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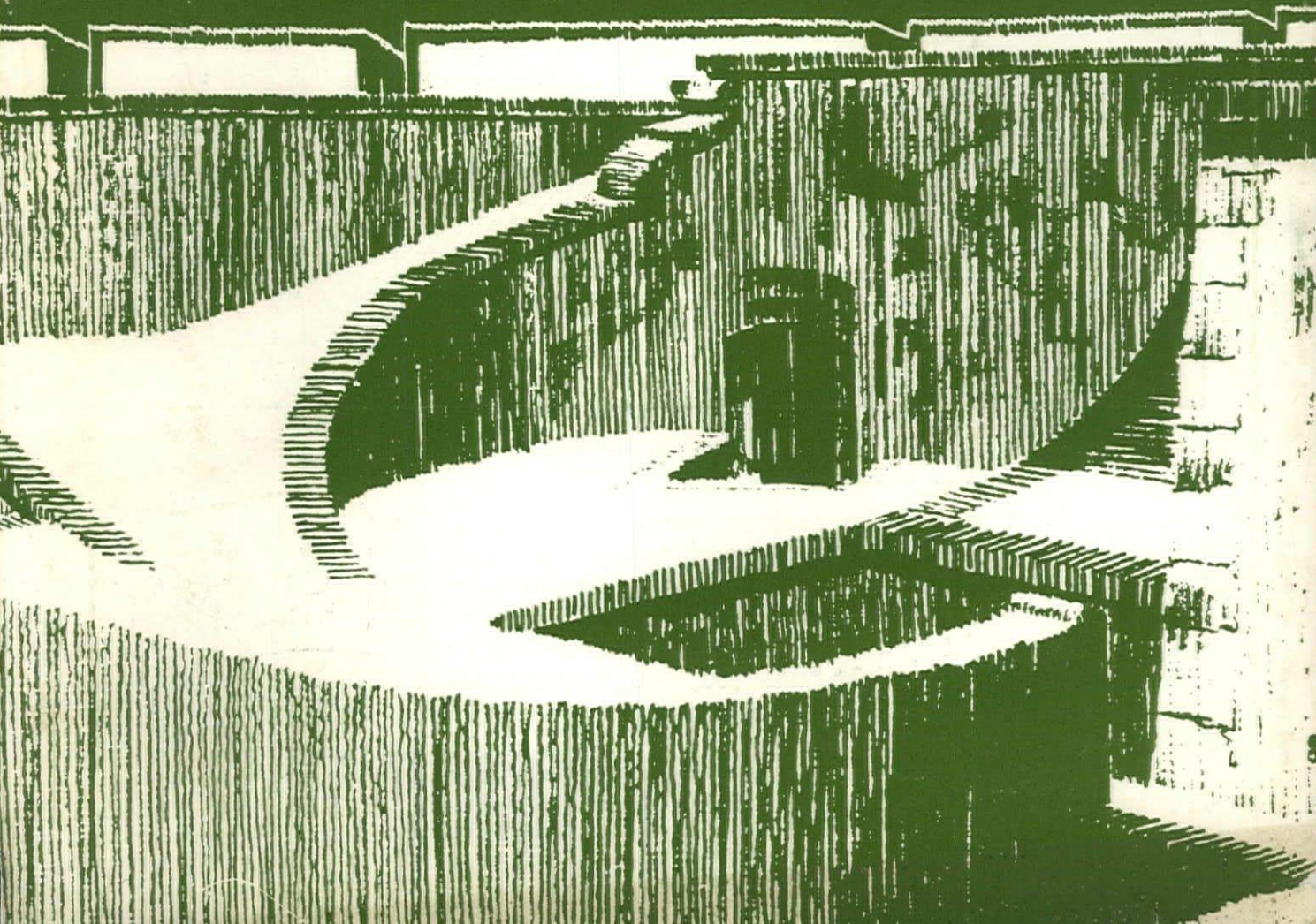
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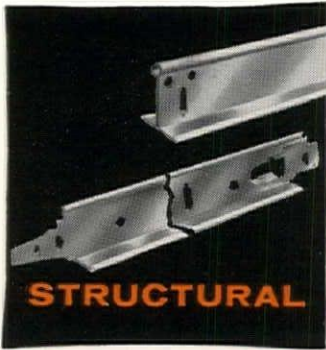
May 1965

FRANCO ALVARO LIAW: AN ARCHITECT'S TREASURE ISLAND

FRANCO ALVARO LIAW: ETHBRIDGE ON THE FEDERAL CITY AS A CLIENT

FRANCO ALVARO LIAW: UPDATING THE PROGRAM FOR COLLEGE AND UNIVERSITY LIBRARIES





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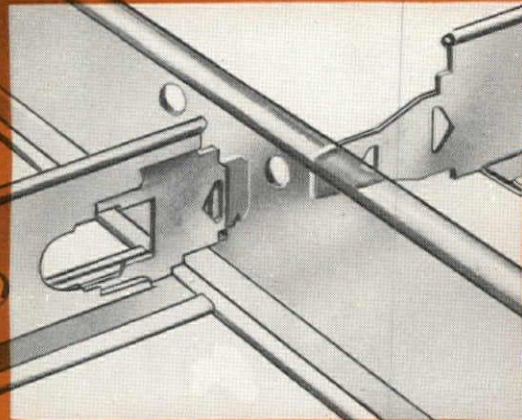


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AIA JOURNAL, Official Magazine of
The American Institute of Architects,
published monthly at the Octagon,
1735 New York Ave NW,
Washington, DC 20006
Telephone: 393-7050

Subscriptions
US, its possessions and Canada,
one year \$5; two years \$8; three years \$10
elsewhere, one year \$10; single copies, \$1
Payable in advance

Change of Address
Give Circulation Department both old
and new addresses; allow six weeks

Second class postage paid at
Washington, DC

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VOL XLIII, NO 5



Opinions expressed by contributors
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Cover: Among the architectural "finds" in Puerto Rico is Fuerte El Abanico, sketched by F. Blair Reeves AIA (p 33)

LOOKING AHEAD TO JUNE

AIA Official Convention Guide

To help set the stage for the world's largest gathering of architects in the nation's capital in mid-June, next month's AIA JOURNAL will have these features:

- A view of the Federal city by John Carl Warnecke FAIA who, as a member of the Fine Arts Commission and as the architect for Lafayette Square and President Kennedy's Grave, is very much a part of the Washington scene
- A look at the beauties and blemishes of the Western Hemisphere's best-planned city by Paul Spreiregen AIA, Director of the Institute's Urban Design Program
- A glimpse at two other New World Cities—Shreveport, La, and Detroit—and what's behind the AIA citations
- A roundup of where to go, where to shop, where to eat and drink—all essential to satisfactory convention-going—compiled by the JOURNAL staff
- A complete rundown of the product exhibitors, personnel manning booths and products to be shown

Disorder in Our Cities

Toronto architect John B. Parkin long has advocated the concept of expanded services as the viable one. Now he expands and tempers his thesis with an examination of the chaos produced by twentieth century architects

Creative Exploitation of Total Professional Service

A leading exponent of the "government by contract" system, the New York State University Construction Fund, as its manager of planning, Anthony G. Adinolfi HON AIA, explains, may coach the team but private architects carry the ball

Why Twenty Million People Fear Stairs

Where's the human side of architecture? Disabled persons ask this question all too often concerning buildings for public use. Tyler Stewart Rogers advocates alternative grade entrances and ramps

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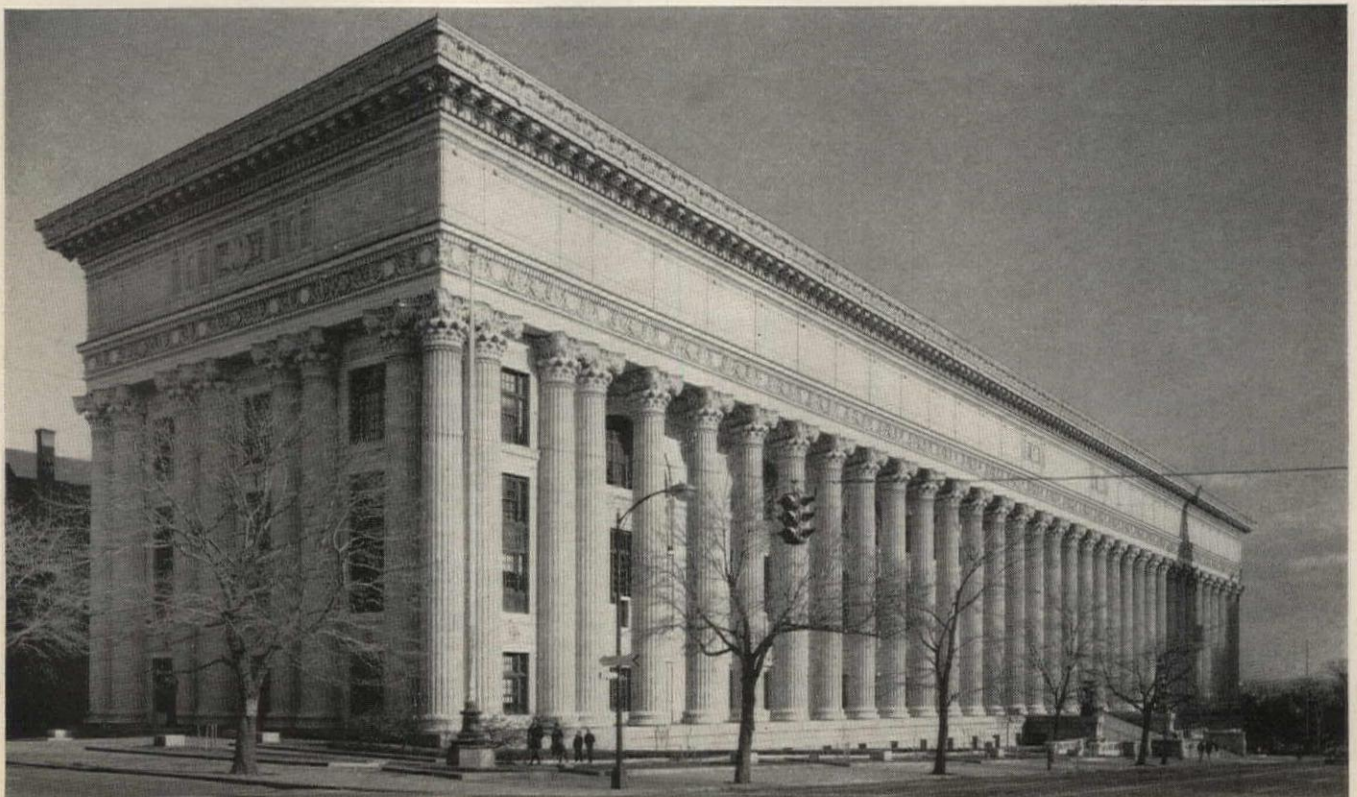
"Now, can you cap this?" the architect asked

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THE INTERESTS and activities of the architectural profession are so broad that the points upon which President Johnson's recent messages to the Congress touch it are very numerous. Let us consider highways, for instance, and their "beautification" (that's a bad word, but it's unfortunately come into wide use in this connection). Three years ago, the Institute was closely involved in the Hershey Conference on "Freeways in the Urban Setting," which was rather fully reported in the November 1962 AIA JOURNAL. In many cities, architects have either injected themselves into local expressway feuds—as indeed they should—or, in a few cases, they have been employed to pretty up the gashes or structures that the engineers have created.

All of this leads into some very encouraging words of Rex Whitton, Federal Highway Administrator, which I have recently read. On January 25, 1965, Mr Whitton sent a circular memorandum to all his regional and division engineers calling for complete cooperation with the President's roadside beautification program and spelling out how it was to be done. He said some very interesting things, to most of which we can cry a hearty "Hear, hear!"—and others of which we might like to discuss with Mr Whitton a bit.

In the first place, I presume AIA JOURNAL readers are aware of the fact that Section 319 of Title 23 of the original 1949 Highway Act states that "Not to exceed three percentum of such sums apportioned to a state in any fiscal year . . . may be used by it for the purchase of . . . adjacent strips of land of limited width and primary importance for the preservation of the natural beauty . . . without being matched by such state." (I've garbled that quote a bit to brief its true meaning.) In the past, this three percentum has been spent on concrete; since the President's message, it will be spent on "beautification."

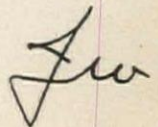
In his memorandum Mr Whitton says that the development of pleasing highways "begins with initial location and over-all design," and he also makes it clear that his instructions to include landscaping in all future highway work "means the work of beautification and planting above and beyond the conservation and erosion control items of seeding, sodding," etc. He stipulates that "Increasing attention should be given to the design of bridges and other structures to insure architectural excellence," and he says that landscape design guidance may be found in the forthcoming Landscape Design Guide prepared by the Committee on Roadside Development of AASHO. To these suggestions we might point out that highway engineers would benefit here from the immediate services of design professionals—the architects and the landscape architects.

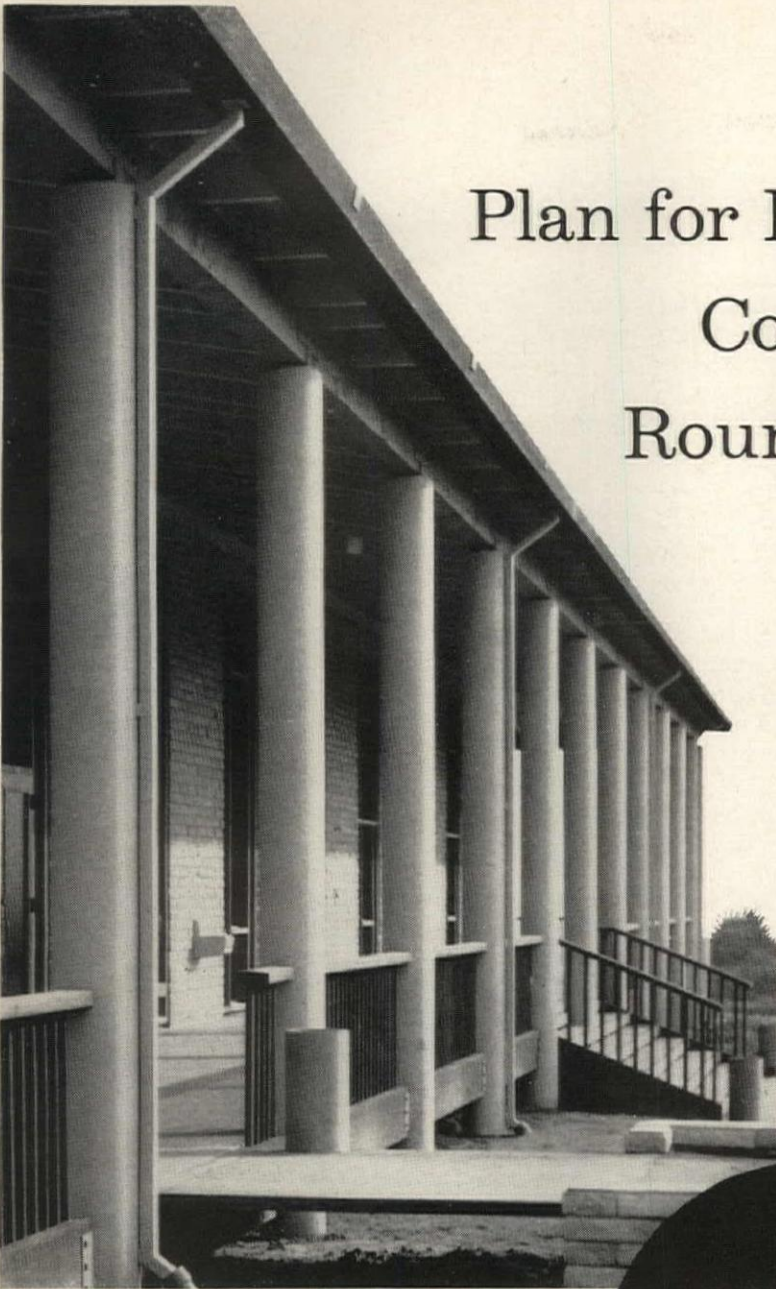
Three Percentum

"High priority shall be given to landscape projects for screening junkyards, unsightly borrow pits or other unsightly areas adjacent to the highway right-of-way . . ." This is swell, but may we add the hope that this will be complemented by its opposite (since the Act specifically provides for it), that sufficient land will be acquired where there are fine vistas to permit opening the view toward them, and that the highway will be planned in the first place with such vistas in mind. And more important, a "fine vista" is not necessarily limited to a grand view from a high point, but may well be a simple grove, a peaceful pond, or a homey farm group—such as arouses a feeling of nostalgia in the bosom of even the most hardened city dweller. Let us also hope that the language of the Act will be interpreted broadly enough to permit the purchase of *more* land, or perhaps more expensive land, in order that the highway may not destroy a fine forest, a historically or architecturally significant house, or even an entire village—as has sometimes happened.

In recent years, the expressway has wrought greater havoc in the cities than it has in the country—and it has violated zoning ordinances wherever it goes. As Paul Thiry said in our February issue, "Why should any public work of such immensity be a single-purpose device which in no way relates itself to the features of the urban society . . .? I have often wondered why we have zoning laws that establish rules for private property" such as setback, land coverage, height control, rules to protect public welfare, light and air "and yet allow public works such as the Seattle waterfront viaduct to ignore every rule in the book." These public structures are built in the streets "so close to abutting properties as to almost touch them—they obstruct access with pillars or retaining walls, they place traffic directly outside the windows of buildings . . ." These are brutal violations of codes, ordinances and simple human rights.

Mr Whitton has made a fine start toward executing the President's program. Landscaping is essential to beautiful expressways, but where the expressway soars or slashes through the city there is little space for planting, and still there is desperate need for simple consideration of the people who live in its shadow. This year's program calls for the expenditure of \$3.5 billion; three percentum of that is \$105 million. Perhaps a way can be found to spend some part of that great sum to make the expressway a less brutal and a more welcome intruder into the city.





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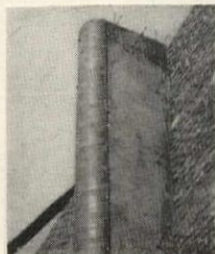
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Feedback



COMMUNICATION—or a lack of it—is often mentioned as one of the bugaboos of professional society effectiveness. Comments on this subject almost always deal with the outflow of information from the national headquarters even though reams of paper bear evidence to its efforts to communicate. A few things need to be said about the inflow of communications from the membership.

To be sure, there is a great volume of correspondence from individuals and chapter officers seeking information or offering suggestions or airing complaints. Our policy is to answer all letters as promptly as possible to keep this line of personal communications flowing freely.

My concern is the inflow of communications which officially report chapter accomplishments. The ultimate success of the Institute is a combination of national activities *with* what the chapters and state organizations do on the firing line.

There are two areas in particular where feedback from the chapters is of utmost importance—government relations and public relations. Both of these activities fall in that sector of Institute activity we have named “public demand.” This is the “sales” area of Institute work which counts heavily toward the success of the profession’s ability to increase the demand for its product—good architecture.

One characteristic of the Institute’s structure is the tremendous variation in chapter size, area of influence and scope of activities. In the most heavily populated states the chapters are reinforced by their resourceful state-regional organizations which are equipped to deal forcefully with state legislation. On the other hand some of the smaller and more isolated chapters display a cohesiveness and esprit de corps which a giant chapter might well envy.

In other words, the variety in our chapter structure makes for a variety of successful accomplishments. Almost all encounter the same professional problems. Some meet with success where others fail and vice versa, but all contribute to a body of experience and knowledge of universal value.

A function of the national headquarters is to act as a clearing house—a collector, organizer and disseminator of this information from the Institute’s far-flung components. The problem is to get enough *input*—reporting directly from the components.

Let’s take state governmental relations. Time and again we get calls for help, only too often when an emergency is at hand with a legislative act, a licensing law or a tax problem. We maintain and con-

stantly try to improve our “ammunition” file of precedents on such problems. We send what we have to the troubled chapter and put them in touch with chapters or state components experienced in the problem area for the advantages of direct contact with those who have been through it before. Our ammunition file is only as good as the feedback has made it *in advance* of each current problem.

The “War on Community Ugliness” is to be a total public relations campaign of the highest order on 158 battlefields. Here again we must be able to broadcast each victory to every front.

We have moved positively in the past several years to strengthen direct *personal* two-way communications. The key figures are the 17 regional directors on the Board. Now we also have the 51 State Presidents meeting early in the year and at the convention. National committee chairmen meet each January. The staff executives of state components and the editors of component magazines come to the Octagon annually.

The Chairman of the Commission on the Professional Society is giving full attention to a vigorous program of component relationships with the aid of the full-time Director of State, Chapter and Student Affairs on the staff.

Thus the mechanism for two-way communication has been greatly improved. All we ask is for you to use it and see to it that your chapter contributes regularly to the feedback that pays dividends.

Job Well Done

It has been my custom in the past to introduce new staff members on this page. This month I announce the departure of Joseph Watterson FAIA, who will relinquish his post as Editor of the AIA JOURNAL on June 17, 1965. I have accepted his resignation with regret in deference to his desire to undertake assignments in architectural writing, editing, consultation and travel.

Mr Watterson became Editor of the JOURNAL on January 1, 1957, and was responsible for many changes and improvements in the magazine which first appeared in its modern format in May 1957 for the Centennial Convention. Under his direction the JOURNAL has attained pre-eminent stature as a professional magazine and is widely acclaimed by the membership as a major service of the Institute.

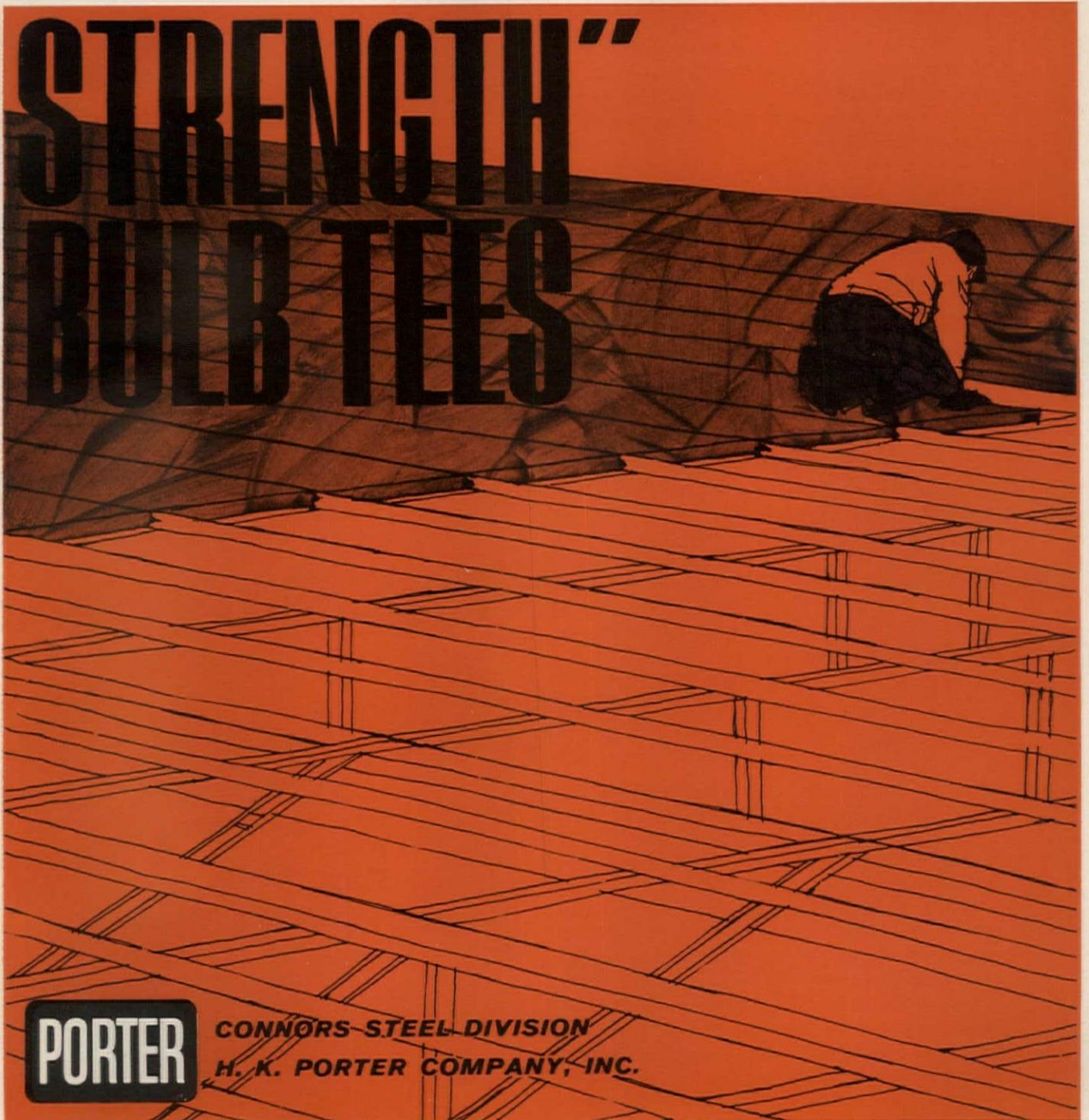
In recognition of his outstanding editorial achievements, the Institute made Mr Watterson a Fellow in Literature in 1961 and is conferring upon him the Kemper Award for 1965. His host of friends will be wishing Joe all success for the next phase of his career.

WILLIAM H. SCHEICK AIA
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GOVERNMENT LIAISON / Two Endorsements

Two pieces of national legislation, one to create a Department of Housing and Urban Development and the other to establish a National Foundation on the Arts and Humanities, have been endorsed by The American Institute of Architects.

Its support of the proposed department, the AIA said, is "prompted by our awareness of the complexity and scope of urban problems." And its advocacy of the foundation stems from a belief that "encouragement and support of the arts are appropriate concerns of government."

The Institute has entered statements on both measures into Congressional hearings. It said its interest in the new department is based not only on the need for the department but on the "dedication of the architectural profession" to provide a "proper physical environment for the people of this nation."

Delegates to the AIA convention in 1957 adopted a resolution advocating the establishment of a department of urban affairs and since then the Institute has supported all legislation to grant department status to government functions relating to housing and urban development.

SEMINARS / Designing for Defense

Architectural and engineering faculty will have a choice of seven Institutes on Nuclear Defense Design to be held this summer at the Aspen Institute for Humanistic Studies, George Washington University, University of Hawaii, Kansas State University, Montana State College, Pennsylvania State University and Worcester Polytechnic Institute. The seminars will undertake a definite analysis and presentation of radiation shielding as it relates to the designer.

Jointly sponsored by the Office of Civil Defense, the American Society for Engineering Education and the Association of Collegiate Schools of Architecture, the programs will vary in length from four to six weeks. For further details write the Assistant Executive Secretary, ASEE, University of Illinois, 1201 W. California, Urbana, Ill 61801.

CONCERNING CONSTRUCTION: There seems to be a growing concern in the profession that its practitioners need more down-to-earth knowledge in the field of building construction. Indicative of this are two seminar series being held in the East, one currently under way and the other coming up in August. A recent Saturday morning session at Howard University's Department of Architecture, for example, was devoted to "Piles and Caissons." Pennsylvania State University, through its Department of Architectural Engineering, is drafting plans for three seminars of varying lengths: "Shear and Bond in Reinforced Concrete Structures," "Acoustics and Noise Control in Buildings" and "Cost Saving Practices in Building."

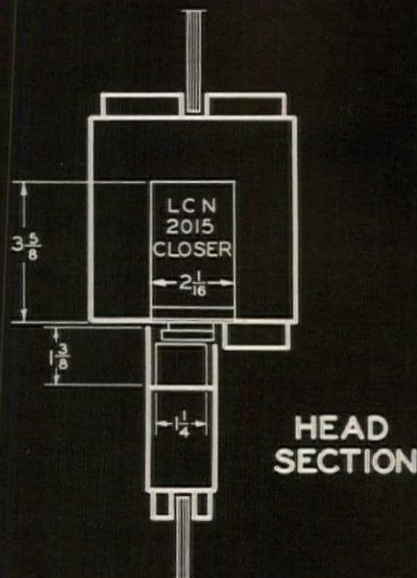
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LETTERS

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EDITOR:

There are many ways for members of a building committee to select an architect. The simplest is to put the name of each architect that has applied for the job on a separate piece of paper, put them in a hat—all 52 of them—and let the janitor draw one out.

Another method is to summon architects to appear before the committee on a given evening, one by one, each being allowed three-fourths of an hour to throw bouquets at himself, using a high sales-pitch and modestly convincing the members that they would be lucky to get him as an architect.

The JOURNAL published an article on "Architectural Salesmanship" (Oct '64) which advocates this approach as an essential thing for the architect to develop as a fine art. The title includes the words "Good Work Needs Groundwork" and goes on to equate "good work" with "good salesmanship."

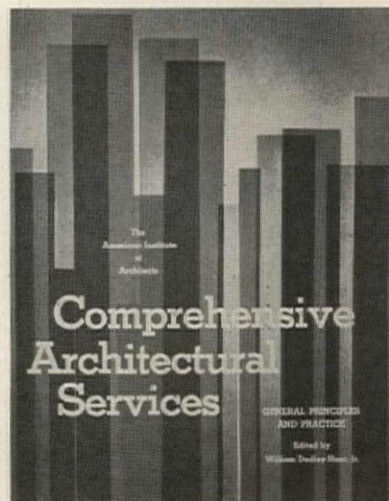
Although the JOURNAL articles make sales-talk the most important accomplishment of a successful architect, there is one brief statement to the effect that competence as an architect does count. "Having gotten the job, it is important that the architect execute a good job, for good work attracts more good work." There is at least then a reason for doing a good job, namely, to get more and more work.

There is another point to be made: It is to your advantage to be able to say that your firm has done many buildings similar to the one under consideration. That is impressive but not in itself of any importance. An incompetent firm of moderate intelligence, even if experienced, is not the equal of a highly competent firm of unusual intelligence.

Belief in the reliability of the bombast and misrepresentation that form the backbone of salesmanship is a sinister development in the field of commerce. Those who, like the authors in the JOURNAL articles, believe in emphasizing it as an

Cont'd on p 84

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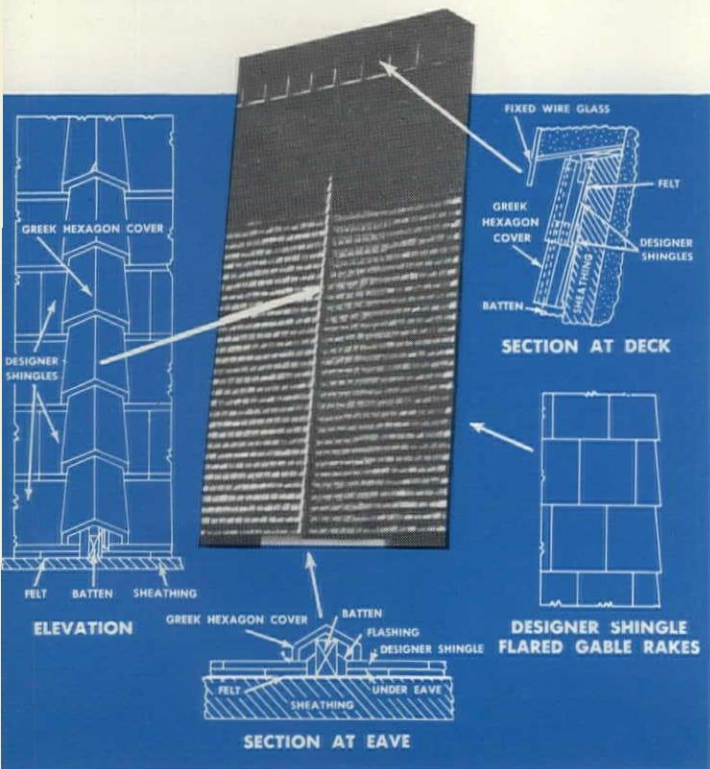


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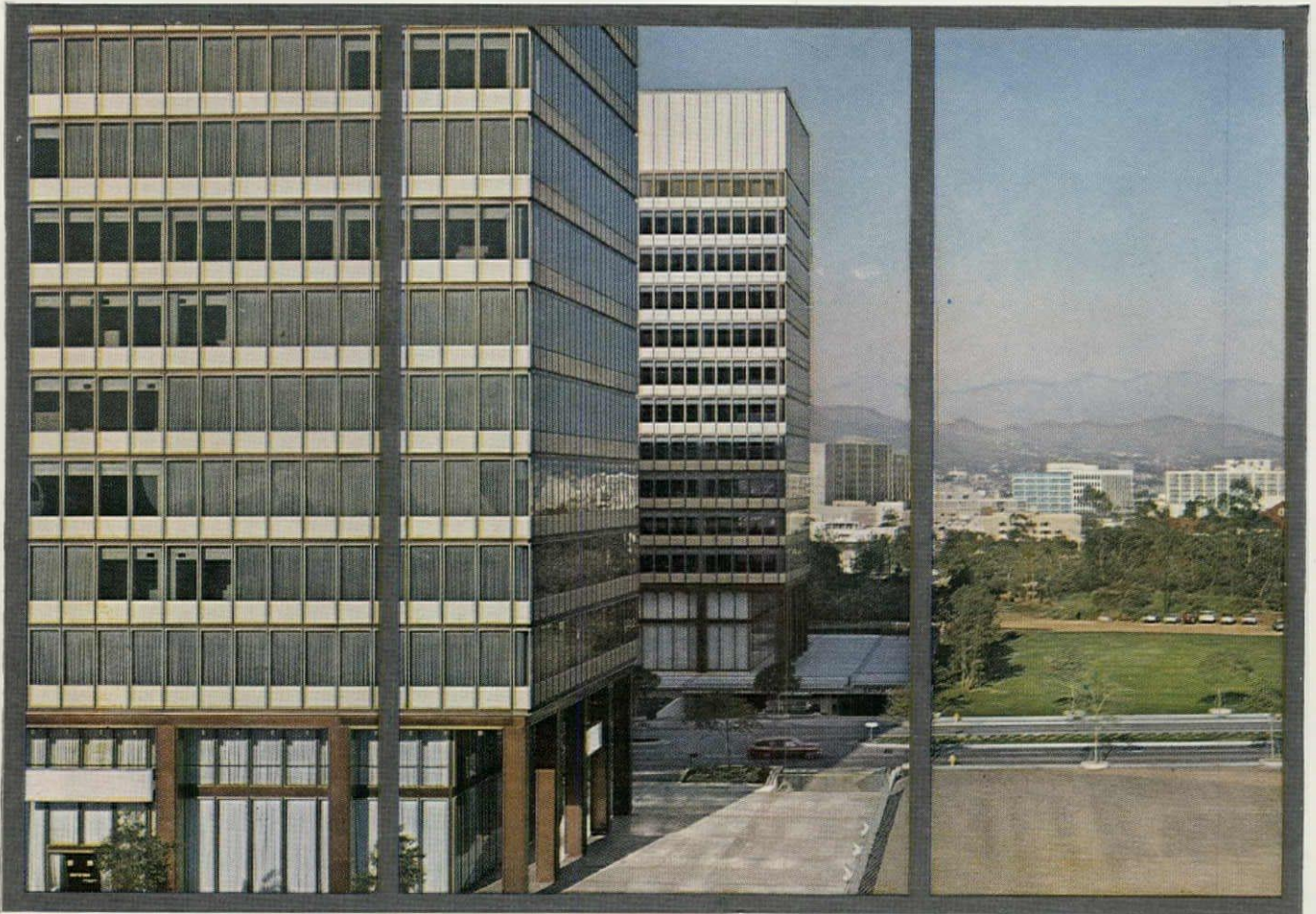
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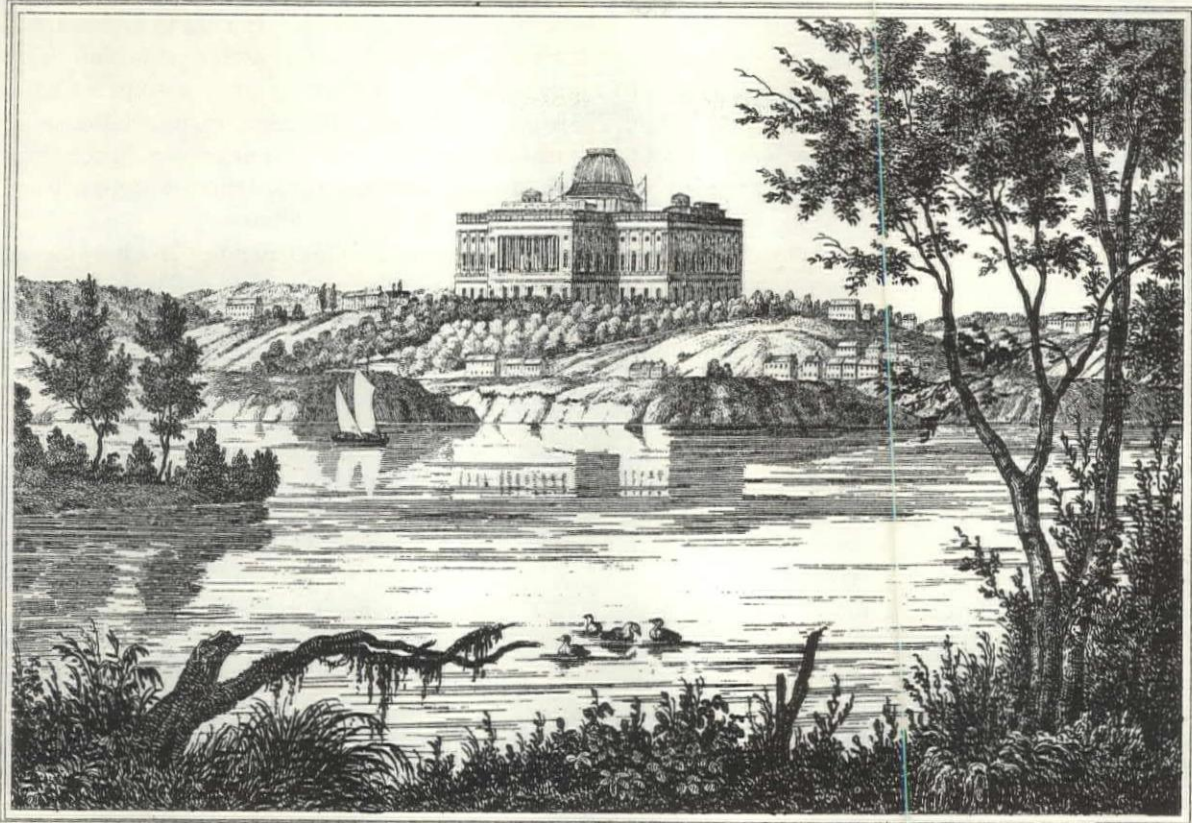
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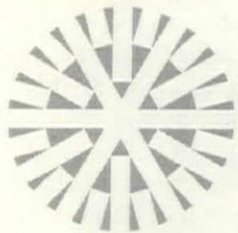
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The Federal City as a Client

BY FRANCIS D. LETHBRIDGE, AIA

A practitioner in the nation's capital, Mr Lethbridge reviews the US Government's responsibilities in planning its own home—and timely indeed as Washington awaits the world's largest gathering of architects in June for the Congress-Convention



ARCHITECTURAL design for the Federal government did not begin under very auspicious circumstances. Let me relate to you George Hadfield's description of that occasion, written about the year 1820. Mr Hadfield was

a very talented architect, the designer of Washington's beautiful Old City Hall, as well as the Custis-Lee Mansion in Arlington Memorial Cemetery, but it is only fair to add that he was also a disillusioned ex-Architect of the Capitol.

"A premium was offered in the year 1791, through the American newspapers, of five hundred dollars and a building lot in the city of Washington, for the best design of the Capitol. This premium was offered at a period when scarcely a professional architect was to be found in any of the United States, which is plainly to be seen from the pile of trash presented as designs for said building," Mr Hadfield wrote.

(At this point I should like to pause to say that this earliest of all examples illustrates one cardinal rule to be impressed upon all architects who are bold enough to brave the perils of Federal architecture: *Open competitions are a very uncertain thing.* Let us go on, however, with his comments.)

"One of the designs, however, obtained the premium, but on some person or persons having represented to General Washington unfavorable reports of the plan of said design, and that one of another was more suited for the purpose, General Washington asked whether the latter plan could not be adapted to the elevation, or outside part, of the former design. They answered General Washington in the affirmative, and probably without mentioning to him the future consequences that must inevitably follow, by expecting a public building from a jumble of two designs, which were as different from each other as day is from night."

(Now this second paragraph illustrates two truths. First, *if you are designing a building for the Federal government, you had better have some good friends at court; and second, with friends like these you have no need for enemies.*)

Hadfield continues with this statement, "It is surprising that some of the advisers of General Washington on this subject, who, one would sup-

An address delivered in a lecture series sponsored by the US Department of Agriculture's Graduate School.

pose, were men well acquainted with the manner that great works of this kind are executed in Europe, did not advise the only method by which the success of the building, in all its stages, might have been ensured; which was, by offering an adequate sum to the most eminent architect in any of the great cities of Europe."

(Here we have firsthand evidence of still another immutable law: *An expert is an architect from out of town.*)

Hadfield concludes, "Under such a system the whole of the Capitol would have been long ago completed for half the sum that has been expended on the present wreck."

To which the editor has added, "The death of Mr Hadfield in February 1826 prevented the appearance of farther (*sic*) remarks from him on other parts of the Capitol."¹ I wonder: Doubtless he would have unburdened himself of many more during the next 140 years of inspired improvisation that created the building as it stands today.



City Hall, published by C. Bohn

If the study of history leads one to believe that the execution of Federal architecture has always been complex and contradictory, we must acknowledge that today it is a subject vastly more complicated than ever before, simply by reason of its greatly increased dimensions and influence, both direct and indirect. I do not propose to discuss the problems of Federal architectural design standards, for example, in the course of a paper as brief as this must be, nor the unanswered questions of the role the Federal government might play in the field of architectural research and experimentation. I intend to ignore, for the moment, the impact, esthetic or social, of Federally financed, inspired or insured construction in communities throughout the US. Instead, I would like to narrow my discussion to the design of buildings, places and monuments in the national capital, and to the responsibilities of the Federal government in the planning of its own home. For it follows that if

the relationship of the government to architectural design is a healthy and vital relationship, then necessarily it must spring from a source that is strong and sound; and contrariwise, if the influence of the Federal government is a blight upon architecture, it must spread from a rotten trunk to the very ends of its limbs.

Architecture in the Federal City has passed through four fairly distinct phases. The first period, characterized by the Georgian domestic scale of work by men like William Thornton and James Hoban, and the bolder classic revival designs of Benjamin Latrobe, George Hadfield, Charles Bulfinch and Robert Mills, extended to the middle of the nineteenth century, a period of about sixty years. Ammi Young and Thomas U. Walter probably were the last active architects in the service of the government to carry out work in this style.

The tragic figure of that era, whose work was completed before the city of Washington even began to build, was, of course, Charles Pierre L'Enfant, whose great plan for the capital spread over the city in a fabric of monumental design, being gradually torn and mutilated as the city grew to fill out its form. A few minor examples of architecture in the gothic revival style were constructed during this first half century, but these were principally chapels, not government buildings, and they were in the relatively chaste tradition of English parish churches.

The second period, of romantic revival, has its beginnings under the influence of Andrew Jackson Downing, the famous landscape architect; and architects Richard Upjohn and James Renwick, whose Romanesque design for the Smithsonian Institution was the first major building to be placed on the site of the Mall. In the post Civil War period the Army Engineers exerted a strong influence, not only in buildings like the Soldier's Home, designed by B. S. Alexander, and the Pension Building, by Montgomery Meigs, but in the execution of the work of other architects, notably the Old State, War and Navy Building by Alfred B. Mullett, and the Library of Congress, designed by Smithmeyer & Pelz of Washington.

It was a period of wild eclecticism which reached its peak, or bottom, depending on your sense of humor, in the Museum of Science and Industries by Cluss & Schulze, a building straight out of the Arabian Nights in a bad translation from the German, and its last very substantial gasp was the Old Post Office on Pennsylvania Avenue, which was obsolete before the day it was finished and which has defied destruction ever since. It still stands, a fortress that was never taken, even during the onslaught of the strongest forces of the next period—which was, of course, the period of the McMillan Plan, the City Beautiful, that Roman

¹ S. A. Elliot, "The Washington Guide," 2nd ed. City of Washington 1826, pp 15-24

holiday that revived, enlarged and greatly elaborated L'Enfant's plan, decreed that henceforth all Federal architecture should be based upon classic precedents. What is now more generally forgotten, it also laid the foundations of Washington's great park system, an accomplishment that was not the least that resulted from the labors and enthusiasms of Daniel Burnham, Charles McKim, Augustus St Gaudens and Frederick Law Olmsted Jr.

The effective work of the Park Commission was in large measure due to the unrelenting efforts of men like Charles Moore and Glen Brown, who carried on the crusade for the Park Commission's plan over a period of more than twenty years, and to the support, at its most critical period, of powerful men in the government such as Secretary Elihu Root and Senator James McMillan, chairman of the Committee on the District of Columbia. The great advances in physical planning during this period may overshadow its architectural monuments, and we are only now, with the removal of acres of temporary office buildings from the Mall, awakening to the fact that we must carry out, in a manner suitable today, the work that they started in 1901.

It was never stated categorically in the Park Commission's report that a Federal architecture based upon classic traditions was thereafter to be the order of the day, but such was persuasively argued by McKim, Burnham and their associates, fresh from the triumphs and acclaim that greeted the Columbian Exposition of 1893, which had opened the eyes of all who had seen it to the truth that in planning the City Beautiful the whole is far greater than the sum of its parts. St Gaudens wrote of the fair, "The days I passed there linger in the memory like a glorious dream, and it seems impossible that such a vision can ever be recalled in its poetic grandeur and elevation."²

Is it any wonder that this group of artists, closely knit together by mutual respect and affection, who spent six weeks traveling in Europe, refreshing their minds with the great glories of the past of urban design before they were prepared to begin the task of the revival of a comprehensive design for the Federal capital—is it any wonder that their vision of a Washington transformed carried all opposition before it for over three decades until the tide of its influence had been weakened by the regimented mediocrity of most of their successors and was finally spent upon the hard rocks of the great depression. Most of our great Federal buildings date, nevertheless, from that period of optimistic affluence between 1900 and 1940—not the greatest, perhaps, but it would be hard to find a group of buildings in any other major city in this country to match Henry Bacon's

Lincoln Memorial, Burnham's Union Station, Cope & Stewardson's the District Building, Kelsey and Cret's Pan American Union Building, Cret's Federal Reserve Building, John Russell Pope's National Archives and Cass Gilbert's Supreme Court Building. In its declining years the City Beautiful spawned that great indigestible group of buildings known as the Federal Triangle and has even been unjustly accused of posthumously giving birth to the Rayburn Building, which is still, I believe, under construction.

The fourth and final phase is that period we are presently in the midst of, or more hopefully, at the end of. Weaned on the thin milk of the thirties, and fed thereafter on a balanced diet of efficiency studies, cost analysis and manufacturers' catalogues, it is a Federal architecture still to be named. It is more closely related to the new faceless commercial office buildings of the city today than to the Federal buildings of the past, and with good reason, for it is designed for the same purpose: to enclose as many Federal employees as possible for approximately the same cost per square foot. There is no need to elaborate the point further. An occasional fine building designed for the government breaks away from this dominant pattern, but is most likely to be a building out of the urban setting, a building like Saarinen's Terminal Building at Dulles Airport, where impressive architecture has been created by an imaginative solution to a new, or newly phrased, problem. There are hopeful signs, to be sure, that we may witness an intensified search for excellence in Federal architectural design, but I suspect there may still be some missing directions on the path leading to that goal.



Smithsonian Institution, C. Bohn

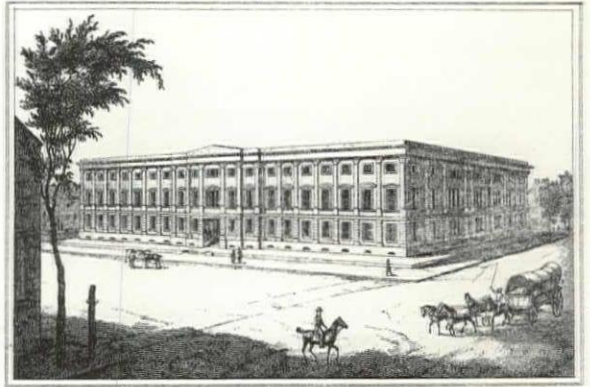
We have had several comprehensive plans for the city of Washington, and several more limited studies of the downtown area since the Report of the Park Commission at the beginning of the century, but none have matched its wonderful balance and its confident appraisal of the architectural, sculptural, recreational and technical needs of

² Charles Moore, "Daniel H. Burnham, Architect, Planner of Cities," Boston, Houghton Mifflin Co, 1921. Vol 1, pp 62-63

the city of its day. It is still an inspirational as well as a practical document, and in this respect it differs from later plans which have at times been little more than glorified traffic studies. The Pennsylvania Avenue Report is closer to the spirit of the Park Commission Report, but it is of course a far more limited study. One striking difference between the earlier study and the Report of the President's Council on Pennsylvania Avenue is the lack, in the later report, of any specifically defined character for the new buildings that are proposed to form a great part of the spaces within the boundaries of the plan. This was done quite deliberately, and the alternating facades of stripes and grids that are present in the renderings and model of the plan indicate noncommitment rather than a suggested architectural treatment. It is stated in the report, "for the sake of further lively variety, owners would be left free to put in their own choice of design and materials, reaching from the uniform arcades to the cornice line." They didn't mean quite that, of course; they meant that the owners would be free to put in a choice of design and materials that would be acceptable to the Fine Arts Commission, the Planning Commission, the Pennsylvania Avenue Council, the Board of Zoning Appeals, the District of Columbia Building Department—and, if it happened to be a Federal Office Building, there would doubtless be several other interested participants.

The point I wish to make is simply this; In this particular area, the architectural design of proposed new buildings above the street level, the Pennsylvania Avenue Report is silent, and any guidance or controls of that part of the urban design will necessarily be negative rather than positive in nature.³ This is in sharp contrast to the Park Commission Report, which sought to change and, in their minds, improve architectural tastes as well as planning concepts. Some of the buildings, bridges and monuments that were delineated in the pale light of Jules Guerin's haunting renderings that accompanied the report were constructed in scarcely modified form twenty-five years later.

It may seem at this point that I am advocating a return to the ideals of the City Beautiful movement, including its conviction that the classic revival style is the only suitable one for important buildings in the nation's capital, but this is not the case. It is not simply that we live in a different age, with problems that must be solved in ways far different than in the past; but that some of the ideas, if not the ideals, of that period would be unacceptable to us now. It was seriously proposed, you may recall, to remodel the Old State, War and



Post Office, published by P. Haas

Navy Building to conform to the design of the Treasury and to rebuild all the buildings on Lafayette Square with a uniform facade similar to those on the Federal Triangle buildings. Two pieces of that reconstruction were, in fact, executed—the Treasury Annex and the Chamber of Commerce Building, an incomplete addition, as it turned out, to the museum of architectural styles that line the square. The preservation of landmarks of architectural, cultural or historic value which add character as well as beauty to the body of the city should never become a process of embalming, but rather a continuous process of creation and recreation; today we tend to take a more tolerant view of some of the architecture we have inherited from the past.

It is high time, nevertheless, to return to some of the principles that brought life and spirit to the plans of the Park Commission for a more beautiful city. We desperately need a new Vision of the City, not a new blueprint: we need the hand of the designer again before we continue to grind out more volumes of working drawings. The formula for accomplishing this is probably still a valid one: Take four good men, not ten or twelve, two architects, a landscape architect, and an artist, men of proven ability, character and experience; give them a year to study, discuss, plan and prepare their report—not to act as a committee, commuting from their places of work to meet once or twice a month, but to act as the Park Commission did—devoting their full time and energies to the task for a period of many months. Give them the authority and prestige they need by special executive or Congressional appointment and funds sufficient to enable them to present their ideas in a handsome manner. They would not be a substitute to carry on the continuing vital work of the National Capital Planning Commission; not a replacement for the Fine Arts Commission in its role of providing guidance for proposed new Federal and civil design; not an enlarged version of the Pennsylvania Avenue Council, appointed to study and report on a specific problem of urban planning; they must be a closely allied group of artists far enough re-

³ Since these lines were written last year it appears that the Pennsylvania Avenue Council may be developing some methods of its own to influence the architectural design of proposed new buildings in the area.

moved from the pressures of coping with the day-by-day problems of the city to take an unhurried look into the future and to tell us what it might be if we have the will to make it so.

The support of the government in launching a study of this nature is the most important single step that could be made at the present time, but while awaiting those revelations that would accompany that new vision of the city, let us return to a few problems of Federal architecture that we might profitably examine right now.

One problem is the selection of the best architects for the design of buildings commissioned by the Federal government; another is the inherent difficulty, assuming that the project in question is in the hands of a good architect, of the government acting as a good or effective client in the process of producing a distinguished architectural design. Neither of these problems is new—some of Latrobe's letters to Jefferson relating his problems in dealing with paperwork, officialdom, harassing criticism and crippling economies could have been written, with minor changes, only yesterday. It would be unusual, I'll grant, for an architect today to take his troubles directly to the President, who as a fellow architect would be inclined to be sympathetic.

The selection of an architect who will bring the best possible knowledge and skills to the task of planning a new Federal building is not simply a matter of avoiding the appointment of one who may be more talented politically than architecturally. The city as a whole can suffer as much from the unrelated exhibitionism of a gifted, but highly individual artist who is commissioned to do the wrong building. One of the most successful relationships of the Federal government with architects in many respects has been that of the Office of Foreign Buildings in carrying out the program for the design and construction of government buildings abroad. The extraordinary percentage of successes that distinguish this effort is in good measure due to the work of their architectural advisory board and to the caliber of the respected members of the profession who have served upon it. No architect of merit can resist a

Treasury Building, P. Haas



challenge to produce his best possible work if he is given the confidence that careful selection will allow. There is no excuse for poor, or merely mediocre Federal buildings—not even post offices—either in Washington or elsewhere in the country. The selection of architects to do these buildings should not be so cautious as to rule out the possibility of an occasional mistake, but should in all cases be based upon the architect's proven ability to produce good architecture, not good press releases or large political contributions.

The second matter is in many ways a more difficult one. One of the oldest and truest sayings of the profession is that it takes two people to make a good building—a good architect and a good client. A good client must necessarily be one who has the incentive to commission and encourage the creation of a work of distinguished architecture and one who has the undivided authority to make the decisions that will allow this to come about. How many architects have been frustrated and dismayed by the phrases, "This can't be done because *they* will not approve it" or "This must be changed because *they* want it done." The identity of the mysterious "they" is often difficult to discover. Frequently these expressions could be translated into something like, "We would rather not do this because my boss thinks the Commissioner wouldn't like to be bothered." It is no accident that the best works of architecture result from a face-to-face collaboration of the architect with the client, who must be prepared to support the architect's suggestions that the program be developed in a way that will make good design possible, and that it be modified, as the need arises, during the course of the work to strengthen the unity and purpose of the design.

A gifted man like George Hadfield, who in his youth had received the Gold Medal of the Royal Academy—the highest architectural honor the English could grant an aspiring young architect—died bitterly disappointed that his talents were denied the opportunities they might have had. Even so today, there is a great untapped reservoir of ability to help build what President Johnson has termed the Great Society, latent in the ranks of architects, sculptors and artists who have not yet been called upon to do their share in its creation.

The Great Society must be more than a well-fed, well-dressed and well-housed society, living in peace with its neighbors. It must be a society where the great traditions of art from the past sustain us and where our architectural vision of the city of tomorrow stays far enough in advance of our present time to act as a beacon and objective rather than lagging ineffectively behind the path of those unguided forces that are reshaping our cities and the surrounding countryside. ■

The National State of Architecture

BY RAYMOND D. REED, AIA

Head, School of Architecture and Architectural Engineering, Iowa State University

What is the national state of architecture? Rightfully or wrongfully, Peter Blake calls it a "man-made mess," and he is perhaps kind. Man-made America is not beautiful or even honest. Our architecture reflects our society, and the image is not attractive.

Some say that as a nation we are without apparent purpose. That in encouraging freedom we have permitted license. That the right of every man to express himself has been reinterpreted that every self-expression is right. That we are witnessing a great orgy of compulsive self-expressionism, where each allows the other to express himself, be the expression brilliant or a blatant belch.

Some perceive that, in neglecting personal responsibility and integrity, we have bought an insurance policy of nonparticipation and isolation. That we are more concerned with making a living than living a life—and there is a difference. That we enjoy the illusion and not the reality of adventure and individualism. That we wish to be entertained. That we dream of being uniquely and creatively individual is the average concept. That we have decided that committees are safer than men, not so much because they group the strengths of many as much as they bolster the weaknesses of all. This is negative and psychotic.

"Don't get involved" has become a national motto of isolation that last year permitted at least thirty-eight human beings in New York to watch another, a woman, be murdered without lifting a finger or a telephone in protest.

"Stop the World—I Want to Get Off" is really

Adapted from an address delivered by Mr Reed to the students and the Iowa Chapter AIA upon assuming his duties as head of the School

not very funny. The beatniks are symptoms of social failure. Our ugly funny-paper pop art, the Beatles and that penetrating little song "Little Boxes" are but symptomatic expressions of idealism from a bitter people.

We have permitted freedom—or is it license—and yet as a people we are bitter. We feel cheated. We see that without standards there can be no right or wrong, no good, no bad; only compulsive self-expression. And as a moral nation of idealists knowing that these qualities exist, we feel cheated, bitter, cynical, hurt, negative and we are critical.

As a profession, architecture is not faring much better. Unfortunately we are the products, not the leaders, of our society. We have not risen above our environment. We too are bitter. While society loves the romantic illusion of the architect, it greatly dislikes our architecture—or more simply stated, it continues to resist our brand of insanity. And I believe that people are somewhat justified. Ten years ago we led our nation to build long fingers of glass-enclosed schools. "Damn the expense, Nature is good!" was our battle cry. Today, we insist on schools without windows. "Sunlight hurts the teaching machine," it is said.

By and large, American architecture is not honest; and what some consider to be a maturation of the concepts of Gropius, Mies and Wright are in reality regressions into the baroque.

As architects we too have denied the concept of right or wrong. Rather than sell honest, indigenous, country-store architecture, we have subsidized magazine-managed eclecticism. At the cosmetics counter of today's stylish architectural supermarket, we select attractive packages of neo-

classicism, weddingcakes and medievalism. Multiply this endlessly, and we perceive a sea of souls on soapboxes selling a disgustingly average product of eclectic self-expressionism. As a profession we wallow in a sea of self-indulgence. Pampered by an affluent society, we are dazzled by bright stars. Yet each of us looks, some perhaps more than others, for true stars of known and constant magnitude and position upon which a profession without purpose can plot a course to saner seas.

It is perhaps natural to be mesmerized by brilliancy. My younger daughter still prefers shiny nickels to dull dimes. Yet this quest for brilliancy, this Nietzschean cult of the all-sensitive, all-understanding, all-infallible superman we call "The Designer," has done much to destroy the worth of contemporary architecture. It is the greatest cause of frustration to the student and the practicing architect, clients notwithstanding.

By placing the emphasis upon the creator rather than upon the work, architectural values have suffered. To continue subjective rationalism shall be to destroy the artistic and social values of architecture.

If architecture were just a matter of taste, we could indulge each his subjective insanity. But architecture is not egocentric; it is a social art—and our society suffers from the lack of it.

While agriculture has dramatically increased productivity and value, architecture has reduced productivity and increased prices. Our great-grandfathers paid for the family home in three years, and while we admittedly live in an age of increased technology, we are lucky to qualify for thirty-year loans.

Medicine has dramatically increased the health and longevity of our citizens. The architect, by default, has encouraged suburban cancer, downtown congestion and the hardening of our cities' arteries. We have actually considered ourselves lucky when we were permitted to bury architectural jewels in the urban junkpile.

Perhaps the public has reason to doubt the competency, if not the sincerity, of the architect. Yet for this bitter state in which we live, we cannot blame the much-maligned practicing architect. The real demands of a business-oriented society have done much to stifle the subjective. It is the architectural schools of the nation that must share the responsibility for our dilemma; for as the twig is bent, the tree shall grow.

Of the some sixty architectural schools in the nation, I would estimate that less than five are currently engaged in mature research. It is admitted that we are quite good at snow-job publications, but research is an unknown quantity among most schools.

With housing the great problem of our society, perhaps less than ten expose their student architects to the needs of our people.

While architecture is a social art, few students have any background in sociology, perception psychology, sociometry or the behavioral sciences.

Architecture is a material and technical art; and yet few student architects are technically competent or possess that empathy for materials and that sensitivity for need requisite for success.

This state of education is not new. Louis Sullivan stated, "It is disquieting to note that the system of education on which we lavish funds with such a generous, even prodigal hand, falls short of fulfilling its true democratic function, and that particularly in the so-called higher branches, its tendency appears daily to be more reactionary, more feudal. It is not an agreeable reflection that so many of our university graduates lack the trained ability to see clearly and to think simply, concisely, constructively, that perhaps there is more showing of cynicism than good faith, seeming more distrustful of men than confidence in them, and withal, no consummate ability to interpret things." So it was in Sullivan's time, so it continues to be. We continue to ignore reality.

If this is true; if we are living in negative and subjective times with bitter people more willing to criticize than construct, more willing to classify than create, when our profession is dazzled by architectural comets and our students appreciate subjective brilliancy more than constancy and sincerity—is there any hope? I believe so.

Within our people, one can sense a growing discontent for the irrational excess of our time. There is an increased resistance to license and a demand for defined responsibility. We do not yet possess, but more readily recognize standards.

Within the profession there is a growing resistance to Madison Avenue magazine-illustrated architecture. Believe it or not, there actually exist several excellent architectural journals that have few if any pictures, that are published by editors more concerned with stimulating ideas than selling solutions.

Looking beyond the big names, one can see and sense a strong and increasing tide of good design in the lower depths of architecture commonly referred to as the area of the general practitioner.

The American Institute of Architects, for a long time criticized by Frank Lloyd Wright, has taken the lead in encouraging a more responsible and capable profession. We are becoming actively concerned with the problems of these advanced times. We are beginning to research the depths of relevancy and competency. We are accepting and encouraging the participation and assistance of other design professions and disciplines. The AIA has issued strong statements that the architect accepts the challenge of ordering our society; that he intends to be responsible for our time.

Within our universities, there is an awakening. At least five universities are currently reshaping their programs. Some universities are extending curriculums from five to six and eight years without questioning the validity of current course content or recognizing that education must change to meet changing needs. Other universities are beginning to reshape themselves to face squarely the problems confronting our people and our profession. To accomplish this, we must recognize and redefine the role of the architect.

We must recognize that while he may occasionally starve in a society seeking escape from the complex apparent instability of our time, the architect must possess the conviction and the ability to express the honest exciting dignity of our time.

We must recognize that architecture is an instrument of the people to solve today's needs.

We must recognize that the architect must be qualified to use every psychological, physical, physiological, social, scientific tool available to determine and meet contemporary needs.

By his honest example of integrity, he must open the eyes of our people and encourage them to see the beauty of honest ugliness in place of the flashy and cosmetically pretty.

He must develop a better mind than a brain-washed memory. He must recognize that if architecture is a visual expression of the people, we must teach the student how to talk, rather than what to say.

He must have greater empathy with technical production than with tracing paper. He must be as sensitive to reality as he is to renderings.

He must know as much about perception as he does about Persepolis. He must recognize that the computer, CPM, the mysteries of production finance and construction law are but tools like the T-square to assist in making life meaningful.

It means that he must use his God-given six senses of sight, sound, smell, taste, touch and common sense to protect and extend the dignity and meaning of humanity. He must recognize that meaningful expression is the result and not the denial of logic and reality.

He must recognize that in solving social needs creatively, he enjoys the greatest sense of self-expression: that of rising above and beyond self. If this should sound like a religious expression, perhaps you are right; for if it is not a religion, it is at least a demanding philosophy: this belief that architecture is a means of salvation and enrichment of mankind; that it might be possible for architecture to lead rather than react to our times.

To do this we must use our energies to solve problems rather than build empires. To do this the boundaries between the design professions must be destroyed. To do this the boundaries between the people, the profession and the university must be removed. The university must enrich, not deny, our people. This can only be done through continuous contact and the practicing architect.

For these and other reasons we shall work to establish the closest possible ties between the practitioner, the student and the university.

We shall search into the relevancy of architecture and education. We shall direct ourselves to those problems most pressing society. We shall attempt to evolve rather than evade issues. Housing, urban design, mass production and prefabrication cannot be denied. We shall attempt serious research. We shall evolve our curriculum so as to increase the competency and depth of our graduates. We shall encourage the practical yet poetic depth to shape social values. Our goals must be visionary rather than reactionary. It is far better to create than to rebuild.

We must recognize that architecture in spanning the arts and sciences has unique potential for contributing to our society's well-being. The climate for contributing to society through architecture has seldom been better than here and now.

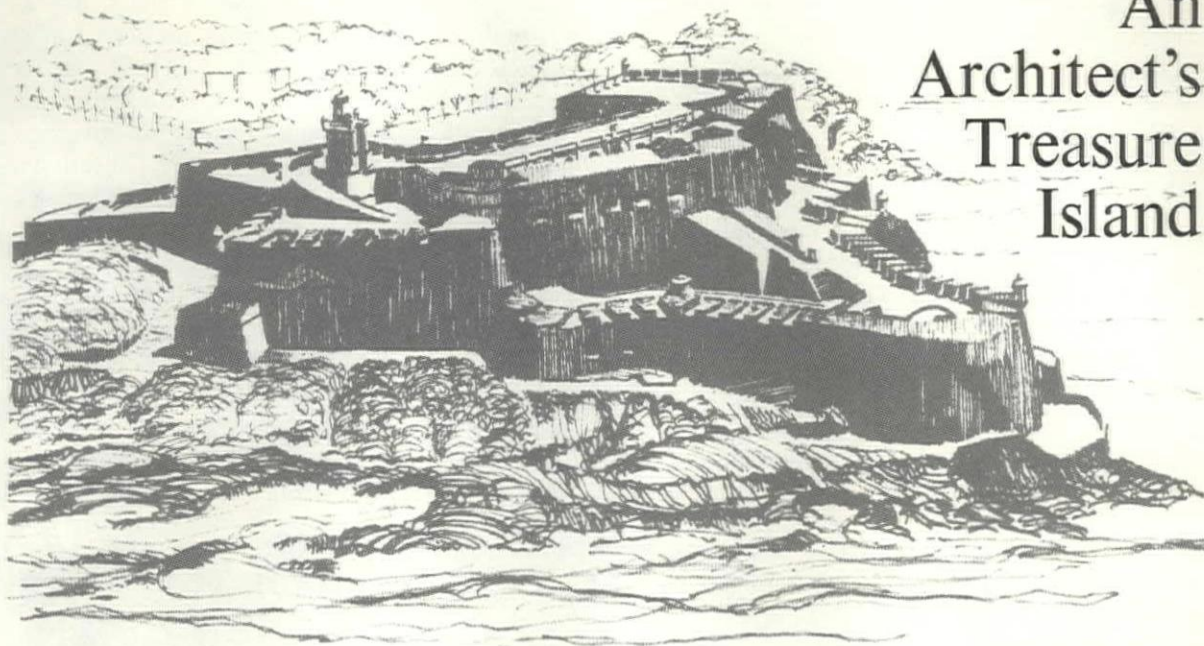
If we are to accomplish these tasks, we must first be honest. We must discipline our minds and sharpen our senses to detect the best that exists within our society.

If we have the courage and insight to accept that for which we search, not that which we wish to find, there is hope. If we can house our people, there is hope that the family shall remain the foundation of our nation rather than the expedient unit of commercial and biological order.

If the architect can through competency, sensitivity and depth determine and express the best that exists within our cities, there is hope that man can live in urbanity with dignity.

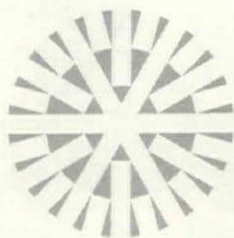
If the architect can rise above the level of self-indulgence, he can by precept and example give heart to a disillusioned people and strength to a nation. He can do nothing less than yield greatness—and nothing less than greatness is needed. ■

An Architect's Treasure Island



A saddleback survey of the significant buildings of San Juan Bautista

BY F. BLAIR REEVES, AIA
*Associate Professor of Architecture
University of Florida*



THE snooper-type architect who likes to "discover" buildings uniquely appropriate to their purpose, place and time will find Puerto Rico a sparkling treasure house. This island, only thirty miles wide and

a hundred miles long and little more than an hour away from the continental United States, is a microcosmos of the history of man and building. Its people, caught up in conflicts between tradition and innovation, are a puzzling combination of Latin temperament and North American impatience.

In Puerto Rico there is an old saying that "one should take pride in his house but keep the windows open on all sides to let in fresh breezes." Puerto Rico's house was Spanish for four hundred years, and Puerto Ricans take pride in that, but breezes have been blowing from the United States for six decades. Radical changes have occurred in the basically Spanish "house." It is sometimes difficult to tell where Spanish influence ends and American begins.

San Juan Bautista, capital of Puerto Rico, is the traditional and modern center of the govern-

mental, economic, religious and educational life of the Commonwealth. Including the five adjacent municipalities of Catano, Bayamon, Guaynabo, Carolina and Trujillo Alto, this metropolitan area has a population of about 650,000. The focal point of this busy area and all Puerto Rico is the Isleta de San Juan, a small compact island separated from the rest of Puerto Rico by the Bay of San Juan, an inlet from the Atlantic, and the San Antonio Channel. San Juan Antiguo, founded in 1521 as a strongpoint to deter those who challenged Spanish supremacy in the Caribbean, is located near the headland of the island and is walled by a hostile seascape and exceptionally impressive fortifications. The most powerful of these is Castillo de San Felipe del Morro guarding San Juan and the entrance to the Bay of San Juan (photo above).

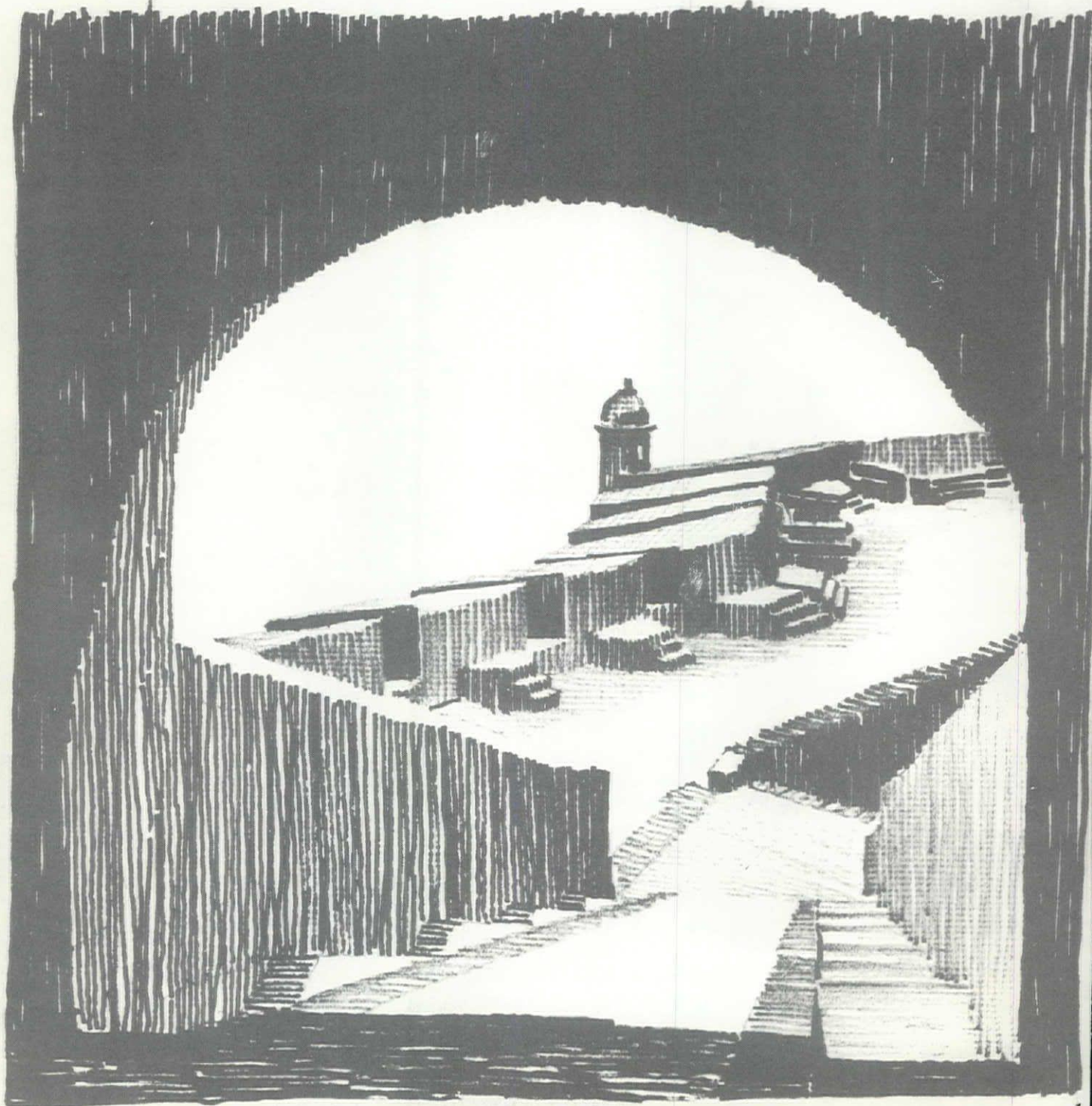
Castillo de San Felipe del Morro, begun in 1539 as a small bastion and tower, successfully repelled British forces commanded by Sir Francis Drake. In 1581, however, with its defenders weakened by dysentery, the fort fell to troops led by the Earl of Cumberland. The British looted San Juan and, after removing cannon and leveling the landward defenses of El Morro, withdrew as victims of the same disease which had first allowed their victory. During the seventeenth and eighteenth centuries, Spanish engineers expanded El Morro to a complicated bastion plan of six major levels of banquettes, gun embrasures, casemates, chapel,

quarters and enormous cisterns. Walls and a dry moat separate the fort from its landward approach. The combination ramp and stairs of Canary Island tile leading from the parade to the lower parapets presents an unforgettable sequence of views of the fort.

Bastioned walls stretch down the Atlantic coastline to Castillo de San Cristobal. This fort and its outlying strongpoints show the imagination and skill of their designers. Castillo de San Cristobal, begun in 1631 with major construction directed by Colonel Tomas O'Daly, Corps of Engineers, is a complication of gun embrasures, banquettes, casemates, quarters and a small dungeon where eighteenth century prisoners drew sketches of their ships on its damp walls. Of special interest is the graceful entrance ramp and gate, the finest

detail of this fort. Fan-shaped Fuerte El Abanico, a strongpoint in the outerworks of San Cristobal, was built in 1779-1780 and remains almost in its original state. It is a landward fort based on the system of three cannon firing from different embrasures through a single opening to cover the approach. Mining galleries, running beneath the parapets to positions under gun emplacements, are designed so as to render the fort useless to its captors.

The Arsenal of San Juan, one of the most significant groups of military buildings in the city, was the center of maritime activity of the colony. Although many of its buildings are near ruin, the "Portal" (1837) of this complex is well preserved. Its elaborate facade consists of an entrance archway with a beautiful wrought iron fan, a paneled



Among the "discoveries" the architect will find in Puerto Rico: El Morro's lower bastion (1) and chapel gateway (2); and San Cristobal's gate and ramp (3). Sketches are by the author, whose text is derived from data compiled during a 1964 study sponsored by the Caribbean Research Council and the Department of Architecture, University of Florida. Photos are reproduced through the courtesy of the Instituto de Cultura Puertorriquena and the Historic American Buildings Survey

cornice decorated with signs of the Zodiac, and a flagpole base in which Navy symbols merge with the Spanish Royal Crest.

Eighteenth century San Juan, more a military installation than a village, was completely contained by walls and fortifications. Access was limited to only five gates. Puerta de San Juan, situated at the foot of Caleta de San Juan, which leads directly to the Catedral de San Juan Bautista, was the ceremonial entrance for important travelers. The rectangular gateway consists of a heavy classic surround and decorated with a marble insert, "Benedictus qui venit in Nomine Domini."

The modern traveler enters San Juan Antiguo through Plaza Colon near the site of Puerta de Santiago, the landward gate to the city. Plaza Colon, always important to the citizenry and originally a public vegetable garden within the walls, is simultaneously a traffic circle, bus stop and park. It is dominated by a monument to commemorate the Fourth Centennial of the discovery of Puerto Rico by Christopher Columbus. Tapia Theater, on the south side of the Plaza, first opened in 1832 and was financed by public subscription and taxes on bread and liquor. Extensively remodeled in 1949, its classic facade helps maintain the nineteenth century character of Plaza Colon.

Narrow streets lead into the old city from Plaza Colon to La Fortaleza, the Governor's Palace, and to the Plaza de Baldorioty, the ceremonial and social center of San Juan. This public space, one of several which give San Juan its unique charm, is defined by the Alcaldia, Edificio Intendencia (built in 1840 as the quarters for both the Treasury and residence of Intendencia), and various multistory commercial buildings. Plaza de Baldorioty, a plaza of many names, was first used as a marketplace, later as a military parade when the Intendencia was a barracks and prison.

La Fortaleza, at the west end of the second major street from Plaza Colon, was begun in 1533



2



3



as a fortress to protect the harbor. Unsuccessful as military architecture, due mostly to its poor location, it soon became the traditional residence for governors of Puerto Rico. Throughout its history many alterations were necessary to accommodate the needs and tastes of the occupants. The present building results from mid-nineteenth century reconstruction and is basically neoclassic. Its most distinctive features include an elaborate east facade, terraces and gardens, executive offices and palatial reception rooms.

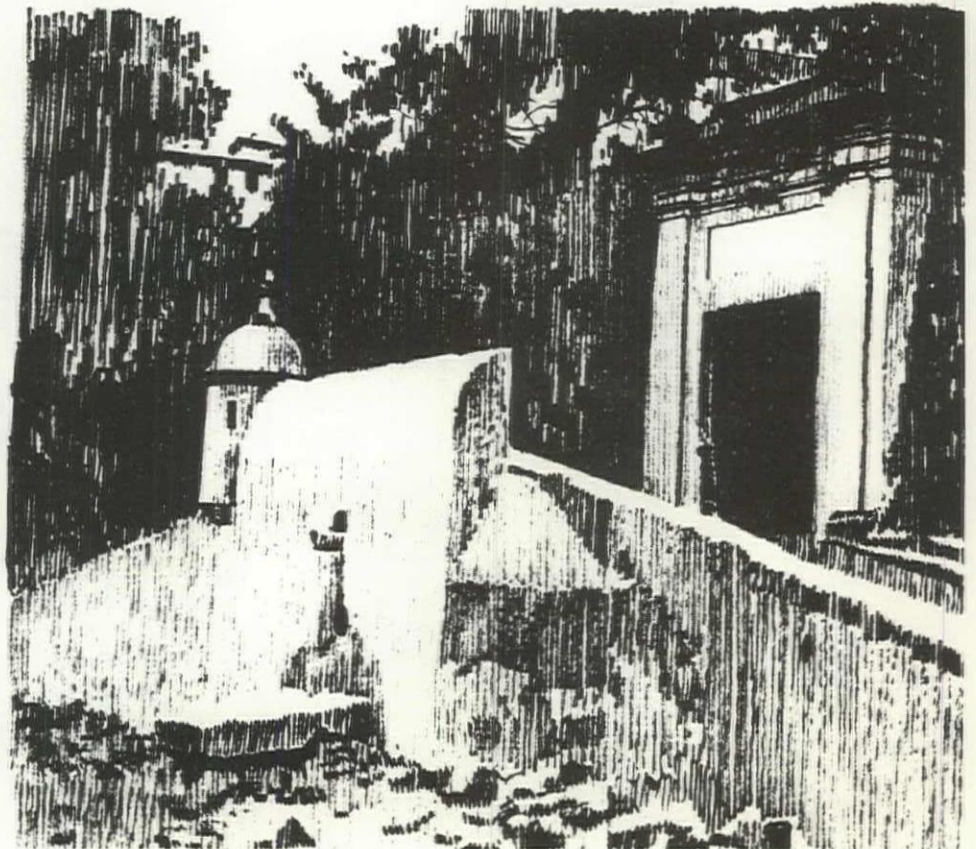
The impact of a rich Catholic tradition is quickly sensed in the variety of religious buildings in San Juan. One delightful experience in San Juan is to walk down Calle de Cristo, a glazed-brick street, from San José Church to the Capilla del Santo Cristo de la Salud. San José Church and the adjacent Monastery of St Thomas Aquinas, both begun in 1523 by the Dominican friars, are outstanding examples of colonial monastic architecture. The monastery retains little more than its basic form due to military occupancy by both Spain and the United States, but San José Church is a carefully preserved building with ribbed vaulting over the side aisles, sanctuary and transept.

Opposite San José Church is the Palacio del Arzobispo, a well-preserved eighteenth century mansion with a monumental stairway with risers of Delft tiles illustrating various Biblical incidents.

2



1



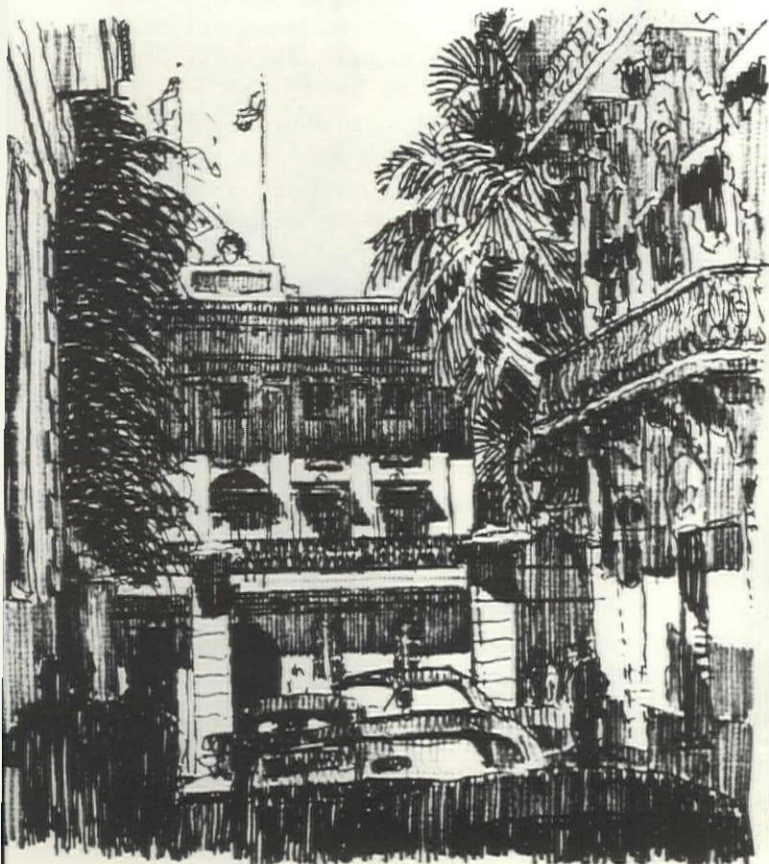
3

Adjacent to the Palacio is the Seminario, founded in 1832 and built with part of funds intended for the Tapia Theater.

Further southward on Calle de Cristo is the Catedral de San Juan Bautista, an excellent example of Spanish Baroque architecture. The interior is an intriguing continuity of actual and simulated detail, including a wide variety of plaster surfaces painted to represent marble and series of mouldings, balustrades and other three-dimensional decoration. Ribbed vaulting in the sacristy and the spiral stone stairway in the bell tower appear to be sixteenth or seventeenth century work. Opposite the Catedral is Plazuela de las Monjas, providing a moment of relief from the narrow street, and an entrance to Hotel El Convento. Formerly a Carmelite convent founded in 1646, the building was saved from certain destruction by the Woolnor Corporation and converted to an inn-like hotel especially appropriate to San Juan Antiguo.

Capilla del Cristo de las Salud is the south terminal of Calle de Cristo, a small masonry building consisting of only a porch and sanctuary. Its most important features are an elaborate bell cote and weather vane and a beautiful altar piece of gold and silver repoussé work.

San Juan Antiguo, restricted by the fortifications necessary to its protection, was slow to spread



Although the Arsenal complex is near ruin, the "Portal," whose elaborate facade is shown in a HABS drawing (1), is well preserved. Upon entering San Juan Antiguo, today's traveler encounters Plaza Colon (2) and the San Juan gate (3). Narrow streets lead to La Fortaleza, the Governor's Palace (4), and on to Casa de Espana, a social club which serves as a testimonial to the Spanish heritage



Capilla del Cristo



Casino de Puerto Rico



Capitol

Caribe Hilton



eastward along the Isleta. When the Puerto de Santiago and portions of the wall were removed in 1897, important buildings were constructed along routes to the mainland. The Casino de Puerto Rico, built in 1920 on the site of Puerto de Santiago, was the center for the social élite of San Juan. It is architecturally significant as an early concrete structure camouflaged with French Baroque mannerisms, elaborate cornices, bracketed balconies and an array of stucco festoons, swags and cartouches. Its most significant interior features are a monumental stair hall and a profusion of plaster reliefs by José Albrizio. The Casino is now occupied by the Instituto de Cultura Puertorriquena, a governmental agency which preserves and supports the best of primitive, Spanish and modern culture of Puerto Rico—and incidentally maintains an excellent architectural museum in San Juan. Nearby Casa de España, unique in both function and form, houses a social club dedicated to the preservation of Puerto Rico's Spanish heritage. This building is a fine example of carefree eclecticism in a flamboyant composition of towers, porches, verandas, lanterns and terracotta decoration copying a Spanish "Cortizo" or country estate in Andalusia.

The Capitol of Puerto Rico is a large and impressive neoclassic building on a spectacular site overlooking the Atlantic Ocean and the Bay of San Juan. Rectangular in plan, it is symmetrical about porticoes, dome and lantern with the chambers of the House and Senate to each side. The rotunda is the most impressive element of the building, with soffits of supporting arches and dome covered with murals and mosaics executed by leading Puerto Rican artists. Begun in 1925, the Capitol was designed by Rafael Carmeaga, then Architect of Insular Department of Interior. Modifications have been minor, principally due to the 1957 construction of two separate legislative office buildings designed by the architectural firm of Torro & Ferrer.

The road to the mainland passes through commercial neighborhoods, caught up in the limbo of transition, to the grounds of Hotel Caribe Hilton. This building, designed in 1949 by Torro & Ferrer, owned by the Insular Government and operated by the Hilton International Corporation, was Puerto Rico's first hotel specifically intended to attract modern tourists to the recreational advantages of the island. The Caribe fully exploits one of the most dramatic sites of the island, at the opposite end of Isleta de San Juan from Castillo de San Felipe del Morro and provides a magnificent view of Fuerte San Geronimo, the beaches of Condado and the modern municipality of San Juan. It is an appropriate introduction to further exploration of Puerto Rico's architecture. ■

The
PERSONALIZED

ANONYMOUS
Landscape

*“ . . . poised with us between past and future and sharing both,
is in process rather than status,
becoming rather than being”*

BY GARRETT ECKBO, FASLA

THE entire path of historical progress—the accelerating expansion of social development as related to that of nature—is led by, and based upon, two forces we now call science and art. Science is the skeptical and questioning search for knowledge and understanding of the world around us; art the search for creative decisions on new forms and arrangements, based on visions derived from that new knowledge. If I appear to be redefining these words, bear with me—I am. Redefinition is a profession dabbled in today by multitudes of journalists and politicians, commentators and ministers. That is the way language and culture grow. My definitions spring from and include those commonly held.

Painters today seek new ways to express their reactions to the world. These reactions result from the impact of science and technology on that world—the camera, the microscope, the airplane—the new vision, vision in motion, the new landscape. Sculptors, and architects too, produce unprecedented forms resulting from unprecedented resources and inspiration. Music searches for new forms and a broader vocabulary, hearing not only the classical tradition but folk and jazz, Asian and African, the streets and factories of the Western world. Poetry and literature react to the world in strange and shocking forms, but only because it is a strange and shocking world when we remove the wraps of convention and polite usage.

The fine arts, or even the fine and applied arts, or even the fine, applied and mass arts, are only a fragment (the leading fragment) of our world of art. Art, as the dictionary says, is skill. We say skill not for repetition of something learned but

for exploration of something sensed, for pushing back the boundaries of human experience and understanding, even as science pushes back the boundaries of knowledge. Art includes every creative act of man or woman as long as he or she continues to perform. We have creative engineering, creative politics, creative medicine, creative law, creative agriculture, creative teaching, creative labor. We have also uncreative painting, sculpture, architecture, music, poetry. Art resides not in the kind of activity but in the creative spirit brought to it, and the creative quality of its production.

The landscape which surrounds us continually in space and in time is a product of the constant interaction of art and nature. Art represents the processes of man; nature, all other processes. Art is both process and result. In the final analysis, it is an objective rather than a realization. Constant examination leads to constant refinement and to continuous exclusion of specific examples from the realm of art, and their consequent return to nature (the world of nonart processes, human as well as nonhuman). Every new effort of man to improve the landscape is an effort, however weak or confused, to achieve art. These efforts meet the exclusive standards of a civilization which is not yet quite sure that Picasso can join Michelangelo.

The landscape, poised with us between past and future and sharing both, is in process rather than status, becoming rather than being. Who has experienced the magnificent quietude of great mountains, the continuous power of broad rivers, the sparkling serenity of woods and meadows, the

joyous life of mountain streams, the impenetrable mystery of deserts, without sensing a continuity of meaningful process against which the clamorous anarchy of human construction often seems mere sound and fury, signifying nothing?

There was a time, in the sweet childhood of the human race, when man lived close to nature and was an integral part of her processes. His skin clothing, grass shack, stone ax were scarcely distinguishable from their natural context. The world of nature and the world of man were synonymous, and to man little more than a strenuous and exhausting pursuit of livelihood. Nevertheless he found time, energy and inspiration to paint on the walls of caves.

Man is curious, skeptical, busy. He cannot let well enough alone. Somehow he could not remain a simple cog in the machinery of nature. Skins led to textiles, grass to timber and masonry, stone to iron. Every step was a step toward art, the search for meaningful form, the constant production of new ideas, forms, arrangements and relationships. Every step, once taken successfully, became a part of man's natural processes, hence again a part of nature. It is only man's creative urge, his imagination, restlessness and dissatisfaction with the status quo that lifts him constantly out of and beyond nature. And yet, because he is himself a part and a product of nature, every such effort, momentarily beyond nature, becomes almost immediately again a part of nature, part of the status quo, not subject to change until the next burst of creative energy. Man has become one of the primary evolutionary forces on the natural scene, and nature will never be the same again.

Man, in relation to the unguided evolutionary processes of nature, is a revolutionary force. He upsets the normal directions of natural development, inserts objectives and demands which were never before a part of nature. In the natural wild landscape there is a normal pattern of development, leading to a climax balance in which topography and drainage may be stabilized by vegetation which has reached the volume of growth possible within the local temperature-moisture limits. Major changes occur then only through geological shifts, earthquake, fire, flood—or man. In agricultural landscapes the elements of nature are rearranged and changed by clearing, draining, irrigating, selecting, propagating and cultivating. Urbanization imposes far greater changes by gradually increasing construction until nature is crowded out altogether.

The development of the world as we know it today might be considered a resultant of the interaction of three basic forces: 1) those representing the status quo in both society and nature,

resisting change except at their own rate, 2) the forces of curiosity, represented today by science, but always since man began the skeptical, dissatisfied, restless, searching, seeking human spirit, constantly asking questions and pursuing answers, 3) the creative forces of man, seeking not only answers to questions but decisions based on those answers: new forms, new techniques, new relationships, new ways to communicate visions of the world, as it is and might be.

Art, as the human urge to create and improve, is always at the forefront of change. Yet no sooner does it succeed in promoting an improvement than that change is taken over by the forces of status quo, made a part of that which is, the Establishment, and divested of its fire and trouble-making potential. Perhaps 'twas ever thus, at least since Plato first began to fear art as subversive.

Art is both personal and anonymous. As the sum total of creative human contribution to the landscape, it is anonymous—only rarely do we credit a special building, garden or other work of art to an individual. The general landscape, even at its peaks of quality in England, France, Italy or Japan, is an anonymous social product. And yet individuals have left their mark on this landscape, perhaps most notably Le Nôtre and Hausmann in France. Curiously, these great strokes of individual expression became the basic vocabulary for the greatest system of worldwide landscape standardization, L'Ecole des Beaux Arts. The comfortable anonymity of England, Italy and Japan remain to us as greater landscape legacies.

The scientist strives to know, and the artist to communicate a vision of, the world as it is and might be. Neither is overly concerned with self-expression as a conscious objective. Yet there is a persistent myth, borne out by the actions of certain monument-builders, that the artist seeks to express himself in the landscape. How true is this?

Every productive person deserves and seeks credit. Self-expression is a natural by-product of strong convictions, strong visions, strong curiosity. It does not exist for its own sake, except in the commercial-promotional approach so common in our times. With us, especially in the early stages of a professional career, we must express or perish. Of the various paths to success today most, save the social and political, seem to require us to make a personal splash in the landscape, hastily recorded in photography and distributed as widely as public relations techniques can manage. Soon, if all goes well, there is a new school, people line up to buy our kind of design, and we are a success—as long as we can continue to make our personalized mark on the landscape.

We know that the landscape is one continuity of experience wherever we go and, ideally, would be so designed. Therefore, we end with a conflict between the controlled (regimented) landscape, in which form and style are preconceived and personal variations are not allowed, and the "free" landscape in which every designer does as he pleases, some well, most badly, and the end-product is anarchy in which even the best is lost. However, in this phrasing both control and freedom are irrelevant to the serious artist, and without him society cannot produce a meaningful landscape today. Handicraft societies tend toward unconscious charm, industrial societies toward automatic ugliness. "Freedom" of self-expression is a pathological condition, without discipline, in which the artist is lost with only himself to express. On the other hand, control is a rejection of creativity, a negation of the vital forces of humanity, an effort to design by rules, codes, guides, principles—and now, by computers.

The sensitive design process, truly oriented toward the solution of problems within a natural-social context, needs neither control nor "freedom." It needs fundamentally to be an integral part of the processes of social decision, preceded by scientific fact-finding. Design processes locked integrally into decision-making patterns would demonstrate that controls are only an effort to bypass design, and freedom is only the cry of the frustrated designer excluded from decision-making. While present-day nondesigner decision-makers may scoff paternally at the realization that designers want to participate, they should think before they scoff. The urge is not based alone on frustrated ego but on the essential nature of design as a decision-making process, and the only potentially creative process. The American landscape, shambles that it is, is littered with the

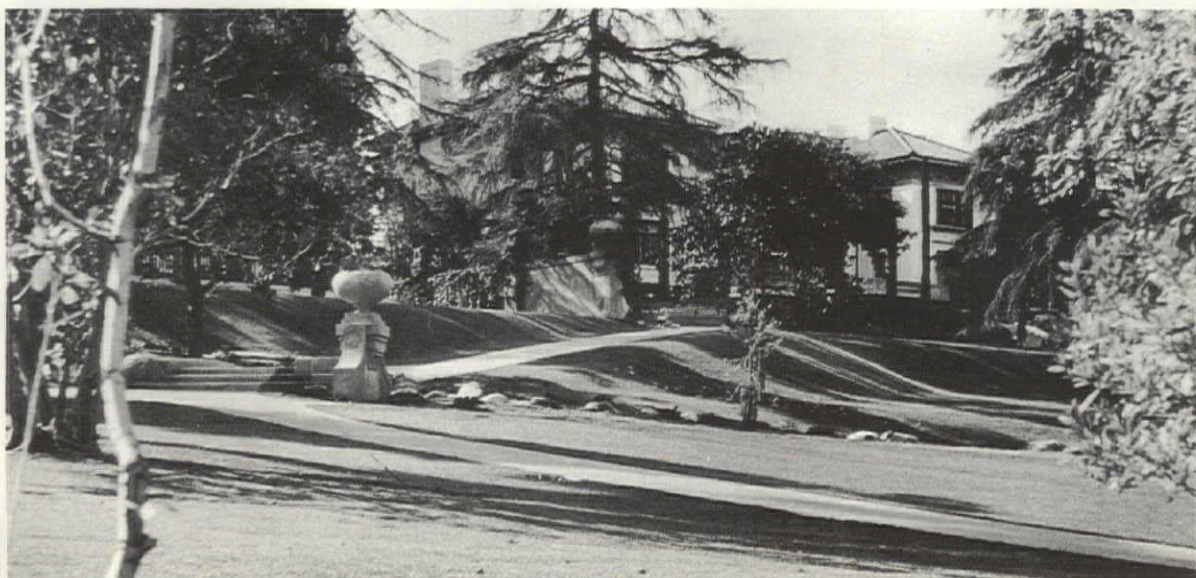
results of decisions by nondesigners, and is in fact a monument to their ineptitude and arbitrariness, greed and opportunism. This is not a plea to substitute arbitrary design decisions for arbitrary nondesign decisions. It is a plea to recognize the fundamental nature of the sound design process as incapable of arbitrariness, whereas nondesign decisions are almost certain to be arbitrary.

Sound design decisions will produce an anonymous landscape, because they are organically interlocked with development processes. Efforts to personalize elements in the landscape, whether to demonstrate social-historical importance or the genius of the designer, usually demonstrate maladjustment between the demonstrator and his society. Such personalization is not necessary to real personal or social success, although it may help momentary opportunism.

However, we must beware of confusing efforts toward personalization with the impact of genuine artistic genius or the individuality of times and events. Frank Lloyd Wright did not have to try to personalize the landscape. The full tide of his powers did this for him. And yet he was a product of his times—after an early struggle, consigned to oblivion during his most potent middle years by narrow-minded yellow journalism. Very likely this experience left him subconsciously determined to leave his mark on a blind and puritanical society. He was the last great rugged individualist. Design is always a result of interaction between designer and environment.

The problem is not exactly the personalizing of the landscape, or even its conscious personalizing for commercial or ego satisfaction. This stems from a social atmosphere, a national slightly pathological fascination with personality manifestations, stemming perhaps from the Hollywood star system, journalistic and political distortions

"Sound design decisions will produce an anonymous landscape . . . organically interlocked with development processes"



GARRETT ECKBO

of the idea of individualism, what has been called the cult of personality.

The problem really lies in its effect on our experience and evaluation of the landscape. When we see it as a continuous physical experience, in which the various parts and sequences are evaluated in relation to each other, and in terms of their direct effect on us, that makes possible reasonable and reliable judgment. But when the personality of the designer or developer is there, whether by his decision or ours, then our experience and judgment are warped by special attitudes toward that particular segment of landscape. These include our attitude toward the designer/developer as a person, his or her ideas, the school or group he represents, the effectiveness of his verbal or literary interpretation of the design, etc. No doubt this is one of the reasons why we say that we cannot finally judge contemporary art, being too close to its sources and too easily involved in the personal aspects of creation. But, nevertheless, we are forced to pass judgments on the landscape every day in all its parts, new and old. It is constantly developing and changing, and it is the environment in which we live, breathe and move, as fish in water. If we don't participate in the development process, at least by commenting on what is there and what is proposed, we allow the design of our environment to go to others by default. It is precisely here that the conscious personalizing of the landscape becomes a bit snide and cynical. It is like the doctrine of *caveat emptor*, let the buyer beware. This is the slogan of social barbarism and irresponsibility, which says that "I will take advantage of every situation to advance myself at others' expense unless specifically prevented." A responsible and civilized attitude, on the other hand, will consciously avoid overt personalizing of other people's environments, recognizing that this is an invasion of privacy.

Of course, the personalized landscape has a broad range, from the crudity of the worst signs, billboards and commercial structures to the strength, delicacy and refinement of the greatest works of architecture and landscape architecture. In the final analysis, it is probably impossible to draw the line between the personalizing that results from strong conviction and sense of form and arrangement, and overt personalizing for purposes of advertising, promotion, prestige and the satisfaction of the hungry ego. Each designer knows, within his own heart, when this line is crossed, but no one else can tell.

The artist-designer represents change; society and nature represent the status quo resistant to change. Yet society in relation to nature represents change. Societies have varied in their commitment to change, and the USA is perhaps most of all



DICK PETRIE

"The personalized landscape has a broad range, from the crudity of the worst signs, billboards and commercial structures . . . to the greatest works of architecture"

committed to it. Yet our controlled changes are primarily restricted to certain areas of technology and production, leaving their by-products to fall where they may. While we rationalize that this is a result of inability to control the machine, it is really inability to control those who control machines or irresponsible nondesign decisions.

We, as a society, are ignorant and afraid of art as a constructive social process; we stultify it as entertainment or therapy, shunt it off into odd corners of life, frustrate and block it by writing vast reams of principles, standards, codes, regulations, ordinances, etc. all designed to bypass or evade the creative processes of art and design—and thereby frustrate and stultify our total decision-making structure. The results are plain to see all around us, in our increasingly ugly and misshapen physical and social environments.

We applaud creative intuition in science, medicine, engineering, law, business or military strategy. But when it is applied to our environment, we are suddenly fearful and skeptical. Music, painting and sculpture are all right in certain special places at special times. Architecture and landscape architecture are all right as long as they don't make the job cost more than it might without them, and as long as they don't upset us with wild new ideas, or disturb the pattern of sound return on investments new or old. The applied arts are all right as long as they make things more useful and cheaper. Mass communication is all right if no egghead messages get in.

It is more or less the same with our social environment. Politicians, government planners, sociologists, anthropologists all make us a little nervous. We are skeptical of their intentions and

objectives, and of the possibly disruptive changes they may bring to our lives.

Control of our physical and social environment is one of the chief problems of life for all of us. We want to live in a nice home in a good neighborhood in a stable community in a reliable region in the greatest nation in the world. We want good workplaces, good schools, good centers for shopping, recreation, health care, culture, worship and services. Yet in spite of these widespread and earnest desires, and the greatest prosperity we have ever known, the American physical environment is deteriorating before our eyes, through new mass construction rather than blight and obsolescence, and the social environment is full of strange, violent and demanding forces.

We find that we have no real basis for qualitative judgment of the physical environment. What we think are qualitative standards are really quantitative. We think the good environment is an expanding collection of *things*, whereas it is really a flexible yet balanced relationship of *processes*. The house may include a certain number of rooms, square feet, doors, windows, appliances, plumbing and electrical outlets, etc. But it is the relations between all these elements, and many more, that determine the quality of the house. The way that everything in the house is put together determines whether it is special, average or substandard. This includes the way the house, lot and street are put together; the way the houses and lots in the block and neighborhood are put together; the way schools, parks, churches and shopping centers are put together with the neighborhood; the way neighborhoods, work and recreation places are put together in community or metropolitan area, etc. Each item in this constant network of relations affects all the others, be it ever so slightly. It is as though we all lived on a giant rope net, hung so loosely that whenever one moved, everyone else had to adjust.

One of the most widespread and naive notions is that the efficient environment will be good and beautiful to live in. We are surrounded by the anarchic and shabby results of this idea, and yet our leaders in business, technology and engineering cling to it stubbornly. The persistent concept of our times seems to be that nature is an only enlarged complex of machinery, people are real or potential robots, all problems are basically technical in nature and solution, esthetics is an irrelevant defense system built up by maladjusted intellectuals and artists, and the computer is the final answer to everything.

Design is the process which may produce art, in the sense of a solution which expands the boundaries of the problem, outlives it and creates constantly widening circles of influence. All artists

are designers, but all designers are not artists. Designers employed by nondesign decision-makers (executives) assemble and present alternative solutions and their recommendations. These decisions involve determining the essential components of the problem, the relevant resources which exist for solving it, and how to combine resources and components in the best solution. The best solution will be creative, that is, will go beyond its precedents. This applies to all of the problems and all of the decisions of life. Design is the problem-solving and decision-making process (every decision concerns a problem), and art is the creative segment of such problem-solving decisions. The noncreative majority of decisions, the run-of-the-mill hack work, indicates individual and social failure to develop the potentialities of creative decision-making. The questions of how far a decision must go to be judged creative, who determines its creativity, and who agrees, are connected problems which we need not explore in order to validate the central idea.

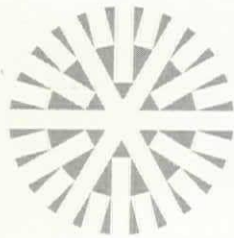
In many situations decisions may be creative for some of those involved and not for others. Creative merchandising, for example, may be creative for the merchandiser and exploitive, frustrating or exasperating for the consumer. In such cases history will determine the general validity of the decisions. At times it may be that the scale of the problem may require a scale of decision-making that is too great for the existing institutional pattern of society. Then problems are not solved but merely palliated, tolerated or endured. In the past, great civilizations have disappeared, perhaps because of this inability to match the scale and demands of new problems. Today, perhaps, some of our pressing problems are beyond the scale of effort and organization—or reorganization—that we are willing or able to undertake. Air pollution, juvenile delinquency, massive suburbanization, the nuclear prohibition of war all seem to leave us floundering.

We may say that the good landscape is both personalized and anonymous. It is personalized by the impact of creative talents released to perform and by the credit due them from a grateful society. It is anonymous because in the final analysis all citizens participate in its formation, even the greatest geniuses cannot function without social support, and a cultural atmosphere which sustains them, whether by nourishment or frustration. By and large, the good landscape reflects the freedom and justice embodied in the society which produces and inhabits it. This is no simple platitude. We do not find a totally good landscape anywhere in the world today. ■

Photos from "Urban Landscape Design" by Garrett Eckbo. Used by permission of McGraw-Hill Book Co. © 1964

Portrait of a Total Artist

BY ALICE GRAEME KORFF



ROBERTO Burle Marx of Brazil, known throughout the world for the beauty of his tropical gardens, wins this year's AIA Fine Arts Medal. While he is probably most admired for his work as a landscape architect, the skills of Burle Marx as a painter, sculptor, textile and jewelry designer have served to round out an exceedingly versatile personality. Rarely, nowadays, does an artist combine the knowledge of as many disciplines, creating works of art in so many fields. His intelligent understanding of his several media and the inventive development of his work have brought him wide recognition as a total artist.

Certainly no one who thinks of modern Brazilian architecture can fail to associate with it the contributions of landscape design by Burle Marx. His garden and mural design have developed together with today's architecture in Brazil. When Burle Marx receives his award next month before the joint convention of the AIA and the architects of Latin America, he will be honored by friends and colleagues as an innovator and teacher of new forms.

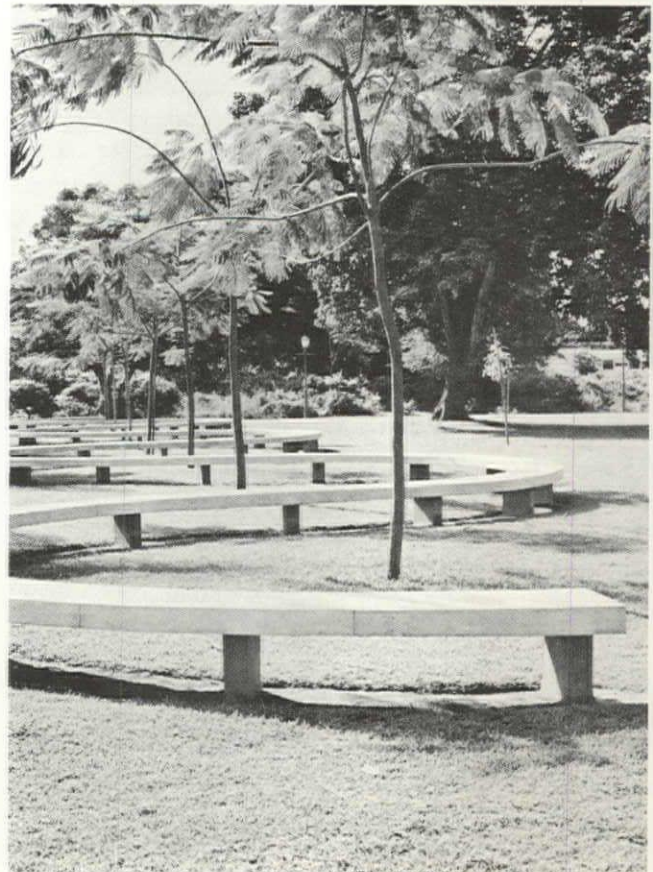
A lifelong devotion to gardening and horticulture began when Burle Marx started as a child to develop a small plot of land at his father's house. He was soon experimenting with the cultivation of rare plants and moving forward into the scientific exploration of horticulture. This absorbing interest in the plant life of his native Brazil continues to this day. The extensive nurseries and garden laboratory which he created here brought a new understanding of tropical flora, adding a useful vocabulary to the resources of his country's contemporary landscape architecture.

As a young man he studied painting in Europe, coming under the influence of such artists as Picasso, Klee and Kandinsky. Later in Rio, where he continued his training, he worked with the

Roberto Burle Marx of Brazil:



Versatility of the artist is shown in the drawing of a tree from Cabo Frio Forest and the landscaping of a chapel garden, whose Brazilian baroque greenery enhances the structure



Winner of the 1965 AIA Fine Arts Medal

muralist, Candido Portinari. His paintings have been widely exhibited in Europe as well as in Latin America. Always interested in the theater, he has designed many schemes for stage, ballet and festival decorations. Burle Marx's knowledge of painting and the arts paralleled his research in gardening and developed with it. His painter's eye led him to the selection of colors and line in landscape architecture and to arrangements of outdoor space that have the quality of a painter's composition.

As early as 1933 his neighbor, architect Lucio Costa, recognizing young Burle Marx's ability both as artist and as gardener, invited him to design the garden for a house he was building. This fortunate commission led immediately to others, notably to design the public gardens of Recife, including the aquatic and cactus gardens there.

The then-emerging modern architecture of Brazil called for a different kind of landscape design both in plant material and plan, designs not obviously derived from Europe but using the native flora with new, abstract and imaginative compositions. Burle Marx had a natural instinct for the new spirit in art and could organize colors and landscape setting in harmony with the buildings. Whether his designs took the shape of free-form or an austere geometrical pattern, his style produced a controlled and selective composition. The tropical garden in a modern form became the means of his self-expression.

In the development of his gardens, his love for the countryside, the forests and the streams led always to an honest respect for the site and the preservation of the natural elements of the scene. His work was an enhancement of the terrain and a skillful rearrangement of what he found to be there. Of the principles by which he created his early gardens and which he still considers valid, he has written, "The use of indigenous plants; the integration of plants and beds of plants with the landscape; the contrast and interplay of smaller or larger moving volumes against fixed architectural forms; analogical planting, and the use of color and texture as a painter would, but never forgetting that the color has volume too—all these

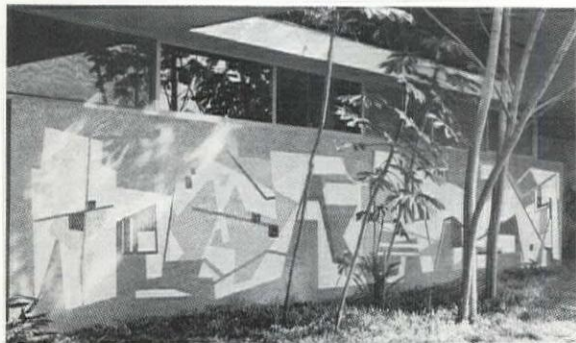
are characteristics of any garden I plant, however different its expression may appear to be."

Because of an intense interest in tropical plant life, Burle Marx has continued his explorations for new indigenous plant material and carried on the work of scientific cultivation and acclimatizing of his new-found species. From numerous expeditions to the jungles and the inland rivers of Brazil, he has brought back new kinds of plants and flowers for the enrichment of his palette. Through his research many new plants have come officially to bear his name and have been added to the unique resources in his garden laboratories. Burle Marx uses an extraordinary variety of plants, from common weeds and sugarcane to the rare and exotic species flourishing not only on the forest floor but high in the jungle trees. Through the process of hybridization he has developed new tones of color in his flowers and new gradations of green in foliage for the solid areas of color called for in his free-flowing arabesques and sharply defined abstract forms. Using these different intensities of color in new-found foliage and blooms, he creates landscape design as a painter, massing and contrasting living material for his garden canvasses. He is concerned, too, with the native animal life and encourages the introduction of birds, insects and even reptiles which form part of the native ecology.

An important focus in his garden plans is often a mural executed after his own designs in ceramic tile, the colors of the tile complementing the brilliance of the beds of flowers and grasses. Burle Marx also uses natural stone and water in a variety of ways. Sometimes huge boulders arranged strategically are half-covered with rock-climbing plants in contrasting textures, or a bed of water-worn stone and pebbles brings a change of pace. The use of water has always been important in his work. "Both plant and constructional materials," he writes, "would be enhanced or modified by the various uses to which water, the great essential in the tropics, could be put; making of water: a mirror, a life-giving force, a medium in which a floating parterre or paintings can be presented; or again,

not a mere fountain but liquid sculpture in its own right, or the complement to a sculptural element in metal, stone or wire. And again, it is the medium which modifies the colors of mosaic lining the pools, seen through its transparencies."

A master craftsman himself, Burle Marx has long understood not only the value of other skills but the need to integrate the contributing elements of any project to produce a final harmonious whole. Collaboration between artists and archi-



Mural for a residential garden (Rino Levi, architect)

ects, however, is an easier and more accepted relationship in Latin America than here. Trained in the same schools and often skilled in each other's professions, that understanding exists which many would hope to encourage in the United States. Paul F. Damaz, who has studied this aspect of Latin American life for the Architectural League of New York, tells us in his book, "Art in Latin American Architecture," "There are no violent advocates of the integration of the arts for the reason that there are no opponents. Collaboration between architects and artists is natural and presents no problem."

Certainly this collaboration is brilliantly demonstrated in the Ministry of Education, perhaps the finest modern building in Brazil, for which Burle Marx designed both the surrounding gardens and the aerial roof gardens. Other artists collaborating with the six distinguished local architects were Lipchitz, Portinari and Giorgi. Le Corbusier, who came to Brazil in 1937 as consultant to the group, profoundly influenced Burle Marx with his philosophy of the recovery of space and the urgent need to find room in modern cities so that man could again establish contact with nature. This could be accomplished, said Corbu, by the development of the roof garden, the unused space over an extended wing, and the open areas under the buildings at the first floor level of the pilotis, so often seen in Brazilian architecture. "Thus, in a relatively small space," writes Burle Marx, "the garden is restored to man by making use of the architecture itself."

As construction crowded in upon the urban scene, Burle Marx became increasingly aware of the importance of preserving all usable urban areas

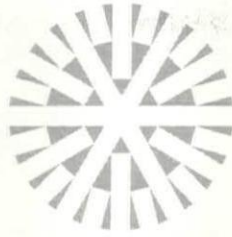
as green space. He realized the importance of landscaping the parkways used constantly by the city dwellers and the opportunities to be developed in the reclamation of filled land. His garden architecture expanded to every kind of project for industry, for the private owner and for the government. In 1959 he became professor of landscape design at the University of Brazil and also that year brought the first one-man exhibition of his work to the United States. The showing held at the Pan American Union in Washington, was later circulated throughout the country by the Smithsonian Institution. The exhibition reviewed his work of twenty years—the tropical gardens for Rio, Petropolis, Belo Horizonte and Sao Paulo. Original water colors, later translated into gardens and mosaic designs, showed several of his skills.

In this country, of course, cheap labor is not so readily available for the installation and upkeep of large gardens needing constant tending. But the planning of public parks in Latin America gave Burle Marx scope for large-scale design where he could ably marshal the work of scores of workmen. The Parque del Este in Caracas, displaying an immense number of Venezuelan native plants in a naturalized setting, was started in 1959 with a group of associated architects. Three years later in collaboration with the same group, he was working on the master plan for a vast area of 14,000,000 square feet of reclaimed land on Rio's waterfront. The over-all design will link his gardens already designed at the airport and at Botafogo at either end of the area with the site of the Museum of Modern Art. Sometimes referred to as Beira Mar Gardens, the project is a major undertaking combining the skills of architects, planners, engineers and landscape architects to produce essential new space for an overcrowded population. Burle Marx's design for this section along the Bay of Guanabara, commissioned by the state government, will be of major importance to the life of the city. Already lined with parkways, the area must accommodate such features as restaurants, playgrounds and artificial beaches and also be set in a skillfully arranged landscaped design offering shade and relaxation. Will our cities with waterfront opportunities have such a plan?

With our new concern for the beauty and the preservation of the countryside and cityscape, we shall need to rely more upon inspired landscape design; to encourage more research and cultivation of our own native trees and plants; to find ways to create better environment for living; and in all these efforts to integrate the work and skills of our artists. Much for which we are seeking is inherent in the accomplishments of Burle Marx. ■

M. Gautherot photos from "The Tropical Gardens of Burle Marx," by P. M. Bardi. Published by Reinhold Publishing Corp, 1964

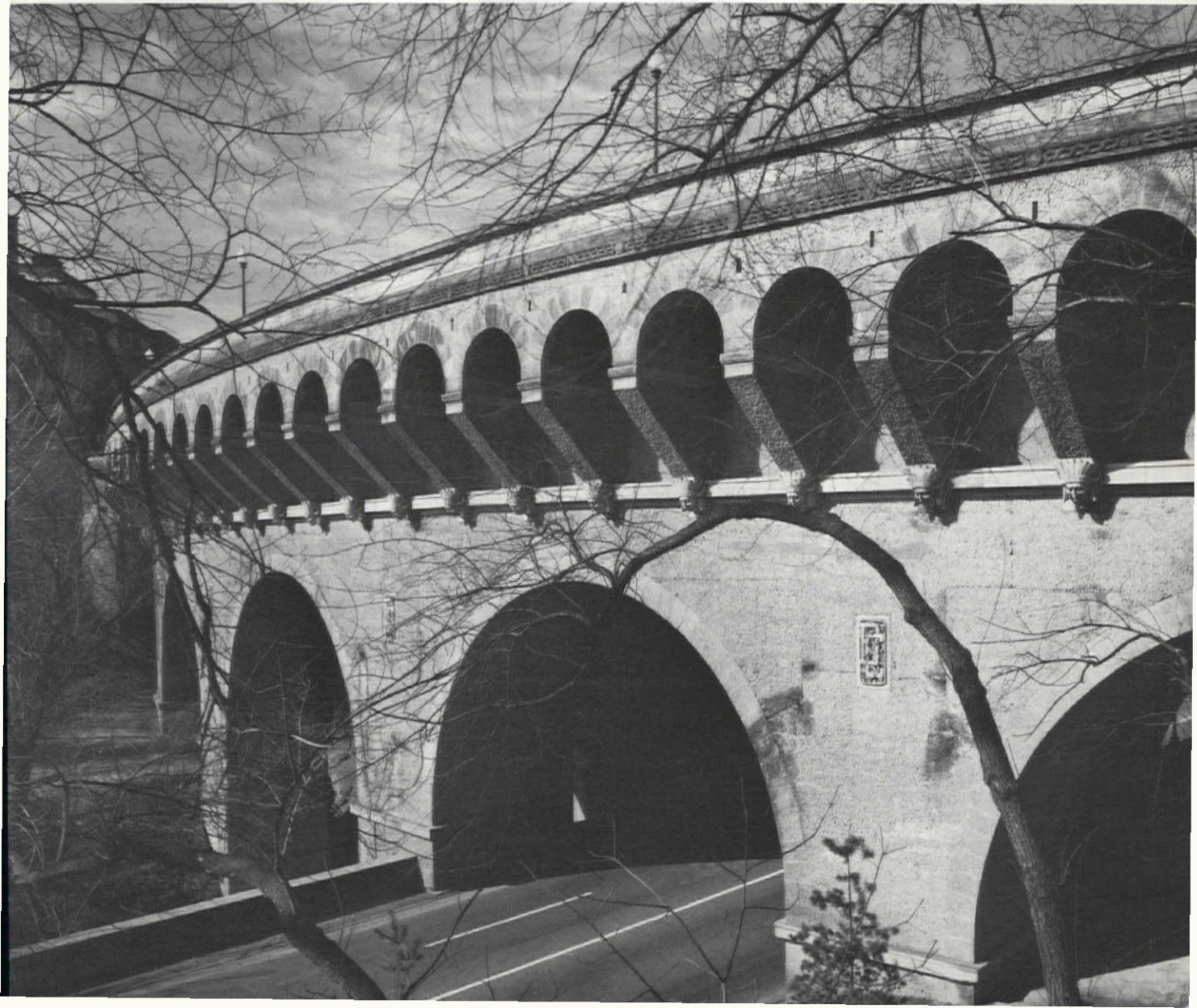
A Milestone in the Making

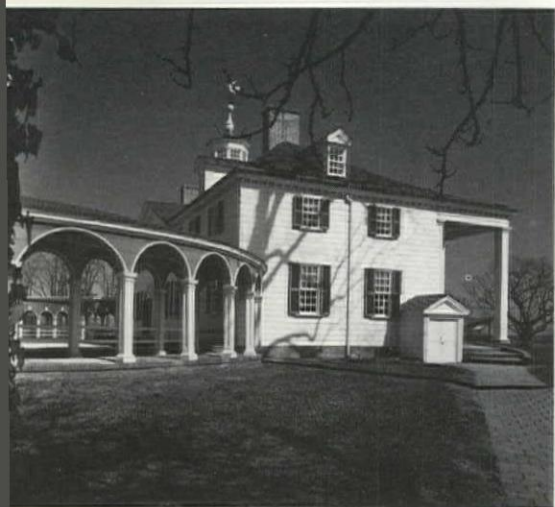


FOR what promises to be a most memorable week in June, the architectural spotlight of the world will focus on the nation's capital as the XI Pan American Congress of Architects assembles in conjunction with the 97th annual convention of its host, The American Institute of Architects. The growing list of dignitaries includes Assistant Secretary of State Jack H. Vaughn; Sir Robert Matthew HON FAIA, past president of the International Union of Architects, will be on hand for a welcoming address.

Joint ceremonies, enlivened by the colorful parade of flags, officially will open the week-long sessions on Monday, June 14, at the Sheraton-Park Hotel, headquarters for the Congress-Convention. More than 1500 registrants, including dependents, from twenty-one Latin American countries, Canada, the Caribbean, Europe and the Far East are expected to join their US counterparts, bringing total registration close to 4500 and

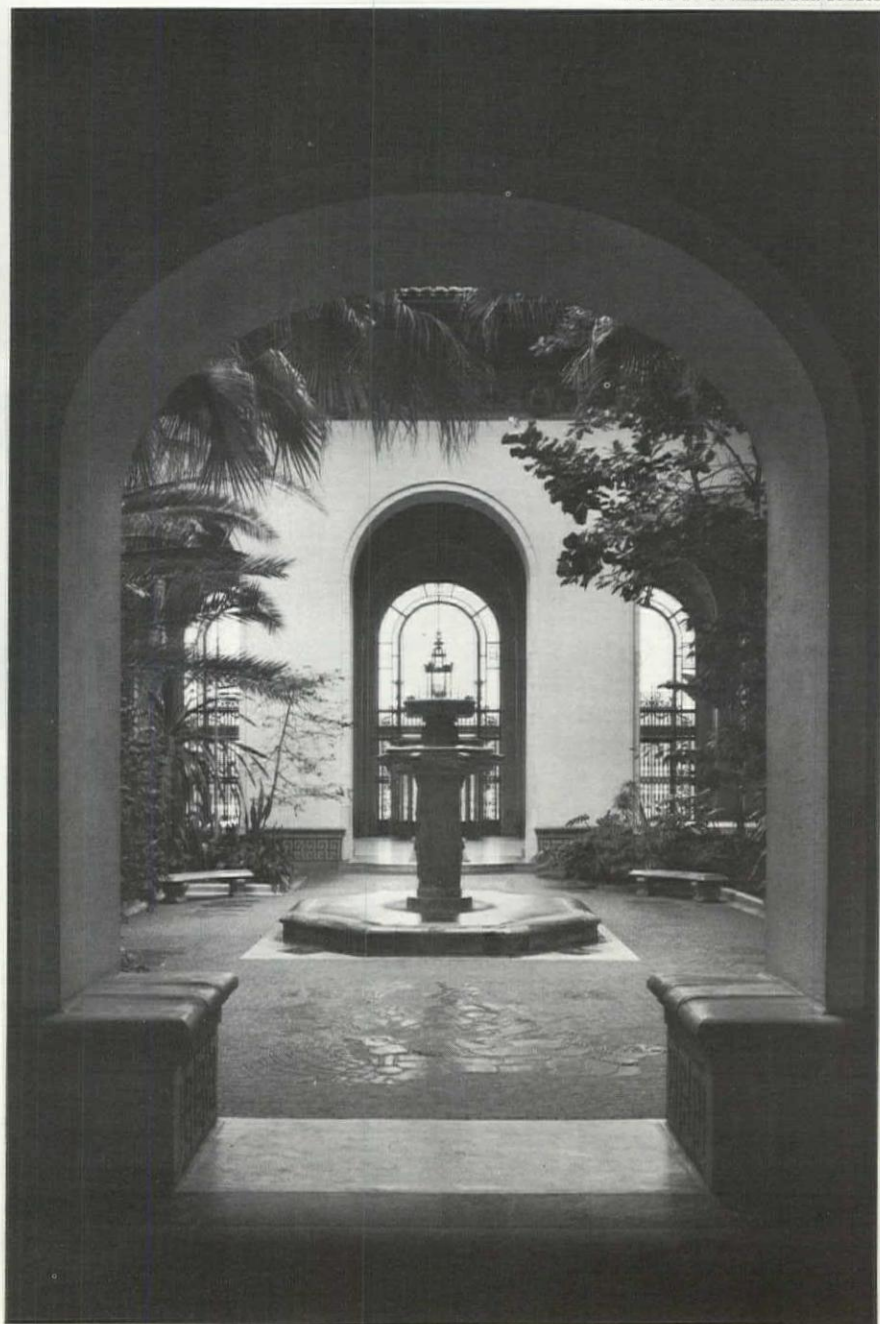
Washington, DC, Rolls Out Its Reddest Carpet for the Congress-Convention, June 14-18





With the Sheraton-Park Hotel as the starting-off place, convention-goers will bus it to Mount Vernon, continuing on to Woodlawn Plantation where Secretary Udall will dedicate the relocated Wright-designed house; travel the streets of Georgetown, especially the night of the host chapter's black-tie ball; receive the handshake of AIA President Odell at Kelsey and Cre's Pan American Union (right); and view an architectural exhibition at the Smithsonian Institution's new Museum of History and Technology (across page): Steinmann, Cain & White, architects

PHOTOS BY J. ALEXANDER STUDIO





making the affair the largest gathering of architects that has ever taken place.

The combined meetings, built around the "Cities of the New World" theme, will present a signal opportunity for the architectural minds of the Western Hemisphere to meet and exchange thoughts on the subject of urbanism. The Hon Adlai E. Stevenson, US Ambassador to the United Nations, has given his support as honorary chairman of the AIA Organizing Committee for the Congress, which will be assembling for the first time in this country. Scheduled to be held every three to five years, the ten previous Congresses have met in major capitals of South America.



The program has much to offer professionally and socially, with two dozen speakers sharing the podium during four seminars, the initial Edmund R. Purves Memorial Lecture by Lewis Mumford, the AIA President's Reception at the Pan American Union and several unusually fine host chapter events—just to mention a few activities on the jam-packed schedule.

The professional sessions, with simultaneous translations in English and Spanish, will consider the New World City—how it became what it is and what it is likely to become

—in two theme seminars, while two more will be devoted to specific areas of broad technical interest.

José Luis Sert AIA, dean of the Graduate School of Design at Harvard University, will moderate the opening seminar on "The Development and Present Condition of the Cities of the New World" set for Tuesday, June 15. Speakers will include Dr George Kubler, Yale University art historian; Arq Carlos Raúl Villanueva HON FAIA, Caracas; Paul F. Damaz AIA, New York; and Martin Meyerson, acting chancellor of the University of California and recognized authority on urban design.

Carl Feiss FAIA, Washington, DC, will moderate the Thursday, June 17, seminar on "The Future Prospects of Urbanization in the New World." The participants: Hon Stewart L. Udall, Secretary of the Interior; August Hecksher HON AIA, New York, director of the Twentieth Century Fund and former White House Consultant on the Arts; Arq Luis Ortíz de Zevallos, Lima; and William Pereira FAIA, Los Angeles, a member of the new National Council on the Arts.

Six architects will appear in each of the technical seminars, both to be moderated by Daniel Schwartzman FAIA, New York. Housing, commerce and industry will be discussed by Arq Villanueva; A. Quincy Jones FAIA, Los Angeles; Arq Jorge Ferrari Hardoy, Buenos Aires; Minoru Yamasaki FAIA, Birmingham, Mich, also a member of the National Council on the Arts; Arq Félix Candela HON FAIA, Mexico City; and Max O. Urbahn AIA, New York. Speakers at the session on health, education and rec-

reaction will be Arq Gabriel Serrano Camargo HON FAIA, Bogota; Edward Durell Stone FAIA, New York; Arq Emilio Duhart HON FAIA, Santiago; Ernest Kump FAIA, Palo Alto, Calif; O'Neil Ford FAIA, San Antonio; and Max Abramovitz FAIA, New York.

Envisioned as a kind of "State of the Union" message in terms of our visual environment, the first annual Purves Lecture (see April AIA JOURNAL) will be delivered by Mr Mumford at the Friday, June 18, luncheon, on the last day of the Congress-Convention. He also will address the Student Forum on the previous evening. Dr Robert C. Weaver, Federal Housing Administrator, will speak at the joint closing ceremonies.

The first general social event will take place on Monday when Institute President Arthur Gould Odell Jr FAIA greets the delegates and their guests at the Pan American Union. Joining the Odells in the 6-8 pm receiving line will be Samuel Inman Cooper FAIA, Atlanta, president of the Pan American Federation of Architects' Associations, and Dr José A. Mora, secretary-general of the Organization of American States, with headquarters in the building where the reception will be held.

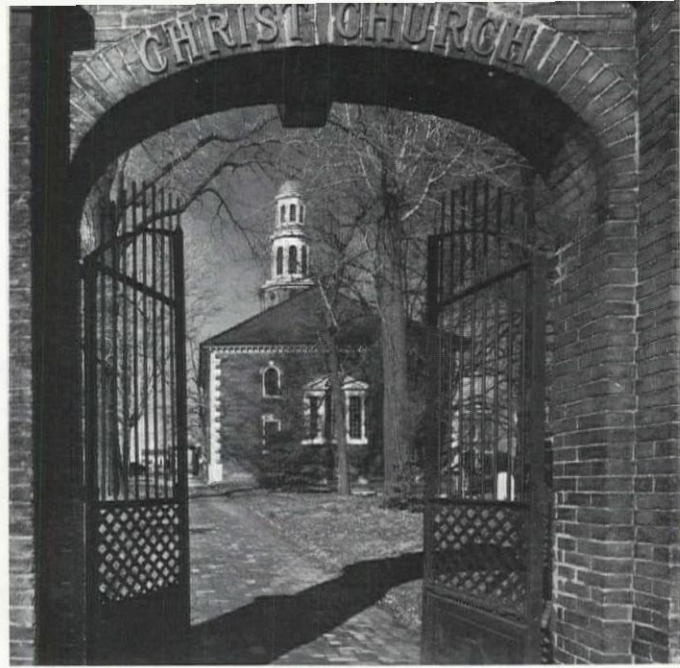
Later that evening, the assemblage will proceed to the Smithsonian Institution's new Museum of History and Technology for the opening of an architectural exhibition, with panels by Argentina, Brazil, Colombia, Mexico, Panama, Peru, Puerto Rico, Uruguay, Venezuela and the US.



Other activities will include the Awards Luncheon, also on Monday; AIA alumni luncheons on Tuesday, to which Latin American and Canadian guests will be invited; the Convocation of the AIA College of Fellows on Thursday; the Annual Banquet-Ball and Investiture of Fellows on Friday; and the week-long new products exhibit.

Traditionally, the host chapter, in arranging its program of local-flavor events, plans one special evening which, often in years past, has become the highlight for a good many convention-goers. On Wednesday, the Washington-Metropolitan Chapter AIA will invite the visiting architects and their ladies to an elegant black-tie ball in an unlikely setting—an abandoned powerhouse on the Georgetown waterfront. This "industrial cathedral," whose strange and exciting proportions are well-suited to such a gala, will play Cinderella for the night, with continual bar and table service beginning at 10 pm and a seated supper served after midnight. Meyer Davis will furnish ballroom music as well as Dixieland and South American combos. Earlier in the evening, since a kaleidoscope of eating places is within walking distance of the "Powerhouse Ballroom," restaurant tables in Georgetown will be reserved for dinner.

The popular Architects-at-Home, when visitors can enjoy a cocktail interlude with local hosts, has been set for Tuesday from 6-8 pm. Invitations will be extended to as many as can be accommodated upon convention arrival.



Alexandria tour will stop at Washington's place of worship designed by James Wren (reputed to be Sir Christopher's relative)

Spanish-speaking guides will be available on the three general tours. The Orientation Tour on Sunday, June 13, will give the early birds a comprehensive view of Washington from glass-roofed, airconditioned buses that will wind for 25 miles through parkways, famous avenues, historic neighborhoods and brand new urban renewal areas.

The architects will have a choice of two tours on Wednesday afternoon: New Buildings or Southwest Redevelopment. Those who take the former will quickly discover that the nation's capital is indeed in a building boom.

The women have arranged no less than eight activities, including two for the children (ages 10-16). Of particular interest will be a Wednesday event to which the men also have been invited: a 14-mile drive to Mount Vernon, ancestral home of George Washington, and Woodlawn Plantation, his wedding present to his ward and nephew. Secretary Udall will preside at the formal opening of the Frank Lloyd Wright-designed Pope-Leighey House, relocated on the Woodlawn grounds, where a box lunch will be served among beautifully restored gardens.

Other tours will include the White House (without waiting in the usual lines); Dupont Circle and its landmarks; Latrobe's Decatur House, the Custis-Lee Mansion and President Kennedy's Grave; and historic Alexandria.

Tuesday will be devoted to a view of the US Government in action and a discussion of the Capitol by Mario Campioli, assistant to the Architect of the Capitol.

The Thursday Performing Arts Luncheon, scheduled for the main ballroom of the just-opened Washington Hilton Hotel, will feature such personalities as Reed Whittemore, poet in residence of the Library of Congress, and guitarist Charlie Byrd.

The children will visit the Smithsonian on Tuesday and the Federal Bureau of Investigation and the Bureau of Engraving and Printing on Wednesday, the latter followed by a picnic lunch at Rock Creek Park behind the Sheraton-Park's neighboring Shoreham Hotel.

Mixed with the excitement of Washington itself, customarily vibrant and delightful at this time of year, such an array of events will create a convention formula that should be a real winner.

ROBERT E. KOEHLER

The following three articles are published under the auspices of the Commission on Public Affairs, Llewellyn W. Pitts FAIA, Chairman, and the Committee on International Relations, Henry L. Wright FAIA, Chairman

Architecture: A Vehicle of International Communication

The Past President of The American Institute of Architects and its representative on the US National Commission for UNESCO reports on the AIA's participation in the worldwide organization

BY HENRY L. WRIGHT, FAIA



UNESCO—the United Nations Educational, Scientific and Cultural Organization—may well be the one effective instrument for achieving international understanding that has emerged from man's search for a path leading to living in peace and harmony.

The conference for the establishment of an educational and scientific arm of the United Nations was first convened in London on November 1, 1945, and concluded sixteen days later with a Constitution establishing an "Educational, Scientific and Cultural Organization and an Instrument establishing a Preparatory Educational, Scientific and Cultural Commission." The Preamble of that Constitution, drawn by representatives of forty-four countries summarizes the reasons and goals for UNESCO in words that can be understood and appreciated by men of intellect everywhere:

The Governments of the States Parties to this Constitution on behalf of their peoples declare:

That since wars begin in the minds of men, it is in the minds of men that the defenses of peace must be constructed;

That ignorance of each other's ways and lives has been a common cause, throughout the history of mankind, of that suspicion and mistrust between the peoples of the world through which their differences have all too often broken into war;

That the great and terrible war which has now ended was a war made possible by the denial of the democratic principles of the dignity, equality and mutual respect of men, and by the propagation, in their place, through ignorance and prejudice, of the doctrine of the inequality of men and races;

That the wide diffusion of culture, and the education of humanity for justice and liberty and peace are indispensable to the dignity of man and constitute a sacred duty which all the nations must fulfill in a spirit of mutual assistance and concern;

That a peace based exclusively upon the political and economic arrangements of governments would not be a peace which could secure the unanimous, lasting and sincere support of the peoples of the world, and that the peace must therefore be founded, if it is not to fail, upon the intellectual and moral solidarity of mankind.

For these reasons, the States Parties to this Constitution, believing in full and equal opportunities for education for all, in the unrestricted pursuit of objective truth, and in the free exchange of ideas and knowledge, are agreed and determined to develop and increase the means of communications between their peoples and to employ these means for the purposes of mutual understanding and a truer and more perfect knowledge of each other's lives;

In consequence whereof, they do hereby create the United Nations Educational, Scientific and Cultural Organization for the purpose of advancing, through the educational and scientific cultural relations of the peoples of the world, the objectives of international peace and the common welfare of mankind for which the United Nations Organization was established and which its charter proclaims.

Participation of the American Institute of Architects, as well as a cross section of many other groups concerned with planning, education, religion, the arts and the various medical, biological and physical sciences, was made possible through the enactment of Public Law 565, passed by the 79th Congress, which created the US National Commission for UNESCO and provided the conditions for its organization by the Secretary of State.

The role of the National Commission is to advise the US government in matters relating to UNESCO and in all matters referred to the Commission by the Secretary of State. The architect's responsibility as a member of the Commission has been expressed through the intensive education, training and talent that have combined to equip the architect with the tools of an environmentalist in history's most explosive and changeful years.

The AIA was an early participant in the affairs of UNESCO. It was first represented by Albert Harkness FAIA in 1946-1948, who was followed by Walter T. Rolfe FAIA in 1952-1955. The term

of office of this writer commenced in 1963 and will expire in 1966. If, in the discretion of the Secretary of State, the AIA should continue to be represented, the term may be extended for an additional three-year period.

The forty-four original Member States of UNESCO have grown to a present membership of more than 110. Nations like the United States, the United Kingdom, France, Norway and Turkey, who were among the framers of the Constitution, have long since been joined by the USSR, the Congo countries, Israel, the Somali Republic and others whose names are changing the shapes and identities of the world's maps and national boundaries.

The US National Commission holds two meetings each year, one in the spring (in Washington, DC) and one in the fall in some other city in the land. Each Commission member is assigned to one of four technical committees; education, natural and social sciences, cultural affairs and mass communications. At each meeting of the Commission, these technical committees consider programs within their purview and report their findings at Plenary Sessions of the Commission for final recommendations to the government on the UNESCO program and budget.

The AIA representative on this current Commission serves as a member of the Committee on Education.

As an example of its advisory role to the US government, the Commission made the following recommendations for the 1965-1966 UNESCO program:

a) The adult literacy program to aid developing countries is essential and should be expanded as rapidly as possible to provide teachers and support research in this field.

(NOTE: At a conference in Karachi held in 1960, some eighteen delegates from Asian countries agreed on the target of universal primary school enrollment by 1980. To accomplish this goal, they will require more than five million teachers and seven million classrooms in providing seven years of compulsory education for an estimated 156 million children.)

b) Technical and vocational education should be a part of the general education program of UNESCO.

c) For the present, no additional research centers for school construction should be established.

(NOTE: Three such centers are in current operation with UNESCO support. They are located in Khartoum, Bandung and Mexico City. The AIA representative on the Commission has recommended that an international conference be held in the United States in 1965 or as soon thereafter as practicable to explore the potentials of these

centers. It was proposed that the conference be handled by the US government through the US Office of Education with the aid of certain voluntary professional organizations such as the National Council of Schoolhouse Construction, the AIA, NEA, AASA, EFL and others. The proposal was accepted at the March 1964 meeting of the Commission.)

The Commission's recommendations for 1965-1966 expressed its concern for the "lack of a clear definition of the term 'Decade of Development' and . . . the neglect of the cultural and spiritual factors in the documentation on the subject." This phase of the recommendations continued to emphasize the more vigorous UN and UNESCO program for community development and the need for advice and guidance to the member nations on educational buildings, including libraries and museums. Architects, artists, craftsmen and designers have a competence for the designing and construction of buildings that are not only modern and functional but that will preserve local and national traditions, customs and styles. It was the Commission's belief that accessible talent and experience of the professions and trades related to construction be more fully utilized, an attitude shared by this writer and those colleagues with whom the subject has been discussed.

UNESCO has already left an indelible imprint in an age when progress and destruction are often mentioned in the same breath. It has already taken aggressive steps in the direction of preserving the landmarks of the ancient civilization of Egypt threatened to be lost forever under the rising waters of the great Aswan Dam. Other avenues of aid to the emerging and developing countries included the modernization of the Grand Trunk Road through the Dargapur Jungle of India, a program to train hydrologists and extensive studies into the fields of underground water, plant ecology, wind and solar research and a study of the potential source of food and minerals in the oceans that comprise 71 per cent of the surface of the globe.

UNESCO's programs are based on the premise that people who are trained and educated to the ways of the world will be fitted to take advantage of the opportunities surrounding them and more able to exercise authority in shaping their futures. Its accomplishments are already impressive, not the least among them the fostering of a system of communications that has drawn contemplative men together for the purpose of pooling their intellectual resources for the public's greatest good.

International communication among architects has been a continuing policy of the AIA, its committees and its general membership. The AIA

memberships in the Union Internationale des Architectes and the Federation of Pan American Architects have effectively broadened the base of understanding between the men of culture, intellect and goodwill to be found among architects in every corner of the world.

The postwar years of the forties, fifties and sixties have contributed an unparalleled flow of pages to world history. It may well be that they will be read by coming generations with an understanding of the solemn responsibility that is accepted and borne by the contemporary architect. Much of the world is in the process of emergence from centuries of darkness in which progress has been stifled by an unceasing, gnawing concern for survival. There is no recorded time of history in which as many nations have sought to achieve their individual political identities as during the past twenty-five years. Primitive African tribes that three decades ago were hunting game—and each other—with spears, darts, bows and arrows are donning mantles of political, social and eco-

nomics responsibility. With almost unbelievable speed, the technologist is outmoding the drum and tom-tom as a means of communication and replacing it with radio, television and the telephone. Even the most skeptical observer will be quick to admit that it is only a matter of time before the Dark Continent spreads the doctrine of enlightenment.

Intellectual growth and international understanding are the products of an environment in which their seeds can receive the nourishment and attention they require for fulfillment. Environment is the business of the architect. The buildings and facilities that are produced by his creative imagination can serve unborn generations with distinction when they are inspirational as well as functional.

UNESCO is an important vehicle that will thus far meet the long-range requirements for an expanding AIA service to humanity. It deserves and is receiving this organization's best and most constructive effort. ■

NOTES FROM THE UIA

Industrial Architecture in Hungary

BY LOUIS de MOLL, AIA
*AIA Representative to the UIA Seminar
on Industrial Architecture*

THREE UIA Industrial Architectural Seminars have been held, and the meeting in Budapest, Hungary, in early June 1964, was the second such meeting attended by AIA representatives. In November 1962, four Americans participated in a similar meeting in Rio de Janeiro, Brazil. The representatives at this Budapest meeting were George T. Heery AIA of Heery & Heery, Atlanta; John Bolles FAIA of San Francisco and Louis de Moll AIA of the Ballinger Company, Philadelphia. Each of these participants are members of the AIA Committee on Industrial Architecture.

George Heery, chairman of the AIA Committee and chairman of the AIA's delegation to the Budapest Seminar, acted as president of the working group on "Prefabricated Building Components." This seminar, the organization of which was assigned to Mr Heery and the AIA representatives, was one of five. Others were "Industrial Establishments and Town Building," "The Role and Responsibility of Industrial Architects in Layout Planning," "Industrial Structures and

Methods of Construction" and "Social Equipment of Industrial Plants."

As to the meetings themselves, it is questionable whether an American architect can gain much of a technical nature. While from a design standpoint, examples of work shown by other countries often may stimulate the imagination, we found for the most part that construction techniques in the US are far superior to those in eastern European countries. Due to the problems of translation and resulting confusion of terms, meetings were generally on a rather elementary level.

The real value of such get-togethers comes more from the sharing of experiences in informal conversations on a bus or boat ride during a tour or late into the evening in the bar. As an example, I spent one long, late evening (and several bottles of Balaton wine) discussing urban renewal, capitalism, farm communes, education, housing in Cuba, methods of prefabricating and communism. The discussion group included a Mexican, two Cubans, an East German, a Brazilian, two Hungarians, a Norwegian and a Swede. I most certainly did not convince any representatives of Communist countries that our way of life is superior to theirs, but I do feel that I conveyed to

them a respect for our viewpoint and a realization that all Americans are not capitalistic exploiters of the working class.

For the most part, Hungarians feel free and are quite willing to talk openly about conditions. They are frank to admit that their tiny country has a long way to go to match American achievements. Their industrial growth was cut off at the time of the Russian occupation, and has only recently been picking up again.

As to the architecture in Hungary, I was continuously impressed with the great pride of the Hungarian architects in showing us their accomplishments. Even if a process or type of construction were one which we have used in America for years, the Hungarians acted as though they had invented it.

All architectural design, engineering and construction is of course handled by an agency of the government. Although much can be said for the advances made to date, the lack of inventiveness, the limited use of new materials, the stubborn defense of presently used systems can only be attributed to their bureaucratic system—a system which stifles initiative.

In industrial construction in Hungary, and in fact in all Eastern countries, two factors have a strong influence on plant design. The first is the exclusive use of concrete as a structural material and the second is the obsession for the utilization of natural light. Unlike modern industrial construction in America where the reliance on the fluorescent tube for light, power fans for ventilation and often airconditioning for added comfort has outmoded the window—except for the psychological advantage of occasionally seeing out—the Hungarians design all of their buildings to let in as much light as possible. Everywhere can be seen saw-toothed roofs with broad skylights, reminiscent of American industrial construction of forty years ago.

Esthetically the Hungarian architect often takes advantage of the sculptural possibilities of concrete. However, compared with similar work in other countries, his work sometimes lacks some of the boldness for which this material has potential. In many places I saw industrial buildings roofed with a series of concrete vaults, arranged so that natural light was admitted along the line of the juncture of the vaults. In most cases, however, these roofs seemed rather clumsy and heavy—as though the structural engineering design was forced to conform to previously established patterns and spans rather than to influence those conditions through the development of graceful, economical, structural forms.

The American delegation attending the international conference brought along a gift from the

F. W. Dodge Corporation to the Hungarians of a complete Sweet's file of building material catalogues. This set of Sweet's created wide-eyed interest among the architects from behind the Iron Curtain, and one Bulgarian architect described them to me as fantastic. He said that in his country if he wants information about a material he must go to the plant where it is produced and try to find the right person at the plant who may be able to help him. Under their system the manufacturers do not advertise, do not mail to architects any technical literature nor furnish sales representatives for consultation. He further related that if he gets an idea for a new product or for an improvement in an existing one, no one is interested in his idea. They only produce what someone higher up has decreed must be produced. One Russian architect's reaction to our catalogues was that they were ridiculous. "In Russia," said he, "we make two windows—that's all we need."

Before leaving the subject of design quality, it should be noted that the future for the Hungarians looks far brighter. At an exhibit of new work at the Hungarian Union of Architects headquarters I saw many very promising proposed designs. It would appear that there now exists a new movement to upgrade quality and to break away from the straitlaced traditions of the past.

In the eastern countries, one sees again in the construction operations the same lack of competition as may be seen in other aspects of the economy. Construction is handled by another arm of the government.

The serious labor shortage and particularly the lack of sufficient skilled labor is in part the cause of the poor workmanship seen throughout Hungary. I had always thought of European craftsmanship as being far superior to most of the rest of the world and I was quite surprised to see that this is not true in the eastern European countries. As mentioned earlier, the predominant material used is concrete. Exposed concrete as a finished material can be very satisfactory if it is properly formed and finished, but with poor workmanship it is a material which shows every imperfection. In building after building I saw exposed concrete with defects which would be unacceptable here.

Although the benefits which may be derived from participation in international seminars such as this one in Budapest are intangible, there are many—not the least important of which is the opportunity to establish foreign goodwill. We in the US have much to contribute and as I heard the eastern European architects talk, as I watched their slide presentations and as I traveled about, I yearned to have these architects visit us here. All of us who attended hope that somehow such a seminar may be held in the U.S. ■

Professional Practice—International

BY DANIEL SCHWARTZMAN, FAIA
*AIA Delegate to the UIA Working Commission
on Professional Practice*

THE ARCHITECTS attending the meeting of the Professional Practice Commission of the International Union of Architects which was held in Turkey in June 1964 were made aware of the fact that the problems and rewards of practice were similar throughout the world, in spite of the different disciplines, political allegiances and cultural backgrounds of the groups represented by UIA. It was obvious that the greater independence and freedom of the architects led to more dynamic practice, which also produced more responsibility and its resulting problems.

For instance, we were informed that in Turkey private architects are not commissioned to do public buildings, except for an occasional competition for a basic design only, which is turned over to a construction company that employs its own architectural staff to execute the contract drawings. The private architects then have no further connection with the project.

The Commission passed a resolution which stated that this procedure was contrary to the interest of the public and resulted in inferior architecture, which our colleagues in Turkey or in other countries with similar problems could use in requesting consideration for a change in this detrimental policy.

All architects, everywhere, have a common concern with the "Stature of the Profession" and the "Education of the Architect," which were the main themes of our Commission meeting. Their concern was not with the self-aggrandizement of the profession, but rather with the idea that an architect can do his best work only in an atmosphere of high respect and understanding of his client and the public who use his buildings.

It was no accident that the agenda for that meeting was parallel in most respects with the agenda of the forthcoming meeting of our own AIA Board of Directors and included:

- 1) Ratio of architects to total population
- 2) Architect's licensing laws
- 3) Definition of the practice of architecture
- 4) Engineering consultants
- 5) Rise of the entrepreneur (package dealer)
- 6) Education of the architect
- 7) Training of technical employees
- 8) Public relations for architects
- 9) Technical literature and industrialized building components
- 10) Size and organization of offices.

All of the ideas mentioned above were discussed in full in eleven sessions of Commission meetings; put into carefully prepared statements by subcommittee groups working at night; presented to the full Commission; and signed by each member. In addition to this exhausting program of work, almost every intervening minute was planned with official receptions. We were expected to appear at separate official receptions and dinners with the Mayor of Istanbul; Governor of Istanbul; Mayor of Ankara; Chamber of Architects of Istanbul; Chamber of Architects of Ankara; Minister of Finance of Turkey; Minister of Public Works; Minister of Reconstruction and Housing; Mayor of Izmir; Governor of Izmir; Chamber of Architects of Izmir; head of the Technical University of the Middle East; head of the Technical University of Istanbul.

We went via busses with official guides to the mosques and Byzantine churches of Istanbul, the public buildings and museums of Ankara, and the remains of Ephesus and Pergamum.

Our guide on the trip to Pergamum was the poet laureate of Turkey, known as the Fisherman of Halicarnassus. He has spent most of his life researching the history of Asia Minor and knows the most fascinating details of the history of each monument. He announced: "I am over seventy years of age and am still ready for life and love." He bounded up and down the Greek theater steps reciting Homer in ancient Greek in a wonderful sonorous voice.

The following nations were represented: Turkey, Great Britain, Holland, West Germany, Switzerland, Italy, Brazil, Mexico, USA.

Much that was good was accomplished, and all of it was on a high intellectual and philosophical level, which can bring better understanding of the basic problems of architectural practice in every country. For instance, our Italian colleague, Professor Nicolosi, summed up one of our discussions of the required skills and education of the architect with: "An architect is a technician who has the ability to breathe a soul into a structure."

On the stature of the profession, Austin-Smith, in true British fashion, stated that our greatest heritage was the "right to say no" when, in our judgment, it was in the best interest of the client to do so, without violating a contractual obligation of the type that might apply to business relations.

On the subject of "Specialization in Architectural Education," there was unanimous opinion that, at the undergraduate level, specialization is contrary to the tenets of our profession, the exception being the study of urban planning. ■

PRACTICAL FACTORS IN PROJECT APPLICATION C

BY JAMES J. O'BRIEN, PE

Mr O'Brien brings to bear his field experience in applying CPM to schools, hospitals, high-rise buildings, site work, refineries, city planning and other situations, as well as teaching a number of seminars in CPM. A former senior consultant with Mauchly Associates, originators of CPM, he is now with Cardinal Engineering and has written a book, "CPM in Construction Management" (McGraw-Hill), as well as a number of articles on the subject. He is a director of the recently organized Society of CPM Consultants

PREVIOUS articles in the AIA JOURNAL have presented the mechanics of the Critical Path Method. But what is the role of the architect in the application of CPM on a construction project; what are the economics of CPM application; what are the legal ramifications of CPM applications; who should perform the actual CPM preparation; and who should pay for this application?

The Architect and Project Scheduling

The establishment of project schedules is a joint owner-architect decision based upon the owner's needs and the architect's judgment. In the past, due to the lack of a definitive method of construction forecasting, this decision has been arrived at casually. With the development of the Critical Path Method, a forecasting method has been made available. Prior to 1962, the application of CPM was principally in the preparation, after contract award, of a *construction CPM plan* with which the specified completion date could be met. Since 1962, CPM studies have been made before bidding with which the construction schedule and any necessary intermediate goals are set. This is known as the *prebid CPM plan*. A more recent, useful CPM application is developing in the scheduling of the many facets of design, funding and construction document preparation for a project. This application is the *design CPM plan*.

CPM, however effective it may be, is still an information routine. CPM can, in specific terms, recognize and identify problem areas. Once these are identified, CPM can be used to evaluate, in the time dimension, the effect of various solutions.

However, without subsequent management action the CPM application cannot be successful.

When this information role of CPM is properly recognized, the role of the CPM consultant in the project management organization is also set in its proper place. All parties of interest to a construction contract must recognize one source of direction. Thus, CPM information is made available to all, but all action and direction comes through the established project organization, usually the architect as the owner's representative. By following this proven organizational approach, the consultant will find his role to be compatible with, and a reinforcement to, the architect.

Recognizing CPM Benefits and Costs

CPM offers many project planning and monitoring benefits and the architect intuitively recognizes these. However, these benefits are indefinite while the cost of CPM is definite. Thus, the architect may be reluctant to recommend a CPM approach to a client who has not been exposed to the problems of project management, ie, one-time builder-owners, such as hospitals, who may average a major expansion only every twenty to thirty years.

To such clients it must be emphasized that CPM functions in a time dimension and its principal benefits are best measured in that medium. Surprisingly, owners often fail to equate time to money. The value of a project to an owner depends, of course, upon the specifics of the project. However, in industrial work owners usually expect a project to return its investment within ten years, and in the petrochemical industry a return within five years is usual. The over-all value of CPM can be equated to the difference between the time required to implement a tight, well-organized plan and an average to poor one. However, it may be difficult, if not impossible, to identify the plan which would have been followed without CPM. *In fact, the CPM and non-CPM plans may be identical; but with CPM to develop foresight, the plan is applied before troubles develop rather than as a reflex to the unexpected.*

The advantages in time realized through the CPM construction plan will necessarily be relative to the capability of the contractor selected.

CPM CPM

For a top contractor, a 10 per cent improvement via CPM would be quite an accomplishment; a less efficient contractor might find a 30 per cent time improvement not too difficult to achieve. For example, on a typical two-year project, the exceptional contractor might usually complete in twenty months, but achieve an eighteen-month finish with CPM. On the same project, an average contractor might usually need thirty months, but with CPM might finish in twenty-two. Instances can be cited where the contractor completed late with CPM, but would have been much later without it. Thus, CPM results must be considered in terms of the circumstance within which it is applied. In all events, the most important benefit is usually unstated: without a CPM working plan, the owner has no control on project completion, and with CPM he can maintain realistic control throughout the project life.

The typical construction schedule has not always been realistic, often principally reflecting in hopeful fashion the owner's needs. To correct this, the CPM prebid plan is prepared before the contract documents are completed. The preliminary CPM plan identifies important intermediate relationships. In an airport fuel installation, for example, the CPM construction plan showed that the computer manufacture and installation for the flow control system would be critical and that the balance of the installation could have been completed in six months less time. If a prebid CPM plan had been done, the owner would have foreseen the situation and purchased the unit himself and furnished it to the contractor. In another pipeline project, it was assumed (without CPM) that pipelaying would be critical. In actuality, the compression stations became the controlling area. When this was recognized, the company delayed pipelaying and reinvested the funds involved. This saved a substantial amount, but the owner noted that the early use of CPM would have saved many dollars in interest.

With the prebid CPM plan, the project is thought through in detail months sooner than is usually the case. More important, problems are identified before the owner is committed to a contract, and solutions can be worked out and speci-

fied in the construction documents. This precontractual identification of problems keeps control in the owner's hands and may avoid punitive extras.

A most promising development is the design CPM plan, since it offers the greatest potential for time gains. The average preconstruction period is currently equalling the actual field construction phase, and the trend is for this to increase. This is particularly true in public work where several agencies are often involved in funding. In one university project which seemed near advertisement, the complexities of municipal review resulted in the loss of more than one year. While much of the time required for prebid work cannot be shortened, a design CPM plan could easily have cut this time loss in half.

In terms of dollars, the benefits and cost of CPM will depend upon the project involved. In projects valued from \$2 million to \$10 million, the complete CPM (design, prebid, construction) application usually costs from 0.3 to 0.6 per cent. The prime benefits of CPM are more difficult to place a price tag upon but include:

- 1) Minimizing time extensions for unexpected circumstances by appraisal of the true time effect of the change
- 2) Insuring against large lapses due to undiscovered circumstances, such as a facility being nominally complete within the contract time but requiring an actual overrun because of late delivery of vital equipment
- 3) Serving as a time base for the invocation of liquidated damages
- 4) Promoting the coordination of the contract, which is particularly important in separate prime contract situations
- 5) Forming a basis for scheduling architect and owner participation where required, thus avoiding claims for extras for delays to contractors.

Notes on Legal Implications

While the primary purpose of the prebid CPM plan as it is extended to the bidding documents, is the establishment of a realistic and constructive schedule, a secondary purpose is the establishment of a legal base for the enforcement of liquidated damages. The prospect of such enforcement has little attraction for the owner or architect, but it is the most potent measure available to press for completion where normal measures fail. The prebid CPM plan is used to set a schedule by developing *one* plan for completing the project. However, this plan should not be imposed upon the contractor as *the* plan to be followed. If a contractor working on a fixed price contract is required to follow a single specified plan and encounters difficulties as a result, the owner may be

CPM

liable for damages as well as a time extension. It is of interest to note that one Federal agency has used CPM in its court presentation of a liquidated damages claim against a contractor, and in this same case the contractor used CPM to support his defense.

In forecasting project construction completion, the architect often assumes a responsibility which he does not want but cannot reject because of his concern for the needs of the owner. It is not reasonable for the architect to assume an obligation for timely completion of the contractor's work, and he usually does not do so formally. An independent professional preparation of prebid and construction CPM plans can free the architect from over-all liability, legitimate or implied, for timely completion of the project. However, this is a two-way street. As it removes the architect from an untenable situation, CPM focuses upon the shop-drawing review and material selection and approval procedures. Here the architect is responsible for timely completion of his review, selection and approval where his delay may make the owner liable for time extensions. At the same time the construction CPM plan helps the architect disprove unfair claims of delay, and helps him plan his work to concentrate on critical reviews initially.

The construction CPM plan evaluates construction progress in specific terms. By projecting progress payments relative to project time, the architect is afforded protection against approval of progress payments in excess of value of actual work completed. Several recent court cases highlight this potential CPM value.

In separate contract situations, the owner may have the legal responsibility to coordinate the efforts of the several contractors. A construction CPM plan facilitates such owner-coordination since it identifies each contractor's responsibility in specific terms. In the event the owner's discharge of his coordination responsibility is challenged the CPM plan will form a critical part of his legal defense.

CPM has figured in a number of out-of-court settlements for claims and extras in both separate

and single contracts. Since CPM deals in specifics a more factual case results. This makes settlement easier to effect, as it reduces the role of personalities and rationalizations.

This is true from the contractor's point of view as well as the owner's. If the contractor has a legitimate claim for an extra, the construction CPM plan will substantiate its time aspects. Many owners recognize the overhead costs of delays when properly documented prior to the execution of the extra work required. Also, when the claim is made after the fact, owners, particularly those entrusted with public funds, are often quite willing to settle if the contractor presents a clear case. CPM can furnish such a case. In one such instance, a contractor was asked to show cause why he should not be pressed for \$550,000 in liquidated damages. The contractor used a construction CPM plan to demonstrate the effects of three different unforeseen circumstances: unusually bad weather, loss of special equipment by fire, and time lost in doing work which they also claimed as an extra. The presentation demonstrated the effect of the three causes combined and the effect of any one or two of the others alone. Thus, if any one or two of the factors were deemed unacceptable by the court, the effect of that remaining was indicated. The contractor was not further pressed for liquidated damages.

Who Should Apply CPM

The path of least resistance is to require, via a simple phrase in the construction contract documents, that the "Contractor shall apply CPM to the project." This can produce positive results, particularly where the contractor has had CPM training and experience. The situation, however, is analogous to the practice of builders designing buildings. While the results may be acceptable in a structural sense, the owner does not have the assurance of a professional application to design processes and likewise to construction contract procedures.

Therefore, the owner and architect should make the initial decision as to the use of CPM,

applying it in their own work during the design and prebid phases, and specifying its use in some detail in the construction contract documents. With the award, the successful contractor prepares, or has a CPM consultant prepare for him, a construction CPM plan based upon the contract specifications. This plan, after acceptance by the owner, is applied during the construction phase. In all of these phases the services of a CPM consultant, under contract to the owner, will be invaluable for scheduling design and prebid phases, for drafting specifications covering construction scheduling, and for reviewing construction phase schedules prepared by the contractor.

Because of the difficulty of qualifying consultation in a relatively new field, the owner should carefully examine the experience of the CPM consultant. To assist in establishing qualification, a number of CPM consultants have formed the Society of CPM Consultants whose charter membership includes consultants from ten firms.

In applying CPM to a project, it is mandatory that the construction CPM plan reflect the plan which the contractor expects to follow in the field. If this is not done, the application is a useless exercise. However, when the contractor prepares his own CPM plan, he necessarily views the project in terms of his own situation rather than the needs of the owner. Where the CPM plan is contractor-prepared, the owner has no control over the completeness, quality, accuracy or maintenance of the plan. He may even encounter situations where the CPM he has required the contractor to prepare is being used against his own best interests. For these reasons the best result has been realized when the construction documents specify that the owner's consultant is to prepare the construction phase plan for the contractor.

In order for the construction plan to be effective, the consultant must apply it in a fair and objective manner. This makes CPM a two-way street, which encourages the contractor's cooperation. Finally, the owner and architect will find excellent contractor reaction to the consultant's preparation of a construction CPM plan, since this is simply

a professional and knowledgeable translation of their own planning factors into CPM form. Where the contractor has had CPM experience, he will be even more appreciative of the consultant's objective view point.

Who Should Pay for CPM?

The application of CPM in the design and prebid phases reduces work interruptions, delays in design decisions and redesign. The time gains involved benefit the owner's project, so the owner should underwrite CPM in the design and prebid phases.

While the contractor does save money in a CPM programmed project through the reduction of project time, less total overhead and more efficient utilization of equipment and personnel, these savings are usually less than the value of the time savings to the owner. And while the contractor will also have an incentive to conscientiously plan and implement the schedule with the objective of shortening it, there are equal, if intangible values to the owner, since it is almost axiomatic that there are fewer extras on a fast-moving well-coordinated project. Thus, while the contractor gains through CPM, the owner's project again gains much more, and the owner should therefore furnish the construction CPM plan by specifying that it will be prepared for the contractor by the owner's consultant.

Specifying CPM

Scope—This is perhaps the most difficult single item to specify; it involves both size and time. Size, of itself, is of course no guarantee of quality; nevertheless, minimum network size does assist in scoping a CPM plan. The original networks were usually less than 200 to 300 activities. Today, the average size is about 1500 to 2000 activities. The design network for TVA's Bull Run Dam involved over 12,000 activities. In terms of size, the first specification rule is that a CPM specification should require that the project breakdown be into physically identifiable areas.

In terms of project time, no one arrow (except

a material delivery) should usually cover more than two weeks. In meeting the letter of this rule, one contractor broke the spirit of it by showing fourteen weeks of conduit installation in seven two-week increments. This was, of course, unacceptable.

Computation—The method of calculation should be specified and in most cases, the use of an electronic computer will save time and money. However, it should be recognized that the computer performs no mystical operations and makes no decisions. A straightforward manual calculation which closely simulates the computer's calculations can be used on small networks. While this approach is not recommended for project use, it does help in understanding the CPM technique.

When a computer is to be used, the first consideration may well be where to find one. There are about twenty types of computers which can run CPM networks. If a consultant is applying CPM, he will usually have his own machine. The owner may have suitable computer equipment and, if not, other computer owners in the area may lease computer time. Also, service centers may be convenient to the project location.

Although a computer may be available, its programming and computation characteristics may be difficult to adapt to CPM requirements and therefore be inefficient. This can easily double or triple the computer costs. Another variable is the availability of specific programs. One of these to be specified is the error check program. This reviews the translation of the network into computer form. While computer errors occur only one in millions of times, several human errors per computation are usual. The error check reviews the input for these errors. A good check will locate all or most, a poor one will miss all or most.

The computer output can be edited into a number of useful forms for only a nominal cost. These include: standard I, J or index listing; early start listing; critical work only; work by category and late start, etc. A caution is in order: The computer can generate literally thousands of pieces of paper. These are useful only if used. Accordingly, the people who are expected to use the computed results must specify the computer output sort or listing which they prefer.

Evaluations—After the construction CPM plan and schedule have been established, both must be evaluated and maintained on a regular basis. An uncorrected CPM schedule becomes obsolete in a relatively short period of time although 90 to 95 per cent of the original plan will be correct for the life of the project.

Frequency of updating depends upon the project, but semimonthly or monthly reviews are usually specified. Since the raw computer results

are meaningless to the lay person the evaluation should be summarized in a narrative report. Each updating is in effect a complete reapplication of the CPM technique. Logical sequence and estimates are revised as necessary and a new computation is made. The original computer input is revised and utilized each time, so that computer costs are minimized. Two-thirds of the CPM cost is involved in this continuing review process.

Bidding Documents

The description and specification of CPM in the bidding documents will vary with the type of project, bidder qualifications, type of contract, type of CPM application and level of CPM application. The architect should be certain that the bidding documents are sufficient to make a clear statement of his expectations. In general this should include:

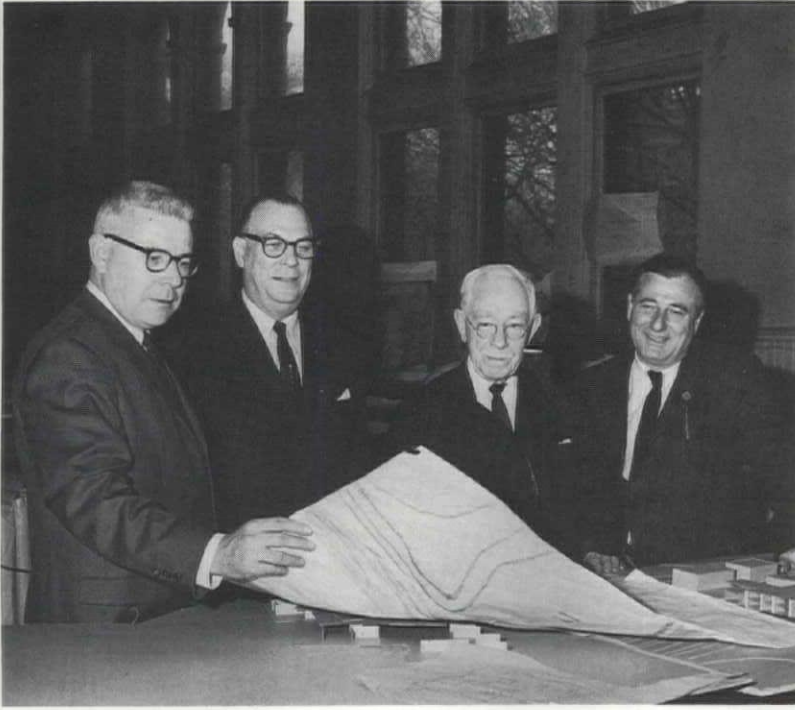
- The required schedule, including interim dates or occupancy
- Procedure to be followed in preparation and approval of CPM working plan
- The procedure for and frequency of CPM progress evaluations
- The extent of computer services and output format
- The responsibilities of the contractors in meeting this schedule
- The method of schedule enforcement.

If a prebid CPM study has been made, the results should be made available to the bidders. This has been done in a number of ways:

- The prebid CPM plan and schedule can be incorporated in the bidding documents; however, this can imply that the plan is binding if it is not clearly identified as informational only
- The prebid CPM plan and schedule can be issued as an informational addendum
- The prebid CPM plan and schedule can be discussed at prebid conference
- The prebid CPM plan and schedule can be made available at the architect's and/or owner's offices.

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Old grads return to the drafting room at Penn: Joseph C. Tighe AIA ('40), program chairman for the 75th anniversary; J. Roy Carroll Jr FAIA ('26), George Simpson Koyl FAIA ('09), and Beryl Price FAIA ('33), article co-authors

75 Years

A GREAT SCHOOL OF ARCHITECTURE

BY GEORGE SIMPSON KOYL, FAIA
ASSISTED BY J. ROY CARROLL JR, FAIA
and BERYL PRICE, FAIA

ON MAY 8, 1965, alumni of the School of Architecture of the University of Pennsylvania return to celebrate the seventy-fifth anniversary of their School. However, the meager beginnings of the School go back some twenty years still further, to when Thomas W. Richards, then drawing instructor in the College, was organizing, with the University trustees, a Scientific School, which included mechanical drawing and architecture in the last two years of a four-year course.

Architecture and engineering were thus intertwined and included working drawings, ornamentation, sketching and use of scale and protractor, preparing students for either profession. Both groups took courses in stress of buildings, foundations, retaining walls and the location of cities. In 1874 Richards, then architect for College Hall, became professor of architecture. A four-year course in architecture was established in the Towne Scientific School.

The curriculum included building design and perspective, styles of architecture, specifications, arrangement of plans, full-size drawings, estimates and contracts, materials, heating and ventilating, with liberal arts in equal proportions. For these accomplishments Professor Richards was awarded

the honorary degree of Master of Arts. At this time, preparations were being made for the Centennial Exposition in Philadelphia, which was to have a strong influence on architecture and the arts in America. The course was lengthened to five years in 1879 with a two-year post-graduate course in the Towne Scientific School.

By 1890 the Philadelphia Chapter of The American Institute of Architects, in recognition of progress in architecture within the city as well as throughout the United States, made presentations to Provost William Pepper for a separate School of Architecture to provide greater freedom and scope. While remaining one of the seven departments of the College, the four-year course was established as a separate School with Theophilus Parsons Chandler, president of the Philadelphia Chapter AIA, as its acting head. One of the new features was a course based upon Ferguson's "history of architecture." Physics, chemistry and engineering were specially prepared for the architect with exercises in construction, including carpentry, tin work and plumbing; modeling was added, and the distinguished Charles E. Dana was made professor of fine arts. It was in this environment that Warren Powers Laird replaced Theophilus Chandler in 1891, and Professor Richards retired.

As time passed there was a trend toward architectural design and a subordination of engineering

and construction courses. In 1892 a two-year course in interior decoration was established, independent of the course in architecture, and Herbert E. Everett joined the faculty in charge of interior design. Edgar V. Seeler, diplomé of the Ecole des Beaux Arts, was appointed assistant professor of design in 1894 and George Walter Dawson, instructor in drawing, indicating an emphasis upon design, freehand drawing and watercolor. Design in the senior year occupied twenty-four hours of a thirty-hour schedule.

By 1900 the objectives of the course had been well established with emphasis on architecture as an art, with design its most important element. The study of the fine arts was strengthened by courses in historic ornament and archeology. In 1902 Huger Elliott, of the Pennsylvania Museum of Industrial Art, was added to the staff. Alumni of the School studying in Paris searched for a brilliant young Frenchman to head the design faculty at Pennsylvania. The search ended when Paul Phillipe Cret, Second Grand Prix, was brought to Philadelphia. Thus in 1903 he began his career of over twenty-five years as a teacher and practicing architect in America. While Professor Laird was achieving distinction as an architectural dean, the name which became synonymous with architectural education in design was Paul Cret.

Enrollment increased rapidly. In 1905 Pennsylvania had the largest increase of the great institutions in the US and it ranked sixth, undoubtedly due to Cret's remarkable ability. His students won an enviable share of awards at the Beaux Arts Institute of Design, in the Paris and Rome Prizes and in the John Stewardson Memorial Scholarships. In 1921 the Medal of the Societé des Architectes Diplômés par le Gouvernement Francais, through its American group, was awarded to Pennsylvania. The Medal was awarded to the University again in 1940 and 1943. Each year from 1915 through 1925 the Student Medal of the Beaux Arts Society was awarded to the University, and six were awarded between 1920 and 1931 for the highest number of Medal Awards by the Institute of Beaux Arts Architects.

With Cret's retirement in 1929 and Laird's in 1932, the quality of instruction proceeded unabated until World War II. Cret had assembled a brilliant group of teachers who shared the honors of design instruction. Among these was George Howard Bickley ADGF, chairman of design upon Cret's retirement, who had been at the Ecole when Cret was selected for Pennsylvania. Others were Robert R. Goodwin, Harry Sternfeld, John F. Harbeson, Roy Runka and Donald Kirkpatrick. It was of this well-organized School with its distinguished faculty, 450 architectural students, Departments of Interior Decoration, Landscape

Architecture and Music, that George Simpson Koyl, 1911 Rome Prize winner, became dean.

Maintaining the School's fine history under conditions of war was a real challenge. After Pearl Harbor nearly the whole male student-body enlisted or was otherwise drawn into the Armed Forces and enrollment dropped to thirty-six. This led to new developments of a temporary nature. A five-year course in industrial architecture was established. In charge was Assistant Professor J. Roy Carroll Jr, who had studied this type of practice with Albert Kahn in Detroit. It included courses in the College, the Wharton School of Business Administration and the Towne School of Engineering. All vacant spaces in the Fine Arts Building were filled with Navy trainees, and Dean Koyl organized courses in civilian defense with personnel from Pratt Institute. Courses were offered in naval architecture with the department heads of the Philadelphia Naval Base as instructors.

Professor Otto Faelton had been appointed head of design, with Carroll as his chief assistant, following the death of Professor Bickley. The few years of Faelton's residence at Pennsylvania were marked by two Medals of the Societé des Architectes Diplômés for the best record of any school of architecture for the years 1939 and 1943. With Faelton's sudden death in 1944, Professor Carroll carried on until the appointment of Arthur Dean, head of design at the University of Illinois for many years. By the end of 1946 the enrollment had reached its prewar status, and Beaux Arts competition was dropped. During 1945 a 28-week course in city and regional planning was given with Robert B. Mitchell, chief of the newly established Philadelphia City Planning Commission, as adviser. With the retirement of George Koyl in 1950, the University Trustees invited G. Holmes Perkins, professor of regional planning at Harvard University, to be the dean of the School of Fine Arts.

With this change in leadership, basic changes occurred in the School itself. It became the Graduate School of Fine Arts in name and in practice. Architecture is taught as a social art, and design with architecture, city planning and landscape architecture as elements contributing to the environmental quality of neighborhood with its schools, housing, playgrounds and parks, shopping and community centers.

In preparing this brief history of the School, many names of important teachers and famous graduates have regrettably been omitted for lack of space. Seventy-five years in the life of a great School of Architecture is much too long a time to be adequately covered in one or even ten thousand words. ■



The Significance of Space

BY ROBERT SOMMER, PhD
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We have much to learn from the researches of psychologists, psychiatrists and anthropologists regarding the reactions of people to buildings and spaces. When we know a great deal more about what makes men tick, we will be much better equipped to design buildings and cities for them

MUCH of architecture affects people from beyond the focus of awareness. People are not sure what it is about a building or room that affects them, nor are they able to express how they feel in different surroundings. This has been a common experience of practicing architects and it was demonstrated nicely in an experiment by Norbett Mintz at Brandeis University.

Mintz interviewed a large number of students in a very attractive room, a room of average ap-

pearance and an ugly room. The last resembled a janitor's closet in a sad state of disrepair with an exposed light bulb, torn shade and a tin can serving as a receptacle for cigarette butts. After the session he questioned the students about the experiment and how they felt during it. He found that only 29 per cent mentioned anything about the appearance of the rooms, 46 per cent mentioned that something seemed wrong in the experiment but they couldn't say what it was, while 25 per cent reported that everything was "fine."

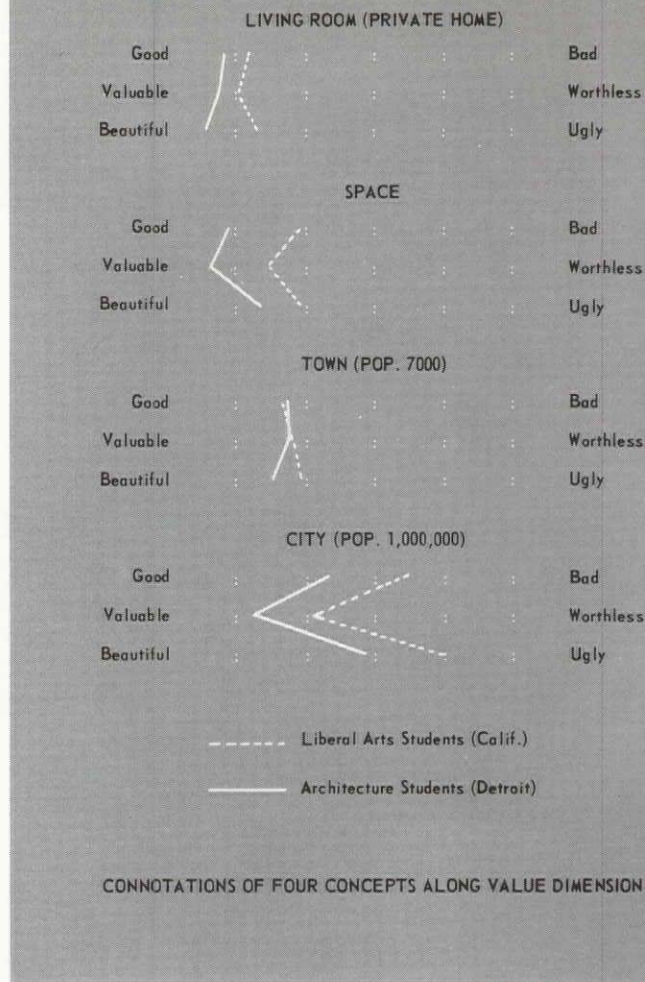
Not only do people have difficulty expressing what they feel about architecture, much of their reaction to a division of space is on an emotional rather than a rational or verbal level. This is especially true in regard to the division of space within a house rather than the shell or enclosure. Generally architects feel they lack the tools for exploring people's reactions to space. The architect relies on language even though it is apparent that words may mean different things to him than

to his client. The way an architect uses the word "cell" to describe an office may puzzle a corporation executive who associates the word with prisons. Within a profession there are differences in the way words are used. When professional people speak to laymen these difficulties are compounded. In a society that is becoming more and more specialized and adds several dozen new technical terms a year, it is important to find ways of getting at the meaning of words.

The general problem here is one of communication at a highly technical level. Fortunately, architecture is not alone in facing this problem. People in other professions, including the behavioral sciences, have been interested in finding ways to explore the meaning that people attach to concepts. Probably the best instrument developed for this purpose is the semantic differential technique pioneered by Charles Osgood at the University of Illinois. A good description of this method is given in Osgood's book "The Measurement of Meaning" (University of Illinois Press, 1957).

The technique is useful for studying *connotative* rather than *denotative* meaning of concepts. This means that it gets the connotations of a room or a building for someone; whether he feels that it is large, cold, austere, depressing, etc. The same object can have vastly different connotations to different people. A hammer is a toy to a child and a tool to his father. A slum neighborhood can mean security and warmth to a child growing up there and a social problem to a city planner. Architects have tended to be concerned almost exclusively with the denotative meaning of rooms or buildings—the actual dimensions, colors and divisions. Less attention has been given to the connotative meaning of a structure. There are several reasons for this, including the architects' basic rejection of the canon *vox populi, vox dei*, and secondly his lack of tools or methods for determining people's reactions to buildings. It is for the second reason that Osgood's technique is so potentially useful to architects.

Connotative attributes don't necessarily need a definite referent. Something can be experienced as "bad, strong and active" without the person knowing exactly what it is about the object that affects him this way. Osgood examined the meanings of thousands of words along many different dimensions (ie, scales). The dimensions used included *light-heavy, fast-slow, important-unimportant*, etc. When he examined his results, using a complex mathematical technique known as factor analysis, he found that three dimensions of meaning were able to include most of the attributes tapped by a much larger number of scales. These dimensions were an *evaluative* dimension (illustrated by the good-bad scale), an *activity* dimen-



sion (illustrated by active-passive), and a *potency* dimension (illustrated by strong-weak). Though there are other nuances to any concept, these three dimensions will encompass a good proportion of the meaning.

To illustrate the potential usefulness of this instrument in architectural research, I constructed a brief questionnaire in which each concept was rated along nine different scales (three each for the dimensions of value, activity and potency). The evaluative scales were: good-bad, valuable-worthless, beautiful-ugly. The activity scales were: fast-slow, energetic-inert, active-passive. The potency scales were: strong-weak, potent-impotent, large-small. Four different concepts (*living room, space, town*—population 7000, and *city*—population one million) were rated along each of the nine scales.

The ratings were made by forty-nine male students in psychology classes at the University of California at Davis. These students were a reasonable cross section of the liberal arts faculties, and only a small number were psychology majors. One fact to note is that the Davis campus is located in a small town and that the University prides itself on its friendliness and hospitality. Although the automobile is on the campus to stay,

almost all the students and a sizable number of the faculty ride bicycles. The ratings of these students were compared with those of 127 first-, third- and fifth-year architectural students at the University of Detroit. These forms were administered by Harvey Shapiro, secretary of the local student chapter of the AIA, during regular class sessions. The urban environment of the University of Detroit compared with the small-town setting of the Davis campus, as well as the difference in education (architect vs nonarchitect), must be considered in examining the results.

Prior to the study it was predicted that major differences between the two groups would be found in rating the word "space." In my discussions with architects, it always seemed that there were important differences between the ways that architects and laymen conceived of space. Architects spoke of "interesting spaces" and "vital spaces," while laymen used the term to refer to a void or absence of something (that needed to be filled with something). Specifically, it was predicted that space would be more valuable and potent to architects than to laymen. No special predictions were made about the other concepts.

The ratings were done along seven point scales. A rating over to the left side of the *ugly-beautiful* scale indicates that the concept is felt to be *ugly* while a rating on the right-hand side indicates that it is *beautiful*. The degree of the attribute is judged from the three scale positions to the right or left of the midpoint. If a concept is considered neutral with respect to the scale dimension, a check can be made at the midpoint. The best way to present the results is to transform the seven scale positions to numerical values from 7 to 1, with 7 representing a high score on an attribute and 1 representing a low score. For example, a rating of the concept *city* along the active-passive dimension of 6 would indicate that it is strongly on the *active* side, while a rating of 4 on the *ugly-beautiful* scale would indicate that it was neutral on this dimension.

The results showed that both groups had similar concepts of a living room. Both saw it as high on the evaluative dimension (good, valuable and beautiful); low to average on the activity dimension, and high on the potency dimension (strong and large).

The concept *space* produced the largest differences between the two groups. As predicted, the architectural students considered space more valuable (and beautiful and good) than the liberal arts students. They also saw it as more active while the liberal arts students saw it as inert. The architectural students also considered space more potent and stronger than did the liberal arts students. However, there was a reversal of this trend

on the large-small scale with the liberal arts students feeling that *space* is larger. Some explanation of this last difference was found in the remarks of a number of the liberal arts students after the session. They mentioned specifically that they had reacted to space as "outer space." For this reason, the next group of seventeen liberal arts students were tested with the identical form except that the word *space* was followed by "living room" in parentheses. *Living room space* was found to be smaller and less active than space in general and slightly more valuable.

Next we turn to the images of a city (population one million) held by the two groups of students. Both groups consider a city of this size to be active (rather than passive, slow or inert) and potent (in contrast to weak, small and impotent). However the two groups differ in their concept of the city along the evaluative dimension. The California students see the city as neither good nor bad, slightly valuable and moderately ugly. The Detroit students see the city as somewhat good, moderately valuable and neither beautiful nor ugly. All three differences on the evaluative scale are in the same direction and statistically significant. Each shows a relatively greater value placed on the city by the Detroit students. The two groups have almost identical images of a town (population 7000). It is not nearly as strong, energetic, fast or active as a city but is more beautiful and good, though not necessarily more valuable.

In general, the results support the prediction that architectural students value space more and consider it more active than do liberal arts students. The differences in evaluating the concept *city* are possibly linked more with the present residence of each group of students than with their professional interests. However, it is still possible that architectural students (and architects too) place a higher value on an urban environment than do nonarchitects, since the city is a creature of man, while the countryside, at least at present, has other origins.

The present experiment was intended only as a demonstration of the fruitfulness of the semantic differential technique in architectural research. Another example of the way in which the technique can be used in a psychiatric hospital is the recent article by Berger and Good (AIA JOURNAL, Dec 1963). However, the implication should not be left that the technique is suited primarily for institutions. It can help improve communication between professions and between architect and client in a variety of other settings too. The writer has been using it to assess classroom design, and it can be used to evaluate individual rooms within a house. ■

BOOKS

(Continued from April)

HISTORIC PRESERVATION

* **Preservation of Historic Districts by Architectural Control.** John Codman, of the Beacon Hill Civic Association, Boston. There is nothing new about laws and controls to preserve historic districts—they have been in effect in many of the cities of Europe for many years. But few American cities have taken any such action. However, today some cities are awakening to the fact that they will lose all traces of their past if they don't act quickly. Citizens' groups everywhere are wondering what to do, where to turn for guidance. This booklet will be of very great help, for it discusses the steps toward getting such legislation passed, contains sample legislation and information on other cities where this battle has been fought and won. It can be obtained from either the National Trust for Historic Preservation, 815 17th St NW, Washington 20006; or from the American Society of Planning Officials, 1313 E 60th St, Chicago 60637. Price to members of either organization, \$1.50; to nonmembers, \$2.50.

Principles and Guidelines for Historic Preservation in the US, prepared by a committee under the chairmanship of Adolph W. Schmidt, of the A. W. Mellon Educational and Charitable Trust. The above committee was appointed by the National Trust and Colonial Williamsburg to formulate conclusions based on their joint seminar held at Williamsburg in September 1964. It discusses the objectives of historic preservation, the responsibility for participation by both voluntary groups and government, survey and classification, planning and training for the actual work, with a special section on criteria for evaluation. It can be obtained from the National Trust at 815 17th St NW, Washington 20006.

Preserving the Architectural Character of a Neighborhood—A Preliminary Study. Prepared by the Department of Urban Renewal of

Chicago, this 70-page plastic-bound booklet is an excellent survey of principles and techniques in the rehabilitation of old neighborhoods, toward the end of good community design. Many examples, before and after, are shown, and most important, the legal aspects are thoroughly discussed, with many court decisions cited. It may be obtained from the Department of Urban Renewal, City of Chicago, 320 N Clark St, Chicago 60610.

* **Restoration and Preservation of Historic Buildings.** A special issue of *Building Research*, Vol 1, No 5, Sept-Oct 1964, published by the Building Research Institute, 1725 DeSales St NW, Washington 20036, \$7.50. In June 1964, BRI conducted a Forum on the Restoration and Preservation of Historic Buildings, with a panel of speakers such as has probably never been brought together in one day-long meeting before, and with an audience of 135 from all over the country. Charles Peterson FAIA, "Mr. Preservation" to most of those interested in such matters, served as chairman. He said repeatedly, as paper after paper was read, "There's gotta be a book!" This issue of this magazine is the nearest thing to it, for it contains all the papers and the discussion from the Forum, on topics from Historic Research and Uses of Restored Buildings to Climate Control and Hardware in Restored Buildings—all by experts.

* **Planning for Preservation.** Robert L. Montague III and Tony P. Wrenn; published by ASPO. The former assistant attorney general of Kentucky and the archivist of the National Trust for Historic Preservation have joined to produce a report which discusses current court decisions and legislative action involving preservation, and offers facts and figures on rising real estate values and tax revenues. It suggests a program for legislation to protect historically and culturally significant buildings and areas. The 42-page booklet can be obtained from either the National Trust, at 815 17th St NW, Washington 20006; or from ASPO at 1313 E 60th St, Chicago 60637. Price to members of either organization, \$1.50; to nonmembers, \$2.50.

HOUSING

Halifax Region Housing Survey, 1960-1963. By Harry S. Coblentz AIP, MTPI, Director of the Halifax Housing Survey. A thorough sur-

vey of existing housing and future needs in the Halifax-Dartmouth metropolitan area of Nova Scotia. Its advanced methodology should be of interest to all who may face a similar task here. Copies may be obtained from Mr Coblentz at 1008 Professional Building, 15 E Monroe, Halifax.

* **The West Village Plan for Housing.** Jane Jacobs sent me this little booklet. It answers these questions: How can we add more housing into our existing community? How can we use small, scattered plots of vacant land for housing? How can we build without dislocating residents and businesses? How can we bring the cost of new housing down? The West Village Committee (West Village is an area of Greenwich Village in New York) raised money for a planning study to show how the above questions could be answered, using actual sites in a very real neighborhood, and without urban renewal funds. The result is 475 dwelling units housed in 47 small five-story walk-ups (the present inhabitants of the area walk up six stories now), a park with parking under it, a couple of new little streets and innumerable little landscaped courts and recesses for sitting and talking in the shade—all for \$30 a room. This was figured on \$12 per square foot land, at mid-1964 costs. If this sounds good and you want more information, send 60 cents to the West Village Committee, care the Lion's Head, 116 Charles St, New York 14.

Planned-Unit Development with a Homes Association. FHA Land Planning Bulletin No 6. A guide to the development of housing subdivisions which incorporate privately-owned, open, common areas and provide for the creation of a means of maintaining the common property. Photographs, subdivision plans and renderings are used to illustrate what has been done and what can be done. Can be obtained for 50 cents from the Superintendent of Documents, US Government Printing Office, Washington 25.

Impact Noise Control in Multifamily Dwellings. An FHA Technical Study, prepared by Bolt, Beranek & Newman, Inc. An 86-page detailed study of means of controlling impact noise in apartment units, including a brief discussion of principles, a description of the exact problem and techniques for controlling impact noise.

See also in April, under "Cities and Towns," the report on Annapolis, Md., and the one on New Bedford, Mass., entitled "Reconnaissance Report." Both deal directly with the conservation of historic areas.

* Of special significance

Can be obtained for 50 cents from the Superintendent of Documents, US Government Printing Office, Washington 25, DC. Ask for FHA No 750.

Open-Space Land Program Guide.—Policies and Requirements under Title VII for Federal Assistance of the Housing Act of 1961. Obtainable from regional HHFA offices or from the Housing and Home Finance Agency, Urban Renewal Administration, Washington 25, DC.

The Housing Yearbook—1964. The National Housing Conference, 1025 Connecticut Ave, Washington, DC 20036 \$3. This issue contains a dozen or so articles on such varying topics as the continuing struggle for better housing legislation, a businessman's view of urban renewal, the housing boom for the elderly, housing and the poverty program and several others.

The View from the Road. Donald Appleyard, Kevin Lynch and John R. Myers. Cambridge, MIT Press, 1964. (Joint Center for Urban Studies, MIT and Harvard University and Rockefeller Foundation) 64 pp illus \$15

Reviewed for the AIA JOURNAL by Carl Feiss FAIA

Reviewer's Note: It has been my pleasure to review many books for the AIA JOURNAL and other professional journals for many years. It is always possible that a reviewer gets grouchy, bored, pedantic and more conservative as time goes on. Or he may sway with the breeze as it is shot. Or he may snoop around, waiting for the prestige reviews and cull those opinions which lend themselves to popularity with a professional uppercrust. Or, as is the case with the subject matter at hand, he may be so overwhelmed by the auspices, the names attached and the general gloss that he dares not say what he thinks for fear of utter and abject disgrace in the eyes of his peers.

Since this reviewer is old and pedantic and is in absolute fear of his peers and his betters, this is a very mild review.

To the MIT Press: Sirs, I have seldom handled a more cumbersome book. Whatever made you dimension it so it wouldn't fit anywhere? If you were going to do justice to the road idea, why didn't you publish it in scroll form like those fine Sung Dynasty Travel-

ogues found in the Boston Museum or Freer Gallery? Fortunately I have trifocals—because holding the book vertically in the lap gave me only a tired neck.

Picture puzzles are fun, but I got weary with your strange two-way visual system where you read the text down and the pictures up. Why? But even this is not consistent, as on page 38 where the directions reverse themselves in the same diagram. Actually the authors absolved you (and me) from being worried about it. On page 39 they say without embarrassment, "This is no more than an illustration of method. It lacks real content and neglects many possibilities, etc." Here we are in agreement.

Sitting in my easy-chair under my best reading light, I still found myself needing the large old-fashioned reading glass my father used to use in his great library of rare manuscripts and incunabula. I hadn't used it in years. Then suddenly I came to. I was reading newsprint. Not book-type but newsprint without serifs. The rubrication (using my father's vocabulary) is at one-tenth of an inch per line just exactly as is the front page of my daily *Washington Post*. The only trouble is that without serifs used on very white stock, the vibration between type and the paper sets up nasty little blurs.

Frankly, gentlemen, it is hardly necessary for the MIT Press to *épater les bourgeois*. Legibility and comfort are essential in the analyzing of a good book. It is a vehicle for ideas first and then can become a work of art. I shouldn't have to remind you. Also the covers have warped, both of them.

To the Authors: Sirs, I am afraid it hasn't really come off. I know you tried hard. What Lynch did in "The Image in the City" was bright and new but this doesn't seem to have moved ahead. You should have researched the article in my "Out of School" series in *Progressive Architecture*. I believe it was in 1953, where I discussed the art-use of the highway as a bas-relief, as an instrument for special automotive sensations, and of the sculptural opportunities of the (late and lamented) Burma Shave type, as viewed from the road. I am afraid I anticipated you by at least a dozen years.

Be that as it may, I find that a system of viewing a city as made up of abstract objects quite abhorrent. In fact, the subtraction of nearly all substance from them, of

all sense of humanity and reality, leaves the reader or observer of your book at about the same level of scientific abstraction as he has recently been in when looking at the Ranger moonshots—curious and very dead.

If we were all to see the view from the road as of dead images, then even the automobile junkyards attacked by President Johnson might be considered as special sculpture or texture in the design. The slums and blight, so ably defended and sponsored by your colleague Martin Anderson, become Max Weber backdrops for a macabre stage, set by a Kafka who toys with computers. Come, come, my friends, the view from the road is a view of a complex of people and objects and places set by hazards of history in juxtaposition, sequence and overlaps so intertwined that one cannot be subtracted from another.

You have made a dangerous mistake. If young architects and planners and artists and all designers are to be encouraged to look at cities only as a three-dimensional road map without understanding or a penetration into the substance of what is seen, then the design profession cannot be relied upon to help save the urban world.

Technology is a fascinating toy. You have had fun with your cameras and cars and maps. In fact you have been carried away by a curious personification of concrete highways. It is as though you felt they had a will of their own and what you in your hypnosis see is actually dictated by the highways and therefore worth charting and discussing. All of the three-dimensional accidents of roadbuilding in an unplanned city seen from a rapidly moving vehicle which swings on the curves of a highway, engineered as much by land cost as by construction design, are not works of art just because they are there.

You say (p 3), "Highways have special visual qualities if we consider them as art." It's a super-big "if"! I travel on them widely and know of only two. None in the Boston area are worth wasting time on, including the Northeast Expressway.

Finally, as a square, I am not sympathetic with the drag. Drag racing should, in any case, not be encouraged by my alma mater, MIT. It may be OK at Harvard. But when I read page 13, I can hear the squeal of smooth rear tires on

the concrete, the roar of souped-up motors, the grinding, screaming crash and the crackle of flames. What is this "personal mastery" guff? Am I the master of my fate or of my soul on the highway? There is irresponsibility in academia.

To the Reader: Sirs, I will defend to the death the right of all authors to speak freely. If you wish to listen, this is your choice. I have spoken here only to the publishers and the authors. This is a \$15 book sponsored by highly reputable sources. It ought to be good.

Architectural Engineering Environmental Control. Architectural Record, edited by Robert E. Fischer. New York, McGraw-Hill Book Co, 1965. 212 pp illus \$10

Mr Fischer has been engineering editor of *Architectural Record* for the past fifteen years; here he gives us a selected group of articles from the Architectural Engineering section of the *Record* published during the time of his editorship.

Insights are provided regarding the major factors affecting environmental control in buildings: heating and airconditioning, lighting and acoustics. The articles on heating and airconditioning analyze up-to-date systems in relation to such building types as hotels and motels, stores and shopping centers, schools, libraries, hospitals, auditoriums, office buildings. The section on lighting places emphasis on "architectural goals" rather than on illumination in strictly engineering terms, appraising lighting systems and giving helpful information on the amount of light needed for various tasks and the kind of light required for visual comfort. The section on acoustics is concerned with what to do about noise problems in schools, motels, auditoriums, apartment buildings. Throughout the book "the overriding consideration has been to consider subjects from an over-all systems analysis viewpoint rather than as a segregation of components." MARY E. OSMAN

Design and Detail of the Space Between Buildings. Elisabeth Beazley. London, Architectural Press, 1962 (2nd impression). 230 pp illus \$5.88 (42 s)

A forthright technical handbook on details of "hard landscape": paved surfaces and trim, walls and fences, driveway-parking-bike planning notes. For some reason the popular American roll-over combined curb-and-gutter remain undiscovered in Britain.

While the title leads one to expect something more, this does a good job in a fresh and convincing manner. British terminology and spelling with a minimum of trade names—no great problem. Excellent photographs on glossy inset pages near text comment, text itself and line drawings on soft paper.

Encyclopedia of Modern Architecture. Edited by Wolfgang Pehnt. New York, Harry N. Abrams, 1964. 336 pp illus \$15

Every now and then a book comes across an editor's desk for review that immediately takes its place on his reference shelf. Such is the case with this 7¾ x 10¾-inch, two-column encyclopedia, whose entries have been produced by a roster of 31 architectural authorities from 16 countries. Among them are Henry-Russell Hitchcock Jr of the US, Reyner Banham of England, Jürgen Jöedicke of Germany, Henrique Mindlin of Brazil, Shinji Koike of Japan and Max Cetto of Mexico.

The 27-page introduction sketches the rise of the modern movement from the early years of the nineteenth century, followed by the entries in alphabetical order. They cover biographies of the great and near-great of the art of building; national trends, schools and styles such as Constructivism, Bauhaus and Brutalism, and a variety of topics ranging from the space frame to town planning. A good many of the articles have their own bibliographies.

Each individual architect may be found by reference to his name. Scores of practitioners are treated briefly, of course (a minimum of four lines), while the masters are the subjects of longer appraisals (Gropius merits six pages).

But what really makes this encyclopedia so workable are its extensive cross-references, since asterisks preceding subjects in the text indicate that separate entries devoted to them appear elsewhere in the book. To cite a case: Under the reference to Copenhagen's Arne Jacobsen is this sentence, "Jacobsen grew up with *Functionalism," indicating the latter has its own entry.

The book is printed in Japan on an unusually heavy stock which should take rugged wear, but the 442 illustrations suffer by their muddy reproduction. Then too, the flush-left paragraphs are not suitable for a work of this kind, although the legibility of the type is commendable.

Nevertheless, this volume should be extremely useful to professionals, students and the growing number of architectural "fans" as well as editors and writers. A work that appeals to such a broad base has its obvious shortcomings as far as the more sophisticated reader is concerned. But as a basic reference, it certainly is worth the price.

ROBERT E. KOEHLER

Projets et Divagations de Claude Nicolas Ledoux. D'Yvan Christ. Paris, Editions de Minotaure, 153 pp (Dist by George Wittenborn, New York) \$9

In the late eighteenth century, European architecture took a rationalist turn. Searching for new forms, it found inspiration in Greek antiquity. Three architects spearheaded the move: George Friedrich Schinkel in Germany, John Soane in England and Claude Nicolas Ledoux in France. Ledoux was also an urbanist, producing one of history's early workers' towns, Chaux. For him every building type had a rational form which could be rationally expressed, from brothels to bridges. This book on Ledoux' work is handsome and well illustrated, easily worth a place on the architectural bookshelf.

Anatomy for Interior Designers. Julius Panero AIA. NY, Whitney Library of Design, 1962 (3rd edition). 146 pp illus \$8.95

Revised and enlarged. In spite of the too-shmoo-like figures, the endless wit and the rather poor lettering of dimensions (which should have been set in type), this remains a comprehensive reference for designers of space for the frames of guys and dolls. But please don't put a good piano next to a window.

The Court-Garden House. Norbert Schoenauer and Stanley Seeman. Montreal, McGill University Press, 1962. 204 pp \$8

A study (completed under a government grant) to determine the validity of the court-garden or patio house concept in Canada.

A brief review of historical and geographical development of this plan is followed by discussion of its contemporary use, with illustrations and analyses of thirty examples. Then siting, plan and livability aspects. Finally, suitability for Canada—suburban, urban-renewal and mixed development.

Intelligent and concise, with adequate graphic treatment, the text deals persuasively with arguments pro and con—a commendable study.

The College and University Library as a Building Type

BY RALPH ELLSWORTH, PhD
Director of Libraries
University of Colorado, Boulder

NO COLLEGE or university library building, constructed in the United States before World War II, has been able to serve adequately the needs of its campus today, less than twenty years later. All of these buildings have either been abandoned, supplemented, or in some cases, remodeled or enlarged. Those that have been remodeled and enlarged are, at best, makeshift compromises. Not one of these prewar library buildings is as functional as is the average postwar college or university library building.

No campus has been able to build a library building large enough to house its readers or books for as long a period of time as was anticipated when the building was planned. Some, as for example, the Brooklyn College Library and several of the California State College libraries, have had to be enlarged before they were four or five years old.

These statements merely dramatize the many reasons why the planning of a college and university library building is so difficult today. The following statement consists of an examination of the reasons why this is so.

Concepts of use are changing. Students are much more sophisticated in their ability to use books. They know how to use library bibliographic tools, how to handle primary source materials; and they know a good deal about how to understand the terminology of subject headings or descriptors, as they have been called in the language of information retrieval. Prior to World War II, the typical college student could do none of these things well. Teaching methods have also changed radically. Emphasis on independent study has brought an entirely new kind of library usage. The lecture system is being de-emphasized, and students are required to dig out their own learning procedures as well as materials. Private reading room carrels, such

as the one designed by Cornberg, represent a response to the students' need for individual study spaces. Curricular patterns are also changing rapidly. The new Honors programs, most of which have been described in *The Superior Student* (the newsletter of the Inter-University Committee on the Superior Student), are more than a reward for top achievement as measured by grade point averages. They represent a new curricular procedure, one which permits students to cut across departmental lines at will. The behavioral sciences represent a second new pattern. These cluster

together, for purposes of research, parts of psychology, biology and the formal social sciences.

The residential college idea—one that mixes study and living facilities—is being studied in some of the larger universities outside the Ivy League. This represents a response to the frightening loneliness of the large state university campus.

New research needs, too, are causing realignments among traditional departments and actual relocation of departments and books. The names of departments no longer describe limits of the working relations any one scholar develops for his own research. Evidence of this trend can be seen in the current tendency for universities to abandon a series of science departmental libraries and to plan a single science library. It can also be seen in the social sciences, which are dividing themselves, on the one hand, into the behavioral-science camp and, on the other, into the historical-literary camps.

Another obvious development is that the user now expects to find all types of carriers of knowledge in the library—printed books, microfilms, phonograph records, tapes, motion picture films, kinescopes of television programs. These non-book carriers are no longer used solely for classroom presentation. Individuals find them as useful as the traditional printed book, as a learning resource.

The concepts of size and nature of institutions are changing. State colleges have become universities with inclusive curricula. Junior colleges have evolved into four-year colleges. The community college is now in process of formation, and its scope is tending to be so broad that a library designed to meet its needs might not differ much from an inclusive state university. Vocational education at the post-high school level is promoted by the business community as a potential labor producer. But educators tend to be skeptical because of the fact that automation threatens to eliminate many of the jobs which vocational education is supposed to fill.





The \$1,250,000 Colorado College Tutt Library has a 300,000-volume capacity and seats 500 persons. Architects: Skidmore, Owings & Merrill

Within universities, the future of some professional schools is precarious. Many of them, such as business and engineering, are moving closer to the parent academic departments out of which they evolved at the turn of the century. Society is finding that the uneducated professional school graduate is an easy mark for the doctrinaire extremist. The trend toward placing all professional schools at the graduate level has been regaining favor rapidly in the last five years.

A new technology of communication is evolving. Miniaturization in the form of microfilm, microcard, and microfiche is well established. Very high micro-reproduction, such as has been accomplished by Verac, is technically possible, but will be difficult to put into practice because it would tend to destroy the unique strengths of some of the large privately owned research collections.

Information retrieval suffers from an overenthusiastic beginning. Too much was expected of it, and, as a result, disappointment has led to disillusionment. Information retrieval is likely to be confined to bibliographic controls and not to the supplying of the full text of the items desired. Regional science information centers, however, are likely to be established to supply data which had been recorded on computer tapes. Neither miniaturization nor electronic retrieval shows any sign of eliminating the need for large libraries in traditional forms.

Perhaps the most revolutionary mechanical achievement has been the development of the Xerox 914 copier. This is now found in almost all college and research libraries and has enabled the scholar to

speed up the amount of work he can do with greater accuracy. It is also forcing a revision of the copyright laws because readers are not willing to abide by the old law which requires them to ask permission before copying copyrighted material. Under the heading of closed circuit television and programmed learning, many new developments are coming along that could change the manner in which readers use libraries. All of these developments raise the question of whether new library buildings are needed. As of today, there are no developments that would justify the postponement of library space in conventional terms. However, it is clear that all library buildings must contain a maximum flexibility and adaptability and should be capable of being enlarged tenfold. All library buildings should be wired so that sufficient electrical capacities and outlets will be available.

A new attitude among some of the big-name architects toward the esthetics of libraries is causing trouble. World War II marked the end of the old-fashioned monumental fixed-function library buildings in which each area was designed to accomplish one library operation and one only. The so-called modular library was developed at the end of World War II to provide the kind of building that would enable colleges and universities to evolve new concepts of library organization and service. These modular buildings have served well, even though most of them were not beautiful, at least in terms of traditional concepts of library esthetics. Architects, have, however, now mastered the me-

dium, and the Washington University Library stands as an example of what architects can do if they will put their minds to it. However, in the last two or three years, some of the big-name architects in the East are going back to pre-World War II traditions and are designing libraries that are not capable of meeting the needs of a modern university library, even though they may be superlatively beautiful. This new trend will surely cause the same kind of trouble we had with the prewar buildings. This lack of architectural humility is difficult to understand in light of the obvious successes among the best modular buildings. Perhaps what this boils down to is that some architects are not willing to update their concepts of what a beautiful library building is. They tend to think of the beauty of the shell rather than the beauty of the operation.

There is a growing tendency in universities to emphasize the research functions of the university at the expense of undergraduate teaching. Librarians know that undergraduates and researchers need different kinds of libraries and that both cannot be served well in the same structure. Researchers need libraries with closed stacks and with book collections that do not circulate. Young students, on the other hand, need open access stacks and generous privileges. When universities cannot afford both kinds of buildings, there is a tendency for the faculty to force librarians to give research top priority and to ignore the needs of undergraduates.

Basic Elements in Planning

It should be assumed that a detailed and formal program will be written for the architect and that he will be given an opportunity to suggest revisions before the program is concluded. The written program will state the institution's wishes in the following matters.

1) *The user*—Population factors; what are they?

- *The number of students at the lower division level.* Relevant questions are: Should these be served in a separate library or mixed with other readers? Should the facility be in the central building or in a separate building? Should it be closely related to dormitory and college union buildings?

- *Upper division or major level.* A physical count of enrollment in each department is basic. Are upper divisional students to be given

access to the same materials as graduate students?

• *Graduate students.* There should be a count for each department according to level, that is, MA's and PhD's. Are the academic buildings located in such a way as to facilitate the development of divisional branches rather than a series of departmental libraries?

• *Faculty.* The nature and quantity of faculty use of a research library varies tremendously from university to university. Probably the most relevant factor is the extent to which the faculty is carrying on research work and the quality of the library. A young faculty will have more need for research studies in the library than will an older faculty because young faculty members usually have small houses and large families and thus cannot work at home. Universities located in large urban centers will probably find that their faculty leave the campus after class and laboratory obligations.

• *Outside users.* In large urban centers, this will be an important factor. Research workers may constitute as much as one-third of the users of a university library in an urban center.

• *Night school population.* This is likely to be a lower quality level reader population than is the daytime population. They are more likely to be studying practical courses which do not involve extensive use of libraries. Their reading is likely to be confined to a small number of books placed on reserve.

• *General characteristics.* Modern day readers want privacy. They do not want large formal reading rooms with flat tables. Seventy or 80 per cent will prefer reading room carrels offering visual privacy.

A second characteristic of the contemporary reader is that he has a new attitude toward the sanctity of property. Theft and mutilation are likely to be extensive, and no one knows how to stop this. Readers too often assume that library materials are to be used without regard for the rights of other people.

A third characteristic is an uncertainty as to the percentage of students that will use a college or university library. Twenty-five years ago, we said 10 per cent. Today, we say 30 per cent. This can go as high as 50 per cent if the technology of teaching develops properly and if the present-day emphasis on individual study continues. This means that buildings should be capable of

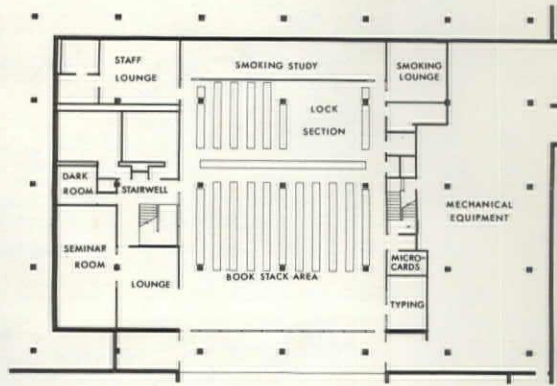
accommodating many readers in small group study rooms and in study carrels which provide access to electronic cables. Special lighting and acoustical treatment are required and air-cooling is a necessity.

2) *Materials*—Most college and university libraries are much too small to perform the functions they are supposed to perform today. Something like 90 per cent of our academic libraries should be doubled immediately, and 50 per cent probably should be increased three to four times if they are to supply the material that is available today on problems and subjects that colleges and universities accept as primary materials for learning. This is not only a result of the explosion of knowledge but is also a result of the postwar opening up of the new-old parts of the world.

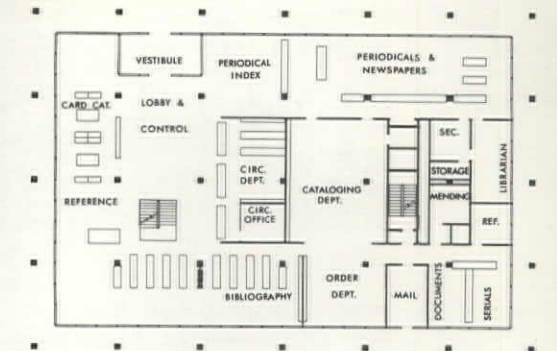
As stated before, all types of carriers of knowledge should be used in the libraries. This means that the library must house portable machines for listening and viewing. We are now in the early stages of developing consoles for the reception of information and data from regional scientific centers. We have also reached the point at which we are beginning to think of microforms as an intermediate stage for consumption. In other words, instead of reading microfilms in reading machines, we will provide the reader with photo-enlargements which he may consume any place he wishes. It is technically possible, today, using high-reduction ratios, to put the contents of a large research library into a very small space. Experimental work has been done on this to the point where the question of whether this technique should be used is administrative, rather than technological. It should be remembered, however, that the materials in the typical university library occupy less than half the space. Readers take the rest, and readers cannot be compressed.

In a research library, it is essential for planners to realize that a unified block of book stacks offers the greatest convenience to users. Book stacks that are dispersed and massed into irregularly shaped forms will create problems for readers. This tends to limit the freedom of the architect, but, as stated before, he should realize that libraries are not necessarily a pure art form. They tend to be machines for use.

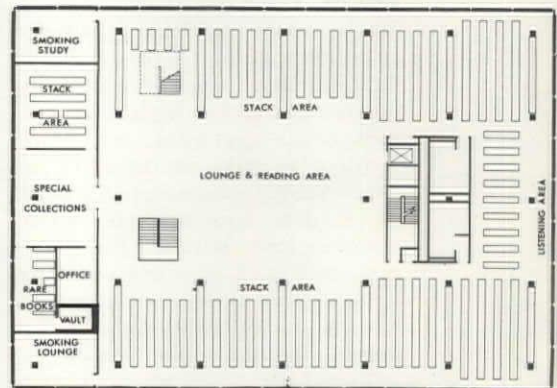
3) *Organization of service*—Experimentation with different kinds of library service patterns was im-



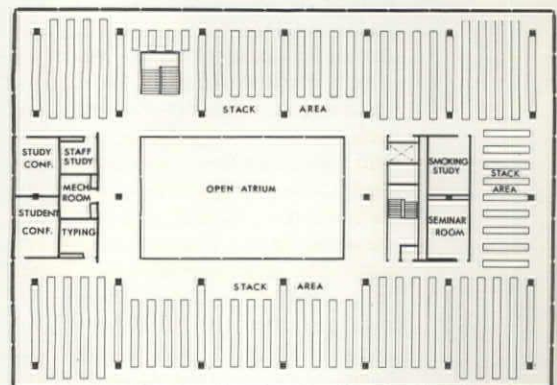
Tutu Library basement



Main floor



Second floor



Third floor



Atrium and main desk at Charles Leaming Tutt Library at Colorado College

possible in the prewar fixed-function library building. In planning such a building, no one dared take a chance with an unknown theory of service. The modular library building has opened up the possibility for experimentation. The traditional library arranged its services according to type of material, such as periodicals, books, documents, etc. Newer approaches have attempted to develop service according to the needs of readers (for example, lower-division level libraries for young students) and by subject-centered groupings, such as a social science library or a science library. The subject divisional plan library has proven to be an attractive arrangement except where it results in artificial grouping of materials in such a way as to confuse readers. Regardless of the basis of service, certain interrelationships are essential. The main floor level of the library should contain a central exit control, the central reference service and usually the technical processes, although these can be located on a different floor if direct and fast elevator service is provided for the staff. The reference staff can either be pooled on the main floor or dispersed among the floor levels if a subject divisional plan is used. The basic problem inherent in the dispersed plan is that the reference staff finds itself separated from the main card catalog and the reference and bibliographic tools, which are

too expensive to duplicate. The manner in which the book collections are dispersed throughout the stacks is secondary in importance, provided that the classification order is not violated and that the book stacks are organized in solid blocks.

The seminar room has continued to be a difficult problem in the US as it has been in the German university libraries for centuries. If the seminar room contains only first copies of certain books for research workers, then these books are not available to other readers. One way of solving this problem is to locate seminar rooms adjacent to the book stacks but to keep them free of permanent collections, as in the new Cornell University Library.

The typical kinds of reader-station facilities would include a number of traditional reading room tables, reading room carrels, research carrels, stack lockers, group study rooms, listening and reviewing carrels, film-viewing rooms, smoking lounges and faculty research studies. Americans would do well to adopt the European university library provision of a café in the library.

The architect should expect the institution to state in its program how it wants the library to be organized. One way of stating this is to provide a kind of walk-through description of the library as the librarian conceives it. This kind of description provides the architect

with the kind of statement of intent he must have before he can plan the building.

Physical Properties

Modular libraries are here to stay, even though a few architects seem to be unwilling to confine their design urges to the kind of functionalism a modern library must have. This dilemma is not a dilemma to a truly great architect.

Fenestration—Glass walls should not be tolerated even if they are covered over by a false wall of lacework in stone or metal. The aim of fenestration should be to provide a framed view which will serve a specific library function or, rather, a series of library functions.

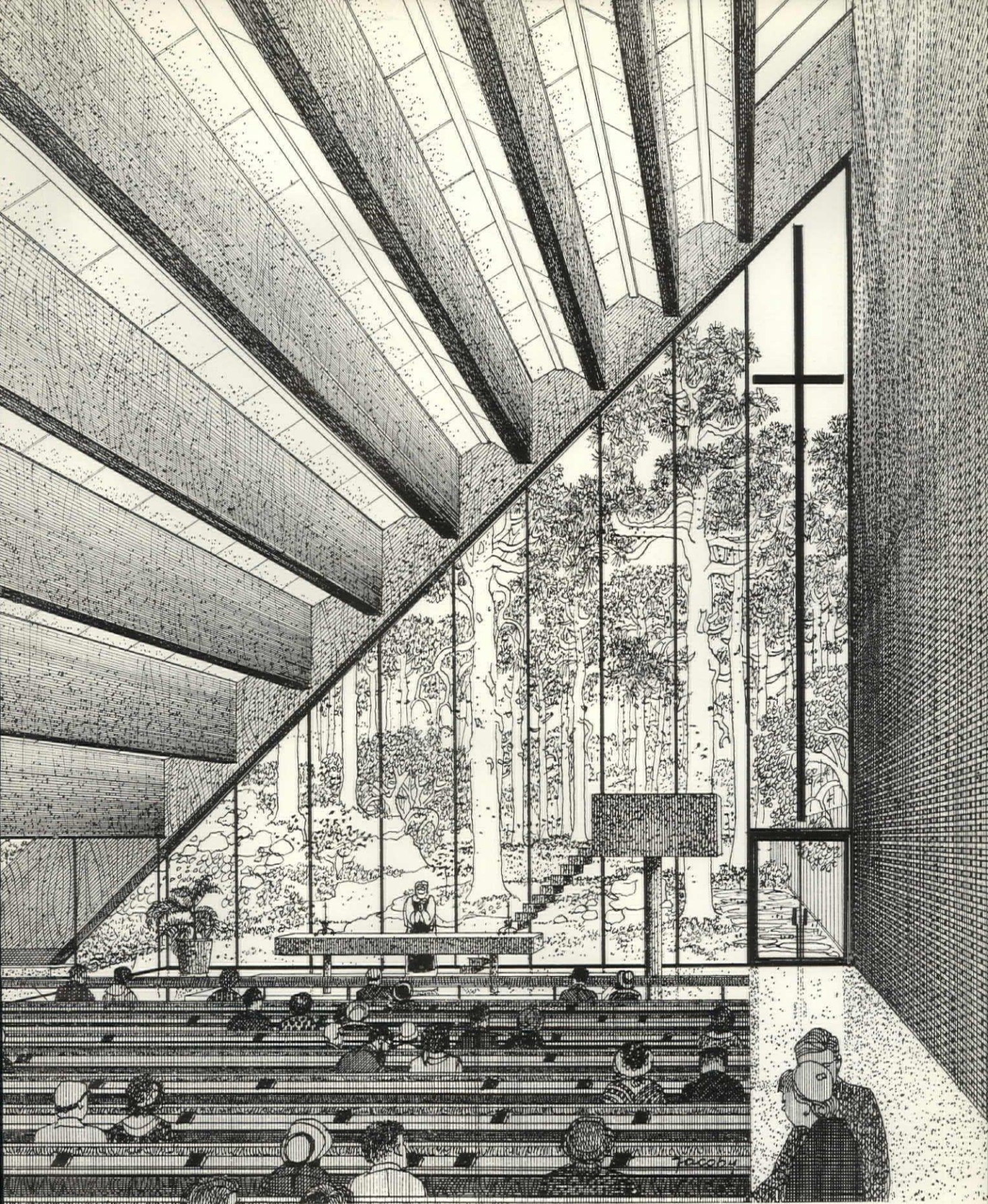
Air control—Except in a very few places in the country, full air treatment is required: temperature, humidity, filtering.

Lighting—There is still no real specific evidence available to justify the very high light-levels suggested by manufacturers and electrical engineers. If the quality of the lighting is good, 70 footcandles for regular reading room purposes would be a maximum, and 50 will suffice. The temptation for architects to design light fixtures that serve a design rather than a functional purpose should be avoided. At the same time, the architect should be charged with the responsibility for controlling all the factors that determine the success of a lighting installation. This means control of colors, surfaces and possibly even arrangement of furniture.

Special needs of electronic hardware now being used in libraries—The modern library will be using IBM machines, flexowriters, computers, various types of photocopiers, television receivers, phonograph record players, etc. Many of these machines are noisy; most of them generate heat, and sometimes odors, and some of them will probably require heavy electrical service. In short, large conduits should be provided generously throughout.

Flexibility—The question of how much flexibility a library can achieve is debatable. One hundred per cent would be impossible. Fixed elements, however, can be zoned and arranged in such a way that they do not interfere with the need for future adjustment of service.

Expandability—Since most libraries today should be built in units, it is essential that the architect show rather detailed plans for the ultimate completed building before the first unit is started. ■



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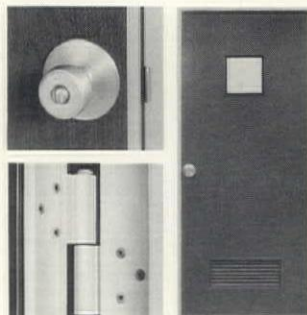
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ANOTHER ARCHITECT FOR ASPEN: For the second year in a row, an architect has been named program chairman of the 1965 International Design Conference at Aspen June 21-25. The assignment goes to George Nelson FAIA of New York, winner of the Institute's Industrial Arts Medal in 1964. Theme will be "The New World," exploiting "that extraordinary pile-up of changes since World War II. . . . We will go to all sorts of sources to obtain bits and pieces of a picture which we can promise will be a shocker—but a stimulating, exhilarating kind of shocker," Nelson added.

PARIS WHEN IT SIZZLES: Architects who will be abroad this summer may want to consider attendance at the VIII World Congress of the International Union of Architects in Paris July 5-9. Registration fees for the sessions, whose theme will be "Architectural Education" are: full UIA member, \$75; observer, \$60; associate, \$45; student, \$15. Forms and programs are available by writing John Dawson AIA at AIA Headquarters.

AWARDS PROGRAMS / PCI Names Jurors

Three architects and two engineers will serve as the jury for the 1965 Awards Program of the Prestressed Concrete Institute, for which entries are due June 1. Structures completed within the last three years or substantially completed by May 31 are eligible.

The jurors: Max Abramovitz FAIA, New York, chairman; Institute President Arthur Gould Odell Jr, FAIA; Edward D. Dart AIA, Chicago; Wallace L. Chadwick, Los Angeles, president of the American Society of Civil Engineers; and Murray A. Wilson, Salina, Kan, past president of the National Society of Professional Engineers.

PERFECTING THE PLUMBING: Architects, engineers and mechanical contractors are invited to submit designs (no later than May 31) readily adaptable to the plumbing and drainage industry. Awards will range from \$2000 down to \$100 plus royalty arrangements. Entry forms can be obtained from Josam Manufacturing Co, Michigan City, Ind.

EDUCATION / Geddes Goes to Princeton

Robert L. Geddes, 41-year-old professor of architecture and civic design in the University of Pennsylvania's Graduate School of Fine Arts and a practicing architect and city planner, will become dean of the School of Architecture at Princeton University, a newly created position.

The appointment will be effective July with the retirement of Prof Robert William McLaughlin, director of the School since he joined the faculty in 1952. At that time the title will be changed to dean in recognition of the increasingly important role which the 45-year-old School has assumed within the University.

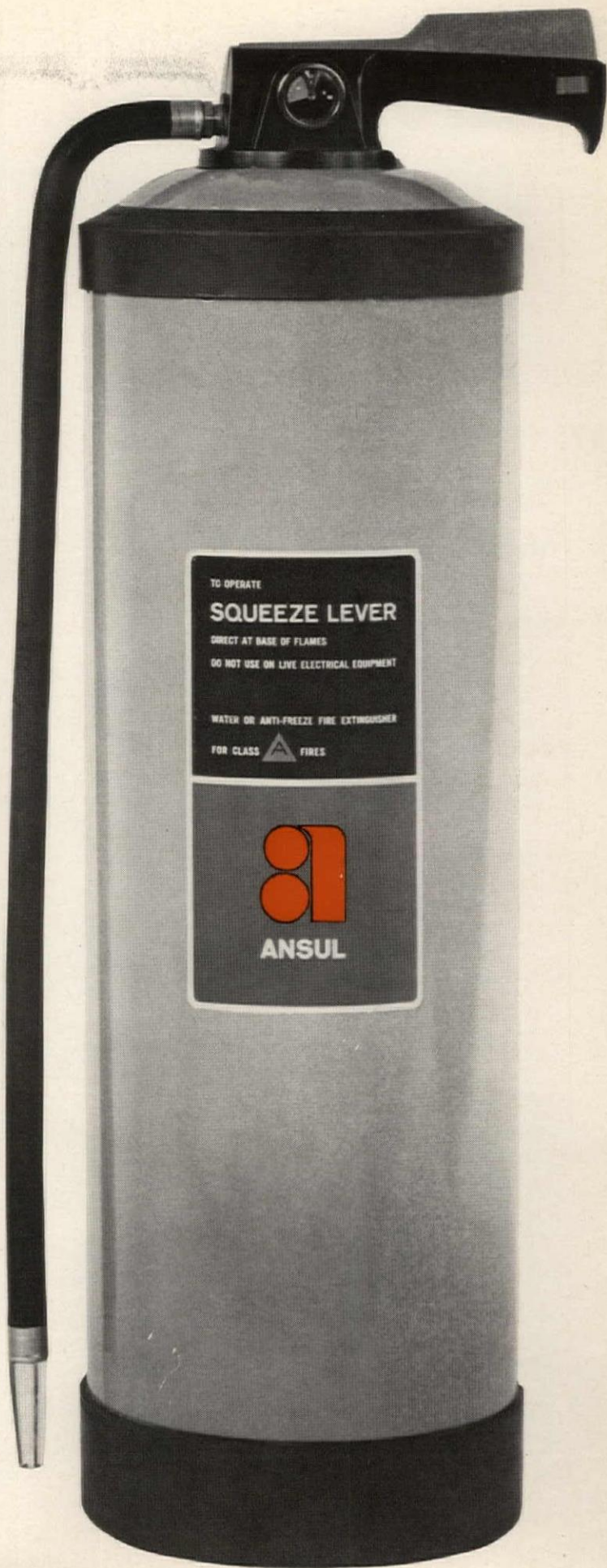
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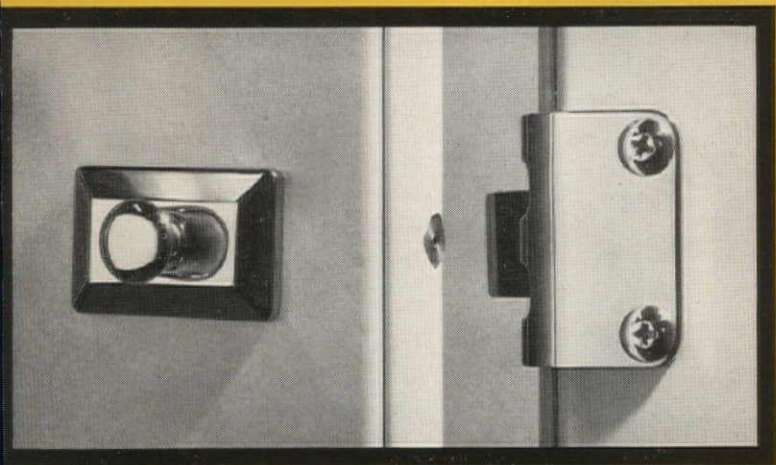


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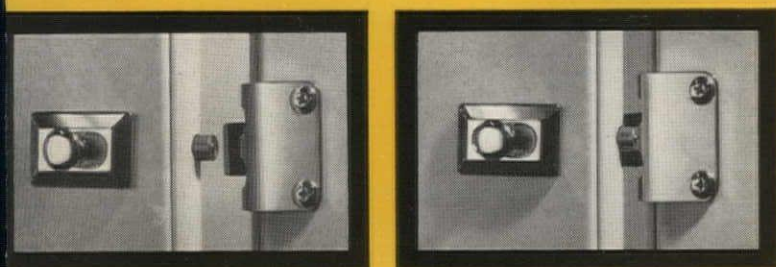
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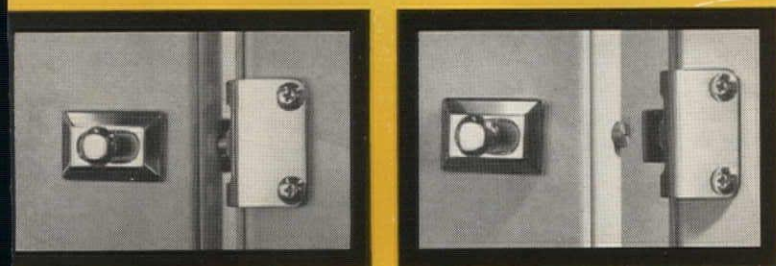
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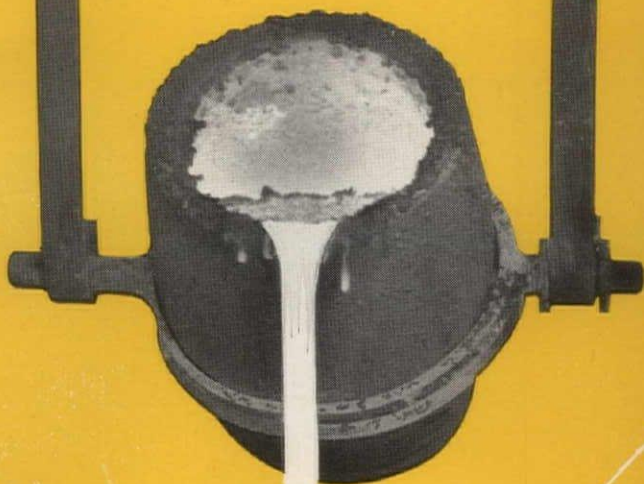


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Octagon Observer Cont'd

QUOTES / Layman's Esthetics

When an influential layman, and particularly a former state governor, talks about "Esthetics and the Modern City," there is bound to be more than usual interest in his point of view. Such was the case when Oregon's Charles A. Sprague addressed the AIA's Northwest regional conference in Portland last fall. Some sample comments:

"There is that very important personage the taxpayer. How many times are the chances for city beautification lost because of taxpayer resistance? He is the indispensable man in all cities; and he must be cultivated with care.

"Clearly a new dimension is needed if we are to conserve esthetic values in the city. We can no longer be satisfied with a beautiful city hall or a lovely fountain in a park or even a civic center, that early dream of city planners. We must think in terms of the whole city and of the city in relation to its geographic and economic environment. . . . In this century, city planning has become a profession. Sometimes it seems to be a very unsatisfying profession because of the small realization on the mountains of sketches and blueprints which are prepared. Yet again, there are occasional rich rewards.

"In Salem, the Chamber of Commerce set up a postwar long-range planning commission, adequately financed. One of its recommendations was for the extension of the Capitol Mall to a total distance of some eight blocks, which would allow for progressive development of buildings and beautification of grounds. The Legislative Assembly by resolution adopted the recommendation. A master plan for siting and landscaping has been prepared. Most of the land has been acquired. We are going to have a beautiful and harmonious grouping of our capitol buildings with appropriate ornamentation and landscaping."

FOOTNOTES / Concerning CPM

Director of the newly formed Society of CPM Consultants is J. J. O'Brien of Levittown, Pa, who has contributed an article on the

Cont'd on p 84

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Octagon Observer Cont'd

Critical Path Method in this issue (p 57). The group's objectives are to recognize mutual capability and to furnish clients with a means of CPM qualifications.

The majority of the 30 original members are professional engineers; two of the originators of the CPM technique—Dr. J. W. Mauchly and James E. Kelly Jr.—are honorary members. Persons interested in learning more about the Society can contact O'Brien at 95 Snowball Drive, Levittown, Pa.

ERRATA: Frederic R. King FAIA of New York should have been credited as the architect for the new Library Wing at Dumbarton Oaks, in the article by Stanley M. Sherman in the March JOURNAL. . . . The proper architectural credit for the 107th Street School in Los Angeles, shown on page 70 in the same issue, should have read Faxon, Gruys & Saylor. ■

Letters Cont'd from p 18

essential element in the practice of architecture are proposing to sell their professional birthright for a mess of potage. It is already resulting in the sorry spectacle of increasing amounts of architectural rubbish throughout our land.

WM. ROGER GREELEY FAIA
Boston, Mass

Cranbrook's Loose Ends

EDITOR:

After reading the abstracts and extracts on "History, Theory and Criticism," I could not help but sympathize with Mr Carlhian, who is purported to have explained: "I am dying to go back to my drawing board." The star performers seemed to have had their field day, and when Mr Whiffen states that "Cranbrook '64 left many loose ends," it was one of the greatest understatements of this decade.

Perhaps it is very impolite to say there was an abundance of "Precious Rubbish" uttered. By the way, this is the title of a very interesting book by Theodore L. Shaw aimed at "ripping away the cobweb of words" propounded by critics of art, music and literature. Let us all read it.

P. M. TORRACA
Architect
Gainesville, Fla

Bare

USS Cor-Ten Steel faces the music

From the top of the 100-ft. high tripod down to grade, this bandstand at Purdue University is unique. The tripod is made of bare, unpainted USS COR-TEN Steel that is weathering to a pleasing dark brown. From its apex, 60 stainless steel cables support a steel and concrete canopy over a bandshell that resembles a half circle of Stonehenge megaliths.

The architect specified bare USS COR-TEN Steel for exposed steelwork to eliminate painting and maintenance. COR-TEN steel has an unusual ability to protect itself against atmospheric corrosion. As it weathers, it forms a dense, tight oxide that protects the base metal against further attack. If scratched, or abraded, the oxide re-forms. The resulting color and texture have a natural, architecturally pleasant look. Unlike man-made coatings, this one improves with age and maintains itself.

USS COR-TEN High-Strength Low-Alloy Steel provides 40% more usable strength than structural carbon steel. The columns were fabricated from T-sections cut from COR-TEN steel WF beams. Stiffening diaphragms are welded between the T-sections. The canopy is made of precast concrete panels set in a steel grid, and is pinned to the tripod columns to prevent sidesway.

A great many exciting things are being done with exposed steel these days, especially USS COR-TEN Steel. A word of caution: The use of bare COR-TEN steel is not appropriate for all applications. An understanding of its limitations is necessary for satisfactory use. While COR-TEN steel is available in practically all forms produced in carbon steel, the designer should avoid specifying it where the quantity will be less than one ton of a size. This will help minimize procurement problems. We suggest you send for our new booklet, "USS COR-TEN Steel for Exposed Architectural Applications," and consult with a USS Construction Representative through your nearest USS Sales Office. United States Steel, 525 William Penn Place, Room 8062, Pittsburgh, Pa. 15230. USS and COR-TEN are registered trademarks.

*Slater Center for the Performing Arts,
Purdue University, Lafayette, Ind.
Architect: Joseph Baker and Associates.*



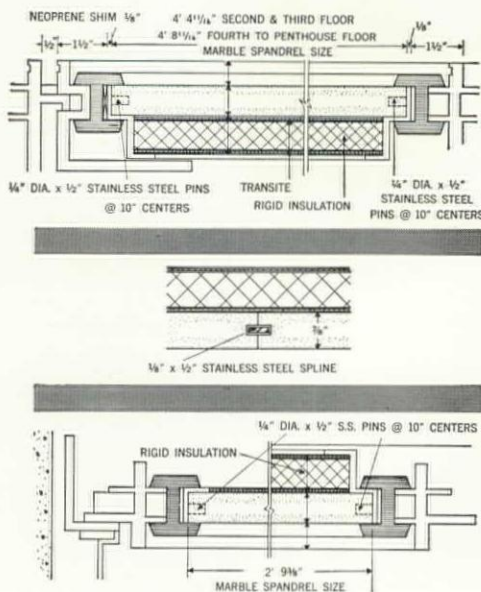
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See our color insert showing the Blair Building, Chicago, on page 1.

CALENDAR

May 18-20: Middle Atlantic Hospital Assembly and Architectural Exhibition, Convention Hall, Atlantic City

May 24-26: CSI Convention, El Cortez Hotel, San Diego
June 7-9: National Lighting Exposition and World Lighting Forum, New York Coliseum

June 10-12: AIA Board of Directors, Washington, DC

June 11-12: NCARB and NAAB Annual Meetings, Sheraton-Park Hotel, Washington, DC

June 11-13: ACSA Annual Meeting, Sheraton-Park Hotel, Washington, DC

June 14-18: AIA Annual Convention and XI Pan American Congress of Architects, Sheraton-Park Hotel, Washington, DC

June 27-30: ASLA Annual Meeting, Statler Hilton Hotel, Hartford; International Municipal Parking Congress Annual Convention and Workshop, Waterloo, Iowa

June 30-July 3: National Society of Professional Engineers Annual Meeting, Western Skies Motor Hotel, Albuquerque, NM

July 2-3: UIA General Assembly, Paris

July 5-9: UIA World Congress, Paris

July 5-18: Annual Seminars on American Culture sponsored by the New York State Historical Association, Cooperstown

AIA Regional and State Conventions

Aug 18-21: Northwest Region, Glacier National Park, Mont

Sept 9-11: New Jersey Society of Architects, Essex and Sussex Hotel, Spring Lake

Oct 1-3: New England Region, Colony Motor Hotel, Providence, RI

Oct 6-10: California Region, Yosemite National Park

Oct 14-16: Ohio Region Atwood Lake Lodge, New Philadelphia

Oct 21-23: Pennsylvania Region, Hershey; Western Mountain Region, Mountain Shadows Resort, Scottsdale, Ariz

Nov 3-5: Texas Society of Architects, Austin

Nov 3-6: Central States Region, Des Moines

Nov 17-20: Florida Region, Jack Tar Hotel, Clearwater

AIA Committee and Related Meetings

(At the Octagon unless otherwise specified)

May 14-15: School and College Architecture

June 6-12: AIA-ACSA Teachers Seminar, Cranbrook

June 27-29: Second Columbia Conference, New York

July 18-19: Architect/Engineer Liaison Committee, CEC Headquarters, Washington, DC

Aug 6: Industrial Architecture

NECROLOGY

BRODERICK, BYRON C., Selma, Calif

COLE, HAROLD F., Canoga Park, Calif

DWORSKI, JOSEPH F., Birmingham, Mich

FAIR, HERNDON MOORE, Columbia, SC

HERTER, JOHN T., Chicago, Ill

KESSLER, FREDERICK W., Palm Beach, Fla

KLIMCHECK, ALBERT A., Pittsburgh, Pa

LEINBACH, JESSE LEO, Dallas, Tex

LOCKYER, WILFRED S., Picayune, Miss

POWELL, JEFFERSON D., Jacksonville, Fla

SCHLAEPFER, FREDERICK J., San Jose, Calif

SCHULTZE, WALTER L., Philadelphia, Pa

STEKETEE, CHRISTIAN, Grand Rapids, Mich

WALKER, EDGAR T. P., Hingham, Mass

WEEMHOFF, HARVEY H., Grand Rapids, Mich