he has built 400 housing units. He more properly should boast of the quality of the environment that he has created. The number of new schools built in a year is significant only if the classrooms they contain have a constructive effect upon the neighborhoods they serve.

Apart from the schools themselves, we must ask ourselves: What kind of education does the environment itself provide? For we confront not only the problems of inadequate housing, poor transportation and obsolete hospitals but also the very real consequences of visual anarchy—the disorder of a city without pattern or reason.

We have not reached a consensus on the priorities of urban action, but we are agreed that our eventual goal is the creation of a rewarding physical environment. By that I mean the ele-

"We are trying to ensure that architects who design our buildings will not be constrained by fixed images produced by prior assumptions and inflexible rules. And we are raising the previously skimpy schedule of fees to compensate more fairly those architects who brave the bureaucratic barricades, armed only with pen and compass."

ments of a city which shape the human predicament: the choice of jobs, of friends, of recreation, the richness or the poverty of life, the splendor or the drabness of it.

Design is the shaper of that environment, not as a mere representation of symmetry or beauty but as a basic, driving force that impels the city toward grace and consonance.

One of your distinguished colleagues, Archibald Rogers, testifying before a Senate subcommittee on behalf of your Institute recently, said: "Design is inherent at every stage of the decision-making ladder, whether it is recognized or not." He went on to warn that if design is not recognized by the decision makers, or is left until too late, its creative potential is lost.

I think Mr. Rogers is correct. Moreover, his view supports the conclusions of a task force I appointed last year to determine how design could be used most effectively in my administration. The task force, under the chairmanship of William S. Paley, and including architects Philip Johnson and I. M. Pei, identified the areas in city government where our concern with design should be strengthened. In company with the earlier studies of our administrative structure by Ed Logue and David Crane, the report shows us how to use design in a far more comprehensive and thoughtful manner.

The Best Talents—Even prior to the report of the Paley committee, we took several steps toward more professional, more innovative design in New York. We reached out for talent.

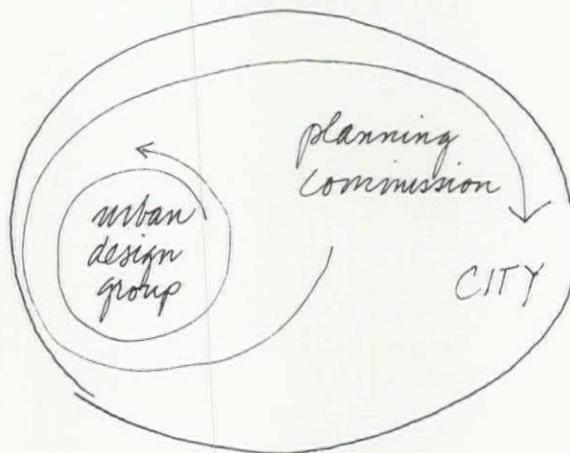
Mr. Lindsay, upon becoming the 103rd mayor of New York City in 1965, said he would make it "a city for people and for living." He was elected to Congress from Manhattan's 17th District in 1958 and was re-elected for three more terms.

We wanted to enlist the best designers in the world, whether for the rehabilitation of a dying old park or the original planning of a new housing development. We sought—and we obtained—many of the best: Marcel Breuer, Lawrence Halprin, Kenzo Tange, Felix Candela, Paul Rudolph, Ulrich Franzen, John Carl Warnecke, Richard Stein, Paul Friedberg, Philip Johnson, Ed Barnes, the firms of Davis-Brody and Conklin & Rossant—all of these and more are currently working for New York City.

I should point out that the city is also deeply interested in drawing upon and encouraging the talents of younger and perhaps less-renowned architects.

We are trying to ensure that architects who

design our buildings will not be constrained by fixed images produced by prior assumptions and inflexible rules. And we are raising the previously skimpy schedule of fees to compensate more fairly those architects who brave the bureaucratic barricades, armed only with pen and compass. We hope the revisions will strengthen our ability to produce a civic architecture of excellence.



"One of the most important recommendations of the Paley report was that an urban design group be established within the planning commission."

The city is responding more quickly to the submissions of our architects. Reviews that previously took from 6 to 16 months are being processed in weeks. The decision to move a door-opening 2 feet need not take months. These delays both obviate the benefits of adequate fees and delay the urgent construction of necessary facilities.

All Kinds of Competitions—In the past year, my administration has sponsored three architectural competitions. The first involved a refreshment kiosk in Central Park. The second was for the design of a new police precinct, police stable and training ring. The third competition rewarded the best plans for the rehabilitation of an existing school. New York City actively supports architectural competitions. We're going to have more of them.

Recently, at a "Design-In" at Central Park, I announced the appointment of Walter McQuade to the City Planning Commission. A distinguished critic, former architectural editor of *Fortune* and currently a columnist for the *Architectural Forum*, Mr. McQuade was a key member of my task force on design.

Another recent appointment of great importance to the advancement of esthetics in New York was that of M. Milton Glass as chairman of the city's Board of Standards and Appeals. The board is charged with the vital responsibility of approving materials and equipment

used in the construction of all buildings in New York and with deciding appeals for variances in zoning regulations. He is a senior partner of Glass & Glass, a firm which has won innumerable honors for excellence in design.

One of the most important recommendations of the Paley report was that an urban design group be established within the planning commission. We are in the process of forming this group, which will be directed by a team of five talented young architects and planners—Jonathan Barnett, Giovanni Pasanella, Jaquelin Robertson, Richard Weinstein and Myles Weintraub. For the past year they have been working as consultants to the city on one of our most important new programs. Their task has been to relate public housing and limited-profit, middle-income housing to the needs of several large communities in the Bronx.

In concert with a number of citizens' groups, they have produced a development proposal that keys the housing to the context of an urban design plan. It was one of the first times that this synchronization has been achieved in New York.

The same team was responsible for the imaginative proposal, exhibited at the Museum of Modern Art last winter, to cover the elevated railway tracks along the northern part of Park Avenue with a concrete vault topped by new housing and community facilities. The proposal has the advantage of providing new housing with a minimum of relocation.

The members of the design team, and the staff they are gathering, will work alongside our city planners to assess the design implications of the city's comprehensive plan. They also will develop urban design plans and advise on specific proposals pending before the planning commission. Also, so that we may be more sophisticated clients, they will work with some of the architectural and planning consultants retained by the city. The team's assignment, plainly stated, is to advance the cause of esthetics in every area the planning commission can influence—from street signs to skyscrapers.

The success of design in our cities is not dependent upon government alone. Much depends upon the design professions.

Opportunities Galore—I think that architects should understand the way cities work in the same way they understand the functions of individual buildings. The services we will be asking of you are wider in scope, larger in scale. More and more frequently, you will be called upon to design in partnership with government, civic groups and private enterprise.

Planning and urban design may require long preliminary periods of development, during which a program is drawn up through a series of meetings with community groups. The design professional thus becomes something of a mediator between the requirements and limitations of government programs and the usually forceful recommendations of the people who live in a design area.

You may be called upon to help create the context for new private development, and in your private commissions you must be alert to the possibilities of urban designs that can be developed in partnership with government. An example of the potential for design cooperation between government and private enterprise exists today in the downtown Manhattan area, chiefly in the sections peripheral to the proposed World Trade Center.

Our design people at the planning commission are studying the possibility of expanding the underground concourse of the center to connect it with the underground passageways of the subway system, existing private buildings and proposed structures. The exciting potential for this scheme is a series of subterranean streets, which could connect the center on the Hudson River to the Chase Manhattan Plaza two-thirds of the way across the island.

I am convinced that there are many other significant opportunities for progressive urban design, both in New York and in many other cities. Part of the responsibility for turning opportunity into reality lies with the cities. We can restructure our operations to make design a more important part of the decision-making process, and in New York we are doing so. We have improved our contractual relations with design professionals, and we are increasing the city's own urban design capability.

In the end, however, the quality of the results will depend in large measure on how your professions respond to the opportunities the cities can offer. I have every confidence that you will rise to those opportunities, that you possess a readiness to undertake on a large scale the kind of public works that are truly public, in the sense that they serve the highest interests of the citizenry, and that truly work, in the sense that they endure to be judged by future generations.

Our common objectives, in this and other cities, should be the articulation of beauty and proportion in design; the fulfillment of human needs and aspirations within the steel and concrete framework of architecture; and the creation, step by step, block by block, of a fit environment for the spirit of man. □

A Glimpse of the Future— Near and Otherwise

BY ARTHUR C. CLARKE

In reference to my title, it's only fair to start with a couple of warnings. I have never been interested in the near future—only the more distant one. So if you take my predictions too seriously, you'll go broke; but if your children don't take them seriously enough, they'll go broke.

The second warning is this: It is, of course, impossible to predict *the* future, and I've never attempted to do so. What I have tried to do, both in my fiction and nonfiction, is to outline areas within which the future must lie. So what I'm really doing is to offer you a selection of assorted futures, and you must decide for yourselves which you want. Of course, the price tags will vary. There are some bargains going for a few trillion dollars; others quite expensive.

As guides to these possible futures, I have worked out three laws, which I have found very useful:

- Clarke's First Law: When a distinguished but elderly scientist states that something is possible, he is almost certainly right. When he states that something is impossible, he is very wrong.
- Second Law: The only way to discover the limits of the possible is to go beyond them into the impossible.
- Third Law: A sufficiently advanced technology is indistinguishable from magic. This last law perhaps needs a little explanation. Imagine what Thomas Edison would think of solid-state electronics, computers, transistorized radios, la-

ser or A-bombs. They would be incomprehensible to him—pure magic. In the same way, the really exciting developments of the future are precisely those we can't imagine, so everything I'll tell you is very conservative.

Now, with these three laws in mind, let's get down to some specifics.

I'll deal first with transportation and communication because they are inextricably linked together and do more than anything else to shape society. Remember that the United States was created by two inventions: the railroad and the telegraph. If we're not careful, it may be destroyed by a third: the automobile. Although they are linked, communication and transportation are also antagonistic. The better either is, the less the need for the other.

Each in His Own Little Cell—You may recall E. M. Forster's science fiction story "The Machine Stops" in which he described a future society where people lived in their own little cells, had perfect communications, could talk to anybody or see anybody—and never left home.

Conversely, one could imagine a society with perfect, instantaneous transportation—teleportation, as per Law 3—which would allow you to be anywhere in the blink of an eye. In such a society there would be no need for communications at all. I don't think either mode will ever dominate completely, but at one time one may be ahead of the other. There is a kind of Ying-Yang relationship between them.

For near-earth applications, both communication and transportation may be approaching their practical limits and may reach them by the turn of the century. Certainly the speed limit is now in sight. Never again will we see the sort of advance which we had in the 1950s, when the maximum speed of manned transportation increased by a factor of 10—from 2,000 to 20,000 miles an hour. At that rate, we'd reach the velocity of light soon after the year 2000!

For terrestrial transportation I don't see any real need for much more advance beyond the currently planned supersonic transports, operating at almost 2,000 miles per hour. True, one could build pure rocket vehicles to go from pole

"Cities will go on growing, of course, like dinosaurs, for the same reasons and with the same results. I can even see the time when only the uneducated and criminal elements are left in the cities; the wars of 2001 may be internal military operations against the decaying concrete jungles."

to pole in about one hour, but I don't think the public will enjoy 15 minutes of high acceleration and 15 minutes of high deceleration, separated by half an hour of complete weightlessness. I've tried to summarize the delights of "ballistic transportation" with the phrase: "Half the time the toilet's out of reach—the other half it's out of order."

Rather more practical, and of much more immediate importance, will be ground-effect vehicles or hovercraft. I think we'll have them in the 1,000- and 10,000-ton class by the end of the century.

The political effect of such vehicles may be enormous, as they can go over land and sea and can cross most reasonable obstacles as if they aren't there. You could have the great "ports" of the world at the center of the continents if you wanted to. The various canals would be put out of business. Panama and Suez would no longer be important, which might be an excellent idea.

Whether private hovercraft will ever be popular, I rather doubt. They are noisy, have poor efficiency and poor lack of control. (You can't put on the brakes in a hurry if you're riding on a bubble of air.) However, they are splendid for opening up terrain where conventional vehicles cannot travel, such as shallow rivers, swamps, ice fields, coral reefs at low tide and similar types of fascinating, inaccessible wilderness.

I think it is obvious, without spelling out details, that we now have vehicles for every part of the speed spectrum. On the ground and in the air we can do virtually anything we please; the problems are political and economic rather than technical.

I hope to see the automatic car before I die. Personally, I refuse to drive a car; I won't have anything to do with any kind of transportation in which I can't read. I can see a time when it's illegal for a human being to drive a car on a main highway.

More seriously, we'll certainly have to get rid of the gasoline engine, and everybody is now waking up to the urgent necessity of this. Apart from the facts of air pollution, we have much more important uses for petroleum than simply burning it.

To make nongas cars and other vehicles practical, we need some new power source. Fuel cells are already here, but they are only a marginal improvement. I don't know how we're going to do it, but we want something at least 100 times lighter and more compact than present batteries.

Communications Strip Tease—The revolution in communications that has already taken place is still not fully understood. One way of appreci-

ating it is to do a kind of communications strip tease. I would like you to abolish in your minds television, then radio, then telephones, then the postal service, then the newspapers. In other words, to revert to the Middle Ages and, in fact, to the state of affairs most of mankind has known for most of its history and which much of mankind still knows. In such a situation we should feel deaf and blind, like prisoners in solitary confinement. Well, we'll appear this way to our grandchildren. Don't forget a generation has already grown up that never knew a world without television. One communications revolution has taken place in our satellites and micro-electronics, which will enable us to do literally anything we want to in the field of communications and information transfer, including, ultimately, not only sound and vision but indeed *all* sense impressions.

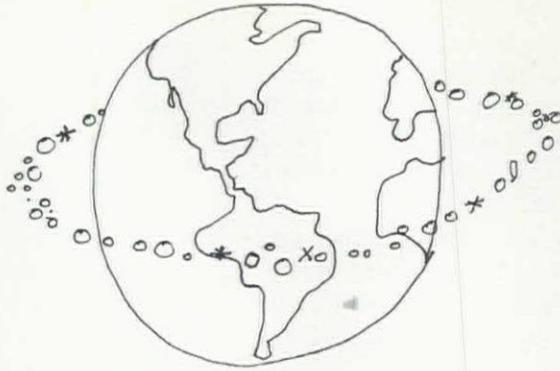
I am particularly interested in television broadcasting from satellites directly into the home, bypassing today's ground stations, a proposal I first described 22 years ago. This will mean the abolition of all present geographical restrictions to television; via satellites, any country can broadcast to any other. Direct-broadcast television will be possible within five years, and may be most important to undeveloped countries that have no ground stations and now may never require any. Africa, China and South America could be opened up by direct television broadcast, and whole populations brought into the modern world. I believe that communications satellites may bring about the long-overdue end of the Stone Age.

They will certainly lead to a global telephone

Mr. Clarke is an astronomer, inventor and science fiction writer with almost 40 book titles to his credit. He is the winner of the Franklin Institute's Gold Medal (1963) for having originated the communications satellite in a technical paper published in 1945.

system and end long-distance calls, for all will be "local"! There will be the same flat rate everywhere; possibly we may not even pay for calls but will rent the equipment for unlimited use.

Newspapers will receive their final body blow from these new communications techniques. I take a dim view of staggering home every Sunday with five pounds of wood pulp on my arm, when what I really want is information, not waste paper. How I look forward to the day when I can press a button and get any type of news, editorials, book and theater reviews, etc., merely dialing the right channel. The print will flash on the screen, and if I want "hard copy" to



"Within 10 years the language of mankind will be decided in a bloodless battle 22,000 miles above the equator."

file or read elsewhere, another button will conjure forth a printed sheet containing only what I need.

Moreover, not only today's but any newspaper ever published will be available. Some sort of television-like console connected to a central electronic library could make available any information ever printed in any form.

Electronic "mail" delivery is another exciting prospect of the very near future. Letters, typed or written on special forms like wartime V-mail, will be automatically read and flashed from continent to continent and reproduced at receiving stations within a few minutes of transmission.

A World Language—All these things are associated with information processing, and one-third of the gross national product is now spent on this in one form or another—data storage, television, radio, books, etc. This ratio is increasing; our society is changing from a goods-producing society to an information-processing one. I have devoted much of one book *Voices from the Sky* to the social consequences of this and can mention only a few here.

One could be the establishment of English as the world language, through the direct telecast satellites mentioned above. There is an opportunity arising now which, if missed, will be gone forever. Within the next 10 years the future language of mankind will be decided in a bloodless battle 22,000 miles above the equator.

This will have all sorts of social and political effects, such as the establishment of transnational cultural groups and the dissolution of national ties. We see this to some extent already in the "Jet Set"; I suppose I'm an example myself because I am a British citizen, an American resident and a Ceylon householder.

Another very important consequence will be a change in the patterns of transportation, for a man and his work need no longer be in the same place. This is obviously true already of

many executive and administrative skills. When these new information-and-communications consoles are available, almost anybody who does any kind of mental work can work wherever he pleases. Beyond this, any kind of manipulative skill can also be transferred from one point to another. I can imagine a time when even a brain surgeon can live in one place and operate on patients all over the world, through remote-controlled artificial hands like those used in atomic energy plants. E. M. Forster's world is indeed almost upon us.

Yet these developments will not necessarily mean an overall reduction of transportation. I see a great reduction of transportation for work but increased transportation for pleasure. So you need not sell your airline stock right away.

A result of this will be that vast uninhabited areas of the earth could be opened up because people will have far greater freedom to choose where they will live.

These trends will inevitably accelerate the disintegration of the cities, whose historical function is now passing. Cities will go on growing, of course, like dinosaurs, for the same reasons and with the same results. I can even see the time when only the uneducated and criminal elements are left in the cities; the wars of 2001 may be internal military operations against the decaying concrete jungles. Watching the television news, I wonder if the preliminary skirmishes may not already have started.

Bucky's Balloons—When people begin to live in strange, remote places, it will be necessary to develop the autonomous or entirely self-contained household. I am indebted to Prof. Buckminster Fuller for some of these ideas which he gave me one morning at breakfast. Bucky thinks that, as a result of the space program, we will develop techniques to reprocess all waste materials so that nothing is lost. Once the research is done, such "closed ecologies" will be

available for general use. Single homes, or at least small communities, will then be almost independent of outside supplies for such basics as food and water. They will be able to make everything they need.

This leads to another concept of Bucky's which one might call the mobile town. When you take one of his famous geodesic domes and make it very large—a mile or so in diameter—the air inside weighs so much more than the dome and its contents that a rise in temperature a few degrees could make the whole thing take off like a hot-air balloon. So why not go south in the winter and north in the summer—without leaving home?

Now I would like to discuss environment, which is very much a function of population. As everybody knows, we are now in a population explosion, but one characteristic of explosions is they eventually stop and then the bits start to fall down. Probably around the turn of the century this particular explosion will be controlled, and the world population may be shrinking again. Although this doesn't help us too much because we'll have to face a population of 6 billion or so in a couple of decades, it's more interesting to speculate about the ultimate figure. I see no reason for more than a very few million people on the planet Earth. Once a population is controlled, one can aim at any level one likes and reach it in a few centuries.

Nevertheless, even with a 6 billion population there may be more room than is generally imagined today. By the 21st century, agriculture will be on the way out. It's a ridiculous process: A whole acre is needed to feed one person because growing plants are extremely inefficient devices for trapping sunlight. And when animals feed on the plants, that introduces another 90 percent of loss. If we could develop biological systems working at a mere 5 percent of efficiency—today's solar cells can double that—it would require 20 square feet, not one acre, to feed one person. The roof of the average house intercepts more than enough energy to feed its occupants!

Food production is the last major industry to yield to technology. Only now are we doing something about it, probably too little and too late.

The Waves of Grain—It's strange to think that the great grainfields of the west may be gone in another lifetime. This will be an economic as well as an esthetic loss. Agriculture has given man some of his most satisfying environments: the terraced paddy fields of Asia, the English shires, the neat farms of the Pennsylvania Dutch. Fuzzy-minded romantics often talk of such landscapes as natural, but this is

complete nonsense. Farms are among the most beautiful machines that man has ever built, and, like all machines, they will one day be obsolete.

With the exception of luxury items—and the Russians, I've heard, have already started to export synthetic caviar!—most foods will be factory-made in the next century. This will eliminate vast areas of agricultural land for other purposes: living, parks, recreation, hunting—above all, for wilderness.

The new societies will need all this new space. With the advent of automation, there will be a great decrease in the old categories of work. In his book *The Environment Game*, the British science writer Nigel Calder points out that work is an invention, due to the invention of agriculture. Work may be defined as something that doesn't come naturally. Primitive hunters lived tough, hard lives but they didn't work; that's why people still go hunting for recreation. Now, says Calder, with the coming of automation, we must *disinvent* work, which may not be easy.

However, there are two factors which may help the process. The first will be the arrival of ultra-intelligent machines. Today's computers, despite their astonishing powers, are merely mechanical morons: They can't think. But if anyone tells you that they'll never think, that only proves that some humans can't. They'll be thinking all right, by the turn of the century.

The second factor which will lead to the decline of work is the restoration of slavery, I hasten to add, in a morally unobjectionable form. This will be a byproduct of the next great technological breakthrough: applied molecular biology.

It's a surprising and indeed mortifying thought that man has acquired no new domestic animals since neolithic times. The coming science of genetic engineering, together with psychological programming techniques, will give us quasi-intelligent animal servants, probably, though not necessarily, of simian stock. They will be at least as competent as much of the labor you can hire today through the Yellow Pages—and a lot less trouble, until they become unionized.

Frontiers of Space and Sea—We are carnivorous predators, the deadliest that this world has ever seen. We need new hunting grounds, psychologically and emotionally, if no longer literally. And we are fortunate that technology has now given them to us, in space and in the sea.

These two new frontiers are complementary; we have to develop them both. For the near future the sea is probably much more important than space; in the distant one, space will be more important than the sea. But there is no real conflict.

I have outlined some of the uses of the sea in a number of books and can merely list them now. Food production, of course, will be of major importance for a long time to come. I'm particularly fascinated by whale-ranching and have written a novel *The Deep Range* about it. In another book *Dolphin Island*, I described training, and swimming with, those deadly sea wolves the killer whales, whom I proposed using as oceanic "sheep-dogs." Imagine my astonishment recently on seeing Hugh Downs, in the "Today" show, riding on the back of a killer whale! It's tough being a prophet these days.

As a source of raw materials the sea is inexhaustible. Any element you care to mention is there, in solution or lying on the sea bed. We will also be forced to use it for more and more of our water supply, through desalinization techniques. But perhaps it will not always be necessary to remove the salt: I would like to mention Dr. Hugo Boyko's fascinating work in Israel (recently described in *Scientific American*) on irrigating crops directly with sea water. Wherever possible, it is always best to let nature do the work.

Much of the sea is a desert because the chemicals of life (particularly the phosphates) lie trapped thousands of feet down on the ocean bed, far beyond the reach of sunlight. In *The Deep Range* I suggested bringing them to the surface, using the heat of submerged nuclear reactors to start convection currents. Something like this occurs naturally every spring in the Antarctic, where upwelling currents produce an explosion of vegetable—and hence animal—life.

Our current ideas of space and its potentialities are badly distorted by the primitive nature of our techniques. To prove this, here is a statistic which will surprise you. The amount of energy needed to lift a man to the moon is about 1,000 kilowatt hours—and that costs only \$10 to \$20! The difference of nine zeros between this and the Apollo budget is a measure of our present incompetence. Ultimately, there's no reason why space travel should be, in terms of future incomes, much more expensive than jet flight today.

Moreover, space is a benign, or at least a neutral, environment. It's not ferociously hostile like the ocean depths or the gale-swept Antarctic. Space communities will be established first on the moon, then on Mars, and later on other worlds. But much closer to the earth, orbital space stations of many kinds will be in wide use by the year 2000.

Another tremendously important use of space stations will be for medical research; one paper

given at Dallas discussed the engineering problem of a hospital in orbit, which brings a poignant memory to mind. The last letter I ever received from that great scientist, Prof. J. B. S. Haldane, was written when he was dying of cancer and in considerable pain from his operations. In it, he said what a boon weightless environment of a space hospital would be to patients like himself, not to mention burn victims, sufferers from heart complaints and those afflicted with muscular diseases. I am convinced that research in space will open up unguessed regions of medical knowledge and give us a vast range of new therapies. So I get pretty mad when I hear ignorant but well-intentioned people ask, "Why not spend the space budget on something useful—like cancer research?" When we do find a cancer cure, part of the basic knowledge will have come from space. And ultimately we will find even more important secrets there: perhaps, someday, a cure for death itself.

No Night at All—Now, I've been very well-behaved and have stuck so far to technological projects of modest scope. So I trust you'll let me mention some rather far-out ideas, just to stretch your minds, hopefully not to the breaking point.

How would you like to abolish night? This idea has already been mooted in connection with the Vietnam war. It's theoretically possible to orbit giant mirrors in space, to hover over the Equator and to reflect sunlight to any spot on Earth. And they need only be made of mylar film coated with a few atoms' thickness of aluminum; they would be extremely light even if they were miles on a side. It would be technically feasible to erect such mirrors using the Saturn V launch vehicles now under development.

The next project I've christened the "synchronous" skyscraper. With existing materials, if you're clever enough and use the best materials, you could build structures between 5 and 10 miles high before they collapsed. But would you believe a structure 22,000 miles high?

A year ago Prof. John Isaacs and his students at La Jolla published a letter in *Science*, pointing out that if one starts from the synchronous orbit 22,000 miles up, one could lower cables all the way to the earth's surface. It would be possible to build an "elevator to the stars" and to use the cable to send payloads into space. This is a really fantastic idea: The Russians claim to have thought of it first, which proves it must be valid.

You will be happy to know that your profession still has plenty of room for expansion. □

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Nes, Dr. Marshall McLuhan



Dr. Harold Taylor



Charles Luckman, FAIA



Mayor John V. Lindsay



Robert Geddes, FAIA



Arthur Clarke



Nes, Kemper Award-winner Robert H. Levison, FAIA



SOM's Gordon Bunshaft, FAIA, with winning client James A. Babb

Hunter, Schlossman

Medalist Sister Mary Remy Revor







The Host Chapter Party adds up to elegantly attired people surrounded by architectural elegance. Held at the Lincoln Center for the Performing Arts, the black-tie evening begins with a performance by the British Royal Ballet featuring Margot Fonteyn and Rudolf Nureyev. The setting is the Metropolitan Opera designed by 1967 Gold Medalist Wallace K. Harrison, FAIA. The build-



ing itself, in all its grandeur and arresting appointments such as a huge lobby chandelier (opposite page), is of consuming interest to the architectural audience it contains. After the ballet the party moves to another Lincoln Center building, the New York State Theater by Philip C. Johnson, FAIA, for a champagne reception and dancing. The event is held in the lobby (above), but many pop into the theater proper for a look. Nes cites the New York Chapter on the occasion of its centennial observance and Max O. Urbahn, FAIA, chapter president, accompanied by William B. Tabler, FAIA, and E. Allen Dennison Jr., AIA, accepts. Nes also presents during the reception a special citation to Dr. Frank Stanton, shown at the microphone after receiving the honor. Stanton, president of the Columbia Broadcasting System, is singled out by the AIA for advancing the cause of the environment, architecture and the allied arts.



and Annual Dinners



The Annual Dinner and Dance is always very special, colorful and sentimental with the Investiture of Fellows (see listing in May JOURNAL), and Honorary Fellows, awarding of the Gold Medal and, finally, installation of the new president. This year's windup affair is particularly eventful as Governor Rockefeller (upper right) is on hand



to pay tribute to Wallace K. Harrison, FAIA (right), "a truly great human being . . . a creative genius who responds to a challenge regardless of the size and complexity."

Says the Gold Medalist: "The future of architecture is more exciting, more challenging than any other discipline. The denigration of the city must be of the past. We have a new world to build—not for science, not for the machine, not for materialism, but for human beings, for man."

Then the head of the Institute, aided by Mrs. Nes, installs Robert L. Durham, FAIA, as the AIA's 44th president, who leads off the dancing with his First Lady.



A progress report on the
AIA Education Research Project which envisages
"a kind of environmental design
of professions or disciplines which
are like a cable woven together rather than
a series of monolithic bars."

The Modular-Jointed Education of Joe's Boys

It was Joe's Day and the occasion, like Joe, was enragating. Joe was a bricklayer, proud of his role in the creation of buildings. He'd show people the buildings he worked on, tell them whatever he knew about them. He did this for all six of his sons.

The AIA chapter had decided the time to hold a testimonial dinner for Joe was long overdue. Such enthusiasm for building must not go unrecognized—and look how he transferred this enthusiasm to the six little Joes! The dinner's master of ceremonies was retracing the boys' education, an account that went like this:

"Pete, the eldest, entered Central some 20 years ago, in 1970, to pursue the Known Skills Cycle. He completed the two-year course and became an architectural technician.

"As Pete left Central, Harry came along to take his seat. But Harry soon wound up at State where he took the Liberal Ed and Known Skills Cycles, received his bachelor's degree and entered the design community as an architectural technologist.

"Phil and Kenny both went to State, Phil beginning with the Liberal Ed Cycle and Kenny with the Liberal Ed/Engineering Cycle. Kenny followed up with Professional Cycle No. 1, served his year of organized internship and then took Professional Cycle No. 2 with an engineering option at the Technical Institute, receiving a master's degree. Kenny served his second internship for two years and became one of our valued structural men.

"Phil, in the meantime, decided upon completion of his Liberal Ed Cycle that he had a hankering for law. He transferred to Denrickson for his prelaw and law school work and, with the environmental overview received at State, became a highly respected urban specialist—and legal counsel to many of us.

"We all know and respect Nick for his very human approach to professional practice. Nick also took the Liberal Ed Cycle at State and then attended TMY where he was graduated as a sociology major. He returned to State for Professional Cycle No. 1 and, after his year's organized internship, went to Artmore for Professional Cycle No. 2 with the D2 scales option. After getting his master's in architecture he interned and became professionally registered—as is Kenny.

"Jake took the Liberal Ed Cycle at the Academy, Professional Cycle No. 1 at State and, after his year of internship, returned to State for Professional Cycle No. 2 with the architecture option. Then, after his second internship, he spent two years at Purkeleigh and is now certified as a specialist in urban design.

"And there you have it, ladies and gentlemen—a technician, a technologist, two registered design professionals, a lawyer specializing in urban affairs and a certified urban design specialist."

And that's the way the education of Joe's six boys might be told in 1990 if two concepts developed under the AIA Education Research Project flower and flourish. One would divide architectural education into nine cycles or modules from which the student would choose any number or combination. The other describes 216 essential activities in the design process and enables schools of architecture to define and stake out the areas of professional competence they intend to include in their programs.

"It is student-oriented rather than subject oriented; a diverse, pluralistic approach rather than a monolithic one," Robert L. Geddes, FAIA, said in a progress report on the project. Geddes, dean of the School of Architecture at Prince-

ton University, and Bernard P. Spring, AIA, a Princeton senior research architect and lecturer, are co-directors of the project. Their final report will be made in the fall, Geddes said.

"This system allows each individual entering the field of environmental design the widest choice in building a career to match his talents," Spring said. "And it also gives the schools an added opportunity to offer programs based upon the special strengths and resources."

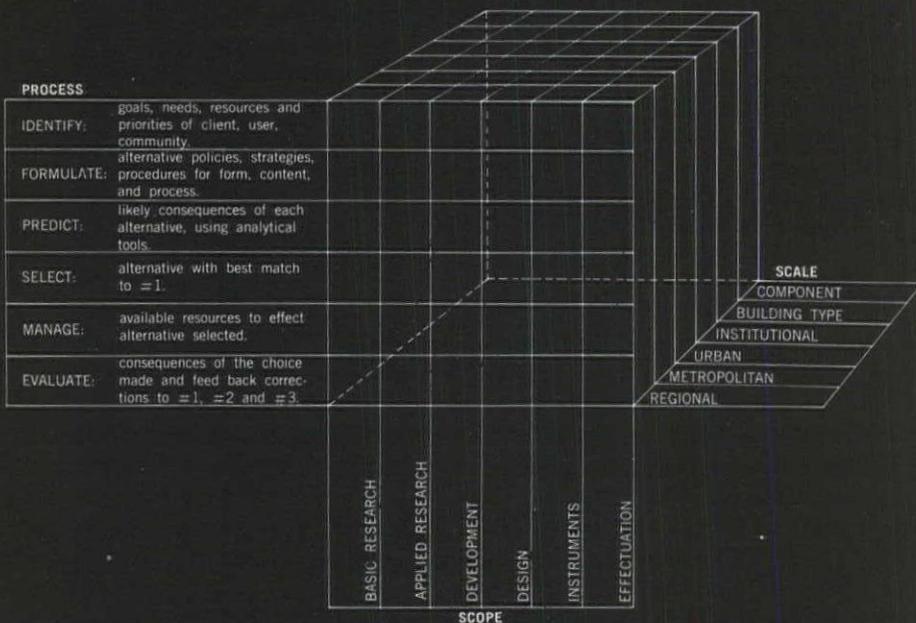
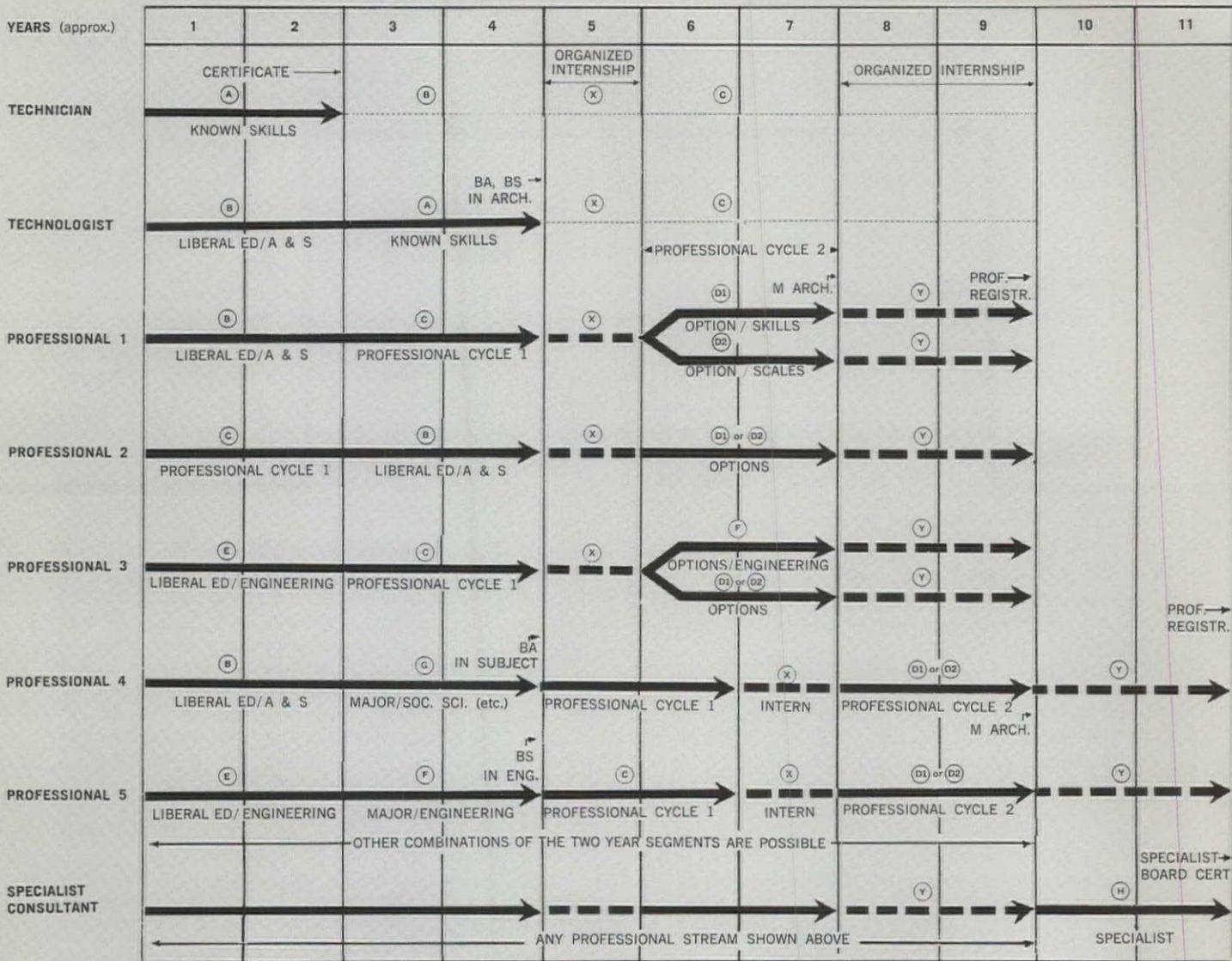
Geddes supplied some of the backdrop for the two-year, \$100,000 study: "Were we to have been working on such a study a generation or so ago, we might have been faced with a different situation, a situation of greater stability, one in which it was our major purpose to seek changes and to encourage change."

Today's context, however, is a context of change—change in the building industry itself, change in the needs and resources of society and change in our understanding of education itself.

"It is in this context, with these kinds of changes," he said, "that we set about our work, realizing that we are involved in the start of a long-term, very long-term research effort, but that we are in the very midst of crucial, active policy decisions that will not wait."

The four basic objectives of the study, according to Geddes, are: 1) a process for curriculum change and evolution instead of a single model curriculum, 2) participation of the schools themselves, the professions, the various boards of registration, etc., and the bringing together of certain conflicts that "should be made public," 3) a means of communicating, a shared language, between the schools, the boards, the professions and the students, 4) a flexible framework of diversity among the schools and

GENERAL STRUCTURE ENVIRONMENTAL DESIGN EDUCATION



students rather than a single, monolithic doctrine.

Geddes told of the researchers' meetings with a variety of groups—from students to clients. Formulated from this series of "probes" was a set of general goals. "We have been discussing these goals with our colleagues in the profession and in the schools for the past year," he said.

"We have set certain priorities for action by the schools themselves, and with the profession the knowledge that we cannot do everything immediately and that we must set priorities."

For students, three objectives emerged. They should acquire the ability to work within "real world" assignments—within the world of architecture with its problems and as it exists today. They should be aware of change and have the adaptability to meet that change. And they should develop a con-

The scheme is based on two-year cycles, each having its own emphasis (described here) and elective minor concentrations.

(A) **Known Skills**—production of contracts, specifications and working drawings; materials, equipment and methods choices; estimating and cost control; project planning, field supervision, etc. Graphic and verbal communication emphasized.

(B) **Liberal Education/Arts & Sciences**—a balance of natural science, mathematics, social science and humanities with at least one course each semester contributing to a planning and design overview compatible with liberal education.

(C) **Professional Cycle No. 1**—an introduction to problem solving covering the full range of professional activity. It imparts the nature of all environmental design tasks and introduces history and theory, the programming of needs, technological and human resources and the processes of design synthesis and evaluation.

(D) **Professional Cycle No. 2**—options for concentration, based on course work, independent study and exploratory research, in special areas of competence. Special studies are concurrent with case-study workshop (design studio) in which full range of problem-solving abilities are called upon. Two kinds of concentrations can be identified:

- The skills options (D1) which incorporates building technology, economics, programming, management, graphic communication, law, systems analysis, etc.
- The scales options (D2) which include urban design, institution scale planning and design, building types design, component design, etc.

(E) **Liberal Education/Engineering**

—general education with an engineering and applied science orientation. An effort must be made to make this segment, shared by those continuing in engineering fields not closely related to environmental design, compatible with liberal education in the arts and sciences with a heavier concentration of work in mathematics and physics—a concept of the Goals for Engineering Education Study. Courses should be introduced to give an overview of environmental design.

(F) **Professional Cycle/Engineering**—similar to (D1) but given by the engineering school faculties or as joint architecture-engineering programs. Concentration is on systems design methodology, structural systems, construction systems, environmental control systems, value engineering, etc.

(G) **Undergraduate Major/Humanities, Natural or Social Science**—the typical pattern for concentration in a major field as an undergraduate. Increasingly, graduates of such programs are interested in entering the environmental design field. The proposed structure provides a path.

(H) **Specialization**—a final two-year cycle for intensive study of a particular environmental design task. Preferably, this segment would be entered after professional registration. Programs concentrate on creative research and study and may be offered within the discipline of specialization—business management, public affairs, engineering, law, education, etc.—or as joint programs with the schools of architecture. The intent is to educate professional consultants, educators or researchers of influence and leadership. Graduates could be certified as specialists, as physicians are, as this cycle of the educational continuum is developed.

The proposed general structure of environmental design education is not necessarily dependent on the reorganization of the internship as shown in the diagram. A balance between education for today's problems and education for growth over an entire career, however, can be better served by two internship segments, each with a distinct function.

(X) **Pregraduate School Internship**—supervised experience designed to give to the student many practical benefits before he enters the graduate school segments of professional education. The school would have the responsibility of arranging and keeping track of internship activities. Assignments to direct and sharpen the student's ability to learn from his practical experience would be supervised by the faculty in cooperation with a committee of practicing architects having a special interest in the program. To give the student exposure to the broadest possible range of practice activities, the cooperating practitioner will inevitably be taking on some of the costs of education. An equitable distribution of this cost—between school, student and office—must be worked out before this scheme can become a reality.

(Y) **Postgraduate School Internship**—a period in which the student should be able to do independent, creative work. He should be equipped to make a contribution to the firm, to earn a reasonable salary. This segment of the internship program is expected to have lower training costs for the firm than the present system. The intern should be able to carry a higher level of responsibility without close supervision and would not, necessarily, have to do the work of a technician to earn his way.

cept of a better environment towards which to head.

With these student capabilities in mind and with an awareness of the radical changes going on in most schools of architecture, the study in Geddes' words sought "some order in structure to understand the nature of these changes." Five categories were to emerge: continuity, scope, methods of solving

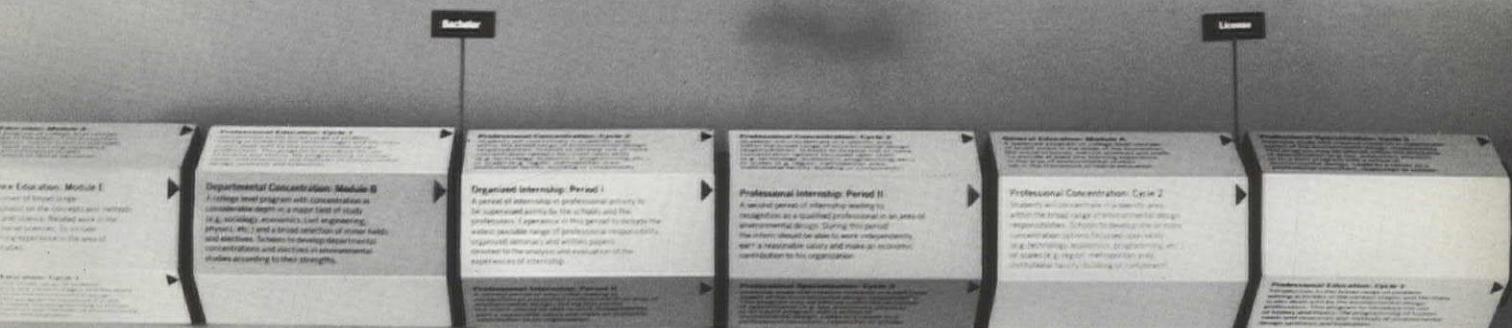
environmental design problems, the balance between reality and simulation, and finally, the numbers problem—though the greater number of students will have impact in its own right "the critical issue seems to be the number of teachers."

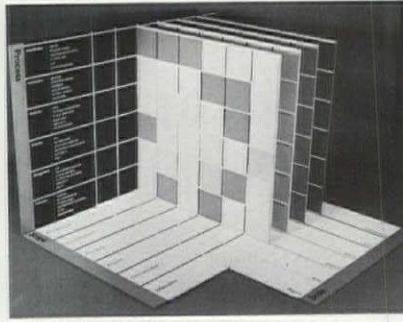
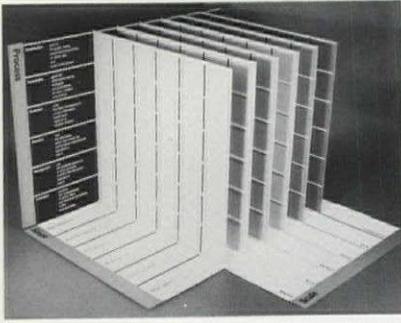
Strategies for meeting the basic problems revolve around designing preprofessional and continuing ed-

ucation programs, involving a wide range of disciplines in academic programs, providing options for concentration in specialized areas, developing and testing new problem-solving methods, organizing community extension activities in academic and internship periods, and widening teaching methods.

A six-part operational plan was devised to meet the strategic ob-

Segments of the "building block" model can be arranged and turned to show wide range of career choices.





Shown here in two states, model identifies aspects of the designer's tasks.

jectives. One is the modular-jointed structure for environmental design education. Another is the three-dimensional grid or matrix describing the 216 essential design activities that make up education's purview.

A third is a description of a wider range of teaching methods, and a fourth is the construction of new course descriptions and programs. Of the latter, Geddes said: "In this way we can begin to set standards within the schools and boards; in this way, make it possible for the accrediting boards and licensing boards to know what to expect to evaluate; and in this way judge success or failure."

Fifth, researchers are developing continuing evaluation and revisions of courses and programs, and, lastly, they are proposing continuing publication and discussion of the impact of program revisions, Geddes added.

The hexagonal building blocks that can be arranged in any linear order and are turnable when joined provide the means to demonstrate the modular-jointed structure for environmental design education, Spring said.

"We tried to find a system that can relate all of the post-high school educational programs for environmental design throughout the nation—relate all of the programs that will prepare young men and women for sensibility and love but also to be technicians, technologists, professionals, specialists, consultants or research scholars in architecture, landscape architecture, planning, engineering, etc.," Spring explained.

As for the split internship concept, Spring said: "Our proposal suggests the division of the internship experience into two parts: the first a more intensive, organized school-supervised period; the second part involving more independent work for professionals and leading to a professional qualifying or licensing examination."

The module model, Spring de-

clared, "can be used to compose literally thousands of different academic careers." The student is given maximum opportunity "to match his academic career to his motivation and ability."

Turning to the grid model, Spring said the research program in attempting to describe the design task sought to avert "highly polished paragraphs of such towering generality as to be completely useless" and concentrated instead on three parts:

Expected Benefits

1. Larger numbers of persons entering the environmental design field with the availability of programs at all levels of ability and responsibility.
2. Conservation of human resources otherwise lost to the field because of high attrition rate in professional programs.
3. Open-ended careers; enhancement of individual mobility and opportunity.
4. Flexibility; modification of career direction during education.
5. Encouragement of persons with a greater diversity of backgrounds, abilities and knowledge to take part in environmental design work.
6. A better balance between general education, professional education and specialization.
7. Larger numbers of persons entering practice with a wide range of special skills related to a broad understanding of the field.
8. Practical training in internship more closely related to academic training.
9. Development of a much-needed group of consulting specialists within environmental design.
10. Modification of programs by schools now teaching environmental design based on their special strengths and resources, while maintaining a diversity of approach and still fitting their programs within a clearly articulated nationwide structure.
11. Over the years, encouragement of the breaking down of arbitrary and restrictive divisions of professional activity in environmental design.

• *Scales*—Numbering six and running from component to regional design.

• *Scope*—Again numbering six. The first three—basic research, applied research, development—have not, Spring said, been as much a part of the architectural profession as the last three. These—design, instruments, effectuation—refer to conceptualization and design; contracts, specifications and working drawings; and job supervision.

• *Process*—The steps, again numbering six, range from the identification of goals and resources of the project to the completed job's evaluation—steps, Spring commented, that can be followed in work at any scale, any scope.

When the three aspects of design are related to one another, a gridwork is formed. The three-dimensional grid has 216 intersections, each of which invites a description of a specific design task. Together, all 216 intersections describe the total environmental design task, Spring said.

The matrix model has six cards, each carrying one-sixth of the 216 intersections, or 36. "In developing a curriculum or a course related to a particular scale, a faculty can decide what emphasis it will place on each of the 36 subtasks that may be involved," Spring explained.

Geddes said that what is sought is "a flexible, diverse kind of education, a flexible diversity and framework for it that would allow schools, students, the professions and the boards to state their objectives, communicate with each other, and to make possible a kind of environmental design of professions or disciplines which are like a cable woven together rather than a series of monolithic bars."

A start has been made, Geddes pointed out, noting that "a number of schools across the country are already applying the various methods." But, he added, "It is our expectation this is just a start."

Geddes said continuing concern and effort should be addressed to: 1) curriculum development in the universities, 2) development of teaching materials in our field "comparable to those developed in the physical and social sciences," 3) reports, publications and conferences to evaluate and discuss the programs as they develop, 4) teacher development programs created "as soon as possible," 5) development of programs in nonprofessional education, 6) development of programs in continuing education. NEIL E. GALLAGHER

Workshops: Guidelines & Tools for the New Architect

PRACTICE CONCEPTS

"It looks like we certainly need an entirely different approach to what we have thought of traditionally as architectural practice," the moderator was prompted to say when the three presentations that made up the workshop devoted to that topic had ended.

Cornelius Deasy, FAIA, was reacting, in particular, to the first public look at some of the data assembled for the "Comprehensive Study of the Cost of Architectural Services," being conducted by Case & Company, who had sent a team entry of Alf Werolin and Dr. Charles J. Marsh to report to the convention.

While the fact-finding study "has not been thoroughly digested," in Deasy's words, preliminary findings indicate that 1) the cost of services has gone up sharply, 2) the profits of architectural firms have dropped sharply and 3) clients are demanding "much more complicated and sophisticated service."

The study, further details of which will be published in the AIA JOURNAL before the end of the year, involved collecting and analyzing confidential cost and profit information from 223 firms in 47 states, as well as cost and profit details for 1,150 projects recently completed by these firms. Six specifics:

1. There was a sharp increase in

the direct costs of performing architectural services from 1960 to 1966, and there was a steady rise in the cost of outside consulting services from 1950 until 1966. Overhead has been maintained at a relatively stable level despite significant increases in the pay scales of employees in the architects' offices.

2. The pretax income or profit of the average architectural firm has declined from 22.6 percent of total gross receipts in 1950 to 17.8 percent in 1955, to 15.8 percent in 1960, to 9.2 percent in 1966.

3. Last year, one architectural firm out of 12 suffered a loss for the year's work—a loss averaging about 5 percent of annual gross income. And on the average, architects are currently losing money on one project out of four.

4. Despite recognized disadvantages involved in using construction cost as the basis for compensating architects for professional services, this method was used in 84 percent of the projects analyzed.

5. By comparing the *Engineering-News-Record* building cost index with pay rates for direct and indirect services of architectural firm employees, it was found that the building cost index has risen 13 percent since 1960, but pay rates have gone up 24-44 percent. Case & Company called this an "excellent example of the price-cost squeeze which is plaguing the architect."

6. Nine out of 10 architects say their clients now demand much

more complicated and sophisticated service than they did 10 years ago, including increased risks, liability, programming and engineering.

Meanwhile, today's architects are asking such questions as: How can I provide clients with attractive, functional and sound building within their budget limitations? How can I maintain a high quality of design in spite of constantly rising costs for services and materials?

Noting that there are no quick or easy answers to these questions, the survey has identified six areas where there is a need for remedial measures:

1. Overcoming the pressures of the profit squeeze—budgeting job time, controlling costs and expenses, pricing services and using technical manpower effectively.

2. Determining better and more equitable methods of compensation for architectural services.

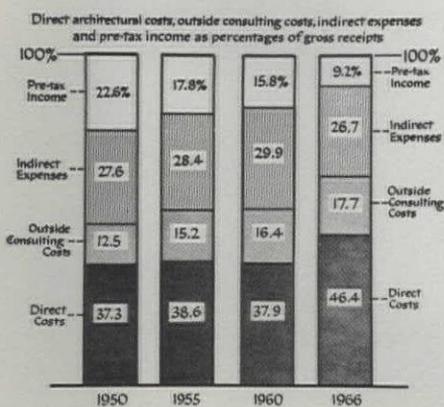
3. Deciding to what extent architects should provide some or all of the services for which they now engage outside consulting services.

4. Planning "profit" into architectural practice—into each project and every year's operations.

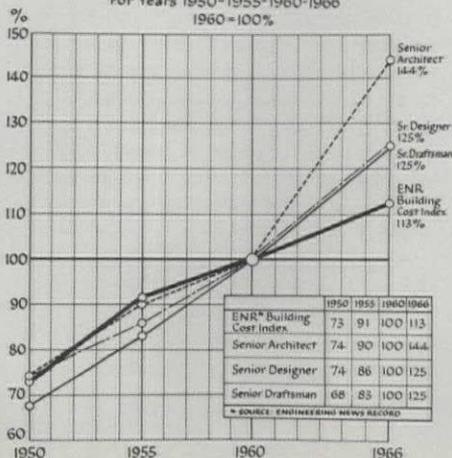
5. Educating clients and the public in what architects do, how they do it and how they earn their fees.

6. Devising an "information bank" where architects can quickly obtain up-to-date facts, figures and trends pertinent to running the office, such as costs, policies, em-

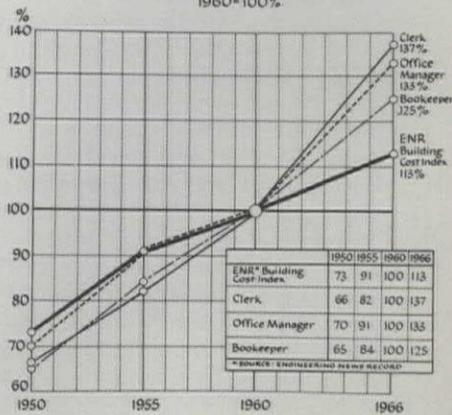
COST AND INCOME TRENDS IN ARCHITECTURAL PRACTICE FOR THE YEARS 1950, 1955, 1960 & 1966
(Data from Financial Statements)



COST OF DIRECT PROFESSIONAL SERVICES COMPARED WITH BUILDING COSTS For Years 1950-1955-1960-1966 1960=100%



COST OF INDIRECT SERVICES COMPARED WITH BUILDING COSTS For Years 1950-1955-1960-1966 1960=100%



ployee benefits, methods and techniques.

Added Dimension—Reporting on his work in the field of "Emerging Techniques of Architectural Practice," made possible by grants from the AIA Committee on Research, C. Herbert Wheeler, AIA, challenged "all the practitioners to have a goal: Aim to produce the construction documents for 25 percent or less of the fee, which would have been impossible five years ago but not today nor in the next five years."

The associate professor at Pennsylvania State University suggested that the professional 1) dedicate a major portion of time and resources to practice management, business and development and 2) develop in each major city a Professional Services Center for Architects which will offer advanced technical facilities. ("Please don't let everyone reinvent and apply each new technique.")

In his discussion of automation—"the added dimension"—Wheeler listed such techniques as:

- Microfilming to file all the project and business records and to permit the printing and reproduction of architectural documents in any way, shape or form.
- Multicolor printing of systems information on plans to permit more complex documentation, with three-color coding to discover interferences and then integrate the building systems "with reliability" before going out for construction.
- Photo reduction of drawings to make it possible for designers to make freehand details on grid paper, thus eliminating the tracing and redrawing which is time-consuming and hazardous to practice.
- Retrieval drafting to permit the designer to reuse his past "tried and proven" designs and details.
- Building plan digitizer to permit the designer to take off drawing data on areas, volumes, equipments and materials and then store it in a memory bank for subsequent investigation and use.

Own Best Client—On hand to discuss the entrepreneurial practice, John Portman, AIA, was introduced to his colleagues as the man "who will tell you how to be your own best client." He explained at the outset that the practice of his firm, Edwards & Portman, is 60 percent self-generated.

"I want it clearly understood that I am first an architect, one that is very keenly and deeply interested in design," added Portman, who is also president of the Atlanta Mer-

chandise Mart, the Atlanta Trade Center and the Jamestown Shopping Center.

"I have entered the development field inspired by my desire and belief that the architect should have a stronger influence on the environment of our society," he continued. "I have made it my business to know the building birth cycle which is need, feasibility, real estate, finance, design and, finally, construction.

"My ideal of perfection is to conceive the origin of the development, analyze its feasibility, design the environment, secure the financing and build it—total creativity. It appears complex, but it can and is being done. It is a new kind of architecture, performed much as a composer who writes the music and conducts the execution with perfection in mind."

In answer to a question about the contracting process, Portman explained: "We negotiate with the builder. At the schematic state, we may have two or three contractors bidding, but the bidding is done in such a way that this is not an estimate. When the latter comes in, we sign a contract on the price. Our cost is controlled."

In describing the firm's make-up, Portman pointed out that it has an "in-house" real estate organization composed of about 10 men who have no architectural background.

MANHATTAN PERSPECTIVE

New York, whose mayor likes to call it "Fun City," is a gigantic building client (current budget for capital expenditures: \$1 billion). It is a showcase for design, good and bad, and for spectacular achievements in planning and non-planning.

Over the past year or so, Fun City has had other problems. It has occasionally found itself without water, without electrical power, virtually without public transport, and—most recently—with the strong olfactory conviction that it might be about to smother under its own garbage. Boston redevelopment boss Ed Logue has stated succinctly, "New York is totally ungovernable." Philip Johnson, FAIA, who moderated the convention workshop on "Design and Politics," agreed.

The mayor disagreed, and so did the members of his administration who came along to tell the architects what the city government is doing on behalf of good design.

Housing and Development Administrator Jason Nathan, announcing increases in the municipal fee scale for middle-income housing projects, said, "Last spring the New York Chapter AIA warned, 'Don't do business with the Housing and Redevelopment Board. . . . We want our architectural dropouts back.'" He also cited efforts by the city to cut red tape and effect savings in the time needed to process plans and drawings, and attempts to encourage, rather than penalize, diversity.

Tulips and Problems—Eugene Hult, commissioner of public works, followed suit; then came August Heckscher, former Presidential Adviser on the Arts who recently followed Thomas Hoving into the office of New York parks commissioner. Heckscher's presentation—slides and commentary on the city's park, recreational areas and green spaces, with budding trees, beds of waving tulips and happy finger-painting kids—moved Moderator Johnson to comment acidly, "I could take a kid and smear him with paint and take his picture, too—but we have more important problems."

Contractor Richard Ravitch ticked off a few of them: trouble with unions representing the building trades; trouble with codes which are based on specification of materials rather than on performance; trouble, even with "some architects who ignore the strictures imposed by the context within which a building must function."

We must all be prepared, said Ravitch, of the HRH Construction Company, to pay the price and shoulder the responsibility for rebuilding America better. Architects, although they continue to express their individual philosophies, must work closely with builders, who must in turn take risks and commit resources to new ideas. Labor unions must be persuaded to adopt new techniques which enhance productivity and reduce costs. And finally, the nation as a whole must be prepared to commit an ever-increasing share of its wealth to the improvement of the physical environment.

If Mayor Lindsay and his aides can contrive to make those things happen in New York, they will truly have a showcase for the best of what is good about urbanization. If they can enlist the skills and the enthusiasm—then, as Jason Nathan said, quoting John Ruskin, "When skill and love work together, expect a masterpiece."

TECHNOLOGICAL INNOVATION

The moderator of the "Technology" workshop reminded his audience that it was starting out with this dilemma: "If whatever Lola wants, Lola gets, then Lola must face up to the twin problem of deciding 1) what she wants—and that isn't easy, and 2) whether she is willing to pay the price."

Stephen Kliment, AIA, editor of *Architectural & Engineering News*, was referring to the "relationship between what we can do (technology) and what we want to do (design)."

The first to tackle the assignment was William J. LeMessurier, principal in the Boston-based structural engineering firm that bears his name, who called for "a whole new building language for each project." This is necessary, he said, because of a series of developments, citing three in particular:

1. The study of plastic limit design based on the total and final strength of the whole structure. ("The theory and practice have arrived in structural steel and are about to blossom in reinforced concrete.")

2. The behavior of composites. ("Structural steel and concrete are now commonly used as interacting elements.")

3. The coming of the computer. ("The day is approaching when design and analysis will be a continuous iterative process rapidly converging on unique solutions for each situation.")

Pointing out that there are pitfalls along the way, LeMessurier explained: "When you disturb the established traditions of building and invent your own language for each project, you sail uncharted areas. Structure does not exist by itself but only together with other parts, all satisfying human needs. A new structural scheme does not become a building language until it develops rapport with mechanical and electrical subsystems."

But despite the risks involved, LeMessurier said he has found "most architects to be angels who dare to tread. We in the structural profession have been scurrying to keep up with you, and I think the time has arrived that our swords are sharp enough for the task."

Chicken or the Egg—John Dinkeloo, AIA, began on a rather pessimistic note by alluding to "the area of the frustrated architect . . . be-

cause no one can figure out who comes first, the chicken or the egg."

The partner in the firm of Kevin Roche John Dinkeloo & Associates, successor to Eero Saarinen & Associates, hastened to add that "the logic of building progress says the leader has to be the architect."

"However, the present organization of industry makes this the most illogical process to lead the parade," the Hamden, Conn., architect continued. "On the logical side, the architect is the only one who is in on the entire spectrum of a building, from the beginning planning until the last piece of material is in place, and even beyond that, listening to all the troubles that happen afterwards."

"The architect also is the only creative person involved in a building, and the end result has to be creative in order to be successful."

But there's the illogical side, too, and "the architect is on the completely opposite end where research is being accomplished," Dinkeloo declared.

"In terms of what is happening in the building industry today we should probably drop the word 'research' and talk about product development. We have not researched, really, and this facet has fallen into the hands of the manufacturers, which is very logical because they are the producers and the profit makers."

"The architect, therefore, has all the obstacles possible in his way to delve into research. The first one is this: He probably doesn't receive a fee big enough to start with research and then to develop anything, and he's in no position to make a profit from it; and on top of that, he does not have the facilities nor the machine capabilities to do research."

Be that as it may, someone is going to have to do the job, Dinkeloo said, reminding his colleagues that if the architect is to make his proper contribution, he "is going to have to step out rapidly in a fashion he has never dreamed of before" and furthermore "is going to have to find ways of creating teams of engineers, manufacturer and research potential on a large scale that would include all facets of industry."

Comfort Concepts—To Henry Wright Jr., professor of architecture at Kansas State University, fell the assignment of discussing human needs and what technology does to and for them.

"A past mistake in this area, which is reasonable enough in view

of the rather primitive nature of all such controls until fairly recent times," Wright began, "has been dependence on the engineer in areas of, say, lighting or heating where we have failed to take sufficient cognizance of the order of procedures in dealing with environmental factors and complexity of these questions."

"We have been actually asking 'What to do?' questions of people whose competence is in the 'How to do?' area, and really no more able to tell us what people want in this way of lighting or heating than, let us say, medical doctors who also know very little about these things," continued the professor.

"In the area of heating and cooling," Wright, whose long-time specialty is in that field, "where we have been the victims of a simplistic model of sedentary man who remains in one place working with paper, and perhaps the way the boss would like him to, the fact is people behave quite differently, and that the way they react to their thermal environment hinges on this Physiologically, the thermal interchanges between human beings and their surroundings while they are quite complex are actually quite uniform and predictable."

Wright went on to say that "the whole 'comfort' concept is essentially very naive and a great deal of money has been spent on this particular one in dealing with reactions that while usually unconscious are enormously sophisticated."

EDUCATIONAL CHANGES

In the workshop on "Education" Walter B. Sanders, FAIA, program moderator, traced events preceding the AIA Education Research Project (a progress report on which appears on page 65).

The project has as its beginning an evaluation of the profession that was undertaken by the Institute and published in 1954 under the title, *The Architect of Mid-Century*.

"This exhaustive survey concluded with several recommendations which successive administrations of the Institute have made the object of special study," said Sanders, outgoing president of the Association of Collegiate Schools of Architecture.

One of the studies, on the problems of architectural practice, produced the 1960 document describing aspects of education and prac-

tice and recommending changes in both, Sanders related. It was called "A Report on Your Profession."

A 1962 sequel, "A Second Report on Your Profession," outlined the expanding role of the architect and the need for comprehensive architectural services, Sanders noted.

"The impact of these latter two reports, particularly their implications for architectural education, led to the establishment of a joint AIA-ACSA Special Commission and to undertake further study and publication in 1963 of the 'Report by the Special Committee on Education.'"

This report recommended a comprehensive program of research aimed at a detailed development of new educational programs in environmental design—and the Education Research Project, begun late in 1965, which Sanders called the "culmination of this series of reports begun over 10 years ago."

"Meanwhile, neither education in general nor education for architecture in particular has been without its own evolutionary changes," Sanders said. "Newly developed teaching methods and equipment have brought increasingly superior education at primary and secondary levels, and underway at these levels in some areas are programs aimed at developing a sensitized awareness and appreciation of both the natural and man-made environment."

Matching Culture and Skills—The schools of architecture, at the same time, recognized that the cultural understanding of their graduates had to be raised to match the technical skills developed, and they "are now in the process of adding to their requirements in the basic liberal arts and sciences."

Sanders said responsible professional practice requires "not only periodic continuing education to maintain competence but also preparation for broader responsibilities and the development of new skills to replace those no longer in demand."

"Although behind our sister professions in establishing such programs, this past year ACSA and AIA have jointly undertaken comprehensive studies in the area of continuing education and the near future should see some realization of this joint effort."

The workshop included in addition to the research project report a description by Dean Charles Burchard, AIA, of the new architectural education program at Virginia Polytechnic Institute (AIA JOURNAL, May '67). □



Business: Way Paved for New Building

First order of business for delegates to the 1967 convention was approval of plans to transfer ownership of the historic Octagon House to the AIA Foundation. Final approval of the transfer set in motion a chain of events which will culminate in construction of a new Institute Headquarters (see Newslines in this issue and in July for details).

The measure, passed provisionally last year in Denver, required approval by a two-thirds majority of two succeeding conventions. When delegates in New York made it unanimous, outgoing President Charles M. Nes Jr., FAIA, said simply, "I cannot tell you how pleased I am. . . . This is a good going-away present."

After introduction of new AIA directors (already elected in their respective regions) and candidates for Institute offices, discussion turned to a proposal to modify sections of the AIA Standards of Professional Practice.

The revised sections would eliminate specific reference to architects "in the employ of unregistered individuals who offer architectural services to the public," and substitute the language "An architect shall not be, or continue to be, a member of a firm . . . or an employee of an individual, firm or organization which practices in a manner inconsistent with these Standards of Professional Practice. Delegates voted for the change, 410-213.

Two touchy matters—contingent fees and a bylaw change which would permit AIA chapters to admit nonarchitects to membership as "professional affiliates"—were referred to the board for further study, with recommendations to

be presented at the 1968 convention.

In other resolutions, the delegates:

- urged that measures be taken to expedite reciprocity of registration between and among the states and territorial possessions of the US.

- approved a program, proposed by the Institute's Committee on Building Regulations, to develop codes based on performance criteria.

- supported creation of "community environments" in suburbia, highway beautification and integration of transportation systems into local urban planning.

- instructed the board to study "proper areas of professional concern in the exploitation of the natural environment."

- urged preservation of California's redwood forests.

- requested the aid of the architectural professional society of Japan in saving Frank Lloyd Wright's Imperial Hotel in Tokyo.

Honorary memberships were conferred on six nonarchitects for outstanding service to the profession. The six honored were Joseph Addonizio, executive director of the New York State Association of Architects; John Entenza, director of the Graham Foundation; James Fenelon, executive director, Minnesota Society of Architects; John Erik Jonsson, mayor of Dallas and honorary board chairman, Texas Instruments, Inc.; Edgar Kaufmann Jr., author and educator; and Benton Spruance, painter and lithographer.

Mayor Jonsson, responding for the Honorary Members, thanked the AIA for "pausing to put your arms around a few people in friendship, empathy and brotherhood." □



PRACTICE PROFILE

The realization of vast and complex undertakings by Wallace K. Harrison, FAIA, of New York has opened new spheres of architectural endeavors.

The Making of an Architect

BY CHARLES THOMSEN, AIA

Early one evening in the winter of 1955 Harvard's Prof. Serge Chermayeff, speaking before a group of students at Columbia University, took a piece of chalk and on the unsteady blackboard which had been set on the small stage drew an incomplete circle. Another flourish produced a white dot denoting the beginning of a historical cycle while, at the other end, a large arrowhead ominously aimed at the germinal point of modern architecture carried with it the Wolfean seed of self-destruction. Modern architecture, the early champion of the movement in prewar England was saying, had entered the final efflorescence of its baroque phase, aborted in its fulfillment.

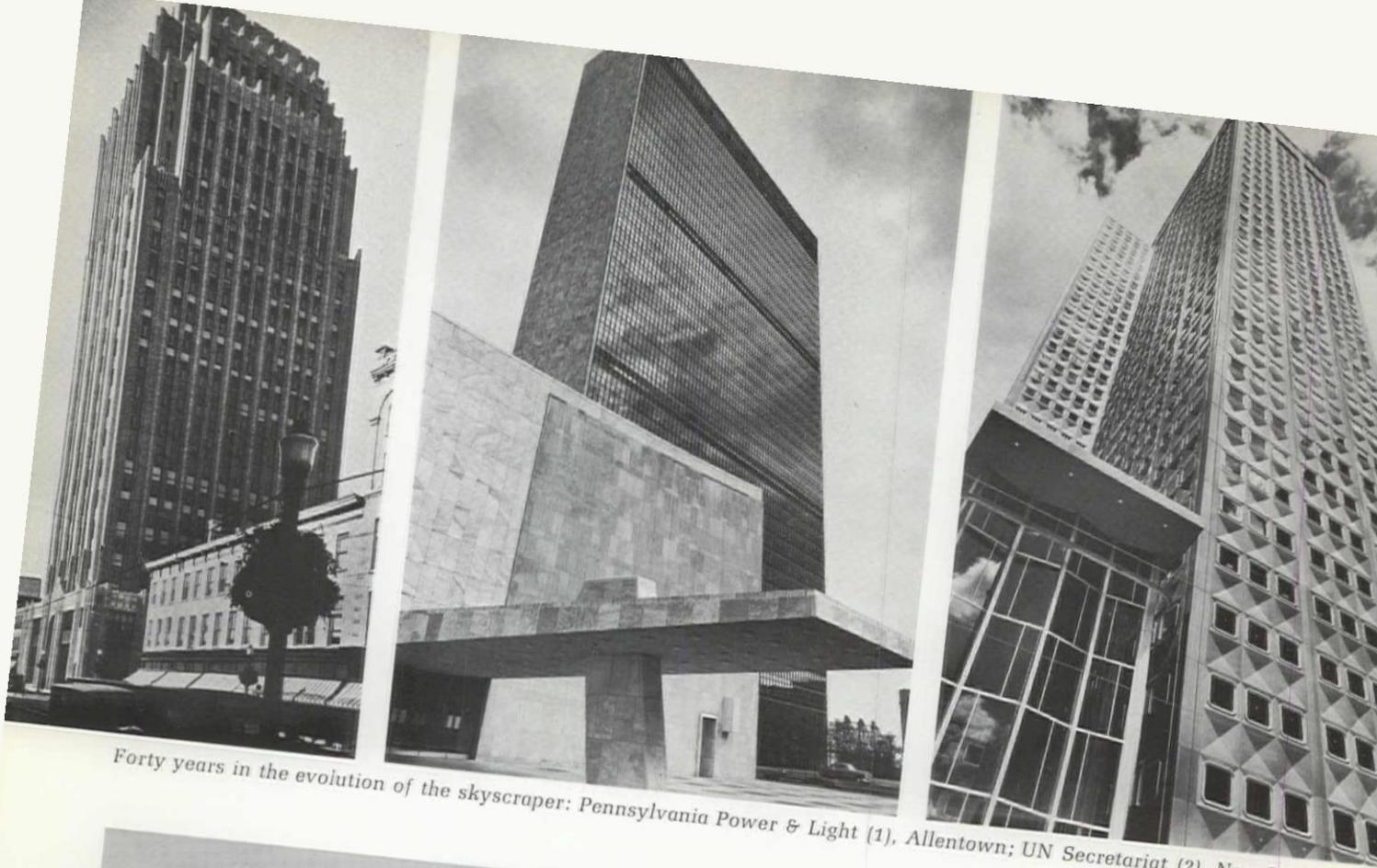
The precise moment of this transition was also observed by James Stirling as a crisis of rationalism. It was a stylistic schism, he noted in a 1956 article of the *Architectural Review*, which could be seen in the "simultaneous appearance of Lever House in New York and the Unité in Marseilles." Any lingering doubt as to the occurrence of a new historical phase of modern architecture would be dispelled by Le Corbusier's Chapel of Notre Dame du Haut at Ronchamp. In an exchange of letters with Casabella's Er-

nesto Rogers, the Italian architectural historian Guilo C. Argan described the chapel as "defiantly anti-historical" in its going beyond the rationalistic processes of modern architecture.

To Lewis Mumford, this *going beyond* had already occurred in the design of the United Nations headquarters in New York. His dithyramb for the *New Yorker* shortly after the completion of the General Assembly building sharply criticized the complex of structures for its failure to "justify the subordination of a practical need to esthetic form" and condemned the architects for producing in the General Assembly a "building that has the weaknesses of a monument."

Thirty years late, the line of development which had been seen as leading ultimately to the glass prism, in the oversimplified but convenient equation of modern architecture to its functionalistic premises, had been reached. It had taken a team of internationally renowned architects working together to fulfill the vision of what had remained for so long an austere intellectual movement with the inherent weaknesses of its metaphysics. The man charged with its realization was Wallace Kirkman Harrison, FAIA.





Forty years in the evolution of the skyscraper: Pennsylvania Power & Light (1), Allentown; UN Secretariat (2), New York;

Youth and Training

It was to Worcester, Massachusetts, so reminiscent of their Yorkshire mill towns, that the families of Rachel Kirkman and James Harrison migrated. And it was on September 28, 1895, in a frame house in the center of town, that Harrison was born.

"I was a kid on the wrong side of the tracks. But the three-story wood tenements on that side may still be the best solution for cheap housing. There was air and light. For every house there was a yard, each with its own set of trees. Yankee efficiency and economy provided everything from cellar to attic and a parlor for \$15 a month. Compare this to what you get now.

"I'll tell you something," continued Harrison, while surveying the stately dining room of the Knickerbocker Club, empty of the lunchtime diners, "I didn't get into architecture because I wanted to make it my mission in life. I had to earn a living. I left school and took the first job I could get. As it turned out, I was an office boy for a contractor and got to do some drawings. I also found out that contractors took orders from architects."

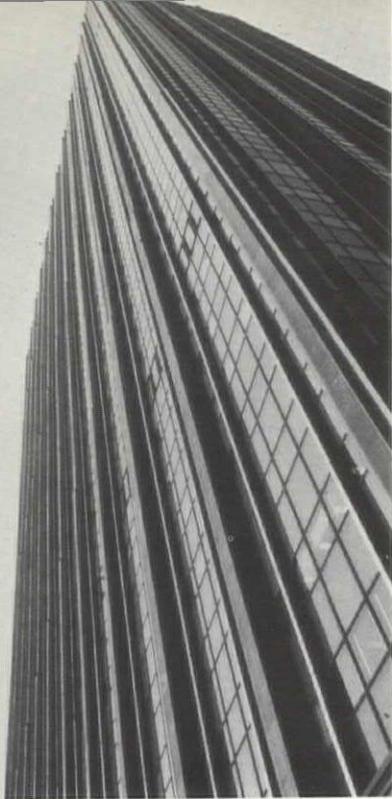
Harrison was 14. He stayed for four years with the contractor, O. W. Norcross, before becoming a draftsman in the Worcester architectural firm of Frost & Chamberlain. In the two years that followed, Harrison became acquainted with the rudiments of architecture—"but never the whys"—and complemented actual experience with night courses in engineering at Worcester Poly-

technic Institute. But the buildings that mattered were done by New York architects, and in July of 1916, at a ripe 20 years, Harrison traveled to Manhattan. "The reason I got a job at McKim, Mead & White was because one of the partners, Van der Bent, needed illustrations for a book he was writing on hospitals; and I said I would do them for nothing," Harrison said wryly. "But two weeks later, they put me on the payroll."

At McKim's, Harrison was exposed to sophisticated and elegant adaptations of Roman Classicism. The Pierpont Morgan Library had just been built; but the Columbia University campus on Morningside Heights, the Racquet and Tennis Club on Park Avenue and some of the Bellevue Hospital buildings were still on the boards.

Yet Harrison felt a more compelling affinity for the less rigidly academic and more functional approach of Harvey Wiley Corbett whose atelier he attended in the evening. "He tried to show the youngsters what architecture was all about. He told us why some buildings were better than others; why, for example, Grand Central was a better plan than Penn Station. We worked on projects, drew and drew. Sullivan, in Chicago, was in a kind of hell; still the youngsters' hero, but mostly because of his drawings." The dining room was quietly filling up. Outside, the sun was breaking through the clouds, and through the French windows, hidden by the lacy fabric of Central Park, loomed the Plaza. "You know," Harrison mused, "no one seemed to know what it was all about—least of all, the youngsters."

Harrison's formal training in architecture was to take place in Europe between 1919 and 1922,



Alcoa (3), Pittsburgh; Time-Life (4) and Corning Glass (5), New York ; Phoenix Mutual (6), Hartford, Connecticut.

after service as a Navy ensign aboard a subchaser on the Adriatic. In October 1919 he had no difficulties with the entrance examinations for the Ecole des Beaux-Arts where he spent a year in the atelier of Gustave Umbdenstock. Again, in 1921 he was in Europe with a Rotch Scholarship.

Harrison found in Paris a highly developed analytical and rational approach to architecture, but one that was so oversystematized it created grandiose plans without substance. There was an obsession with refinement, but good *poché* was its supreme virtue. "It was more a concern for the beauty of a musical score, how well it looked on a page, rather than what it would sound like," Harrison recalled. But he was captured by the intellectual life of postwar Paris that was finding expression, not at the academy but in the left bank cafes of "Boule-Miche" and Montparnasse. In night-consuming discussions with the "moderns," his independence would challenge equally the avant-garde manifestos and the architectural innovations they espoused.

During the last leg of his stay in Europe, Harrison visited the Cathedral of Chartres and the Church of St. Trophime at Arles. He studied the Propylaea of the Acropolis in Athens and the cyclopean Roman temple group of Baalbek, Lebanon, then under French mandate. If Hagia Sophia left him cold, the Theban temple of Luxor had an impact approaching mystical revelation.

Luxor was a staggering discovery in the manipulation of volumes and masses to enclose light. Spatial significance depended on the contrasts of light, harsh and blinding in the Rameses II forecourt, diffuse through the clerestory of its gigan-

tic Hypostyle Hall; and from the brilliant rectangle of its second court, the deepening darkness of ever-diminishing space in the progression to the holy of holies.

In 1922, Harrison entered the last stage of his architectural apprenticeship. The office of Bertram Goodhue was to the younger generation of American architects what Peter Behrens' in Berlin was to the budding modern movement. Goodhue in his eclecticism was refined and original, often breaking through its usual confines in projects such as the winning design for the Nebraska State Capitol. At Goodhue's, Harrison found himself in the shrinking "classical" group, a second-class citizen to the prestigious and popular "Gothics," but in charge for the next two years of the project for the National Academy of Sciences Building in Washington.

Harrison's apprenticeship ended abruptly in April 1924 with the sudden death of Goodhue. "You know," Harrison volunteered as an afterthought, "no book has really caught the spirit of that time and what architects like Hood, Goodhue, Corbett, John Holabird and the others were trying to achieve."

Early Works

Mercantile classicism, solidly entrenched in the scholarship of Richard Morris Hunt in the New York of 1870, triumphant at Chicago's Columbian Exposition of 1893, would succumb with Goodhue, one of its ablest practitioners. Coinci-

dentally, the nadir of "Woolworth Gothic" was reached and its swan song, Raymond Hood's winning design for the Chicago Tribune Tower, had been sung.

The winds of change of the modern movement—Mies van der Rohe's two glass tower studies (1919 and 1921), the Eliel Saarinen and Walter Gropius design entries in the Chicago Tribune competition (1923), the Bauhaus in Dessau (1926)—gathering momentum in Europe, had crossed the Atlantic. And with this "new spirit," the American skyscraper would seek to rid itself of the saccharine sentimentality and the stylistic syllabi of eclecticism.

It was in the excitement of this transitional stage that Harrison was invited to join the thriving firm of Frank J. Helmlé & Harvey Wiley Corbett, well known for its office buildings, auditorium designs and the radical simplicity of facade treatments.

Harrison's first encounter with the problems of high-rise construction and its esthetic possibilities occurred in commissions such as No. 1 Fifth Avenue, the Roerich Museum and Master Apartment, the Metropolitan Life Insurance Building, Fourth Avenue and 25th Streets in New York, and the headquarters for the Pennsylvania Power & Light Company in Allentown. These works, showing the sure hand of the older Corbett, retain a classical sense of order and symmetry; yet their departures indicate a deepening intellectual commitment to the modern movement. It was, however, the 23-story building in Allentown that gave Harrison a firsthand appreciation not only of the inherent advantages of the skyscraper but also the problems that would have to be solved and the need for a new esthetic. Lingering doubts would be dispelled in the project which would take the pooled talents of three architectural firms and the better part of a decade to be finally realized.

A New Monumentality

At a time when audacious urban programs are more the rule than the exception, a re-evaluation of Rockefeller Center as an urban design landmark has a marked and imperative relevance. Flying over New York as indeed over any US metropolis, and observing the gigantic holes that most urban renewal developments have abruptly cut out of the city's fabric, you develop the uncomfortable feeling of a *leçon manquée*, resulting in the loss of continuity and identity.

"Rockefeller Center . . . differs in a very fundamental way from the projects being designed today," Jane Jacobs writes in her "Downtown Is for People" essay. "It replaces the street. Rockefeller

Center knits tightly into every street that intersects it. One of its most brilliant features is the full-fledged extra street with which it cuts across blocks that elsewhere are too long. Its open spaces are eddies of the streets, small and sharp and lively, not large, empty and boring. Most important, it is so dense and concentrated that the uniformity it does possess is a relatively small episode in the area."

The author: Mr. Thomsen, whose appraisal of the work of the 1967 Gold Medalist appeared in the May issue, currently is working on an art program for the Department of Housing and Urban Development.

Yet, as it logically blends with and accepts the tyranny of the gridiron, there prevails in Rockefeller Center a spatial order that gives it an unmistakable identity in the cityscape which surrounds it.

The calculated volumetric variations of its components, as they revolve around the vertical focus of the 70-story RCA Building, visually contain the open spaces of its malls and its central plaza. They delineate the physical boundaries of the Center as a whole. Unity is achieved by the density of the massing and by what is essentially an introverted scheme of buildings around a square. Sigfried Giedion finds the plan disappointingly conventional: "The ground plan reveals nothing, the gridiron runs through it as everywhere else in the city." But the brilliance of the scheme lies in the equilibrium which is achieved between the Center's basic inward orientation and its penetration by volumes and spaces as suggested by the planes of its components when viewed from the air.

This is accomplished, for example, in the dynamic unity of the pinwheel as it is played by the towers accenting the four corners of the Center, or in their parallel or right angle discourse with the centrally dominant slab of the RCA Building. At eye level, the spatial organization of the volumes and the relationships of the massing become secondary motifs which are never fully grasped.

The pedestrian, in his procession down its axial mall to the golden Prometheus with its soaring backdrop, never sees the entity. Instead, he is subjected to a series of impressions as he is led from one many-sided view to another, in a way reminiscent of the parthenaic procession where, however, the successive impressions were more easily grasped since each view embraced a totality.

The architectural achievements of Rockefeller Center, revolutionary in their conception, still possess more than 30 years later, a remarkable contemporaneity. The strong unity of the archi-

tectural treatment becomes immediately apparent as it is taken up in each of the original 14 components with little or no variation. The monolithic verticality of the 850-foot-high RCA slab evokes still a strong reaction, if only from its awesome dimensions. The setbacks which occur, based on the travel distance of its elevators, prevent it from reaching the purity of the prism which we find in the later buildings of the Center.

Maintained throughout is the original 27-foot module "that experience has proved is the maximum to be allowed to provide adequate light and air to all parts of the building." This module becomes the recognized standard for office building design which if ignored must be mechanically compensated for. The introduction of roof gardens adds immeasurably to the sophistication of the entire complex; it recognizes that buildings are also seen from above.

The roof garden, as indeed the use of artwork, becomes another manifestation of the thoroughness and convictions that enabled the seven architects to bring forth these striking amenities in an essentially business venture where the tests were, as Raymond Hood put it, "cost and return." The importance of these amenities is the role they play in the continued vitality of the Center—by day and by night—in the throbbing, pulsing rhythm of this headquarters for publishing, communications, entertainment, and foreign trade; in the pursuit of leisure and recreation; in the gaiety and liveliness of its cafes, theaters, nightclubs, shopping arcades—in short, the never-ending stream of its humanity.

Coincidental with this coming of age of the skyscraper, Rockefeller Center achieved a new monumentality which was perhaps inherent in the very scope of the project. But, as Charles W. Moore so aptly states: "The process of achieving an urban focus is the same as that of achieving monumentality: It starts with the selection by some inhabitants, of a place which is to be of particular importance, and continues when they invest that place with attributes of importance. This process, the establishing of cities and the marking of important places, constitutes most of the physical part of establishing civilization."

Clients à la Rockefeller

If, as Raymond Hood wrote in 1932, the architects associated with "Rockefeller City" were risking their "reputation and professional future," they also stood to gain from the successful realization of this improbable venture. The temerity of the architects had further enraged the traditionalists and public taste makers and the entire undertaking had aroused the mordant

skepticism of the younger professionals against the cultural and social values which could make it possible in the first place. The younger Harrison, as the other architectural firms dissolved or withdrew, would reap the prestige and rewards of the phenomenal success of Rockefeller Center, a promise which the short five years preceeding the second World War strongly hint but hardly fulfill.

Between 1937 and 1942, the firm of Harrison & Fouilhoux, in addition to its participation in the three last buildings at Rockefeller Center, undertook a variety of projects which include the Con Edison structure as well as the Trylon and Perisphere theme buildings for the New York World's Fair; the WGY (NBC) Broadcasting Station in Schenectady, New York, commissioned by General Electric; and the African Habitat at the Bronx Zoo. This modest if respectable spurt of professional activities is complemented by the first tentative building ventures of the third Rockefeller generation.

It was during the development of the Rockefeller Center that there began between Harrison and Nelson Rockefeller a close personal and professional relationship which would mature later from that of young participants to that of prime movers in endeavors running the gamut from local building projects to affairs of national and international scope. In the process, Harrison's professional career would become closely intertwined with the building activities of a family whose influence, spanning three generations, has been felt directly or indirectly on more than \$1 billion of construction. This influence made loftily distant in the first two generations would become more directly active in the hands of the grandsons—Nelson, John David III, Laurance and David—whose projects, well beyond the \$500 million mark, surpass those of the erstwhile giant Webb & Knapp postwar enterprises, with Harrison cast, so to speak, in the envious position of family architect.

Thus at the eve of World War II one of the most intriguing projects that Harrison would become involved with was the design for Laurance Rockefeller of ships made of ferro-concrete rather than steel. Shortly before, as Rockefeller Center was approaching completion, Harrison and Nelson Rockefeller entertained the idea of a cultural center in the area immediately north of Rockefeller Center. This idea never reached fruition, except for the Museum of Modern Art.

Born of this idea were the two apartment houses designed by Harrison for the 125x200-foot plot near Fifth Avenue and extending from West 54th to 55th Street. Nicknamed the Rockefeller Apartments, the two simply treated, buff-colored brick buildings, easily recognizable by semi-circular "turret" projections on the street sides,

are connected by a luxuriously appointed interior garden. Another Rockefeller venture by Harrison, the Hotel Avila, near Caracas, Venezuela, was one of the first manifestations of the Rockefeller interest in the South American continent.

This concern impelled Nelson Rockefeller to obtain successfully in 1940 the endorsement of President Roosevelt in the establishment of the US Office of the Coordinator of Inter-American Affairs. Harrison joined him in 1941 as assistant coordinator, taking charge for the next five years of its Cultural Relations Division and later, in 1945, as head of the office following Rockefeller's transfer to the State Department.

A freak accident on an inspection tour of one of the firm's low-income housing projects in Brooklyn took the life of André Fouilhoux who was holding as best he could a tenuous architectural practice during Harrison's absence. With Max Abramovitz, a young associate of the firm who had just returned after serving in the Air Force, Harrison reorganized the firm, which then became Harrison & Abramovitz, one of the most prolific offices dominating the architectural scene of postwar America in the two following decades.

With Nelson Rockefeller, Harrison became deeply committed to finding a site in New York City for the headquarters of the United Nations, the design of a new Humanities Center for Dartmouth College in Hanover, New Hampshire, and still later on the grandiose plans of the Governor for Albany. With the youngest brother, David Rockefeller, Harrison in the mid-1950s took charge of the \$9 million building program of the renowned but ailing Rockefeller Institute into a modern and aggressive medical university on the sycamore-shaded site in Manhattan's east 60s facing the East River. A \$16 million housing project for the northern portion of Morningside Heights in the David Rockefeller-inspired undertaking would seek to rehabilitate this fast-decaying area.

More ambitious in scope, however, is the recent Rockefeller project by Harrison seeking the revitalization of Lower Manhattan. With the completion of the Lincoln Center cultural complex under the aegis of John D. Rockefeller III, Harrison's identification with Rockefeller sponsored or supported projects will have spanned more than 30 years. No less remarkable is the great loyalty, confidence and respect which Harrison commands in the world of business, education and culture.

The outward signs of this respect are the scores of honors conferred upon Harrison during the past 30 years, from the 1936 New York Architectural League Gold Medal to the 1967 AIA Gold Medal and including honorary degrees from six universities and a citation from Harvard.

This confidence, coupled with a thorough fa-

miliarity with the problems of skyscraper construction, enabled Harrison to play a leading role after the realization of the UN Secretariat, in the fulfillment of the Miesian vision of soaring towers of glass and steel and in the postwar evolution of the skyscraper. Harrison refined the glass tower in a series of elegant structures which include the prize-winning Corning Glass Building on Fifth Avenue and 55th Street and the Phoenix Mutual Building in Hartford's Constitution Plaza.

Harrison also explored new materials and sought new methods of assembly. One of the most notable examples of this search is the Alcoa Building in Pittsburgh, where Harrison introduced anodized aluminum panels stamped to increase the rigidity as well as to minimize the warps of the one-eighth inch metal skin.

This experimentation is not limited to skyscrapers alone but can be found in the Interfaith Center at Brandeis University (AIA Honor Award of 1956), the Assembly Hall at the University of Illinois (AIA Honor Award of 1961), the La Guardia Air Terminal Building and the First Presbyterian Church in Stamford, Connecticut. As outstanding as these individual achievements have been in enriching the multifaceted idiom of contemporary architecture, it is in the developing of the large urban complexes that Harrison has demonstrated the new dimension architectural endeavors could assume in the second half of the 20th century.

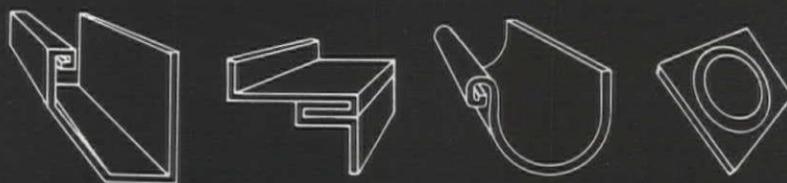
Promises and Premises

At mid-century, the euphoric optimism of modern architecture had given way to the anxieties of an incumbent administration seeking re-election. The catchy campaign slogans had grown stale. The sense of urgency in its original platform, oversimplified, dissected, pulverized and assimilated by columnists, analysts and critics, had been diminished by years of helpless inactivity. During its lame-duck tenure, its accomplishments had been few; limited by the unfavorable, often hostile, political and economic climate which culminated in the destructive orgy of another world war.

Wallace Kirkman Harrison's achievement was in pursuing to its logical conclusion the line of an investigation which had shown all the signs of foundering half realized. Rockefeller Center, the United Nations headquarters, the Lincoln Center brought the promises and premises of modern architecture to the general public, the layman and, more importantly, to the man who would build. The stage had been set for the twilight of the gods, but the audience saw the first steps toward the *machine à célébrer*. □



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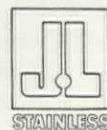
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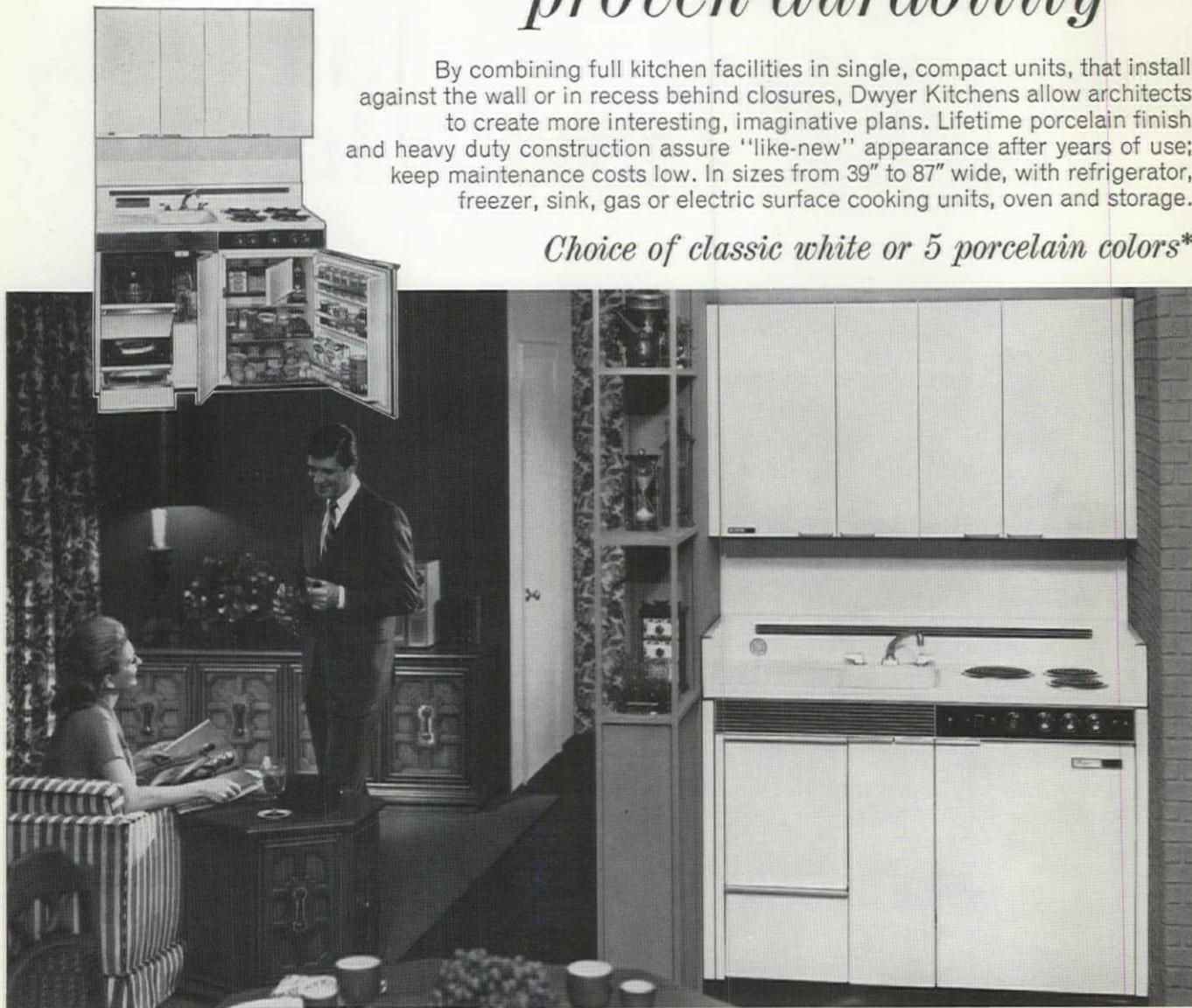
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Editor: Donlyn Lyndon, Department of Architecture, Massachusetts Institute of Technology, Cambridge, Mass. 02139. **Contents:** The annual meeting in New York reflects readjustment within the profession and notes new developments at the five host schools.

Change and Innovation

Change is the condition of our time, we have all come to assume. Little in the external aspects of the 53rd annual meeting of the Association of Collegiate Schools of Architecture would have confirmed the assertion but beneath the surface and between the lines, there was ample supporting evidence. Threaded through the business, the reports of affiliated organizations and the program for the May 12-14 meeting were intimations of substantial readjustment within the profession.

In two business sessions held Friday afternoon and Sunday morning, the assembled representatives approved constitutional amendments, admitted new members, considered reports from various committees and from the AIA, the National Council of Architectural Registration Boards, the National Architectural Accrediting Board and the National Institute for Architectural Education.

With President Walter Sanders presiding, the results of the election to the next two-year terms of office were announced. Robert Bliss will serve as president, Thomas Howarth continues as vice president and John Lawrence as secretary, and Charles Burchard assumes the responsibilities of treasurer.

The Annual Banquet, held Saturday evening, was the occasion for awarding Certificates of Appreciation to Joseph Hudnut, distinguished educator and scholar; John Entenza, ACSA patron, Douglas Haskell, architectural journalist and ACSA patron; and Kenneth A. Smith, program chairman. The first ACSA-AMAX Fellowship also was presented.

In a lecture Friday afternoon Sibyl Moholy-Nagy urged that Manhattan be recognized in its own terms as a great commercial center.

The "typical New Yorker," she asserted, is a product not of the age but of the place. She traced up from New Amsterdam influences of the "Portus ideal" in decisions about the evolving forms of the city and the contrasting purposes they serve.

The full program Saturday was given over to the description of "Educational Innovation" in the five host schools: Pratt Institute, Cooper Union, Cornell, Columbia and Princeton Universities.

Two constitutional amendments were passed that may significantly alter the nature of membership. Schools are now eligible for associate member status if they are of an accredited institution of collegiate rank and offer curricula leading to a professional degree in architecture. With this change three newly formed schools were admitted as associate members: Ball State University, Indiana, the University of Tennessee; and the University of California at Los Angeles.

Individual members of ACSA may now participate in the election of regional directors, gaining in the process a more active voice in affairs. Study was requested of a further proposal to extend voting privileges to individual members at all meetings and establish a requirement that the vice president be chosen from "nonadministrative" ranks. These proposals, made from the floor, were prefaced by a concern for eliciting greater faculty participation in the ACSA.

Committee Reports

Members listened to reports from a number of committees and moved approval of those published in the annual report. These reports included a recommendation from the Committee on Continuing Education for establishment, with the

AIA, of a Joint Council on Continuing Architectural Education.

The joint council would be "charged with the coordinated development and advancement of the educational process." Need for such a council has been suggested by the growth throughout the country of unrelated and often sporadically financed programs in continuing education and by recognition in both the AIA and the ACSA of concern for greater opportunities to continue study.

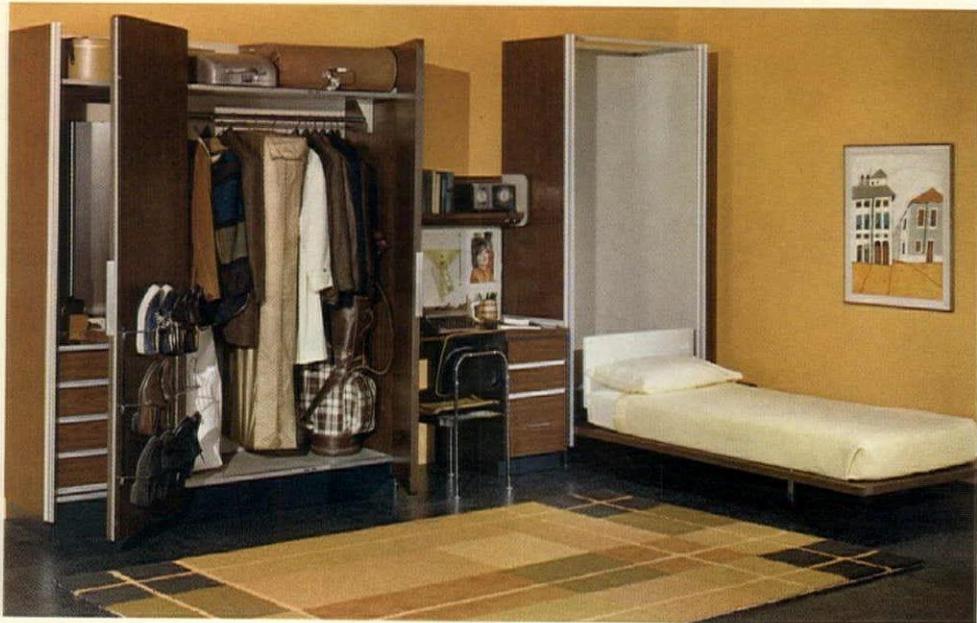
A carefully documented report from the Committee on Architectural Internship relayed observations gained from a questionnaire sent to the 1960 graduates of six schools. The results indicated a somewhat surprising degree of satisfaction with the present unstructured internship period, but their suggestions for improvements tend to "focus . . . toward some kind of integration of education and practice, more practical experience before graduation, and more educational opportunities during the first years of employment."

A progress report from the Committee for the Advancement of Architectural Education outlined a series of questions concerning the future. These also included concern for continuing education and the relative responsibilities of schools and profession for developing adequate programs. Other issues raised had to do with increasing coordination between schools. Should there be a national plan for schools? Should there be a minimum curriculum for professional programs? What should be the status of the Bachelor of Architecture and Master of Architecture degrees? What relationship should they bear to a PhD? At present there is considerable variation be-

Continued on page 85



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tween schools in interpretation of these degrees. At what level in the curriculum should specialization take place? What role should students play in the development of policy? The questions, posed, were not at the time debated.

Arrangements were reported for the 1967 AIA-ACSA Teacher's Seminar (see ACSA section in the AIA JOURNAL, June '67) and for the 1967 Summer Student Exchange program. These two projects, now well established, are run with the aid of the profession. They are aimed at extending the education of teachers and students respectively.

The Committee on Cooperation with Industry reported detailed recommendations for a policy statement that would indicate a number of alternatives for industry support of architectural education. Scholarships, fellowships, endowed lectures, educational and research grants, sponsored seminars or workshops for faculty and students, and sponsored field trips are all suggested as programs that would use available funds to good advantage. Guidelines for the structuring of competitions were also suggested but the committee reported a prevalent dissatisfaction with design competitions as instructional aids.

The Committee on Research and Graduate Studies, in addition to work with other organizations and agencies in the identification of common research intents and goals, was able to report with pride the establishment and administration of the ACSA-AMAX Fellowship. It is hoped that this will be first in a series of substantial awards for which they are soliciting support.

ACSA-AMAX Award

There were 28 applicants for the award. Geographic distribution of the applicants was roughly proportional, and the interests indicated had a substantial range. Industrialized housing and computer related studies attracted the most attention. The recipient, Donald Watson, plans to undertake studies to demonstrate the options that can or ought to be built into a building to allow to future generations the full range of choices in programming their own evolution."

The study, to be conducted principally at Yale University, will include a survey of decision theory and an examination of detailed case histories from practice. From these Watson will establish re-

quirements for a methodology, as well as isolate the areas inaccessible to systematic procedure. A second phase of the investigation will explore the range of "unobtainable, uncertain and unpredictable data" in problems of design and test the applicability of proposed decision procedures and technical innovations in providing for the indeterminate nature of building programs. Watson is a graduate of Yale University (B. Arch. 1962), who served two years with the Peace Corps in Tunisia. Subsequently, he has been employed by the Ministry of Public Works in Tunisia and in the office of Carlin, Pozzi & Associates in New Haven. The award of \$20,000 is for two years of study.

Educational Innovation

The program presented by the five host schools demonstrated a general concern for anchors of relevance in the world around and displayed the untidy diversity in approach that evokes so many pleas for "coordination."

Stanley Salzman of Pratt outlined a curriculum sequence linked to the physical structure of New York City, with problems each tied to a specific contextual condition in the city. Each step in the curriculum incorporates a larger scale, ending in the fifth year with problems related to the metropolitan region. A developing graduate program is based on intensive work with strong local designers who offer problems from their own offices. When asked whether the goal of the school was to produce "professional architects," Salzman answered "Yes."

Cornell, ordinarily remote from the urban scene, has established a program that for one term takes place in a loft off Broadway. As described by Dean Burnham Kelly, the program allows students to live and work in the city with studies in design, in an art class and in a seminar that includes numerous field trips. They then return to Ithaca for two or three terms to complete their studies. Pleased with the initial successes of the scheme, Kelly predicted that many schools will eventually develop similar programs. The desired graduate, he commented, would not just be "one who has a general view of a society in which he can play some useful role, but one who will be active in making decisions about physical form."

Romaldo Giurgola described the evolving program at Columbia.

Among the essential qualities that it expects students to acquire are an understanding of present activity as part of a historical process; the ability to base decisions on relevant data; and an ability to discern the needs of individuals in society. The program makes extensive use of projects to evoke and bring into focus knowledge from other disciplines as contributions to the continuing activity of design.

Dean Robert Geddes, in his description of program formulation at Princeton, described developments in their third and fourth year. Students entering the architecture program in a liberal arts University have already well-developed conceptual ideas but little ability for visualization, he contends. By combining intensive lecture courses with independent but directed studio work, the school attempts to build on what students are already prepared to do, as it extends their experience to new abilities. At the end of fourth year, students "should be able to translate human needs into concrete pro-



Old and new: Sanders, Bliss.



Honored Hudnut and Lawrence.

posals for built form." They receive an A.B. degree and should be prepared to move on to the two-year master's degree professional program or into advanced work in a number of related fields.

John Hejduk of Cooper Union chose to use his time in the program to warn the group of the dangers inherent in the current "trau-

ma of pragmatic counterrevolution." Commenting, justly, that ideas about space are hardly debated any more, he protested that subtle changes in terminology from words like "architect," "architecture," "product," "answer" to words like "question," "environmental design," etc., are politically motivated. The architect is being attacked far too much, Hejduk contends, and his "unique powers of vision and action will fall before the managerial group."

Asserting that "the foundations have been laid" by the "giants" of our time, he pointed aptly to the

tendency for discussion of the period 1900-1929 to be cast in mythic tones that obscure real issues. He did not comment on the motivation of those who speak of answers rather than questions.

Four Affiliated Groups

The report from affiliated organizations reflected many similar concerns: the pressures for change and the symbiotic urge for coordination and uniform practices; the recognition of educational needs outside the boundaries of academic professional programs.

The parenthetical comment by

NAAB President Fred Hobbs that "one could almost wish for a pill to halt the conception of new brain children until those already born have a chance to grow and reveal their promise," echoed some of Hejduk's unease.

Pointing to the increasing number of schools and the demanding task of accreditation, Hobbs reported that the board was being restructured as a nonprofit corporation with two additional members. Added to six members now appointed will be one generalist and one member of a related design profession. Hobbs also reported that the procedures of the NAAB were being carefully reviewed to increase the efficiency of school visitation and the preparation of reports. Reminding the group that the board had been specifically enjoined, when established, to avoid promoting a uniform program, Hobbs appealed for more detailed and coherent statements of objectives for each school so that the visiting committees could work with each on its own terms.

The NCARB report by President Earl Mathes pointed to continuing efforts to achieve uniform requirements for registration in the US. It is hoped that soon there will be reciprocal registration agreements with Canada, England, the lowland countries and France.

Robert Durham, incoming president of the AIA, urged attention to a broad program in educational development, from technician's training to programs in the primary and secondary schools to establish concern for quality in the physical environment. Commenting that "I have begun to realize the implication of the kind of student many of you are graduating today," Durham emphasized the benefits of continued cooperation between AIA and ACSA.

Caleb Hornbostel, reporting for the NIAE, directed attention to a meeting which they sponsored the following evening to discuss a specific proposal for internship programs that would involve students in community action.

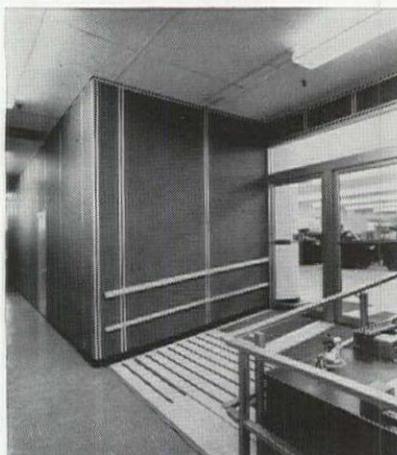
Resolutions

The meeting ended with resolutions recognizing the retirement of Professors Jean Labatut, William J. McGuinness, Arthur Moore and Theodore J. Prichard; and the death of James Herbert Gailey, Ludwig Karl Hilbersheimer, Carroll V. Meeks, Willard Strode and John Russell.

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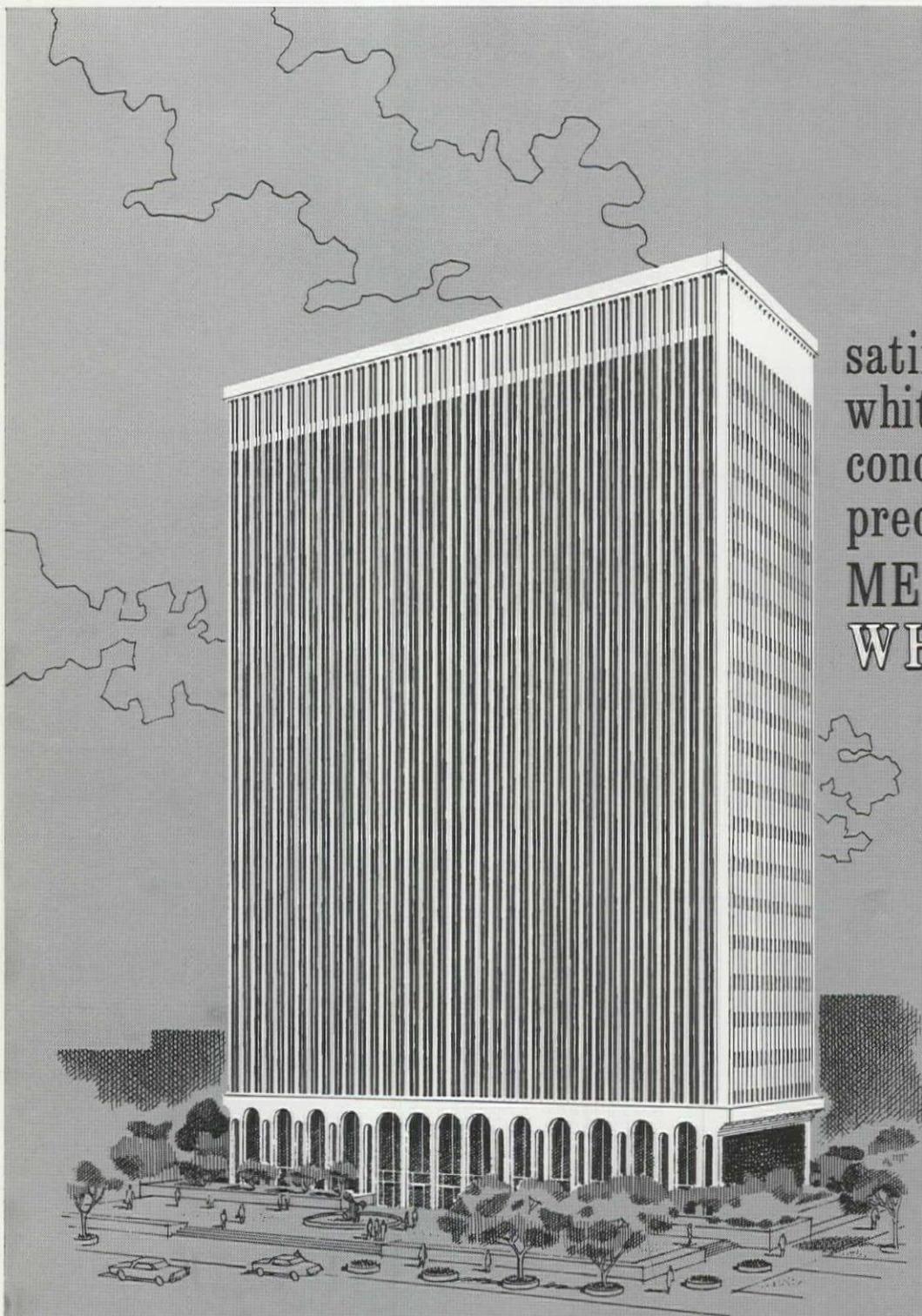
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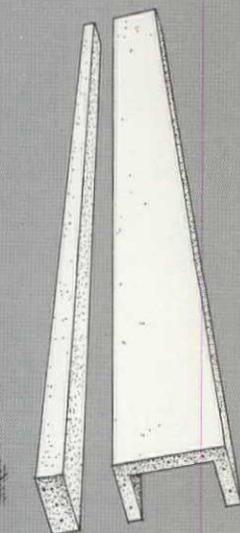
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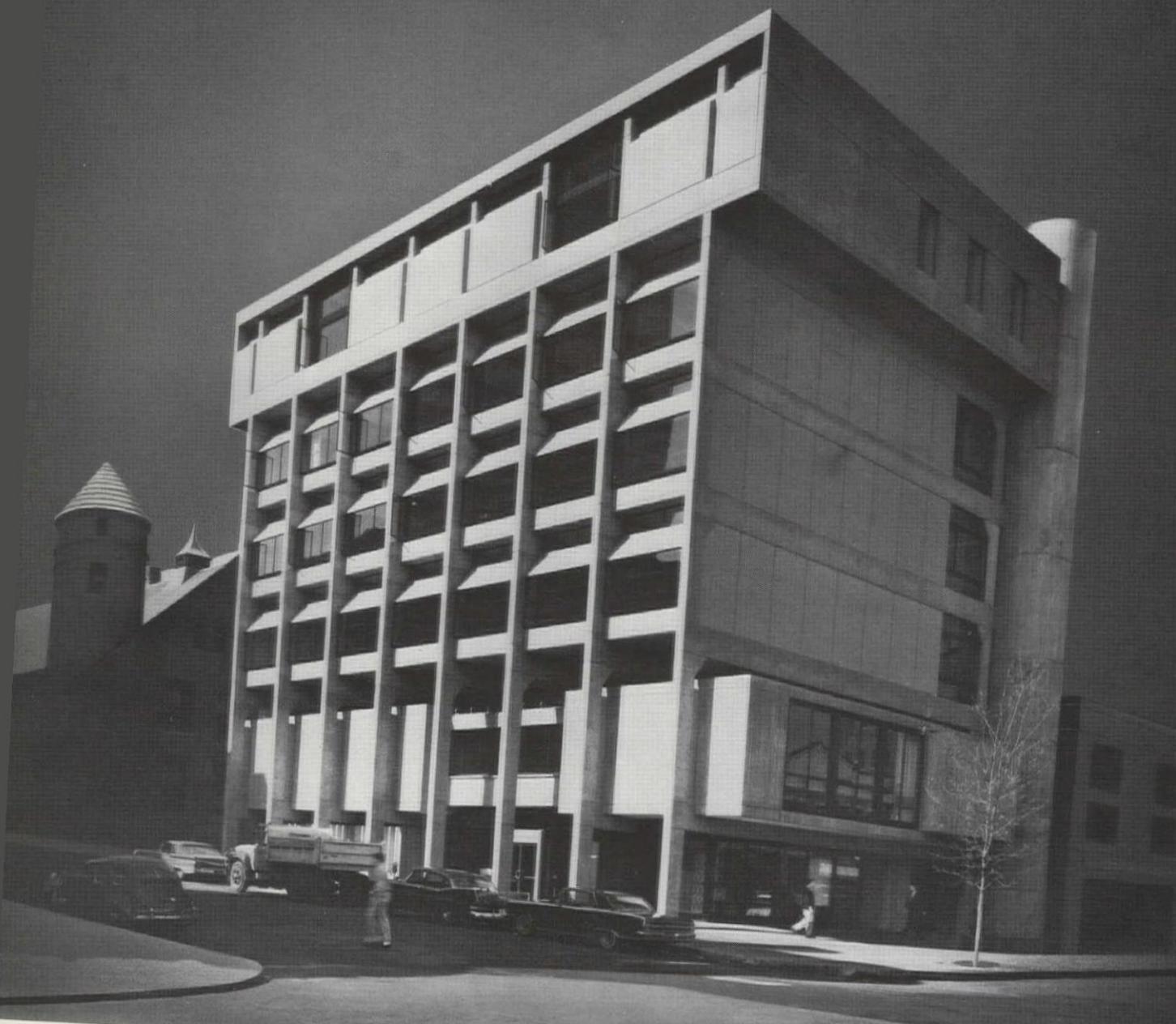


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'New Energy and Programs'

Philip C. Johnson, FAIA, welcomed a luncheon audience "to the worst city in the world" as the National Council of Architectural Registration Boards met in New York for its 46th annual convention.

In contrast to Johnson's pessimistic message about cities ("I have no good words for you today; I have no hope for the future."), the more than 200 architects representing 51 boards—missing: Alaska, Georgia, Guam—went about their own business at the Barbizon Plaza Hotel with an air of confidence.

That same optimism was echoed by the newly elected president, George F. Schatz, FAIA, of Cincinnati, who talked of a period of "new energy and programs for NCARB marked by action and long-range planning."

Within that framework, the Long-Range Planning Committee outlined ways to streamline certification forms and procedures with a goal toward uniform registration.

Another aspect of planning, which was evident behind the scenes during the May 12-14 sessions, is the embarkment of a public relations program to improve the posture of NCARB.

It was noted at the convention that for the first time all of the 54 member boards are using the same examinations for History and Theory, Building Construction, Structural Design, Professional Administration and Building Equipment. Only Site Planning and Design require more study to be in-

cluded in a nationwide program of consistent examining procedures.

The delegates also:

- Ratified the Memorandum of Agreement to establish reciprocal registration between the United Kingdom and the United States.
- Approved action to require a degree from an accredited school after 1973 for all applicants born after June 1, 1951.

- Passed a motion for the Policy and Procedures Committee to study the enlargement of the Board of Directors to six, giving each conference representation as a region.

Commending NCARB for the great progress it has made in the past six years, AIA President Charles M. Nes Jr., FAIA, recommended that the Institute establish an educational council to study special tasks: technicians' training, licensing, continuing education, etc. Such a council, he suggested, would have representation from NCARB, the deans of architectural schools, the accrediting boards and a group of practitioners.

In his luncheon address, Johnson said that New Yorkers can only point with pride to viewless rivers, unsafe parks, superslums, polluted air, patrolled subways, traffic jams and, even sadder, the disappearance of contributions of earlier generations such as Pennsylvania Station for the greater glory of the city's profiteers.

"It is a very peculiar inversion of things," the architect continued. "We are delighted to spend bil-

ions of dollars for speculators to build up and down Third Avenue and now Sixth Avenue in New York, the two ugliest avenues perhaps in the world.

"The last generation did one thing: Rockefeller Center, costing about \$600 million. . . . We aren't beginning to take any \$600 million



Johnson in a happier mood.

to make any sense out of our cities. We are still building roads around them. Any parkland in any city is immediately taken by the state highway commission through which it runs ribbons of concrete.

"Washington is now being slowly but rather surely strangled with spaghetti. One of the most wonderful ones, of course, is around the John F. Kennedy Center for the Performing Arts. You will not be able to reach the center upon completion," Johnson declared.

The new NCARB board (all AIA members), installed at the banquet at the Waldorf Astoria Hotel, includes, besides President Schatz:

Howard T. Blanchard, Garden City, Kan., first vice president; Dean L. Gustavson, Salt Lake City, second vice president; Daniel Boone, Abilene, Tex., treasurer; Harry E. Rodman, FAIA, Troy, N.Y., secretary; Charles P. Graves, Lexington, Ky., William J. Geddis, Brookline, Mass., and Worley K. Wong, FAIA, San Francisco, directors; and Earl L. Mathes, New Orleans, immediate past president.

The 1968 convention, to be held in Honolulu July 1-2, will have as its theme "NCARB in Response to the Profession." □

Mathes and successor Schatz; Paul M. Drake, FAIA, presenting life certification, first of its kind, to Shirley Morgan, FAIA, special consultant to NCARB.





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Students in Big Town

Brent Porter, ASC secretary-treasurer, looks at his colleagues and their sessions in New York.

For those architectural students attending the 99th AIA convention who were not from Pratt, Cooper Union, Columbia or City College, New York meant a chance to see the new Whitney firsthand, to perhaps unexpectedly have the opportunity to walk across the Brooklyn Bridge, to sit quietly at the Cloisters or the Museum of Modern Art, to see an antiwar group parade in Central Park one day and a pro-war group parade the very next.

Students took advantage of official program offerings—one recalls their quiet concentration on the remarks of Dr. Marshall McLuhan and their almost visible response to the spirit of Mayor John V. Lindsay and his better environment evangelism. Conceivably, however, they spent more time at the “beat” haunts, the coffeehouses and shops of the Village than at convention and student sessions.

Perhaps the students were following the advice of Robert G. Cerny, FAIA. At Student Seminar III, sponsored by the Egg & Darts, he suggested that maybe architects ought to “go out and watch the people and their habits—watch the processes that we’re trying to house.”

Principals of the “Design Concepts” session were O’Neil Ford, FAIA, and Sam B. Zisman, San Antonians planning and designing the new Skidmore College campus outside of Saratoga Springs, N. Y. Ford

Panelist Ford.



told of how “we wanted to be part of the town” and described, with feeling and at length, the town’s “vigorous Victorian” architecture.

The flow of the discussion led Zisman to discuss a baboon center he is planning for the National Institutes of Health, of the strenuous efforts he has undertaken to learn what there is to know about the user group. What influence the setting might have on the center—should it be, for example, vigorous Victorian—Zisman did not say, and none of the less than 40 students present asked.

In any event, Cerny, Ernest J. Kump, FAIA, and a few other Egg & Darters talked about fitting buildings to people and processes. Kump, for example, asserted that “the most creative step in architecture is programming.” Architecture, he added, “isn’t just technical gymnastics and emotional engineering.”

Cerny suggested that “if we go on in our normal pattern we’ll play with forms and keep on guessing.”

Students were among those to hear Philip C. Johnson, FAIA, wrap up the third theme session, “Design and Politics,” by giving everyone hell. One item Johnson emphasized that won sympathy among students was that the Harlem River could become—or already is—the Rhine of America, and what is being done about the situation? Nothing.

At its own meetings, the Association of Student Chapters discussed various student programs and presented, among other speakers, the practical and visionary scientist, Arthur C. Clarke. He was introduced by a fellow Englishman and educator, University of Texas Prof. Patrick Horsbrugh, whose initial greeting to students, “Ladies and Gentlemen of the future,” set the pace for a lengthy session on the responsibilities of today’s students in a world Professor Clarke not only predicts but seems to occupy.

Clarke, the author of 40 books, his latest entitled *2001*, discussed food production and said, for instance, that meat will one day be prohibited because the productive

process is too slow and does not efficiently utilize the raw product required to create it.

Horsbrugh shares Clarke’s interest in another problem, that of reusing ad infinitum our own wastes. And indeed the basic food cycle, engineering and the psychological concepts, technical needs as contrasted with the political needs—all these matters were seen as determinants in architecture.

Clarke said only general trends can be predicted because the human mind cannot keep up with exponential progress. It took him some time, for example, to realize the vast significance of miniaturization, he said.

A student asked Clarke whether flying saucers are for real. His response was emphatic: “If you haven’t seen any flying saucers, then you have not been observant because they are very common.”

Another asked a standard question: What about life on other planets? Clarke reflected that it is probable other cultures do exist in the universe. If the differences between any two of these cultures are too great, one will be eliminated by the other, he ventured.

Horsbrugh, a backer of the ASC-AIA and friend of architectural students across the country, distributed photographs of scenes from MGM’s film version of Clarke’s *2001* and closed the student session by stating, “I am looking for people like those whom the actors portray in those pictures; people who are ready to accept the future now.”

The week in New York was packed with challenges, but there had been a lot of fun too. And at its end, student meetings were most enjoyably topped off in the company of student nurses at the Beaux Arts Ball held in the Ukrainian National Home in the Bowery. Pratt’s jovial Prof. Sidney L. Katz, FAIA, with his unique musical instrument, was the big entertainment of the evening, not to mention the South Hampton Marching, Racing and Clam Bake Society Dixieland Jass Band. □



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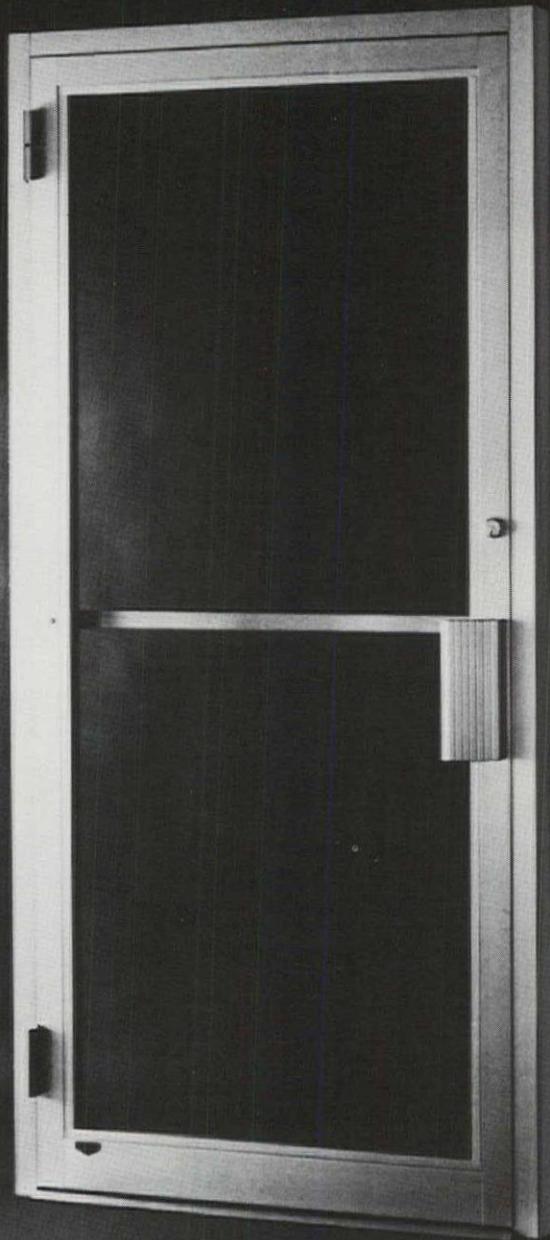


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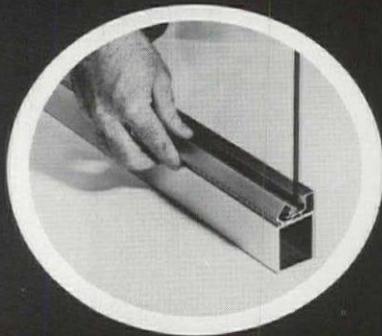
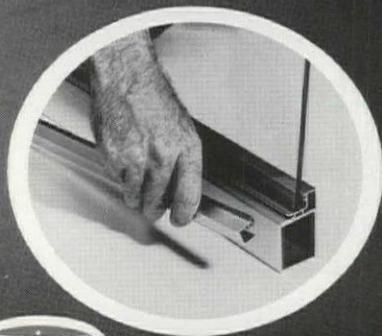


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Commendation for Canada

Canada received a special commendation scroll for its entry in the Building Products Exhibit, the first time in the Institute's history that such an award has been made, while American Saint Gobain Corp. took the top award at the AIA convention in New York.

Canadian Consul General R. G. C. Smith received the scroll from

incoming AIA President Robert L. Durham, FAIA, in the course of a workshop session entitled "The New Architect Meets the New Producer."

The Product Exhibit Awards Jury called the Canadian display "the best product exhibit" which it had ever viewed.

Edwin B. Morris Jr., AIA, pro-

fessional adviser to the Building Products Exhibit Committee, pointed out that "education is the prime objective of the exhibits section of the convention, and that the appeal to an architect must be through his sensitivity to sophisticated presentations and fine design."

The Canadian Government composite exhibit of the products of 14 manufacturers marked that country's first participation in an AIA convention.

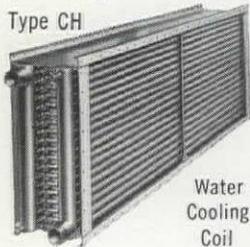
American Saint Gobain earned the first award by virtue of a vote among corporate members from a list of 10 exhibitors selected by the jury. All received certificates of commendation.

Second place was shared by Art Metal, Inc./Knoll Associates, Inc. and Libby-Owens-Ford Glass Co.; and third went to the Weyerhaeuser Co. from among 123 booths shown in the 17th exhibit. □

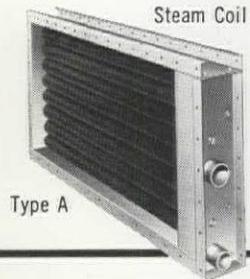
E. Allen Dennison (second from left), convention committee chairman, with American Saint Gobain personnel Wilson Falknor, Victor Specht, Ervin Hindrickson; at right, the Canadian exhibit—crates lined with mirrors.



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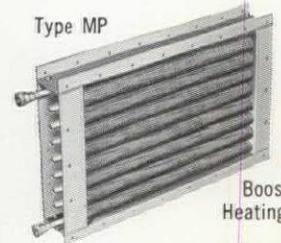


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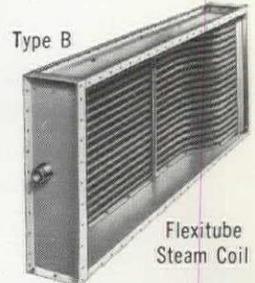
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Letters

The West Front Story

EDITOR:

I believe we AIA members who have opposed the Institute's stand on the West Front extension of the Capitol should be heard. Therefore, I urge you to bring to the attention of your readers the following letter, originally written for the *Oregonian* at its request and published Aug. 6, 1966, referring to its "Hide-away Project" editorial in the July 18 edition:

May I suggest that the proposed expansion of the Capitol's West Front is vastly more than a "hide-away project."

Appraisals of historic buildings involve careful consideration of a great range of detail.

Some years ago as chairman of the AIA's Committee on the National Capital I prevailed, with others, against local promoters who would have torn the Old Patent Office down for a parking lot. (This is mentioned as indicative of appraisals based on opinions of architecturally historic work and structural stability.)

About this time the question of the extension of the East Front of the Capitol came up. We of the committee supported that proposal. The approximate 20-foot projection provided a visual support for the cast-iron dome and private circulation from the Senate to the House. Formerly congressmen were obliged to run the gamut of friends and office seekers through the domed rotunda to get from one wing to the other. It also provided convenient committee rooms. Even so, the addition would probably never have been made had not the sandstone been in a crumbling, irreparable condition.

The proposed extension of the West Front is not a new idea. As far back as 1852 with Walter as the Architect of the Capitol, he proposed a similar extension. When the brilliant landscape architect, Olmstead, put on the west terraces, he also recommended the extension of the West Front. Records are available to verify these opinions.

Charles Moore, for 30 years chairman of the Fine Arts Commission prior to 1900, said, "Historically, the Capitol at Washington is the most important structure in the United States. Other buildings such as Old South Church in Boston and

Independence Hall in Philadelphia are connected with important episodes in the history of this country. The Capitol is unique in that it both typifies the beginning and also marks the growth of the nation. Like the great Gothic cathedrals of Europe, its surpassing merit is not its completeness but its aspirations. Like them, too, the Capitol is not a creation but a growth, and its highest value lies in the fact that it never was and never will be finished."

It is quite true that architects now find themselves divided on the subject of the extension, though at the AIA's annual convention (Denver '66), the board's resolution to confine the proposed work to restoration only was tabled.

No one denies that the West Front should be replaced. It has been declared unsafe by competent engineers. Shoring for safety is now in place.

The question is: Should it be an exact replica of the existing or should it be moved out with a design appropriate and in harmony with the present, enhancing the whole composition, or should the building become museum-like in character?

Those who oppose extension of the West Front call attention to the fact that J. George Stewart, Architect of the Capitol, is not an architect but an engineer. This is quite true. It is a traditional title of long standing. His skill as an administrator and as the employer of competent consultants was recognized by the AIA when he was made an Honorary Member a few years ago. GLENN STANTON, FAIA
Portland, Ore.

Correction

In the review of *Planning Guide for Radiological Installations* in the May AIA JOURNAL (p. 194), Slocum Kingsbury, FAIA, was incorrectly referred to as deceased. The misinformation was taken from the table of contents, as published by Williams & Wilkins Co. of Baltimore.

Writes the retired Washington architect, and Member Emeritus of the Institute, from his summer residence in New London, N.H.: "I am very much alive, working in my garden and playing a little golf."

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

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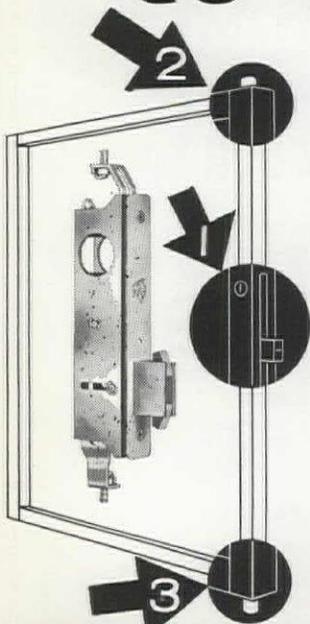
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Calendar

National

- Sept. 19-22:** Producers' Council 46th Annual Meeting, Hotel America, Houston
- Oct. 1-6:** American Institute of Planners 50th Year Conference, Shoreham Hotel, Washington, D. C.
- Oct. 8-12:** Prestressed Concrete Institute Convention, Queen Elizabeth Hotel, Montreal
- Oct. 18-20:** Architectural Woodwork Institute Annual Convention, Drake Hotel, Chicago
- Oct. 19-22:** National Trust for Historic Preservation Annual Meeting and Preservation Conference, Chase-Park Plaza Hotel, St. Louis

AIA Regional and State Conventions

- Sept. 13-15:** New Jersey Society of Architects, Berkeley Carteret Hotel, Asbury Park; North Central States/Minnesota Society of Architects, St. Paul Hilton Hotel, St. Paul, Minn.
- Sept. 25-28:** New York State Association of Architects, Nevele Hotel, Ellenville
- Oct. 2-4:** Northwest Region, Ridpath Hotel and Motor Inn, Spokane, Wash.
- Oct. 3-7:** Florida Association of Architects, Diplomat Hotel, Hollywood-by-the-Sea
- Oct. 5-8:** California Council, Vacation Village, San Diego
- Oct. 6-8:** New England Region, Sheraton-Eastland Motor Hotel, Portland, Me.
- Oct. 12-14:** Ohio Region, Nationwide Inn, Columbus
- Oct. 19-21:** Pennsylvania Region, Hotel Hershey, Hershey
- Oct. 26-28:** Illinois Council, Sheraton-Rock Island Motor Inn, Rock Island
- Nov. 2-4:** Central States Region, Mayo Hotel, Tulsa, Okla.
- Nov. 5:** Western Mountain Region, Broadmoor Hotel, Colorado Springs, Colo.

AIA Committees and Related Meetings (At the Octagon unless otherwise noted)

- Sept. 15-16:** Building Regulations
- Sept. 27-29:** Board of Directors, Chatham, Cape Cod, Mass.
- Oct. 19:** Institute Honors

International

- Aug. 28-Sept. 4:** 1967 International Ecumenical Congress on Religion, Architecture and the Visual Arts, Hilton Hotel, New York City, and Royal Victoria College, McGill University (Sept. 2-4), Montreal
- Sept. 12-20:** International Congress on the Scientific Study of Mental Deficiency (three architectural symposia), Montpellier, France
- Nov. 16-17:** International Commission on Environmental Design Interprofessional Conference, Education Center, University of Maryland

Tours

- Mexican Architecture and Interior Design Seminar-Tour, meeting Mexico City, Sept. 17, 14 days. Reservations accepted in order received with deposit of \$50 per person toward cost of \$358, airmailed to T. H. Hewitt, Apartado Postal 5-251, Mexico 5, D.F.
- Architecture & Gardens Tour of Japan, Oct. 7-31, with special optional extension to Hong Kong, Oct. 31-Nov. 3. Directed by Kenneth M. Nishimoto, AIA, 263 S. Los Robles Ave., Pasadena, Calif. 91106. □

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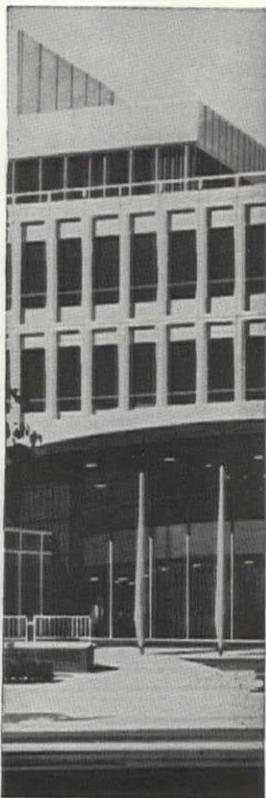
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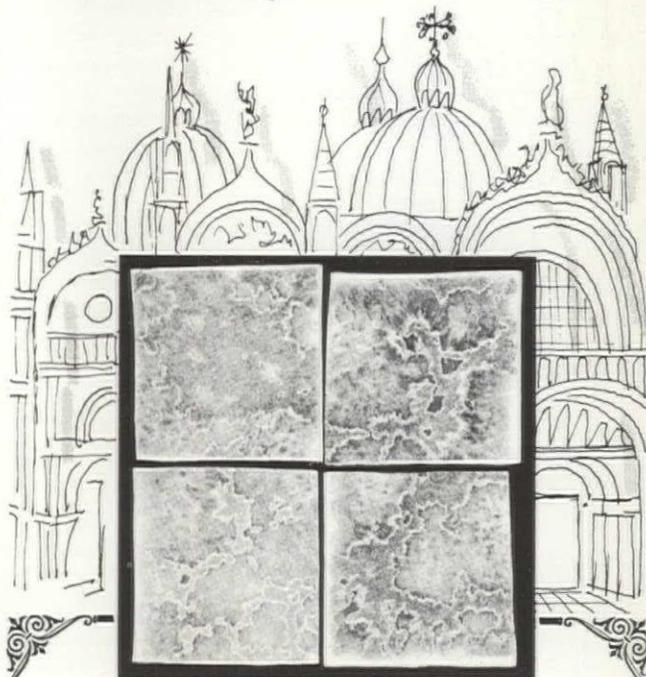
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Next Month

Ticky-tacky or Tradition? Wound around a vast history of economics, town planning and custom, the row house of today, with its imaginative and functional variations, is enjoying new popularity on an international, urban and suburban, scale.

This comprehensive study traces the unique building type as it has developed from pre-Christian civilizations to the free-wheeling 1960s, the design keeping pace with society's changing needs.

When the Arno Rose: The world heard tell of last November's flood in Florence, but the actual firsthand experience of the tragedy is another story. An architectural student living in the Renaissance capital bears witness to the event that turned overnight into a major unexpected devastation, testing personal resources in the face of incredible cultural and human loss.

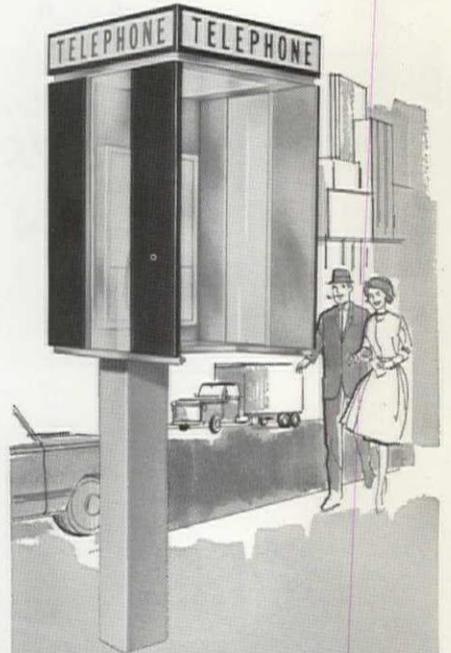
From the Ground Floor Up: The elevator consultant, though not as well recognized as the structural

or lighting engineer, is nonetheless a highly skilled technician and an impartial adviser. Charles W. Lerch, who heads his own firm, illustrates the important considerations of elevator installation and design and explains why such a consultant is invaluable to the architect.

Brickwork Trends: The modern brick bearing wall, successfully used where planning requirements call for small and repetitious space modules, could well step out into new, expressive directions. An architect discusses variations in the bearing wall trend and theorizes as to the origins of that trend. □

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