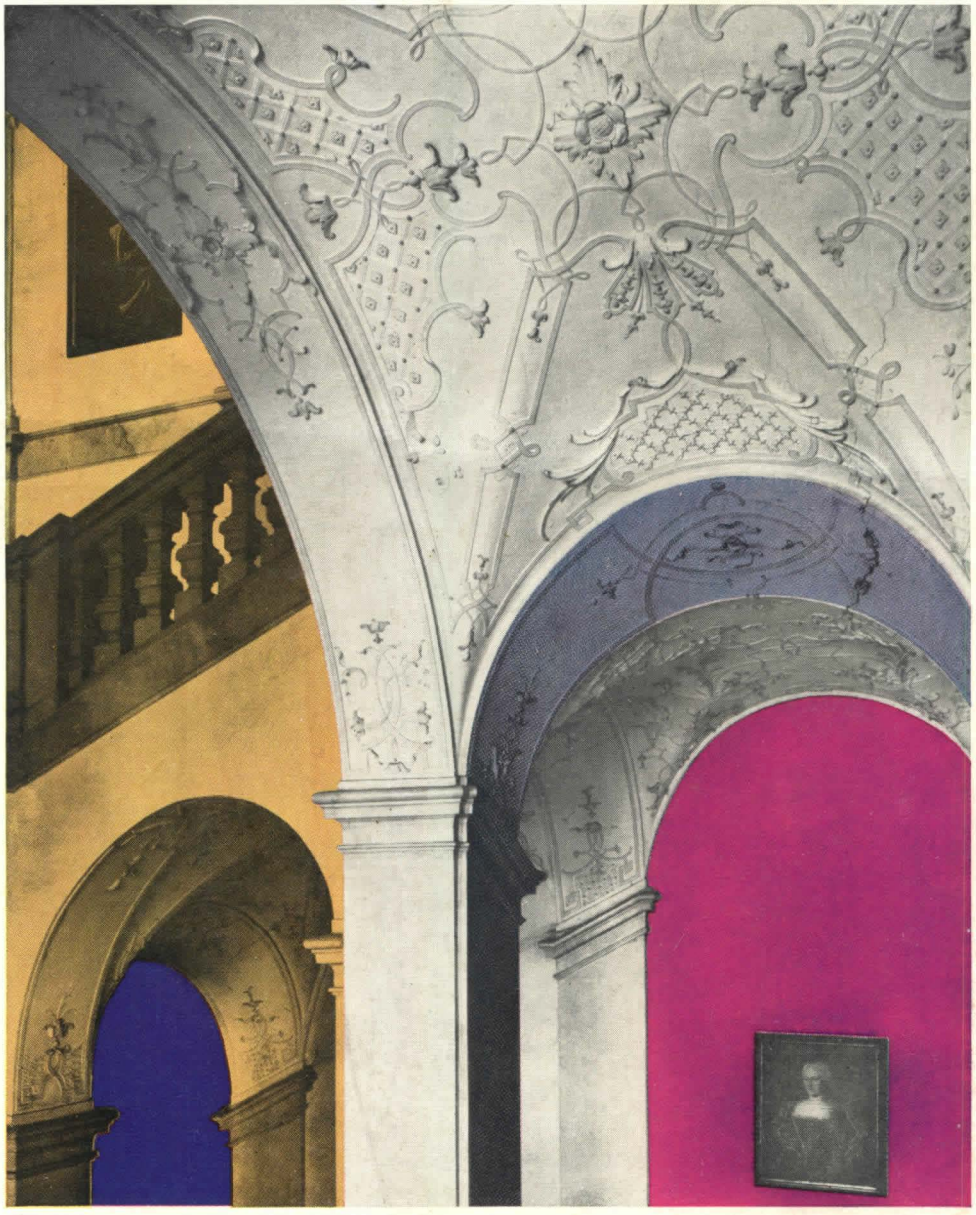
A·I·A

Journal

OF THE AMERICAN INSTITUTE OF ARCHITECTS

January 1962



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The Architects' Plan for Boston • **ACSA — Education for Urban Design (Part II)**

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A·I·A Journal

VOL. XXXVII, NO. 1 JANUARY, 1962

THE COVER

Designed by R. Donald Carguil who used one of Beaumont Newhall's photographs of the stucco work in Schloss Leopoldskron (see page 46)

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BPA

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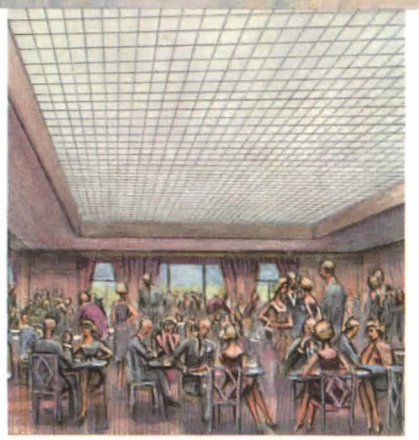


Garden State Park, Delaware Township, Camden County, New Jersey. **Architects:** Arthur Froehlich and Associates, Philadelphia, Penn., and Beverly Hills, California, R. J. Krause, Assoc. **Acoustical Contractor:** Berger Acoustical Co., Inc., Haverford, Penn.

TECHNICAL DATA: **U. L. RATED:** Armstrong Acoustical Fire Guard offers one- to four-hour rated fire protection for structural components. **SAVES MONEY, CONSTRUCTION TIME:** Up to 30¢ per sq. ft. by eliminating intermediate fire protection; often earns lower insurance rates; up to two months' time through dry installation. **SUSPENSION SYSTEMS:** For tile: TDR, Zee; for new lay-in units (24″ x 24″ x 5/8″ and 24″ x 48″ x 5/8″): exposed Fire Guard grid system. **CHOICE OF DESIGNS:** Fissured, Classic, Full Random. For full information, call your Acoustical Contractor, your Armstrong District Office, or write Armstrong Cork Co., New Code Street, Lancaster, Pa.

News

Octagon Honored

The Octagon was designated a registered national historic landmark by the Department of the Interior on November 27.

Interior Secretary Stewart L. Udall presented a bronze plaque commemorating the event to AIA Secretary J. Roy Carroll, Jr *(See below.)*

Praising the Octagon as more than a mere memorial, Secretary Udall remarked, "Here at Octagon House we see not merely the preservation of Dr William Thornton's architectural talent and integrity, but we tread the halls of a fledgling nation.

"The artistic discipline and awareness that has maintained this historic landmark for a hundred and sixty-one years is another way of illuminating history."

In contrasting this type of link with the past with memorials which "embalm rather than illuminate the pages of history," the Secretary got appreciative chuckles when he said, "In [some] areas, the sculptor's chisel has produced mere images that flit uneasily through this capital, looking not unlike some visitor transfixed for all time as he consulted his guidebook."

The Secretary was chided the next day in a Washington newspaper for mentioning in passing that although the nation's capital has statues of the inventor of the daguerreotype and a Uruguayan patriot, there are none of Nathan Hale and Thomas Paine. There *is* a statue of Hale in Washington, the newspaper reported; it stands in front of the Justice Department ten blocks away from Interior.

All of the controversy over the capital statuary resulted from criticism of the Interior Department for sending a few of Washington's memorials to be enshrined elsewhere.

Edmund R. Purves, FAIA, Consulting Director of the Institute, thereupon wrote the editor of the newspaper: ". . . The universal population explosion, a major concern of the economist and potent factor in all affairs, is receiving finally the attention which it is due. Secretary Udall in his redistribution of statuary has called our attention to a local population explosion which went unheeded until he came into office. I refer to the alarming proliferation of statuary which, if allowed to go unchecked, may turn this City into a bronze and marble boneyard interlaced with loops and freeways.

"Now I am all for statuary, but . . . not all in Washington. Sculptors are important and should be encouraged. Architects pick up a few dollars on the side doing pedestals and settings for the sculptor's product. (And architects could use a little encouragement too.)

"In sending the statue of Dr [Benjamin] Rush to Dickinson College the Secretary is making two benefactions at once. He is engaging on a brave start to control the overabundance of statuary and he is sending this particular statue to a place where . . . it will enjoy more justification and recognition than it would here. . . ."

Octagon House, a superb example of an eighteenth-century town house, was designed in 1798 by Dr William Thornton, architect of the US Capitol, for Colonel John Tayoe of Mt Airy, Virginia, who had the house built at the suggestion of George Washington.

After destruction of the White House during the British occupation of Washington in 1814, Colonel Tayloe offered the house to President and Mrs Madison as a temporary Executive Mansion, and for over a year Octagon House served as the center of Presidential social and official functions.

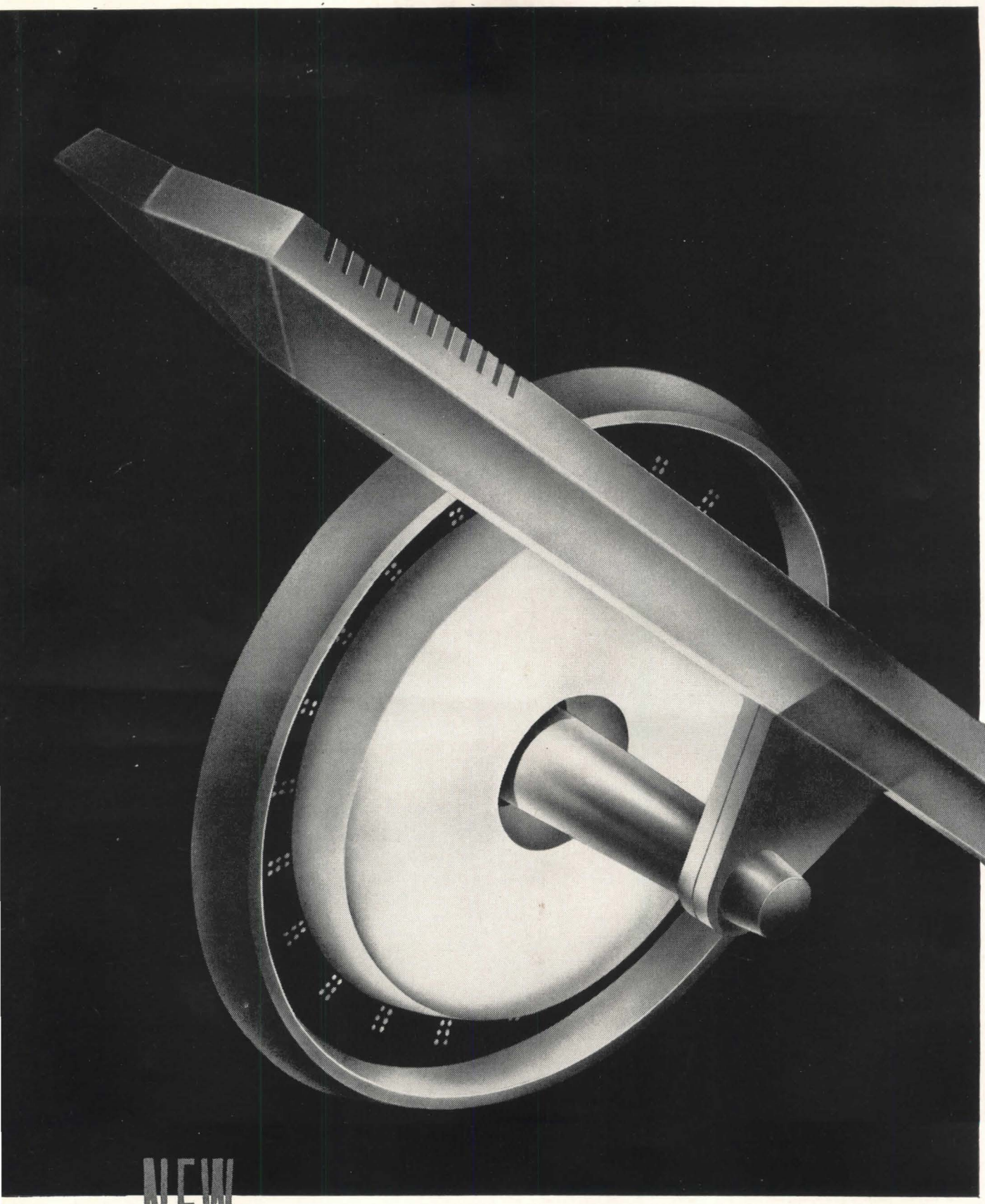
AIA acquired the house in 1900.

New Steel Door Size

Architects have long awaited a stock steel door to be used as a butt-frame installation and compatible with the eight-inch vertical increments of modular construction. The Modular Buildings Standards Association announces they have been notified of the door's availability by manufacturer-members of the Steel Door Institute.

For the first time, it will now be possible to course out modular masonry units with this type

(Continued on p 10)



NEW ILLUMINATED WALL BRACKET spotlights handrails in corridors and stairways • • • Incandescent recessed lighting provides added safety and decorative night lighting for:

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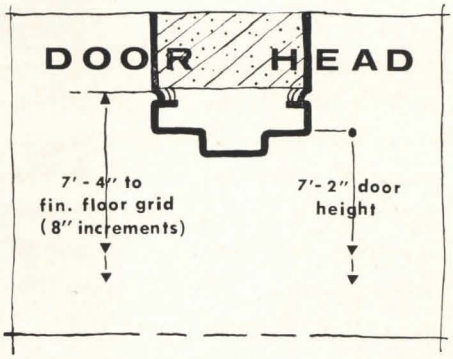
News *(Continued)*

of frame *(see illustration)*. The new unit is expected to find its greatest immediate market in school buildings, but is equally useful in any building type and can be readily detailed into any interior wall construction.



MSBA spokesmen stressed the inherent installation simplicity of the new size, which will permit improved workmanship, appearance and lower installation cost. They feel that introduction of the new modular steel door will remove the last major objection of some architectural firms to planning for total modular construction in their buildings.

ULI Names Lund

Joseph W. Lund of Boston was elected president of the Urban Land Institute by the Institute's Board of Trustees, meeting in Miami Beach in November.

Other new officers named were: Urban A. Denker, Wichita, first vice-president; F. Poche Waguespack, New Orleans, second vice-president; Waverly Taylor, Washington, Secretary; and H. Walter Graves, Philadelphia, treasurer.

William F. Keesler of Boston was elected to serve a three-year term as a member of the Board of Trustees.

Publication Takes Honors

The Florida Association of Architects was the only state association to receive dual awards at the Awards Competition held in conjunction with the annual meeting of the Florida Society of Association Executives in Tampa.

The Association's official journal, *The Florida Architect*, edited by Roger W. Sherman, and its letterhead, designed by Kenneth Stanton, each received an Award of Merit in recognition of outstanding achievement in the field of communications for trade and professional associations.

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Letters

A Look at Buildings

EDITOR, *AIA Journal*:

It seems that: architects, in any decade, might well be more interested in *popular* thought of a community. Observation, on street or curb-stone, stimulates the appreciation of currently-built buildings. A better lay thought would be educative of the civic circumstances for which citizens *already* bear a right and a duty in matters of planning and of the *future* sightliness of their architecture.

Trust to the present—as a living and familiar field of thought—calls for a new approach as well as tolerance of those old opinions which will be overcome. Courage and imagination—by layman and expert—are required at mid-century. The call seems to be immediate.

The enlistment of popular thought should be invited for matters of opinion so often discussed, such as:

Economy of means to an end, in use of

Space, enclosed by, or outside of, a building, with

Expression of new technique in construction, and

Adoption of the service of machinery.

And—since there *is* a past—the place in design should be known (at least by their concepts) of commonly-held views, concerned with taste, such as:

The Renaissance (or Gothic) tradition.

Peoples' cultural sensations or experiences.

Romantic movements, literary allusions.

Mistakes of theory since the Middle Ages, etc.

Architecture, in our time, is—like the building industry—a leader and a creature of Society—which may be called an important—but by no means a disinterested—viewpoint.

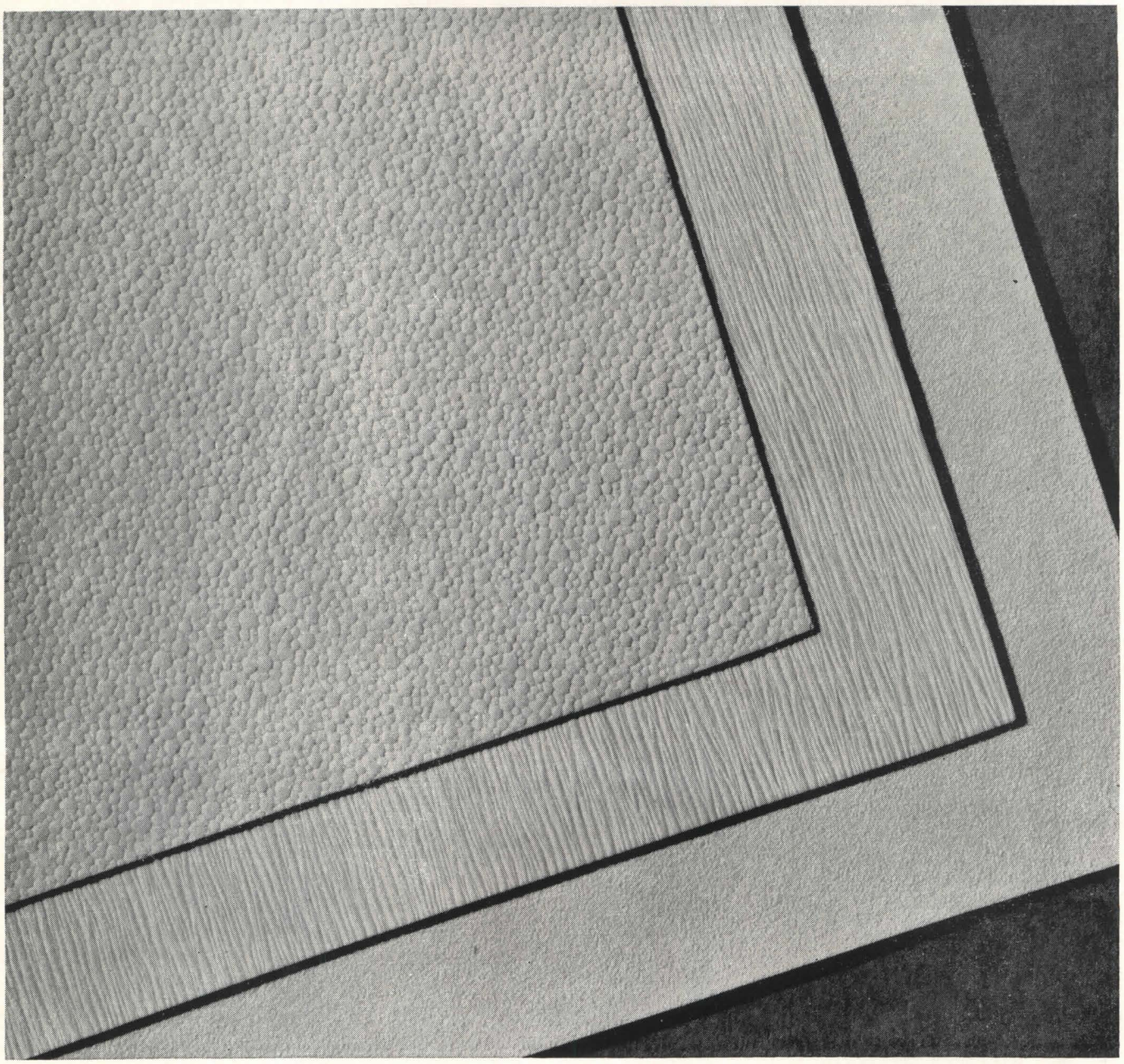
DELOS H. SMITH, FAIA
Washington, D. C.

Bigger Photos

EDITOR, *AIA Journal:*

About forty years ago when I was studying architecture, I can remember how the boys in class would devour the architectural magazines. Of course we were mostly interested in the full-page beautiful photographs. . . .

(Continued on p 16)



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Letters *(Continued)*

Nowadays the photographs of current architecture are reduced to about an inch-and-a-half by two. The best photographs of our new buildings can only be found in some of the full-page advertisements, some even in beautiful color.

What is even worse, and what has been most irritating for some time is that advertisements and everything else in the magazines are all mixed together and firmly and permanently stapled, and one is unable to remove what you would like to keep or file.

I therefore recommend and implore that the *AIA Journal* and all architectural magazines be bound so that all pages can be readily removable, so that even advertisements can be removed and filed if desired. . . .

WILLIAM J. FREED, AIA
New York, N.Y.

(ED NOTE: We have considered several times perforating the major pages in the *AIA Journal* so they could be removed. The problem has been to find a type of perforation which would not be so loose as to present a problem in ordinary handling of the book. Also, in our case, it involves an extra manufacturing cost which has to be considered. But I think we will come to it in good time.)

The Industrialized House

An Interchange of Letters Between William Stanley Parker and Carl Koch:

DEAR MR KOCH:

I read with interest your article on housing in the September *AIA Journal*. One phrase was not fully clear to me.

You refer several times to "industrialized houses." Do you merely mean use of prefabricated elements or what? I wish you would drop me a brief line with your definition of an "industrialized house."

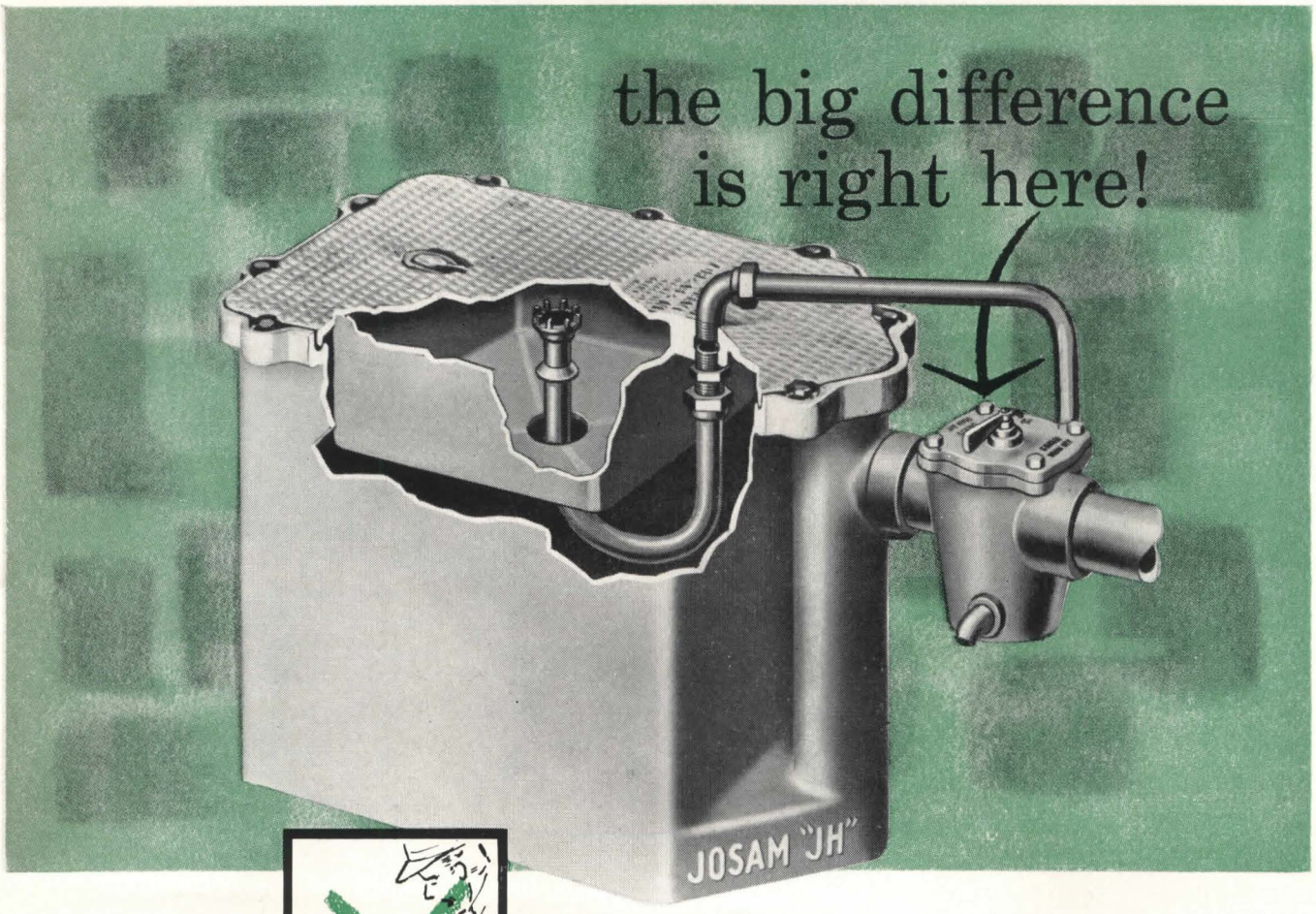
WILLIAM STANLEY PARKER, FAIA
Boston, Mass.

DEAR MR PARKER:

Thanks for your letter of September 22. It sounds a little bit as though I have been too close to the trees to see the woods.

(Continued on p 18)

the big difference is right here!



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Letters *(Continued)*

By house, I mean not only a single family house, but groups of single units or multi-family houses and include in this meaning quite a bit beyond; that is, closely related community facilities. This could and I think will include kindergarten and primary schools and small shopping areas within the . . . neighborhood, community buildings for recreation and other community activity uses.

By industrialized, my own picture is of a series of components of which all the above can be built—components so integrated and designed that they will be almost completely finished in the factory requiring little if any site work. The site work operation, as I visualize it, will definitely be one calling for tennis shoes and white gloves rather than hip boots and metal helmets.

The two main points I was trying to make were that the industrialist is not really making parts that will go together easily and well to construct a whole living environment of factory-produced components, while the architect is afraid that these elements, if produced, will not be esthetically satisfying. My own conviction, as I have tried to make clear, is that properly designed and produced, a much more satisfying environment both to viewer and the user should be obtained.

I appreciate your interest in writing me, and hope this is some help.

CARL KOCH, FAIA
Cambridge, Mass.

Civil Defense Shelters

EDITOR, *AIA Journal:*

Congratulations on your timely article "Civil Defense Shelters" by Lyndon Welch, AIA, which appeared in the November 1961 issue.

I would like very much to obtain reprints or tearsheets of the article if they are available.

EUGENE C. BROWN, AIA
Indianapolis, Ind.

EDITOR, *AIA Journal:*

We do appreciate having our "Investigation of the Feasibility and Cost of Fallout Protection in a New Schoolhouse," in your November issue. . . . Having the report published in the *AIA Journal* has filled the need for a greater distribution of this information.

AMY G. FISHER
Caudill, Rowlett and Scott
Houston, Texas

A·I·A
Journal

The Restoration of the Nichols-Rice House

Houston is developing an "Ante-Bellum Texas Village" in Sam Houston Park. The Preservation Officer of the Houston Chapter, AIA, gives the story of the Preservation Committee's work in planning, directing and supervising a major restoration there as a public service

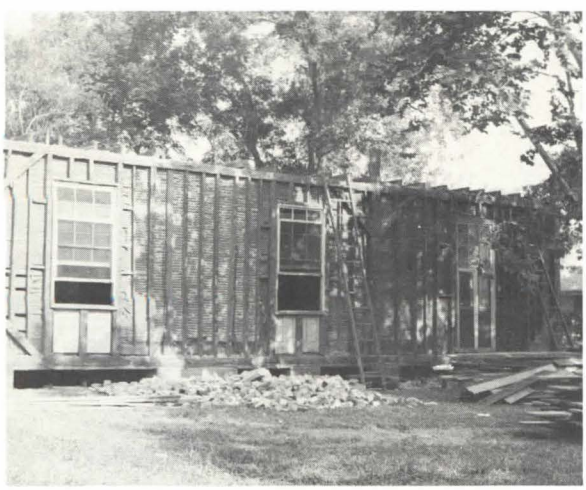
by **Harvin C. Moore, AIA**

► The physical restoration of historic buildings along the Texas Gulf Coast has been given emphasis by two restorations in Houston under the direction of the Committee for Preservation of Historic Buildings of the Houston Chapter AIA.

In 1954, a group of ladies invited this committee to assist in the organization of the Heritage Society which would raise funds primarily to restore the one-hundred-year-old Kellum-Noble House in Sam Houston Park. A fire in that structure precipitated the restoration, and, after some three years, the house was opened to the public in its original location, on its original foundation, and with a large part of its original structure.

Above, before dismantling and moving. Note heavy later gable. At right, Greek Revival entrance doorway

Dismantling uncovered original terne roof and widow's walk, hidden by high gabled roof for many years



Note hinged panels beneath first-floor windows (covered with siding in 1900), discovered during restoration

Partly because of the success of this restoration, the city of Houston and the City Parks Department, as well as the City Planning Department, have suggested that Sam Houston Park be developed toward an Ante-Bellum Texas Village representative of this early period of Texas as a state.

Currently, the second restoration in the park is some eighty per cent complete. In downtown Houston, in the year 1850, General Ebenezer B. Nichols constructed a residence across the street from the County Court House. General Nichols had come from Cooperstown, New York, and claimed a prosperous and cultural background. Having entered business with William M. Rice, founder of Rice University, General Nichols sold the house to Mr Rice in 1856 and moved to Galveston.

Mr Rice lived in the house only a short time when he, in turn, left Houston. The history of the delightful Greek Revival house is a bit vague until 1886 when it was purchased by John Finnegan, who moved it a block away to the corner of San Jacinto and Franklin.

Two years later, Charles Evershade leased the home until 1897 at which time it was put up for public auction. D. B. Cherry, the husband of a local artist, Mrs E. Richardson Cherry, bid $25.00 for the Greek entrance alone. No other bids were received; therefore, the Cherrys acquired the entire home for $25.00.

The old house was then moved about three miles to the country, which location later became known as Fargo and Hopkins Street and its modern history began.

From time to time, Mrs Cherry added numerous features of her own design. A porte-cochère, certainly not of the original period, was built to the west with a studio above. Bathrooms were tacked on and numerous additions to the rear built, including a sort of kitchen.

As in all restorations, these things challenged the Committee to establish what constituted the original house.

By 1959, the aged relic was in delicate condition and could not be moved without wrecking. Each piece, molding, windows, doors, and numerous other parts, were coded carefully, then painstakingly taken apart, bundled and moved to the park two miles away.

During the restoration, parts that were too rotted or damaged by the years had to be reproduced. For example, several of the capitals of the columns were found unfit for continued use. Skilled wood carvers, using the remaining capitals for models, carefully and authentically copied new ones for the restoration.

When the house was dismantled, it was found


804

Nichols-Rice House after moving and restoration

that along the years a high gabled roof had been put over the original terne roof. Atop the original mansion had been a "widow's walk." Only a piece of the surrounding railing was found, but this was a guide for a restored walk.

Each mortised timber was carefully noted and an original chimney chase between the two back rooms was discovered. This chimney was constructed on the new site.

Exposure of the first floor wall structure indicated a rather unplanned system of bracing which seemed to have been applied after the 1900 storm.

Dismantling revealed that, behind the siding below the downstairs windows, there were panels to the floor that were exposed to the outside, and that the window openings had been framed with trim that continued to a sill at floor level. It is probable that, after severe damage during the 1900 hurricane, the siding and trim were not put back as they were originally.

Ceiling joists had been damaged severely by a fire, and rather curious moulded pieces were used to strengthen the ceilings.

It was necessary in the interest of permanence to discard the wood lath and substitute metal lath on the interior.

Some question was raised as to the authenticity of the columns on the front galleries and the Committee is of the opinion that the columns were obtained from some other building or were ordered of a size that did not fit. In any event, it appeared that the downstairs columns had had some two feet cut off the bottoms and the upstairs columns had been shortened by about three feet.

Completion of the main house exterior with shutters, trim, and paint suggested the planning of additional facilities and construction is now under way on the separate kitchen and gardens.

It has been a source of great pride to this Committee of the AIA to have been able to plan, to direct, and to supervise so delightful a project as the "Houses in Sam Houston Park" and the Committee feels confident that this work has been and will be a credit to the public service conscience of the AIA as well as a landmark in the preservation of the early heritage of Texas as a state. ◄

An Approach to Architectural Education

by **William White Carver, AIA**

The AIA Journal continues its current series of articles on that ever-hot topic, the education of architects, with the views of an Assistant Professor of Architecture at the School of Architecture at Montana State College, adapted from his Master's thesis at Cornell University

► *"The surest test of the civilization of a people . . . is to be found in their architecture, which presents so noble a field for the display of the grand and the beautiful, and which at the same time, is so intimately connected with the essential comforts of life."* [1]

Because architecture reflects the ideals and aspirations, as well as the intimate everyday life of a people, the responsibility lies heavily upon the architect to understand the civilization in which he lives and works.

"Well-building hath three conditions: Commodity, Firmness, and Delight." [2] Is the practice of architecture primarily a business, a science, or an art? The arguments rage as to the importance of one, but wherever the emphasis may lie, it is, of course, all three; and the architect must combine these three disparate, often conflicting factors if he is to produce a successful piece of architecture. Thus architecture is complex, and at the same time, controversial, since the broad scope of its three conditions offers a wealth of opportunity for value judgments and criticism. Common sense and logic can be rationally employed in assaying the quality of function in a building. Science can supply not only facts concerning structure, but new and accurate information on the reactions of individuals and groups to known stimuli, and valuable insight into the workings of nature in such fields as climatology and seismology. So too, the intuitive, creative concept that springs from within the artist (or architect), can play a valid and important part, along with scientific knowledge and logical function, in the total process of architectural creativity.

[1] Wm. Heckling Prescott in "The Conquest of Peru," Bk. I, Ch. 5.
[2] Sir Henry Wotton in "Elements of Architecture," as quoted by Geoffrey Scott in "The Architecture of Humanism," 2nd Ed. published in 1924.

Historical influences

The background to any architectural training lies in the history of social, religious, and economic circumstances. The most influential historical event in this respect was the Industrial Revolution. It caused the most complete metamorphosis and the greatest disruption of a way of life experienced in any period of this country's history up until the present "space age."

The Industrial Revolution had a direct and immense effect on architecture, in that it so completely revolutionized the media of architecture. A whole palette of new construction materials and techniques were placed in the hands of the architect. Indirectly, it affected the practice of architecture by destroying an accepted way of life, and eventually led to the drift toward socialism.

Simultaneous with the Industrial Revolution, and aiding and abetting it, was a widely accepted ideology that promised fulfillment of the great American dream. Sometimes referred to as the Protestant Ethic, this doctrine of success and happiness, through hard work, thrift, initiative and honesty, was the ideological base on which the systems of capitalism and free enterprise were

built. It was not only a practical means to the acquisition of great material rewards, but provided moral justification for even the *nth* degree of absorption in self-interests, on the theory that this would somehow improve the lot of all.

The rapidly expanding economy during the Industrial Revolution, and the rapidly increasing population, fostered the growth of organization. The Protestant Ethic, so suited to individual initiative, was soon outmoded, and a new ideology was gradually propounded.

"Man exists as a unit of society. Of himself, he is isolated, meaningless; only as he collaborates with others does he become worthwhile, for by sublimating himself in the group, he helps produce a whole that is greater than the sum of its parts." [3]

Thus does William Whyte describe what he calls the Social Ethic.

Although a change in ideology was gradually taking place concurrently with the decline of eclecticism and the start of a modern movement in architecture, it was not readily accepted by the architects in this country. Architects, with their solidly romantic tradition of isolated individualism, have largely resisted all efforts at organization.

Regardless of the architect's aversion to what the conservative calls "creeping socialism," the practice of architecture in this country has been profoundly affected by the socialistic trend.

The individual patron has been largely replaced by the large corporation or an agency of the government, and the individual architect, by an architectural corporation or partnership made up of a group of specialists, whose different talents combine to offer under one name the many and varied architectural services required for building in our complex society.

In the construction industry, the skilled craftsman and his traditional tools have been replaced by the efficient, but expensive, union laborer and his new machine tools.

Cost has become one of the major factors limiting and determining the design of buildings, whether large or small, commercial or residential, public or private. This emphasis on cost came about as a result of the economic leveling of society. Almost everyone desires and feels entitled to the many new comforts and luxuries that technology has made available. As an example, the "cheap" automobile has become almost as big and powerful, almost as fast and automatic, almost as comfortable and luxurious, and almost as expensive, as the most expensive model. So too in building, the demand for all of the latest mechanical equipment and gadgetry is strongly expressed, no matter what the limits of the budget. The architect finds himself in an untenable positon between the client and his pocketbook. He finds little opportunity to concern himself with artistic concepts, because of his primary responsibility for devising, somehow, an extremely economical shell that can house, within the budget, all of the myriad mechanical, electronic, automatic, expensive equipment that is demanded.

Just as the Industrial Revolution disrupted our accepted way of life and eventually led to the ideology of the social ethic, the scientific advance into the new Atomic-Space Age may be the disruptive force that will destroy much of our present-day socialistic ideology, and cause a return to individualism.

Educational Systems

Systems of architectural education are often classified into two groups: the apprentice system and the academic system. Inherent in the apprentice system, and distinguishing it from the academic system, is the fact that, at the same time that the trainee is learning, he is also working for his teacher. It tends to stress technique, the practical handling of the media, rather than abstract canons of formal design, or free individual expression. It may become very narrow, when limited to the ideas of a strong-willed and intolerant master. Also the master's primary responsibility to the end result of his creative work will often be in direct conflict with his obligation as a tutor to his apprentices.

Frank Lloyd Wright, a modern, functional romanticist, and himself at one time an apprentice under that great academic rebel, Louis Sullivan, was the greatest exponent of the apprentice system in this country. Wright himself has disclosed his romantic tendencies by such statements as, "Intellect is the tool of the imagination," [4] and "Individuality is sacred." [4] He was concerned with the three prime elements in any art; medium, form, and content. To Wright, always the individual artist, "content" was of greatest importance, as is expressed by his proclamation, "Architecture is the scientific art of making structure express ideas." [4]

But, as a teacher of architects, Wright may be criticized for exploiting his students to his own ends. It is ironic that, for the very reason of its depth and intensity, Wright's belief in the freedom of individual expression inevitably tended to stifle any like growth of individual expression on the part of his apprentices.

[3] "The Organization Man," by Wm. H. Whyte, Jr, Simon and Schuster, 1956.

[4] "Modern Architecture," by Frank Lloyd Wright, Princeton Press, 1931, from the Kahn Lectures at Princeton in 1930.

However, along with the disadvantages of the system due to the personality of any particular master, the apprentice system contained one great merit: its natural integration of theory and practical application. While the apprentice is acquiring knowledge from his master, he is also constantly practicing the application of this knowledge to real problems of architecture.

The other method of training architects, the academic system, has had much greater influence and more extensive usage in this country than has the apprentice system. The first great school of architecture to influence architectural education in this country was the Ecole des Beaux-Arts in Paris. The Beaux-Arts philosophy of education emphasized the design aspects of architecture, and particularly the aspect of visual esthetics, almost to the complete exclusion of the practical, scientific considerations of structure, mechanics, and use of materials. Although holding that a design must satisfy the requirements of the practical activities that the building was to house, the Beaux-Arts insisted that the design be in accord with the rigid canons of Classic or Renaissance masonry forms.

Many traces of the great influence of the Beaux-Arts still remain in our schools of architecture today. But the greatest contribution of the Beaux-Arts to architectural education, the "problem method" of teaching design, in which the student learns by "doing," remains of unquestioned value and is indeed being extended today into many other fields of education.

The German school known as the Bauhaus was an attempt to organize formally the apprentice system of training, and to apply the craftsman-architect approach to modern conditions of the day.

The Bauhaus was not only a clear, rational and logical return to the basic, fundamental principles of design, but was also a sincere and vehement cry of protest against the academicism of the day, as exemplified for so long by the Ecole des Beaux-Arts. But, as so often happens when the fury of protest overwhelms quiet reason, the complete denial of the validity of traditional materials and forms, the complete rejection of ornament and color in architecture, led merely to a new academicism of its own, the so-called "International Style."

The Bauhaus must be given credit for developing the integration of the art of theoretical design with manual experimentation on actual three-dimensional materials, so beneficial to the complete understanding of the process of creating architecture.

The Bauhaus influence on our schools of architecture was two-fold. First, direct and immediate, it was eagerly accepted by those wearied of the eclectic era in architecture as the long-awaited standard of modern design. Second, long range and continuing, that of the introduction into our schools of many basic principles, teaching methods, and famous German architects and teachers.

Observations

Walter A. Taylor, prominent architectural educator, adopts what might be called the "scientific" approach. He proposes to eliminate the vague qualities of intuition and inspiration from the design process, and the nebulous character of the theories of visual esthetics. His recommended procedures are to be substantiated completely by exact and concrete scientific knowledge. This, he claims, is true not only in those courses dealing with nature—physics, chemistry, geography, geology, climatology, and so on, but also in the study of man. Man's behavior, his actions and reactions to known stimuli, are to be accurately determined by scientific procedures.

Mr Taylor asserts that very soon now, the psychologists, sociologists and physiologists will have provided the architects with a new rational esthetic:

". . . an artificial environment for human activities which successfully counteracts and/or capitalizes on the natural environment, and which gives maximum satisfaction to humans functionally, socially, fiscally, and in terms of a total sense of well-being." [5]

This, it seems, is dangerously close to the essence of scientism, a belief exposed as fallacious by William Whyte.

One of the major characteristics of the Social Ethic was its belief in the ability of science to substantiate its tenets. "This is the practical part of the Social Ethic, for it is the promise that with the same techniques that have worked in the physical sciences we can eventually create an exact science of man." [6] The advocates of scientism suggest that the functioning of the human mind can be analyzed and categorized by scientific principles, and thus behavior predicted and controlled. But the mind of man is an illusive thing, varied and unpredictable, and not subject to definition, regimentation nor categorization.

"The human mind . . . is probably the noblest product of the Creation. . . .

"The average mind, however, is charming

[5] "The School of Architecture, 1984," a speech by Walter A. Taylor, FAIA, then Head of the Dept. of Education of the AIA, at the Fourth Annual AIA-ACSA Teachers' Seminar at Grindstone Lake, Wisconsin, in June 1959, as reprinted in the May 1960 *AIA Journal*.

[6] "The Organization Man," by William H. Whyte, Jr, Simon and Schuster, 1956.

rather than noble. Had the average mind been noble, we should be completely rational beings without sins or weaknesses or misconduct, and what an insipid world that would be! . . .

"The human mind is charming in its unreasonableness, its inveterate prejudices, and its waywardness and unpredictability. . . . In other words, our minds still retain the aimless, fumbling quality of simian intelligence." [7]

Many of Mr Taylor's proposals are so valid that it is unfortunate that he felt compelled to completely eliminate the "art" from architecture, in an attempt to reduce it to an exact science.

It behooves the architect to make the greatest use of science and technology in his work, but he must beware of scientism and its fallacious premise that science can supply *all* the answers to his problems.

James E. Adams takes what he apparently believes to be a "practical" approach. He recognizes the "art" in architecture, but wishes to de-emphasize it. Instead of integrating the artistic, scientific, and practical aspects of architecture, he proposes a deliberate reduction and segregation of art content from the larger and more important body of practical and utilitarian considerations.

"Looking then at our present building needs we are led to the conclusion that only a very small percentage of buildings are in need of emotional content. These buildings can be defined as works of art and of a necessity must be conceived as such. They will not be tied down to the factual analysis of cause, function or any other system of evaluation. They shall in fact be creative in spite of natural limitations and shall be the genesis of most of the buildings done by the majority of architects operating under the normal limitations of life." [8]

Professor Adams proposes to split the body of architectural students, after the first three years, into two groups, the top twenty per cent, the "innovators," to specialize in creative design; the other eighty per cent, the "practitioners," to stick with the more mundane, practical aspects of the practice of architecture. This sort of arbitrary manipulation of humans seems both unethical and impractical. The adverse psychological effect on the eighty per cent relegated to second-class status, could only be exceeded by the disastrous effect on those elevated to a design elite and told that, in their design work, they no longer need be concerned with "operating under the normal limitations of life."

Mendel Glickman, an engineer and architect, expresses strong opposition to the views of Professor Adams. Unlike both Taylor and Adams, he firmly believes that architecture is primarily an art.

"There can be no separation between art and architecture, because architecture, if it is anything at all, is an art. It is a pragmatic art, concerned with practical results, using science, technology, and costly materials and labor for its purposes; but it is equally concerned with emotional-poetic-content essential to the human spirit, and that is what distinguished architecture from building . . . . The esthetic quality of a building is inseparable from its utility, economy and the technique of its construction. It is indispensable to architecture." [9]

William Pereira, a prominent architect and teacher, deplores the use of the practical, logical, problem-solving method as the *exclusive* means to the design of architecture. He says we must return to the concept of "image-design" rather than "problem-design." He, too, places great emphasis on the "art" in architecture by his description of the creative process, and his claim that it is the inner spark that originates the design process.

"The creative process is always the same: It must originate within the artist (or architect) and not outside him. The inspiration—or revelation or whatever other word you prefer to describe the act of creative conception—cannot be determined by exterior circumstance.

"Once conception takes place, however, the embryonic image must be developed to fulfill its ultimate function as a serviceable building. Now the architect is primarily concerned with problems and their solutions, now he must exercise not only his talents but, to its fullest, his professional craft."[10]

Thus Mr Pereira describes his personal approach to design, which combines artistic inspiration with practical problem-solving based on scientific knowledge, logic, and reason.

Recommendations

The first recommendation for the training of architects, the most urgent and the greatest need in the schools of architecture today, is to provide for the student an *understanding of architecture.* What is architecture?

Moholy-Nagy, while teaching at the Bauhaus, said, "Architecture is the functionally and emotionally satisfactory arrangement of space."[11]

[7] "The Importance of Living," by Lin Yutang, John Day with Reynal and Hitchcock, 1937.

[8] "An Analysis of Architecture & Architectural Education," by James E. Adams, Assoc. Prof. of Arch., Tulane Univ., *AIA Journal,* Nov. 1959.

[9] "Education for the Architect, 1960," by Mendel Glickman, AIA, ASCE, Prof. Sc. of Arch., Oklahoma Univ., *AIA Journal,* April 1960.

[10] "Design Theories," by Wm. L. Pereira, FAIA, in the May 1960 *Bulletin* of the Michigan Society of Architects.

More explicitly, the function of the architect is to manipulate space, by prescribing the selection, arrangement and joinery of materials, in order to improve man's environment.

The student must be taught to understand the essential complexity of architecture; that it is made up of inseparable yet disparate, and sometimes conflicting conditions: Firmness, Commodity, and Delight;—Science, Business, and Art. He must be made aware of the various approaches to the process of creating architecture, the scientific, the practical, and the artistic. Eventually he must be made to realize that one approach must not be emphasized to the exclusion of the others, and that the only right approach is the one that combines and integrates all three.

Specifically, this could be accomplished in the schools by a sequence of courses which might be called a Study of Architecture. These would be in the form of lectures and seminars, using visual aids, and would require considerable reading and oral and written reports. This sequence would include the study of the history of art and architecture, but from a philosophical viewpoint with greater emphasis on the "why" of historic styles, and less concern with the factual "what." It would include the study of the theories of composition, proportion, color, and esthetics, as related to architecture. Particular attention would be paid to recent and modern trends in architecture, including inspection and study of actual examples (to the extent possible) as well as slides and illustrations of famous building, and the writings of well-known architects and architectural critics. In a word, the student would be encouraged to *study* architecture, to *think,* and *theorize* about it, to *analyze* and *discuss* it, and finally, to *understand* it, in a broad sense.

The next most important change needed in the procedure of many of today's schools of architecture is in their conduct of the course in design. The design course is the integrated sum of all the other architectural courses. The real purpose of the problem method of teaching design is that of providing a laboratory experience in the practice of applying the specialized knowledge, acquired in the other courses, to an architectural problem. This procedure of acquiring skill through repeated practice, with criticism, is an excellent educational device.

Unfortunately, a very wrong emphasis on certain aspects of the design course has become so prevalent that it has seriously detracted from the efficacy of this course as an educational instrument. This is the extreme emphasis on the overriding importance of the final submission to a design problem, especially its visual aspects. The tremendous importance attached to the creation of what has been called "paper architecture" (or "model architecture") as an end in itself; as the *completion* of the creative process of architecture, is illogical and misleading, and must be eliminated. This misplaced emphasis has been encouraged by the use of the jury system for grading student problems. The real root of the evil lies in the careful and exact grading of the student, solely on the evidence of his final submission, by any method; but the inherent drama of the jury system, with its rigid deadline, its mysterious proceedings behind locked doors, and its inevitable, fateful moment when the jury room doors swing open, greatly influence the student's over-emphasis on this phase of his work.

The final recommendation is that, as a criterion on which to base any decision concerning a problem in the training of architects, we should look for the answer to the basic goal of architectural education.

The primary goal of a school of architecture should be to provide for each qualified student the following:

1 A broad base of the liberal and technical knowledge and the manual skills required for the practice of architecture

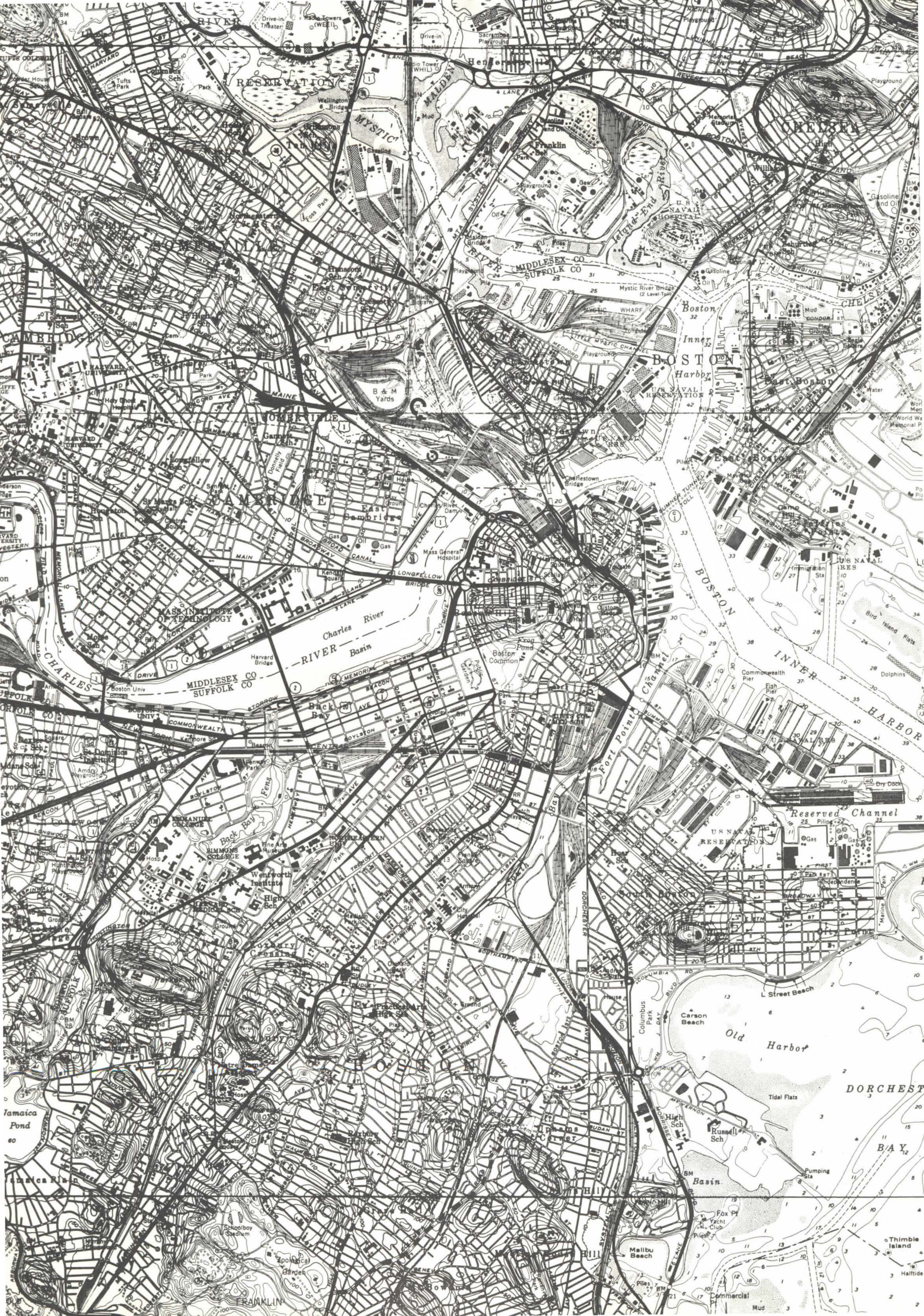
2 Maximum growth of his mental processes through proper training and exercise, and development of good habits of study and proper techniques of learning that will enable him to build on his base of knowledge through future study and experience

3 A clear understanding of the proper role of his profession in the society of his day, and the various roles to which he may aspire within the profession

In recommending a philosophy of architecture that takes into account all of its various aspects, and includes all valid approaches to architectural problems, it is intended to allow for variation among the different schools. It is only natural and desirable that one school, for reasons of differences in student body, or faculty, or physical environment, should vary from another in matters of curriculum, teaching methods, or other aspects of their program. All schools should keep their systems flexible to allow for possible change. Too rigid a system tends to hold to the status quo, and to stifle progress. Lin Yutang cautions, "A system is but a squint at truth, and the more logically that system is developed, the more horrible that mental squint becomes." [12] ◄

[11] "Bauhaus 1919-1928," edited by Herbert Bayer, Walter Gropius and Ise Gropius, George Allen & Unwin, Ltd., London, 1929.

[12] "The Importance of Living," by Lin Yutang, John Day with Reynal and Hitchcock, 1937.


CAMBRIDGE
SOMERVILLE
CHELSEA
BOSTON
East Boston
South Boston
Charlestown
East Cambridge
Back Bay
Charles River Basin
CHARLES RIVER
MYSTIC RIVER
MIDDLESEX CO
SUFFOLK CO
Boston Inner Harbor
BOSTON INNER HARBOR
Fort Point Channel
Reserved Channel
Old Harbor
DORCHESTER BAY
Tidal Flats
Carson Beach
L Street Beach
Malibu Beach
Thimble Island
Jamaica Pond
Jamaica Plain
Boston Common
Frog Pond
Harvard Bridge
Longfellow Bridge
Charlestown Bridge
Mystic River Bridge
Mass General Hospital
MASS INSTITUTE OF TECHNOLOGY
HARVARD UNIVERSITY
Boston Univ
B & M Yards
US NAVAL RESERVATION
US NAVAL HOSPITAL
Commonwealth Pier
Columbus Park
Wentworth Institute
Simmons College
Emmanuel College
Northeastern University
Roxbury Crossing
Kendall Square
Dry Dock
SUMNER TUNNEL (TOLL)
MAIN
MEMORIAL DRIVE
STORROW
COMMONWEALTH
BEACON
BOYLSTON
FRANKLIN
Schoolboy Stadium
Zoological Garden
Fox Pt
Commercial
RESERVATION
Wellington Bridge
Drive-in Theater
Radio Towers (WEEI)
Franklin Sch
Island End River
Park
Halfside

The Architects' Plan For Boston

by **Robert S. Sturgis, AIA**

The Chairman of the Committee on Civic Design of the Boston Society of Architects tells the story of how the architects of Boston collaborated to produce a design for their city of which the citizens could be proud and in which the architects could demonstrate that thoughtful design can enter into and help shape peoples' lives

► On Boston's Beacon Monument near the top of Beacon Hill you may read this inscription on a slate panel:

"Americans, while from this eminence scenes of luxuriant fertility, flourishing commerce, and abodes of social happiness meet your view, forget not those who by their exertions have secured to you these blessings."

The original "eminence" was cut out from under the monument years ago, the nearest farm is beyond the hills and the old waterfront is now a commercial backwater. "Abode" is too restful a word for a population which spends many of its waking hours on the road. But as you look up from the inscription you are preserved from all of this because you are standing in the middle of a jammed parking lot and you cannot see more than a hundred feet in any direction.

Clearly if we are to find new blessings we must produce new exertions.

Standing on this hill in 1630 as the Puritans sailed in from England, you would have found yourself in the middle of an irregular peninsula which would have been an island but for a thin natural causeway connecting to the Roxbury hills on the south. Two rivers converged from the west and north while tidal coves and bays lay on all sides. Waves of hills across a mile or so of water marked the horizon to the north, west and south, continuing around to the east as islands, completely protecting the harbor from the open sea.

The colonists found these 783 acres with their sunny slopes, the deep water cove and the bountiful fresh water of the Great Spring, much to their liking. Boston grew from the Town Landing (the present Dock Square and Faneuil Hall) to the Market and Meeting House (top of State Street) and thence to residential areas at the North and South Ends as the terrain suggested. A steady but comfortable growth continued in this manner until the Revolution. In 1775 the peninsula still had its original shape (see 1775 map).

With independence secured, Bostonians found that great fortunes could be made in shipping. But in shaping their commercial future they lost the shape of their peninsula. Filling the coves by cutting off the tops of the hills created valuable land for expanding trade and flourishing traders. Between 1800 and 1890 the original 783 acres became 1900 acres. Different parts of the city which once looked at each other across open water now looked out on filled land, smoking with locomotives and industry.

The quality of life changed. While the city thrived and her clipper ships roamed the earth, the Yankee trader at home looked inward to private gardens and elegant drawing rooms. The more so when, with the great influx of new arrivals from Ireland, Russia and Italy, social and economic differences came to accentuate the physical pattern and each section of the city tended to be identified with a single ethnic group.

The population grew from 25,000 in 1800 to 550,000 in 1900 and brought the density of Boston to the bursting point. It was no wonder then that as soon as the railroad and especially the automobile made it possible, Bostonians were eager to invade the countryside to recapture the sense of openness and greenery which the eighteenth century town had known. Now, after fifty years of indulging in the fruits of the machine age and freedom of movement, now that we have seen the farm lands in their turn fill up while gaps of blight and decay appear in the city, we are beginning to reconsider the advantages of city living, to think "I would move back, —if."

The Boston Society of Architects and its members have made many constructive proposals in the past and have made important contributions through service on the Planning Board and other agencies. But they have often been lonely voices

New England Survey Service, Inc.

Boston today as seen from the west. Filling of Back Bay in 1800's obscured the peninsula. Cambridge is at left, South Boston industrial area at right

The Architects' Plan, seen from west, emphasizes sequence of water from the Charles River toward Harbor, the Inner Belt as an orbital highway, High Spine from waterfront to Fenway

Water is Boston's greatest natural asset. This view of a marina and new Museum of Science exemplify scenes which might be created anywhere along waterfront to take advantage of this

because there has been no consistent vision of the city which the public can agree upon. A start in this direction came with the Boston Contest of 1944, initiated by the Society. The first-prize team presented a thorough and intelligently-written report which laid basic guide lines for government structure and economic goals and included the only proposal for an orderly physical plan of the downtown area.

Perhaps belatedly, the present Committee on Civic Design began in 1959 to follow up on this beginning and to seek the answers to particular visual problems in progressively larger contexts, hoping to discover principles which would be absolutely clear to the public and absolutely essential to a beautiful Boston.

Our objectives are two: as citizens to recreate a city of which we can be proud and as architects to demonstrate how thoughtful design of the cityscape, from the grand to the intimate, can enter into and shape our lives. We are calling our proposals the "Architects' Plan," acknowledging the limitations of an essentially visual approach to the design of the city but still taking a certain pride in our profession.

In sizing up the problem, we note first that Boston is a *city,* a city which exists for communication, in the arts as well as in business, and which therefore should be accessible and intensively used. In this sense it is a typical city, but in addition it has a unique "fabric," woven of its streets and pattern of historical growth, which should be respected. We recommend that the heart of the city, comprising the Public Gardens, the Common, the State House and areas of greatest density, be designed for pedestrians.

Of Boston's natural assets the greatest is *water.* The beauty of such cities as Venice, San Francisco and Naples is almost entirely dependent on water. Water makes a major contribution to London, Paris, New York and Rome. It is impossible to exaggerate the importance of water with its natural spaciousness, its cooling effect both visual and physical, and its unifying influence. Therefore, our Charles River Basin must be preserved, the edges of all existing water courses should be improved and opened for public use and every effort should be made to recapture the continuity of water around the Peninsula from the Basin, along the old waterfront and down to South Bay.

Hills are the other great natural asset. Beacon Hill at the center, the Hub, with the gold dome of the State House for a crown, is the focus of the whole city. Luckily, its new legal status as an historic district has preserved the contour of the Hill in its most dramatic view, across the Basin from the west. Other surrounding hills such as

Bunker Hill, Corey Hill and Dorchester Heights have served both as shapers of the city and as residential fortresses against industrial encroachment. We therefore recommend that their tops be kept open—most of them are now—for views of the city and that they be strengthened visually by new building in order to maintain their relative prominence.

As with all cities, *green areas* are essential for the human condition. We propose that every view shall have some green and that every person be within a short walk of a public open space. Water edges afford the most obvious opportunity for park development. In districts removed from the water, landscaped squares should be created where they do not exist and districts should be linked with greenways.

Preservation is not a topic on which Bostonians need to be aroused. They are well aware of their historic and architectural privileges and are often fierce in defense of existing neighborhoods. The committee agrees that (1) historic buildings of obvious merit must be preserved and maintained, both for their own sake and for the sake of continuity, (2) districts of distinctive character should be preserved even though individual buildings may be undistinguished and (3) historic buildings should be incorporated into the active life of the city.

Upon examining this balance sheet of assets, the Committee was faced with the difficult purpose of proposing a future design for a city much of whose souls lies in the past.

Of the current pressures the greatest is that for transportation. For automobiles the official solution is the Master Highway Plan of 1948 calling for a ring road, the Inner Belt, of which the downtown Central Artery portion has already been built. For mass transit Boston has an extensive subway system, a legacy from more prosperous times, which needs administrative change and new rolling stock rather than a complete revision. A strong but latent pressure for new building also exists but it awaits a clear indication of trends in tax policy and official redevelopment. The City Planning Department has estimated the need for some fifteen office buildings the size of the projected fifty-story Prudential tower, and there appears to be a steady interest in high-rise apartment buildings, especially in the Back Bay.

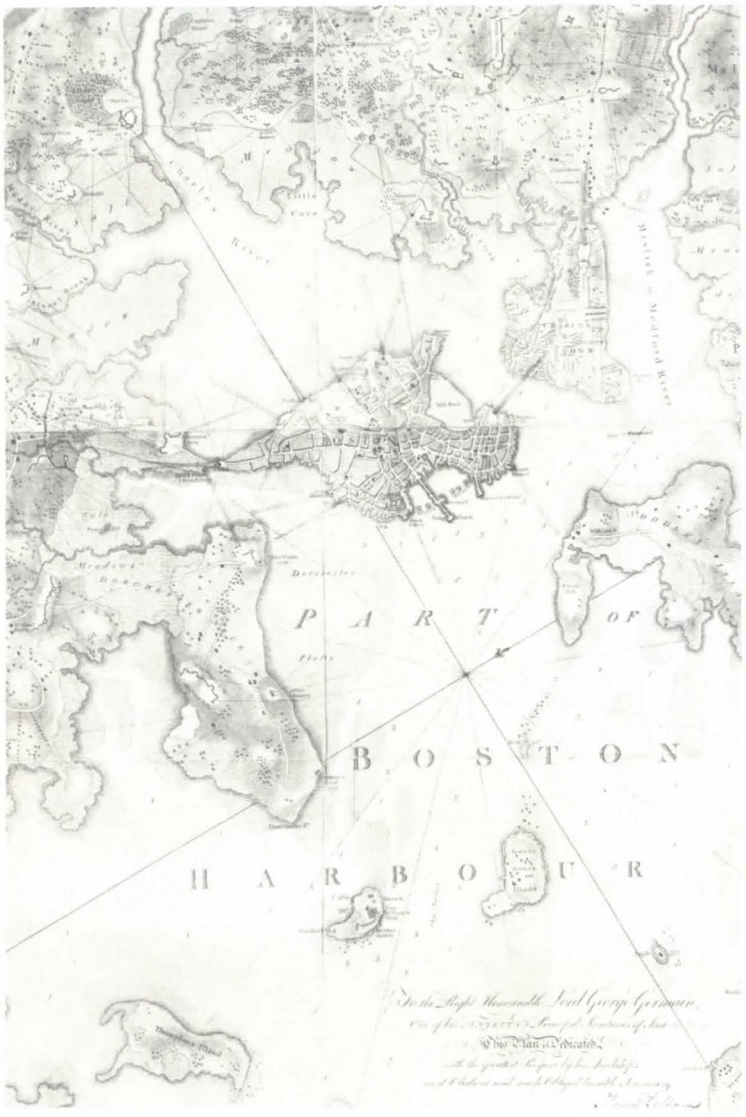
A negative pressure which permeates the scene is the confusion and lack of orientation which makes even native Bostonians strangers to districts only a few blocks removed from places they have frequented for years. It has resulted from the casual placement of streets with few distinctive transitions.

The city exists for people, for communication and use. This group exercises its right for free speech on Boston Common near Tremont Street

Gates to the city at intersections of radial highways with Inner Belt are a proposal of the Architects' Plan. Above, panorama as seen from West Gate

Hills viewed across water characterized 18th Century Boston. Above, Copp's Hill and Old North Church seen from Charlestown waterfront

At left, gold dome of State House by Charles Bulfinch, seen across Public Gardens. Right, Boston in 1775. With a population of 17,000, city still had shape of the original peninsula. South Boston was called Dorchester Neck



In spite of the often brutal effects of new highways upon the cityscape, they are a basic tool in giving clear form to urban chaos. We are convinced that conscious design of a highway can make a modern necessity into an exciting and important experience.

And in spite of the inhuman scale of most new skyscrapers, their very lack of scale at a distance brings them closer to the observer. Perhaps a tall building can be so designed or arranged that a walking scale can be maintained at street level quite distinct from that of the tower above.

Therefore we see the structure of Boston as a *line* of water with a *ring* of surrounding hills. We propose that the existing *line* of business development from Faneuil Hall out toward Back Bay be continued as a "High Spine" outward and upward as the future may require, circled by the *ring* of the Inner Belt.

We urge that the Inner Belt be designed in alignment and in detail so as to make the motorist aware of the Harbor, the Basin, the gold dome of the State House and other major landmarks. We feel that at the intersections of the major radial highways with the Inner Belt there is a magnificent opportunity to create "gates," each one with a dramatic and memorable vista of the center city.

In the High Spine we would hope to find the full expression of Boston's vitality. We propose that it be confined to a strip two blocks wide but long enough to serve a metropolis of any size and with none but economic height limitations. We propose that it be reinforced on both sides by improved surface streets and by parallel rapid transit lines underground. In return for allowing maximum density in this zone, we feel that the city would be justified in imposing strict height controls throughout the rest of the city and especially in the Commonwealth Avenue area of Back Bay.

The committee began as a group of architects and planners* with a love and concern for Boston, with a conviction that something could be done and with a willingness to devote considerable time to it. We have distilled our own experience for concepts of the city, concentrating on its physical aspects. Where we have encountered economic or technical problems we have treated them with respect but have nevertheless tried to record a clear and graphic statement of the visual solution. We have presented these preliminary conclusions with slides, sketches and a study model to a large, lively and encouraging meeting of the Chapter to which planners and landscape architects were also invited.

We have since been having frequent meetings for research and discussion with men who have earned the respect of their colleagues in various special fields. The subjects have included highways, parks and waterways; retailing and "bright lights"; neighborhoods and industrial areas; real estate and zoning; and preservation.

Now we are working on means to project this image of a great city into the public awareness. Once there, we hope that the whole design profession will find a new strength and will work with other groups to weave a new beauty into the ancient and honorable fabric of Boston. ◄

*Committee members are, in addition to the chairman: Herbert L. Bogen, Daniel J. Coolidge, Carmen DiStefano, Ronald R. Gourley, Herbert Hamilton, Jr, John R. Myer, John W. Priestly Jr, Francis B. Sellew, David D. Wallace and Kevin Lynch, consultant.

Architects, Planners and Understanding

by **Henry S. Churchill, FAIA, AIP**

► There is current today a deep dissatisfaction with contemporary architecture and a parallel realization that all is not quite well with what we jocosely call Urban Renewal. It is this situation which I would like to explore. Any exploration is by nature digressive, and so I hope you will forgive me if I do not always talk about architecture as only an art form, or about city planning as the only hope of urban survival. There are, fortunately, complications to such simplified points of view. One of these complications is that it is difficult to talk about architecture in any of its manifestations without also talking about urban problems and the architect's part in civic design. His injection into this field has made him responsible to a new client, a Hydra-headed one called the People, but which in reality consists of public officials, administrators and committees of various sorts. This responsibility is not just the formal legal one of seeing that his buildings do not fail structurally, but also an informal, and often illegal, one of trying to please everyone. This leads to some rather dreadful frustrations.

The planner, on the other hand, is in a sense responsible only to his conscience. Not that he does not have to contend with as many perverse and ignorant laymen as does the architect, but that when a plan is finally implemented, if it ever is, there is really no way of proving if it is good or bad. It cannot, like a building, fall down, and it does not, like a building, stand up. Any failures of so-called function can be, and should be, blamed on tampering with the plan by ignorant laymen. "If," the planner says, "you had followed my original scheme, all would have been different." And if, by any chance, the thing is a brilliant success, it is the Mayor who gets the credit. This also leads to some rather dreadful frustrations.

For it is a fact that official city planning has achieved very little except paperwork. Consequently, physical city-planning theory has not progressed very much since the formulation of Ebenezer Howard's garden city theories and Le Corbusier's *Ville Radieuse*. There have been some variations, of course, such as the brilliant but unworkable superblocks of the Goodman brothers and current ideas about asymmetrical grand plans. We have, actually, come around

An address delivered by Mr Churchill at the University of Minnesota in November. He says that "if we are to really renew our cities the architects must do more than accept current planning theory. They must see for themselves what it is that makes a section of a city a successful place to work and live."

some kind of merry-go-round, grabbing at Jane Jacobs' brass ring of Life in the City Streets as the latest prize.

So much, very hastily and rudely, for the physical planners. What is so amazing is that practically no one has gone to the trouble of looking at what things have been done in the last fifty years and appraising them in the light of common sense as to whether they are really working satisfactorily as places in which to live and work. Are people happy in them, are they better off as human beings, than people living in old-fashioned neighborhoods? I do not mean deep slums, but the standard ugly and so-called blighted areas of any large city. This is not a statistical problem for social scientists rushing around with portable IBM machines in their hands and their eyes in their pockets. It is a task for understanding, for warm and sensitive people. We have had a few such reviews, but nobody, literally nobody, pays any attention. The data is not statistically organized, and today the statistical planner is in full control. Unless statistically quantified, as they say, opinions must be considered as value-judgments, and value-judgments are worthless. I want to be behind the reception desk when St Peter evaluates these boys at the Heavenly Gates.

Of course what we need in any human situation are value-judgments. Judgments by people whose judgment we value and judgments by people whom we do not respect but whose judgments are valuable anyway.

This puts me in my place, and we can go on.

Something Is Lacking

Insofar as architecture is concerned, the architects themselves are aware that something is lacking. There has never before been so much professional talk about art, the word Beauty has become respectable again. There is a quite conscious search for a philosophical base for design, a manifest curiosity as to what Art is and what are its sources. While talk does not produce art or make an artist, it is perhaps a good thing to be aware that art is an element of craftsmanship, that the practice of architecture includes a striving for perfection of technique in order to express something quite special. As in the other arts, the thing is to have something to express.

In the past, and even today, what the architect had to say took the form of a particular building, just as music takes the form of a particular composition. Indeed, in any art there must be particular form to distinguish it from the amorphous generality of nature.

Today we are being told that architecture no longer consists of just the single building but of the larger vision of the city as a whole and, in collaboration with the planner, of the total environment. Environment and ambience, those are what the architect should be saturated with or in.

It may be that this is not so. Because it is so easy to destroy huge sections of our cities with the bulldozer it does not necessarily follow that they can be rebuilt as easily, or that we have the wisdom to do so humanely. In any case it would seem doubtful whether this is the province of the architect.

This is one of the things we have not thought through, and it is the real subject of what I am trying to talk about.

The planners have not been quite as self-critical as the architects. They have seen a vision, and the city of the future shines before them, smug, dull and self-confident. They are humble enough to admit they lack data, but they are not admitting that they would know what to do with more data if they had it. What data they have is accepted on faith and in relation to preconceived theory. The city itself, the living city, is seldom looked at as such; it is a place where theory, learned in school, can be applied. A great deal of what is wrong about urban renewal stems from this habit of looking at a city through a haze of theory.

The damage done by this failure to see clearly is serious because irretrievable. After all, buildings can be, and are, torn down. Patterns of land distribution last almost indefinitely. The outlines of London after the Great Fire, of San Francisco after the Great Earthquake, of Hiroshima after the Great Blast, are in no essential different from what they were before those momentous events. I do not think that is bad, but most planners do. They wish London were neat and regular and Wren-like and that San Francisco had been contour-plowed and Hiroshima turned inside out or vice-versa. I haven't been to Hiroshima, but

I like London and San Francisco as they are, and so do Londoners and San Franciscans. It is a good thing for people to like where they live, and to like their way of living in it. It is their city, their shell as they have grown it. It fits them.

This is not to say that slums, like ulcers, should not be eliminated, or that new conditions of living brought about by changes in technology or economics do not have to be coped with. They do, of course. But let us be sure that we are dealing with essential change and not just whim or fashion.

Intertwistmanship

I would like to digress again, and explore a little of what might be called the intertwistmanship of architecture and city planning. To do this will need a brief excursion into background, most of which you are familiar with, I am sure, but which I am restating as a sort of refresher.

As we all know, architecture is the creature and the product of its time. During the Age of Masonry the techniques of building were fairly simple and the choice of materials was quite limited. Construction techniques were basically limited to what could be done by cementing together comparatively small pieces of stone or brick, supplemented sometimes by the use of wood beams or built-up timber trusses. This is an over-simplification—I am not forgetting Roman mass concrete, nor the thrust-counter-thrust of Gothic nor the use of iron chains. Yet it is true, in general, that masonry is limited in its construction, and that masonry architecture depends for its effects upon variations of voids to solids, upon proportion, upon arrangements of mass, upon surface finishes and upon sculptured detail. By sculptured detail I mean not only sculpture in the usual sense, but also foliated capitals, mouldings and carved trim, medallions and cartouches. Furthermore, the limitations of local materials provided for harmony across the ages, regardless of changes in style or fashion.

Today the architect has a great variety of artificial and synthetic materials, and a variety of structural methods. The surface materials are available in identical composition and finish anywhere in the country, prefabricated and preshaped. Even concrete, a plastic material, is being more and more pre-cast and pre-stressed. Concern with classic proportion or medieval ratio has given way to the mechanical putting together of modular structural units, so that any building can be chopped off at any point horizontally or vertically without the visual concept being at all affected. The range and multiplicity of materials make it possible for each building to be an attention-caller in its own right, to be rigged up with colors and gadgets that are deliberately meant to clash with the surroundings. Unfortunately time cannot wither nor custom stale their infinite variety. They will not mellow, as natural materials do: they will only become shabby, lustreless and old-fashioned.

Paul Valèry, in a wonderful prose poem called "Eupalinos or the Architect," speaks of how some buildings stand and sing quietly. Our buildings do not stand and sing, they jump and bawl through microphones.

Buildings for Paper-Shuffling

There is something else missing today, which is surely contributory to our sense of dissatisfaction. The great buildings of the past had something within themselves that promoted greatness. Their purpose was more than just to give shelter to commercial enterprise. They were foci of communal faith or clusters of power: they represented religious beliefs, or the domination of a throne, or the aspirations of an emerging self-government. Even if the uses of these buildings were not exactly all under the aspect of eternity, they were at least for more than the livelihood of just today. Our many-storied towers have little of this. Nothing that happens in them is worth doing for itself. The things we make in our factories are really not worth having, and the paper-shuffling in our office buildings is meaningless. Both of course provide people with employment, which is necessary and important as a biological means of going on to an inevitable end. But if it were not for the payroll no one would ever dream of going into one of our fine skyscrapers. No one would bother to give them a second look—in fact no one gives them a second look anyhow. There is nothing to see. They are completely void of any content. There is nothing there.

This will remain a real difficulty, no matter how much we may whoop it up that we love art and want more of it. Art, if the word has meaning, deals with feeling in depth, with associations and overtones, with the reflection of a vast range of experiences which reflect and enhance our own. It is not something that can be bought and

paid for, something applied, something to be turned on or off. It must be inherent not only in the mind and will and integrity of the designer, but also it must be inherent in the thing itself which he is designing.

Because we are aware of the current emptiness of our architecture we have been trying to find something to fill the void. We have been looking, quite consciously, for something to take the place of the old communal beliefs I just spoke of. It is this we are doing when we talk, as we often do, about symbolism and creating symbols. We are sadly confused, for a symbol is something that exists by and of itself. It cannot be created. We confuse symbols with slogans, which is very sad. So that what we have been trying to do is experiment with the idea of an architecture based on "democracy" or "humanity" or "the common man." These are collective abstractions which we try to materialize into three dimensions and to which we then give the name of Civic Design. We have not yet been very successful in this.

Nor is this surprising. We have not taken up this idea very long, and we do not yet believe in it whole-heartedly. It sounds good, but what does it really mean? We think that because we are affluent we are humane, and we equate the vote with democracy and the common man. If we were really humane and democratic there would be no common man to talk down about. We would be he, and we would not talk about architecture for him. We would have it.

The Monster of Urban Renewal

This device that we have set up in an effort to satisfy our collective architectural conscience is a Frankenstein's monster we call Urban Renewal. It has a curious history. Originally intended to meet a very real need to eliminate very real slums, it has become an economic farce and a civic failure. Intended for the betterment of people, it has turned into an inhuman and undemocratic procedure for speculation in land. The reasons for this perversion are complex but not obscure; however it is not necessary to go into that here and now.

We still have areas in our cities that are not just relatively, but are absolutely unfit for people to live in. There are much larger areas that are badly run-down and are relatively unpleasant, but that still hold some elements of vitality. Some, perhaps a good many, of our Central Business Districts have remained static or are doing less business than they once were; some of them seem old and a bit weary. It has become fashionable to attribute the loss of business to the physical appearance, to presume that economic deterioration is caused by the physical obsolescence of the district, rather than the other way around.

So that from half-measures taken to deal with the very real problem of slums and all they imply for human degradation, we have come to accept the notion that our cities almost as a whole are in dire straits and about to fall apart. We have accepted this notion without much thinking as to whether it is really so or not. Without much thinking we decided the remedy was not careful diagnosis but action which must, according to our conventional wisdom, be remedial simply because it is action. Instead of looking into such things as revision of tax laws, simplification of municipal government, improvement of transportation, provision of better schools and such, we went all out for surgery with a hand-saw and butcher's knife wielded by operation-minded planners without benefit of even rudimentary asepsis. The patient is now bleeding to death and the architect is being called in to stanch the wound with esthetic band-aids.

Needless to say, he can't do it.

To date Urban Renewal has renewed nothing of any consequence, and has done incalculable damage. Considerable areas of our cities have been laid waste, and the promises for their rebuilding have not been fulfilled. In many instances other considerable areas of our cities have been financially blighted and commercially ruined by the mere threat of the renewal process and its arbitrary confiscation of property. They are economically paralyzed by fear.

Nor by confiscation of property do I mean just the taking of land and buildings by eminent domain. I mean the collateral taking of business goodwill without compensation, the loss of the fruits of years of toil and the loss of actual money put into creating that goodwill, the refusal of banks to lend money in such areas, the disruption of personal relationships and the destruction of community solidarity.

These things, or a potent measure of them, might be endured if something better replaced what was destroyed, and by better I do not mean something more expensive, that real estate bunk about "highest and best use." For whom?

For this is precisely the point of failure. Not one Urban Renewal plan has ever provided for the people it has displaced—indeed few have even attempted it—or to understand what was their way of life. Not one. This is the point of social failure. The point of economic failure is here too —there is not enough market demand for the highest and best and more expensive use.

What has this to do with architecture and the bleeding esthetes? The architects, too, have convinced themselves that art is a substitute for economic demand. Architects, who should know better because they deal with the suppliers of the market-place, i.e., the investors and speculators in real-estate, accept blindly the statistical theories of the planners. Any large firm that has dealings with central city clients knows that you cannot tear down acres of low- and medium-rent commercial space and replace it with high-rent space and fill it up. No matter how the researchers manipulated their data this would seem to be common sense. I have yet to hear of an architect who went to City Hall and said "Look, Mr Mayor, this just doesn't add up." Maybe this is not the architects' business? Then let the architects stop talking about their civic responsibility.

Civic responsibility includes making your voice heard against as well as for. The architects have given greatly of their time and energy to the production of dozens of magnificent drawings showing what the old Downtown could be like. They have worked with mayors and officials and citizens' organizations. They have made speeches and more drawings. What they have not done is to look at their city to see whether the planners knew what they were talking about.

So they have gone ahead and redesigned the Central Business District in a standard form, certified by the planners to be the only acceptable one. From coast to coast these designs show ring expressways, double-tiered plazas, pedestrian walk-ways bordered with dubious people at dubious little tables, in the background the same wearisome slabs. A piece of Rotterdam here, a bit of Stockholm there, a slice of Coventry. The esthetic band-aid, sterile and easy to apply.

We are about to come full-circle in the argument. The renewal plan, after five years, is approved by the Planning Commission and the Redevelopment Agency, with the concurrence of the Mayor, the City Council, the Chamber of Commerce, the Jaycees, the Lions, the Rotarians, the Garden Club, the Junior Garden Club, the League for the Preservation of Wild Life, the FHA, the PHA, the URA, the HHFA and so forth and so on.

The buildings are razed. A sponsor is found, or selected, or in some way acquired, and he signs a performance bond that makes Shylock's seem like one of those Christmas bonds for haberdashery.

A year or two passes while the sponsor makes changes in the plan and looks for financing. Finally he comes across with a man who says he will build two apartment buildings, over there in the upper left-hand corner. They will be fifteen-story, one-room efficiencies, with one parking space for each five units. It's so near the center of things no one will need a car, and after they've paid the rent they can't afford one. It also happens that the area chosen has been designated for thirty-story office buildings on the plan, for good reasons. The plan cost $150,000 and was, as stated, approved by everybody, so the reasons for the designated land use must indeed be good.

It's there or nowhere, says Mr Subsponsor. The City Council, tired of losing taxes and perhaps for one dollar and other considerations, agrees.

So, there they are. That is all there is there. What about the rest of the Plan? What about Shylock's bond? Try and enforce it: The sponsors employ Portia.

Where Architecture Comes In

What has this to do with architecture? It should be plain, I think, that as long as architecture and physical city planning are conditioned in this way, there is little chance for either good architecture or good civic design.

How then, you have a perfect right to ask, can good architecture and good civic design come about if not through large-scale Urban Renewal and the splendid opportunities it presents?

I will try to give one aspect of one approach.

First, let us quite frankly admit that there is not and never has been a city of all good architecture and civic splendor. Let us quite frankly admit that the greater part of all cities is mediocre or worse in appearance. What we see in other cities, even in Paris, are images of specific things that have given us delight. Kevin Lynch has shown us how this process works. Some cities provide more images than others, Paris perhaps the most. These images are often mixed with non-architectural things, the fascination of Parisian cafes and the glamor of the shops; the terrific clatter of the

Strand, the excitement of Piccadilly Circus—surely architecturally one of the world's most hideous spots—and their contrast with the remote charm of the parks and green squares; Italian warmth, Renaissance magnificence. We automatically discount the utter monotony of most of the Parisian avenues, and we dismiss its slums as picturesque, just as we pay no attention to the endless dreariness of Greater London, the dullness of streets everywhere.

Concerned, as architects, with visual images, we fail to take account of the real life that these seemingly dull streets support, the variety of their content, the concern of people with their immediate needs, the satisfactions that are achieved by the existence of so many things regardless of visual order or economic classification. Tottenham Court Road is as vital as Regent Street; the Boulevard de Strasbourg is as valid as the Rue de la Paix; Fulton Street, Brooklyn, is as necessary as Madison Avenue.

Jane Jacobs has said all this at length. What I am emphasizing is that if we are really to renew our cities the architects must do more than accept current planning theory. They must see for themselves what it is that makes a section of a city a successful place in which to work and live.

I do not think this can be done by big and bigger plans for projects, making no little plans and the public be damned.

I think we need lots and lots of little plans, on the chance that a few of them will be memorable. I still believe in planned chaos, a phrase I used fifteen years ago in "The City is the People."

The Job of the Architect

Second, I think that the administrators of our urban renewal programs have to get over the notion that their projects must look like St Mark's piled on the Tivoli Gardens, and that the way to do it is to hire two "name" architects and then have their designs reviewed by three committees of laymen all of whom know more than the architects.

Also, it is very hard to get architectural masterpieces without master architects. Associations of architects cannot be masters—they are only camel factories. Let the architects alone. Some stuff will be good, some not so good. It really does not matter because—

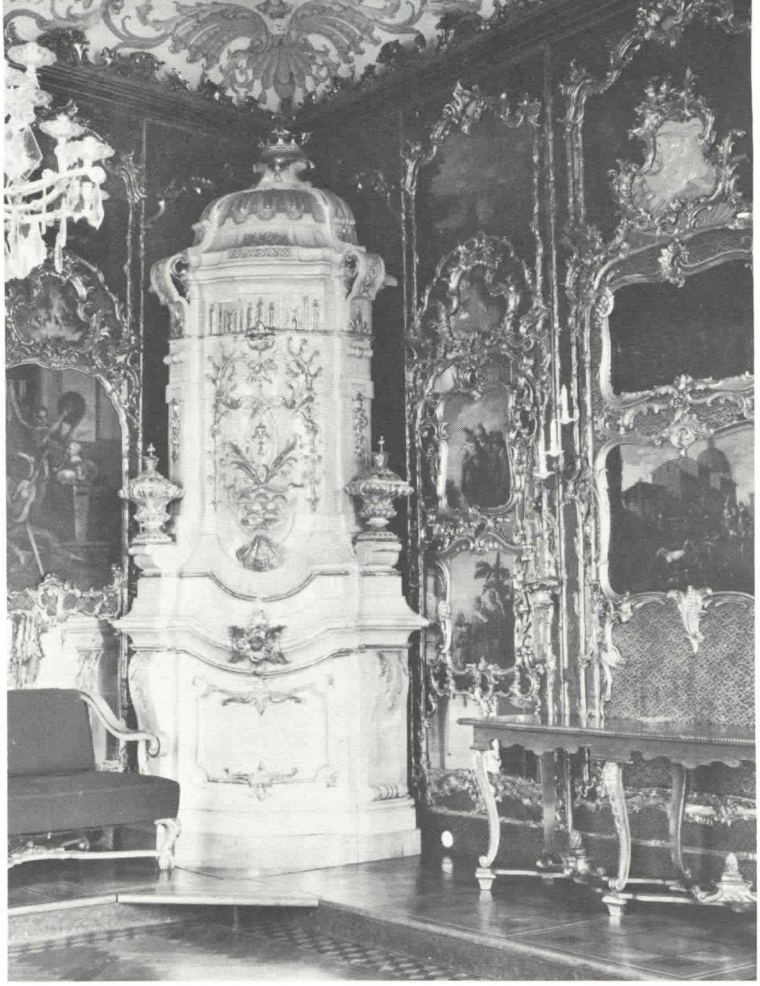
Third, if the buildings are part of a viable city the total effect will be one of life and brilliance. This is particularly true of downtowns. No one goes to Times Square or Piccadilly to look at architecture.

The effort of renewal should be just that, the gradual replacement of non-economic structures, the hopeful introduction, here and there, of new images. Renewal is an economic process which cannot very well be forced. Many areas, if left alone, will rehabilitate themselves. That is what happened to Park Avenue, that is what happened to Penn Center in Philadelphia. These are spectacular, but there are other examples—Sutton Place in New York years ago, Georgetown in Washington; the Morton area in Philadelphia which is succeeding in spite of the bankers' black-listing. Of these, only the Morton area has had Federal renewal assistance.

This is to imply again that urban problems are primarily economic, not physical; that if economic —and in some instances social—remedies can be found, physical problems will find solution.

The job of the architect today, at least outside of New York City, should be to provide suitable, that is modestly priced, space for commercial and residential use. This should be provided not according to some abstract theory of how the place should look, but according to very exact information of how it will be used and by whom. It is customary to abuse the speculative builder for his short-sightedness, his resistance to new ideas, his invincible conviction that he is giving the people what they want. It is just possible that these birds, with all their faults, are at least half right, that what they produce is as close to what people want and need as is the product of the empty-space planner and the cliché-ridden architect.

Architects, if they really want to practice their art in a great way, must look at the whole situation of which they are a part and try to remake their portion of it according to what they find there rather than some preconceived image of their own or of others'. The city must be redeveloped for diversity, even at the expense of middle-class notions of order, middle-class aversion to vulgarity, middle class morality even. What is this, you ask, but a return to *laissez-faire,* or even worse, the glorification of anarchy? In return I ask, what is this other extreme we seem to be accepting but authoritarian rule by specialists in neither heart nor head but machine-produced data? We must find some other way. The architect, as citizen and as artist and remaker of cities must seek neither the way of anarchy nor of authority, but of understanding. ◄



The Venetian Room was imported by Max Reinhardt. Stove is Salzburg

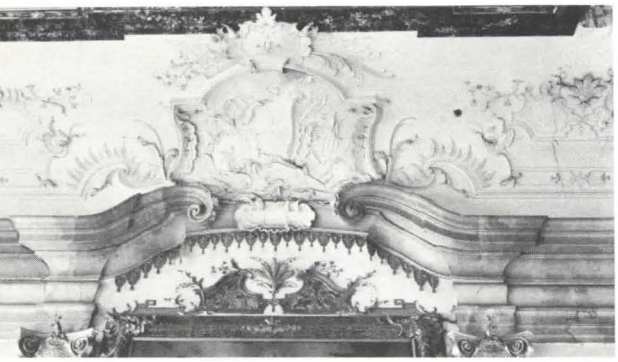
SCHLOSS LEOPOLDSKRON

A PHOTOGRAPHIC EXPLORATION OF A STYLE

by **Beaumont Newhall**
Director, George Eastman House
Rochester, New York

► This group of photographs is an essay in the exploration and interpretation with the camera of a provincial Austrian eighteenth century building, distinguished for its scintillating rococo overlay of a basically medieval structure.

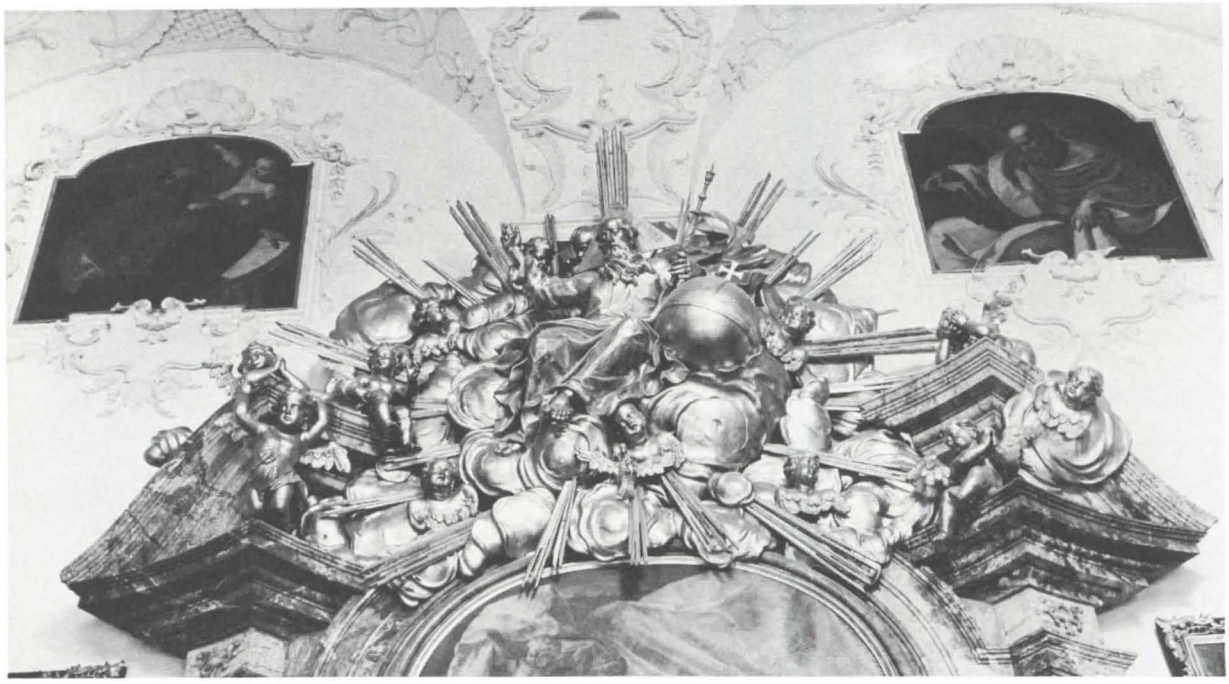
Schloss Leopoldskron in Salzburg, Austria, was built between 1736 and 1744 by Archbishop Leopold Anton Graf Firmian. It was designed by P. Bernard Stuart (1706-1755) from the Scotch Benedictine cloister of St Jakob at Regensburg, apparently in actual collaboration with the Archbishop, whose interest in the arts was great. The Schloss is famous for its rococo stucco decoration, the work of Johann Kleber; this feature of the building led to its classification as an historic monument by the Austrian government. In 1897 an album of detailed photographs, "Die Stuccodecorationen aus Schloss Leopoldskron bei Salzburg; ein Meisterwerk der Ornamentik aus der eisten Halfe des XVIII. Jahr hunderts," was published by Bruno Hessling in Berlin. Miraculously, the delicate plaster carving has survived in pristine condition, despite the many uses to which the building was put following the death in 1744 of the Archbishop—who was so fond of the palace that he ordered his heart to be buried in the floor of its chapel.



SCHLOSS LEOPOLDSKRON

We present these pictures not only for their beautiful photography, but also as a reminder that historically, fine craftsmanship has always been an integral part of fine architecture

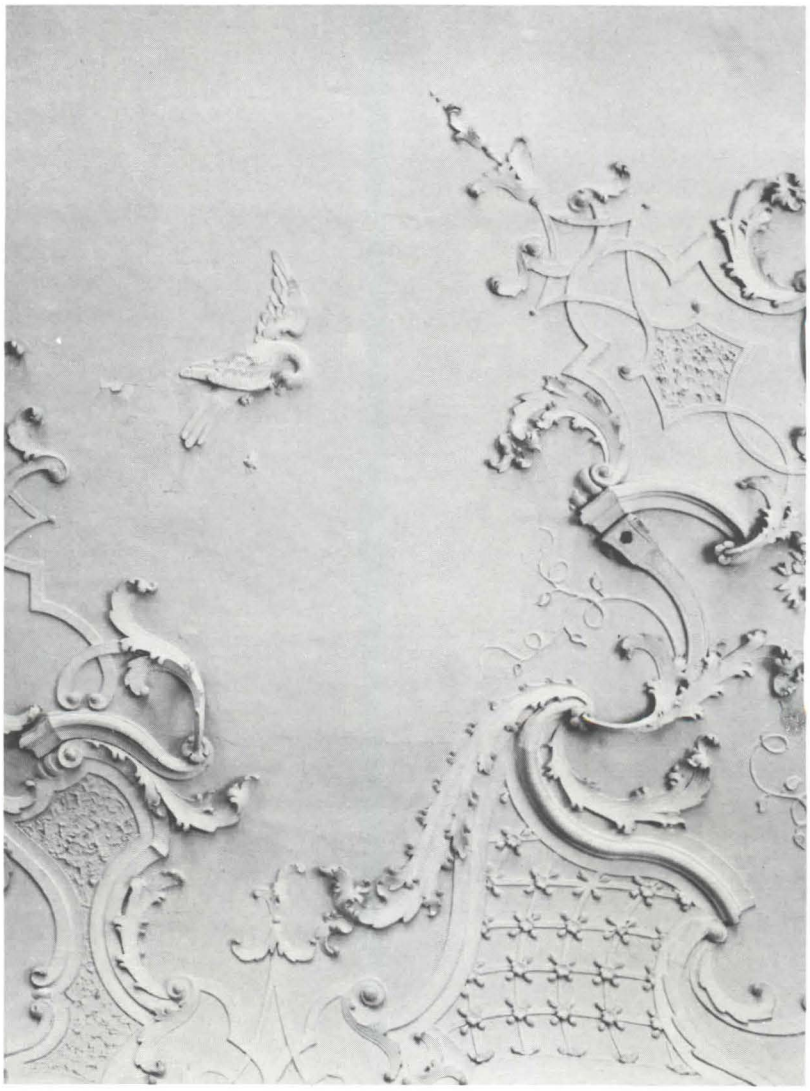
Above, stucco treatment over cornice of main hall. Right, balcony of main hall showing decoration above. Cartouche symbolizes architecture; note builder holding plumb-line



Sculpture of High Altar in Chapel (above). Below, stucco decoration of ceiling in a salon

He had given the Schloss to his nephew, Laktanz Grafin Firmian, who built a gallery for his collection of 571 paintings. The building subsequently became a hotel, the residence of Ludwig I of Bavaria, and in 1919 the home of Max Reinhardt, the theatrical producer, who restored it and added two period rooms quite out of keeping with the original style of the Schloss: an entire high rococo salon imported from Italy, and a reduced replica of the library of the monastery of St. Gall. During World War II the Schloss was commandeered by the Nazis and became headquarters of the Gauleiter of Salzburg who, when Americans approached, shot himself and his family. One side of the building was scarred by a bomb.

In 1947 the Schloss was rented by the Salzburg Seminar in American Studies. This American educational foundation yearly offers six four-week courses to sixty or more European students on all phases of American thought, taught by American professors. In 1959 the Schloss was purchased by the Salzburg Seminar in American Studies. ◄



Toward a Dynamic Architecture

by **Martin Bloom, AIA**

The author received his training at Harvard Graduate School (M Arch 1955) and at Fontainebleau. He is presently practicing in Boston and working on an analysis of the relationship between architecture and Urban Design from the point of view of the architect

► Where do we go from here?

Any attempt to answer this question must first answer another: Where are we?

Architecture is a solid fifty years into the functionalist-organic era. Its approaches seem so correct for our time that its influence is taken almost for granted. Many more or less pure examples—especially of functionalist architecture —appear regularly.

In recent years, however, there has been a reaction against the unrelenting severity of contemporary forms. Attempts have been made at enrichment. Using the latest techniques, materials have been bent and twisted into a seemingly endless succession of sculptural shapes. Exoticisms have been mined out of the past. Remnants of the architectures of other places, other climates, other times, have been applied to our latest buildings. All this is done in the name of a New Baroque and is justified with the explanation that an age of embellishment generally follows an age which has produced a valid and fundamentally workable design philosophy.

But at a time when architecture is called upon to solve the problem of the shape of our whole environment, it cannot be content to find impetus in such meaningless elaboration. The challenge is deeper and so must be the architect's response. A design philosophy must be found which not only can motivate design legitmately, but also can deal effectively with such large-scale problems as the design of cities. Any attempt to define such a design philosophy must begin by exploring the inadequacies of the present approach.

Looking at the purest examples of functionalist architecture, one is struck by one particular shortcoming: its failure to take cognizance of the forces inherent in exterior space. The internal spaces are brilliantly solved—and then slip-covered. The structure is rigid and self-contained, with no feeling at all that exterior forces helped shape it.

Any new architecture must be founded on a consideration of *all* space, interior and exterior. In such an architecture, based on the dynamic juxtaposition of spaces, new forms will be created. They will not be arbitrary because they will derive from function and use. They will need no false elaboration because they will be rich in themselves, expressing the varieties of human purpose. Grounded solidly on the developments of the past, they will take advantage of contemporary ideas and technology—toward a real and genuine solution of the problems of our day.

Any architecture which takes into account interior and exterior space will obviously be a "total architecture." It will be concerned with "the relationship between interior and exterior space," "the interpenetration of spaces" and with "space as a continuum." All of these terms are part of our present architectural vocabulary—and it is a shame the words slip off our tongues so easily. We no longer think of their true meanings. We do not separate the meanings from their physical applications. For, as applied, all these terms were partially betrayed. And what was once our vision in architectural theory has become our blindness in practice.

A major tenet of architecture for some years has been that there must be a "relationship between interior and exterior space." The functionalists claim to have achieved such a relationship and so, looking at their examples, we have fallen into the trap of believing that all we need is a glass wall to make it possible for space to flow uninterruptedly. The truth is, there may be more interpenetration of space with one operable sash than with a whole glass wall which hermetically seals man off from his surroundings.

When examples of functionalist architecture

are studied further, it becomes apparent that, in spite of the inclusive terminology, the thinking of the functionalist is very largely based on the solution of *interior* spaces. He conceives of the exterior as something to be utilized for his solutions of interior design.

The functionalist talks of "interpenetration of interior and exterior space," and what he means is: "exterior space shall be allowed to penetrate interior space where interior space so desires it." Although consideration of exterior space *seems* to be basic to the functionalist, in reality he treats it as an afterthought. When he speaks of "space continuums," he means *interior* space is a continuum. He means that the walls of a building can dissolve into glass and thus partake visually of the surround. Or he means the building can allow green spaces into itself, can "take advantage" of nature.

This is not the meaning of continuum at all. A continuum is "that of which no distinction of content can be affirmed except by reference to something else." If we forget the slogans for a moment, and concentrate on the examples of functionalist architecture, we will see that a distinction of content *is* made. Exterior space is *not* treated with equal importance; it is not allowed to express itself. We will see that, when applied to complexes of buildings, this architecture has ended up as a positioning of blocks in voids. If all space were being treated as a continuum, there could, by definition, be no voids.

In functionalist architecture the exterior space is designed, yes—but as if it were an abstract emptiness, a space of different and lesser quality than interior. It is filler and it is devoid of force. It is a bucolic surround used to soften the effect of severe boxes.

However, exterior space should not be mere setting. It is doing exterior space an injustice to treat it as an invisible cushion between real objects. Nothing is solved when exterior space is pacified with greenery and street furniture while the space itself is treated as nada, vacuum, emptiness, nothing-at-all. There is nothing particularly virtuous in open space when it bears little or no relationship to its surround. Struck blind by the functionalist's interior obsession, urban designers have been reduced to practicing by moral fiat: "What's green is good." "What's open is good." Critics have pointed out that design based on such pious motives does not bring about utopia.

It is time, therefore, to take the concept of space as a continuum beyond its functionalist application. As much attention must be focused on the design of exterior space as is focused on interior. The same organic-functional rationale with which buildings are designed must be applied to the design of open spaces. We must scrutinize them and study their functions, differentiate them, analyze them, and crystallize them into some palpable form—just as buildings are conceived. Exterior space, no less than interior space, is a container for human activity. It has direction, purpose, use, vitality and necessity. In short, exterior space can be a vital part of architectural design.

This principle of *purposefulness* in exterior space was once well understood. It is fashionable nowadays to measure the squares of the old world and, unable to rationalize their appeal by mathematics, to say their charm is palimpsestical, the patina of many years and many personalities. There is delight in variety; that is undeniable. But is it not odd that anyone, in this age of science and reason, should attempt to propound chaos as a first principle of art?

I prefer to believe that the appeal of these old squares lies in this fact: The *space* created the buildings. There was a certain power in the *space itself* which strongly prescribed its own definition. This is not to say that the dimension and design of the enclosing buildings are unimportant. But anyone who has watched the growth of a city over a period of years knows that there is nothing harder to swallow up than a good open space. The shops and houses come and go, but the space remains surprisingly constant. It may have taken centuries to shape itself, or it may have been conceived and constructed by one man in one year. Whatever the case, there is a certain, almost mysterious power which gives the exterior space precedence and makes it bend physical structures to its will.

This fact—that there is considerable power in exterior space—came into disrepute in the twentieth century as a reaction against the nineteenth century's over-emphasis on exterior forms. But our obsession with interior space is no less reprehensible. It has worked quietly and insidiously for the defeat of signficant urban design. Now is the time for interior and exterior forces to come into balance. Only when they are brought into dynamic equilibrium will total environmental design be achieved.

The basis of a philosophy of dynamic design is the recognition that the shape of each space body is generated by its inner nature. Where two space bodies come into contact, friction occurs. This friction—a sort of conflict of wills—creates a corporeal barrier. This barrier, in its specific form, is what we see. And although it seems to be shaping and defining space, actually it is the spatial forces which shape it—which are responsible for the barrier's location, form and appearance. The barrier is what has materialized as a result of

opposing forces coming into contact and limiting each other.

If this sounds more metaphysical than physical, it is not. It has already been achieved in microcosm. Within the houses of Mies van der Rohe and Frank Lloyd Wright, spaces are not differentiated by solid walls and sealed-off compartments. Space butts up against space; spaces conflict and interact. A staircase, the functional expression of vertical movement, may be used as a divider. Sometimes, where two spaces come together, a storage or utility area may be needed. Such elements not only separate and define space, but perform functions in themselves. And so, building plans have opened up into a series of fluid, original and exciting relationships.

The same can occur on a much larger scale when all space is considered as one. Exterior and interior space form a continuum and must be considered as such. Their only difference is that one is more conditioned than the other. There are infinite degrees of conditioning, ranging from the entirely open to the entirely enclosed. So the "barrier" between completely unconditioned and fully conditioned space need not express itself always and simply as a wall. Heat and light can be used out of doors to make the transition from indoors almost imperceptible. There can be covered areas of semi-conditioned space, for there is no reason why the exterior need open itself always to the sky. There can be barriers of glass, or air, or vines, or water. There can be anything of which the mind of the designer can conceive.

A New Collaboration

When the principle of the significance of all space is understood, a new and more intimate collaboration among planner, architect and landscape architect will be possible. Streets may move over, under, around and through. Exterior spaces may be paved or green, may change level, may push in facades, flow through buildings, nestle, assert, be rowdy or serene. Whatever they do, they will have meaning, and they will bear strong kinship with the structures they penetrate or surround.

As a result of a sensitivity to these interacting forces, the barriers or skins will have unlimited variety and richness. This richness will be based not on meaningless virtuosity or research into the exotic, but on the truth of forces generating their own realities.

At this point, the harsh economic and legal factors impinge. The designer protests that he is not allowed to build what his imagination conceives or that he is given a tight block on which he must cram too much. The protest is legitimate. The fight must be continued so that exterior spaces may be as thoroughly programmed as interior and so that legality may give way to humanity. But simply the enlightenment of client and official will not bring the sought-for miracle.

Recent designs for several large complexes reveal that even where the opportunity exists to develop extensive areas, the general method has been to lay down the streets, position the structures, and pretty-up the in-between. It is no wonder that these complexes, which seemed impressive in abstract model, are so unsatisfactory to walk through. One walks through exterior space—and the exterior space, being merely filler, is meaningless.

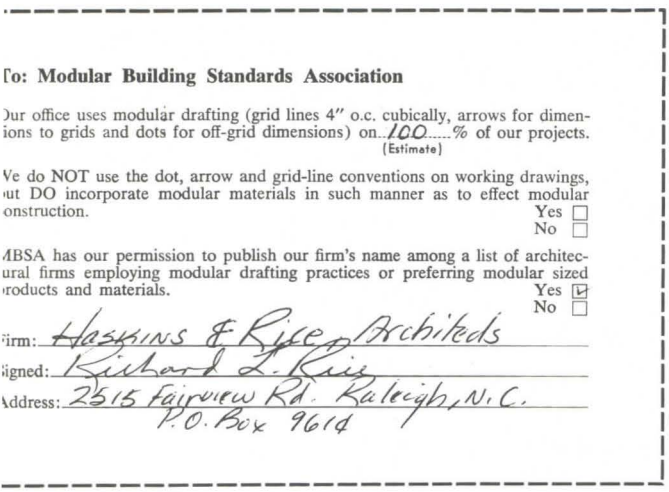
As long as architecture believes that its province is the design and cloaking of interior space—with a casual nod to exterior space recognizing that it, too, ought to be engaging, then the so-called "new forms" will be nothing more than trivial addenda to a great architectural period. And urban design will remain a positioning of blocks in voids, a succession of meaningless spaces, an alternation of sculpture and still-life at the edges of dormant streets.

It is vitally important to understand that all space has equality of force and expression. Then exterior space will become infused with meaning. The spaces of the city will take on new dignity, and we will be able not only to reminisce about, but to *create* the special genius of "place". And when it is further understood that spatial forces, interior and exterior, interpenetrate and interact one with another, a richness of form will enliven our architecture. If these forms are exciting because they are different, that is incidental. Their major excitement will be in the fact that they *work*.

This, then, should be the architecture of our time . . . a dynamic architecture based on an understanding of the forces generated by *all space*. Such an architecture is historically true—being solidly founded on the spatial discoveries of the first half of the twentieth century, but taking them beyond their present applications. It is humanistic, multi-dimensional, and takes advantage of the latest techniques and materials without exploiting them.

It is a contemporary architecture which squarely faces the problems of today. For, based as it is on the resolution of conflicting forces, it thrives on economically solving the problems of those areas where many people with many purposes come together.

It is an architecture alive with challenge and rich in variety. It is an architecture which carries within its own nature the possibilities for beauty and truth. ◄



To: **Modular Building Standards Association**

Our office uses modular drafting (grid lines 4" o.c. cubically, arrows for dimensions to grids and dots for off-grid dimensions) on 100 (Estimate) % of our projects.

We do NOT use the dot, arrow and grid-line conventions on working drawings, but DO incorporate modular materials in such manner as to effect modular construction. Yes ☐ No ☐

MBSA has our permission to publish our firm's name among a list of architectural firms employing modular drafting practices or preferring modular sized products and materials. Yes ☑ No ☐

Firm: Haskins & Rice, Architects

Signed: Richard L. Rice

Address: 2515 Fairview Rd. Raleigh, N.C. P.O. Box 9614

New Status For an Old Concept

by **Byron C. Bloomfield, AIA**
Executive Director,
Modular Building Standards Association

► *Modular principles have been in continuous use by architects since the days of the Egyptians and the Greeks but it is only now that the principles are beginning to be fully understood and used by today's architects as a means of coordinating the vast array of building products made possible by technological progress over the last two decades.*

"Sixty-three cards at five cents; that'll be $3.15 this morning, Mrs Edes."

While sorting through the office petty cash box for an elusive nickel, the MBSA secretary paused momentarily to inquire, "All architects again?"

"Don't know," replied the postman, "but most of these seem to be signed with the letters AIA."

For more than three weeks a similar scene took place each morning on the fourth floor of 2029 K Street, NW, Washington, DC, in the office of the Modular Building Standards Association.

The cause of this daily event is of particular interest to architects. The findings are of direct consequence to contractors and manufacturers. The cards referred to by the mailman were return-postage-paid postcards containing three questions which could be answered with a number, or simply "yes" or "no." They were enclosed with an issue of the *AIA Memo* and distributed to all AIA members, with only a one-paragraph reference on page four of the *Memo* identifying the purpose of the enclosure.

Architects Do Read!

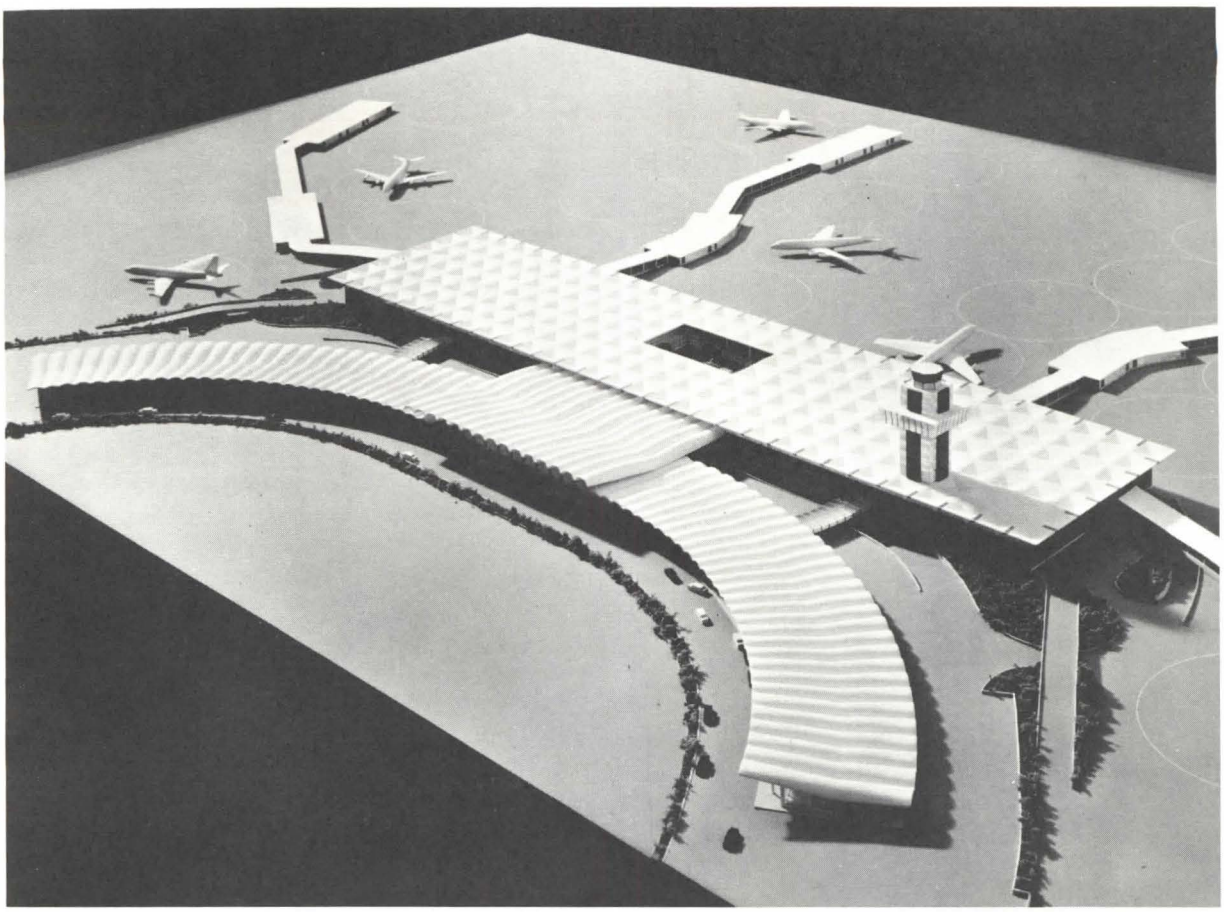
More than a thousand responses to the survey proved two things about architects: first, that architects *do* read—at least the *AIA Memo*; and second, that the individual actions of a creditable majority of AIA members are motivated by a strong sense of professional dedication rather than protection of selfish interests. This second conclusion can be readily verified by any architect upon inspection of the third question of the questionnaire as shown in the accompanying illustration.

By granting permission to publish its name among a listing of architectural firms endorsing modular construction practices, the individual firm stood to gain nothing for itself. Yet, when the final tally was made, 1,011 architectural firms were represented in the returns as employing modular materials whenever possible and 880 of these firms granted permission to list their names accordingly.[1]

The Profession

Obviously, MBSA would not initiate an extensive survey of this type without good reason and AIA would not extend the cooperation of its members without justifiable cause. As one of MBSA's four organizational sponsors, the AIA needed to know what current AIA member attitudes were toward modular practices. Because architects are "consumers" of building products, MBSA welcomed the opportunity to determine architect attitudes for another purpose: It recog-

[1] Directory of architectural firms granting permission to publish their names as employing modular materials wherever possible is available from MBSA upon written request. The listing also identifies firms using modular dimensioning and includes tabular statistics of the complete survey.



Oakland International Airport, Warnecke and Warnecke, Architects

nized the major problem of conversion in the building industry as establishment of a dominant market demand for modular-sized building materials. Obviously, only when this point is reached will the full economic benefits accrue to the public and only when modular-sized materials are being produced exclusively, will manufacturers be able to reflect sizeable cost reductions through elimination of dual-inventories. Secondly, architects will have achieved the ultimate in design flexibility when using stock building products. They will no longer be faced with ranges of product sizes incompatible with the dimensions of desired materials and products used elsewhere in their buildings as has traditionally been a limiting factor. Recently a Canadian architect illustrated this limitation by asking, "Did you ever try to cut a glass block?"

Modular Affect Design?

Investigation of architect attitudes toward the effect on design of use of modular principles has turned up some interesting observations too. Personal interviews with architects that had worked both ways (modular and non-modular) had already established the general axiom that modular principles do have a definite and *desirable,* effect on design. This, they state, is because of the principles of modular philosophy which encourage direct use of materials and the drafting technique which provides an orderly expression of the design concept through the construction drawings. MBSA wanted to know more about this. Specifically, what was the ratio of modular dimensioned projects among *design award winners?* The *P/A* design awards program of 1960 was selected for investigation because nineteen different building types were included in their awards program and sufficient time had elapsed for most of the projects to have progressed into or through the working-drawing phases.

From an earlier and extensive survey of all projects out for bids in thirty-seven states during the month of March 1959, it had previously been learned that approximately one out of ten projects were being bid on the basis of *modular dimensioned* [2] working drawings. Responses from firms cited for their winning projects in the *P/A* awards series established that at least *five* of the nineteen winners were from offices regularly employing modular dimensioning on their projects and either had or would, in all probability, use the drafting

system on the project in question. The ratio of modular dimensioned projects in the 1960 *P/A* awards program was from *two to three times higher* than the average of all projects out for bids during a relatively similar time-period.

Possibly only one conclusion can be drawn from the *P/A* awards survey but it is a highly significant conclusion . . . *architectural firms recognized as leading in design are also the firms leading in the adoption and use of modular dimensioning as an architectural office drafting practice.*

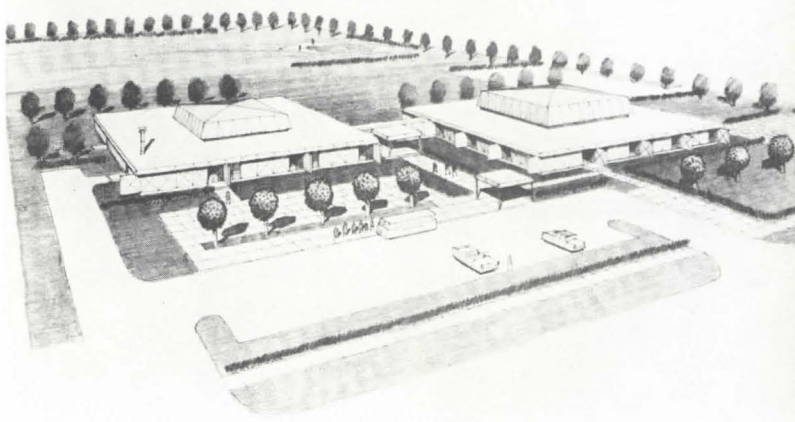
What Jobs Modular?

Another observation was made that upon review of all of the award winners, almost all of them were modular in design concept, most reflected anticipated modular principles in materials usage which would result in *modular construction*,[3] and any of them could have been readily dimensioned with modular drafting on the working drawings. The illustrations included with this article are modular dimensioned projects from the award winners.

The first question in the *Memo* survey pointed up a curiosity about frequency of use of modular dimensioning which is not yet explainable. Of the 1,119 returns, 223 (about one out of five) were from offices using modular drafting on from 100% of their work to as little as 5%. (Many firms indicated they were in the process of converting to modular dimensioning at the time of completing the questionnaire.) Additional exploration must be given this factor to determine possible effects of specific building materials that might not be readily available in a given geographic area, reluctance of key project personnel to learn and adopt the drafting system, the result of timing of partial conversion of offices or whether non-modular offices are doing work for state and government agencies requiring the construction documents to be prepared in accordance with modular measure principles. To professionals, this latter possibility is not alarming unless the project personnel refuse to review and summarize the benefits which result from use of the dimensioning system on their first modular project and fail to recognize potential benefits attainable from application on future projects.

After Trial?

In 1960 the Office Practice Committee of the Detroit AIA Chapter surveyed its members regarding trial and use of modular dimensioning. The summary statement provided a key consideration to architects contemplating conversion by reporting, "We think it is significant that of all architectural firms responding to the survey, *85% continued to use the system after giving it a trial.*"



Stewartville, Minn., Elementary School, Adkins and Johnson, Architects

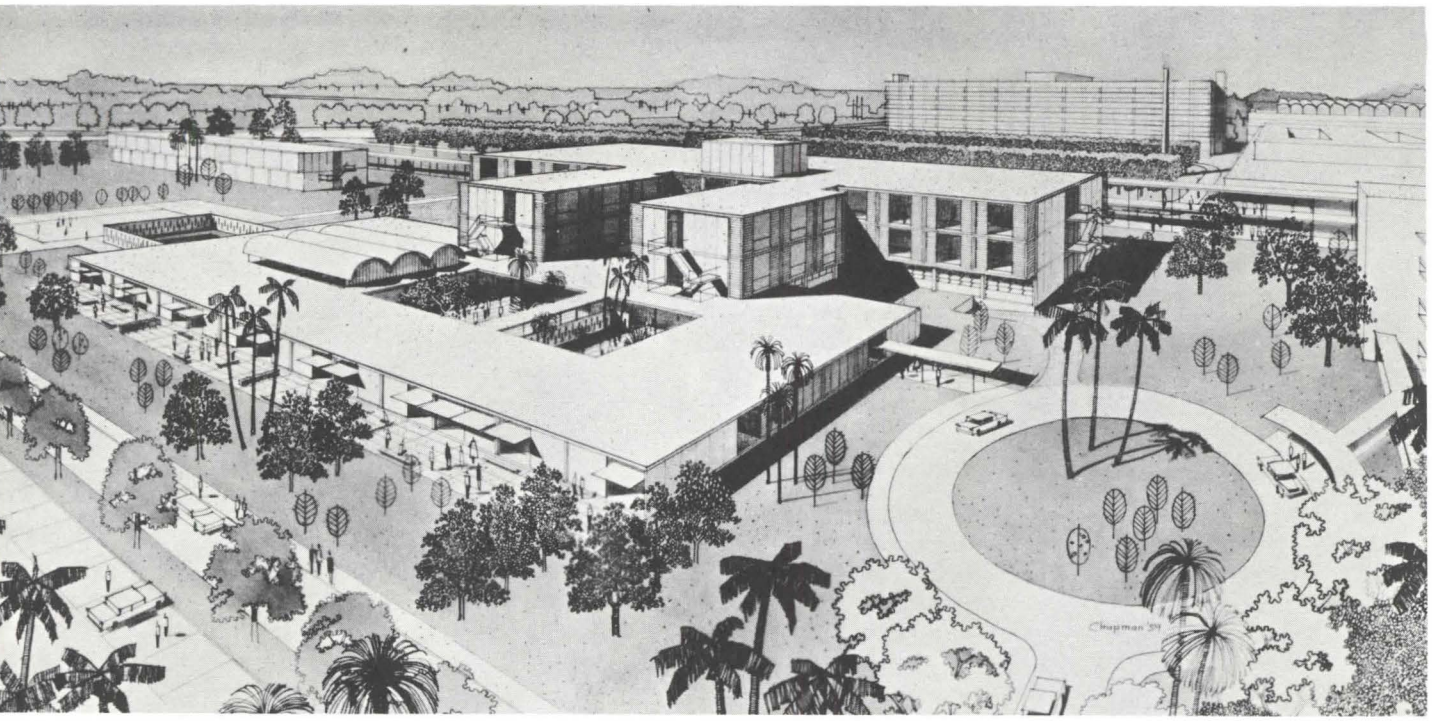
The Corps of Engineers, while administering the VA Hospital Program, was probably the most instrumental group in bringing modular dimensioning into prominence as a practical and familiar dimensioning system in the US. As a result of their early requirements (dating back to 1948) many architectural firms doing hospital work today are well-known modular advocates and it is not surprising that complex hospitals are the most frequent building type to have employed modular dimensioning at the present time. Two firms converting during this period present variations in case histories of how they went about it.

Two Ways To Convert

M. Edwin Green, FAIA, of Lawrie & Green of Harrisburg, Pa., reports that his firm converted by the process of one project team taking the first

[2] "Modular Dimensioning," or "Modular Drafting," is a dimensional reference system made possible in 1945 by industry agreement that the common basic module for building materials and products was four inches. The dimensioning system employs three drafting conventions: grid lines which may or may not be shown on the drawings at 4″ intervals; arrow heads for dimensions terminating at grid-lines; and, *dots* for off-grid dimensions. Variations from these drafting conventions are commonly found in practice, but are not included in the statistics reported by MBSA.

[3] Modular construction results from architectural planning predicated on the use of modular-sized building materials and products. Basically, this is a joint-centerline concept in which joints occur in modular increments anticipated by a planning module. (e.g., 3′-0, 40″, 4′-0, 5′-4 etc) The vast majority of all building projects are presently planned in this manner. Many are dimensioned on the working drawings by dimensional reference to the planning grids which are shown on all plan drawings. Such practice encourages utilization of modular products and may reflect savings in construction costs, but does not provide the consistency and ease of detailing made possible by full use of modular dimensioning. Use of the planning grid as a total system also suggests the possibility of a far greater degree of pre-conception of design expression—a limitation which cannot be encouraged by MBSA and not necessary with the complete dimensioning system available to any practitioner.



Industrial Hospital and Rehabilitation Facility in Puerto Rico, Isadore and Zachary Rosenfield, Architects

modular job through to completion. The project personnel then redistributed themselves among other jobs in the office until the entire office force had become familiar with the drafting system.

On the other hand, C. E. Silling, FAIA, of Charleston, W. Va., is very descriptive when relating the Saturday meeting leading to conversion of his office force on Monday morning. It is only fair to point out, however, that the large volume of work produced by C. E. Silling & Associates ($30,000,000 per year on occasion and not less than $12,000,000 annually since 1948) is produced by an office force consisting of, as he puts it, "six drafting boards run by knowledgeable people, one secretary and Silling." His office works on only one project at a time which explains why there was no delay in phasing-out current jobs in the office.

Published Reference Materials

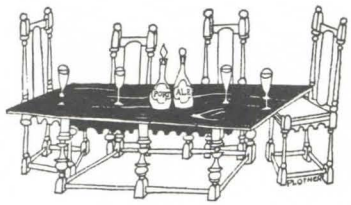
MBSA, as initiated and sponsored by AIA, AGC, NAHB and PC, has now been in existence three years. During this period of time, a major portion of its efforts have been spent toward stimulating or actually preparing creditable technical reference materials for guidance during conversion to modular drafting in architectural offices. The efforts have resulted in a major textbook, slides, and brochures outlining various phases of conversion. All are listed on a bibliography [4] available from MBSA.

The Next Effort

With near-completion of this phase of the MBSA program, its efforts will now take a new direction aimed at stimulating the market for modular sized materials and products by illustrating the dimensional and installation characteristics of all major types of modular products in a manner providing easy reference by architectural draftsmen and detailers.

MBSA is looking forward to the day when its efforts are no longer needed by architects, homebuilders, contractors, producers or the building industry in general. It receives considerable satisfaction when hearing statements from architects that conversion to the dimensioning system produced almost immediate office production savings, and news from groups of manufacturers that they have just introduced a new modular line (such as the new 7′-2″ steel door with 7′-4″ frame height), but the most gratifying statement to date came from Herbert V. Swinburne, FAIA, of Nolen & Swinburne of Philadelphia when he said, "It was two years before we felt we were really beginning to recover the costs of our conversion, but during that period we became absolutely convinced that modular thinking was an essential part of design and that our clients were benefiting from better designed and better detailed buildings." ◄

[4] "Bibliography of Selected Publications Pertaining to Modular Practices" identifies sources and costs of most relevant publications on modular dimensioning, principles, and practices. It is available without cost by writing to Modular Building Standards Association, 2029 K Street, NW, Washington 6, DC.



TRACINGS

from an

Oaken Table

NO. 6

by Neoscopos

With the consistency of our Thursday luncheons fairly well established over several years, it was quite inevitable that our discussions, which never strayed far from the architectonic path at best, should propose time and again to probe the great eternal Vitruvian verities. More specifically, and more pointedly in view of personal commitments among several of our membership, the questions of new directions, of the New Classicism and the New Brutalism. And yet, through some sort of tacit agreement, we had really kept the peace quite well all during the nine long months of the Franklin D. Roosevelt Memorial Competition. Possibly the fact we all knew that more than one of our number had taken time out from a well-premiated and publicized practice in tribute to the epochal rarity of the occasion, contributed to our sort of subliminal armistice; at any rate, until the announcement, *tabu*. And thereafter—well, even though not one of us, still it was close enough to home, we might feel free to indulge our tongues as we saw fit. Bill Pedersen could hardly join our luncheon table regularly, we met in neither New York nor New Haven; but we had, many of us, the same school for background, if at slightly different dates; our varying wood, steel and glass villas were not far removed, in location or in general aspect, from his own home; clearly, he was one of us, and we could say what we wished about his prize.

Fred, with his innate sense of seniority added to his happy faculty (the reverse of my own) for arriving perennially ahead of time, once again threw the golden apple. Very shrewd, and tactically very sound he felt, for Pedersen and indeed all the award winners to steer free of the vast hulk of mechanical Mies as buncombed by Bunshaft which had become the accepted Academic for the 'fifties. Another old order was changing; Wright was dead, Mies misunderstood, Corbu was unchallenged king. By now everybody who was anybody had had his chance to see, rather more to experience, to live Ronchamp, and to return and write his travel rhapsody. And surely there was real power there—glory might be more arguable—in that utterly unpredicted hollowed-out sculpture. (Agreed by Tom, now back almost two years from his pilgrimage.) In fact, there could be no serious argument, this was a tremendously creative man: witness the *Unité,* witness the Dominican monastery, witness especially Chandigarh. Whereas Bill Pedersen could not have forgotten, heaving up those four great tablets along the Tidal Basin for all to read, the likewise literary if somewhat less literal *éclat* of Corbu's projected monument to Vaillant-Couturier fully twenty years before. And so now nothing would do but we must have a wave of New LeCorbusier, or *Néo-Corbuisme,* or what would it be called. The earlier Corbuism had been a major facet of the International Style, and had so run its course amid *pilotis* and *prismes purs;* now, in its second sweep it seemed it might take almost any shape, it could be cited as license for the wildest and weirdest of ectoplastic forms. Were there to be any principles at all? Or was there, in fact, to be another movement? Or was this a facet in turn, or even the major impulse behind the New Brutalism? Fred made no claims as a historian or a critic, but he would like a considered answer.

My own thoughts, be it admitted, had been wandering. Rather than borrowing from LeCorbusier, it seemed to me, many of the publicized FDR Memorial projects had been following the easy, perditious descent into, not Avernus to be sure, but into the nearby Ardeatine Caves, as though the occasions to be memorialized had anything in common except their century. But in my spectator role I am wont to watch with growing unease any invidious battle lines being formed about single current works; with Fred, I am happy to let the critics tie themselves up over that sort of thing. And so with relief I sensed the center of gravity of our conversation shift away into a field of more general propositions.

To Fred's final question a cautious affirmative was offered by Frank, who had recently been extending his education with Peter Blake and "The Master Builders." In fact it would seem there had been a

lifetime association, from his earliest painter-polemicist days with Ozenfant, between Corbu and *l'art brut*. Perhaps less as the *sociologue* of Plan Voisin or the *dessinateur* of the Pavillon de l'Esprit Nouveau, still unmistakeably in his role as Charles-Edouard Jeanneret he had subscribed to, if not originated, much of the brilliant clarity and eccentric emphasis of *purisme*. But when it came to the sudden, perverse revaluations thence into Brutalism, it seemed only strange, in view of the strong continuity in the literary stream from Gide through Louis-Ferdinand Céline to Aragon and Camus, that French architectural influence should have gone so dormant, and shifted so far while submerged during the war gap of over a decade.

A spot interruption by Fred, breaking up this tentative answer to his own question. Which of us had been on hand that non-Thursday perhaps two years ago when he had rallied us to an unexpected luncheon foregathering? His secretary had had instructions to plead a full calendar to all unscheduled callers, and so the tall, pleasant young Englishman should have gone unnoticed also, except for the chance penetration when he gave his name as Peter Smithson. After which, a sprightly hour at the oaken table, another hour and more looking at work on the boards in various offices, all the while a cascade of commentary on the current scene. America, to hear Smithson, did the lion's share of the building, but as we did it we did not know what we were doing. All along as we had been perfecting our narcissistic New Academic, thinking people in the Old World had been fighting through the New Empiricism into an early flourishing of the New Classicism—which by now, however, was simply and thoroughly Old Hat. After centuries of Georgian, of Baroque, even of Renaissance, one might expect another wave of classicism in Europe to dash itself out early and weakly. And as for an ephemeral variant like the New Palladianism, invented one afternoon by the Smithsons and some likewise parody-minded friends only to find it taken up seriously by an entire school of heretofore unregenerate Regency revivalists, hard to say whether such a phenomenon were more notably shallow or pernicious; but not the main stream, in any case.

A wry grimace from Tom, who remembered the entire luncheon quite adequately. What they had had in mind when Tom with a few others had laid down principles for a synthesis of balancing and refining impulses which seemed to crystallize appropriately into a New Palladianism, was a very different matter from the supercilious tag-waving of the British critical press. Not that their journals were not stocked with clever epithets, such as differentiating American architecture 1960 into Neo-Monumental on the one hand and Ballet School on the other: what a felicitous bracket the latter, to gather the diverse delights of Johnson, Rudolph and Yamasaki all into one tendency. Meanwhile, evidently, the New Eclecticism of the Continent, forced into the New Pragmatism by the mass construction industry, had rubbed itself raw on so much *béton brut* that it had resurfaced quite naturally as the New Brutalism. Words, words, words. . . .

Words, indeed, injected our visiting fireman, or, shifting plays but not authors, what's in a name, indeed? As a guest he could only be, professionally, an interloper, but welcome at our table none the less, Jonathan Kern, a hemi-demi-semi-representational painter of a type and persuasion not uncommon to the rocks and streams and artists' colonies abounding in our area. His work was not unknown along 57th Street, and even in a permanent collection or two across the country; if he did not reek of the Village and cold water studios, it was as if he had passed through and outgrown that phase. But in Jonathan there was deep concern for all these words and names and movements; in particular, for the name of Brutalism. For architecture, the New Brutalism might be essentially Corbu post-'45 or it might be something quite different; for painting, *l'art brut* was a concise, definable tendency with specific principles and an identifiable hierarchy.

Among the high priests his particular recollection was of Jean Dubuffet, who bluntly cursed the Greeks for exalting the cruel idea of beauty, as something unfair to the ugly, and in fact an illusion, for beauty was nowhere. *L'art brut* was dedicated to the proposition that the only art worth while was spontaneous, and the only artists capable of being spontaneous were savages, lunatics and children. Such artists alone saw the right images, said Dubuffet—or rather, non-images: He was pleased to watch and observe lives that were in trouble, going insane, hesitating between forms soon sensed as familiar and forms unrecognized, with voices that terrified. The result could only be a grand disorder, a painting devoid of sense of time or space or scale, preferably a sort of landscape of the brain; a vast stew of facts purely cerebral and internal, not to say visceral, bubbling all together or perhaps spread out to dry.

To which, as a summary of a cult, we had little occasion to add. Luncheon was well along into dessert, and appetites hardly tempted by the gutty *spécialités* apparently endemic with a Brutalist *table d'hôte*. A final apple, this time red-cheeked and real, and we were on our way; a parting thought I proposed for the abdicating group. This change of direction, this groping toward a more plastic visualization, this tendency toward premiating the eccentricities even more than exaggerating the limited assets of a bevy of highly dramatic primary projects which seemed in other respects rather more dubious—this major reaction took its place quite naturally as a revival of the movement which had been known as Expressionism. In Germany in the twenties—could one forget Mendelssohn's Einstein Tower, or his even wilder unbuilt projects of the same period, now more recently published? And at moments Bruno Taut and Hans Scharoun, and a spate of fantastic German churches of that decade, in concrete and dark red brick and thoroughly curviplanar—let alone an equally clear throwback among the painters, as previously detailed and specified. *L'art brut, béton brut,* express yourself in the New Brutalism. And so back to the office: except that, not two days later, I read in *P/A* that Philip Johnson as a recent competition juror had set up exactly the same Expressionist ancestry for the current New Brutalism. Nor particularly surprising this; there was a time, a number of years ago, when we two talked out and worked out a good bit of architectural history together, it is reassuring to see we still come to similar critical judgments so spontaneously. Or, to quote LeCorbusier completely out of context in his classic note on project Errazuris, "le moins qu'on puisse dire, c'est que les grands esprits se rencontrent."

COMMITTEE ON RELIGIOUS BUILDINGS, *Kenneth E. Richardson, Chairman*

A Guide for Planning the Roman Catholic Church — PART I

by **Brother Cajetan J. B. Baumann, OFM, FAIA**

The Committee on Religious Buildings has devoted the past several months to studies of the historical backgrounds, basic beliefs, governments, building types and mandatory planning requirements of the several religious faiths in the USA. The Committee's objective has been to produce a series of "Guides for Planning" for use by the architect interested in the building requirements of religious faiths other than his own. This is the first in a series of such reports to appear in the AIA Journal

► The Catholic Church was founded by Our Lord Jesus Christ, Who is the Alpha and Omega, the beginning and end of everything created. Simon Peter answered and said, "Thou art the Christ, the Son of the living God." Then Jesus answered and said,

"Blessed art thou, Simon Bar-Jona, for flesh and blood has not revealed this to thee, but my Father in heaven. And I say to thee, thou art Peter, and upon this rock I will build my Church, and the gates of hell shall not prevail against it. And I will give thee the keys of the kingdom of heaven, and whatever thou shalt bind on earth shall be bound in heaven, and whatever thou shalt loose on earth shall be loosed in heaven."

Jesus Christ, the second person of the Most Holy Trinity, the Son of God made Man, was the Messias whose coming was promised and prophesied in the Old Testament.

Jesus Christ established His Church as a visible society to continue and perpetuate His work for the salvation of all men. The Church consists of baptized persons throughout the world who are united in the same faith, participate in the same sacraments and are ruled by the Pope, who is the legitimate successor of St Peter and the Vicar of Christ upon earth. Christ chose St Peter to be the leader of the Apostles, the visible head of the Church, the first Pope; He promised and conferred on him the office, powers, duties and prerogatives of the Chief Shepherd, hence they passed on to his successors in that office, the Bishops of Rome. St Peter established his See in Rome in or about the year 42 AD. Since then, Rome is the principal See of the Roman Catholic Church.

The Apostles' Creed presents basic Catholic teaching:

"I believe in God, the Father Almighty, Creator of heaven and earth; and in Jesus Christ, His only Son, Our Lord; who was conceived by the Holy Ghost, born of the Virgin Mary, suffered under Pontius Pilate, was crucified, died and was buried. He descended into hell; the third day He arose again from the dead; He ascended into heaven, sitteth at the right hand of God, the Father Almighty; from thence He shall come to judge the living and the dead. I believe in the Holy Ghost, the Holy Catholic Church, the communion of saints, the forgiveness of sins, the resurrection of the body and life everlasting. Amen."

The validity of human reason. The Roman Catholic theologian begins with the supposition—which as a philosopher he is prepared to vindicate—that the human intellect is able to know truth.

Supernatural Revelation is the act whereby God speaks to man, informing him of the truth. It is not an interior emotional experience, but a divine testimony, a statement of truth made for all men and made in a definite place at a definite time.

Faith is the intellectual act whereby, empowered by God, man gives assent to the truths revealed by God.

The Institute

God is the Supreme Being, self-existing, the infinitely perfect Spirit, Creator of all things. God is eternal, omniscient, omnipotent, ubiquitous, immutable, infinitely just, infinitely merciful.

There is one God; the Divine Nature is one, but three Divine Persons, the Father, the Son, and the Holy Spirit, distinct from one another, subsist in the same identical Divine Nature. This truth is called the mystery of the *Most Blessed Trinity.*

A Mystery is a truth revealed by God which man cannot fully understand.

Creation is the act whereby God brought into existence from nothingness all things that exist outside Himself.

Angels are free, intelligent beings, pure spirits, created before man was created.

Man is a creature composed of body and soul and to the image and likeness of God. All human beings are descendants of the first man and woman.

Divine Providence is God's guiding of every creature to its proper end.

Man, at his creation was in a supernatural state, that is, he was elevated to a condition beyond his proper nature. Man freely and responsibly revolted against God and this revolt is called *Original Sin.* Its chief effect was the deprivation of the sharing of God's life. All the descendants of the first man and woman (with the exception indicated below) inherit the state of Original Sin, which means that they have only their natural life, not the supernatural sharing in God's life, which is called sanctifying grace, and which enables man to reach heaven. By Original Sin, man forfeited grace.

Redemption. God predicted the arrival of one who would redeem mankind. In God's fullness of time, the Second Person of the Blessed Trinity, God the Son, became a man through the virginal maternity of Mary. This act is called the *Incarnation.* The *Immaculate Conception* is the privilege in virtue of which Mary was pre-redeemed; that is, in anticipation of her Son's redemptive act, she, from the first instant of her life within her mother's womb, shared the life of God and possessed sanctifying grace. Mary was never in the state of Original Sin.

Jesus Christ is truly God and truly man. He accomplished redemption by His sufferings, death and resurrection. Before He departed from this world in His Ascension, He established the Church to continue His teaching, sanctifying and ruling.

The Church is not only an organization, but a living organism, called the Mystical Body of Christ, in which its members are organically related to Christ and to one another. The Church teaches infallibly, preserved by God from error, it rules competently, delegated by God's authority, it sanctifies men by imparting to them God's truth and grace.

The *Seven Sacraments* are outward signs, instituted by Jesus Christ, imparted by the Church which confer or increase grace in men's souls. Baptism gives supernatural life. Confirmation imparts a maturing increase of grace. Matrimony binds man and woman together in marriage and gives them grace to discharge their duties. Penance restores grace to the soul of one who has lost it by sin and later repents. The Last Anointing forgives sin and draws God's blessing for recovery or for a good death. Order (priesthood) gives to certain men the power to perform sacred duties within the Church.

The Holy Eucharist is called by many names in Christian tradition. It is called "the Sacrifice" because it is a remembrance and renewal of Christ's passion. It is called "Communion," because it is the cause of unity between Christ and the members of His church.

The Mass is a sacrifice. The Eucharist is both a sacrament and a sacrifice. When the priest says Mass at the altar, he not only changes bread and wine into the body and blood of Christ, he also offers to God the sacrifice of the body and blood of Christ. *Sacrifice* is an act of religion made to God alone. It is the offering of something sensible to God in recognition of God's supreme dominion over man.

The Mass is a representation and a renewal of the Sacrifice of the cross. In the Mass, Christ is offered to God and mystically immolated in an unbloody sacrifice under the appearances of bread and wine. The sacrifice of the Mass is the sacrifice of the body and blood of Christ. Because of its great dignity, it is offered usually in churches and chapels consecrated or blessed for this purpose. The altars, the cloths and sacred vessels used in the Mass are also blessed or consecrated for their sublime function.

The *Blessed Virgin Mary* and the *Saints* are proposed by the Church to men as examples to be imitated and as intercessors who pray God on behalf of men on earth.

Actual Sin is a voluntary violation of God's law. *Mortal Sin* has three qualities; serious matter, sufficient reflection, full consent of the will. *Venial Sin* is any actual sin which lacks one or more of these three qualities.

The *Particular Judgement* confronts every man at the moment of his death. *Purgatory* is a place and state in which men suffer for a time only, either for venial sins that are not repented or for sins whose guilt was forgiven in this life but whose punishment is to be completed after death. *Heaven* or the *Beatific Vision* is the complete and endless fulfillment of our mind with the knowledge of God and of our will with the love for Him. *Hell* is the place and state of endless punishment for free and imputable rebellion against God.

The *Resurrection of the Body* means that at the end of the world the bodies of all men will rise from the earth and be united again to their souls, in heaven or hell, never more to be separated. The *General Judgement* will immediately follow the general resurrection, in which everyone's good and bad actions will be revealed, and God's justice and mercy will be manifested.

Church Government and Sequence of Authority

The governing body of the Roman Catholic Church consists of His Holiness, the Pope, assisted by the Sacred College of Cardinals and by several sacred congregations, or permanent ecclesiastical committees, of which the Cardinals are the chief members; by the Apostolic Nuncios and Delegates; by the Patriarchs, Archbishops and Bishops.

Pope John XXIII residing in the Vatican City State, is the Supreme Head of the Catholic Church and the Vicar of Christ.

The Cardinals of the Catholic Church constitute the Senate of the Pope, and assist him in the government of the church as principal advisers and assistants. At this time there are four Cardinals in the United States. They are the Archbishops of the following large Metropolitan areas: New York, Boston, Chicago and Los Angeles. These Archbishops are appointed Cardinal by the Pope alone. When an Archbishop of a Metropolitan area is named a Cardinal, his jurisdiction does not increase to include any neighboring Diocese or Archdiocese.

The Roman Curia consists of the Sacred Congregations; Tribunals and Offices in the government of the Catholic Church. With the rapid spread of the church in Europe and in far distant countries, the business of the Holy See increased in proportion.

The title *Patriarch* does not confer any special jurisdiction on the Bishop who possesses it, unless particular law rules otherwise. They have however, the prerogative of honor and precedence.

The title *Archbishop* or Metropolitan occurs in the Council of Nicaea. An Archbishop has the first place of honor and various powers of jurisdiction over the Bishops of an ecclesiastical province. For example, the Archbishop of New York has the first place of honor over the Bishops of Albany, Brooklyn, Ogdensburg, Rockville Center, Rochester, Syracuse and Buffalo, who pertain to the ecclesiastical Province of New York, while the Archbishop of Hartford, Conn., would have the first place of honor over the Bishops of Norwich and Bridgeport, Conn.

An Apostolic Delegate is the personal representative of the Pope to the Catholics of the country to which he is assigned. The Apostolic Delegate to the United States at present is His Excellency, the Most Rev. Egidio Vagnozzi, DD, residing at the Apostolic Delegation in Washington, DC. The Apostolic Delegate keeps the Holy See and the Pope informed of conditions of the church in this country and serves as an intermediary between the Archbishops and Bishops of this country and the Vatican. There are about 140 Archdioceses and Dioceses in the USA, each headed by a Cardinal, Archbishop or Bishop. Each Bishop entrusted with a Diocese is called the local Ordinary and has full jurisdiction over his Diocese. All priests, brothers, nuns, and the faithful are subject to him as to their Shepherd. Each Diocese is divided into different parishes. The appointed pastor has jurisdiction over his parish. It is the pastor's responsibility to care for the spiritual welfare of his flock belonging to his parish, to promote faith and morals and to conduct all services, functions and ceremonies prescribed by the Church and his Bishop.

Permission to build a new Church or any part of a parish unit should be obtained from the local Ordinary. Usually the pastor himself will obtain such permission from the Bishop. The legislation of the Church does not enter into any details concerning the form of architecture to be used for Catholic Churches. For the purposes of assisting the pastors in the selection of an architect and guiding all parties concerned with the design and the building of a new Church, some Dioceses have set up a building commission composed of competent priests and laymen. This building commission with the authority of the Bishop, directs and supervises the drawing of the plans in their respective Diocese. Where there is no such building commission, the architect deals directly with the pastor who in turn will consult with his Bishop. No other consultations or permissions are necessary. The architect as a rule does not enter into direct negotiations with the Bishop of the Diocese.

In working with different Religious Orders, such as the Benedictines, Franciscans, Jesuits, the Christian Brothers, or Sisters Congregations, the architect usually consults with the local superiors of their respective Community or their local committees where the project is located. After the completion of preliminary sketches, the local superiors usually consult with their major superiors, who in turn take the matter up with the local Ordinary.

The members of the different Orders are called "Religious." The *Religious state* is a stable manner of community life in which the faithful (Religious) besides observing the common precepts, bind themselves to observance of the evangelical counsels by the vows of obedience, chastity and poverty. *Religious* therefore strive for perfection through observance of the three vows and the rule of their particular community. They lead a common life and dedicate themselves to the particular purposes and works of their community.

Buildings

A Roman Catholic Church as a sacred edifice is not a one-purpose building. Neither do all Catholic Churches function in the same manner. There is a great deal of difference in function among the following types of churches, but our main concern will be with the parish church. The rules here established are normative for parish churches.

A Catholic church must be blessed or consecrated before it is used for divine worship. Only permanent churches can be consecrated. A church built of wood, or iron or other metal may be blessed, but it can not be consecrated. Churches, in order to be consecrated, must be built either of stone, brick or concrete.

For consecration therefore it is required that the walls of the church should be of stone or at least of brick or reinforced concrete; if the walls are of brick or reinforced concrete, natural stone must be inserted where the posts of the main entrance and the twelve places on the inside walls are to be anointed with sacred chrism.

The architect should bear in mind that not all Catholic churches are consecrated. In fact, the great majority are dedicated with a blessing by a Bishop, rather than a consecration.

A church cannot be consecrated if it is merely a room or hall inside a school building or other edifice. For consecration it is required that, for the most part at least, a church should be a separate and distinct edifice.

A church may not be consecrated if in the prudent judgment of the local Ordinary (Bishop), it will later be given up and be turned over to profane uses.

Types of Buildings

A Cathedral Church is the Bishop's official church, where in his hierarchical capacity, he presides and conducts worship for the whole Christian community.

A Monastery Church is a church connected with the dwelling place of Religious who live a contemplative life and recite the divine office in common.

A Shrine Church is a church erected for some specific devotional reason, e.g. the National Shrine of the Immaculate Conception in Washington, built to honor the Blessed Virgin Mary.

A Parish Church is a church designated by a Bishop to care for the spiritual needs of the people within a definite territorial division of the Bishop's Diocese. At times, however, there have been established in the same city or district occupied by regular parishes, national parishes for the faithful of different language or nationality.

A Convent Chapel is the private church of a community of Sisters or other Religious.

A Mission Chapel in the United States is a church that usually does not have a resident priest, but is visited by a missionary priest from time to time.

An Oratory Chapel is a structure, other than a parish church set aside by ecclesiastical authority for prayer and the celebration of Mass. Oratories are usually connected with monasteries and convents and charitable institutions. The code of Canon Law distinguishes three kinds: public, semi-public and private.

Mandatory Planning Requirements

In order to understand more fully the mandatory building requirements, it is important to consider the primary functions of a parish church. These consist of the following:

1 The celebration of daily Mass
2 The dispensing of the sacraments
3 The preaching of the Word of God
4 Extra Liturgical devotions.

1 *The celebration of daily Mass.* The Mass is the center of Roman Catholic liturgy or worship. To appreciate the ritual of the Mass, one must keep in mind that it is a sacrifice by which a sacrament, the Holy Eucharist, is provided for priest and faithful. The Mass is a true proper sacrifice, namely, "the external offering up of a sensible gift, which is destroyed or transformed by an authorized minister in recognition of God's supreme dominion." The ritual is a fixed order or framework of prayers and ceremonies into which certain variable prayers and ceremonies are fitted. These ceremonies and prayers are said and take place at the altar of the parish church.

In a medium-size parish, Masses are celebrated daily. In the majority of Catholic parishes these daily Masses are offered between seven and nine in the morning and on Sunday between six and twelve noon. As the Catholic parish church may fill up and empty five or six times on a Sunday morning, it would be helpful to know what schedule the pastor intends to follow so that adequate crowd control and parking facilities can be planned.

Funerals can take place any day of the week except Sunday. Marriages are usually celebrated on Saturdays. Baptisms are scheduled on Sunday afternoons. Confessions are always heard on Saturday afternoon and evening. In some parishes confessions are heard each day.

The parish church is above all a house of Sacramental Worship. The Holy Eucharist is preserved therein day and night, and is dispensed to the faithful during the Sacrifice of the Mass. The distribution of Holy Communion takes place during each Mass.

2 *The dispensing of the sacraments.* A parish church is the place where most of the sacraments of the church are dispensed. For example, the sacrament of matrimony would take place before the altar of the church; the sacrament of Penance would take place in a confessional; the sacrament of Confirmation takes place in the sanctuary or area immediately in front of the altar; the sacrament of Holy Communion is received by the faithful at the altar railing and finally the sacrament of Baptism takes place in the Baptistry.

3 *The preaching of the Word of God.* The reading and explanation of the Sacred Scriptures and occasional sermons are delivered as a part of the many services held in a parish church, e.g. during the Sunday Mass; during Novena (nine days of special prayers) services; during Parish Missions (a week of special sermons and prayers aimed at reviving and inspiring a new spiritual life among the parishioners.)

4 *Extra Liturgical Devotions.* Sometimes an extra liturgical function takes place in the parish church, such as a ceremony for the graduation of the parish school. ◀

Part II will appear in the February issue, in which the altar and its appurtenances, the sanctuary, the nave, etc, and their equipment, are described.

COMING IN THE FEBRUARY JOURNAL

Two Men Look at Historic Preservation

Hon. Stewart L. Udall, Secretary of the Interior, in an address at the Annual Dinner of the Downtown Lower Manhattan Association; and

Nathaniel A. Owings, FAIA, at the Annual Meeting of the National Trust for Historic Preservation.

Prefabrication Revisited

by W. Lawrence Garvin, AIA

An Associate Professor of Architecture at Clemson College takes a look at the still rather dubious position prefabrication occupies in the homebuilding industry.

Some Impractical Ideas for the Improvement of Cities

by Robert L. Zion, ASLA

Urban planning is being so grimly discussed and pursued these days, it's about time somebody introduces a light touch. Here it is.

A Portfolio of Hospitals

Some of the designs selected by a jury at the AHA Exhibit in Atlantic City, for exhibition in the Octagon Gallery during January and February.

Designing for America's Biggest Private Client

by Howard E. Phillips, The Building Engineer of the American Telephone & Telegraph Co.

The Bell System builds over a thousand buildings a year, and the great majority of them are designed by private architects and engineers.

Planning the Roman Catholic Church—Part II

by Brother Cajetan J. B. Baumann, OFM, FAIA

The concluding portion of the first of a series of articles prepared by the AIA Committee on Religious Buildings.

How to Make Effective Use of Your . . . 1962 BUILDING PRODUCTS REGISTER AIA

by **Robert Berne, AIA**

Head, Architectural Building Information Services, The American Institute of Architects

► Every AIA office should have a copy of the 1962 Building Products Register as a direct purchase or on the thirty-day trial offer. If your office does not have one, please request it immediately by using the coupon at the bottom of the advertisement in the back of this issue of the *Journal*. Full appreciation of this unique handbook can only be realized from actual inspection of the book and a first-hand understanding of its vast contents. So detailed and organized is it that true worth can only be appraised by actual usage.

Conceived many years ago by a group of practicing architects realizing the need for a device to show unglorified technical data on building materials which would furnish bases for equal comparisons, the Building Products Register has grown into a useful and invaluable handbook. What these architects wanted was the bare facts, unadorned with flowery superlatives, well-staged photographs and expensive brochures. They wanted to be able to tell at a glance, what made a product tick and how it compared with its competitors in the market. They wanted to be able to do all this thoroughly, so as to advise their clients with authority, and quickly, in order to save valuable time which might otherwise be used in giving better service.

This, by no means, makes the Register an end in itself. Properly used it is a time-saving tool valuable in every architect's practice and not intended to take the place of the manufacturers' brochures, pamphlets or books regardless of how small or how elaborate, but to be used side-by-side with them. Obviously, much valuable information can be included in these media that cannot possibly be crammed into the limited three-line listings of the Register. As a matter of fact, the user is encouraged to refer to other sources such as Sweet's Catalog File and the AIA Standard Filing System and Alphabetical Index. A quick glance at your copy of the Register will show these file numbers for every listing. More than that, the type of information that may be found in the manufacturer's literature is listed.

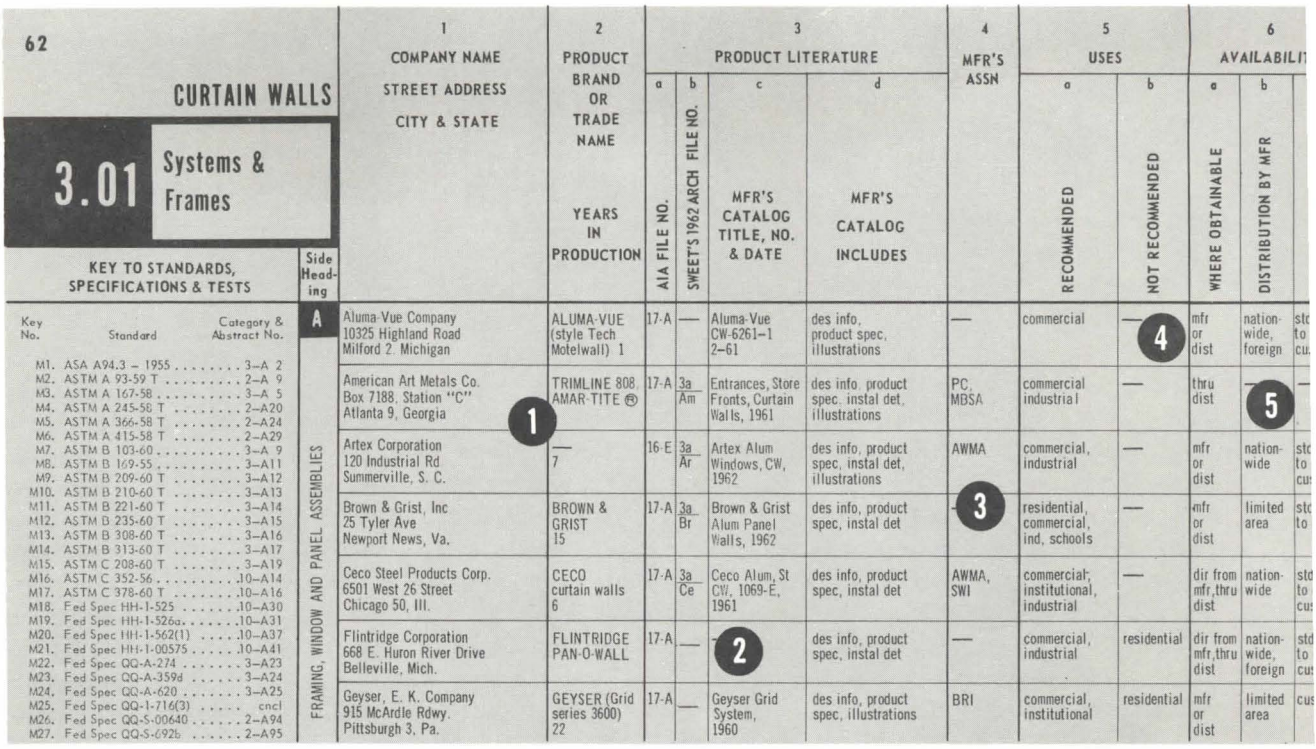
By consulting the Building Products Register first and then going to other sources, the architect can narrow his selection to one or more choices, reducing his research job considerably. The limited choices may now be researched further for specifications or installation details in a fraction of the time formerly required to extract, compare, and apply common denominators to a profusion of information hidden in eye-catching camouflage, each trying to outdo the other for the architect's attention. Any architect who has practiced or worked for others, even during a relatively few years past, has been aware of the phenomenal growth of the building products industry. Keeping pace with this growth is a mountain of information which has multiplied in geometric proportions and shows no sign of let-up. Where will it end?

Unless the architect has some kind of time-saver to assist him, he will either have to reduce the quality of his service or raise fees to cover the time involved. Neither of these is practical, and this is where the Building Products Register steps into the picture to fill the gap. Even this may be temporary in that the day will most certainly arrive in the foreseeable future when the mountain of material will be compounded to the point where some sort of a data-retrieval system will be necessary to assist the architect in research and selection. Until that time arrives the Register is the only available time saver.

It is still being developed, but the more it is used the more useful it will become. Increased use will generate increased listings and conversely, increased listings will stimulate wider usage. By the architect's office making proper use of its copy the cycle of improvement begins, eventually coming back many-fold in a more complete, comprehensive and all-inclusive volume.

To understand fully how the Register works, each reader should have in front of him the new 1962 edition, which he has purchased or received on trial, before he reads further. (If this is not possible, refer to the sample page reproduced on the next page.)

For a typical sample, turn to Category 3—Curtain Walls, Subcategory 3.01—Systems &



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CURTAIN WALLS

3.01 Systems & Frames

KEY TO STANDARDS, SPECIFICATIONS & TESTS

Key No.	Standard	Category & Abstract No.
M1.	ASA A94.3 – 1955	3–A 2
M2.	ASTM A 93-59 T	2–A 9
M3.	ASTM A 167-58	3–A 5
M4.	ASTM A 245-58 T	2–A20
M5.	ASTM A 366-58 T	2–A24
M6.	ASTM A 415-58 T	2–A29
M7.	ASTM B 103-60	3–A 9
M8.	ASTM B 169-55	3–A11
M9.	ASTM B 209-60 T	3–A12
M10.	ASTM B 210-60 T	3–A13
M11.	ASTM B 221-60 T	3–A14
M12.	ASTM B 235-60 T	3–A15
M13.	ASTM B 308-60 T	3–A16
M14.	ASTM B 313-60 T	3–A17
M15.	ASTM C 208-60 T	3–A19
M16.	ASTM C 352-56	.10–A14
M17.	ASTM C 378-60 T	.10–A16
M18.	Fed Spec HH-I-525	.10–A30
M19.	Fed Spec HH-I-526a	.10–A31
M20.	Fed Spec HH-I-562(1)	.10–A37
M21.	Fed Spec HH-I-00575	.10–A41
M22.	Fed Spec QQ-A-274	3–A23
M23.	Fed Spec QQ-A-359d	3–A24
M24.	Fed Spec QQ-A-620	3–A25
M25.	Fed Spec QQ-I-716(3)	cncl
M26.	Fed Spec QQ-S-00640	2–A94
M27.	Fed Spec QQ-S-692b	2–A95

Side Heading: A — FRAMING, WINDOW AND PANEL ASSEMBLIES

1 COMPANY NAME STREET ADDRESS CITY & STATE	2 PRODUCT BRAND OR TRADE NAME YEARS IN PRODUCTION	3 PRODUCT LITERATURE a AIA FILE NO.	b SWEET'S 1962 ARCH FILE NO.	c MFR'S CATALOG TITLE, NO. & DATE	d MFR'S CATALOG INCLUDES	4 MFR'S ASSN	5 USES a RECOMMENDED	b NOT RECOMMENDED	6 AVAILABILITY a WHERE OBTAINABLE	b DISTRIBUTION BY MFR
Aluma-Vue Company 10325 Highland Road Milford 2, Michigan	ALUMA-VUE (style Tech Motelwall) 1	17-A	—	Aluma-Vue CW-6261-1 2-61	des info, product spec, illustrations	—	commercial	—	mfr or dist	nation-wide, foreign
American Art Metals Co. Box 7188, Station "C" Atlanta 9, Georgia	TRIMLINE 808 AMAR-TITE ®	17-A	3a Am	Entrances, Store Fronts, Curtain Walls, 1961	des info, product spec, instal det, illustrations	PC, MBSA	commercial industrial	—	thru dist	—
Artex Corporation 120 Industrial Rd Summerville, S. C.	— 7	16-E	3a Ar	Artex Alum Windows, CW, 1962	des info, product spec, instal det, illustrations	AWMA	commercial, industrial	—	mfr or dist	nation-wide
Brown & Grist, Inc 25 Tyler Ave Newport News, Va.	BROWN & GRIST 15	17-A	3a Br	Brown & Grist Alum Panel Walls, 1962	des info, product spec, instal det	—	residential, commercial, ind, schools	—	mfr or dist	limited area
Ceco Steel Products Corp. 6501 West 26 Street Chicago 50, Ill.	CECO curtain walls 6	17-A	3a Ce	Ceco Alum, St CW, 1069-E, 1961	des info, product spec, instal det	AWMA, SWI	commercial; institutional, industrial	—	dir from mfr, thru dist	nation-wide
Flintridge Corporation 668 E. Huron River Drive Belleville, Mich.	FLINTRIDGE PAN-O-WALL	17-A	—	—	des info, product spec, instal det	—	commercial, industrial	residential	dir from mfr, thru dist	nation-wide, foreign
Geyser, E. K. Company 915 McArdle Rdwy. Pittsburgh 3, Pa.	GEYSER (Grid series 3600) 22	17-A	—	Geyser Grid System, 1960	des info, product spec, illustrations	BRI	commercial, institutional	residential	mfr or dist	limited area

1 Who makes it, what is it called and how much experience has he had?

2 What literature is available and what does it include? Where can I find it *quickly*?

3 To what manufacturers' or trade associations does the company belong and subscribe? (Complete list of full names and addresses will be found in the Directory of Organizations at the front of the Register.)

4 What uses for the product are recommended? Which ones are not recommended by the manufacturer?

5 Can the product be obtained locally and from whom?

6 What kind of guarantees does the product carry with it and for how many years?

7 Will the manufacturer install and inspect his product?

8 What standards do the materials conform to? Does the product conform to Modular Building Standards?

1962 Building Products Register AIA

10 FRAMING a FRAMING DIRECTION	b CONSTRUCTION	c METAL & ALLOY	d SHAPE	e DIMENSIONS (Min./Max.)	f WEIGHT (Lbs) (Min./Max.)	g SECT MODULUS (Min./Max.)	11 MAXIMUM SPACINGS a VERT MEMBERS (Ft)	b HORIZ MEMBERS (Ft)	c VERT MEM SUPPORT (Ft)
vert, hor	extru	alum 6063-T5	our des	2' 12'	40 250	1' 12'	12	12	12
vert, hor	extru	alum 6063-T	—	—	—	—	—	—	—
vert	extru, formed	alum 6063-T5, 5005	var per spec	var w wall type	var w wall type	var w wall type	varies with wall type		
vert	extru	alum 6063-T6	—	—	—	—	6	4'–3"	—
vert, grid	extru, rolled	—	—	—	—	—	vary		
hor, vert, grid	extru	alum 6063-T5	—	—	—	—	6	—	var
vert	extru	alum 6063	I H X	3-5/8 4-1/4 in.	1' .986 2.154	1.11 3.16	8 and 10	8 and 10	12

8 SERVICES		9 MATERIAL STANDARDS				
a INSTALLATION BY	b INSPECTION BY	a MATERIAL	b CONFORMS TO STD SPEC (See Key at Left)	c STANDARD TEST METHOD (See Key at Left)	d TESTING LABORATORY	e CONFORMS TO MODULAR BUILDING STANDARDS
lic instal, contractor	mfr, lic instal, contractor	aluminum extrusions	M11	—	not tested	no
lic instal	mfr, lic instal	aluminum	M11	—	—	yes
mfr, lic instal, contractor	mfr, lic instal, contractor	alum*	AWMA standards	AWMA window tests	Univ of Miami	as req
lic instal, contractor	mfr, lic instal	—	M11	—	—	no
mfr, lic instal	mfr, lic instal	alum 6063-T5	M11	—	—	yes
lic instal	mfr, lic instal	—	M11	—	—	yes
mfr, lic instal	mfr	alum	M11	—	—	yes

7 8

Detailed Technical Questions Answered At a Glance

9 Of what material are the framing members made and in what sizes can they be obtained?

10 How far apart must the vertical and horizontal framing members be spaced?

11 What types, kinds and sizes of windows does the manufacturer furnish?

12 What types and sizes of panels does he furnish, including exterior and interior facings, cores and thermal conductance properties?

13 What types of finishes are available for each component of the assembly?

14 What other items are required to make a complete package?

15 Are the units assembled at the site or delivered pre-assembled? What fasteners and accessories are furnished? What sealant is recommended for the installation?

16 What additional information about the product should I know?

The illustrations used here are only partial pages from the Building Products Register

WS		13 PANELS								14 FINISHES				15 COMPONENTS REQUIRED					16 INSTALLATION				63 3.01
c MAXIMUM WIDTH (Inches)	d MAXIMUM HEIGHT (Inches)	a TYPE	b EXTERIOR FACING	c INTERIOR FACING	d CORE MATERIAL	e THERMAL CONDUC (Min./Max.)	f MAXIMUM WIDTH (Inches)	g MAXIMUM HEIGHT (Inches)	h THICKNESS (Inches)	a FRAMING METAL	b WINDOW METAL	c EXTERIOR PANEL FACING	d INTERIOR PANEL FACING	a VAPOR BARRIER	b DRAINAGE WEEP HOLES	c AIR VENTS	d FURRING STRIPS	e INSULATION	a METHOD	b FASTENERS FURNISHED	c ACCESSORIES FURNISHED	d SEALANT RECOMMENDED	ADDITIONAL INFORMATION
144	72	varies per spec	varies per spec	varies per spec	varies per spec	var per spec	72	48	1/4 to 2	mill	mill	varies per spec	varies per spec	no	no	no	no	no	preasmb fr, windows, panels	anchors, etc	none	compound, tape, Thio	we do not mfr panels but will furnish them as required
—	—	open pan, sandw	as spec	as spec	as spec	—	—	—	—	204 A1 or as spec	204 A1 or as spec	as spec	as spec	—	14	—	—		preasmb fr, windows, panels	no	— 15	—	polybutene, polybutene tape 2 part Thiokol
var w wdw type	var w wdw type	sandw	porc ceramic tile	steel, cement asb bd	foamglas styro-foam	.20 .25	60	96	1-1/2 1-5/8	mill, anodize	mill, anodize	porc & tile patt spec	paintgrip primer	no	yes	no	no	yes	preasmb fr, windows, panels	curtain wall to structure	protection material	compound, tape, gasket	*product custom adapted to std, variety of matl & sys available
51	360	sandw	as spec	as spec	as spec	—	48	368	—	as spec	as spec	as spec	as spec	no	no	—	—	—	preasmb fr, windows, panels	as required	stools, trim	as spec	16
vary	vary	skin, sandw	porc steel, alum*	alum, steel	—	—	vary	vary	—	paint, caustic etch, alum	paint, caustic etch, alum	optional	optional	no	yes	—	if req	yes	dep on des & type of curtain wall	as required	stools, casg, trim, sills, gravel stops	consult w sealant mfr	*alum ceramic
vary	vary	—	—	—	12	—	—	—	—	mill, anodize	mill, anodize	— 13		no	no	—	—	—	preasmb fr, windows, panels	optional	—	met to met Thio, met to msnry*	*use butyl tape
72	48	sandw	P. E. alum, tile, others	steel, alum, others	plastic, fbrglas, foamglas(U)	.07 1.07	72 x 120 P. E.	var face mat	3/8 3-5/8	C-3 anod clr, colr	C-3 anod clr, colr	P. E. anodize	galv, paint, anodize	var per spec	var per spec	no	no	var per spec	site asmb max 28' x 28'	yes	protection material	gasket	construction is equally applicable to projected window use

ADDITIONAL INFORMATION — Side Heading: A — FRAMING, WINDOW AND PANEL ASSEMBLIES

Frames, and Side Heading "A" entitled Framing, Window and Panel Assemblies. In using the book in your practice you came to this page in one of many ways. You needed information under this classification to write a specification, check out an "equal" submission by a contractor or bidder, advise a client about an alternate material he has heard of, to determine availability of a product in your area, or any of a hundred reasons. You started your research by looking for the product in the index of product categories, by manufacturer's name in the index of manufacturers or by trade name in the index of trade names—all at the front of the book.

Let's look at the left-hand page. After one or two references to the book, it won't be necessary to glance at the column headings again. They are standard throughout the volume, and the same type of information found in one place on one page will be found in the same place on every page. Beginning at the left are company name and address followed by trade name and number of years in production. Next is information about the manufacturer's literature. Note that you can go directly from the Register to the proper section in the AIA Filing System or page in Sweet's for illustrations, detailed specifications, etc, if needed. It is not necessary to refer to the AIA Filing System index or Sweet's index first.

Column 4 lists the associations to which the manufacturer belongs, and if the initials are unfamiliar to you, a quick reference to the Directory of Organizations in the front of the book will reveal full name and address with an indication of the type of assistance the organization gave the Institute in the development of the Register. Column 5 is unique in that the manufacturer must show not only the recommended uses for his product but those, if any, that are not recommended and which should be avoided by the architect. Columns 6, 7 and 8 contain useful information regarding Availability, Guarantee and Services which are self-explanatory. Column 9, with the Material Standards to which the product conforms, completes the standardized left-hand page. The basic material of which the product is made is shown under 9a. In 9b is found the key to the Standard Specification to which it conforms. For our purposes we will take the key, M11. This will be found at the extreme left of the page, in the key to Standards Specifications and Tests, to be ASTM B 221—59T. The abstract for this is at the end of Category 3 in the bibliography, item A-14. (It will be noted that some abstracts are found in other categories than the one in which the product is listed since they apply to more than one.) A quick glance will indicate that the standard covers chemical composition, tensile properties, dimensional tolerances, and workmanship and finish. It also includes reference to the appropriate test method. If more detail than this is needed, the ASTM Standard should be obtained. Next, tests, if any, applied to the product and conformance to Modular Standards are shown.

The right-hand page contains information peculiar to this sub-category only, and format is different for each throughout the book. Here the physical properties are enumerated for rapid comparison showing details of framing, spacing, windows, panels, finishes and other required components of a complete curtain wall installation. Column 16 gives details of the installation method, including fasteners and accessories furnished and the all-important recommended sealant to be used in the installation. The final column, 17, Additional Information, contains other factors of importance to the user. Where the information is preceded by a symbol (asterisk, dagger, diamond, etc) it relates back to the box containing the same symbol, and the information is a continuation of the data in the box. This is done where limitations of space obviate including complete data within the applicable column.

A quick glance at other categories will indicate the nature of the information requested of the manufacturer for the benefit of the user. Each set of headings varies appropriately with the type of product. Turning to Category 15—Paints, Finishes, which appears for the first time in the 1962 Edition, the user will see, under heading 12 and 13, the details of application of the various paint products including number of coats, method, surface preparations, etc, and the wearing qualities of the resultant film.

You will have noted that much of the information is abbreviated for reasons of practicality, but where possible words are spelled out. If an abbreviation is not easily recognized, a quick glance at the front of the book will reveal its meaning in the Abbreviations section which contains all those used throughout the volume.

The user need not stop at the technical pages. In the Bibliography at the end of each of the 24 categories is a wealth of abstracts of ASA, ASTM, government and association standards. Besides the ones referred to by the manufacturers in their listings, many more applicable ones to which the user may refer for information are included, as well as summaries of the literature produced by the various manufacturers' associations and reference lists of other available items.

By proper use of his 1962 Building Products Register, the practicing architect will save himself many hours of research time which will repay the cost of the Register many times over. ◄

New Thinking on Membership

► Every now and then someone refers to an AIA chapter as an "exclusive club." They say this used to be true years ago in some places, but practically any chapter would deny it now.

Nevertheless, there *are* variations in practice and principle with regard to the admission of members even though the origin of all policy on corporate membership is a simple statement in the national Bylaws. The local variations stem from differences in philosophy on membership and you can usually get a good argument going on the subject when AIA members get together.

Now the Committee on the Profession states this as the desirable policy in membership: to bring into the AIA as a Corporate Member, every architect at the time he is registered.

Basically, everyone wants the same thing—a professional society whose members behave like ethical professional men.

The chief split in philosophy is this: Some AIA members insist that an architect must demonstrate his ethical morals *before* being accepted; others would admit him early and "bring him up right."

The mechanism of the Associate Membership is used to bring younger men into the AIA before they are registered. But this category of membership is not regulated consistently throughout the country especially after the Associate attains registration. For example, one chapter requires the Associate to become a Corporate Member within one year after registration. Others prolong the Associate Membership beyond three years and even seem to "hold off" the transition to corporate status. The national bylaws permit some confusion on this point.

The proposal of the Committee on the Profession would not eliminate the Associate Membership for unregistered architects. It would, however, mean *a sweeping change in the attitude of many chapters toward membership*. The Committee does not presume, of course, that any architect can be *required* to join the AIA. They assume that he is *offered* this privilege on the day he becomes registered.

If he accepts, it is with his promise that he will uphold the Standards of Practice of the AIA. Not unlike a young doctor taking the Hippocratic oath.

What's the idea behind this? Does the Committee want *every* registered architect in the AIA? They are not naive enough to believe that this result might be realized. Using present figures we might have a membership of 20,000 to 22,000 out of 28,000 registered architects in the United States instead of 14,500.

The Committee's goal is not mere numbers, nor numerical strength in the sense of a labor union. What they do want is the strongest possible professional society—one which is fully representative of the profession. They see strength of the AIA as a means to the accomplishment of the big achievements they have outlined for the future. These fall into two categories: (a) the advancement of professional competence, and (b) successful competition by the profession against the inroads of non-architectural competition.

Naturally a larger membership would produce greater resources for the initiation of new programs in professional education, research, workshops in design, urban planning, public relations and architectural practice. It would mean greater numerical strength in legislative affairs where the voice of a profession must be strong and unanimous. It would mean more architects active in the professional affairs that benefit all.

To all of this there will be objections that this policy would admit "untested" new architects into the AIA. How will we know the new member will be strictly ethical? Look at some of those young fellows now who keep on the fringe of questionable practice!

What about our judiciary system? If we have confidence in it, we should trust it to discipline

(Continued on p. 71)

Library Notes

Bridges and Engineering

Bridges are not only interesting but may well become the subject of an architect's project. The Library has a variety of books on the subject, mainly descriptive and historical, which are noted herewith.

Since the construction of bridges involves engineering, it seemed appropriate to include as well a selection of the books on engineering. Most of the titles listed are historical or consider the subject from the professional viewpoint.

All books listed may be borrowed by corporate members of the Institute on the Library Loan Service at the usual fee of fifty cents for the first volume and twenty-five cents for each additional volume, requested at the same time.

Bridges

ALLEN, RICHARD S.

Covered bridges of the Northeast. Brattleboro, Vt., S. Greene Press, 1957. 121p.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION.

Prize bridges, 1928-1956. New York, Am. Institute of Steel Construction, Inc., 1958. 52p.

BILL, MAX

Robert Maillart. [Version française par Jean-Paul Haymoz. English translations by W. P. M. Keatinge Clay. 2d ed.] Zürich, Girsberger, 1955. 184p.

DE MARE, ERIC S.

The bridges of Britain. London, Batsford, 1954. 226p.

MOCK, ELIZABETH (BAUER)

The architecture of bridges. New York, Museum of Modern Art, 1950. 127p.

SMITH, HUBERT S.

The world's great bridges. New York, Harper, 1954. 180p.

SPARROW, WALTER SHAW

A book of bridges. London, John Lane; New York, J. Lane Co., 1915. 415p.

UNITED STATES STEEL. AMERICAN BRIDGE DIVISION.

36 ideas for tomorrow's short span bridges [Pittsburgh, 1961] 75p.

VIEST, IVAN M. & OTHERS

Composite construction in steel and concrete for bridges and buildings. New York, McGraw-Hill, 1958. 176p.

WAGEMANN, C. E.

Covered bridges of New England. Rev. ed., Rutland, Vt., C. E. Tuttle, 1952. 151p.

WATSON, WILBUR JAY

Bridge architecture, containing two hundred illustrations of the notable bridges of the world. New York, W. Helburn Inc., c1927. 288p.

—Bridges in history and legend. Cleveland, O., J. H. Jansen, 1937. 248p.

—A decade of bridges, 1926-1936. Cleveland, O., J. H. Jansen, 1937. 125p.

WHITNEY, CHARLES SMITH

Bridges; a study in their art, science and evolution. New York, W. E. Rudge, 1929. 363p.

Engineering

BLAKE, MARION E.

Ancient Roman construction in Italy from the prehistoric period to Augustus. Washington, 1947. 421p.

—Roman construction in Italy from Tiberius through the Flavians. Washington, Carnegie Institution of Wash., 1959. 195p.

CALHOUN, DANIEL H.

The American civil engineer: origins and conflict. Distributed by Harvard Univ. Press, 1960. 295p.

CANFIELD, DONALD T. & J. H. BOWMAN.

Business, legal and ethical phases of engineering. 2d ed., New York, McGraw-Hill, 1954. 365p.

CENTENNIAL OF ENGINEERING, 1952, INC

Centennial of engineering, 1852-1952; history and proceedings of symposia. Edited by Lenox R. Lohr. Chicago, 1953. 1079p.

CONDIT, CARL W.

American building art: the nineteenth century. New York, Oxford Univ. Press. 1960. 371p.

—American building art: the twentieth century. New York, Oxford Univ. Pres, 1961. 427p.

CONSTANCE, JOHN D.

How to become a professional engineer. New York, McGraw-Hill, 1958. 272p.

FINCH, JAMES K.

Engineering and Western civilization. New York, McGraw-Hill, 1951. 397p.

—The story of engineering. Garden City, N.Y., Doubleday, 1960. 528p.

FISH, JOHN C.

The engineering method. Stanford, Calif., Stanford Univ. Press, 1950. 186p.

FORBES, ROBERT J.

Man, the maker; a history of technology and engineering. New York, Schuman, 1950. 355p.

FOWLER, CHARLES E.

The ideals of engineering architecture. Chicago, Ill., Gillette Pub. Co., 1929. 295p.

HAMMOND, ROLT

Engineering structural failures; the causes and results of failure in modern structures of various types. New York, Philosophical Library, 1957. 224p.

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS. ENGINEER-IN-INDUSTRY COMMITTEE.

A professional look at the engineer in industry. Washington, National Soc. of Professional Eng., c1955. 124p.

PEARSON, DONALD S.

Creativeness for engineers; a philosophy and a practice. [Univ. Park, Pa., 1958] 122p.

PERRY, JOHN H.

Engineering manual; a practical reference of data and methods in . . . engineering. New York, McGraw-Hill, 1959. v.p.

SILL, VAN RENSSELAER

American miracle; the story of war construction around the world. New York, Odyssey Press, 1947. 301p.

STANLEY, CLAUDE M.

The consulting engineer; presenting the professional and management problems involved in the practice of consulting engineering. New York, Wiley, 1961. 258p.

TORROJA MIRET, E.

The structures of Eduardo Torroja; an autobiography of engineering accomplishment. New York, Dodge Corp., 1958. 198p. G.E.P.

Book Reviews

Anonymous (20th Century). Leonardo Ricci. Translated by Elisabeth Mann Borgese. New York, George Braziller, Inc, 1962. $5.00

Leonardo Ricci is a professor of architecture at the University of Florence and served as visiting professor to MIT in 1959-60. He is President of the National Institute of Town Planning for Tuscany and Umbria, and his articles on design are published widely in European magazines. So much for the man.

The book Ricci has written is a beautiful, poignant thing. His style is remindful of Thomas Wolfe, with big, long paragraphs that—almost like poetry—explore the world in relation to Leonardo Ricci, and Leonardo Ricci in relation to the world. And yet he seems to speak for everyman. His words and his phrases make the reader say to himself, "This is what I have been trying to express for so long." Ricci is an idealist or a realist, depending on your own point of view.

The unusual title of the book comes because, as Ricci says, "At this particular moment of history, man is in a fix. In a bad fix. And if he goes on this way, he is going to get clobbered. The only way out of this blind alley is to become 'Anonymous (20th Century)' . . . and so this book is about the crisis through which we are going today and it tries to indicate a possible way out." The way out, he believes, is to live in the skin of other men. To become anonymous.

Basically, this is a book about architecture. Not architecture as a building, a plan, a rendering. But architecture as an "experience," as an effort "to make the actions of man come alive."

The architect, the artist, is responsible to society, Ricci says, and ultimately his work will be judged by the degree to which it satisfies the needs of that society — the inner needs of people struggling to build a freer and more meaningful life for themselves.

Speaking as an architect the author writes, "I may build an ugly house in which people live miserably like rats, but the police cannot get after me and lock me up. This means that I may steal the possibility of existing without being condemned. A child born in this house is going to be deprived of vital experiences; he will not see grass or butterflies, not even the sun and the moon. But I (the architect) will get away with it."

Ricci looks forward optimistically to the wave of the future, the age of one world and of world cities, in which men will live not as alienated anxiety-ridden individuals existing in a make-do environment, but in an environment consciously created for the maximum common good of all.

This most unusual architect, writer, artist, planner speaks intimately of his relations with his wife, his children, his students, but he does it with such a tenderness of feeling that—again—the words become poetry.

The book is a testament of one man's life and beliefs and faith. A visionary, perhaps, but one who has demonstrated through his accomplishments as an architect, artist and planner that the hard core of his life is really common sense.

"Anonymous (20th Century)" should be an inspiration to all. By all means, go out and buy it. N.C.B.

Contemporary Houses: Evaluated by Their Owners. Thomas H. Creighton & Katherine M. Ford, Editors. New York, Reinhold, 1961. 224 pp illus. 8½″ x 10½″. $10.95

Modern home design survives the severest criticism it has met—in this book custom homes are neatly divided by the editors into their five characteristics: open planning, outdoors brought indoors (glass walls), flexibility, natural finishes and materials, and elimination of ornament. They then are analyzed for defects by their owners who selected the architect, gave him their wishes and live with the result.

Thomas Creighton, editor of *Progressive Architecture,* and the late Katherine Ford have created one of the most interesting and valuable books of homes the reviewer has seen—usually a book of houses contains photos, plans, captions, laudatory phrases, endlessly, page after page, useful perhaps as idea sources but not critical and not exciting unless the presentation is superb. Illustrations and editorial comments in this book (both well done) serve as background information to owners' quite stringent evaluations. Amazingly, comments are not repetitious —editing was well done—authors reveal their individual tastes. They reveal also pride of ownership and recognition of having received a house that is more than a product of multiple requirements.

The homes are not radical. It would have been educational to learn how a family would adjust to a round house with dome roof —would beds, tables, couches, rugs have to be round to look right? Inclusion of some very small, very inexpensive homes gives some reassurance to middle income families tired of undesigned houses.

The editors seem to regard this a sociological study—they strove for an unbiased sample chosen by "a rather wide knowledge of residential architecture" from houses "which seemed 'well designed' according to certain standards"—the five characteristics listed above. They analyze comments in an attempt to honestly evaluate contemporary domestic architecture: how well does it work. Even allowing for differences in taste there was enough over-all approval of the concept of modern architecture for the editors to conclude that its five characteristics are basically sound; whenever one causes trouble—open planning was the worst offender—either the architect or the owner is at fault for not anticipating and striving to mitigate the problem. P.H.P.

Sweden: Photographs by Toni Schneiders and Others—a *Terra Magica* book. New York, Hill & Wang, 1960. 90 pp 80 illus. 8⅝″ x 11⅛″.

This slim book of large photographs gives the armchair traveller charming glimpses of the broad variety and vigorous traditions of Sweden. It is graced by a brief foreword and introduction, by Prince William of Sweden and Count Eric Lewenhaupt respectively, a concise summary of history and accomplishment.

The photographs (Schneiders took two-thirds of them) are clear in detail and composition, reproduced in a good range of values. Four are in color but few match the exceptionally beautiful cover-photo of a net-fisherman, by Hanns Reich, original publisher of this book in Munich. A double-gatefold sheet in the back provides captions, some with considerable detail information, which also form a table of contents continuously in view as you turn pages.

For the architect there are views of old and new, general cityscapes (rarely without water), churches, details, palaces, but not much contemporary work. Some sculpture and gardens. The collection would have been improved by a map of Sweden and a plan of the Stockholm region which could well have filled the blank endpapers. But it is a book which makes you want to go see, a fine gift for the about-to-travel. E.P.

History of the Greek and Roman Theater. Margarete Bieber. New Jersey, Princeton University Press, 1961, (2nd ed). 343 pp illus. 8¾″ x 11¼″. $17.50

One thousand years of theater development (600 BC to 400 AD) are in this volume illustrated by more than 800 drawings and photographs. The author, who has made a lifetime study of this subject with the traditional diligence of the German archeologist, has sought significant aid to architectural and literary remains from many hitherto neglected sources: vases, terracottas, mural paintings. She makes the most valid point that these are "objective and contemporary," thus better evidence than the subjective opinions of later writers on earlier structures, methods and performances. Dr Bieber, in this revision and enlargement of the 1939 edition of her work gives a connected history of the ancient theater in use.

From Satyr Play, through Attic Tragedy, Old and Middle Comedy, and the Dionysiac Festivals essential to understanding of the Greek Theater, she turns to development of the building, scenery and devices, and the art of acting. Then the interim (important to theater building development) of New Comedy, elaborated Hellenistic structures, and Italian popular (and vulgar) farces. Over a hundred pages tell the story of the Roman theater at home and in the provinces. A final chapter discusses influences upon the theater of today, including the important one of Vitruvius, rediscovered in 1484.

The Dionysiac ecstacy resulted in a belief of representing someone other than oneself and led to development of mimic art and costume. The "floats" we see in parades developed from the *ship-car* of Thespis, traditional founder of Attic tragedy (*carrus navalis* = carnival, not from an end-of-Lent *carne-vale*—hurray for meat).

Dr Bieber also points out that not until Hellenistic times was there such a thing as a raised stage. The wooden platforms with steps used for Italian farces were the ancestors of today's stage. Use of music throughout a play (not only in choral interludes as in Greece) was peculiarly Italian—primitive opera. Both of these distinctions perhaps illustrate the intrinsic difference between Roman show-business and Greek dramatic art. The plans, sections and views given here are those of the archeologist concerned with developmental distinctions and concepts, not with design techniques of horizontal or vertical sight-lines. Development of painted scenery led to early ideas of perspective later found in Pompeian murals which in some examples represented formal scenic arrangements in the theater.

The range of expression illustrated by masks and terracotta statuettes is fantastic. Incidentally, those ribald satyrs in vase-paintings who are discreetly retouched in some museums (but not in this book) owe their Priapean exaggerations to *costume*. Some masks differ in expression on the two sides so an actor could turn either one to the audience (what if he forgot which?).

The cast of performers itself gradually increased from the single actor and chorus to several principal actors. In Hellenistic times actor-guilds became important and members enjoyed immunity from taxes and military service—two fringe benefits which Actors Equity has not been able to wangle today.

The book is amply provided with aids: notes in the back, glossary, abbreviation-key, chronology, bibliography, sources of illustrations—and speaks well for the dedication of author and press to true scholarship. It is printed on matte, off-white paper of good quality, durably bound. The commendable effort to keep illustrations near the text which mentions them results in disorderly page layouts reminiscent of Reinach's "Apollo" —but this is reference and information, not a monument to a book designed. In one scathing note, Dr Bieber destroys the famous Freudian cornerstone, the Oedipus Complex, as a complete misinterpretation of Sophocles' masterpiece. This is quite a book. E.P.

Steinberg on the City. Edited by Jesse Reichk. Part Two, *AIP Journal*, August, 1961. 48 pp illus. $1.00

In a period when professionals are taking themselves too seriously, it is helpful to have someone like Saul Steinberg around. Sometimes his views are so penetrating that they lay bare things to which the professional eye is deliberately, or unconsciously, closed. And this talent is Steinberg's power and charm.

His early work was taken lightly. Today's Steinberg drawings have tremendous impact and must be included in every architect-planner's library. M.R.

Yestermorrow — Notes on Man's Progress. Kurt W. Marek.* New York, Knopf, 1961. 151 pp. 5¾″ x 9¼″. $3.50

Anyone opening this book and seeing such words as *transistor, feedback*, or *satellite*—would be greatly deceived. Marek's equation of civilization with technology is a poor and out-dated disguise for a blatantly materialistic and atheistic tract. His continual cry against "the hothouse high cultures" seems peculiar in view of the masses of references to the creative producers of traditional and contemporary culture which he uses to buttress an assumption of broad scholarship.

Marek was born in Berlin in 1915, of Hungarian extraction. He was a journalist and editor in Germany until after World War II, then wrote the best-seller on the Gods that made Scholars twitch in their Graves. *After* publication of that book which ". . . almost single-handedly popularized archeology

* Author of *Gods, Graves and Scholars* under the pseudonym C. W. Ceram.

. . ." (necessary or important?) he was invited to join expeditions in the field.

We couldn't help comparing this with the twenty years of dedication to the analysis of Saint Sophia by Robert Van Nice, architect-archeologist, which will result in the definitive work on that great building. But Marek dismisses the creative technical specialist with a self-pointing comment implying the greater importance of "observers who draw inferences from general trends . . ." Horsefeathers! His own sense of history is so warped that in his constant condemnation of Christianity he seems unaware of the Reformation or of anything that has happened since. It would seem that he falls into the imaginary pit he sees between science and culture because he does not have a firm footing on either side—or realize the continuity and interdependence of all of man's efforts.

We have written with such heat and at such length on what seems to us an inferior collection of notes—not because it is the controversial, thought-provoking book about man's future it claims to be but because it is a poorly-concealed attack on certain human values and cultural ideals which are essential to the vigor and quality of art and architecture as well as society. This is particularly true in America, long-accused of materialism. These values and ideals are also a far more important export to the newly-emerging nations than much of our technology. E.P.

Anatomy of Judgment. M. L. Johnson-Abercrombie. New York, Basic Books, 1960. 156 pp illus. 5½" x 8½". $4.50

This small book proves that there is no correlation between heft and depth. It is directly concerned with another profession than architecture, specifically the training of science students by investigating the processes of perception and reasoning by which they ". . . obtain information of good predictive value from a given situation . . ." It has application, however, to other teaching and to our judgments and decisions concerning the alternatives of any complex subject. As such, and particularly because of its clear and sharp analysis of group discussions, it applies to our day-to-day creative operations in architect and multiple-consultant teams.

This is no superficial quickie on "groupthink" but a concise and enlightening report of some ten years' research in teaching. It is based in part on group psychology and introduced by reference to studies in visual perception and its modification by other modes of perception. Part One deals with the relation between inside and outside worlds—Part Two, with explorations in thinking based upon Dr Johnson-Abercrombie's own discussion course in the University of Birmingham (England).

Her treatment of individual differences in perception is in harmony with some recent thinking on creativity and seems to accord as well with a quite radical change in thinking about the nature of the scientist's contribution. We have heard recently a lot of inflated concern about the great rift between science and the humanities. Another recent book however makes a strong case for the essential similarity of science and the humanities.* It stresses the great personal and individual contribution made by the scientist the world supposes in cold pursuit of objective, probable, repeatable, durable facts.

This individual, personal nature of the background of judgment and decision is the essence of this fine book. As the author says, "Human relationships influence the receipt of information . . ."

Most importantly for architects concerned with environmental design, she shows how "normal intelligent behavior . . ." (which we suppose is desired!) ". . . requires a continually varied sensory input . . ." In other words: Put your consultants to work on methods of *changing patterns* of airconditioning, illumination and acoustic surround and throw out the engineers' ideas of maintaining static (and extreme) conditions. They're obsolete. E.P.

*"Personal Knowledge," by Michael Polanyi. Univ. of Chicago Press 1958.

(Continued from p. 67)

the member who doesn't make the grade. Meanwhile, with these young men *in* the AIA, don't we have a better chance to imbue them with the ideals of the Institute, interest them in Chapter activities and help them get started off right? If we believe in the AIA, we ought to believe we can do this.

There is another side to consider: The man who is permanently suspended by disciplinary action is actually on the outside. He is in no position to say he could have been a member if he had wanted to be.

The details of this broad policy are not fully worked out and are in the hands of the Committee on Structure. It is working on the theory that the "structure of the AIA" is not a term applying only to the top of the national organization. The base of the AIA pyramid is membership itself. A lot of thought has been given to the top. Now we are looking at the whole cross section for uniformly strong and reasonable principle of structure with its foundation supported by individuals.

After all, the AIA is a society of individuals who aspire to professional attainment with integrity. ◄ W.H.S.

Editor's Page

The Dozer and the Ball

The bulldozer and the wrecker's steel ball have become the symbols of progress. Construction by destruction. Conservation by demolition. What is old is bad and must go—unless it be historic, in which case it must be preserved, isolated and embalmed.

Is this really the answer? Are we going at it the right way? Does "renewal" necessarily mean "reconstruction"? May it not also mean "rehabilitation"? There is no question that where there are blocks and blocks of rat-infested, sagging, structurally unsafe tenements, they must go. But it seems that in many cases we are too quick to assume that what is old and dingy is ipso facto old and decrepit. In our zeal for "rebuilding the face of America" we may be biting off too much, we may be heading for economic and social indigestion.

In wiping out hundreds of home communities are we replacing them with home communities? Or are we replacing them either with sterile, efficient housing *intended* for the occupants of the destroyed homes (but are they acceptable to them?), or with steel-and-glass luxury units unattainable to the original inhabitants?

It has become recognized in recent years, of course, that the bare and soul-less project of post-war days, with its fenced-off grass plots and concrete play areas, has already become a social menace. We made a mistake. We realize now that we must plan in terms of neighborhood units, that we must create neighborhood centers such as the corner grocery and the beer joint where the boys gather on Saturday night. But can we create artificially something that "just growed" naturally? Will they be the same? Will the people use them as the all-wise planners intended them to be used? Public fancy is a capricious thing. It may not favor a choice spot carefully planned for it, it is often likely to light upon a greasy little joint around the corner.

In many, many areas, might not *rehabilitation* be better than demolition and new construction? *Need* the neighborhood be destroyed? Perhaps it just needs to be refurbished. If there are legal means now available to cities to condemn private property and buy it from its owners, wreck the buildings and then sell or lease the land to private developers, surely then there must be legal means for the cities to acquire the properties and *not* wreck the buildings. They could be modernized and completely reconditioned, their junky individual back yards cleaned out and turned into a common park, possibly with small private gardens. Instead of moving away for good, occupants would have to shift for themselves for only three to six months, and they would be back in their old homes again — only newer, fresher, brighter, modernized homes. Jimmy and Mary would continue on in the same school. Mama would have her same afternoon coffee-klatch, and poppa could still drop into Jerry's bar for his evening beer. Meanwhile, Jerry, Mr. Sweeney the grocer and Klein's corner drugstore would all be back in business as usual—perhaps much better than usual.

Community life is a closely and richly woven fabric. Once broken up, it is very doubtlful if it can ever be synthetically restored. Yet it is the very stuff of American life, it is the guts of true social security, it is the background for family integrity and the natural preventive of juvenile delinquency. Whether at the crossroads of a country town of church, village store and white-clapboarded houses, or on the roaring streets under the elevated tracks of a noisy, congested city, community life is the heart, the very root, of good-hearted America.

Secondly, cities *need* old buildings. An all-new street is monotonous, an all-new city would be a bore. The fabric of a city is enriched by the contrasts of old and new. Its progress, its history, are recorded in its buildings. To remove all old buildings would rob a city of its traditions, and esthetically, the new buildings need the old buildings as a foil—witness the classic example of Lever House and the Racquet Club.

The third point is a very simple one: We talk about "rebuilding America." We also talk about "housing the exploding population." I wonder if anyone has ever done enough simple arithmetic to sit down and figure out whether it's possible to do both? I will venture to say that in the next twenty, or forty, or sixty years it will be physically and economically impossible to build fast enough, and *well* enough, to both re-house present America and keep up with the "exploding" population. So the answer is obvious: Wherever possible we must *recondition*, rehabilitate, refurbish the housing we've already got. We must curb the bulldozer and the wrecker's steel ball. And in so doing we may be much closer to reaching our true objective, to give the crowded, ill-housed people of our country better homes and a fuller and richer community life.

Correctional Architecture

BUILDING TYPE REFERENCE GUIDE

by Clinton H. Cowgill, FAIA

Papers by participants in the AIA 1961 Conference on Correctional Architecture were published in the July 1961 issue of the AIA Journal. In preparing this supplement, there were many helpful suggestions from the following authorities:

Howard B. Gill, Director
Institute of Correctional Administration
American University

Prof. Negley K. Teeters
Temple University

Prof. Norman Johnston
University of Pennsylvania

These collaborators are not responsible, however, for opinions or conclusions except as indicated in text

PART I

At the recent Conference on Correctional Architecture at AIA headquarters, attended by leading correctional administrators and criminologists, some of the difficulties which are faced by architects of correctional buildings were recognized. These include:

- lack of a recognized body of principles guiding correctional administration
- inadequate long-range plans for correctional building in local, state and national jurisdictions
- insufficient understanding of correctional problems by architects
- lack of understanding of architectural problems by administrators

Correction Fundamentals

Criminologists are generally expected to be well versed in what *ought* to be done; while administrators are more concerned with what *can* be. In the US few criminologists have had sufficient operational experience to enable them to speak out with confidence except in general terms. On the other hand, administrators generally lack training in criminology, and they tend to rely heavily upon what *has* been done. They have not experimented sufficiently to know what *can* be done. The Reverend G. Brinkman twitted those attending the 1960 Congress of the American Correctional Association by saying: ". . . gathered here in Denver are experts in the correctional field who disagree in practically every phase of the correctional process."

If the architect blindly follows the advice and directions of administrators of a proposed project, he may subject himself to adverse criticism and later discover, to his dismay, that his design is obsolete before it has been completed. The architect needs sufficient understanding of correction to enable him, with cooperation and approval of the administrator, to state principles upon which decisions regarding design of the project will be based.

Today prisoners are generally expected to be treated with more professional understanding than in past years. No one took much interest in penology until late in the eighteenth century, when Cesare Beccaria published his "Essay on Crimes and Punishment." Later, John Howard awakened the public conscience with his "The State of the Prison in England and Wales." Two centuries ago, persons of all types and ages and of both sexes, including those with contagious diseases, might have been placed in a single room; many prisoners died of starvation or disease or committed suicide; most prisoners were executed or suffered some form of corporal punishment. Prisons were for punishment—not reform.

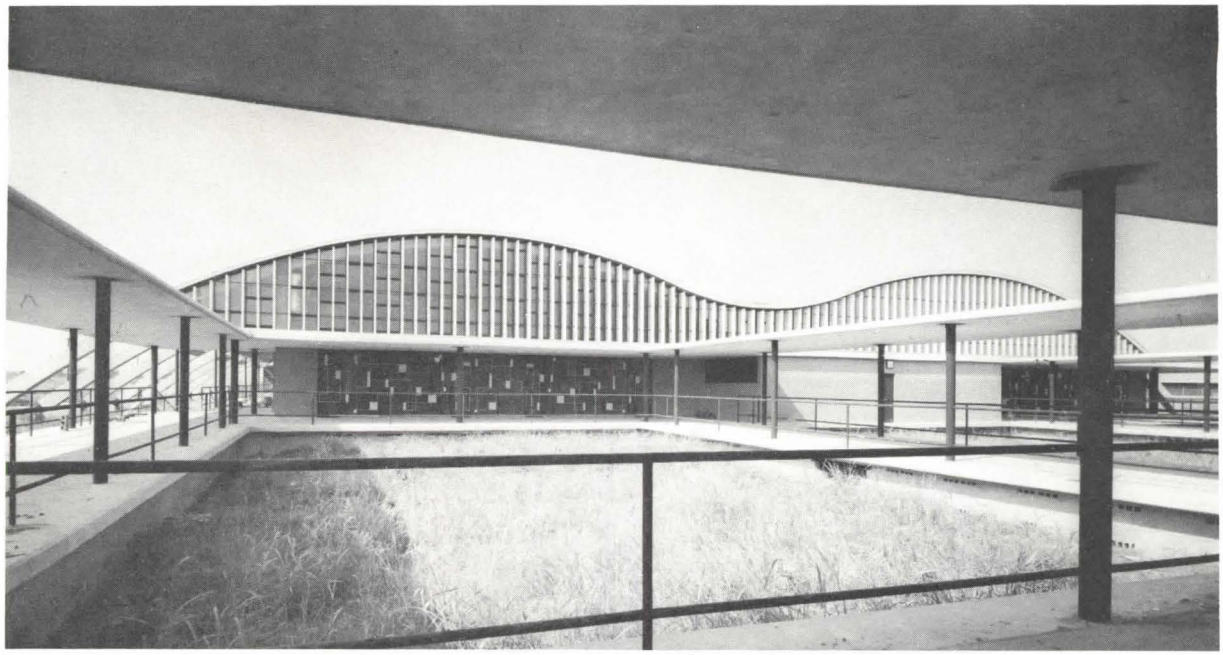
After the American Revolution, confinement was used as a substitution for corporal and capital punishment, and sentences corresponded to the gravity of the crime. Some of the early US state constitutions provided that enforcement of criminal laws was to be based upon inmate reformation and not upon vindictive justice. In some state prisons, classification of prisoners for housing was undertaken. Early in the nineteenth century, the idea of regeneration of the criminal through religion, non-communication and harsh discipline dominated thinking. The value of education and labor was emphasized later. During the past thirty years, importance of individual treatment through social work, psychiatry, probation and parole has been stressed. Currently, criminologists seek to break down the barriers between prisoners and the community, to have more prisoners placed on furlough, and to secure the use of pre-release facilities and "half-way houses" to help outgoing prisoners adjust to normal living.

Accepted nineteenth century ideals are well stated in the report of the executive committee of the First London Conference in 1872.[1]

The attitude of individual administrators is understandably influenced by the types of criminals with whom they must deal. Administrators of maximum-security penitentiaries, which house more desperate prisoners, have little faith in the convertibility of their charges. It is necessary for them to emphasize their responsibility for custody even at the expense of inmate comfort and effective treatment. In these institutions inmates may be rewarded for good behavior by granting them special privileges,

Technical

Frank Lotz Miller



Dining hall, Louisiana State Penitentiary, Angola, La. Curtis & Davis, Architects

and they may be punished for misbehavior by withdrawal of privileges and by solitary confinement with short rations. But since flogging is no longer permitted, life in these prisons cannot be made much worse for those who refuse to comply with regulations than it is for those who do comply. In maximum-security penitentiaries, administration often must compromise with unruly inmates and few inmates are able to avoid submission to the toughest bullies. In some such institutions, even those who would like to comply with regulations find that they must secure knives in order to protect themselves.

An inmate entering a typical maximum-security penitentiary for the first time tends to resist converting the social rejection which he feels into self-rejection, and thus he becomes enmeshed in the inmate social system from which the only escape is psychological withdrawal.[2]

The late Kenneth Pray,[3] Dean of the Pennsylvania School of Social Work, in a paper delivered before the National Conference on Social Work, took the position that punishment can be helpful, and that social workers should attempt to make this apparent to the probationer, the parolee, the prisoner and their families.

It is seldom that the possibility of being sentenced to a prison term, however rigorous it may be, is an effective deterrent to crime—neither is the use of legal executions. Most crimes are the result of impulse or of deep-seated maladjustment. Those who coldly contemplate crimes are usually willing to take a calculated risk that they will not be caught. The best deterrent is adequate detection, which increases the probability of wrongdoers being caught and convicted, and preventing them from using intended gains. If criminally-minded persons could be convinced by actual experiences that crime is not profitable, criminal business would be reduced.

It is almost impossible to discuss legal executions unemotionally. For most people, religion gives the answer, and almost everyone would be revolted by consideration of proposals for any sizable increase in the number executed. If it ever should appear, however, that criminal elements were getting the upper hand, an increase in legal executions might result, or society might revert to a primitive condition, in which each man takes steps to protect himself, his family and his possessions. With a complete reversion, individuals would inevitably be permitted to take revenge on those who had wronged them.

The barbarous idea of avenging wrongs has not been completely obliterated from public feelings, and it is not unknown for groups of citizens to resort to mob rule. The penal system is intended to replace the idea of revenge with that of public responsibility for meting out justice. A still more advanced idea leaves the judgment of human beings to God, and limits the purpose of correction to public safety. For public safety, criminals must be confined and since most of them must be released sometime, an attempt must be made to reform them. Correctional buildings must *both* confine prisoners securely and provide facilities for their effective treatment.

Criminal Types

Some criminals are insane, psychotic, or hopelessly addicted to alcohol or narcotics. For the proper treatment of these, segregation in a secure hospital setting is desirable. Inmates with very low intelligence should also be housed separately. Female prisoners should be completely separated from the males. There should also be institutions for juveniles and youthful offenders. Inmates of existing maximum-security penitentiaries should be limited to intractable, habitual criminals. The majority of prisoners in most states are mature, male, tractable felons, and they should be sent into institutions designed primarily for treatment. In these (as stated by Nathaniel C. Curtis)[4] the inmate should be given more consideration than administrative personnel.

Donald Clemmer[5] has said that prisons are evil and will be evil as long as homes are evil—as long as violence and sex crimes are given prominence in movies and TV. But

the placing of an unconvicted youth with convicts should be avoided.

Summary

There will be some dissenters, but the following statements are offered as principles guiding correctional administration:

- custody must be a primary consideration in all institutions—especially those with intractable prisoners
- neither rigorous prison treatment nor use of legal executions is an effective deterrent to crime
- public safety rather than revenge should be the objective of the penal system
- some criminals should be hospitalized, including the mentally ill, drug addicts, alcoholics, and sex deviates
- most prisoners should be in institutions in which facilities for treatment are paramount, and security is regarded as a primary assumption
- facilities for detention should be separated from those for sentenced prisoners

Long-Range Plans

If a correctional institution is to be useful as long as it is physically sound, its place in the total future correctional picture must be considered. In planning for a state:

- estimate future number of prisoners of each type for the whole state
- consider future use of present facilities—obsolete present facilities may temporarily serve maximum security needs
- consider combining local lockups, jails, detention facilities in order to serve a population sufficiently large to justify economical and manageable institutions (now only larger jails have facilities for treatment comparable to those in penitentiaries)

The future prison population is related to the total population. Estimates of future US population for periods exceeding 25 years are of little value. Total population of an area normally may be assumed to increase at the same rate in the future as it has in the past. General prosperity of the country may be expected to continue the present rapid growth in pleasant climates, such as California and Florida. Discovery of natural resources, such as oil or minerals, and the development of transportation facilities and manufacturing favor population increase.

The ratio of sentenced prisoners to total population seems to be stable, but the following influences may be recognized as tending to increase the percentage:

- lax law enforcement and political connivance
- increase in number of acts which are illegal

Lax law enforcement and posibilities of political connivance increase temptation to commit crimes. It tends to result in a larger number of criminals outside of prison, and if continued for long periods, the number of prisoners may also be expected to rise.

When acts which the majority of people do not regard as wrong are made illegal, enforcement becomes lax and respect for the law disappears. This was demonstrated when sale of intoxicating liquor was prohibited. If public demand for punishment for minor offenses continues, its effect upon needs for correctional facilities may be reduced by greater use of fines instead of imprisonment.

Following influences are believed to tend to decrease the percentage of prisoners in relation to total population:

- facilities and programs for youths, such as boys' clubs, and recreation programs of schools, churches, YMCA, YWCA, YMHA, YWHA, Boy Scouts, Girl Scouts, etc
- youth detention homes
- separate correctional institutions for youth, and for first offenders
- extension of probation and parole
- pre-release correctional facilities
- half-way houses
- segregation of psychotics, alcoholics, narcotic addicts, sex deviates, and feeble-minded
- effective law enforcement—may increase prisoner population temporarily, but its long-range effect is to discourage criminality
- substitutes for institutional treatment, such as mobile camps
- adult education to strengthen family and social standards

Planners should estimate future ratio of prisoners to total population, calculate number of prisoners, number in each category, and number in each category to be provided for immediately. For broad planning purposes, ultimate number to be housed in any one institution should not exceed 1000 for penitentiaries—smaller populations are desirable, especially for institutions for youths.[6]

In many states it may be necessary to combine facilities for some categories of prisoners in order to have institutions large enough for efficient administration. When this is done the various categories should be separated within the institution as completely as is feasible. In large states, more than one institution for mature male tractable prisoners might be necessary. For efficiency, two, three, or four such institutions could be assembled in one location so that all of them would use the same administrative facilities, infirmary, food-handling, laundry, utilities, fire protection and warehousing. Each of these assembled institutions should have its individual warden, but administration of facilities used in common could be taken either by a Director or General Manager.

If these long-range plans for correctional institutions are developed intelligently and carried out progressively as more facilities are needed, overcrowding and haphazard additions to institutions which have characterized the recent past may be avoided.

Correction Essentials

Design of a correctional plant should be based upon a thoroughgoing collaboration between architect on one hand, and administrators, their staffs and professional consultants on the other hand. Architects who have had experience with this type of project have an advantage resulting from a certain amount of familiarity with correctional problems. It is well known, however, that each project has different requirements and must meet different conditions.

The essentials of correctional institutions are:

- provisions for safety of public and inmates
- measures for inmate treatment
- personnel for guarding and guidance of inmates

Safety

The public may be protected by preventing escape and by prompt and certain recapture of escapees. Efforts to escape must be dealt with

primarily by making actual escape difficult. (It may be noted, however, that many measures for inmate rehabilitation tend to make escape attempts less tempting.)

In institutions housing the most desperate criminals, inmates are kept under constant surveillance during the day, and in locked rooms (with wc and wb) with periodic inspections at night.

For seriously disturbed inmates, cells without direct contact with the outside may be provided. In prisons for new and intractable prisoners, and in lock-ups and jails where adequate guarding is impracticable, cells of tool-resisting steel bars and plates may be justified.

Selected inmates may be housed in barracks with individual rooms without plumbing—toilet and bathing facilities being provided for each locked unit of twenty to sixty rooms.

Juveniles may be housed in small dormitories, with or without cubicles, with a bed, locker, chair, and table for each inmate, and with available congregate plumbing. All adult inmates should have individual rooms. In most institutions, except those for women and girls, the compound must be surrounded by high walls or wire fences with armed guards. Howard B. Gill says that 1200 feet of enclosure (600 ft in each direction) may be effectively guarded from each tower. At some institutions, some towers are manned only part of the time. Compound may also be surrounded by one or two driveways for use in patrolling as well as service.

Need for prompt recapture of escapees does not affect design of a correctional institution, but the less effective the prevention of escape, the more personnel required for recapture.

The personnel of a correctional institution are responsible for the safety of inmates. Confined inmates are faced with danger of injury or death inflicted by another inmate, with danger of attack by an aggressive homosexual, and with danger of being drawn into a riot.

Fights may result from homosexual conflicts, or from attempts by bullies to impose upon newcomers. On the other hand, a newly-arrived well-known gangster may attempt to establish his reputation within the institution by attacking a leading bully. Bullies often get together to take advantage of less aggressive inmates.

Homosexuals require special attention. They should be segregated, and in some prisons, additional precautions are necessary. If budget permits, each inmate should be locked in his single room at night. Larger rooms (if they cannot be avoided) should be occupied by three or more inmates—never by two. Toilet rooms should be located where they can be adequately supervised.

Riots may be a part of an attempt at escape or a result of intolerable frustration or conflict. Prison riots have caused $10 million damage in four years. They may be avoided by efficient and fair administration, effective and honest guarding, prompt confiscation of contraband, and adequate communication between staff and inmates.

In institutions for selected tractable inmates a method of communication between staff and inmates may be established as was done by Howard B. Gill at Norfolk prison. Through advisory committees of inmates and staff in various areas of institutional activity, the administration was able to consider problems and arrive at solutions before they developed into serious grievances. This calls for a suitable meeting room in each housing unit. Such provisions are included in recent plans for penitentiaries in Oregon and California.

For prevention or prompt suppression of riots and other disturbances, correctional institutions should have:

- only two entrances, one front (for pedestrians and vehicles) and one rear (for service)
- industrial, service, recreation, administration and living areas arranged to be shut off separately
- service tunnel arranged to be used to get guards to possible trouble areas
- clear open space between buildings and compound enclosure
- inmates divided into small groups in housing, dining rooms, recreation facilities, and shops
- water hydrants and hose reels in convenient locations
- arsenal, key board, telephone center, mail and package control (and possibly the power house) located outside compound

Treatment

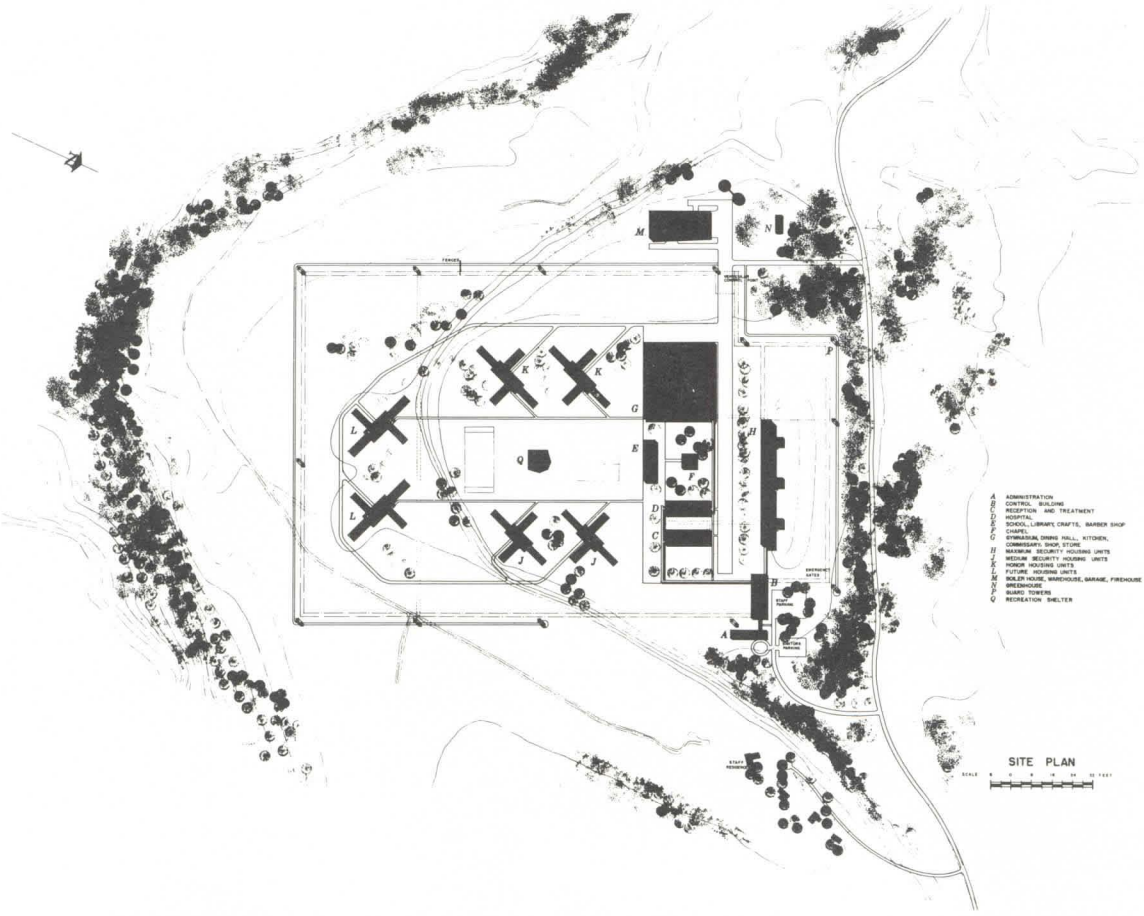
For effective treatment of inmates, decent living conditions including housing, food, and clothing must be provided, and rehabilitation measures such as the following may be included:

- medical, psychiatric, psychological, sociological and religious consultation and treatment, as well as lay counselling to discover and resolve problems underlying criminality. (This calls for facilities for individual conferences and for group meetings in inmate housing)
- educational opportunities and vocational training. (For this a school with classrooms, library, and classrooms in shop buildings are needed)
- employment in maintenance and operation of institution and in production for useful ends. (This may include employment in construction of the institution)
- recreation, physical training and other leisure time activities (in addition to day rooms in inmate housing, hobby shops, etc, provision should usually be made for active sports)
- contacts with relatives, friends and representatives of the normal community (in addition to visiting rooms, small meeting rooms and picnic grounds should be considered)
- recognition of development and meritorious activities by increased privileges

Objectives of the American Correctional Association, as amended in 1957, are: "To improve the development of physical facilities adequate in size and design to assure the safety and well-being of the inmates, and to make possible adequate rehabilitation treatment." Commenting on this in the paper he presented to the 1961 Conference on Correctional Architecture, Herbert G. Daverman[7] stated: "Do not these security devices (double fencing guard towers—steel doors, etc) force a building and the people who inhabit it, into a certain penal look or style?" If this is so, it seems that such measures for safety are antithetical to establishment of a climate suitable for measures for inmate rehabilitation.

This points to a crucial problem in design of every correctional institution. A compromise may be necessary. Nature and extent of compromise will be different for each classification of prisoners:

intractable male felons
defectives



Washington Intermediate Institution. Bassetti & Morse; Walker, McGough & Trogden; Curtis & Davis—Associated Architects

adult tractable male felons
juveniles
youthful offenders
women and girls

On admission, every inmate should be given a physical examination and if he has a communicable disease he should be segregated. If he has a disabling chronic disease, including alcoholism or drug addiction, he should be kept in the hospital or infirmary, or transferred to an outside hospital for criminals.

Consultations referred to above are varied according to individual needs. When an inmate's problems are ascertained, a daily schedule may be worked out, and he may be transferred from living quarters for new inmates to a housing unit with suitable occupants.

Important as individual treatment is, it is necessary also to treat inmates in groups. This may include group action, group discussions and group therapy. It should also include education, vocational training and team work in industry. Classrooms are needed for academic classes or vocational training, as are facilities for correspondence courses. A good library is essential. One or more chapels should be included which are suitable for the various religious denominations.

Vocational training facilities should be closely related to shops for *plant maintenance* and *commercial production*. This three-fold function of shops deserves careful study for each project. Treatment of inmates must be the prime function, but use of facilities for plant maintenance or construction need not be antithetical to treatment.

Theoretically, every well prisoner should be expected to pay his way by producing values equivalent to the cost of his food and clothing, and his share of plant maintenance and amortization. In theory, inmates who produce greater values should be paid wages.

This is no longer possible due to commercial and labor pressure, but for long-range planning the possibility of a change in public sentiment should be considered. An unemotional study of a system which results in maintaining prisoners in idleness should sooner or later bring labor leaders, contractors and industrialists to a realization that fuller employment of prisoners in properly controlled diversified industries will not be harmful, and could be advantageous to them as well as to prisoners and to all taxpayers. In times of war (even our present "cold war") the country cannot afford to neglect use of all available manpower.

For the present, prison production must be limited largely to items for state use. Prisoners must be cursed with idleness and the deadening psychological effect of made-work. To avoid idleness as much as possible, handicraft production is resorted to, and provision should be made for salvage operations and hobby shops. The more trustworthy inmates may be assigned to private employers outside the institution. Farming out of

inmates is gaining ground in Europe and has been tried successfully in Wisconsin, Delaware, and Massachusetts.

Fortunately, many prisoners may be employed in maintenance and operation of the institution. This may include farming and food processing. For each institution a study should be made of state-use demand and capabilities of inmates to meet this demand.

Since it is impossible to keep all inmates as busy as they should be, facilities for recreation, including physical training, are especially important. As with other activities, the number of inmates in each group should be small. Recreation fields should be large enough for the kinds of games selected and numerous spaces of different sizes should be included. In cold climates, a gymnasium may be justified but some consider them extravagant.

Enlightened prison officials are giving more emphasis to inmate contact with relatives, friends and others, and seek to make facilities for these contacts more agreeable. In some cases both indoor and outdoor facilities are provided and inmates are permitted to picnic with their visitors.

For many inmates, most of their time will be scheduled for work, classes, supervised recreation, meals and sleep. Those who are able to make good use of it should have free time—as one of the principal rewards for development. It is no longer the rule that all prisoners should be treated alike.

Following statements were made in the AIA Conference on Correctional Architecture:

J. Tom Bear, architect with Hellmuth, Obata & Kassabaum: "Training is—until we know more about the medical and psychiatric makeup of the criminal—the most effective tool in rehabilitation. Training not only occupies a large part of a prisoner's time . . . but also provides a positive focus for his energy, preparing him for normal and constructive activities following his release. . . . A prison needs an industries building, too, where inmates can be taught trades and earn money to provide for their families. . . . Further training . . . is possible through religious instruction and church attendance. . . . Prisoners need a well-equipped gymnasium and outdoor recreation facilities . . . to work off their excess energy and pent-up antagonism."

Howard B. Gill believes that with better trained lay personnel much more could be accomplished by discovering and helping individual inmates with their problems first and then training them for normal living as the problems of each prisoner indicate. He looks upon training as a means but not as an end.

Mark S. Richmond, Warden of Connecticut State Prison: "There is no single philosophy which fully defines the functions of a correctional institution."

Howard B. Gill defines the function of a correctional institution: "It is to protect society by incarcerating the criminal—'as punishment and not for punishment'—by problem-solving as related to criminality, and by acculturating the prisoner to the society to which he will return."

Vernon Fox, Professor of Criminology, Florida State University: "The program is to be designed for personal and emotional problem-solving for authority-confused 'patients' who have been assigned a handicapped status by society's agencies for administration of justice. The architecture has to house a program of rehabilitation within the legal framework. . . ."

Personnel

The third essential of correctional institutions is adequate personnel for guarding and guidance of inmates. To secure staff members of proper caliber, they should be given adequate compensation and security of tenure. So that they may understand their work and continue to develop, continuous and regular training should be arranged for, including basic training, in-service training, and professional instruction. For this, special facilities should be provided.

In some places, it is necessary to provide housing for some employees. If properly located, such housing strengthens security. Where institutions are located near universities, it has been possible and advantageous to secure services of faculty members and graduate students to supplement service of permanent personnel.

In solving correctional problems, it is important to maintain a balance between the value of each facility in relation to its cost. Society is called upon to provide for different groups many highly desirable services. Needed correctional institutions should be given high priority, along with schools, hospitals, homes for aged and infirm, and for the wayward and for crippled children. Society has discovered that more adequate facilities for the unfortunate can be furnished than it formerly thought possible, but there is still a limit.

Protection of society requires that criminals be converted into law-abiding citizens. This can be accomplished with some prisoners by diagnosis, observation and treatment. Some penologists and prison administrators whose experience has been with intractable and degenerate inmates, have less confidence in the possibility of conversion and are resigned to a hopeless care of anti-social recidivists. They provide a similar service to that given tractable prisoners but the purpose is primarily maintenance of order.

A reasonable program is to provide new facilities first for those prisoners for which there is most hope. ◄

(to be continued in February 1962)

Text References

1 "Deliberations of the International Penal and Penitentiary Congress," by Negley Teeters, American Prison Association and Temple University, 197 pp, 1949.

2 As is more fully stated by Lloyd W. McCorkel and Richard Korn in "Resocialization Within Walls—The Annals of the American Academy of Political and Social Science," Philadelphia, 1954.

3 "The Prison: Asset or Liability," "The Annals of the American Academy of Political and Social Science," May 1954, p 6.

4 of Curtis & Davis, Architects, at the AIA 1961 Conference on Correctional Architecture. See also *Arch. Rec.* 119: 203-8, April '56.

5 Remarks of the Director of the DC Department of Corrections, at the 1961 AIA Conference on Correctional Architecture.

6 See "Correctional Institute Design and Construction," US Bureau of Prisons, 1949 p 6.

7 of J & G Daverman Co, Architects.

Standard Format For Reporting Building Product Data

► The Information Task Group of the Building Research Institute Plastics Study Group has developed a format for use by industry in organizing and reporting to architects, designers, and builders technical information about their products. As a beginning, the format has been used for plastics; when it is perfected, it will be extended to other industries.

To support increased communication between architects and manufacturers, four Washington architects—

Arthur H. Keyes, Jr, AIA
Frederick Lear Fryer, AIA
William Henry Metcalf, Jr, AIA
David Norton Yerkes, AIA

met at AIA Headquarters in October to discuss with members of AIA staff the BRI standard format and its potential, using five examples reproduced here.

The four architects agree in general that information obtained through use of a standard format would be of great value, provided certain technical difficulties were corrected. But they question its use and distribution—

- will it duplicate similar efforts by other organizations?
- will coverage be comprehensive?
- will format sheets be lost beneath stacks of manufacturers' promotional literature?

Importance

"As expression of materials and structural methods becomes increasingly basic to many architects' design philosophies it is more important than ever that means be found to help architects keep intelligently advised on the many tradition-shattering and tradition-improving developments. This is not to say that design should be dependent upon the 'latest' materials or methods—rather that their incorporation into design should be made in as knowledgeable, simple, direct and comparative a manner as possible. The average architect has neither time nor resources which permit this kind of research. To meet this need, the development of a product register or data book is proposed.

"Such a rapidly developing industry as plastics, for example, not only has many already marketed materials and components relatively unknown to architects but the vast implications of the research homes, schools, etc, made almost completely of plastics make future architectural developments exciting indeed. Practical field use, today, can be encouraged by giving the architect a means by which he feels not only abreast of a wide range of these new materials but capable of judging them and integrating them into his design." WILLIAM METCALF

Format details

"The question arises as to how the user of the standardized descriptive sheets could be sure that information given was accurate and objective. The answer is that he could not be sure, but by studying references to test results, conformance to ASTM, Federal, and industry standards, he could get a pretty good idea. Further verification could be obtained where desired by writing for reports prepared by independent testing laboratories and certification by the manufacturer. If BRI has facilities to police product reports, fine; but I do not feel that this is essential." DAVID YERKES

"I feel very strongly that 'most color stable . . . known' sort of phraseology should be avoided. Comparative data should tell this story rather than loaded phrases such as the above. Field performance data such as

- location of installations
- length of time in service
- owner/architect reactions to performance

are very significant—with these chemically formulated products, as with paints, actual service is much more conclusive than a thousand laboratory tests.

"The indexing problem is important. Sweet's, for example, lists flooring and then subheads it as tile, terrazzo, etc. Specifications are indexed in a similar manner. Consequently, the profession is habituated to this sort of subject indexing. If it is possible, building components should not be listed under materials only, such as plastics, it should be cross-referenced under its application." FREDERICK FRYER

Format distribution

"The effort of the Building Research Institute to establish a special 'Format for Reporting Data to Architects, Designers, and Builders' on various building products is a commendable one. However, the precise arrangement and listing of product characteristics is less important, in my opinion, than the question of how such data can be distributed to architects in a useful and comprehensive manner.

"The Building Research Institute project appears to run the risk of duplicating the functions of the existing AIA Building Products Register which would be unfortunate for both programs. There would seem to be three possible procedures:

- the BRI forms could serve as a guide to editors of product literature to be distributed by the individual manufacturers as part of their brochures or as loose-leaf fillers
- they could be published collectively and periodically, probably at manufacturers' expense.
- material could be submitted to the AIA for inclusion in the annual Building Products Register

"At present the format of the AIA Building Products Register has an advantage, I believe, in being in chart form with comparative characteristics of several products by several manufacturers all on one reference sheet, and all sheets bound into one annual volume. As the Building Products Register grows more encyclopedic it will undoubtedly receive greater use, not merely as a supplement to the more descriptive advertising material in Sweet's Catalog, but as a preliminary guide to seeking information from manufacturers' literature. BRI could work together with AIA in publishing Building Products Register in order to increase types of materials covered and extent of information on each, and thus increase effectiveness and reduce cost of the Building Products Register to the architectural profession.

"It is doubtful whether this second procedure—a series of separate data sheets mailed to architects by various suppliers which conform more or less to Building Research Institute format (and who is to guard against it being less?)—would ever find their way into a complete and accurate reference file in the architects office, or whether all manufacturers of a certain item would make all their data available at a certain date for collective distribution. However, the first procedure—a comparative data sheet included as part of the standard literature of each manufacturer, —would find its way annually into Sweet's Catalog and also the architects' file drawer of building product literature. Would this procedure duplicate and compete with publication of AIA's Building Products Register which architectural firms must purchase annually? To some extent it would but not enough to affect seriously the sales of the Building Products Register, so that this procedure is worth considering." ARTHUR KEYES

"Knowledge of the kind found in BRI Format, if the profession is to increase its service to the community, must not only be public architectural knowledge but find its way to the drawing board. Cross referencing the building products data sheets with AIA Building Products Register and Specification Work Sheets would increase understanding and use of all. It is not too much to ask that graphics of all such related publications, even if sponsored by different groups, be at least compatible." WILLIAM METCALF

"The most practical arrangement from the architects' point of view would be to have standardized descriptions included in Sweet's Catalog. I say this for these reasons:

- Sweet's is already in universal use and has the great advantage of familiarity
- it is convenient for user to have all information about a product in one place; material included in a separate volume or series of volumes will not be used as much as if included in Sweet's
- Sweet's is likely to continue as a prime source of information not only because it is familiar but because its form of presentation is flexible and can be adapted to each product. Diagrams, detail drawings, sections, color samples, and photographs often give information more quickly and clearly than tables and figures; figures supply information necessary for final selection. For a preliminary study, the more graphic material in Sweet's is usually preferable.
- it is probable that only a few manufacturers will issue standardized sheets originally, but that the number will gradually increase if the idea gains acceptance. If the sheets are included in a separate volume many architects will be discouraged from using them during this initial stage. Having looked up a few products and failed to find them, they will stop using the book. Sweet's will usually provide other information about each product even if the standardized report is not included, so that a useless search is avoided.

"For these reasons I would urge that the standardized analyses be included in Sweet's Catalog as the final pages in the section on each product. This gives the advertising men a chance to make a pitch, and it gives the architect a chance to get the real facts about any product which seems to merit further study.

"Alternatives to inclusion in Sweet's would be to issue the standardized descriptions in a separate volume or volumes, or to have manufacturers send standardized sheets to architects along with other advertising material. The separate volume will, be used less than Sweet's for reasons I have mentioned. Loose sheets sent by manufacturer have several great disadvantages—they get lost, they require someone in the architect's office to keep file up to date. My guess is that in most offices this just would not get done." DAVID YERKES

"I do not feel that this sort of material should be included in Sweet's Catalog for the following reasons:

- Sweet's is incomplete
- Sweet's data is very heterogenous in character—being a compendium of manufacturers' throwaway literature; concise information of this sort would be buried in redundancies in Sweet's.

"Product information material of this type is generated and formulated by so many organizations and through so many media that any architect could spend all his time reading various publications. I would hope that the Building Research Institute can arrive at a definitive roster of product data—clear, concise, digested and compendious—that would be to the building products field what the Oxford Dictionary is to English and Michelin is to foreign travel." FREDERICK FRYER ◄

Flexible Polyethylene Pipe*

Description

a)	Trade name and manufacturer	
b)	Type of material	Flexible polyethylene pipe
c)	Plastic used	Polyethylene Types I-III
c-1)	Applicable specifications	CS 157-59 (-60 inpress)
d)	Uses of pipe	
	(1) Code	Water main to house, Cleveland, Wisconsin State
	(2) Non-Code	Jet wells, farm water supply, irrigation lawn sprinkling systems, mine water disposal, radiant heater slabs at 120°F.
	(3) Not recommended for:	Natural or city gas, hot water service (household)
e)	Fittings required for installation	Insert fittings of impact styrene, nylon, polypropylene
f)	Applicable specifications on fittings	Tentative ASA Committee B-16 "Plastic Insert Fittings for Flexible Polyethylene Pipe"

Physical Properties

a)	Strength:	
	(1) Modulus of elasticity 73°F.	Type I 20,000 psi min. Type II 35,000 psi min. Type III 60,000 psi min.
	(2) Maximum hoop stress in pipe at 73°F. for continuous use under pressure	Type I 385 psi Type II 510 psi Type III 600 psi
b)	Dimensional stability	Linear coefficient of thermal expansion: 6-14 $\times 10^{-5}$ in/in/°F.
c)	Fire resistance	Burning rate $<$ 1.2 in/min. by ASTM D635
d)	Vapor permeability	Nil to water
e)	Chemical resistance	Excellent for water, acids, bases, and soils, for detail see SPI bulletin "Proper Installation Procedures for Flexible Polyethylene Pipe"
f)	Acoustical properties	Damps out water hammer
g)	Light resistance	Black types may be used outdoors
h)	Light reflectivity and transmission	N.A.
i)	Thermal transmission	Type I: 1.8–2.3 BTU/ft.^{2}/hr.^{2}/in.^{2}/°F. Type III: 2.3–3.2 BTU/ft.^{2}/hr.^{2}/in.^{2}/°F.
j)	Electrical characteristics	Good insulators—cannot be used for electrical grounds
k)	Aging	Good for 15-50 years under hoop stress loadings shown
l)	Toxicity	Show NSF clearance if obtained
m)	Compatibility	No plasticizer migration from pipe

Design Characteristics

a)	Size, thickness, weight	See CS 197-59 (or -60)
b)	Finish, color	Matt, glossy, black, copper, etc., as applicable
c)	Workability	
	(1) Minimum cold bending radii	Pipe Diameter — Type I — Type II ½" — 8" — 12" 1" — 10" — 15" 2" — 20" — 34"
	(2) Cutting	Heavy knife or light saw
	(3) Joints	Insert fittings and stainless steel band clamps (see spec.), fusion welds by proprietary methods. Mechanical joints
d)	Tolerances	See CS 197–59 (or –60)
e)	Limitations:	
	(1) Pressure	Series 1 (Schedule 40 IPS) sizes: ½" 00 psi 6" 30 psi Series 2 sizes: ½" to 2", Series 3 sizes: ½" to 2", 100 psi
	(2) Thermal	Type I — Type II — Type III
	Upper temp. of use	120°F. — 120°F. — 140°F.
	Modulus of elasticity at this temperature	8000 psi — 14000 psi — 24000 psi
	Maximum hoop stress this temp.	152 psi — 203 psi — 240 psi
	Maximum pressure at this temp.	40% of those shown in e(1)
	(3) Frictional loss in pipe	See SPI "Proper Installation Procedure"
f)	Adhesion and Cohesion	N.A.
g)	Properties of the complete assembly	Determined by the minimum of pipe and/or fittings used

Installation

a)	Surface preparation	Refer to SPI Bulletin—"Proper Installation Procedures for Flexible Polyethylene Pipe Using Plastic Insert Fittings"
b)	Description of Process	
c)	Methods of attachment	
d)	Equipment required	
e)	Limitations	(1) Snake in trench 3"-1'/100' (2) Burial depth: minimum—6 to 8 inches For occasional crossing by vehicles 12" to 18"; under roads—install loosely in street or concerte conduit Maximum depth: 7.7 feet for series 2, 12.2 feet for series 3 pipes (3) Distance between brackets on suspended installations of Type III 1" dia, or less 15 × O.D. Larger than 1" 10 × O.D. Vertically suspended 25 × O.D. (4) Back fill 6" over pipe with loose earth, no sharp rocks contacting pipe, before filling trench (5) Maximum setting depths in jet wells shutoff pressure 40 psi 50 psi 60 psi 75 lb. rated pipe 110 ft. 87 ft. 65 ft. 100 lb. rated pipe 180 ft. 156 ft. 133 ft.

Maintenance

a)	Preventive inspection	Hold water in pipe at twice rated pressure and inspect joints before filling
b)	Soiling and cleaning	N.A.
c)	Repairing and replacement	Will not burst if line freezes. Do not use torch to unfreeze —burns: use hot water or steam hose

Economics

a)	Material cost	Pipe cost about 0.8 linear cost of same size carbon steel pipe
b)	Installation cost	Varies
c)	Insurance cost	If available
d)	Maintenance cost	If available

Case Histories

a)	Installation and check dates	
b)	Appearance	N.A.
c)	Total costs	Example—use of Type III with fusion joints on 4" line for industrial water supply at 60 psi cost $4.00/ft; bell joint C. I. cost $4.80/ft, in 1959
d)	Other properties	

*National Research Council, Building Research Institute. **Information Requirements for Selection of Plastics for Use in Building.** Publication 833, 1960, pp 22-4.

Building Research Institute

Standard Format

For Reporting

Building Product Data

Saraloy 400

Vinylidene Chloride

Roof Flashing

and Waterproofing Membrane

Description of Product	
a) Trade name and manufacturer	The Dow Chemical Company, Midland, Michigan Saraloy 400 roof flashing
b) Type of material	Extruded flexible plastic sheet for flashing and waterproofing applications
c) Plastics used	Vinylidene chloride copolymer
Physical Properties	
a) Tensile strength	1,000 psi ASTM D-412-51T
b) Elongation ultimate %	300 ASTM D-412-51T
c) Moisture vapor transmission, perms	0.104 perms ASTM E-96-53T
d) Tension set	50% extension, 7% ASTM D-412-51T
e) Specific gravity	1.50 ASTM D-792-50
f) Hardness shore durometer A	65 ASTM D-676-55T
g) Flammability	Self-extinguishing ASTM D-568-56T
h) Recommended use temp	—20 to 175°F
i) Weathering	Over ten years actual field experience. Material being recommended for use with 20-year roofs
Design Criteria	
a) Package size, thickness, weight	Available in rolls, 12", 18", 24", 36" wide containing 55, 75, 100 and 100 sq ft, respectively, Weight factor approximately 1/2 lb per sq ft. Available also in precut vent stack flashings for 2, 2½, 3 and 4" vent stacks, 1/16" thick
b) Color	Black only. Can be painted with any exterior oil base paint
c) Conformability	Can be heat-conformed to nearly any flashing contour on the job site
d) Compatibility	Completely compatible with all common roof construction materials.
e) Properties of installed flashing	Waterproof, excellent weathering ability to come and go with building expansion and contraction, maintenance free flashing performance
Installation	Bonded to common construction materials such as brick, block, stone, concrete, wood, reinforced polyester paneling, cement asbestos board, and metals with Dow Adhesive 400, welded to itself at seams and laps with methyl ethyl ketone (MEK) solvent and bonded to built-up roofing surfaces of pitch and asphalt by hot mopping or by cold applied plastic flashing cements Fully conformable with the use of heat to odd-shaped contours. Flexibility of the material allows design of expansion joints, etc to allow for building movement. Placed dry as a waterproofing membrance under traffic decks and for shower pan installations.
Maintenance	Generally none necessary but may be patched with Saraloy and methyl ethyl ketone (MEK) solvent in the event of mechanical damage

Acrylic Sheet Reinforced with Glass Fiber

Description of Product	
a) Trade name and manufacturer	"Tropiglas A" by Russell Reinforced Plastics
b) Type of material	Flat sheet, glass fiber reinforced, clear or colored, translucent or opaque, patterned
c) Plastic used	"Lucite acrylic sirups"
Physical properties	
a) Strength	Flexural—20,000 psi (ASTM D790-49T) Tensile—10,500 psi (ASTM D638-52T)
(1) Impact	6' #/" of notch (Izod Test)
(2) Abrasion	30 mg/1000 cycles (Taber Test)
b) Dimensional stability	.3% moisture absorptive (ASTM 570-54) coefficient of linear thermal expansion—2.5 × 10^{-5} in/in/°F (ASTM D696-44)
c) Fire resistance	(a) Flame spread index 200-300, light smoke, fumes non-toxic. (b) Radiant panel test (Du Pont Engineering Test Center)
d) Air movement	Non-porous
e) Acoustical	Not an acoustical material
f) Light resistance	Most color stable translucent glass reinforced plastic knwon
g) Thermal transmission	K = 1.4 Btu/hr/sq ft/°F/in
h) Aging	"Lucite" acrylic resin parts have been in continual service 20 years with no change in properties
Design Criteria	
a) Size, thickness, weight	Standard sizes to 4' × 8'. Standard weight and thickness 1/16", 8 oz/sq ft; 3/32", 12 oz/sq ft; and 1/8", 16 oz/sq ft
b) Finish colors	Six standards colors, others on special order
c) Workability	Hand or mechanical wood-working tools
d) Tolerance	Thickness ± .015" across 4' × 8' sheets
e) Limitations	Normal exterior use—none; interior limited by local fire codes
f) Properties of complete assembly	Shatter resistant, dimensionally stable, high strength/weight ratio, stable colors, chemical resistant
g) Support spacing	16" crs for 30# L. L.
h) Working temperature	Minimum — 50°F; Maximum + 180°F
Installation	
a) Attachment	Nails, screws, bolts in drilled holes, recommend adhesive, no surface preparation necessary
Maintenance	
a) Preventive inspection	None required
b) Soiling and cleaning	Self-cleaning under most conditions; may be washed with any mild soap
Economics	

(Continued on p. 84)

Building Research Institute

Standard Format

For Reporting

Building Product Data

"Delrin" Acetal Resin Knobs for Door Hardware

(Continued from p. 83)

a) Material cost/sq ft	1/16" thick, $0.81 3/32", $1.07 1/8", $1.40
b) Installation cost	$0.25/sq ft
c) Insurance cost	None
d) Maintenance cost	None
Case Histories	
a) Installation and checking dates	Residence of M. Ziegler, Wilmington, Del. Skylight 8′ × 14′, installed 1955, checked 1960
Appearance	Original appearance and utility unchanged
Installed cost	$1.25/sq ft
Other properties	No maintenance
b) Installation and checking dates	Parking lot screen at Du Pont Plant, Pennsville, N. J. (300′ × 10′, redwood support, concrete piers). Installed 1959, checked 1960
Appearance	Original appearance and utility unchanged
Installed cost	$0.93/sq ft panels, frames, and piers
Other properties	No maintenance

Description of Product	
a) Trade name and manufacturer	Challenger Lock Company (Decor knobs, 900 series) Sargent & Company (Knobs, Magna Lock Series)
b) Type of Material	Injection molded knobs for door hardware
c) Plastics used	"Delrin" acetal resin
Physical Properties	
a) Strength	
(1) impact	1.2′ #/" notch at −40°F, 1.4 at 73°F. Izod (ASTM D-256)
(2) abrasion	Taber (ASTM D-1044) 100 gram load, CS-17 wheel, removing 20 mg/1000 cycles
b) Dimensional stability	Coefficient of Linear Thermal Expansion 5.5 × 10^5"/"/°F (85°F to 140°F) "Delrin" absorbs ± .2% moisture at 73°F, 50% R.H. and expands .001"/" (from dry state). Immersed in water at room temperature "Delrin" absorbs ± .9% moisture (room temp) and expands .004"/" (from dry state)
c) Fire resistance	Slow burning (ASTM D-635) 1.1"/min, tested by Du Pont Polychemical Department
d) Air movement	Non-porous
e) Light resistance	Translucent or opaque material for interior use
f) Thermal Transmission	k = 1.6 Btu/hr/sq ft/°F/"
g) Aging	"Delrin" used indoors five years shows no change in properties

Design Criteria

a) Size, thickness, weight	Size and thickness limited only by practical considerations in injection molding or extruding of plastics parts. Specific gravity (ASTM D-792) is 1.425 and weighs .053#/in^3
b) Finish colors	Six standard colors, others on special order
c) Workability	Injection molded. Can be machined or polished
d) Tolerance	Molded to ± .003"/" or machined to standard machining tolerance
e) Limitations	Exterior use not recommended
f) Properties of complete assembly	Stain resistant, dimensionally stable, self-lubricating, noiseless operation, eliminates electrical shock, warm to the touch
Installation	Same as metal knobs

Maintenance

a) Preventive inspection	None required
b) Soiling and cleaning	Polishes with use or can be cleaned with soap and water, dry cleaner fluid, etc.

Economics

a) Material cost	Sargent, Challenger quote same as heavy bronze knobs
b) Installation cost	None. Already mounted on lockset
c) Insurance cost	None
d) Maintenance cost	None

Case Histories

a) Installation and checking dates	Centre Road Office Building, Wilmington, Delaware; Approximately 900 "Delrin" knobs installed 1959, checked 1960
Appearance	No noticeable difference
Other properties	No maintenance, no tarnishing

Description of Product

a) Trade name and manufacturer	"Fabrilite" Vinyl Coated Fabrics, Du Pont F & F Department, Fabrics Division
b) Type of material	Fabric reinforced vinyl wall covering
c) Plastic used	Polyvinyl chloride

Physical Properties

a) Strength	
(1) Impact resistance	elastic material
(2) Abrasion resistance	passed test (ASTM CC-T 191B) using 5306 taper with a CS #9 wheel, load 500 grams at 500 cycles
b) Dimensional stability	does not shrink with age
c) Fire resistance	fire treated material—tested by Du Pont F & F Department—NYC flame spread test—burns 2 seconds and glows 20 seconds after flame removed

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"Fabrilite" Interior Wall Covering

(Continued from p. 85)

Building Research Institute
Standard Format
For Reporting
Building Product Data

d) Air movement	non-breathable
e) Light resistance	Fadeometer test—100 hours at 105°F—no color change. Weatherometer test—300 hours —no color change
f) Aging	exposed for 1 week at 158°F with no sign of color change, crack or crazing
Design Criteria	
a) Size, Thickness, Weight	54" wide, to 100 yards long; weight from 17 ounces to 28 ounces per yard for 54" width; thickness from 16 mils to 26 mils
b) Finish, color	Colors—10; grains—10, or combination in quantity lots
c) Workability	Ordinary paper hangers tools
d) Tolerance	54" usable width
e) Limitations of use	none with fire retardant material; untreated material would be governed by local codes
f) Properties of complete assembly	will not mildew, unaffected by household solvents and greases, will not dry out, crack or craze, water resistant, washable with soap and water
Installation	
	Same as for wall papering—smooth, dry, flat clean surface. Brush an adhesive to back side of material and apply to surface, using paper hangers tools
Maintenance	
a) Soiling and cleaning	Spot cleaning if soiled from greasy fingers, etc.
Economics	
a) Material cost	Fire treated $1.56 to $3.06 per linear yard; 54" usable width
b) Installation cost	Slightly more per yard than ordinary wall paper
c) Insurance cost	No effect
d) Maintenance cost	Spot cleaning if soiled
Case Histories	
a) Installation and checking dates	Elevator Lobbies, Hotel Du Pont, installed 1955, checked 1960
Appearance	No noticeable difference
Total cost	No record
Other properties	No maintenance except annual spot cleaning with soap and water at elevator signal buttons
b) Installation and checking dates	Escalator lobbies, Centre Road Office Building installed 1959, checked 1960
Appearance	no noticeable difference
Installation cost	$0.55/sq ft, including $0.23/sq ft fire treated material
Other properties	No maintenance

Color in Design

by **Everett R. Call,** *Color Consultant*

► Since the beginning of time color has been a major factor in design. While man has created structures that are unequaled in nature, man falls far behind nature in the field of color.

Nature has shown us that color has functional as well as esthetic values. Man has considerable knowledge of technical aspects of color, but he has barely begun to apply this knowledge in the functional sense.

In no sense am I suggesting that the many and varied professionals now concerned with color are not performing their tasks in an honest and competent manner. This is no indictment—as the record of individual accomplishments in the field of color is for all practical purposes endless. Every field is represented.

With all this knowledge and skill, how is it, you might rightly ask, that when an architect sets out to specify colors, he finds that he can achieve success only by chance?

This situation does exist as every architect will readily attest. All will agree that there is no logic to this situation. What is the answer? Indeed, is there an answer?

Working Together

The key can be identified by one word, *cooperation*—the solution is somewhat more complex.

If you have delved into color at all, you have no doubt been shocked at the complexity of a subject that people generally take for granted. From a bibliography[1] on color, 357 pages in length, the word *Apparatus* has as sub-titles the following:

chemical colorimetry
colorimeters
gloss
luminescence
photometry
reflection & reflectometry
pyrometry & color temperature
spectophotometry
television
turbidity

Further, this bibliography has seventy-five major subject breakdowns. Each represents a field distinct from all others although it comes under the simple term color.

Color is not a simple subject in any sense. Actually it may well be that the architect is doing a splendid job when all considerations are weighed. I do believe the architect should not be expected to know and understand all phases of color. But at the same time I do expect him to recognize and, working collectively with others, to develop tools that will permit him to accomplish his task by something besides chance.

Some of these tools are available right now and more, many more can be developed through the application of that key word, *cooperation.*

The Over-All Organization

The Inter-Society Color Council (ISCC), a group representing all aspects of color, recently printed results of four years work of one of its subcommittees that has already served as the base for new aids to the entire building industry.

The American Institute of Architects has long been a member of the ISCC, and architects have contributed much to the success of the ISCC. However, as a group, there is much that can be accomplished. Before any group can make progress in the color field those who are working together must agree upon goals they are seeking and be willing to contribute the necessary effort to achieve success. You will find others—many who are extremely competent in the many aspects of color—anxious to assist. But first, does the architect truly recognize that he does have a problem in color and is he willing to seek the answers?

To understand the work of the ISCC you need only to read their stated aims and purposes: "To stimulate and coordinate the work being done by various societies, organizations and associations, leading to the standardization, description and specification of color, and to promote the practical application of these results to the color problems arising in science, art and industry."

Color References

Through the work of this ISCC subcommittee mentioned,[2] a method was developed by which the preferences for products in individual industries could be recorded in a compatible manner and relationships of consumer color preference for one product upon the choice of another product could be established.

A private company has just established a color service based on this ISCC method, and because of extremely wide participation by industry a common color language has resulted that is being used not only throughout the home furnishings, and fashion but in all industry wherever color is used.

Color trends—popularity of a color determined by the consumer's choice of a color—move from product to product. This is fact. What is not known is the route these movements take or the speed of the movements.

Methods

By collecting sales data by colors from manufacturers of all consumer products and with the aid of the basic method developed by the ISCC and specially-designed electronic computers, routes of these movements can be established as well as time factors.

This approach is permitting manufacturers to offer the consumer the colors he is seeking at the time he wants them—it permits taking full advantage of color trends. Manufacturers can now adjust their inventories, and it is no longer necessary to suffer huge inventory losses due to color obsolescence. The time factor permits orderly and economical technical research to be undertaken to develop desired colors and not be saddled with either wrong colors or uneconomical colors. And what is most important to architects, this color service makes it possible for a manufacturer to reduce number of standard colors he carries and at the same time to offer colors sought. A retail division is per-

forming the same service for retailers, and at this early date in the life of this service the mass retail market is being reported.

In specifying colors, architect, designer, stylist or colorist must approach his task without allowing personal likes or dislikes to affect his choice of color. The color must be chosen for functional purposes, design, decor, beauty and popularity if color is to be permitted to do the job it is capable of performing.

A Color Manual?

This same approach is the basis for another tool for the architect in his work in the color field. This proposed tool, a color manual, was introduced and discussed at the Building Research Institute's 1961 Fall Conference held 28-30 November in Washington, DC.

With help of manufacturers of all consumer products and retailers participating in this color service we have already an accepted and adopted color language. One possible use of this fact could be a color manual by which all building materials would be identified in terms of this common language—anyone could then specify a color of floor tile, wall tile, paint, counter tops, telephones, cabinets, appliances, rugs, bathroom fixtures or what have you and be able also to specify matching colors for all other products.

The ground work for this manual has already been accomplished. What has yet to be established is—does the architect want this type of tool? If he does, it very definitely can be accomplished, for answers to problems concerned in development of such a tool have already been achieved.

What Else and How

Where did these answers come from? How were they developed? Can more such methods and tools be developed? Yes—absolutely yes!

First, the problem has to be defined. A responsible group has to "sponsor" the problem. In the case cited above, the Inter-Society Color Council established a Problems Committee, and many interested experts representing all phases of color gave freely of their time and knowledge to solve a previously "impossible" problem. In this particular instance it was an all-too-rare occurrence that produced the answers—perfect *cooperation* of marketing and technical researchers.

Much remains to be done. Much can be done with ease and dispatch if only true *cooperation* can be achieved.

By cooperation I mean full realization of problems inherent in color. All must realize that many highly technical subjects must be considered in every color problem and that no one person has all the answers—least of all the architect. The scopes of all the various technicians in the field of color must be known and understood so that the proper specialist is consulted at the proper time.

Before cooperation is possible however, education and understanding are necessary. Mechanics of finding answers for the myriad problems facing architects in the field of color are available. All that is necessary for success is a true desire for success and an honest willingness to *cooperate.*◄

References

(1) "Bibliography on Color," Inter-Society Color Council, I. H. Godlove, 1957. Available through Mr G. L. Erickson, Braden Sutphin Ink Company, 3650 East 93rd Street, Cleveland 5, Ohio $3.75

(2) "Report of Inter-Society Color Council, Subcommittee for Problem 23," "Expression of Historical Color Usage" February 1961 Available through Mr Ralph M. Evans, Secretary, Inter-Society Color Council, Color Technology Division, Building No 65, Eastman Kodak Company, Rochester 4, New York

Marvin R. A. Johnson, AIA, of the North Carolina State Division of School Planning is shown, with Dr Lloyd Trump, as Mr Johnson received a distinguished service citation from the the North Carolina Chapter. State Superintendent of Schools, Dr Charles F. Carroll, and Robert L. Clemmer, AIA, former President of the North Carolina Chapter, look on. The award was recently presented in Mars Hill, North Carolina at the annual School Superintendents Conference by Leslie N. Boney, Jr, AIA, former chairman of the North Carolina Chapter AIA Schools Committee. Dr Trump was the keynote speaker addressing the conference on the subject of the Secondary School of the Future.

EDUCATION FOR URBAN DESIGN

The 1961 AIA-ACSA Seminar Discussions at the Cranbrook Academy of Art

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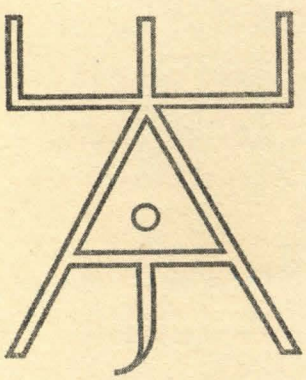
Part II



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JOURNAL OF ARCHITECTURAL EDUCATION

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Drawings by John F. C. Burdis

Beginning with the December issue the AIA Journal is proud to welcome the *Journal of Architectural Education*, published quarterly by the Association of Collegiate Schools of Architecture. Edited by ACSA and maintaining its separate identity, the *Journal of Architectural Education* will henceforth appear four times a year as a part of the *AIA Journal*.

JOSEPH WATTERSON, FAIA

Education for Urban Design **PART II**

(Part I appeared in the December 1961 Journal)

INTRODUCTION

The first part of this digest of a ten-day discussion appeared in the December issue of the *AIA Journal* It dealt mainly with the kind of man architecture needs to cope with the problems of the city. In this, the second part, the editors present those snatches of statement and debate which suggest how our schools of architecture might help produce this man. The word "snatches" is chosen advisedly. For, as we pointed out before, to reduce the transcript to manageable proportions, we literally cut it up, eliminated redundancies and excess verbiage and rearranged it to suit a pattern which we hope makes sense. In several instances, haltingly-spoken language has been rewritten. We thus feel we must repeat our caveat: "We sacrificed the speaker's own context to that of the conference as a whole. And insofar as we have thereby altered their emphasis or (heaven forbid!) meaning, blame not them but us." W.V.E.

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Aims

Indoctrination of professionalism

JAMES M. HUNTER, FAIA, *(Second Vice President,* AIA): The American Institute of Architects feels it must take a more active and aggressive part in guiding and influencing the total picture of education. This includes recruitment because we need more good teachers. It includes teacher training because we need better-trained teachers. It includes the academic programs of the schools of architecture, the architect-in-training program, the registration and licensing of young architects, and the post-graduate development of the practitioner.

The profession feels that it must guide and influence the total picture of education and coordinate it.

Architecture had been taught long before the schools of architecture were established. The schools are doing a good job. They are gradually changing the pattern of how architecture should be taught, just as the profession is changing. But the change is not rapid enough.

It is a part of the school's job to stimulate the imagination of the student, to imbue him with a fresh attitude, and to expose him to the new and different forms which make up today's design idiom.

In addition to stimulating the potential genius, the profession believes, however, that the school must also train the average, pedestrian student. Perhaps this average student will never create great architecture. But he must be trained to do decent work which will stay together and which does not misrepresent architecture to himself or to the public.

The answer, perhaps, is indoctrination. To many people this sounds like an ugly word, the antithesis of education, a kind of brainwashing. I mean by it simply that we must instill and develop in the student a sense of moral conviction, dedication, and purpose and a desire to comply with our profession's ethical code, our standards of practice, our obligations of professionalism, and our responsibility to society for the total man-made environment.

This, we feel, is sadly lacking both in the students our schools graduate and in the profession itself.

The schools know that they cannot turn out a finished and polished product. Yet they also know that if the student is indoctrinated as a professional he will educate himself.

Audacity

JOHN E. BURCHARD *(Dean of Humanities, Massachusetts Institute of Technology):* I suppose the most difficult thing about teaching young people whom we hope to help to become architects is to encourage them to be audacious and humble at the same time. If a choice had to be made between audacity and humility, I am afraid we would have to vote for audacity, just as we would have to vote for innovation rather than copying and for integrity rather than persuasiveness. It is pretty hard to say how we might set about developing character in our students. That it is hard does not make it impossible, and even if it were impossible we ought to try, for nothing else is likely to be enough.

Global task

G. HOLMES PERKINS *(Dean, School of Fine Arts, Universiy of Pennsylvania):* Another problem of educating the architect for tomorrow is not to educate him just for America. We must educate him for the world, for service to the world. The most important product we will export in the future will be know-how. And know-how has got to include architecture and town planning. Both must recognize the fact that local conditions are quite different in other parts of the world from what they are here. We have the opportunity to take leadership. Whether we will lead well or poorly depends upon what the schools and the profession do in the next ten years.

The whole man . . .

NORBERT GORWIC *(Director, Department of Urban Planning, Wayne State University):* We must begin to think of architecture as growing into planning, of architecture becoming its true self. The education of the architect starts with history. In teaching the history of architecture we should deal with whole areas of culture, with cities, with squares, and only after this with individual buildings.

I would throw out altogether half of those semi-baked construction courses, economics and the like, and get back to the broad cultural base. Then, I believe, the broad social base will fall into place.

Culture and socio-economic conditions are very much inter-related.

When a student goes through such an educational discipline, he will be mentally aware of the ideological background when he begins to design buildings and it will make him look twice. Lack of discipline doesn't give you freedom, it gives you anarchy and chaos.

How many schools assign their students the problem of designing houses for $10,000? How many students can take fifty or a hundred such $10,000 houses and arrange them together in a pleasing, rational, functional fashion? It's a matter of conditioning, it's a matter of proper reactions.

Schools of architecture, I believe, completely ignore the problems of life in their curricula. A good education to me is to begin to think in broader terms. It is to train the architect, not for tomorrow, but for five years from tomorrow. The product of an architectural school should not be obsolescent when he graduates.

If this graduate has had proper training, he will know as much about designing cities as he knows about designing buildings. There would be no special problem.

We can't escape these issues. They teach us to understand architecture as expressions of concepts or values. They hit at the essence and not at the superficial.

HENRY ELDER *(Cornell University):* We feel very strongly that the whole man is about to rear his head again and to establish the position he should occupy. We find he has accomplished something by his individuality, whereas planning teams have little to show but the negative approach. We advocate the whole man.

WILLIAM KESSLER *(Architect, Grosse Pointe, Michigan):* My plea is that educators eliminate some of the confusion from what they are trying to accomplish.

We are trying to train architects not only to be artists and sculptors, structural engineers, mechanical engineers, electrical engineers, land surveyors, and sometimes interior and graphic designers. They must also be office managers. Now we want to make them sociologists, economists, et cetera, in addition and I really can't see it. Three things should be kept in mind in teaching students of architecture:

1 Consolidate all these complexities so the student can comprehend and understand exactly what his future is and exactly where his place in society will be.

2 Teach students to be humanists in a sense, so that they can understand people, and know what people's problems are.

3 Teach students to be realists, and give them a sense of practicality.

AMOS HAWLEY *(Chairman, Department of Sociology, University of Michigan):* In preparation for architectural problems, it seems to me, the student needs, as a basis, a broad general, liberal education. I don't think that you can provide his needs with a specialty course in sociology, or a survey course in the social sciences or some capsulated treatment of the humanities. He needs breadth in his training. The technical part of the curriculum, it seems to me, should come after that breadth is achieved. As a layman in this respect, I think that I would prefer to see architectural training organized somewhat like medical or legal training: An intensive three or perhaps four-year postgraduate education, on top of a broad, liberal arts education, with possibly some pre-architectural training as an undergraduate.

. . . or the specialist?

JOHN E. BURCHARD: I guess I don't believe in general education much, although I have tried to make it work. I think that all of the best well-rounded men I have known have been specialists, without exception. So I would be in favor of specialization. I suspect that on the whole great people will escape specialization as much as they need to, and the others would be better if they had a little more of it.

Now, the question is: Is architecture enough of a specialty? I don't know. I suspect it isn't.

NORBERT GORWIC: Architecture needs specialists who have a thoroughly good, basic, broad foundation. Let the architect be judged by the architectural answer he gives to a problem where as a specialist he can contribute. A university which teaches architecture should not provide half-baked draftsmen for architectural offices. That is not the job of a school of architecture. If the AIA needs such draftsmen and specialists let them run trade schools.

JOHN HARO *(Architect, Detroit, Michigan):* If a man has had a good basic education, this technical competence can be gained in relatively short time.

JOSEPH LEE *(Department of Architecture, University of Michigan):* The universities cannot be responsible

for training competent students who, upon graduation, can effectively serve in any office. I feel that the profession itself should assume this responsibility. It should accept graduates from architectural schools as educated architects, but not as practical architects in the office sense. The offices should be willing to spend two or three years training the young architect to be technically competent. This is where our profession is weak. Certain schools are teaching technicians and draftsmen. This is not the responsibility of the university.

Technicians . . .

JAMES M. HUNTER: The realities of practice demand technically-oriented specialists in architecture.

When I discussed this need with a teacher of electrical engineers, he told me: "Our bright young men are not interested in working for architects. They are interested in automation or in electronics. They are not interested in being consultants to the architectural profession. Those who go to work for you are our barrel scrapings. That's why they are so bad."

Perhaps, the university electrical engineering departments are incapable of teaching their students the kind of illuminating know-how and creativity architects want them to have. Perhaps, it is up to the architectural schools to teach this kind of thing.

At any rate, there is a demand for such architectural specialists. It appears that if the architectural schools do not produce them, nobody will. If architectural schools can't do this for some administrative reason, they can surely initiate liaison and cross-exchange with electrical engineering departments which will produce the man we need.

WILLIAM KESSLER: We have a file in our office, about an inch and a half thick, of people who have come to us to look for jobs. Each and every one of them, as I am sure you are aware, wants to be a creative architect. Why don't the schools take the ninety-five per cent of their students who are not capable designers and transform them into people who will supplement design?

DUANE COTE *(University of Arizona):* To answer Mr Kessler there are no criteria for side-tracking these people into some other technological area. Also, I don't think that a designer would want someone to develop his designs who does not have the increased appreciation of good design which he stands to achieve by continuing to study design in school.

. . . or generalist?

ABRAHAM ROGATNICK *(University of British Columbia):* What does training a man who can lay out lighting or even heating diagrams have to do with a university education? Isn't that the sort of thing you should be teaching the man in your office?

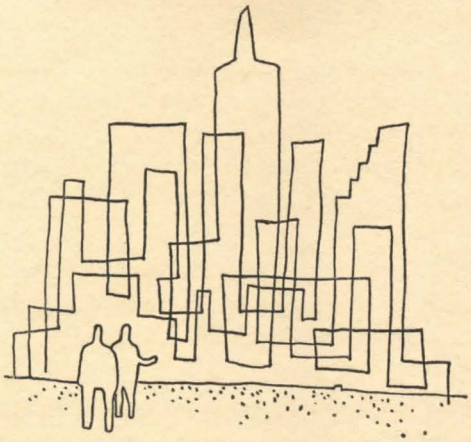
JAMES M. HUNTER: I think the schools of architecture must try to coordinate all of the design professions which are related to architecture.

JOSEPH LEE *(Department of Architecture, University of Michigan):* An architect is not a generalist. The fact that some mechanical engineers or electrical engineers cannot satisfy our architectural needs and provide us with the right type of services, is no reason for making them a part of our responsibility. Our job is not to train ourselves to take over the jobs of others, but rather to train these others to think in our terms and be aware of our needs so that we can make use of their talents to solve our specialized problems. Instead of taking this logical step, some of us propose to divert our energies to some fragments of the engineering and other allied specialities. Surely, our responsibility in architecture is sufficiently great to require our full attention to do a good job in just that.

Both tangibles and intangibles are of importance to architecture. They should be treated with equal respect and emphasis. But most proposals to enlarge our scope of interest aim at the applied sciences which deal with the tangibles. Very little or no demand is made that we enter the social or behavioral sciences which deal with the less apparent. Architects must translate the tangible as well as the intangible aspects of human environmental needs into reality. Ours is a specialty which requires that we understand the nature of man and his needs, the nature of nature in which man must exist, and the nature of materials with which we must create the tangible as well as the intangible of man's self-made environment. Even more important is the requirement that we understand the relationships of these to one another.

Organization and leadership

BENJAMIN HANDLER *(Professor of Planning, Department of Architecture, University of Michigan):* We must, I believe, organize the totality of architectural



"Where's the entrance into the city?"

experience in a rational system. This system must include both the components and the totality. It is easy to handle the parts, but the problem of relating the parts is really the crux of the matter. I don't believe our educational system can develop a planner until it develops a discipline with its own conceptual framework and its own definite methodology.

AMOS HAWLEY: Perhaps the architectural curriculum should be concerned with the development of conceptual thinking. It doesn't presently seem to provoke any broad curiosity of the problems of urban development and the implications of design. It seems to be addressed primarily to the solution of specific kinds of problems.

Planning is a skill which is certainly in its developmental stages and calls for a great many unknown kinds of competence, and the circumstances are so variable that it seems to me that the planner, above all, should be the one who can make a usable synthesis.

CHARLES BLESSING *(Director, Detroit City Planning Commission):* In considering how to make the student aware of the importance of the relationship of what he is doing to the total environment, I'd like to quote Nathan Pusey. "The close observer," he has said, "soon discovers that the teacher's task is not to implant facts, but to place the subject to be learned in front of the learner, and through sympathy, emotion, imagination and patience to awaken in the learner a restless drive for answers and insights which enlarge the personal life and give it meaning."

I hope that the schools will begin to train their students to become better urban designers, but not to try to make them all economists or sociologists or even generalists.

I ask all of you to urge graduating architectural students who display interest in community planning, to consider a year or two on their own to gain experience, perhaps, for private practice later. If they can find a spot where they can involve themselves in the larger planning problem of a city or a region, they should be encouraged to do so.

G. HOLMES PERKINS: To learn large scale design, the architect should first of all participate in the programming process. This is even more vital for city planning than for a single building. It is the same creative process, although the knowledge on which decisions are based is sometimes different. City planning, of course, requires more social and economic studies. The architect should therefore be sufficiently aware of social and economic matters so that he can contribute his share. He should interest himself in all of the elements which limit or influence his creative problems. But he should not actually become a sociologist or economist. He should have respect for the contributions these other members of the planning team can make.

I believe every architect, before he gets his first professional degree, should have an acquaintance with planning. He should know enough about planning to go into a community of 25,000 or perhaps 50,000 and make some sense and give leadership to that community. And yet, to my mind, he would be entirely an architect and not a planner. He would be the kind of architect our schools should educate.

Team vs. individual?

JOHN BURDIS *(Rensselaer Polytechnic Institute):* Should future architects be trained as individuals or as potential team members to prepare for urban planning work?

WILHELM VON MOLTKE *(Chief Designer, Philadelphia City Planning Commission):* The individual and the team member are not incompatible. People should primarily be individuals. But individuals can also work on the team. The idea of the team is that everybody contributes a particular skill to the total effort.

Educating the educator

G. HOLMES PERKINS: Planning, of all the professions today, is the most vigorous. Planners don't feel they have the answers, but they are working hard to find ways of getting them. The research under way in this field is far more profound, more plentiful, and more wide-ranging than anything in architecture. As a result planners are beginning to get the basic knowledge, the basic understanding of the forces of the city which will produce new ideas and new forms tomorrow.

I merely mention this to suggest that we cannot graft this kind of education on the education of every architect in every school. I believe there is an independent role for the city planner. There is a reason for an independent profession of planning just as there is a reason for an independent profession of architecture.

To train city planners, most of our schools are graduate schools in planning and most of them require two years of graduate work. Planning educators will admit—off the record of course—that their courses should be three years long, two is not enough. The basic training is so severe, like that of the lawyer or of the doctor, that actually three years of graduate work are required. Most of this work is not architectural in any sense at all. It is knowledge of social science, administration, sociology, economics, analytical methods, administrative methods, and historical problems.

Most important in our own attempt to train the architect in these areas is the attitude of the faculty. The faculty must really believe that the architect has a role to play in the city. And it must act upon this belief. It must itself participate in the problems of the city. This is true of the University of Pennsylvania.

Further, it is stimulating to have three departments within the school, as we do—City Planning, Architecture, and Landscape Architecture—that don't quite see eye-to-eye, but remain friends.

Discovery

JOHN SIMONDS *(Landscape Architect, Pittsburgh):* My teaching is a great pleasure in my life. It takes only two hours of my week, but thinking about these two hours is the best part of the week. I have one course in the introduction to urban design. It is a course designed not to tell the students what urban design is. I am not sure anyone can. My students have to *discover* the problems of urban design.

We take a big space in the middle of an urban area and we assume that a bomb knocked it all out. We say to the class, "the problem this year is to come up with a diagram for a city in this space in the year 2000 A.D." That is about all we say. And now the students go to work. At the end of the session, after investigation and research in traffic patterns, recreation areas and small urban community patterns, and so on, the students have a taste of what the problems of a city are.

If I know a fact or a principle I would like to leave with my students, I ask them, "Here is a situation. What would you do?" As the principle starts to take shape, I ask them, "Here is another situation. What would you do?" Again they devise their own principles. At the end of the class, they have thought up a principle that takes care of several problems.

I think this is the essence of teaching. I would rather persuade a student to discover an idea than to tell him. Because, if he thought it up himself, he will love it.

Case studies

JOHN E. BURCHARD: In the old apprentice systems good masters gave good examples to their protégés. The apprentice system has practically vanished and we need somehow to design a vicarious apprenticeship. For this, the use of case studies seems to me to offer an interesting opportunity.

It is possible that students might be led to examine their own attitudes and to prepare for the acid tests of life by reflection on the problems revealed in the cases. Even if they were not, it seems worth the try. At least it would give them a clearer idea of the complexities of the profession they are about to enter, and how many compromises a man is called upon to decide whether to make or not.

ROBERT ASBURY *(University of Kansas):* Is there not a possible danger in the case study system, as, unknowingly, it might further the architect's tendency to be object-minded rather than relation-minded?

JOHN BURCHARD: I should think it would work exactly the opposite way. The case study would be

interested in the relations more than in the object. The object is interesting only as it meets the conditions of the relations. And I feel that the local example, whatever its excellence, on the spot and contemporaneous, is of great importance.

There's nothing more dangerous than a group of old cases which have been put into a book and are then used forever.

I think each field certainly has to think of the case studies, if it uses them at all, in terms of their purpose, and these aren't all quite the same. But they have one common purpose, which is to boil down and bring to a student, through his work on it, an experience that he will never get and can't really get any other way, as long as he is a student.

How you shape what you study and how political it is, or how economic it is, or even how aesthetic it is, becomes almost a matter of what your purposes are.

ANTHONY DE FILIPPS *(University of Illinois, Navy Pier):* Could the case study subject be relegated to a course in office practice, or is it better to keep it in the field of design?

JOHN BURCHARD: I have a hunch that faculty leadership for case studies has to come from people who care about analysis.

It ought to be remarked parenthetically that the students who participate in working up the cases learn more from this participation than from the study of other cases, but the working up needs responsible faculty guidance since the areas are sensitive and the pitfalls many and the direct approach to the desired fact may not succeed in plucking it.

PATRICK QUINN *(University of California):* At the University of California our approach has been to teach students to observe and discuss in order to determine the essence of a house or church or whatever. The results on the upper level have been good. On the lower level the students are unequipped to follow logical, rational reasoning from a given set of facts through a process of organization to an ultimate conclusion.

BENJAMIN HANDLER: There is a grave danger in relying completely on the case study method: The student may never transfer from any particular case to the case which he may encounter later.

You have to go beyond a particular problem and through the problem, and perhaps, supplementary to it, introduce more fundamental considerations.

I hesitate at the moment to call these principles, but I think, whatever they are, we must also strive to concentrate on these fundamental considerations and not go only into procedures.

Execution of a thorough analysis will give the student a better understanding of what he is doing, and of the problem. He will thus have a better chance of bringing out his latent potentialities.

JOHN HARO: Instructors have a tendency to place different values on the end product and not be concerned whether it has much relationship to the analysis if the end product is a piece of art.

BENJAMIN HANDLER: That is the fault of the instructor. The instructor's job is to see that both are part of an integrated process.

PATRICK QUINN: I heartily endorse Mr. Handler's comments and suggestions. This kind of analysis and application belongs not only to the consideration of the present-day components, but also to historical ones. The instructor is apt to evaluate the design solely on criteria of the moment and not necessarily on his involvement in the analysis. Perhaps the only successful way to help any student to learn is for the teacher to get completely and utterly involved in the problem himself.

Practical problems

G. HOLMES PERKINS: At least three-quarters, if not more, of the problems we give the students at the University of Pennsylvania deal with urban areas. The students can and must visit them and make direct studies in the field. This begins with the first problem the prospective architect faces when he enters the school. He never gets the notion that architecture is anything else but a concern with the total environment.

CHARLES BLESSING: A school located in a metropolitan area misses a great opportunity if it doesn't, in some way, oblige the students to relate their five years of school work to a real situation. The laboratory is right at the students' doorstep. Problems selected from a real situation which have to relate to the neighborhood, the corporate city, or the region will mean far more to the student than to make some design on four sheets of illustration board without any context.

I also believe a survey course on what planning consists of, how it operates and what the procedures are, is almost essential.

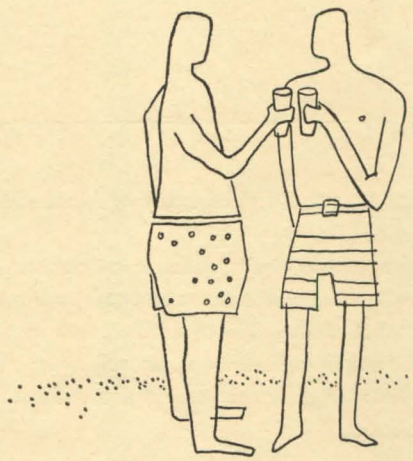
Curriculum

JOHN E. BURCHARD: A time may be chaotic enough when too many different experiments are going on all at once, but it is atomized when the individual artist himself can never settle down to make his own rendezvous with destiny. In this Picasso may have offered a horrible example for lesser men. And our schools may be doing great harm by encouraging people to flutter in too many directions at once.

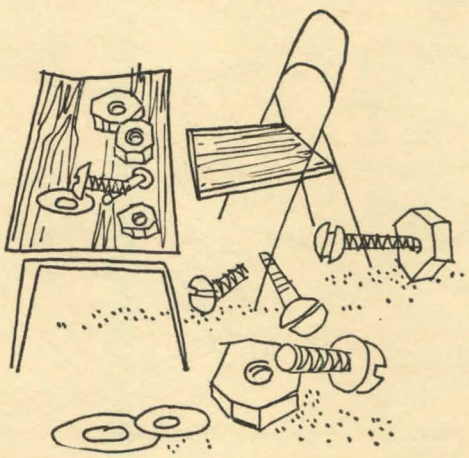
Out of this I conclude that the non-design elements of the architectural curriculum need a drastic reexamination. It cannot be taken for granted that next to aesthetics comes engineering, and after that history, and after that physics and mathematics. The conventions of the program need to be questioned. Biology may well be more stimulating for architecture than chemistry, physics or even mathematics. But it may be that all the natural sciences put together should play no larger role in the education of the architect than they should in the general education of any citizen; and that a great deal of room may well need to be made for the social sciences with which it is trivial and irresponsible for architectural students to profess boredom. I have a suspicion, in fact, that some of the things found in the social sciences are as meaningful or more meaningful than what you find in architecture today.

WALTER CHAMBERS *(Chairman, Department of Landscape Architecture, University of Michigan):* A curriculum means nothing—the descriptions of the courses that are given in it are no better than the ideals, character and integrity of the teacher.

JOHN BURCHARD: I suggest that very few contemporary schools could really enunciate a clear architectural philosophy and that very few faculties have cared to or been given the opportunity to argue it out in a clear way. There is the fundamental issue, for example, as to whether a given faculty should have a particular line, following convictions of a stylistic nature within the maze of competing ideas. There are a few such faculties and they are inevitably doctrinaire, even dogmatic; but these words need not be as pejorative as we usually make them. Or should a faculty encourage its students to strike out in all directions? It is arguable that this is the broader view. But to do so effectively requires an extraordinary faculty in which a number of peers in ability, patience and love of teaching, argue with each other but do not really compete, and stand ready to guide the student.



"Chandigarh to you too!"

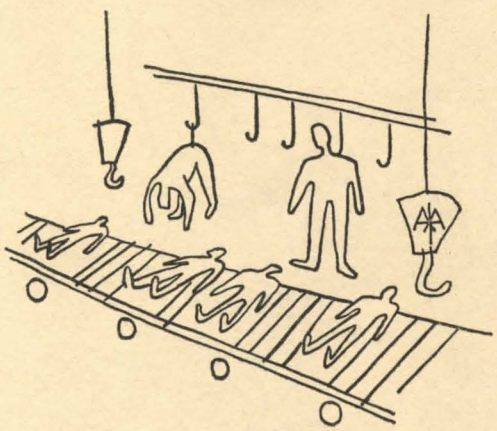


"Our new moderator will deal with the more practical. . . ."

By CLAUDE DE FOREST, *University of Manitoba*

The aim of the *undergraduate* curriculum should be to develop the whole man; to produce a man who has a detailed knowledge of architecture in the context of the urban environment, as well as an extensive general knowledge of the related professions and the social sciences.

Since the importance of the humanities as part of the training of an architect has again been strongly emphasized in the course of this seminar, certain attitudes in teaching seem to merit more detailed attention——the understanding of man on the spiritual level, the importance of empathy and humility, the need to develop in the student a sense of values, an awareness of the present complex world situation and accelerating change, and the importance of forcing the student to search and find things out for himself.



"Let's produce the whole architectural man. . . ."

In the realm of urban design, the following aspects should be emphasized:

1 To give the student an all-encompassing understanding of the development of human thought, social structure and technology. In other words, rather than teaching a fragmented series of subjects, to teach an overall comprehensive course in which the interaction of the various forces (physical, social, political, economic, spiritual and technological) shaping our urban environment is clearly realized.

2 In teaching architectural history, emphasis should be placed on the total urban environment, with specific buildings being part of the urban framework.

3 In the studio design course, it is essential to place all building designs and planning projects in a specific urban or rural context of varying magnitude with which the student is either very familiar, or one of which he can make a detailed first-hand survey. The student must also be made aware not only of the overall complexity of urban design, but he must also realize his position, his responsibilities and his limitations as an architect-member of a planning team and what the functions of the other professions and sciences are.

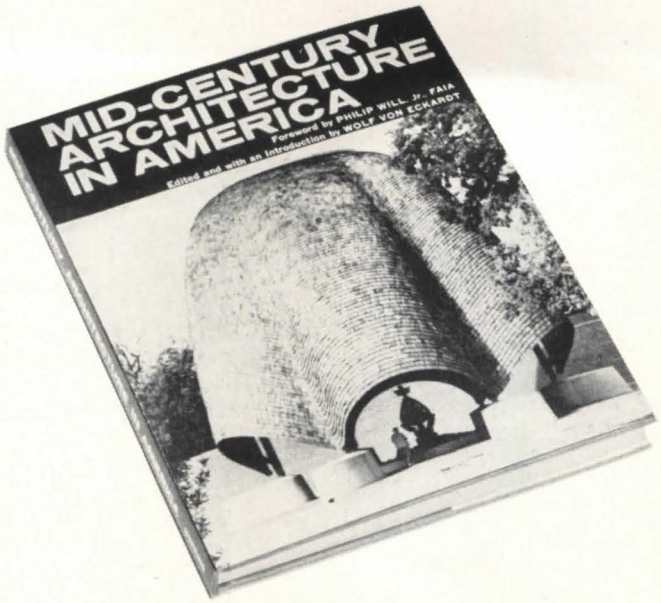
4 Architectural and planning case studies, as mentioned by Dean Burchard, seem to be an invaluable tool in giving the student a good understanding of the complexity of reality.

In view of the growing importance of city planning and hence urban design, the aim of the *graduate* curriculum should be to educate "specialists" in the related professions of city and regional planning, urban design, landscape architecture and building technology. The end result in urban planning being man's physical environment, all graduate students in the related professions should have an architectural background. If this were so, then the architect would recapture his true status of master builder.

Furthermore, since the architectural profession must rely on the services of engineering specialists who should have an understanding and appreciation of architecture in order to make significant contributions, it seems to be advisable to have architectural graduates specialize in the various branches of building technology.

Whether or not some of this graduate-level specialization should take place at the undergraduate level (considered at Grindstone Lake Seminar 1959) is a point which needs further study.

Aside from the teaching of a curriculum, the schools should more actively participate in local civic affairs and projects; first of all to bring the profession into the public limelight, and also to develop in the student a real sense of participation and responsibility toward his community.



Mid-century Architecture in America

Honor Awards of the American Institute of Architects, 1949–1961

Foreword by Philip Will, Jr., FAIA

Edited and with an Introduction by Wolf Von Eckardt

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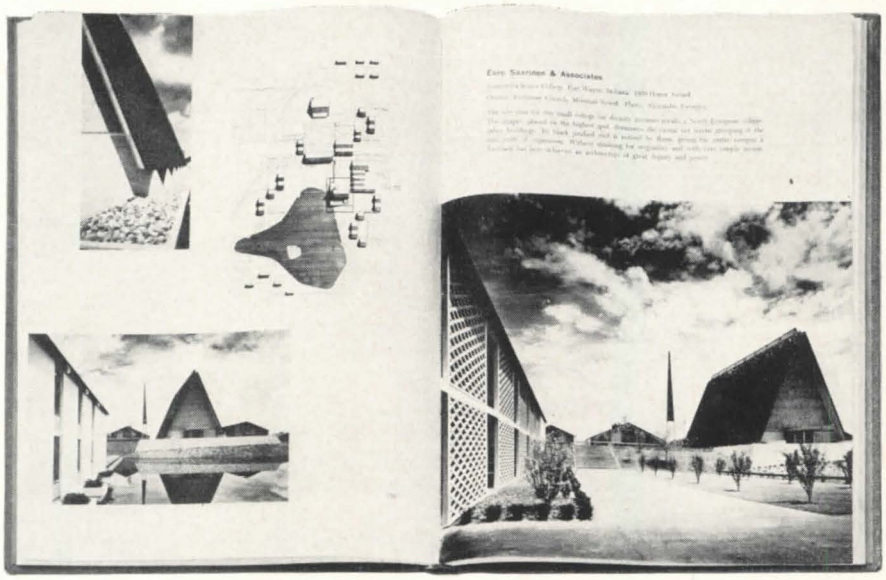

The annual AIA Honor Awards have become the national yardstick for excellence in American architecture. 1961 marks the twelfth year of these Awards, and here for the first time they are published in collected form. Over 200 buildings (54 Honor Awards and 174 Awards of Merit) are shown in stunning photographs and plan drawings: the selection is truly representative of the achievement of modern architecture in America. All building categories are represented in interpretive photos by the best architectural photographers, and a great deal of care has gone into the planning and printing of this handsome volume.

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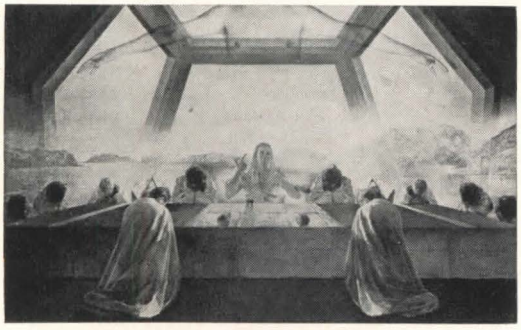
Allied Arts

Kitsch

by Wolf Von Eckardt



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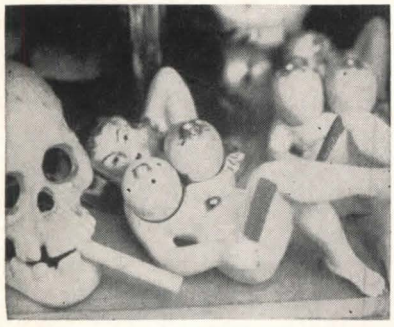
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►Contemplation, not long ago, of Salvador Dali's large and gaudy "The Sacrament of the Last Supper" (1) at the National Gallery has given new impetus to my efforts to introduce the word "kitsch" into the American language. It is the best word I know to describe the slick mawkishness of Dali's tour-de-force. It is also a word we all need, I feel, to describe an increasing tendency in all art forms to prettify and to ingratiate and to make the heroic sentimental and sentimental heroic. To oppose this sort of thing, we must be able to name it. Which is probably the reason American dictionaries have been so readily hospitable to other German words for things we somehow never quite thought of that way; things like *blitzkrieg, weltschmerz* and *sauerkraut.*

That is not to say that kitsch, like blitzkrieg or sauerkraut, is exclusively German. True, a *Gartenzwerg,* or gaily painted figure of a Disney-like dwarf, has lately become a new and much-discussed status symbol in West German suburban gardens. It is, however, no worse or more frequent than similar cute little coachmen, startled deer, or climbing plaster cats in American yards. Nor do golden tin miniature souvenirs of Brandenburg Gate differ from those of the Empire State Building, the Eiffel Tower, Big Ben, or the Taj Mahal. Kitsch is universal. Like art, which it perverts, it comes both "fine" and "applied," and its applied variety can be classified as religious, erotic, and political.

Examples of religious kitsch are not confined to lithographed pictures and papier-mâché statuettes. You also find them in contemporary church architecture—the kind where the colored stage lighting in the sanctuary is pushbutton-controlled from the pulpit to fit the mood of the sermon.

Erotic kitsch ranges from the "sexy" salt shaker (2) to the subtle and oh, so touching valentine card (3). Such titillating, limpid and rather waxen females were the common fare of Paris Salon Art at the turn of the century and set the style for the first silent movies. Today's fashion is to titillate not with melting innocence but with brash immorality — "Never on Sunday"—reinforced by enormous bosoms. But both are really pseudo —a substitute eroticism.

Political kitsch relentlessly plays on the emotions of the citizen with everything but good taste. (4) The prototype for all modern political kitsch is still the immense and hideous monument to Vittorio Emanuele II on Rome's Piazza Venezia. Let us not be too smug about that or those totalitarian highbreasted maidens upholding swastikas or hammers-and-sickles, however. Certain bronze soldiers raising a flag, patterned after a famous photograph, are no less *kitschig.*

The fact is, of course, that a certain amount of kitsch appeals to all of us. It somehow sweetens life. And those who find life otherwise bland need it more than others. Hence the embroidered "home-sweet-home" signs where the home-life is most dour and the erotic kitsch where repressed frigidity prevails. People who don't quite know why they are supposed to enjoy a work of art delight over its miniature souvenir version. Others appreciate period furnishings only in candlelight, soft music and with costumed waitresses and, if possible, a wax figure of Dolly Madison. But none of us are superior to kitsch. I love it in the movies and in Viennese waltz-schmalz. The combination sends me to ecstasy.

We've had kitsch for centuries and will continue to have it. Only this is new: Up to now there has been a certain safety in the fact that most kitsch was cheap and practically all of it was about fifty years behind the times in style—sort of Victorian. Lately kitsch has caught up. Souvenir shops are now full of silk-screened and semi-abstract pseudo-Picassos. Kitsch has gone modern and expensive. Some of the much be-labored Detroit cars are one example. Dali's "Last Supper" is another.◄

News

Robie House: An Open Letter to the AIA

An international committee of distinguished architects and laymen has been organized to sponsor the rehabilitation of the Robie House and to raise funds for the work.

The national significance of this landmark justifies the interest of The American Institute of Architects.

To quote Sigfred Giedion, "The Robie House is really equivalent to Brunelleschi's Pazzi Chapel in terms of contemporary architecture—it was the modest origin of a worldwide expansion."

Of the total $250,000 being raised, the Committee has hoped that the architects of the United States will give at least $30,000. Contributions from $10 to $50 will meet this quota.

The preservation and the already promised maintenance by the University of Chicago will show that our profession puts a high value on the architecture as part of the national environment, and I earnestly recommend your support.

J. ROY CARROLL JR, FAIA
President

Since the establishment of the Robie House Committee last fall, there has been worldwide interest in the preservation project. Letters and contributions have come from architects and students in all parts of the United States. Distinguished architects and critics in Great Britain, Japan, India, Australia, France, Italy and Germany have joined in the effort.

Frank Lloyd Wright visited Chicago in 1957 to aid in preventing demolition of his famed Robie House. "To destroy it would be like destroying a great sculpture or work of art," he said when he conducted a tour of the premises. It was the master architect's last public appearance in Chicago. He died in 1959 at the age of 89.

In 1963, Webb and Knapp, which had completed work on the Hyde Park developments, donated Robie House to the University of Chicago. The University has agreed to use and maintain the house in perpetuity, provided that the necessary amount can be raised for restoration.

An international committee of more than 100 architects, historians, critics and educators has been formed to raise $250,000 for restoring the house. This amount is based on a cost estimate prepared in conjunction with the University. The estimate included costs of restoring the original details of construction as well as bringing the house into conformity with current code standards. New tuckpointing, roofing and interior work in accordance with Wright's specifications are planned. A considerable amount of hand removal and repair is required. The fact that the house has not been used as a residence since 1926 has added to the necessary work to be done, such as new plumbing and wiring.

Once funds have been raised, the University will select an architect and arrange for restoration work. Although the University has not made a final decision concerning the exact use of the house, it may be designated as a home for visiting scholars. A portion of the house will be open to the public at specified times.

Contributions to the fund, which are deductible for Federal income tax purposes, should be sent to the Robie House Committee, Room 1006, City Hall, Chicago, Ill. They will be forwarded for deposit in a special, restricted fund at the University. Checks should be made payable to the "Robie House Restoration Fund of University of Chicago."

The Robie House restoration project is the first sustained, organized effort to preserve a building for architectural, rather than historic, reasons. Thus, this is a fund-raising campaign to preserve a building because of its importance to American culture, not because "George Washington slept here."

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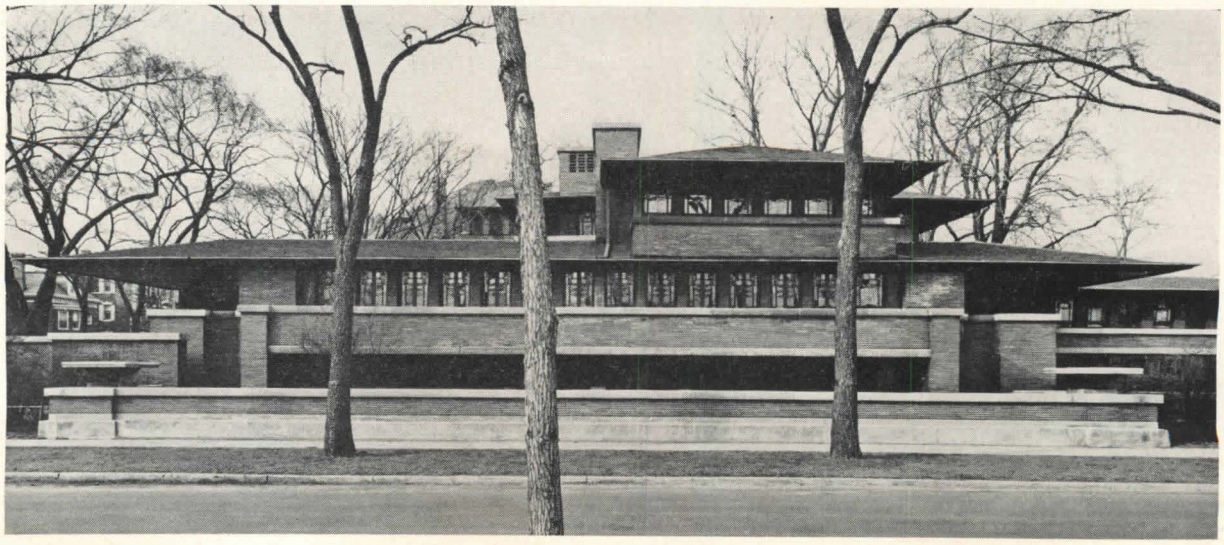
Robie House is structurally sound, but funds are needed for appropriate restoration



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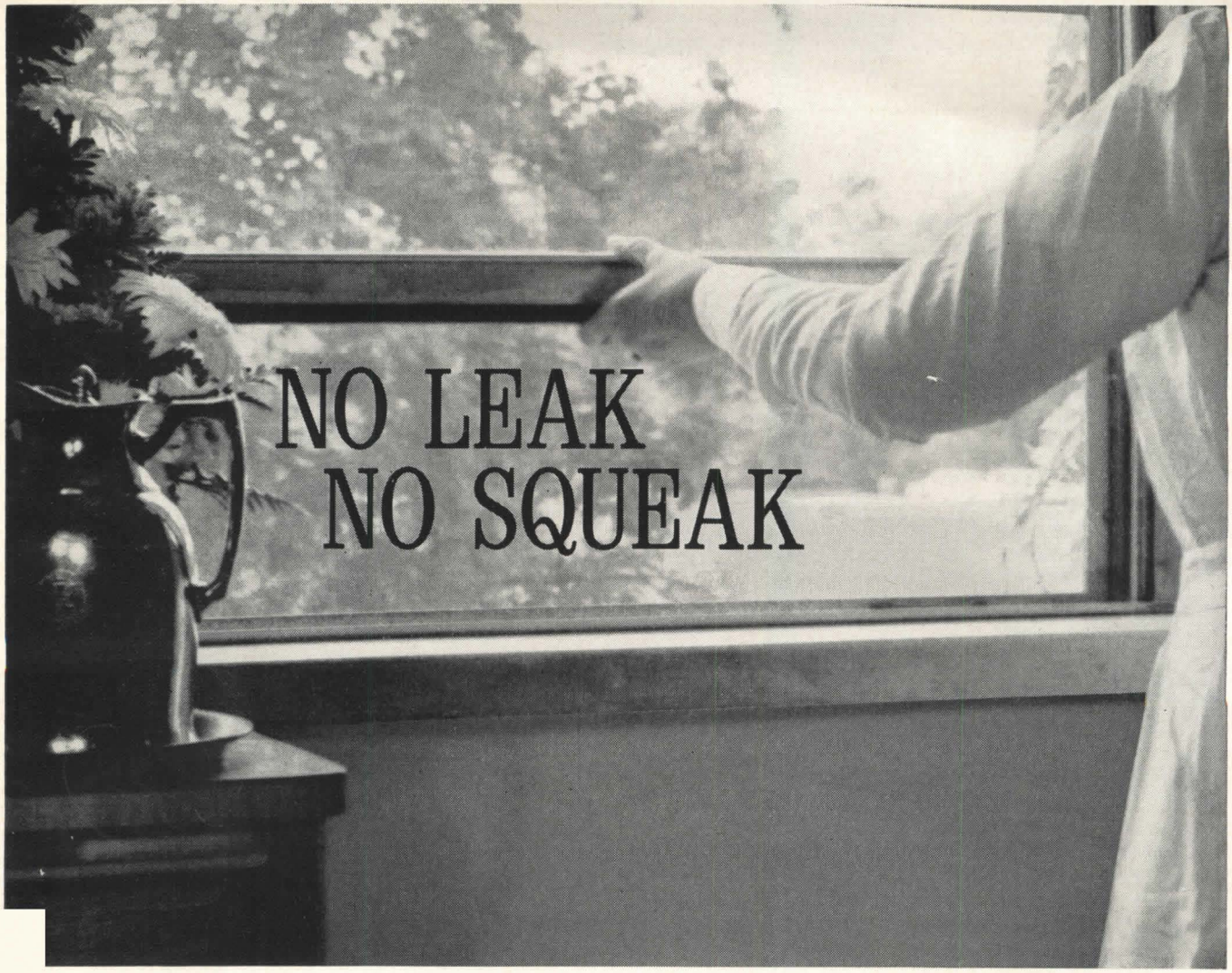

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Allied Arts

Weimar—Nürnberg—Bonn

by Wolf Von Eckardt, HON AIA

For its first series of exhibits, the new arts center of the New School for Social Research in New York City has set out to demonstrate the use of art as a political weapon. It could hardly have found a more poignant example than the political posters which, like silent screams, accompanied the turbulent march of Germany's history of the past forty odd years.

These posters, covering the period of the first German republic, the Nazi Reich and Adenauer's post-war West Germany under the title "Weimar, Nürnberg, Bonn," have never before been shown in this country. The show will be open to June 15. It is fascinating and frightening.

Newsreels and books of all kinds have, of course, provided numerous all-too-vivid chronicles of the events in Germany in which we all became involved and which added the new and utterly inadequate word "genocide" to our language. These chronicles tell us what happened. The posters of Weimar and Nürnberg give us a clue *why* it could happen. They are graphic evidence of politics carried to frenzied, emotional excess, of being taken so dead seriously that in the end it could only lead to death.

There is no use arguing that art had no part in this. For these posters are not the work of mere draftsmen carrying out some indifferent assignment of giving form to a content not of their making, as advertising artists do. Not all of these posters are good art. But they are art just the same in that form and content fuse in the heat of their creators' total commitment and conviction. The conviction is often fanatical.

The Weimar posters convey the persuasions of several of the more than a dozen political parties of that period. They are, however, all alike in the shameless way in which they exploit the hunger and desperate confusion of an orderly people who could endure anything but the chaos of defeat. With every line, every ugly color, every stroke of the brush, most of these posters are expressionism at its most extreme. Though done by far lesser artists, they would have been impossible without the great German expressionists of the period. The difference, aside from quality, is mainly that they do not evoke compassion but raw, irrational passion.

The Nürnberg posters are less raw and more calculated. Line, color and brush stroke combine in some to whip the prejudices and smug delusions of Teutonic supremacy of upright little people into orgiastic hatred. Others are masterful, mawkish designs that are like visual trumpet flourishes making the sounds of order in the fury of chaotic strife, elating frustrated pettiness into sham grandeur—*ein Volk, ein Reich, ein Führer!*

Even the simplest of these designs are superb poster art. One of them show nothing but flame-like, seemingly artless and casual brush letters on a dark background. The letters say only: "The Führer in Cologne, March 30, 1938." Yet, this poster is vibrant with emotion. You can sense that this Führer, his enemies crushed, Austria annexed, his Reich rearmed, was at the pinnacle of his power. And in the arrogance of these carelessly smeared words, you can sense a whole city trembling in suspenseful anticipation of a momentous event, the suspense heightened by the dark cadence of thousands of drums beat by thousands of stern faced, brown-shirted Hitler youths.

The Bonn posters are different. It is a different era, the era of a glowing economic miracle which all but outshines the deep shadow in which it occurred, the shadow of that wall which divides not only Berlin but our world. They are neat, calm, well designed and dull.

I had a curious reaction to them. A moment earlier I had been shocked by the emotional violence which marks the posters of Weimar and Hitler. Now I was shocked by the utter lack of emotion in those of Adenauer. The earlier emotionalism was the product, after all, of a tremendous vitality and fervor, of the same volcanic eruption of German art between the two arts which gave us Thomas Mann, Bert Brecht, Wilhelm Lehmbruck, Vasilyi Kandinsky, Ernst Lubitsch and Walter Gropius and Mies van der Rohe. In literature, drama, sculpture, painting, film and architecture, we are still building on the lava of that eruption.

You also could see that those Weimar posters were painted in cold studios on empty stomachs. Not that the Bonn posters were bad. You could hang them into the annual New York Art Directors' show and no one would bat an eyelash. But you could see how behind them were not ragged artists but well-dressed designers who drop their work at five sharp, go for a *Wirtschaftswunder* whipped cream or beer, see a Hollywood movie with German subtitles, sleep peacefully and resume work in the morning, their minds already on the toothpaste poster they would do next. There is no personal involvement in the issues these posters depict. If they are art, they are art for art's sake.

And is that not the reason for the all but total absence of art as a political weapon in this country today? It was not always thus. We never had political posters as the Europeans use them, but we too used art to fight for social causes. Remember the WPA murals and the work of Ben Shawn and Stuart Davis and Thomas Hart Benton in the New Deal days?

Now we ridicule the notion that art should have "social significance," just as the social significance boys once ridiculed art for art's sake. Now most of our official art has become introvert and uncommunicative, a soliloquy of the artist, intent to probe the inner depth of his soul rather than of the human drama, out for self-realization rather than the realization of his ideals, concerned with his inner conflicts rather than the conflicts of history in the making.

Yet, it is the very a-political, self-analytical quality of the new art which seems to rankle Khrushchev so and which has rankled Hitler before him. Perhaps non-politics is also a form of political involvement, just as atheism is a form of religiosity. Perhaps in that sense the abstract expressionists and the others of the perennial American avant-garde do care about Hiroshima and Birmingham, and the brotherhood of man. We can only hope.

And perhaps the German artists of thirty years ago cared too much. It would be sad if the artists of today cared too little. ◄