

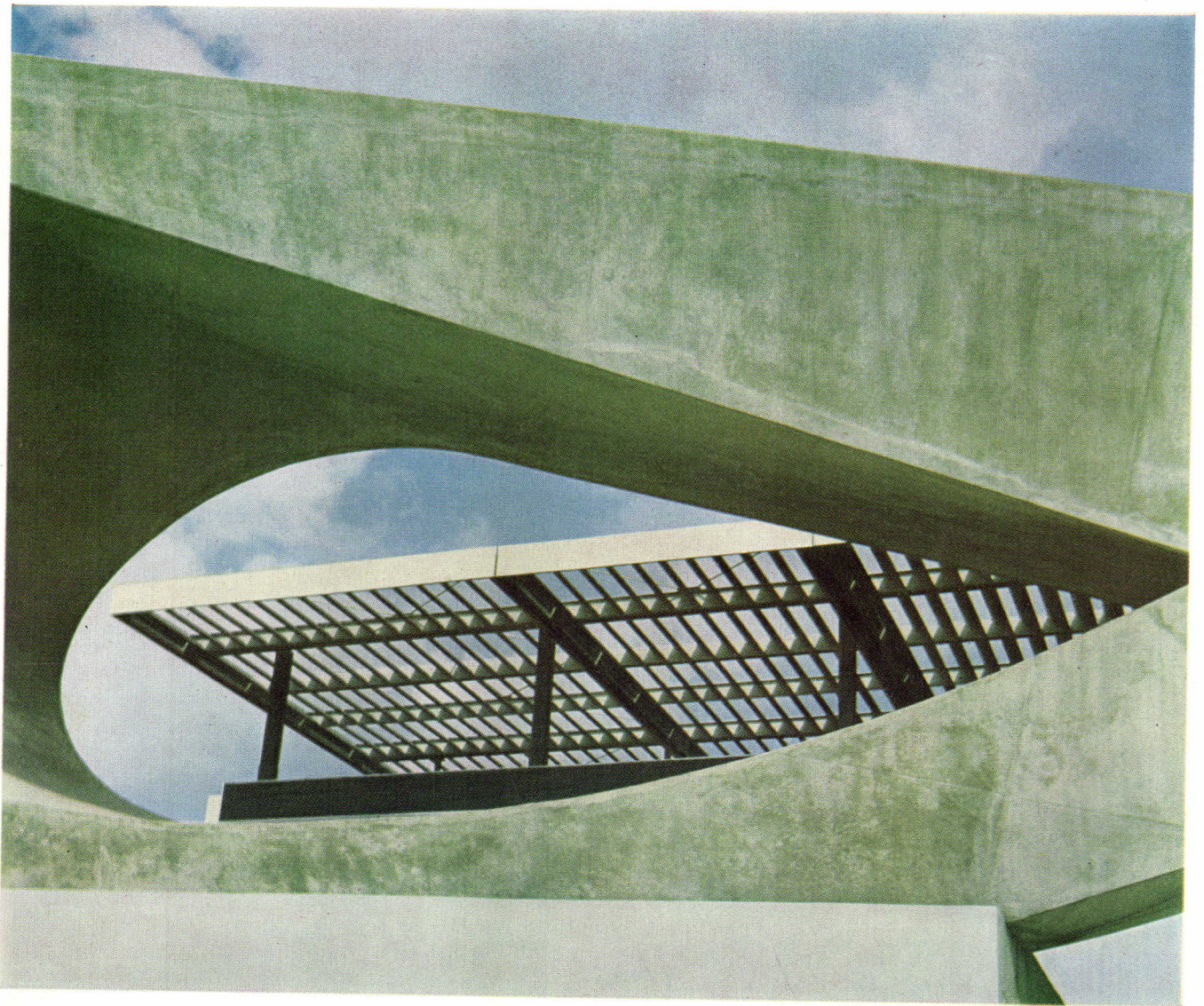


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June 1962

Journal

OF THE AMERICAN INSTITUTE OF ARCHITECTS



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A detail of the Museum Cultural Center at Le Havre, winner of the 1962 R. S. Reynolds Memorial Award. Story and more photos appear on page 88

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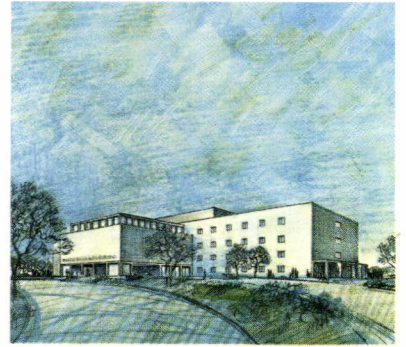
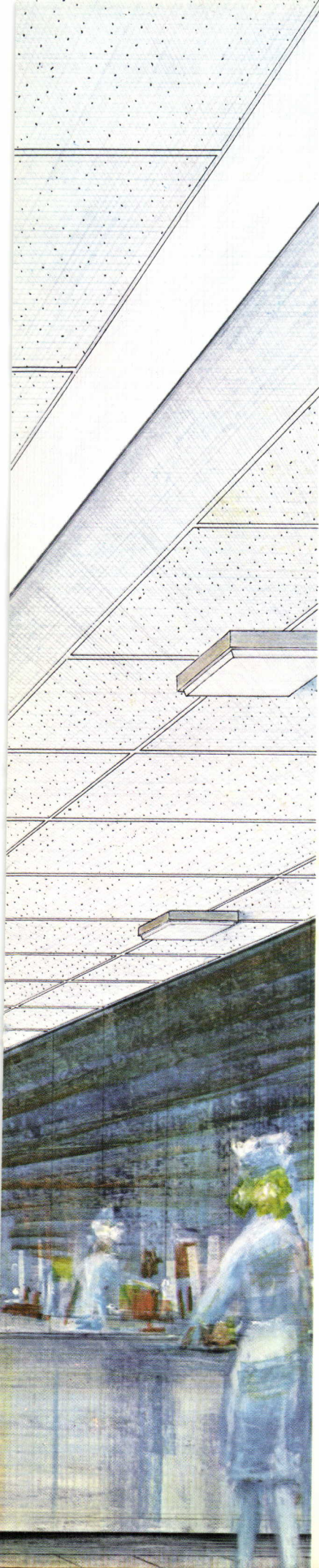
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Letters

A Monumental Failure

EDITOR, *Journal of the AIA*:

We must assume that the result of the [FDR Memorial] competition proved the chosen project superior in originality and design to the other entries. The question whether it is desirable to execute the chosen design in its present form has been questioned by many well-qualified critics.

The Jury stipulated that a statue or bas-relief of Roosevelt must be added to the project. This demand points out one weakness of the present design: the absence of a reference to the memorial's intent.

Kidder Smith, in his recent book on European architecture, remarks on the greatness of the Fosse Ardeatine in Rome, commemorating the slaughter of 335 Italians during the war, and the superfluous statue of three bound men adding an incongruous and unnecessary explanation. The Memorial should be strong enough without a pictorial illumination clearly demonstrating it as an afterthought.

Much has been said about the colossal scale of the project. The weakness of scale shows quite clearly in the photographs of the model, where hundred-foot trees dwarf the human observers. Most of the photos have been taken from heights of 150 feet or higher, points of view rarely assumed by the contemplating people. A micro-lens position within five feet of the ground would give a truer picture of the actual appearance to the human eye. Roosevelt's words engraved way beyond the reach of vision become a surface ornament or must be increased to enormous size, in proportion to the distance from the observer.

The unarticulated and repetitious forms of the monument have little to recommend in model-size. Blown up to 170 feet, their emptiness would become overwhelming. Human scale could express the warm compassion for mankind which Roosevelt's image meant to the people. To confuse bigness with greatness is a cruel mistake of monuments the world over. Stonehenge stands sixteen feet and less above ground. The chapel in Ronchamps has an area of forty by eighty feet.

It must be accepted that the useful memorial, the school, hospital or library, is not the purpose of this monument. But by denying it a utilitarian function, it takes on the obligation of a great work of art in order to do Roosevelt justice. The prize-winning architects must be encouraged to develop their original thought to a point where an added Roosevelt statue becomes superfluous and redundant. Trellised roofs and garden struc-

tures may be incorporated with water surfaces and protecting walls which could carry the engraved words of the President, scaled down to the human level and reading eye. Reduced heights of the slabs may blend into the surrounding trees, not breaking the silhouette of the green belt or tower over the water's edge. Roosevelt deserves a smaller monument.

JOHN HANS OSTWALD, AIA
Berkeley, Calif

The Population Implosion

EDITOR, *Journal of the AIA*:

Your Editor's Page in the April *Journal* deserves, and is herewith given, laurels and commendations. The preservation of the richer elements of our architectural heritage and the preservation of our diminishing open spaces go hand in hand. And in spite of all that architects, landscape architects and conservationists have said and written on the subject—are inadequately emphasized.

What makes this whole subject so critical today is the return from rural areas to the cities, but even more the population explosion, which in turn produces an *implosion* (to borrow a word from the AEC) which tends to destroy architectural milestones and open spaces alike.

It is gratifying to realize that thinking people—not only among the design professions, but in government circles as well—are becoming more and more aware of the diminishing resource of open space. Eggers and Higgins found how little there was left in the Astor-Cooper Square area, worked out a plan to do something about it by breaking down the fences and opening up block interiors for central malls, thereby creating the only open spaces in the area other than the streets themselves! They argue—quite rightly—for the human approach to urban renewal, which would preserve the integrity of the neighborhood when at all possible.

This, of course, might well be pushed a step further. Neighborhoods could be analyzed, their boundaries defined and themselves preserved. But intervening, transitional areas might better receive the attentions of the bulldozer, leaving open space for sun, air, transit and the like, while retaining the islanded neighborhoods intact. These, with their schools, churches, libraries, and such should be as far as possible from the inter-neighborhood areas which, in spite of their open and pleasant appearance, must necessarily bear the noise and danger of the transit arteries.

LYNN M. F. HARRISS, ASIA
Washington, D.C.

(Continued on page 10)



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“Constancy is the foundation of virtues.”

—Francis Bacon

The virtues of superior architecture—the excellence of line and mass, of color and of function—reflect not only the architect’s ideas, but their execution as well. Every material part of a building must be constant to the specifications, and constant through time as well, or the ideas will be unfulfilled and their virtues unexpressed.

In order to provide the necessary constancy, the Quality Verification Council of the Porcelain Enamel Institute has undertaken a program of quality research and certification for architectural porcelain enamel. The QV program provides for unannounced inspections by an independent consultant to verify the continuing capability of participating companies to meet the established QV standards.

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Criticism for a Critic

EDITOR, *Journal of the AIA*:

It is good that the *Journal* should publish book reviews. But please don’t conform to the bad current American practice which converts criticism of books into editorials about whatever the critic is thinking of. A book review should be a book review.

A particularly bad current example of this practice is Sibyl Moholy-Nagy’s irresponsible account of the collected works of Montgomery Schuyler as brilliantly edited by William H. Jordy (*Journal*, April, 1962).

There might not be much virtue in publishing such diatribes anyway, but if they were clearly marked as editorial then one might be tempted to reply. One might suggest to Mrs Moholy-Nagy that all the architectural wisdom and sensibility of two hundred years was not compressed into one quarter of the twentieth century; that Charles Follen McKim was a very considerable architect; that New York will be more diminished by the loss of Penn Station than Chicago by the loss of the Robie House. One could say that Schuyler sheds considerable light on architecture and his time, and that we cannot and should not want to erase this time from architectural history. One could also comment on whether the minds of the young people do need such zealous protection by their elders. Having somehow indoctrinated her students so that “they know damn well what modern architecture is,” Mrs Moholy-Nagy finds it dangerous “to challenge their untried convictions with volume after volume.” I supposed it was the duty of a teacher to assist students to arrive at their own convictions. . . . Of course, if they have been shielded from the counter-argument all the time, they may indeed be as tender as Mrs Moholy-Nagy seems to think. . . .

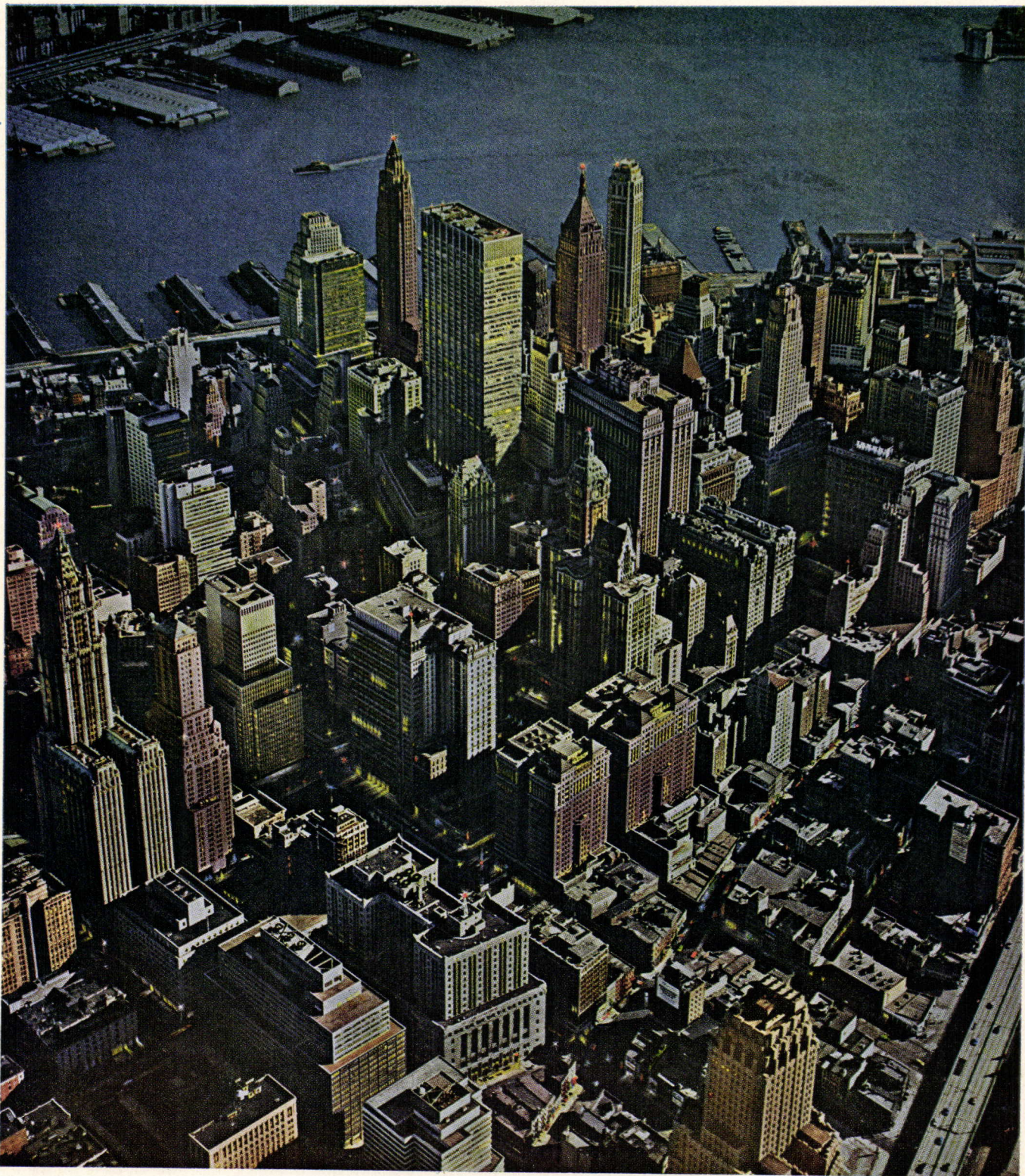
But since her diatribe was not published as an editorial, one cannot do any of these things. One can only express sorrow that the *Journal* did not demand and obtain a serious and informative account of a serious and well-edited work.

JOHN E. BURCHARD
Cambridge, Mass.

EDITOR, *Journal of the AIA*:

My review . . . represents a full month of conscientious work and numerous rewritings to arrive at the fairest possible evaluation. No invective, not even the highly personal one of the Dean, can diminish either this effort or its results.

SIBYL MOHOLY-NAGY
New York City



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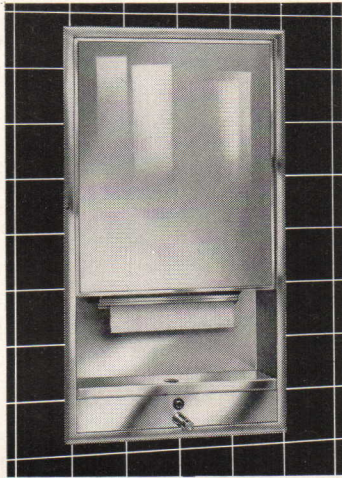
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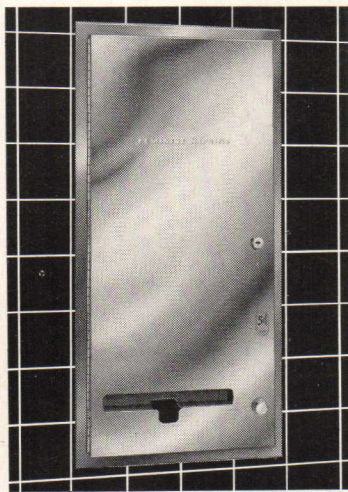
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U R B A N I S M S

A regular column conducted by our specialist on Urban Affairs, Matthew Rockwell, Director of Public Services

Problems with "701"?

In several states, notably Wisconsin and Kansas, a problem has arisen regarding the selection of consultants under the "701" provision of the National Housing Act. This Act is administered both through the HHFA and through certain local state agencies which provide their own list of qualifications in the development of a roster of "approved consultants."

Recently one of our outstanding members took exception to the "planning" activities of such a State "Division of Community Planning." These activities, partially financed through the use of "701" funds, provide for services to local communities which include "preparation of base maps, studies of past, present and future trends in population growth," etc. When these services are concerned with the minutiae of information which is largely inventory in nature, there are few architects who would be interested. But when they concern physical concepts resulting from assembled information, the architect is almost exclusively involved. In the words of Mort Hoppenfeld, "to be truly significant, design must be an integral aspect of the planning process." This concept has not been stressed sufficiently by the "701" program.

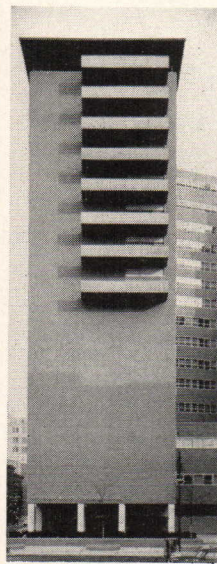
In states where qualifications are necessary to separate out the incompetents from the consultant rosters of the state "701" programs, architects have taken exception when they have not been included merely by virtue of being architects.

Occasionally membership within the American Institute of Planners is cited as a prerequisite to these lists. Be assured that this fact is not an open sesame to "701" practice, and be assured also that this is not a membership building service of the AIP. Our liaison efforts with the latter group indicate there exists more than a halfway inclination to develop "team" play.

We see the professions of architecture and city planning at extreme ends of a long continuum which lies between. In the middle are many disciplines: landscape architecture, sociology, economics, law, civil engineering. We should talk more of the similarities between architecture and planning than of the differences between architects and planners. ◀

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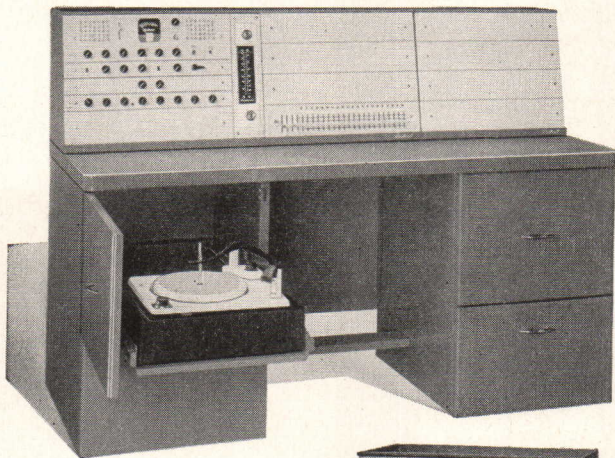


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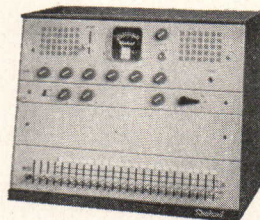
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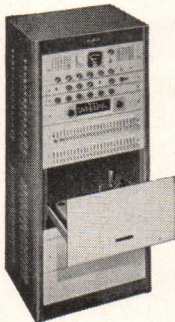


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News

School Shelter Competition

AIA, in response to a request from the Department of Defense, has contracted to conduct a national competition for the design of an elementary school incorporating a fallout shelter.

The competition, which provides for cash prizes totalling \$55,000, including a \$15,000 national grand prize and regional prizes, is open to architects and engineers registered in the US and to faculty members and graduates of architectural and engineering schools. A spokesman stressed that because of the scope of the design problem, collaborative participation by architects and engineers is encouraged.

In a statement on the design competition, Stuart L. Pittman, Assistant Secretary of Defense, said "It is self-evident that a nationwide program to make [fallout] shelter available cannot succeed without the continuing support of qualified architects and engineers.

"The ideas generated by these creative people, through a national design competition, will stimulate thinking and a desire among other responsible people to take positive and specific action.

"The results of this competition will show potentialities of public shelter in connection with only one of the many community facilities—schools. The features necessary for a public fallout shelter are present, or can be created at low cost, in many schools. . . . Because of the interest which architects and engineers have already demonstrated in civil defense efforts, I am sure that this competition will draw forth many useful ideas."

In addition to the national grand prize, a first prize of \$4,000 will be awarded in each of the other seven civil-defense regions; and in all eight regions second and third prizes of \$1,000 and \$500 will be given.

For copies of the program and registration forms, write: A. Stanley McGaughan, AIA, Professional Adviser, National School Fallout Shelter Design Competition, 1735 New York Ave, NW, Washington, D C.

Product Literature Awards

Forty manufacturers and eight associates took awards in the 1962 Building Products Literature Competition, sponsored jointly by the Institute and the Producers' Council.

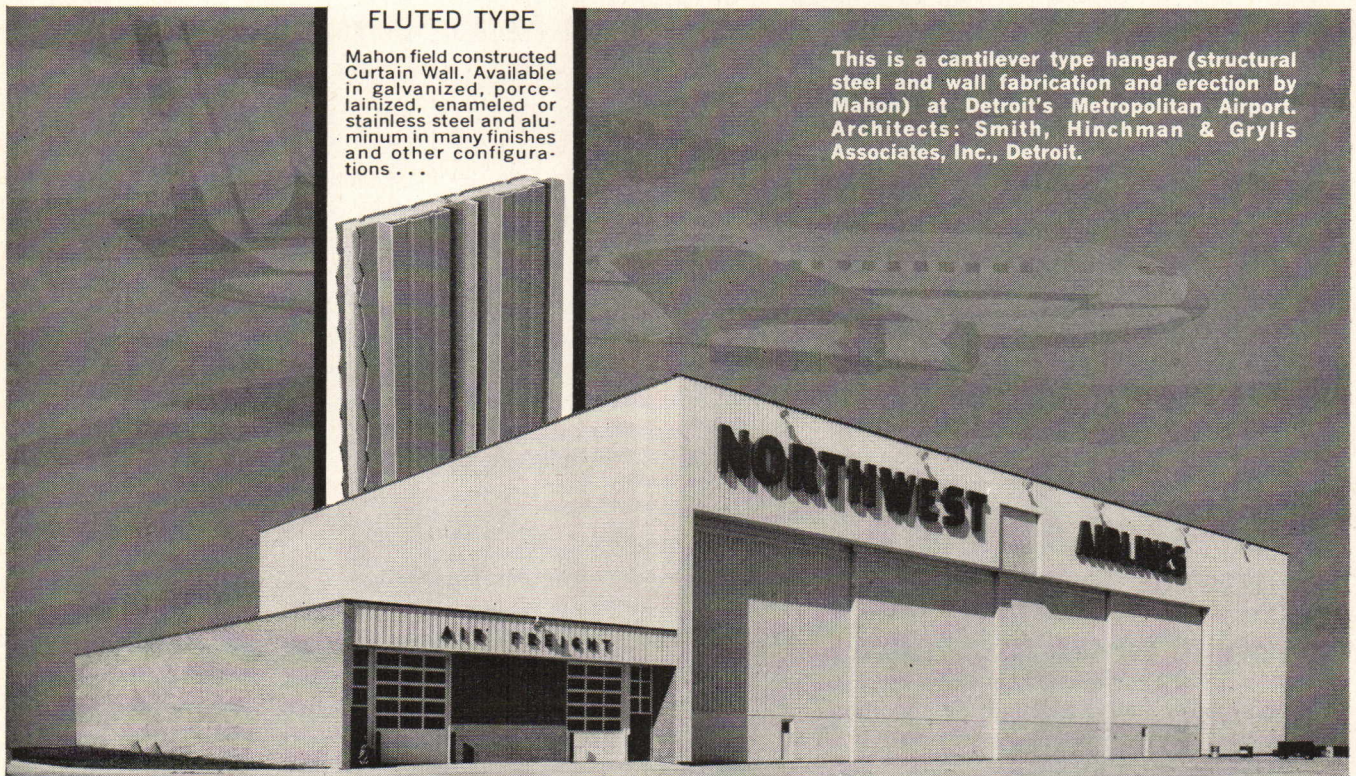
Top awards winners were Marble Institute of America, Koppers Company, Inc, Owens-Corning

(Continued on page 16)

56' high ... no horizontal joints!

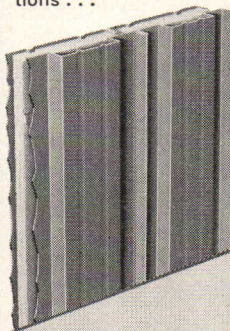
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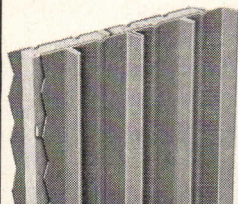
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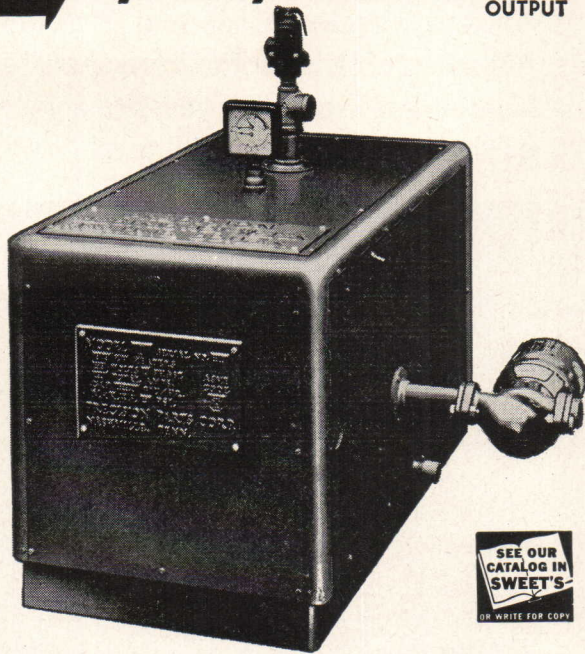
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News (Continued)

Fiberglas, US Steel, Portland Cement Association, and American-Saint Gobain Corp. All received Exceptional Merit awards for literature ranging from reference handbooks to space advertising.

Entries were judged by a Jury of Awards including D. Kenneth Sargent, FAIA, Edgar H. Berners, FAIA, Marcellus Wright, Jr, FAIA, and R. Lloyd Snedaker, AIA.

Mayan Architecture Exhibit

Clint Mochon, AIA, Milwaukee, has notified the *Journal* office that he has prepared an exhibit of Mayan architecture which he will make available to any school of architecture on a rental basis.

The exhibit consists of twenty panels, approximately thirty inches square, containing large photographs of Mayan architecture. Accompanying the exhibit is a collection of background material on the specific buildings and the architectural developments of the periods they represent. For further information about the exhibit, contact Mr Mochon at 11121 West Oklahoma Avenue, Milwaukee 19, Wisconsin.

In Appreciation

The Institute wishes to express its gratitude to Mr H. Leslie Hicks of Texas Granite Corporation for the company's generous gift which enabled seventy-five student delegates to the Dallas Convention to attend the Fiesta of the Six Flags. The gift was made jointly with the Cold Spring Granite Company, of which Texas Granite Corporation is a subsidiary.

Church Architectural Conference

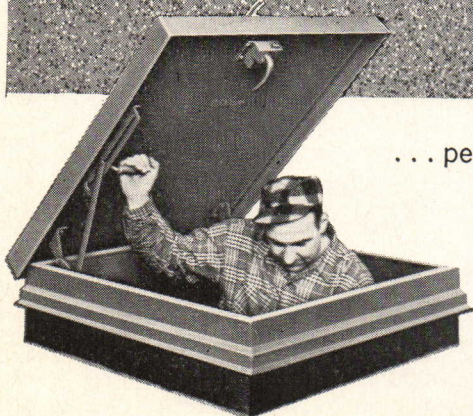
The Church Architectural Guild and the Department of Church Building and Architecture, National Council of Churches, jointly sponsored the 22d National Church Architectural Conference which met in Cleveland in late March.

Anthony Ferrara, AIA, was reelected president of the Guild, with Milton Grigg, FAIA, as vice-president; Walter J. Wefel, Jr, AIA, as secretary, and P. John Hoener, AIA, treasurer.

One hundred and fifty-two church building designs were submitted to the conference for consideration for the 1962 church architectural awards. The jury (The Rev Dr Hugh T. Kerr, Professor of Systematic Theology at Princeton, Dr Robert Iglehart, Chairman of the Art Department at the University of Michigan, and Paul Hayden

(Continued on page 18)

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News (Continued)

Kirk, FAIA) commented: "The majority of the entries suffered from both the indecision of the statement of the problem and the lack of an honest interpretation and use of forms and materials by the architects. The complete disregard for simplicity and obvious quest for the sensational was most apparent."

Awards of merit were made as follows: Birkerts and Straub, for University Reformed Church, Ann Arbor, Michigan; Stewart and Richardson, for Westminster Presbyterian Church, Eugene, Oregon; W. D. Over, for Scottsdale Congregational Church, Scottsdale, Ariz; Dalton, Dalton Associates, for St Anselm Roman Catholic Church, Chesterland, Ohio; Wright and Gillfillen, for Bethany Lutheran Church, Columbus, Ohio; Herk Visnapuu and Robert C. Gaede, for Community Church, Chesterland, Ohio; Curtis and Davis, for St Francis Cabrini Roman Catholic Church, New Orleans, and also for Immaculate Conception Church, Marrero, Louisiana.

Mr Lavanoux, as executive secretary of the Liturgical Arts Society and editor of its magazine, has crusaded for thirty years for more worshipful church edifices.

Franzen Honored

Ulrich Franzen, AIA, has been named winner of the annual Brunner Memorial Prize in Architecture of the National Institute of Arts and Letters. The prize was conferred at the Joint Annual Ceremonial of the National Institute and the American Academy of Arts and Letters in late May.

The Brunner Prize is given to an architect who shows promise of contributing to architecture as an art. The award was established in honor of Arnold W. Brunner, distinguished architect and town planner, who served for many years as treasurer of the National Institute of Arts and Letters.

Bush-Brown to Head School of Design

Dr Albert Bush-Brown, author, editor, architectural historian and critic, has been named to succeed Dr John R. Frazier as president of Rhode Island School of Design, following Dr Frazier's retirement.

Dr Bush-Brown is at present Associate Professor of Architectural History, and Executive Officer of the Department of Architecture, MIT.

He was the author, in collaboration with Dr John E. Burchard, of last year's best-selling book, "The Architecture of America."



A · I · A

Journal

FIRST CONFERENCE ON

“Aesthetic Responsibility”



With the blessing and support of the Board of Directors of the Institute, the New York Chapter AIA appointed a Design Committee, which planned and produced an all-day conference on “Aesthetic Responsibility.” Staged in some style in the Grand Ballroom of the Hotel Plaza, it was well attended by architects, the public and the press.

Because of its importance as a “pilot project,” and because of the stimulating nature of the majority of the short talks given, the *Journal* presents the conference almost in full. Only one of the nineteen panel speakers was an architect, and he spoke as an educator. It was purposely planned as an opportunity for the well-informed layman to ask the architect “Who is responsible for ugliness?” In order to compress it into the *Journal*, it was necessary to cut portions from the address of nearly every speaker. Similarly, the question and answers were cut down. However, no scheduled speaker has been omitted.

Officers and members of other chapters would do well to study the Conference carefully—for the ugliness that lies all about us is certainly the concern of the architectural profession.



Introduction by Philip Will, Jr, FAIA

Past President, American Institute of Architects; Moderator

► It is my immediate task to tell you why we happen to be here today. Every profession has a responsibility for a facet of the public welfare, a responsibility beyond the daily routine of its calling. As the doctors are responsible for the nation's health and the lawyers for the rule of law, so are the architects assuming responsibility for our man-made environments and environments in harmony with the aspirations of man.

Such a burden, however, is too heavy and broad to be carried alone by the small band of men and women who compose the architectural profession. It must also be carried by others. Not just the design professions, but all the men and women who share our concern.

The seed for this Conference was planted almost a year ago at the national convention of The American Institute of Architects. A New York resolution was passed favoring the creation of committees on design within the various chapters of the AIA.

I'm sure you know what happens when a soldier suggests something in the army. Mr Snibbe in New York was appointed volunteer in charge and Chairman of this pilot Design Committee.

A lot of work ensued and this Conference is the result.

That tells you how we happen to be here today and here, to tell us why, is Mr Snibbe. ◀

Introduction by Richard W. Snibbe, AIA

Chairman, Design Committee, New York Chapter, AIA

► This Conference was conceived for the purpose of inspiring community activity to fight our country's ugliness.

We must engage in this struggle if we are to develop culturally as well as scientifically. We are fighting immensity, the corporate mind—a total machine society, in defense of our democratic life.

We are fighting the pressure for cheapness in the midst of our greatest period of prosperity. We have never been richer and poorer at the same time. More production and consumption seem to lead to lower standards of workmanship instead of longer-lasting and more beautiful products and buildings.

We believe that broad citizens' Committees on Esthetic Responsibility must be established throughout the nation to arouse public awareness of esthetics, to re-educate people to see, to bring pressure on everyone responsible for our visual

environment to stop this desecration of our country.

I have here in my hand the essence of today's Conference—the thoughtfully prepared talks you are about to hear. I have read them all and there is a great deal of distilled thought and effort here. These are the words of businessmen, educators, public officials, writers, artists. We have not included at this conference the architects and lecturers heard at almost every gathering sponsored by architectural groups. Why? Because today we need new thoughts and a new realization of esthetic responsibility that will lead to action. Architects speaking to architects will not bring this about and so I particularly welcome, among the audience, the artist, the interested private citizen, the banker, the representative of industry and all others outside my profession who directly or indirectly help decide what our esthetic values shall be. ◀

What Are Our Esthetic Values?

William Wilson Atkin

Architectural Book Editor, Whitney Publications

► Slums, being robbed or mugged by an addict with a \$25-a-day habit, shelters, "Gun-smoke," Park Avenue nouveau: We don't have *any* esthetic values.

We cannot even begin to develop any esthetic values as long as we are a society that believes in war and spends fifty-eight per cent of its income supporting that activity. ◀

Eric Larrabee

Managing Editor, Horizon Magazine

► I would like to direct myself to a rather narrow topic, which is the tri-cornered relationship between the architect, his client and the builder. Doing so on the grounds that the standards which prevail, which is the topic for the first panel, are in many real senses a by-product of this relationship and the way in which it controls what architects can and cannot do, the way in which it is frozen and determines some of their power.

Obviously enough, the client and the builder possess very great powers. The client has the power to choose to do or not to do, the builder has the power to say whether or not it can be done. The architect's position is seemingly a strong one, but in practice I think it is often disposed to be weak. The architect has the creative power, the power to shape the construction, and he has certain legal powers to approve or not to approve the final result. But in fact what he often becomes is a broker between conflicting interests and a man who struggles to reconcile the irreconcilable. Now among the reasons why this is, there seem to me many that have to do with habit, with custom, with the temper of the times, with changes that have taken place in our society and that have not been fully absorbed into this three-cornered relationship.

For one thing, in an inflationary period like our own, the client is almost by definition a man who has an exaggerated idea of what he can

get. If you were to ask the average client to describe to you a five million dollar building, I am certain that he would describe one that could be built, if at all, for ten million. And the process of building such a building is, of course, the client's education and he blames the architect for his progressive discovery of his own lack of realism. What this process is like you all know too well. The architect struggles to bring the building within a budget. When the bids come in, it is over the budget and the job of hacking and mutilating begins. And what goes, in the opinion not necessarily of the architect, but certainly of the client and the contractor, is what can be spared. This is more than likely to be what we all prize the most, everything that gives a building or a project the qualities of beauty, amenity and humanity, the qualities that would perhaps save us from the swamp of ugliness in which we find ourselves.

In this respect the architect is the only custodian of the public's

esthetic needs. And his position is made, oftentimes, virtually impossible from the very start. I feel that I can say this as an editor, because editors are in a somewhat similar three-cornered relationship. We stand between writers and the public. But I must say in sadness by comparison it seems to me that editors have an accepted authority and responsibility. We are lucky in this respect. If it is our professional opinion that something is unreadable or uninteresting, the chances are that our views will prevail. If an architect says that a building is unlovely or socially undesirable, what are the chances that his view will prevail?

These chances seem to me today to be made somewhat worse by the intrusion into this triangle of a fourth party, whose arrival on the scene has not wholly been noticed, certainly not by the public. He goes under many names. I think of him primarily as the consultant. Sometimes he may be among the client's business managers or other advi-

sors, but by definition he is a man who possesses considerable actual control and has nothing whatever of the public responsibility. He often has the part of saying whether something can be done or not done. He often sets the figures long before hand, which will determine the way in which a building will be built. And as these figures are set, as I remember I. M. Pei saying one time, the architect may discover, when he comes late into a job, that somebody moved a decimal point six months ago and his job has been taken away from him and his opportunity for determining what will be done has narrowed. In this respect what I imagine I am counselling you to do is to stop this usurpation of what seems to me your natural role and to demand more responsibility, more authority, to carry out your own role.

As an example of this I would like to conclude with a single document which is in this rather large, ungainly book. This is a form letter which the architect Henry H. Richardson sent to his clients when they asked for information about his terms and his charges. I would like to read it to you.

"Dear Sir: The following statement was prepared in reply to the request of a client for an explanation of the basis of my charges and the responsibilities which, as an architect, I undertake. It has been my practice to charge 5% on the cost of the building, with an addi-

tional charge which covers, (1) the visits of the clerk of the works, (2) his travelling expenses, (3) my time loss in travelling and (4) my travelling expenses.

"My habit at one time was to charge for these by items, but I found this was as annoying to my clients as to myself and I now prefer to charge a fixed commission of 8% for all work costing more than \$10,000 unless the work is so far distant that the extra charge of 3% will not cover time and expenses.

"When interior work, such as mantels, wainscoting, ceilings, carvings on walls, columns, etc, is done separately the charge is very much higher than 5%, sometimes as high as 50%. But the charge of 8% covers everything inside and out that is not moveable furniture.

"I undertake by myself or my clerk of the works to see that all the necessary supervision is given to the building. The duration and extent of such supervision will be determined by the nature and character of the work. I do not agree to supervise, for instance, the laying of each brick or the driving of each nail, but I do agree to exercise such supervision as is calculated to, and ordinarily will secure the furnishing of materials of the kind and quality required by the contract and the performance of the work in accordance with the plans and specifications and in a good, workmanlike and substantial manner.

"Insofar as concerns the plans and specifications I guarantee that the building, when erected in accordance therewith, shall be suited to the uses for which it is erected and that the specifications shall embrace all that will be required to completely furnish it unless it shall have been otherwise expressly understood between the owner and myself. For any errors of construction which appear on my plans, for any failure to properly supervise the work, whereby the building when completed is rendered insecure or unsafe, or the stories or rooms are made inaccessible or incapable of being devoted to the uses for which the plans show they were intended, I consider myself responsible.

"In preparing the architectural design I agree, after consultation with the owner, to use my best judgement. I cannot, however, guarantee that the building, when completed, shall conform to his ideas of beauty or taste or indeed to those of any person or school. I can only agree to examine and consider this matter well and carefully and to recommend nothing which is inconsistent with my own ideas on this subject. Of course, when I follow the owner's positive instructions I consider myself relieved from all responsibility whatever.

Yours very truly,
H. H. RICHARDSON"

Ladies and gentlemen, there went an architect. Go thou and do likewise. ◀

Robert Beverly Hale

Curator of American Painting and Sculpture, Metropolitan Museum of Art

► I thought it might be pertinent to our subject to read to you a report written in the year 3000 AD—that's about a thousand years from now, you know. It's a report written by an archeologist from the planet Alpha Delta Phi, which revolves about the star Pi Upsilon in the far-off galaxy of Andromeda which is about a thousand light years away. This report was written for the President of that far-off planet and is dry and official in tone. But I feel that here and there it does touch upon our subject for today which is, of course, "What are our esthetic values?" The report begins:

Our spaceship flew in low and landed on a big pile of dirt our maps indicated to be the so-called Mound of Manhattan. We immediately dug a trench up what they called Park Avenue, from 47th to 59th Street and another up Lexington Avenue. This, Your Excellency

may assume, was most arduous work. But with the help of frequent drinks of hydrochloric acid we soon got down to the street level.

What surprised us was that we found hardly any skeletons on Park Avenue, but many hundreds of thousands on Lexington Avenue.

We assume this to be because the buildings on Park Avenue were so large they frightened the population. Lexington Avenue, on the other hand, was lined with many interesting little four-story buildings and little shops, all quite in scale with the skeletons. Certain of

these shops on Lexington Avenue were stocked with nothing but bottles of alcohol. Since these shops were literally crowded with skeletons we may, I think, assume that alcohol was to them what hydrochloric acid is to us.

We then returned to the spaceship for our Esthetic Value Machine—or EVM, as we call it. As Your Excellency knows, it is an indispensable item on an archeological expedition, archeologists being what they are. At our whistle, it came bounding out of its square box, but we soon had it on leash and took it down into the excavation. Here we unleashed it and requested it to give us the precise esthetic ratings of all the buildings on Park Avenue.

After sniffing about a bit, it returned to tell us that all the ratings were negligible except for a large bronze building set slightly back from the others. This building, it said, deserved a rating of seven on a scale of ten, which is not at all bad. We examined this building carefully and discovered it had been a temple dedicated to alcohol.

We had come to a mild depression around 59th Street and out of it stuck an architectural projection in the form of a dormer window. I looked inside and saw an abandoned valise with a towel in it marked "Hotel Plaza."

"I don't much like the look of that dormer," said the machine, and yet I'm registering pretty high. Maybe there's the remains of an esthetic convention downstairs."

Having finished these trenches, we led the Esthetic Value Machine over the top of the mound to the north. In the vicinity of about 82nd street, the machine gave a discreet cough, so we decided we'd dig there. We unearthed a vast storehouse called The Metropolitan Museum. This storehouse was full of canvas squares on which were painted images of the inhabitants of the planet Earth. We unleashed the Esthetic Value Machine and it at once began to run from one square to another. Occasionally it would get up on its hind legs, sniff at a canvas, and let out a couple of whoops from its frontal sirens. But soon it disappeared into the library where it quieted down and started to eat books.

We were delighted to see the images on these canvases because hitherto we had encountered only skeletons. But these images showed that the inhabitants had muscles to move their bones, the whole being

covered with skin, sometimes pink, sometimes brown, and, in the later canvases, even green and purple. As we thought the problem over, we realized that the bones were the compression members of the human body and the muscles, the tension members. To my practical mind it was obvious that human architects had not been in the habit of drawing each other in the nude, otherwise they might have incorporated some of this thinking into the design of their buildings.

In the great hall of the museum we found a pyramid of bones which on investigation proved to be the skeletons of the director and all the curators of the museum. We removed this pyramid and found at its base a canvas by Rembrandt entitled "Aristotle Contemplating the Bust of Homer." Such love and sacrifice on the part of the staff of the museum indicated this to be a most important object. Just why, we couldn't quite figure out. But then, of course, we knew nothing about the artist, the subject matter, or even the price the museum had paid for the picture.

At this point the Esthetic Value Machine came staggering out of the library, took a sniff at the Rembrandt, and climbed out of the museum, up to the top of the mound. I knew it was always dangerous to let these machines go poking around on their own, so I followed it. I found the machine on the edge of our excavation. It was stretched out in the sunlight, its antenna atip, its lights very low.

"What's the trouble?" I asked.

"My dear," it said, "I feel simply awful. I haven't felt this way since we flew over Detroit."

"But what have you been up to?" I inquired.

"While I was in the library down there," said the machine, "I literally devoured all the books that had to do with esthetics. And since all the books disagreed with each other, naturally they disagreed with me."

I reached for his leash. "There's nothing like a walk," I said, "to help digest a meal."

I stumbled over the rubble, dragging the machine behind me. Suddenly a shadow passed in front of me. I looked up and saw a winged figure moving swiftly across the blue sky.

"What's that?" I exclaimed.

"That's what they called an eagle," said the machine. "It must be the last thing left alive on earth."

We walked for a moment in silence. "How come," I said, "you

gave that bronze building down on Park Avenue a count of seven, whereas you only gave a count of five to the new Presidential Palace at home?"

"It's obvious," said the machine, "that the count would have been much higher if His Excellency had only left the architects alone. But instead of that he insisted on drawing half the plans himself and hiring a bevy of so-called consultants."

Naturally I was shocked by this remark, Your Excellency, I took a tighter hold on the leash.

"What was all that fuss over the Rembrandt?" I asked. "It didn't look like much to me."

"Ah," said the machine, "that's the great mystery of distance in art. They were very close. You were very far away."

"By the way," I said, "have you completed your digest?"



"Yes," said the machine. "First of all Clive Bell says art is significant form, but Tolstoy says it is the expression of emotion. Then Freud says it's sex activity, only different. Then there's Karl Marx, who says art is for the masses, but on the other hand there's Ortega y Gasset who says that so far as he's concerned, the masses can go watch a bullfight."

"But tell me frankly, what do you think?" I demanded.

"I would like to suggest," said the machine, "that no one theory of esthetics offers a full definition of art, but is simply a recommendation on the part of the author of what he would like art to be."

"Gee, that's bright," I said. "But, look here, you're only a machine. Are you going to sit there and tell me you thought that up by yourself?"

"Of course not," said the machine. "Anyone but an all-around square would know it smelt to high heaven of Ludwig Wittgenstein and even William James."

Again the shadow of the eagle passed before us.

"Isn't it strange," said the machine, "that the eagle is still alive, though all the ornithologists are dead?" ◀

Jo Mielziner

Stage Designer

► To evaluate our esthetic values in terms of architecture, I would like to break down values into three general categories: 1 Usefulness to man; 2 Pleasure to his eyes; 3 Uplift to his spirit. These are not only arbitrary, but they run into each other in the sense that a solution to a problem that has brilliantly solved its usefulness to man, would in itself afford both pleasure to the eye and some uplift to the spirit. Because we live and struggle for survival in a very pragmatic world, standards of achievement are apt to relate far too much to the first two categories—the useful and the pleasing. Pressures of time and meeting economic demands are so engrossing that they are apt to sap so much of the architect's creative energies once he has accomplished these, little is left for the final and perhaps the most creatively important category—the uplift to man's spirit.

I, personally, have a passionate love for the city of New York even where it is so obviously the victim of overcrowding and lack of planning. One side of me tingles with excitement, as I observe a new giant tower of power reaching up in mid-Park Avenue and dwarfing the skyline. However, I must confess if I were guiding an out-of-town visitor to the sights of New York, I would have a hard time pointing out many examples of its esthetic virtues.

Twentieth century America has achieved wonders in efficiency, but I fear in a very limited way. We have reflected a lot on how man works, on what his bodily needs are, but precious little on what man's spiritual needs demand. The dotting, in an overcrowded city of little islands of architectural gems, however heartening, is no solution.

The understanding of man's spiritual needs, and the lifting of his capacity to face his daily life is certainly as important as meeting his physical needs. One should go with the other. We have almost totally failed in the latter category.

For a moment let us face certain facts about creative people in whose hands lie the responsibility for upholding and preserving esthetic values. The average architect, or city planner, or landscape architect is, like every other artist, essentially a craftsman, perhaps a super-craftsman, with the benefit of a very good education. But like all other creative people, the moments of high creativity are relatively rare.

This does not mean that the

super-craftsman or the architect should not have high aims at all times. There is very little in both our training and in our practice that could be thought of as a drive for beauty in our lives. Our driving forces are for mere existence—for meeting the payrolls, meeting the calendar, meeting the budget.

When society is willing to accept such disorder in basic planning, dirt and noise, public buildings and means of transportation devoid of even a pretense of pleasing the senses, how can we give really serious consideration to the evaluation of esthetics?

We live in a climate of excessive materialism. Not that our design talent isn't rich, but the seeds will not flourish in a soil unexposed to sunlight. That light is the potential power in every man to a lift of his spirits. I am not talking about high-flown esthetics or intellectual experiences, limited to the highly educated mind. I am talking simple fundamental feelings and needs and desires in a healthy man. The first glimpse of spring buds in a park will give the most jaded city dweller the lift that I am talking about.

Expose enough brilliantly-lit blue cyclorama to an average audience in a theatre, and you will invariably get a round of applause. This seems to be a reaction of release after too much confinement in our low-ceilinged homes, in our subway cars, in our taxicabs and in our working areas. It takes no great erudition or education for the average man to respond to basic beauty.

I doubt if the most insensitive

creature living in New York has not constantly and repeatedly found pleasure in the lines of the Brooklyn Bridge or the George Washington Bridge. If the same form were strung along Third or Fifth Avenue, it would be almost meaningless because we'd look at a part and not at the whole. It is the setting which counts as well as the part.

One must be grateful for crumbs in a diet of starvation. Recently-built city office buildings, which provide a little extra breathing space or perhaps a fountain or some planting area are most gratifying. But esthetic values that have high standards must be associated with long-range city planning. Is an hour's ride, at the beginning and the end of the day, for a worker in a beautiful building like Chase Manhattan, a proper way to condition the best use of his spirit?

In summary, I believe that our esthetic values have been disastrously lowered by the standards set by public works, and by the publicly accepted chaos in our city planning. An hour a day spent in our subway system is both spiritually depressing and a degrading experience.

Perhaps our efficiency experts could spend less time and money on "Man the Machine" and re-examine "Man the Spirit"!

Ideally, a high esthetic standard requires a great subject, a lofty conception, monumental execution. It looks to find the beautiful and the spiritual in all things—even though it may be only allegorical or symbolic. ◀

Nathan Cabot Hale

Sculptor

► I could not, with any honesty, tell a gathering of architects what their esthetic obligations should be, but as a workman in an allied field I can speak of factors which make holding to esthetic principles a difficult thing. It is an easy matter to make a declaration of one's values but it is far more difficult to uphold these values in day-to-day life. Sometimes values are laid aside because of external factors, but more frequently the most serious threats to esthetic values come from within the creative man himself. There are three factors basic to the holding of work-principles which I would like to discuss at this time.

I mention the problems of compromise first because of all aspects of esthetic problems this is perhaps the least understood and the most dreaded. At the same time there is no great work of art, nor any great human achievement which does not in some way reflect the giving-in of the creative man to factors which were new and surprising. Often the unforeseen and uncalculated currents of life demand solutions to the new and sudden problem. Where is the man wise enough to include within his esthetic concepts a generous clause which covers the reasonable and rational necessity for compromise? Where is the man wise enough to include within his estimate of creative problems a blank page, or even a section, in which he can allow life itself some scope and latitude? Too often the creative man forgets that others have needs and beliefs which, though he may disagree with them, are every bit as valid and necessary as his own. He fears compromise because he feels it is a sign of weakness rather than strength. But the mark of a truly able man is that he has the ability to come out of a compromise with a better product than he may have had in the first place. Work is the creative intercourse of the human community and the man who holds his esthetic principles to be pure and untouchable is a man who gets little or nothing done. The only way esthetic values can have any meaning is through their constant use, even if only in part.

The second factor I would like to mention follows logically from the first. It follows the factor of compromise because if compromise

is not understood and the creative man is incapable of it, he will never be able to stand his ground and fight for his convictions when the occasion demands that he must. All too often this order is reversed and men fight before they have learned to give in, before they have learned to cooperate in the world of work, before they have established the fact that they can work competently in their field, before they fully understand the technical heritage from the past. And it is because of this that they do not fight well, for no man can fight a good fight if his aggressiveness is based on a hard-headed inability to negotiate peace and an inner knowledge that he has not served a true apprenticeship in his profession.

Esthetic values are road signs that point toward the future but no man can develop values worth fighting for without first having submitted to the self-discipline of years of practical experience and training. Since the beginning of this century there have been many juvenile delinquent street rumbles in the creative professions but there have been precious few stands taken that have shown the mark and character of mature judgment and insight. Mere novelty and form-juggling, covering ancient platitudes, have been hailed as great achievements and an infantile gibberish is the common tongue. There are too few creative men willing to pay the cost of originality, of development, of human insight. There are far too few men willing to take a stand if their livelihood, their professional friends or their social connections stand in the balance. There are not

many men who have something new and meaningful to contribute, but when a creative man does, there is a time when the cost of this offering will be dear to the creator. Unless the creative man is prepared to pay this cost his offering and contribution will die within him.

The third and final factor, and perhaps the most important of all, is the individual's dedication to and belief in the importance of his field to mankind. He must know how and why his particular kind of work is needed and vitally useful. Without this feeling of dedication the creative man will never have the heart and stamina to meet the defeats and disappointments that are so much a part of the fabric of creative life. He will never develop to that point where the man is inseparable from the work, he will never achieve skill and insight to that point where even the smallest detail reveals the touch of the master craftsman. Without this he will live in a limbo of dissatisfaction, a clock-puncher and a time-server and the world will be no better for his having lived.

I know of no way to give you heart, I know of no way to make you fight for the things you are capable of doing for the common good, I know of no way to make you cooperative and reasonable, I know of no way to make you firm and straight in your beliefs, unless it is to say that the people, untrained and unaware of the complexities of your profession, look to you and trust in you. They are obliged to live and work in buildings you design, and as a consequence, a great part of their lives is in your hands. ◀

David Amram

Composer

► Our preoccupation with the arms race has been mentioned in newspaper articles, books, films and even in some of our most passionate poetry. The struggle for civil rights has made headlines for the past decade. But this is the first time I know of that one of our most serious problems, the race towards total ugliness, has ever been considered worthy of discussion, where artists have been honored to express their feelings towards today's dilemma of modern living and present their possible solutions to a distinguished audience of fellow artists, civic leaders and members of the press.

As all of us know, these problems are not of an abstract or ephemeral nature. They are desperately real. The air we breathe is polluted in many of our industrial cities. The countryside, once the most wild and beautiful in this hemisphere, is now being ravaged by opportunistic individuals who apparently feel that houses, like cars, should be built for a trade-in value, rather than as homes that will last for generations.

And in my field, music, the majority of what we hear (often involuntarily via someone else's blasting radio) has the same qualities of jiffy housing projects. It is quick-buck music, mediocre by premeditation, designed to be heard, sold and forgotten about, designed for an immature audience to replenish records that have been thrown away.

Why should the greatest achievements in Western musical thought be considered to be by definition "something that a minority of people enjoy?" Why should the airwaves be jammed with trash? Don't the sponsors ever listen to their programs, and if so, where is their pride? Shouldn't they have a sense of responsibility to the thousands and millions who listen to the programs they sponsor? Apparently not. Most of them seem to have that peculiarly American idea that the public is one stultified, mass-thinking teenage moron. Perhaps another decade or two of totally tasteless music will make this image a reality. We may be producing a nation of people trained *not* to listen.

In Europe, there is always good music to be heard and ironically enough our very own musical form—jazz—can be heard in abundance. Although a great many books have been written about music, and although we supposedly are very art-conscious during the sixties, the fact is that in most parts of America,

good music is still woefully inaccessible on the air, and overpriced in the concert hall. And in spite of the hi-fi boom, all the recordings ever made are not as moving as being present at one great performance of a work that you know and love through repeated hearings.

At my last Town Hall concert in February, there were 1,100 people and they stayed until the end. They were quiet, and because I heard no audible snoring, I assumed they were listening. It was not easy music. I am sure that three-quarters of the audience was not too familiar with modern music, certainly not with a whole evening of mine. But the fact that they stayed and listened made me feel that the tribute was due to them, and to all people who are still searching for some esthetic values and spiritual fulfillment in our twentieth century jungle.

But what about the audiences of twenty years from now? What about the millions of kids whose only contact with music is via a transistor radio, a juke box, or television's most depressing shows, the dance programs designed to exploit a fourteen-year-old market, to sell records that are to be thrown away after a few hearings?

In the future will these children go to concerts? Will they in fact even be able to listen at all, after being bombarded and brainwashed with musical garbage most of their early lives?

The oldest cliché amongst music-mongers is (and I'm sure it has its equivalent in all professions) "that's what the *people* want." Who says that's what the people want? And don't we all share an untold responsibility for what people *will* want in the future? Shouldn't recording firms, music publishers and broadcasting stations who make millions from the music industry plow some

of the profits back into music, commissioning many serious works and pay fine artists to perform them? This is done occasionally but not nearly often enough. Aren't they obligated morally, aren't we *all* obligated morally, to try to maintain and possibly raise our cultural standards? To try to create something of value to pass on to future generations? To give hope, in spite of the false image that many would like to portray us as representing—a gigantic billionaire baby—to show there is still a need in our America for dignity and pride in the world of spiritual achievement?

The sad truth is that while we don't like to admit it, junk pays better than art, and in our time, con-men and over-publicized hacks are even being accepted in the fine arts.

Even in my community of Greenwich Village, the junk men have started to take over. Some of our so-called housing developments have ripped down old homes and replaced them with \$100-a-room monster apartments whose walls are so thin that above the Muzak, you can hear toilets flushing and people's conversations throughout the night. Is this the Brave New World America was destined to become?

If not, who and where is the enemy and what can be done about it? I believe the enemy is collective apathy on *all* our parts and that a more beautiful America starts with the people who are responsible for beauty—the artists, architects, composers, and writers, and that we must be more courageous and socially conscious than we have been up until now.

We must lead the way or there will be no conference like this again, because in twenty years there will be no esthetic values to discuss. Our energy, integrity and dreams are desperately needed *now*. ◀

Dr Leonard Carmichael

Secretary of the Smithsonian Institution

► A study of the anatomy, the physiology and especially the physiological psychology of essentially unchanging human beings suggests that there are certain esthetic values that are relatively fixed because they depend upon the nature and make-up of man as a biological organism. The late Bernard Berenson in "Aesthetics and History" has well made this point. He says, "Human values depend on our physical make-up, on the way our brain, belly, and members act, and on the demands made by the needs, appetites, and impulses they give rise to."

Greek architects had already mastered the fact that if a normal human being is to see a straight line in certain structural relationships because of the inborn character of human visual perception it is necessary to cut the stone not as a straight line but rather as a line with very specific curvature. Every painter knows that the hue, value and saturation of pigments on canvases are not fixed things in themselves but are dependent upon other simultaneous or sometimes successive patterns of retinal stimulation which all normal people share in common.

Rudolph Arnheim's significant book "Art and Visual Perception: A Psychology of the Creative Eye" considers in an important general

way the role of human perception in esthetics. He points out how a study of perceptual psychology discloses a common core of truth which makes specific characteristics of art relevant to all men. This, he points out, is "a badly needed antidote to the nightmare of unbounded subjectivism and relativism." The chapter headings of Arnheim's book are Balance, Shape, Form, Growth, Space, Light, Color, Movement, Tension, and Expression. These names give some indication of the areas of esthetic consideration that gain illumination from an understanding of human physiology and psychology especially as the processes studied are seen to be inborn in all normal individuals and in all ages and civilizations.

In other words, the thesis may be supported that the modern scientific study of the human individual may assist in disclosing some of the fixed and stable principles of esthetics that no amount of relativistic theorizing can ever displace. A real knowledge of the human organism makes it clear that certain esthetic principles cannot be altered by mere whim or wishing they were not so. To put this another way, man has special inborn ways of perceiving and some esthetic principles depend upon the nature of this perception. Inborn human perception and esthetic values are related: what God has joined together, let no man put asunder! ◀

This paper was read for Dr Carmichael, who was unable to be present.

Discussion Following the First Panel

Question: This is addressed to the panel in general. On the question of "what are our esthetic values?" all of the speakers seem to go off on a tangent a little bit. We would like them to tell us what they consider to be our agreed-upon esthetic values and how these values are fostered by our educational system.

Mr Larrabee: I think it's an excellent question, but I don't think it can be answered because I, and as some of the other speakers have said, don't think we have esthetic values. I know how well trained architects are. They spend many, many years in school, as do artists, and Mr Hale really beautifully pointed out that the values are so vague, no one knows what they are. I believe the purpose of this conference is to kind of agree on them

and find out what they are and *do* something about it. It's probably a question that the architects themselves will have to answer.

Chair: There was an important part to that question, which dealt with our educational system. I think I sensed the implication that we are raising a nation of esthetic illiterates. Would one of the panel members care to comment?

R. B. Hale: I think the situation in the visual arts is certainly much better than it used to be. When I went to college there were hardly any courses in the college on the visual arts. But nowadays art schools and architectural schools have sprung up all over the country. People, rather than going to Europe for their visual education, seem to stay here and I'm quite encouraged about it, actually.

Chair: It seems to be a tenet of education, that a literate man should be educated in language, he should be literate in numbers, and I question whether it is an objective of education to make us visually literate or literate by the ear. I wonder if Mr Amram would care to comment on this. He suggested that we may be raising a race of aural illiterates who will not know how to listen.

Mr Amram: I think that people do know how to listen, that they are sensitive to sound and to feelings. I don't think the problem is with people. I think the problem is with the means of communication, and especially the means of mass communications concerning music and probably other art forms as well, are controlled by people who assume that people have a

lower level than they in fact do. If I may digress for a moment, the New York Shakespeare Festival, which I worked for in New York in 1956 as a composer, started as nothing. It was done in a church on the Lower East Side and in Central Park. They had no publicity at that time, and no recognition. Yet the people came by the thousands every evening to come and see Shakespeare. And we had concerts last summer, people came by the thousands. The Shakespeare plays were not done in a "pop" form and the concerts we had had modern music and serious classical music and there was a huge audience. They weren't esthetes, they were first-come first-served people who were in the park; perhaps they were just strolling by. But from having observed these audiences of people who were free to leave, I've found that they pay an enormous amount of attention and that people *do* care. I think the problem is that there has to be some way on the artist's part, and on everyone's part, to try to get higher standards of expression in the fine arts on a mass level. I think that we have to, because people have only so much time a day to listen, to look and to see, and if the means of public communication are jammed with trash eventually we are going to produce a nation of people who are trained not to pay attention.

Mr Larrabee: Another way of answering it might be that while agreeing with Mr Hale that one of the reasons we can't state the values here now as abstractions or as slogans, is that they are comparisons; they are, by the very word, value judgments. It's the difference between good and bad. And the way in which education can contribute to this, the only example I can give is the only course I experienced myself which seemed to do it, which was Jacob Rosenberg's course in old master drawing. And he had a very simple teaching method which was to put a genuine drawing and either a pupil or a fake alongside it and ask each member of the class to give his choice and to justify it. At the end of the class he would comment over the drawings himself and make his own choice. After doing this a few dozen times the class began, dimly, to see what he was talking about and to appreciate that there is a difference between a master and a pupil. I know of no other way in which one can

gradually grow to sense this, I know of no other way in which each of us can exercise his own judgments, I know of no other way in which the public is likely to arrive at the same thing.

Question: Is it not the cause of our low esthetic value the fact that in lieu of dealing with one client, as Mr Richardson a few years ago luckily did, the architect is now dealing with a group of various interests?

Chair: It's certainly true, yes. I'd grant the truth of the statement, at least, I would and I think the panel would agree. Obviously the reason consultants are called in in many cases is precisely because the client is a committee and a committee doesn't trust its own judgment and so it hires judgment in the form of people who will give it what it supposes to be objective information. This is in a sense a default in its own obligation. Now I agree this comes close to the heart of what's wrong in that these things are diffused and you have no responsibility by the time you are done.

Question: One of the indispensable factors in creation is time. How do we get time in this day and age for the creative process for the creation of better city planning and better buildings?

Mr Mielziner: I don't think the individual creative responsible party like the architect can ask for more time. But if he's a strong person dedicated to his own ideals he can proportion his time and energy and say I'll just do this and I'll do that and refuse to bow to certain pressures which exist. Every artist who works for a client meets this problem and I think it's a question of the personal integrity of the artist. I know that you cannot change the timetable of our modern society and say I can't design this building in six months I have to have two years. But you can allocate your own energies, your decisions and your time.

Chair: The moderator would like to add that the first necessity is to ask for the time. Frequently we simply accept the client's demands without question.

Question: Did Nathan Cabot Hale in his discussion of compromise overlook the "violent" artist who refuses any compromise of principle and thereby effects a worthwhile and significant change?

N. C. Hale: Well I'll tell you quite truthfully everybody's got to compromise and everybody does

but they hate to do it—even these men do—I know a lot of them. It's learning how to do it and learning to do it in such a way you really don't compromise that's your chief problem. How to give in; how to give in to a client in such a way that you get your idea across and you build the building you want to build. Personally I don't compromise because I don't have to unless I am dealing with architects and then I *have* to give in to them.

Chair: Touché. I suggest that there is an intimate relationship between that question and the one of time. If you have enough time these compromises can be minimized. One must go through the educational process for self and for client and perhaps for the architect.

Question: Mr Mielziner seems to say that usefulness to man is an esthetic and the question is what other panelists think.

N. C. Hale: I don't feel that any of the work of the professions is done in a vacuum and I think essentially art and architecture, of course, has to be done in relation to people. . . . It's difficult to say in a sentence or two just what this usefulness is, but I think, for example, as far as the buildings go this is obvious. So far as art goes this is something else but I feel that definitely the artist must have in mind other properties. Otherwise he's dead, he's talking to himself and who cares?

Chair: Is it useful to lift the spirit? Is it useful to inspire creativity? Perhaps that advice will answer the question.

Mr Mielziner: I'd like to defend myself a bit. Just reverse that. If a building has great beauty and even a spiritual quality about it but is not useful for its purpose I think it deters from its total value. Just as a super-craftsman will design a knife handle. It may not be a creative thing but if it's very useful the chances are it has an innate beauty in it. I don't think you can separate these things.

Question: We agree that the matter of esthetic values was very well presented—so well presented, indeed, that at first we thought we had no question. The only question is at what time did the lack of understanding of the necessity of esthetic value commence? Was it in the jig-saw Victorian period or after one of our great wars? Certainly Mr Amram and Mr Mielziner both brought out the fact that there is

potential appreciation of esthetic values but when did those of us who are responsible for the creative part get out of touch with potential appreciators?

R. B. Hale: The problem is very deep. Heaven knows how far back it goes. I sometimes lay it at the feet of Oliver Cromwell. He went around busting up all the images and the churches and then he became unsuccessful and a lot of other people came over here with the same temperament. I think if you attack the thing historically you'll see one answer. Many of us come from lands where there is a very high esthetic [value] and when our fathers came over here and couldn't bring the buildings with them, they somewhat lost their heads in this new wilderness.

Chair: Does that mean it began in Colonial times or when did this separation take place?

R. B. Hale: I think in this country it seems to fall about 1830 or so. That's when the memory failed us. Of course the industrial revolution is in there, too, as you know.

Question: Before I ask our table's question I think we have an answer to one before [the question, taken by Mr Mielziner, concerning the problem of making time for the creative process] from no less an authority than e.e. cummings:

"time is the 'because'
with which all dolls are
stuffed."

Can one logically and realistically separate esthetic from social and political values? If not, who will indict the mayors and councils and the electorate itself for not honestly facing the problems of conflicting values between full and private gain and public interest?

Mr Larrabee: This follows out of the previous question. Mr Hale dropped it at the industrial revolution and you pick it up with modern politics. The effect of the industrial revolution was to convey esthetic power into the hands of many people who had not previously possessed it and it was the previous question that was addressed to the question of when this happens seems to me false in that sense because the world we live in is so different from anything that went before that none of these previous standards will apply. We are stuck now with the consequences of what a very large number of people want to do. What Auden called the heterogeneous dreck of the American high-

way reflects all of these single person choices as to what a particular garage owner or hot dog stand operator thought would be pretty. As long as we are committed to allowing them that choice we are committed to the idea of pursuing what has to be called some kind of esthetic democracy. We are embarked on this road and we can't stop. We can't take that power away from them; I'd like to see anyone try. We have got to risk everything on the hope that esthetic democracy is just as conceivable as political democracy or economic democracy.

Question: Educational problems and questions suffer from a certain degree of schizophrenia commensurate with our times. We want to know would there be any value in requiring an art education for architects and courses in architecture for artists plus liberal education in English speech and literature for both? And then from this develop further emphasis on courses in our traditions and general education or, in other words, how do you educate for esthetic values?

R. B. Hale: I can speak a little from experience. I went to the architectural school and then I went to the Art Students League for four years. I do feel that architects ought to learn how to draw. I found from my own experience that as my ability in life drawing increased that so did my ability in design and I firmly believe that architects should learn to draw the way artists do. I think it would improve their design.

N. C. Hale: Yes, I think it would be a wonderful idea for artists if they could learn more about architecture. For one reason I think that many of the things architects deal with are really quite basic; that is that have to do with structure and building. These are very fundamental principles and I think that is part of our very, very rich inheritance that goes back to the dawn of man. Quite frequently people have no comprehension of structure, both as we have evolved it and as it is in nature. Perhaps the understanding of structure in nature is even more important than, for example, just the top of architecture—the surface matter of the question.

Question: We were wondering whether Mr Atkin would care to comment on his opening remarks.

Mr Atkin: I think that if we could look to Sweden, to Iceland, to Switzerland we could see what

nations can do which do not devote fifty-two per cent of their income to war. It seems to me that most of the problems that face us in this country could be solved much more quickly if we would not devote so much of our time and energy to war. I think that really fundamentally, if we could look at Sweden we could see what could be done here. This is the way to build the esthetic democracy.

R. B. Hale: I should like to point out that the people of Athens were most warlike and yet artistically and esthetically they held a very high position.

Mr Atkin: I expected to come prepared for it with some kind of an answer, though maybe not a good one. It strikes me that civilization is moving forward and that we have all of the knowledge now that they had in Athens, that they had in Rome, and all the knowledge from Europe besides. We are not necessarily on the same scale of civilization as the Athenians—or at least we shouldn't be.

Question: We're concerned with this question of compromise and whether the speaker truly meant to use the word compromise which implies a weakening of one's own beliefs. The question is do you believe esthetic values are related to esthetic responsibility? If so, how can one compromise if it runs counter to the values and responsibilities? What of our leadership role?

N. C. Hale: All I know is that compromise is absolutely necessary. It's not humiliating. It's essential to human beings because if you get three people together you're not going to get the same point of view, particularly if you're dealing with something like esthetics. We in America have a nasty attitude about compromise. It's not in the least shameful to give in to other people's views. For example, the English, and I think they're as noble and honorable and wonderful a people as the Americans, have a totally different attitude. To them, compromise is very respectable, and at least to some compromises I'm inclined to feel the same way. I don't feel an individual's attitude, his ethics, his philosophy, his code of life, are at all realistic unless he realizes that he must modify them and not once, but constantly, because it's a viable thing. Everybody who doesn't realize that ideas must be flexible doesn't face up to one of the very basic truths about thought. ◀

What Are the Esthetic Responsibilities

Frederick J. Woodbridge, FAIA

President, New York Chapter AIA; Moderator

Daniel P. Moynihan

Special Assistant to the Secretary of Labor

► My feeling about the subject to which we must address ourselves is simple enough, I think. It is not the question of what is the esthetic responsibility of government that bothers me so much, it is the question of why we do not succeed better in fulfilling it. I think that you would agree that our government, in its public buildings, has the responsibility to embody the finest contemporary consensus on a subject such as architectural form. It is not the function of government to experiment, to lead the way. The function of government is to give expression to the thought and values of the American democracy as are reflected in the work of the American architects of the time.

Now that's easy enough. The question is why this has not been the case. And I think you must distinguish between this responsibility and the other question of how good are the values being given expression. I think it could be said that it is not for thirty years that a really distinguished American architect has built a building in the nation's capital. I mean distinguished in terms of what a contemporary consensus of American architects would be as to who are our best men. I think we can identify these people and the fact is that they are not building anything in the capital. The closest that anyone has come thus far is Eero Saarinen, who's thirty miles away at Dulles Airport. This is different from the turn-of-the-century period when the people who were putting up the Lincoln Memorial and such buildings represented the best men of the time as the architectural profession saw it.

Now I would suppose that there were a number of reasons. First, I think it's clear that there has been a split in the taste of the profession of architecture with the dominant upper middle class taste of the country that is to be seen not

only in this art form but in music, in sculpture, in painting. And for that reason the people who have been making decisions in government and most influencing them, have not necessarily been in harmony with the architectural profession itself. This is something new.

Secondly, I think it's fair to say that modern architecture, just like modern art, has been associated with political radicalism. The association has been toward a tendency on the part of conservative forces to shy away from it and for even non-conservatives not to want to be too specifically associated with it.

Thirdly, it has been the thought and it continues to plague this whole subject, that modern architecture is more expensive than traditional architecture, that steel is more expensive than limestone. This isn't the case, but it's the fixed conviction of a great many people in the government as well perhaps as outside of government.

Finally, I think you find that there has been a feeling that we have paid rather a high price for cleaning up the public works system in the country in terms of corruption and the general freebootery that we used to know. The kind of

buildings you get out of government today is the price you pay for honest bidding.

I think you close off a government system with civil service, and three bids and that sort of arrangement—and don't think you don't. Now, however, this has changed. A very considerable change is taking place. First of all, the business community, the leaders, the powers, the whiskey trusts and the Rockefeller banks believe in this stuff now. And it's a different situation; you can't quite associate it with radicalism and you can't associate it with soft-headedness and wild ideas.

Secondly, the association of modern architecture with efficiency is increasingly growing. If insurance companies use it, because it moves their paper better in a modern building, it's time the Veterans Administration did the same thing. This is our feeling. This is the feeling of the Administration, this is surely the feeling of the President. I think it can be said that in this, as in other things, he is interested in doing what is right, is interested in doing what is contemporary.

We have decided that what perhaps is most needed in the situation is a very simple statement of

...of Government, Business and Institutions?

architectural policy in the Federal government. We don't have one. There is no policy and in the absence of policy people have been doing what is absolutely safe and that has not been very distinguished. We have three points which we think ought to be included in a policy like this. This is not final, this is not really being done, but we feel it will be shortly. We think it's a simple statement which says: The buildings ought to be built in a manner that is distinguished and which will reflect the dignity, the enterprise, the vigor and the stability of the American government; they ought to represent the finest contemporary architectural thought.

Point number two should be that we must avoid the development of an official style. Design must flow from the architectural profession to the government rather than vice versa. We think that the choice of site ought to be considered as the beginning of the design problem.

We feel, finally, that a portion of the cost of a public building ought, as a matter of routine practice, to be allocated to the purchase of fine art as a part of the general embellishment of the building, as part of the design of the building itself.

Whether this will bring about a revolution in the architectural standards of the Federal government, I don't know. I think, though, that the principal point is that it will do so within the capacity of the American architectural profession. I think that this, then, is a matter very much for the AIA and its members. What I think you have to do and what you're obviously doing today, and I welcome it and I would encourage it, is that you've got to be a lobby. You're a special interest. Not everybody is against ugliness. It doesn't matter that you are a minority or even a very small majority. The American government is best designed to respond to the limited interests of small groups. And if you would

only consider that and think about it ahead of time in the actual legislative process, in the actual administrative decision process, I think you'd be amazed at your capacity for success.

Think of something such as the Federal Highway Program, the greatest public works program in history, which passed without a word. There wasn't a special interest in America that didn't have a hunk of that bill except the architects. They had none at all. Why? Because they never appeared and said "We deserve our part in this thing too." When you do these things, do them well and consider them your architectural responsibility.

I would say to you that this is a question of being in charge of your interests within the government. I assure you that the lawyers control the government's effect on law, the doctors do it on medicine. It's time the architects did it on buildings. ◀

Jerome Belson

International Director of Housing; Amalgamated Meat Cutters and Butchers Workmen of North America

► I must give some background so that perhaps you will understand why so unknowledgeable a person as I has been invited to talk this morning. Our Amalgamated Meat Cutters embarked upon a program of sponsorship of housing in 1949. To date we have some three completed developments, or four physically in construction, and a fifth going into construction over the Mott Haven railroad yards May first.

I have no prepared talk, but if I had one it perhaps could be how to lose friends and alienate people, because in our union activity and in the housing role that we have occupied in the past thirteen years, I am the one who was required to shepherd the various housing develop-

ments through their planning stages and I have been present and been charged with the daily responsibility of producing the housing development. And then I have to go on the firing line when the people move in and they don't have the education and they're not fully aware of

esthetic value and they want to know in plain layman's terms why there can't be a little more beauty; why they must be relegated to a very limited type of housing facility. And we have had to come up with the answers.

So that when you say what is

the responsibility of a labor union insofar as our sponsorship of a housing development is concerned, I would say that our primary responsibility is supporting the architectural fraternity, to be present at conferences where initial designs have been submitted to governmental agencies. And we get into a discussion of economics. It's too expensive; can't it be done this way, can't it be done that way. We may have fifteen or twenty persons in the room, some people from my union, myself, governmental officials, the architects, the mechanical engineers and the attorneys for the banks. And suddenly there's scrap paper and they're drawing. And standing back, I'll suddenly find everyone with a pencil in their hand, sketching, except the architect. He's off in a corner. They've ignored him and they're trying to work out the dollar amount and how this can fit in. And he is the one who is responsible for esthetics.

But we support our architectural team. I've met some talented guys,

they've done some wonderful work for us, but they come in so harried and browbeaten that as soon as they suggest something and there's one yell, they run and that's it. They're off in a corner. And I have to argue their position and I can only bluster so far. But they're so frightened of the builder, they're so frightened of the governmental agency with whom they're required to deal not merely on my one development but on others. I think architects enjoy earning a living. But they've got to come back a second time, and a third time. You've got that responsibility.

For when we meet with the families who live in the buildings that you design, I want you to know that we become identified with those buildings. Some of our people are pretty proud when they say that they live in the Jinerson apartments, that they've got a landscaped park out front. In fact, this is a little development—it's only 420 apartments, in Brooklyn. I had one chap say "Boy, that butchers'

union is sure politically-minded." I said "Why?" He said, "How come you were able to get Park Commissioner Moses to let you build the building in a park?" Because we had a lot of landscaping. It wasn't permitted. You couldn't tell it was a development. See, you gotta be able to tell it's a development. We didn't have brown window shades so you couldn't really tell. So you didn't know. It didn't have a label.

So all my wonderful architects, I can only say this to you: If esthetics is important in our society, and I think it is, the people that we represent that live in our buildings think it is, let's recognize it. Let's permit it to dwell, if not exactly on an equal plane with economics, then perhaps as a junior partner. Let's not just disregard it. We in the labor unions and others that you have no idea about, will support everything you do. We don't say we'll agree with you. We'll argue with you, we'll let you educate us. We'll support you. Will you accept the challenge? ◀

Dr David W. Barry

Executive Director, New York City Mission Society

► In 1960 the building of churches in the US passed the billion-dollar mark for the first time in history. The institutions of religion are one of the most pervasive architectural forms in America, urban, village, and rural; by the most recent count, there are 319,000 churches and congregations counting 115,000,000 members—sixty-four per cent of the population—of whom about fifty million actually attend services of worship each week, plus numerous other activities. All trends are upward—membership, finances, buildings and activity—and have been ever since the depression of the nineteen-thirties.

In discussing the esthetic responsibility of churches, there are two basic facts to be borne in mind. The first is that religious activity is far and away the most universal form of voluntary expression of the people of this country; even in a supposedly secular age, nothing remotely approaches the church as a vehicle through which people express voluntary effort, leadership, commitment, fellowship and aspiration. And the second is that of all contemporary institutions, the church and synagogue are specially supposed to be *saying something*, something deep and fundamental, about the nature and destiny of man. I want to direct this discussion to the special contributions religious

groups seem peculiarly able to make to ugliness in our modern world.

The first and by far the most frequent negative contribution churches seem able to make to community esthetics can be summed up in one word: irrelevance. Too typically, the task of the church to say something architecturally about the nature and meaning of man's life is a task that is neglected or presented in obsolete forms. I saw a perfect example last week in promotional literature I received from a seminary set in the busy heart of a large urban center. There was an architect's rendering of the new chapel to be built on the seminary grounds, less than a block from the

point where John Dillinger was shot, and the chapel design said only one thing: "I remember New England and its village green." To give such a message to young men being trained to be the spiritual leaders of our mass, urbanized, industrialized, planet-orbiting America seems little short of tragic, but it is a typical illustration of most approaches to religious architecture. Similarly, a few years ago, when our City Mission Society decided to undertake the first church building in Manhattan in the new style of urban ghetto called the public housing project, and approached several architects to find out what they would conceive as a building to house a spiritual fellowship in

such a mass impersonal setting, we were distressed to find architect after architect whose buildings could only say visually: "I remember New England" or "I remember the small churches of Rome." Only after considerable searching could we find an architect imaginative enough to say in bricks and mortar: "Here is a spiritual home for you who are imprisoned by this great urban machine and seeking answers."

I don't mean to lay the mediocre and conventional style of so much church architecture entirely or even primarily at the door of the architects. The deeper responsibility is that of the church, which educates its people so superficially that the typical lay reaction to any experimental church design presented to them is "But it doesn't look like a church." And I think there is a real movement underway today, among church architects, to reintroduce meaning into religious architecture.

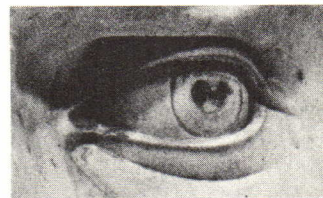
The other great contribution of organized religion to ugliness and

mediocrity is a simple one: *parsimony*. The financing of religious structures is voluntary; it depends neither on taxes nor on prospective profits, and the committees who plan the buildings are composed of people who know they must dig down in their own pockets to pay for them. Thus the desire to glorify God in architecture is strait-jacketed by the nagging question: how much will this cost me?—and the pocketbook looms larger than God.

The other major contribution of religion to ugliness is related to this same prevailing parsimony. We over-use and abuse the buildings we have, especially in older sections of the city; we notoriously allow the city authorities to wink at violations because they are presumably in the service of God; we fail to maintain property in repair, to paint and clean, to landscape, to do the normal housekeeping that citizens with pride in their community ought to do. I can take you any Sunday to crowded services of worship that are in shocking violation of the

laws of health and safety in this city, and we don't even pay off the building inspectors—they seem to get an inner glow of righteousness from failing to enforce the laws.

This too is changing. There is a new attitude of responsibility among church executives, who are



beginning to say: If there are houses of worship we cannot maintain in decency and safety, we will not maintain them at all. And here and there, even in the ugliness of the slums or the different ugliness of mass housing, there are beginning to appear houses of worship that visually speak to man's dignity and aspirations, that say all men are children of one God. I pray these are signs of the future. ◀

Erwin Wolfson

Chairman of the Board, Diesel Construction Co, Inc

▶ I daresay I come from the industry on which the architects blame most of their troubles. I daresay that as builders and entrepreneurs we are criticized for some of the things that are considered unesthetic in architecture. To some extent I'm sure this is true. Basically I believe that there are two general categories of builders: those who have taste and care; those who have no taste and don't care. Now if you happen to have a client who has no taste and doesn't care, then you have a real problem on your hands. On the other hand, you could have a client who has taste and does care, but economics stop him from doing a lot of the things that he would like to do.

I'm afraid that in my category we have to consider economics as a vital part of the job we do. That doesn't mean that we have to look in terms of economics the whole way, but certainly to the extent of whether the whole job can go forward or not. I heard some discussion before about compromise and I think a little illustration of compromise might be interesting at this particular point where compromise was vital or the job just wouldn't go.

In connection with the Pan Am building for example, the architects came up with a scheme which developed about 1,500,000 square

feet on a plot of 151,000 square feet, with a valuation of \$20 million. It just wouldn't work. The architects then came up with a scheme which at first they didn't think was quite the ideal, which I think subsequently they felt was probably better than the ideal.

I think, too, that sometimes compromise has to be made when very frequently the builder might be right. And I again want to refer to something that happened in the Pan Am building. The architects insisted upon articulation in the window frames of the building. Well, the difference between the type of sash which we planned on

putting in and the type of sash which the architects wanted amounted to some \$60,000. Forgetting the cost for the moment, we felt that the articulation just could not be a factor above a certain floor, that it couldn't be seen. The building changes drastically from the nine-story bulk to a fifty-story tower. But the architects insisted that the articulation had to be put in all the way up. We felt that a perfectly good compromise there was just for the lower section. Well, we acceded to that, and unhappily so, for I think it's been a total waste because you cannot recognize any articulation in the upper section.

There's one situation where I feel, had we been a little more firm, we would have been much more sensible about it.

Another instance where compromise came into play: We have this very high lobby of 45 feet going right through the building and there are a number of tall columns in there that are to be encased in marble. We have a team of three architects on the job. Two of them insisted that these columns be square, the third insisted that they be round. The difference between round columns and square columns designed in marble was \$100,000. Naturally, it was easy for me to make a decision there. We have square columns.

Up and down the line I think that it is necessary to compromise. I think that it's vital for a builder to have pride in what he does. I think it's vital for a builder to think

in terms of more than just brick and mortar. I think that it's vital for a builder to think in terms of injecting some sculpture and some art into the building. And I would like to see more builders consider that. I think it's the architect's job to try to promote that kind of thing in his architecture.

About a year or so ago, when there was a big fight in New York for change in zoning, I was appalled to find so many of the architects who were against it. I can understand how the real estate people, and perhaps the builders, might have been against it, but it just didn't make sense to me why so many architects were against it. And yet they were. It took an awful fight to get it through and I was quite vocal from the builder's point of view in trying to get it through and I was accused by my own group of being a traitor to my class, that

the industry would be ruined, that building would be stopped. Well, on the contrary, I think we're going to get, as a result of the change in zoning, some very much better-looking buildings.

I have taken the position of trying to back up the criticism that has been leveled at a lot of architects for some of the things they've done, and blame it on the builder. Many architects' clients have demanded that certain things be done, which may or may not have had to be done, while the architects may have been able to take a firmer stand and still live through it with the client and have been better for it.

The architects are forced to do a lot of things, by virtue of compromising too far, and to that extent I think they should be a little firmer in their position with the builders. ◀

Herman D. Hillman

Director, New York Regional Office, Public Housing Administration

► The keynote of this conference—a call to place responsibility on the shoulders of those persons who can do something to prevent ugliness in the design of American cities—is one that I can accept wholeheartedly. Responsibility for esthetics, however, is divisible, it is made up of a bundle of individual responses to community goals—goals which are dynamic in the American scene and which express in the last analysis the aspirations of mankind for freedom and fulfillment of the dignity of the individual. In this bundle, of course, are the responsibilities and responses of government officials, Federal, state and local, to the goals that seek to achieve a nobler environment. I know of nothing that prevents public officials from carrying out their programs and responsibilities qualitatively in a form and fashion compatible with good taste, with grace and character.

The low-rent housing program of the Public Housing Administration and some 1,200 local housing authorities throughout the nation in over-all perspective relates to the improvement of environment in greater proportion than its half-million completed dwellings in the nation might indicate. Although these units comprise less than one per cent of the fifty-five million

dwelling units in the country as of the 1960 census, the contrast between the completed dwellings and the slum and substandard conditions they replaced is as broad and extreme as any in the American scene, and broadest from the view of the low-income and senior citizen occupants.

Beyond this program, moreover, it becomes evident that as never

before, the thrust of governmental influence will continue to be manifested in the physical appearance and social compatibility of the urban environment. The programs of the Housing and Home Finance Agency and its constituents have a major impact on metropolitan and city planning, urban renewal and the range of housing from the lower economic brackets all the

way up to the summit. This will be matched within degrees of financial competence by state and local governments. The constitutional police powers of government will be manifested in burgeoning programs of neighborhood conservation and rehabilitation and of code modernization and enforcement. The participation of government, indeed, has become so great as to generate by that fact areas of responsibility for esthetic results in its programs that affect community good health, moral and psychological, as well as physically safe and sanitary.

By philosophical dictum, as well as constitutional doctrine, in the case of *Berman v. Parker* some eight years ago, the Supreme Court of the United States established that governmental powers under appropriate circumstances might serve esthetic objectives. Given the legal basis and assuming a community consensus for positive community goals, what then are the impediments and how may governmental officials perform in harmony with the myriad of diverse influences that create the total character of urban communities?

The deterrents can be readily identified—some are implicit in the establishment of our times. There are divided areas of responsibility—between Federal and local government; among owner, architect, banker, builder and consumer. We all know about cost limitations and sensitivity; about haphazard methods of selection of architects. We are deficient in social, economic and city planning for the apprehension of the creative designer. There are competing value judgments among economic, physical, social and political goals that must be reconciled with respect to a specific improvement, and too frequently something gets lost in the process. There has been some immaturity in the expression of good public taste and a general unawareness of the pertinence of community goals scaled in human dimension.

For example, some "superior" as well as "inferior" esthetic contributions have come out of the low-rent housing establishment in its first twenty-five years. We were the recipient of a citation in 1961 from the Municipal Art Society of New York in recognition of our support for the superior esthetic design of the public playground in the Thomas Jefferson low-rent housing development in East Harlem on this island of Manhattan.

Open space considerations, which have stirred the public imagination only recently, have from the beginning been one of the positive criteria that have characterized low-rent developments. The public housing program in New York City alone has permanently preserved as open space eighty-five per cent of some 810 acres of developed land. This kind of land-use has become a pattern for middle-income and luxury-project development. In the same way, the early large-scale use by the public housing program of reinforced concrete construction has made possible the use of free-form design in residential appearance. The replacement of obsolete, decaying, unsafe and unsanitary structures by clean, safe and structurally sound buildings in itself tends to generate public feelings of satisfaction. Under the same laws and administrative regulations that have produced such successes, there, nevertheless, have been examples of the "institutional" look, and groupings of buildings which lack neighborhood character.

Yet the dynamics of our times and the feeling that design breakthroughs in the low-rent housing program should not depend on the vagaries of combining at one time and in one place the human and physical components that produce esthetically acceptable housing has impelled the Public Housing Administration to invoke a bold and forward-looking development policy and procedure of perhaps unprecedented import in government. This policy states unequivocally and simply that our basic purpose will henceforth be to assist local housing authorities and their architects in achieving the highest possible quality of design and planning and to stimulate study and continuing effort toward new and improved solutions of family living.

We propose to achieve this goal primarily through the removal of all heretofore mandatory standards for planning and design except those relating to maximum dwelling areas, furnishability in relation to dwelling plans, maximum community space areas, and underground utility installations. We intend to rely on the ingenuity and creative ability of commissioned architects to solve the design challenge within the basic statutory standard that low-rent housing may not be of elaborate or extravagant design or materials and that the housing promote serviceability, efficiency, economy and stability.

These new policies encourage the introduction of city planning and social planning criteria before the stage of architectural design is reached. The traffic signal control that plagued architects who had to "stop" and "go" according to phased steps in the architectural process will be an irritant of the past, we hope, because the continuity of progress from the working conference stage when all basic decisions will be formulated to the completion of working drawings for bidding purposes will henceforth be uninterrupted. Moreover, the staffing of our regional offices will be reoriented so that there will be more opportunities for face-to-face work between Federal and local personnel and the architects instead of the remote impersonal administrative "review and comment" type of procedure. Finally, we will bring in city planning and architectural consultants on a case basis to deliberate, advise, evaluate and seed the design process.

As to the problem of costs, long the whipping-object for pedestrian efforts, we believe that superior design, involving use of color, shape and form, involving the orientation of structures in relation to light and air, introducing new materials and construction methodology, do not necessarily involve more bricks, more concrete, nor more dollars.

The philosophical basis for improved urban design upon which PHA policies are based is universal. Inspirational physical environments become especially significant and meaningful, we believe, inversely to the economic and social status of people. The immobility of the urban dweller because of economic, cultural or social circumstances generates an impasse between the individual and a mass society. Therefore, satisfying design can serve the psychological needs of individuals and families in their confrontation to an overwhelming mass environment.

The FHA, because it serves Americans in the lower economic and socially underprivileged echelons, intends to implement these concepts as one of the governmental participants in the bundle of resources that make up the American scene. But in the final analysis, while government officials can cajole, encourage, lead, stimulate and finance superior design solutions, only the creative architect, with vision, skill and ingenuity, can deliver what is esthetically expressive of the American character. ◀

Dr Burnham Kelly

Dean, College of Architecture, Cornell University

► Consideration of the arts of architecture and city design soon brings us face to face with a paradox. These seemingly most enduring of the arts are in the United States of today almost transitory. Modern buildings and urban districts, tend to disintegrate and disappear. Their basic values are utilitarian market values, and for each building, locational utility is constantly changing. A sufficient change for the better means that the building will be replaced; a sufficient change for the worse brings the external evidences of decay and the destruction of architectural quality. Soon the building itself is destroyed.

By comparison, painting, sculpture, poetry, and music are far more permanent. In or out of fashion, major works of art in these fields endure, in collections, libraries, and museums, to be presented at any time in almost original quality. A few outstanding buildings in key locations attain this status of fine art, but for the utilitarian mass, the districts of highest utility are constantly on the move, clearing everything to the ground before them, and leaving behind a mouldering detritus of architectural cast-offs.

In simplest terms, architecture must endure if there is to be a stable physical environment. Beyond that, endurance is important because it takes the perspective of time to assure the educational experience through which the public may develop high esthetic standards. A sculptor like Lipchitz, however grateful he may be for a wide admiration of pieces he finished fifty years ago, works today for an understanding that may not come for years in the future. Many great works of art stirred little enthusiasm at first, or went through long periods of disfavor. But because they endured, they were able to contribute their bit to the general improvement of public esthetic standards.

The time required for sound perspective may be long. By the operation of what I call the "Grandfather Effect," a man tends to suffer acute embarrassment at the follies and failures of his parents, but he can accept with tolerant affection those of the generation before them. Feelings of rivalry and responsibility are faded, and judgment is calm. Thus, my children have Gay Twenties parties, while I at their age shuddered at the

Charleston and celebrated the Gay Nineties. Thus also, many today are beginning to respect the City Beautiful designers of the turn of the century, who were in deep disgrace only a few years ago.

Unfortunately, for the Grandfather Effect to serve a public educational purpose, it is necessary for grandfather's works to survive, and these days they do not. When at last the passage of time had made it possible to find a sympathetic public for the works of a Richardson, a Sullivan, or a White, the few remaining examples of the utilitarian architecture of these men could be found only in dismal urban backwaters, overgrown with the weeds of blight, and able to be warmly loved only by those retrovisionaries, the architectural historians.

The lifting of esthetic standards in utilitarian architecture, therefore, will not come from the ultimate consumers. On the contrary, the public at large has long sensed that buildings have become transitory and ephemeral, and it accepts modern architecture and city design in terms of mere fashion, with an emphasis on gimmicks. Instead of baubles, bangles, and beads, they have learned to expect the architectural equivalent: skydomes, spandrels, and screens.

Despite the lack of an environmental continuum, however, there is one positive step that can be taken at once to enlist the general public in the war on ugliness and to start the process of developing standards through perception and appreciation of works of quality. I would support as fully as possible the esthetic equivalent of the Physical Sciences Study Committee, that dedicated group of first-rate scientists who have revolu-

tionized the teaching of physics in the secondary schools. A Creative Arts Study Committee would take a fresh look at programs, teaching materials, and teachers in the hope of opening to citizens of the United States at long last the power to communicate by line and form as well as by word or by abstract symbol. If it did no more than provide a reliable mechanism for eliminating programs and teachers that are doing positive harm, it would be making a significant advance on the problem before us. And among the greatest of the services it would perform would be the esthetic education of those special few among the general public who will make the decisions regarding future architecture.

May we look for better esthetic standards, then, to the decision-makers: the businessmen, the various institutions associated with building, and the government? The decision-makers concentrate on the utility of utilitarian architecture. Despite an occasional strongly-stated esthetic requirement, they usually believe that they leave matters of art to the artists. This belief has gained so wide a credence that writers, conferences, and research projects now routinely assume that the esthetic failings if our cities signify some sort of fine-art deficiency in our designers. This is nonsense; fine-art ability is not at issue. The major esthetic failings are in the much more widespread area of utilitarian art, and here there is much less delegation to the artist. Far more important, much that is not delegated at all, because it is thought to involve only economy and efficiency, is of the greatest importance to design. Typically, the hands of our designers may be found tied firmly behind their backs

even before they are brought into design deliberations. Let me illustrate.

I have noted above the effects of locational utility on the life of a new building. Few in this audience need to be reminded of the crucial importance to design of a decision on floor area ratio or density. Volumes could be written on the single point of tax return.

Financing terms and rates are powerful design tools. When the administrators have decided that public housing will be accomplished by slum-clearance projects to be financed over a period of sixty years, and that the local authority need only pay the operating and maintenance costs during this period, they have said in so many words: "This is to be institutional architecture!" No matter what happens to the people, the buildings will be designed to last sixty years, and they will look it.

In sum, utilitarian conclusions are major forces in the design of urban areas. Decision-makers are simply not aware of the extent to which their supposedly non-design decisions have arbitrary physical consequences. They cannot be expected, therefore, to lead the way to higher esthetic standards.

Is the designer guiltless, then,

standing as he does with his hands tied behind his back? Of course not. He has only to resist, to seek out constructive compromises, in order to free himself. The sad fact of the matter is that only too few architects and city designers have any real appreciation of the situation. While willing enough to complain about the restraints imposed upon him by codes, ordinances, unions, and suppliers, the average designer has little appreciation of the fact that, with patience and effort, he can recast these external conditions in such a way as to substantially enlarge his freedom of design without losing sight of the purposes they are supposed to serve.

The average designer has even less appreciation of the importance to him of a wide range of fiscal and legal problems. And he is not average at all if he has anything like a concrete conception of the opportunities for an expanded scope of design provided in large project operations and industrial techniques. Certainly nothing in his schooling or in his standard practice could have given him such a conception.

When it comes to urban planning, the average designer knows that the public enjoys grandiose and well-presented conceptions, at

least for Sunday reading, but he seems to believe that somebody else must work out the tedious procedures for guiding the ever-shifting locational forces that have made his utilitarian art ephemeral.

I conclude that, while the fine art of architecture may be in good shape, if a bit precious, the far more extensive utilitarian arts of architecture and city design are in need of attention. The designers themselves must seek to understand the opportunities and limitations imposed on them by modern conditions, and then they must fight to raise esthetic standards throughout the areas of decision allocated to government, business, and the institutions. There is no overpowering opposition other than their own inertia.

Architectural education can lead the way. The time has come to recognize that fine art is only part of the designer's responsibility, and that the physical environment of a modern urban nation is made up predominantly of utilitarian architecture. The architect must be taught to understand the interplay between the precepts of utility and his art, to recognize how important a role he may play in the decision process, and to prepare himself to play it, early and to the hilt. ◀

Discussion Following the Second Panel

Question: Dr Barry says that the problem of the church architect is how to house the spiritual fellowship in the impersonal, mass prison of the housing ghetto. I want to ask him if the churches, or the synagogues, try to stop the bad housing project from the beginning? Are they at the planning commission, when it disrupts the neighborhood, and if not, why not?

Dr Barry: The spectrum of the churches is as broad as American democracy. And among the churches are some active clergymen working very hard with their members towards community beauty and to prevent community ugliness and to prevent the very difficult problems that arise from relocation. There are many, many clergymen and lay people who seem to be unaware that this is a problem for the community and for the church.

Question: Lewis Mumford points out that the sovereign state is a baroque hangover, useful only to wage war or cold war. Therefore, as an artist, I would ask, how can the civic architecture of it represent any living function?

Mr Moynihan: Well, I think that if the time came when you needed it, you'd be very pleased that the Pentagon was there to perform the living function of defending this country in war. And I don't think we have to apologize for that. I don't think we have to fall all over the admittedly-baroque conception of the Pentagon; but to deny the function of the defense of the United States seems to me pointless and it seems to me these are conversations that don't get very far with the House Ways and Means Committee.

Question: Responsibility invites authority. Do we want to take the

calculated risk of esthetic control which goes with esthetic responsibility? Now I propose a second question relating to that: Representatives of lending institutions are conspicuous by their absence on the panel. Therefore, does Mr Wolfson, as one who has had to lock horns with their attitudes, see any solution in a higher, mortgageable evaluation or lower interest rates, on buildings with a comparatively higher esthetic standard?

Mr Wolfson: I don't think that the lending institution will give any more money for an esthetic building as compared with one that isn't, but I think that the esthetic building might get the loan whereas one that isn't might not. I don't think they will give any credit in additional money for that, but look more to the income of the building rather than the structure itself. Once the structure is sound and sat-

isfactory, so far as their engineering survey is concerned, I think that very little credit will be given for esthetics.

Question: The US State Department's Foreign Building program was esthetically successful. What methods were at work and why can they not be used in other departments of government?

Mr Moynihan: I think I can answer that very clearly. The essence of the State Department's building program was that a group of very distinguished American architects chose the architects who would design the individual buildings. What we have overseas is an embodiment of about as good as we can do. And I think this just startled the world. I mean, those embassies have been looked upon—I think nations have responded to them as to a great courtesy. I think we can do as much in this country. The lines along which we're thinking in terms of policy are essentially the same. This is a decision which architects are most competent to make and which we hope they will make.

Question: In the matter of esthetic responsibility, does the panel feel that there should be esthetic control established for private as well as for public construction, or, is it the feeling of the panel that the design professions should be self-disciplinary?

Mr Belson: I don't profess to be a spokesman for the panel, but when you talk about committees on esthetics perhaps the definition that a camel is a horse designed by a committee might very well be apropos at this moment. When you talk about esthetics you talk about a relationship as to one person and if you pose and place into the hands of a committee that awesome responsibility of determining what is or what is not good taste, perhaps we might not be quite as satisfied as placing on the individual that responsibility to have him determine what is or what is not esthetically proper under the circumstances. In that line, if there could be some legislation introduced which would require that an architect place his nameplate on every building he designs, so he would then take the consequences of his design, perhaps that might accomplish something.

Dean Kelly: Dear Panel, the question is, we already have esthetic controls. Do you want them to be improved? The difficulty is that we have all kinds of esthetic

controls in operation. I would like to have some people with esthetic judgment doing something about these controls. It isn't necessary to have a panel telling you how to design a building, but it is desirable to have well-trained artists saying, "If you make these rules, let us at least respect the possibility of an artist doing a better job than he now can do with the rules you've made."

Question: Mr Wolfson has referred to "we." On what basis did "we" constantly change the architect's original concepts—is the basic consideration entirely that of cost?

Mr Wolfson: "We" refers to the entrepreneur of the project and cost is certainly not taken into consideration on all judgments. I think I illustrated one where we spent a vast amount of money on something which we thought was not necessary and not going to help, but we bowed to the advice of the architects. We certainly didn't take the point of view that economics ruled all the time.

Question: Mr Moynihan said that the government wants architectural design thinking to flow from the architect to the government. What we're finding difficult to reconcile is the situation that has developed in the Roosevelt Memorial in Washington, where architects were invited by competition to supply their thinking and ultimately they were rejected. This flow from the architect to the government started with a design competition and then it was decided by a design competition, then it had to go to the Commission of Fine Arts and, ultimately, to Congress. How can we reconcile this situation?

Mr Moynihan: I grant you two things. First, this is not the only competition that has died aborning in Washington. This is a problem. It rises in the case of the Roosevelt Memorial from what I think is this esthetic division that I think I mentioned earlier, that the popular taste in America, which does not mean the taste of the cliques, but the taste of the stockbrokers, has diverged very considerably from esthetic taste. And the Roosevelt Memorial came very close to being a great success around Washington, but most people I think had the reaction that we're just not quite ready for it. When you build memorials you have to consider that they do have a very direct, personal relationship

to the people in a way that necessary buildings don't. I would say one last thing; that the situation which you described in terms of rejection of the Memorial arose in Washington from a reversal of our thought that architectural ideas must flow from the profession. This was a decision made by persons who are not in the profession or, at least, not of the ruling, dominant views of the profession. I would think that most hardheaded businessmen, whether they know it or not, are ruled by the views of some defunct economist. Some of our bureaucrats are ruled by the views of defunct architects. So there you are.

Question: Isn't the question regarding the Pan Am building not whether the columns were to be round or square, but whether a builder should be allowed to become wealthy by upsetting the urban design and the functioning of the city by building a building at all?

Mr Wolfson: The criticism of whether or not a building should be built at this particular spot has been voiced many times. I think one of the things that makes a city is to some extent congestion, to some extent the concentration of buildings and people. This particular plot of ground has a valuation of some twenty million dollars. The criticism has been leveled before. This would have been a wonderful spot for a park. I grant you that. It would have been beautiful, it would have been grand for all of the people in the area. But, who on earth could afford to dedicate a twenty-million-dollar piece of property for a park? Within the realm of what we could do with the property, we have tried to do an urbanistic job. We have made a ten-foot sidewalk on 45th Street into a 45-foot sidewalk. We made a ten-foot sidewalk on Vanderbilt Avenue into a 35-foot sidewalk. We have created the promenade through the building from 45th Street to Grand Central Station seventy-six feet wide. We think that, if anything, we will clear up the congestion in that area rather than make it worse.

Question: How would you implement your suggestion for a conference on esthetic education? Could not education in the public schools develop early interest in good taste or esthetics, such as appreciation of civic design and pride in one's community environment?

Dean Kelly: That's a very good question and there are several groups working on it. To try to simplify, the first thing to do is to try to get absolutely first-rate people involved in the whole question of what you mean by education in the area of esthetics. This is what the physicists did. They threw away all the books, they threw away all the notions, they tried to find new ways to bring actual experiments and exercises into the classroom. I think this is the first requirement: to disregard what we've always assumed was the right way to teach esthetics, art, what have you, in the local school system. I think the way to implement, however, is not really going to be discussed when you say what shall these people do, so much as how do you get started selecting a committee. And I think the best thing you can possibly do here is to make sure that this group and other groups like it argue very hard that there should be such a function; find financing for it, perhaps from foundations, perhaps from the Federal government; and set to work to try to find people you feel are honest enough and simple-minded enough to face these questions in their very elementary forms. I think a good bit of it is going to require not just artists, but psychologists, educators, people that we generally think of as not quite competent to deal with these high and mighty subjects. In fact, of course, many of them are.

Question: The Chairman of the City Planning Commission has said, in speaking to some civic organizations, "If you want us to act, pressure us. The City will respond to popular demand." Do the gentlemen members of the architectural profession have enough courage to become inciters or agitators?

Chair: The New York Chapter of The American Institute of Architects, through its various committees, has been doing exactly the kind of thing you've been talking about to the best of its ability, and it never gives up, no matter how many times it's licked.

Question: Would Mr Moynihan elaborate on the ideal of the proposed Cabinet committee? Will this encompass also a selection of the architects?—as we feel this affects very vitally a quality as shown in the State Department program.

Mr Moynihan: I would like to ask that I not elaborate further as this is what I think we agreed upon as I stated. I think that the policy

itself would be a very simple and straightforward one. It simply replaces, in the absence of policy, things that have been going on that we've been hoping we'd change. I'd like to say just one thing, though, about this general point of the rule of the architectural profession as agitators. Now, as to the Roosevelt Memorial, I've no esthetic judgment about it. I know all about architecture but I don't know what I like. But I do see it as a specific situation where your role was absent.

Hinkey-Dink Hanna once remarked that "Chicago ain't ready for reform." Washington ain't ready for the Roosevelt Memorial. Make no mistake about that. This is a matter that the people have a very direct relationship to. People have to be able to say "That's how I feel about the President."

The issue is much closer than it may look from a distance, but I say to you that one very evident thing was that no one was down there very actively enlisting the support of the people in politics for the thing. No one was down there saying, "This is what the American architectural profession thinks *should* be done. This is our response to a great man and our feeling of the most powerful possible kind."

Question: What changes in governmental approach and action will make for better communities, based on your experience in guiding through these three, four or five pilot projects?

Mr Belson: I don't know that you need any changes, because in the experiences that we've developed with the governmental agencies we've found them surprisingly flexible when the position of the architect was backed up by a sponsor unmindful, perhaps, of the matter of economics. Although, as I said before, economics certainly is a very vital consideration, we've been able on a number of our developments, not to make economics the paramount and sole criterion, but to permit, perhaps by way of the back door, some esthetic considerations in our developments.

Dean Kelly: I'd like to say just one thing. This business of lobbying and so on, I'm afraid, to the architects, looks like the requirement of forming armies and charging around in uniform. Actually, it's all a matter of momentum. If you wait until a decision is all but finished and then try to block it, it takes more power than this

organization or any other organization has. But if you're in there when ideas are being formed, if you're suggesting things to people when they're first thinking, it's remarkable how much legislators, governors, politicians, even bankers, will respond to good ideas. There's no reason on earth why you can't start raising esthetic standards at the root, that is, when the people are first beginning to think they might do something. You don't have to wait till it hits the *New York Times* and then try to rally a great big doomed-to-disaster fight, even though that's more fun.

Question: We have been concerned with the cost of producing good design, the amount of time and the amount of talent that it takes. Why can't government afford to pay the same normal architectural fees as private industry?

Mr Moynihan: Well, sir, there's only one answer to that. The government can afford it and ought to do so.

Question: In some ways the subject of the Pan Am building has been the *bête noire* of the meeting and I'm sure most of us would recognize that esthetic aspects of buildings are basically governed by position, and floor area ratio. Now recognizing the situation of Mr Wolfson, as executive of a corporation with a duty to the stockholders to maximize the return on their investment under existing local regulations and especially the Federal tax structure, doesn't the Federal government have a responsibility to the general public to adjust the tax structure in relation to building investment, to make excess density and overdevelopment of urban lands less economically advantageous to builders?

Mr Moynihan: Well, sir, I feel strongly about this. The Federal government has no responsibility of any kind. The Federal government is not Mr Goodman's baroque monarchy. *We* are the Federal government. The Federal government is simply an institutional arrangement for doing what we want to do. Now, if we want to change things like this, it's our responsibility to go down there and do it. We should go to the men we elect, say that there are votes in it, that the people want it, that if you don't do it you're going to be hurt for not doing it.

To sit around and wait for something called "The Federal Government" to do anything for you is to wait a very long time. ◀

Luncheon Address: The Challenge of Ugliness

August Heckscher

Special Consultant on the Arts to the President

► It seems to me that the Challenge of Ugliness is a good topic to begin on—for in declaring myself against ugliness I am certain to be on safe ground. In denouncing ugliness roundly and resolutely, I am hardly likely to lose any friends. And I really don't want to lose them: I am going to need them all as we go forward along a path where troubles and perplexities are bound to accumulate. Indeed, I trust that as the work progresses I may continue to earn good will.

Having said this, I should perhaps conclude and sit down. But I am constrained to confess that opposition to ugliness is not the whole of my platform—nor is a simple declaration the end of my discourse. I believe that our twentieth-century American society is entering upon a new phase, where the concerns and controversies of the past several decades are going to be muted or supplanted and a whole new range of interests is going to excite the public. Leaving aside the ever-present problems of the Cold War, what has been the central preoccupation of our common life? It has been welfare. It has been the satisfaction of the private desires of the citizenry: the increase in their comforts and the multiplication of their possessions. But there is surely an end of the state more noble and enduring than welfare. The old measures in this field have reached a point beyond debate; new measures may still divide us, but they are destined to take their place, in one form or another, in the anthology of accepted reforms. Meanwhile the people begin to look beyond the acquisition of private possessions and indulgence in personal pleasures.

It is hard to know how to formulate these new and larger interests. I have used elsewhere the phrase "The Public Happiness." I like to think that this in some sense describes the satisfactions men find significant when they reach out beyond the search for security and for material benefits.

The arts and cultural activities form an important part of this realm. The widespread, lively interest in the development of the arts—you can discern it in the

press, you can feel it amid the public and even in the Congress—is a symptom of a deep movement in public opinion, one of those transformations in our habits and ways of thinking which, once in a generation or so, create wholly fresh demands and possibilities.

Sometimes this enthusiasm for culture seems a little overwhelming. One fears that where such winds are blowing nice distinctions are going to get lost and the highest standards will prove difficult to maintain. The difference between the excellent and the second-rate, between the genuine and the spurious, between the artist and the amateur, are perhaps now in more danger of becoming blurred than in periods when the arts are neglected.

But the capacity to appreciate and enjoy, and the energy to create, certainly exist in a high degree among us. They may yet bring us out into an age of cultural achievement such as our country has not known before.

A Comely Environment

Now I would like to maintain today, before this audience, that the maintenance of beauty and fitness in the environment—a sort of comeliness in the world around us—is wholly as important as other forms of culture in determining the quality of a society. The things that are created by men working together, consciously or unconsciously, are the most durable facts about a civilization. They outlast the living generation; they carry forward, to be modified by time and by new men, the body of an age. Where we find that men have built meanly, without common pur-

pose or a sense of the ideal, we can be sure that they lived meanly also—or at the very least that they lived with a disproportionate emphasis on the private sphere of life, neglecting the influences which can make a civilization out of an accumulation of individual existences.

What, after all, do we mean by a civilization? It is surely not the accumulation of private things. Nor is it, necessarily, the building of public things. In the "Republic," Plato complained of those who had heaped up physical structures and yet missed the most important aspects of a true civilization. They have filled the city, Plato complains, "full of harbors and docks and buildings and all that," and have "left no room for temperance or justice." Many of those arguing today that we have over-developed the private sector while neglecting the public sector fall into this fallacy; they seem to suggest that money spent in the public realm is necessarily and in all circumstances a boon.

Granted there are public needs poorly met and some not met at all, still a transfer of funds from the private to the public budget is no assurance of a higher degree of maturity and civilization. A civilization requires "temperance and justice" at the core—an inner sense of values in the light of which decisions are made. It implies an external order of things which are not only beautiful in their own way but correspond to a people's intrinsic sense of what is good.

The next decades will be a period of vast building and of great physical transformations of the American scene. It is not only that

good will pour from the factories. New highways will criss-cross the country. Cities will be torn down and rebuilt. The countryside will be made over into new forms of urban and suburban communities. Yet all this activity will not in itself mean that a civilization is being shaped. A civilization begins to manifest itself when men and women have begun to take thought about what it is they construct, and why, and to what end. It begins to be a living whole when the idea of beauty has found its place alongside the pressure of utility and the spur of need.

Haphazard Development

In the past history of this country, the outward pattern of things has, to an extraordinary degree, been left to chance—to the haphazard actions of special interests and groups. Sometimes it has seemed that as a nation we simply did not concern ourselves with the face of the land. The American continent was so huge, its resources of land and forests and water so unbounded, that though men chopped away at them with only their own interests in mind we trusted that the great bulk of things would remain unspoiled. Sometimes we have assumed that private interests working competitively would create their own kind of fitness.

In strange ways this has often happened. The farming landscape, whether tightly knit in New England or spread across the Midwestern miles, has its peculiar beauty. The New York skyline reveals a spirit that no sculpture could have matched. But there are limits beyond which this faith in automatic artistry cannot be pushed. Where these limits are passed over, as in the sprawling roadside slums or the monotonous housing developments, the results have often been appalling. And the public has appeared to stand by helplessly.

Public agencies undertaking to mold the landscape or drastically alter the environment, have most frequently acted with a single interest in mind—to speed up traffic, to stop floods, to put roofs over needy people. All these separate things may be to the good. But the fact that these interventions were the work of lonely enthusiasts, or of bureaucratic experts, suggests that something has been amiss. Where was there a concern for harmony? Where was that sense of the whole which alone can give beauty and

meaning to what men accomplish by their common toil?

When we look about us at the natural environment today we are struck by the degree to which it is subject to human designs. No part of it is safe from the bulldozer, from the land speculator, from the engineer and road-builder. When Theodore Roosevelt and Governor Pinchot started the conservation movement in 1908, their problem was essentially that of preserving a few key areas, or of instituting practices which allowed natural resources to endure and to reproduce themselves. Since then, the power of man over nature has increased enormously. The great advances in human organization, in science and technology, have literally put into our hands the fate of a vast continental expanse. What we do with it is for us to decide. The forests that sheltered our grandfathers we now shelter and preserve. The land that kept them is now in our keeping. We possess the earth as in no sense could it have been said of any previous generation.

Alas, what we do with it is often discouraging enough. The natural scenery may survive in its grander aspects; the great parks and monuments have been preserved and are appreciated yearly by increasing numbers of citizens. Elsewhere, however, the rash of cities spreads ominously from what were once tight and focused settlements; the roads bring their burden of stretched-out, undefined structures and habitations. These suburbs are strip cities. Seen from within, they bear out the disturbing impression gained from the sky: Too often they are defilements of the natural scene, wasteful desecrators of what might have been free space and green land.

The Spiral of Ugliness

On sentimental journeys, on campaigns and outings of a summer season, the Americans show themselves still affectingly aware of the values implicit in a noble environment. If only they could heed as attentively the landscape which surrounds them through the rest of the year! It is one thing, they seem to feel, to retreat into the silence and loneliness of a forest (at least as much silence and loneliness as their ever-increasing numbers afford)—but another thing to expect beauty or fitness in their everyday surroundings. They want a national park three thousand miles away;

they do not seem to care—or to care enough—if there is no park to which they can motor on a Sunday, or one to which they can walk in their lunch hour. They want the wilderness to be forever wild; but they seem unheeding if the roadsides are forever cluttered with billboards.

Judged by the apparent attitude of too many present-day Americans, there is doubt whether we shall ever be able to extricate ourselves from a descending spiral of ugliness and irrationality. What is required is readiness to undertake on a large scale the kind of public works which are truly *public*—in the sense that they serve the highest interests of the citizenry; and truly *works*—in the sense that they are made to endure and to be judged by future generations. Yet it is this kind of undertaking for which it is often most difficult to muster support among the people. No foreign threat is so intangible but it can evoke a readiness to sacrifice and even a positive enthusiasm for the ordeal. No project, however costly or tenuous its returns, will be seriously challenged by the public if it can be shown that undertaking it will increase our material power. But if it is proposed that something be done by the people for their own delight and for the enhancement of their common life, a dead silence ensues. If someone suggests elegance in a public building, the matter is hushed up as if it were a scandal.

We have been prepared to call on the best architects in the country when it has been a matter of building abroad. The embassies and consulates that have been constructed in various countries over the past decade remind us what the United States can do—and what government can do—when it sets beauty and excellence as a goal. The cultural center built by the nation for the people of West Berlin shows that we are not unmindful of the value of a setting in which great public events can be fittingly held. At home, however, the story is different. We still wait to see accomplished a national cultural center in Washington. We might well feel impelled to ask, in regard to our own public buildings, whether we consider ourselves to be so backward or uncivilized that we cannot enjoy the kind of beauty which we prepare for others.

We feel impelled to ask such a question—and yet in some dim way we sense an answer more hopeful



August Heckscher speaking at lunch, the First Conference on Aesthetic Responsibility, Hotel Plaza, New York, April 3, 1962. Beside him, left to right: Richard W. Snibbe, Chairman of the Design Committee; Frederick J. Woodbridge, FAIA, President, New York Chapter; Philip Will, Jr, FAIA, immediate Past President of AIA; and Morris Ketchum, Jr, FAIA, AIA Regional Director.

than the face of things might seem to warrant. For there is certainly an influence taking shape which promises for the America of tomorrow a more sane appreciation of the true values which make a civilization. The environment can be man's greatest work of art; and it cannot be that while we strive for excellence and beauty in specific forms of culture—in painting, in sculpture, in literature, in poetry and music—we shall permanently minimize the significance of the outward world which surrounds us from our birth and insensibly makes us what we are.

Even Athens Was a Sprawl

Yet I would remind you of the other side of the coin. It would be all too easy to fall from the error of underestimating the importance of beauty in the environment to the opposite error, assuming that environment by itself creates men and citizens. In "The City in History," that monumental book which has just won for Lewis Mumford the National Book Award, the author has some interesting things to say about the outward aspect of Athens in the classic age of Pericles and Plato. The picture we have in our minds, he says, is of a town with "a marmoreal chastity, a purity and rationality." This did not exist in fact. If the *polis* existed in this form it was afterwards, in the third century BC, when the impetus of the great age had been spent and men were settling down into an existence no longer fired by ardor and creativeness.

The Greek mind at the top of its bent possessed, besides its love of abstract perfection and its strong inner order, "the violent, tormented

and irrational aspects . . . one finds in the tragic dramatists or in the rude horseplay and barnyard smut one encounters in Aristophanes." The Greek city reflected all this.

No one has been more scathing than Mr Mumford in his denunciation of modern ugliness; yet Athens, he reminds us, kept in the period when life was at its highest development a "casual jumble and sprawl." "The visible, tangible city," Mr Mumford tells us, "was full of imperfections: the disorders of growth, the fermentations and secretions of life, the unburied refuse of outlived forms, not yet decently removed, the relics of rural ways not yet adjusted to the continued ordeals and challenges of urban life." Yet the Acropolis crowned it all, its serene form reaching above the town below, finding completion as part of the landscape of rock and blue sky.

In this tension between the old and new, between the perfection of the isolated form on the hill and the seething city below,—between, as it were, earth and sky—Greek life found its moment of fulfillment. When that moment passed, Mr Mumford says, "buildings began to take the place of men."

Let us make sure, as we build for ourselves, that men and their cities prove of equal worth. It is not, after all, only beauty itself, but also the striving for beauty that lifts up men and makes a civilization. We shall strive in our own way, as this second half of the century moves toward its meridian. Who shall say that the striving will not bring its own rewards? Who shall know where the greatest achievement will ultimately lie—within us, or on the enduring face of the things we have created? ◀

Who Is Responsible for Ugliness?

Morris Ketchum, Jr, FAIA

Regional Director, AIA; Moderator

Martin Williams

Former Editor, The Jazz Review (Mr Williams' remarks prefaced the appearance of Ornette Coleman, who expressed himself through his usual medium, the saxophone)

► I'm told that I'm not supposed to say anything about the subject at hand specifically, but I think it would certainly apply because jazz once was scorned as a kind of institutionalized chaotic ugliness by the guardians and arbiters of American culture. And of course it is no longer that. You might say that if a classicist looked at jazz music he would say that it is not a contemporary art. I think it is and I think it's the one contemporary art that has reached millions and millions of people in various forms—not necessarily in the best form, but in some form.

Jazz is a twentieth century art in that it is extremely subjective and depends entirely on the individual, as does all truly contemporary art. Jazz is interested in the meaning of the moment. It is not interested in interpreting tradition as such. Whatever its meaning is exists at a moment in time because a jazz musician will never play the same piece the same way. What he does at a given moment is the meaning he is seeking.

Jazz came from below. It was not nurtured by guardians of culture. It was born somewhere in scorned areas and shoved into even more scorned areas, into bar rooms and whorehouses. It has, like much contemporary art, an apparent amateurishness, not a real amateurishness. But its apparent amateurishness is in all great jazz players.

It does not believe in absolutes. There is no best way of doing anything. There is only the way you do it at the moment and how good

is that? It goes against almost all nineteenth century esthetic ideas.

Who is responsible for ugliness? Ugliness, one can answer, is in the ear of the listener or the eye of the beholder. That's not a very helpful answer, perhaps, but an evasion.

Form? I think that contemporary art, if it lacks form, must discover its own form. I wonder if it can be imposed from without. Certainly my own feeling about much contemporary painting is that it is, if I can say it this way, feminine. It has no reason, it has no border apparently. It depends on intuition and feeling. Those are virtuous things, but they are the predominant things in contemporary painting. But then where does true higher order come from? Consciousness? I wonder. Where do the great symbols of order come from? The will, the conscious will. Perhaps the intuition has to provide the order in itself. I want to read something from a contemporary psychologist

which sums up what I want to say.

"Anyone who has the slightest insight into his own actions can have an important influence on others because the striving for self-knowledge altogether does not shun the prospect of social order, or higher order, since there exists a factor which our expectations meet halfway. This is the unconscious—zeitgeist—the spirit of the times, which is not personal. It compensates the attitude of the conscious mind and anticipates changes to come.

"Contemporary art tells us in universal language that we are living in the time of the metamorphosis of the gods.

One of the great unifying, formal symbols in western life certainly is the Christian cross. Is it beautiful? Is it ugly? How would it have looked to a first-century Roman?

"Perhaps rather as if we chose for a unifying and religious symbol an electric chair or a gallows." ◀

John L. Schimel, MD

Psychiatrist

► I do hope that the members of this meeting will not leave with a picture of themselves as an embattled élite, warring against the smothering influence of the masses. I hope you find no devils or witches responsible for the present conditions of ugliness. I do not believe you can afford such a consoling misrepresentation of the true state of affairs. We are all part of our current mass culture. As individuals, we incorporate the ideals of our society. Social ideals are primary motivating forces, and are extraordinarily important in determining the behavior of the individual, including his tastes, thought processes, his notion of beauty and his evaluation of the importance of beauty. If psychiatry has contributed anything to our current understanding, it is that man is not conscious of his true motivating drives. The obverse of this is that many of our motivating forces operate within the unconscious, ie, outside of our conscious awareness.

As individuals, we engage in various forms of behavior. We are held accountable not only for our behavior, but also for explanations of our behavior. As professionals, we are constantly asked for explanations of the inexplicable, the secret aspects of human operations. Explaining the inexplicable of course is absurd. However, part of our responsibility as professional men is to participate in such absurdities. We know a great deal about the development of the sense of beauty, but the essence of a person's response to beauty is beyond the present capabilities of science.

However, if we are to be judged sane, sound and responsible, our explanations must be acceptable. They must pass the current criteria of what is sound, sensible and true. We may build Towers of Babel, but we dare not explain that we are attempting to reach Heaven. We talk about high land values.

The primary motivating ideals in our current mass culture are the ideals of materialism and egalitarianism. Both have their virtues, and you may turn for a recitation of them to the platform of either the Republican or the Democratic Party. In the brief time allotted me, I will attempt to indicate the pathology, the crippling aspects of such ideals, to any notion of esthetic values as a major virtue.

I will deal more briefly with the materialistic ideal. Materialism is basically a simple philosophy—simple, but with many ramifications and implications. On the simplest level, it says something like: "It is good for people to have food

and shelter. Therefore we will bend every effort to provide them." In our society, this is so basic an assumption that it becomes impossible to examine. We take pride in it. It confirms our role in the humanitarian tradition, a tradition which—regardless of its benefits—has not contributed greatly to the esthetic tradition. We sneer at societies where this is not a basic assumption. We sneer at societies which build monuments but neglect babies. We are patronizing toward societies such as the Balinese, which are oriented toward music, theatre and dance, but which neglect housing. We are even making certain that this particular society will not continue to exist. We build housing developments. Our liberals cry out for more. Conservatives are in opposition. Both hold the same materialistic assumptions. There is no true debate, merely a difference as how best to conserve or expand the material aspects of our lives.

In such a context, esthetic values are distinctly a minor virtue. Even those concerned with beauty within themselves are committed to what is regarded as a more important ideal, namely, the materialistic ideal. Architects, of course, have the same ideals and assumptions, since they are part of the culture. Those concerned with beauty are saying, "Let's have beauty, too."

Egalitarianism is a more serious, a more dangerous ideology in terms of esthetic values. In effect, this ideology means that one man is as good as another. On the conscious, as well as the unconscious level, this operates to produce an

individual who respects other individuals. Respect is a fine thing. The crippling aspect is, however, to flatten out differences between this man and that. In the classroom situation, for example, this is operated so that as much time, or more, is given to the ignorant, uninformed views of students as to the views of the professor. It has led to the ghastly parodies of discussions in roundtable talks on television, where stripteasers are granted equal time with professors of philosophy, with probably both of them discussing a subject they know nothing about.

The egalitarian soul, because of the forces operating within him, is a man characterized by a lack of conviction and a lack of commitment. He is a man conditioned to be convinced by the opposition and modified by it. Often enough, his only defense against ugliness or whatever, is to translate the difference into a problem of good and evil, and to decide he is entitled to his opinion or view because he is dealing with devils. He is a man who holds the notion of human inferiority or superiority clandestinely, if at all. He is relatively impotent in the face of bad taste, ignorance, and stubborn opposition. Where is there room for esthetic values? There is no shred of evidence that our current increasingly egalitarian society can produce men capable of dedicating themselves to beauty.

The individual in the egalitarian society operates according to the principle that beauty is a matter of consent. To bring in the materialistic ideal, beauty is not only

a matter of consent, but it is also rewarded. The self-esteem of the individual depends in a greater or lesser degree on acceptance in our society. Acceptance must fall within the ideals of materialism and egalitarianism.

The architect is in a peculiar situation here, since our society, while not actually affirmatively oriented toward the artist, at least tolerates him. The architect is neither artist nor artisan. Perhaps ideally he is both. In his own mind, he is and must be an amorphous creature. But he is not alone.

Esthetic values have been minimized, as one would expect, in literature, dance, sculpture and painting. It barely lingers in the field of landscape architecture. Paradoxically, the arts have moved in the direction not only of ugliness, but inefficiency in terms of communication. Perhaps that is the message of art to our age: If there is not an overriding concern with beauty, there is nothing to talk

about. Gadgetry, which is a kind of inventiveness, has become confused with the beautiful and is part of the cult of originality which passes for art in a mass culture.

I would say that the success of such a movement as this meeting represents can only be evaluated in the same terms that we consider success in psychiatric treatment, or any other form of acquiring knowledge and wisdom. There must be an increasing awareness of the actual values motivating architects, as well as the rest of the population. A man whose motivations are clear and conscious may make choices. As long as the materialistic and egalitarian ideals operate within the person without due recognition, choice will not be possible. Mass culture concerns itself with providing material benefits and equalizing all men. In a word, mass culture is concerned with function. Its prized words are such words as "scientific" and "efficient." The person "chooses" in the direction of

his most important motivations. In our society, he will not choose esthetic values. He may try to add them to an already completed structure. Examination will show, however, that there is a hierarchy of values according to which he operates and on which the esthetic value occupies a low position.

Without a clear understanding of these forces and their relative importance as motivations in the individual, there can only be confusion, acrimony and dissension. The confusion is compounded by the ingenuity of men in fabricating reasonable explanations.

A teacher and colleague, Harry Stack Sullivan, was once asked, "What is the most characteristic thing about human beings?" To this he responded, "Their damned plausibility."

To this Conference I extend my best wishes and congratulations. I see that with you, as I suspect with me, the esthetic value still lives. ◀

Russell Lynes

Managing Editor, Harper's Magazine

► When I was invited to participate in this panel I said that I would be glad to if I could speak in defense of ugliness. Anybody can attack ugliness, or what he thinks of as ugliness, and defend beauty. But defending ugliness is like taking up a collection to promote the bubonic plague. I am about to pass the hat. I have spent some of my time in the last few years trying to solve a problem that I knew from the start was insoluble. The problem, simply stated is, "What is the nature of taste?" Why is it that one generation's "good" taste is very likely to be the next generation's "bad" taste? Why is it that the beautiful becomes ugly and then after a few decades becomes beautiful again? But more important than that why is it that almost every style in architecture that has been introduced in this century has been thought of as ugly when it first appeared? It can be said that today's clichés of beauty are almost without exception yesterday's epitome of ugliness.

When Frank Lloyd Wright was asked by Edward Bok to design a house for the *Ladies' Home Journal* at about the turn of the century, almost everybody thought it was ugly. Wright in his turn thought that the Bauhaus was ugly and he never, so far as I know, changed his mind. Now both Wright and the Bauhaus provide the clichés from which the beautiful, so-called, is created. Is this merely a reflection of man's natural reluctance to accept ideas? Or is it a genuine repugnance against what he knows to be ugly?

When we talk about "Who is responsible for ugliness?" we are talking about two things: The first is the incapacity of the talented artist to accept the accepted definitions of beauty. He has to find his own definition and when he does it is more likely to be considered ugly by those who are most sure that they know what beauty is. The second thing is time. By the time what was initially considered ugly is accepted by almost everyone as being beautiful, they are asked to accept a new kind of ugliness. But let me put these abstractions in perspective.

In the 1830s in America the "beautiful" was the Greek Revival and moreover it was generally accepted by Americans everywhere in cities, in villages, and on farms that it was beautiful and therefore desirable. Scarcely anybody wanted to build in any other style—unless he was building a barn or a pig-sty or an ice-house. In those days nobody expected a functional building to be "beautiful"; it was merely meant to be easy to build, economical, and useful. It took nearly a

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century before we discovered that the early nineteenth century barn was beautiful but that most Greek Revival houses were not. It only took a couple of decades, though, for architects to decide that Greek Revival was not only ugly but unsuitable and that Gothic Revival was not only beautiful but more "honest." Which was ugly and which was beautiful?

The advanced architects of the 1850s and 1860s knew that the Gothic was beautiful and the Greek Revival was not, so they started putting Gothic ornament on Greek buildings, and a few years later they began to remodel Greek Revival buildings into Queen Anne houses. There was no question in their minds what was ugly and what was beautiful. I suspect that there is not an architect in this room who doesn't know what is beautiful and what is ugly. I also suspect that only a very few of them know what will be beautiful tomorrow. They are the ones with the courage to design what their contemporaries may well think of as ugly. "He's gone too far," is what we say, but what we really mean is, "He's just got started on something that upsets our convictions."

So I would like to defend ugliness on two counts: First, that there is no progress in the arts without it—Daumier was ugly, Courbet was ugly, Cézanne was ugly, Van Gogh was ugly and so were Matisse, Rouault, Picasso (whose talent for staying ugly is unparalleled). Second, that hindsight about what is ugly is very little more perceptive than foresight. We are quick to tear down what was beautiful yesterday but has become ugly today without waiting to discover that it may again be beautiful tomorrow.

The fact is that we think, most of us, in the clichés of our time;

we think with a vocabulary that has been taught us—indeed, with a vocabulary that we have often gone to a great deal of trouble to understand and to learn how to use. We work with these clichés, we design with them, we use them to solve problems, we sell them to our clients (writers do this as well as architects) and they course through our blood and become part of us, and we are convinced that they define what is beautiful and are the bastion against ugliness. When we see the clichés abused as they are every day we are saddened; but when we see them kicked out of the window we are appalled.

As we look about us at our cities and at the abominable neon-bannered, gas-station-spattered, motel-desecrated approaches to them we are alarmed by what has crawled out from our urban centers and made an unholy mess of our landscape. Most of such building is in the contemporary mode. It is copycat contemporary, and in the depolitical expediency. We are likely beautiful to the restaurateur, the motel keeper, or the oil company for whom it is designed. Why? Because it is up-to-date; it is modern; it is functional. It has none of the charm of the outlandish, none of the vitality of the vernacular; it is merely watered down "beautiful." It hasn't the virtue of being ugly; it is merely sordid. It seems to me that we tend to confuse two kinds of ugliness—the socially ugly and the esthetically ugly. What we really object to in the decaying parts of our cities and in their honky-tonk approaches is not esthetic ugliness nearly so much as it is social ugliness—the result of waste, of greed, of forgetfulness and political expediency. We are likely to believe that social ugliness can be overcome by esthetic nostrums, and that an orderly environment

imposes an orderly attitude toward life. To some extent it seems to, but we forget it is often social evils that have made the environment ugly, and that if we were to cure the social evils it would be no great problem to restore beauty to the environment.

Social ugliness cannot be overcome by tearing down the buildings that house it; it cannot be overcome by beautiful plazas; it cannot be cured by sweeping it under lovely carpets. Perhaps the best antidote to social ugliness is an architecture so little concerned with the beautiful that has become conventional that it would make those who are sure they know what is beautiful howl. There are always those who believe that any means of curing social ugliness are uglier than the evils they cure, and that revolutions are always ugly. In the arts this is true, but it is not the ugliness of bloodshed; it is merely the ugliness of shedding precious hard-bought esthetic convictions.

There are many people (indeed many architects) who think that Rome is the most beautiful city in the world. It is layer on layer of what has been, over the ages, considered ugly. It is Romanesque and Gothic and Baroque—all of these words for describing styles, please remember, were first used as terms of opprobrium, not of endearment, epithets to describe ugliness, not beauty. Let me conclude with a story about Rome and about ugliness from which you can draw any conclusion you like. A young man fresh from the Harvard architectural school stood on the balcony of the Villa Aurelia at the American Academy with the then director. They looked out over the golden confusion of the city. The young man shook his head. "There's nothing to do," he said, "but to tear it down and start over." ◀

Ad Reinhardt

Artist and Teacher

► Painting has been the freest and purest fine art in this century and our purest esthetic statements have been in modern painting. I guess, then, it would be up to me to make the most extreme esthetic position clear. Who is responsible for ugliness? What is ugly? The question, if raised by salesmen of beauty, is ugly. The ugliest spectacle is that of artists selling themselves. Art as a commodity is ugly; art as entertainment is ugly.

Painting as a profession of pleasing and selling is an ugly business. Art dealing, art collecting, art manipulating, art jobbing are ugly. Art as a means of livelihood, as a means of living it up, is ugly. The expression "an artist has to eat" is ugly. An artist does not have to eat any more than anyone else.

Economic relations in art are ugly. Commercialism, careerism, moneymaking in art are ugly.

Artists once led less ugly lives than other men. Today artists lead the same kind of life as other men. The artist as businessman is uglier than the businessman as artist. The image of the artist as a patronized idiot, as an innocent, as a company man, as a collector's item, a successful schnook, is ugly. Knowing on which side one's bread is buttered in art is ugly. Bumpkin Dionysianism or Dionysian bumpkinism is ugly. The artist as a natural animal, vegetable, or grass

root, is ugly. Primitivism, irrationalism, anti-intellectualism in art are ugly. Surrealism and expressionism in art are ugly.

A cult of the ugly is a romantic, rococo, naturalist art idea. Anti-art as pro-life is ugly. Collage, ensemblage, junk and brute art are ugly. Ugly geometric art is uglier than expressionist art. The mixture or integration of the separate and different arts are ugly.

Poetic, musical, sculptural and mural painting are ugly. Imaginative, visionary, original, natural art is ugly. Making a graven image or any manner of likeness is ugly and an abomination of Satan's work.

Art confused with life, nature, society, politics, religion is ugly. Art as a thing to be used for some other end is ugly. Government sponsorship of art is ugly. Absence of government sponsorship is even uglier. Art in industry is as ugly as industry in art.

The tricks of the art trade are ugly.

The ugliest exhibitions of art in America in recent years were the new "Images of Man" show in the Museum of Modern Art, and the "Nature in Abstraction" and "Geometric Abstraction" shows at the Whitney Museum. Museum art marketing, art promotion, art history manufacturing are ugly.

Art as a good thing or a sure thing is ugly. The age of accommodation in art is ugly. The age of the shrug in art is ugly. Signs of affluence in art are ugly, signs of poverty in art are ugly. An ugly customer is not an ugly duckling.

When things take an ugly turn in art there is the devil to pay. "Why fight it?" and "That's life" are ugly expressions. Profit, interest, property exploitation in art are ugly.

Consciencelessness and subconsciousness in art are ugly. Artists are responsible for ugliness. ◀

Joseph P. Coogan

Short-Story Writer and Novelist

► To me, one of the most puzzling questions connected with this whole puzzling problem is why I was asked to talk about it. Or rather, to talk to architects about it. I know very little about architecture. And architects should know a great deal about ugliness. They've contributed so much of it. Not very much *directly*, though. Most products of modern architecture are, I think, to a considerable extent pleasing. Architecture is not, after all, a fine art. Its primary purpose is utilitarian. Utility and great artistic achievement do not necessarily go hand in hand. We don't expect much of architecture. We certainly don't expect great art. We don't anticipate a feeling of exaltation, say, upon first looking into Penn Center. And few of us get it. But, if not exalted, most modern architecture has a certain elegance, the precise elegance of a mathematical equation. Though some of it may be a bit dull, not much of it is aggressively ugly. We should all feel greatly indebted to you. And I think you deserve our wholehearted gratitude for the pleasure you give us when we contemplate all that wonderful work you do for rich people.

Most of us, of course, never see architects, except socially. In fact, most architects I know can't afford their own architecture. You've delivered us into the hands of builders. You are, then, to some extent responsible for one of the most terrifying aspects of modern civilization—the typical suburban housing development. Well, that's okay, I'm sure there are good reasons for it. But I'm not sure you should be proud of abandoning us.

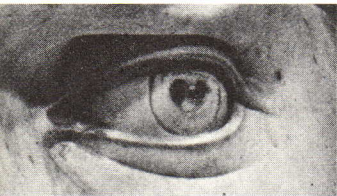
I would consider that a not inconsiderable accomplishment. I think Read's lofty dismissal of man's more humble needs arises from a tendency, shared by some architects, to regard architecture as sculpture. It isn't, of course. Utility can't be divorced from esthetics. If one designs a beautiful building that is expensive and difficult to maintain, that is almost impossible to heat and keep clean, then he has been esthetically irresponsible. A

building lasts for a long time. Its beauty should not be fleeting. It seems to me, however, as if some architects' chief esthetic goal is to design a building that will *photograph* superbly. The photograph gets into *Architectural Forum*, the architect gets great praise and grander commissions, and the building gets shabbier and shabbier.

But, except by default, architecture has not, I think, contributed overmuch to this world's ugliness.

At any rate the question—"Who is responsible for ugliness?"—goes well beyond the esthetic responsibility of architects. When my attention was first called to this question, my immediate response was, "Don't look at me! I didn't do it." Upon thinking about it further, however, I'm not sure I'm completely innocent after all. I think I am, in a way, responsible. But I don't intend to take the rap alone. I think we are all responsible.

Perhaps because my education was strongly influenced by scholastic thought, when I think of esthetic responsibility I think not only of art, but also of the philosophy that imbues art. All art is symbolic of the way the artist looks at himself in relation to nature. Art does not hold a mirror up to nature, but to human nature. The artist—either by protest or acceptance—reflects in his art the prevailing philosophy that shapes not only art, but all aspects of life.



I'm neither profound nor knowledgeable enough to say why, but I think it fairly evident that the art of this century (certainly literature and painting) gives testimony to the disintegration of a former image of man. In painting, the human figure has all but disappeared. When it does appear it is distorted, often dismembered. In abstract art the whole existential world of nature has disappeared in order that the artist can express the originality of the creative self. Modern literature and painting are engaged in a desperate search for a lost identity.

Literature cannot so easily dismiss the world of things, but it can—and much of it has—rejected man, or man as previous societies have seen him. There are no heroes or villains. Man has become the bewildered victim of forces he is incapable of understanding. He is no longer certain of his own existence. The new theatre and novels of the absurd transform Descartes' "I think, therefore I am," to "I can't think; therefore, am I? And who am I?" Another school of literature uses sexual experience as a means of affirming man's existence.

"I fornicate, therefore I am." Not *cognito*, but *coitio ergo sum*.

Now, in its search for identity, modern art makes much use of the ugly, which, in successful art, is subordinated to an emotional power that dominates the work as a whole. Much modern art is, in this sense, ugly because it calls attention to man's dilemma in our singularly ugly civilization. This, as no other age has been, is the age of ugliness. The atom bomb is ugly. War is ugly beyond measure. Genocide is ugly. Much of business and science is ugly. Our popular arts are ugly, permeated by the ugliness of senseless violence or of sex that is clinical, sad and dreadful or voyeuristic, immature and prurient—either emetic or childishly erotic.

Ugliness is not peculiar to our age, but we have a peculiar inability to recognize it. Why, we observe and placidly accept grotesqueries that should make sane men scream with laughter or despair. Here, for example, is a rhymed ad that appeared last year in a Detroit paper:

Love your children, love your mate.
Do it now, don't tempt fate.
Heaven forbid, if bombs fall
Be prepared!! *Now* place your call.

You are to place your call to a builder of fallout shelters. I read this bit of verse in an advertising trade journal. The article asked, "How do you tastefully sell survival equipment when the word 'survival' conjures up unpleasant images?" It was comforting to learn that "business has taken hold of the newborn boom and is eager to make the most of it."

According to one of last year's most important books, Herman Kahn's "On Thermonuclear War," the newborn boom, when it does come, won't be so bad really. This book estimates the number of dead Americans that make up a fair price for winning a war. About sixty million. In this generation, that is. Over twenty, thirty, or forty generations the number of embryonic deaths may mount to about five million. But, "on the whole the human race is so fecund that a small reduction in fecundity should not be a serious matter. . ."

It would seem, then, that the Judeo-Christian concept of the sanctity of the individual has changed somewhat. Individual man has indeed lost his identity. He now exists as one trivial unit of a vast

collection of data. He is one-millionth if a megadeath. Private morality has given way to a statistical morality. This change can be illustrated by comparing two popular "science" novels of not so long ago—"Dr Jekyll and Mr Hyde" and "The Invisible Man"—with one published last year, John Hersey's "The Child Buyer," an excellent book.

Stevenson's Dr Jekyll and Wells' invisible man were scientists who carried out grisly scientific experiments on themselves. The child buyer carried out his, you may remember, on children, singularly gifted children with extremely high IQs. He has come to a town to remove a child from his home to a vast research center, where the child will be deprived of the unnecessary senses—such as sight and touch—which would create annoying "feedbacks." His mind will be washed clean of memory, of identity, and he will be able then to function as the needed "human component in our systems design." The community, including the boy's parents, was—as you might well expect—wholeheartedly in favor of this project so vital to national defense.

Margaret Mead, who made this comparison, said that the situation in the Hersey book was believable because of "our deteriorating ethical sensitivity," and that, I think, is what is responsible for the ugliness that runs rampant in our society. It may stem from a peculiar kind of condition that was first described by a French physician, Pinel, in 1801, which came to be called "moral insanity." In this disorder, the intellectual faculties remain intact, but the feelings and temperament, likes and dislikes, have become perverted and depraved. Despite the victim's intellectual awareness of moral (and esthetic) values, his moral sense has either disappeared or has become hopelessly warped.

I suspect this condition has now reached epidemic proportions. Man is rapidly losing his humanity. In art, the consciously ugly is a protest against this disease; the unconsciously ugly, a symptom of it. Who is responsible for ugliness? The men who manipulate our opinions, pollute our air, direct our behavior. Sensible men, rational men, men who wish no one any harm; men who hope what harm they *must* do will be statistically insignificant. Men of good will. You and I. All of us. ◀

Samuel Ratensky

*Chief, Bureau of Project Development, Housing and Redevelopment Board,
New York City*

► As a career Civil Servant who has functioned for many years, at Federal and local levels, in the administration and technical direction of programs concerned with housing, with neighborhoods, with community development, conservation and renewal—and therefore with urban design—I will address myself to the matter of esthetic responsibility as the client's representative, when the client is the government.

But I will try, first, to set limits within which such a discussion seems meaningful to me. I wonder how many of us in this room would agree on what is ugliness—either as a concept or as applied to an object, and of those of us who did agree, how many would still be of the same mind five years hence, or ten. Esthetic criteria are arbitrary conventions subject to factors of age, association, economics setting, propaganda, and the values of the beholder. Thus no one is responsible for ugliness. I take it that the Design Committee of the New York Chapter is asking who, or what forces, are responsible for the *creation* of ugly buildings or ugly physical environment—ugly in the sense that they fall short of the potential which technology, resources and an informed esthetic conscience require *in their time*.

Let me talk of the government's responsibility in such creation. The expanding role of government, in partnership with private enterprise, in creating great design and building opportunities is apparent to us all. Although we do not yet have a Department of Urban Affairs, we do have an increasingly urban America, whose cities must not only meet new demands on their peripheries but must regenerate themselves from the core outward. The large plans and imaginative concepts which these needs dictate can only be undertaken with government initiative and assistance. They can only be realized through a tough and sensitive relationship among government entrepreneur and architect or urban designer.

To talk about the government's role first: It is my belief that we must attract more gifted people to government service and must find ways of holding them there. To do this, and I say this diffidently, we must, as a society, value such service more highly. In my own experience, isolated individuals, strategically placed, have done more to

further and support good design, and the liberality of outlook and interpretation to permit good design to flourish, than any other single factor. This was true during the first New Deal, when Rexford Tugwell and James Lansill undertook the planning and building of the three Greenbelt towns—perhaps never realized as great architecture, but certainly great and forward-looking concepts. It was true, later, during the early years of World War II, when the Division of Defense Housing, with a conscious desire to buy good design even in a war-time program of temporary housing, picked such architecture as Neutra, Breuer, even Frank Lloyd Wright. More recently, the New York Board of Education, for a few years encouraged and obtained some notable freshness in school design. And I am happy to say that Commissioner Marie McGuire, of the Public Housing Administration, has a genuine passion for good architecture which has led her to throw away all the rules and regulations which twenty-five years of timid, safe, "committee" design had developed.

A sophisticated administrator or technician, with an informed and cultivated taste, can be as useful to the cause of good architecture as one of the patrons of earlier times.

But this is only one leg of the triangle of government, sponsor and architect. The sponsor, too, whether it be a public corporation, a cooperative, a community or eleemosynary group, or an investment builder, must share a sense of responsibility for the quality of the structures and the environment which it is helping to create. This is not easy; builders can be as inexorable about budgets and rising costs and costs of use as government agencies, or as rising costs themselves. But in urban renewal, where every project must be established as a public purpose before

it is carried out, happily we have the means, if we will use them, to insure a high standard of professional excellence and performance. And we are using them: through increasing emphasis on development of a fresh concept for each project specifically related to the particular area, the development of flexible controls for carrying out that concept, and the selection of the best qualified sponsor to carry it out. The qualifications on which the sponsor is chosen include those of its architect.

I am happy to say that the Commissioner of the Urban Renewal Administration is deeply concerned with and responsive to good design.

Now, I should like to talk briefly about ugliness and beauty as related to cities, because I believe that a city may have, as a totality, a beauty quite unrelated to its buildings or its parts, and which is shaped by time and weather, proximity, accommodations and the work and minds of many men. We have not found any instant product which replaces this process. London, an old and constantly changing city, has a beauty created by the sense of the history of England. Is Florence a beautiful city, or is it a museum? Is San Francisco beautiful, or is it beautifully situated?

Manhattan, also beautifully situated, has lost its character as an island, possibly because it has lost its dependence on its harbor, and has formed another focus—the focus of financial capital as well as centers of decision and of distribution.

Thus its new buildings, governed by forces, generally, which are totally remote from esthetics, may certainly be considered monotonous and lacking in codified standards of beauty. But now these buildings are merging into the totality—a city of style, perhaps cold, but clear and definite, and speaking for its citizens, as a city must. ◀

Dr Paul Goodman

Writer, Critic and Teacher

► At these meetings I always feel like Banquo's ghost. You have to have him at a banquet, so here I am. I guess we're responsible for ugliness and our hosts here, The American Institute of Architects, since they are closest, are most responsible for ugliness. In these circumstances, apparently, some thought or beauty or intelligence is supposed to occur. It's quite impossible.

Mr Moynihan today said that we can now have modern architecture because it's acceptable as the corporate image of the Rockefellers, etc. Therefore it would be acceptable to Jack Kennedy who also is very interested in corporate image.

Under those circumstances, apparently, we're supposed to have something beautiful made. It seems to me out of the question.

Now, this is a conference. It can't be a conference because there's no thought or talk or real exchange, under these circumstances, on esthetic responsibility.

The use of the word "esthetics" as I heard it all morning and as it seems to be in the design of this thing is that it's something which we tag on and pay attention to as one of the important values. You get the impression that the people who planned this had never whittled a spoon or done a stroke of art work in their lives. This is a completely unrealistic attitude towards how any artist operates. I'm an artist myself; I know. You operate in an art by being interested in something which is worthwhile. So you can't be interested

in making money for somebody because that isn't interesting. You have to be interested in some product. Trade is interesting; you want to see people get products, you want to distribute goods, etc. Trade could be very interesting.

Schooling is interesting, education is interesting, housing could be interesting. You have to be interested in some product, that is, have a real utility. Our society is not interested in real utility, therefore it's impossible that anything good should be produced.

Now, an artist is interested in something. I'm interested in some thought I have, or some tree I see, or something like that. And then I give my feelings to it. Now, to give your feelings—well, what are giving feelings? There has to be a certain amount of sexual freedom, there has to be sexual give, there has to be sexual liberation. I doubt if on this entire panel, from the beginning to the end, the word sex will be mentioned except by me. Yet, apart from that, it's impossible to discuss ugliness and beauty, because these are animal qualities of the sensitive soul.

Likewise, there has to be fraternity. You have to have some affection for the other people. You have to feel a fraternal give—in our city, with its intense lack of fraternity and its segregation. In the country at present, according to the new figures of Mike Harrington which I think were a little low, we have thirty to thirty-five percent of the people living still in abject poverty. This at a time when the government is spending seventy percent of the national budget on war hardware, means there is no fraternity, there will not be a fraternity. Therefore there will be no feeling.

In short, there being no interest because there are no real objects to be interested in, there being no real feeling because of our sexual mores, and because of the lack of fraternity, because of the class structure, etc, it is completely unrealistic to have this discussion.

The discussion, though, has to go on because we now have to patch together and make nice a social situation which is not nice. It should be wiped off the slate, as Veblen would have said. ◀

Discussion Following the Third Panel

Question: Would competition for public structures result in better esthetic designs?

Mr Goodman: Just one sentence of answer: I think that competition, since it puts it at least in the realm somewhat of chance, will be better than what we have.

Question: Shouldn't we be concentrating on the evil of mediocrity and indifference instead of on beauty and ugliness, because the latter two may turn into each other?

Mr Lynes: Should we concentrate on avoiding mediocrity and

indifference? Mediocrity on the part of the architect and indifference on the part of the public? It seems to me that the schools which teach the architects are responsible for their mediocrity or their distrust of it and indifference to architecture on the part of the public is something that is a very obviously long, slow process. What happens I think, when you try to instruct the public to have taste or distaste for the mediocre is that you sell them a set of clichés. And those are the very clichés that, by just about the time they've accepted them, are

then beginning to be considered ugly by the makers of the new kind of beauty.

Mr Goodman: I'm a little disturbed at Mr Lynes' attitude there. He talks exactly like the managing editor of a magazine which he is. What they're interested in doing is trying to predict the kitsch of the next three years, because that will help sales. It used to be avant garde, but now it's avant kitsch that he's interested in.

Question: We understand that mediocrity is, in a way, inevitable and acceptable. How does Dr

Schimel explain the prevalence of vulgarity that seems to be peculiar to our age?

Dr Schimel: I was talking to one of my colleagues who mentioned his embarrassment at possibly being asked a question he couldn't answer. I reminded him of the story of the older politician telling the younger politician that if you can't answer a question, or don't care to, answer a different one. I'm going to follow this advice. I really can only discuss things I can define and I can't define vulgarity for myself. I would say, if anything, this is probably the least vulgar age that I know anything about and this is one of the problems. I think Dr Goodman was talking about this earlier, when he spoke of the animal instinct or animal responses as part of our response to beauty. He even sneaked in the word sex and showed he wasn't a very good prognosticator, because the following speaker used it twice, topping him by one.

Mr Coogan: I think one of the troubles is that the vulgar is becoming so commonplace—that used to be called the vulgar—that it is no longer vulgar. And the trouble is, there is no pornographic literature any more because so many things have been accepted. So that I'm afraid that pleasure is going to disappear.

Question: How is it that the

bankers, who have been one of the most imaginative professions in all history, have apparently today lost their imagination? Now, lest you think that I'm not saying the truth, let me call attention to the fact that it was the bankers who invented gold, silver, copper, as a supplement to barter. It was the Bank of Amsterdam which invented the idea of the written certificate certifying to the content of gold. It was the Lombards who devised the method of credit which stimulated commerce, which aided the great period of the Renaissance. Again, the English, in 1694, invented the idea of central banking which we Americans took up in 1913. Bankers have been exceedingly imaginative. We ask the psychiatrist, what has become of the banker's imagination today?

Dr Schimel: I'm delighted to talk about this subject probably because it's something I know specifically so little about. I've been impressed by the imagination of bankers, too, except sometimes when they've dealt with me. But I seriously have been. I thought you were going to mention the discovery of double-entry bookkeeping, which made true international commerce possible. I would say it has something to do with the current improvement of plumbing. You see, we're very concerned that things work well. Things that work well have to be

mass produced, since we're all too rich to live in poverty and too poor to live decently. We do this with people, too. We call it human engineering and I'm ashamed to tell you that some of the definitions of mental health offend me, frighten me and, anyway, I don't recognize myself in them.

I would refer this question to one of my teachers and colleagues, Erich Fromm, who reviewed what we do, how we select people, and even what we value in people and he concluded, after surveying these things, that the things we consider finest in people would make them eligible for vice presidents of our great corporations. But then he raised the imponderable question: Under our present system, where will we get the presidents from? So I think this is what's happened to bankers.

Mr Coogan: I think that bankers must be very imaginative people because they are driven by a force that compels imagination, that stimulates imagination: greed.

Dr Goodman: I'd like to take a stab at that. I agree completely with the psychiatrist.

What he's saying is that a banker belongs to the computing system, which works on actual first-level realities. Now, if the leech has sucked all the life out of the first-level reality, naturally he becomes bloodless, too. ◀

A Plan for Action

Richard W. Snibbe, AIA

Chairman, Design Committee, New York Chapter AIA

► If the aims of this Conference are to continue to exist as a reality we must adopt a plan to continue the work. This conference was conceived for the purpose of inspiring community activity to fight ugliness in our country. This is a gigantic task. It will require a great deal of our thought and effort for many years, but it must be done if we are to develop culturally as well as scientifically. It must be done if we are to say "Stop" to the economic madness, the senseless waste which destroys our heritage only to replace it with less palatable and *more disposable* construction. If this is progress, then progress must be slowed down so we can re-evaluate our aims and our goals. Then, with the power of reason giving it direction, it can move ahead on a planned and rational basis.

I would like to present a Plan for Action in the fight against ugliness.

We must all give our best thinking to bringing about the desired changes for reasons that are as concerned with a healthy economy as with raising esthetic standards. Poor construction and neglect mean early obsolescence; obsolescence means eventual condemnation and necessary renewal, and that means displacement, losses in income and taxes, and is therefore bad business. Conversely, good maintenance, higher standards of new construction and preservation of historic and renewable structures mean first, rising property values and second, continuity of occupancy with no loss of income or taxes, hence good business.

Good business. Progress on a rational basis: How are these things to be accomplished?

Citizens committees must be established in every state and major city—and, hopefully, in smaller ones, too—to create an awareness of esthetic values, to lobby in our legislatures, to bring pressure to bear on public agencies and influential individuals to stop the desecration of our country and to bring about its planned and orderly growth.

Architects are responsible for the largest visible works in our urban areas. They deal with art and business every day. Therefore they are the natural group, probably the only available group, to start the action on a broad scale.

Design Committees must be created this summer in every chapter of The American Institute of Architects. These groups in turn must form broad community committees on esthetic responsibility—committees comprised of the leading people in business, the professions, institutions and the arts.

How does a Plan For Action become a reality? It calls for the spark and determination of just one dedicated architect. One person in each community who cares about the environment in which his children grow to maturity.

Do you realize that thousands of esthetic decisions are made daily

by people who don't know they are making them? Think of that, and the work of the Committees on Esthetic Responsibility looms large and important. They can hold conferences such as this to draw attention to the importance of esthetics. They can conduct seminars with builders, mortgage men and real estate entrepreneurs. They can bring issues into the open in election years. Think of the signs, posters, benches, wires, fences and street lights that are put up every day without an over-all design or even the knowledge that one is needed—to say nothing of controls against doing these things. We have become blind to them because of the confusion of our environment. Our minds reject conscious awareness of such clutter in self protection.

So our Committees must re-educate people to see and to react. Starting at the kindergarten level, we must press for our schools to teach seeing as a part of learning.

Committees can encourage better design and discourage mediocrity. Here in New York the Fifth Avenue Association does it with an annual award for the best building on the Avenue. The well publicized awards are highly coveted. This means of improving our visual environment can be spread throughout the country by our Committees—and can be broadened to include honor awards for good design in many fields.

Committees can implement tangible programs. Very few fountains have been built in our country lately; not many public commissions for sculpture or murals have been authorized; very few museums, parks, botanical gardens or even zoos have been built since WPA days. Any one of these could be a real project for a Committee, working closely with schools of art and architecture to do studies of such projects. Instituting competitions and awarding prizes is a good way to inspire the widest participation.

Our present administration has sponsored the growth of the arts by associating itself with men like Robert Frost and by appointing our

luncheon speaker, August Heckscher, Special Consultant to the White House on the Arts. This sponsorship must be supported, and supported widely, by active Committees. They should offer aid and endorsement to the new appointee on matters concerning the arts in their own communities. This could lead to official national recognition of the arts as an aid to the survival of democratic life. Now is the time to show that freedom of expression in the arts is a national policy.

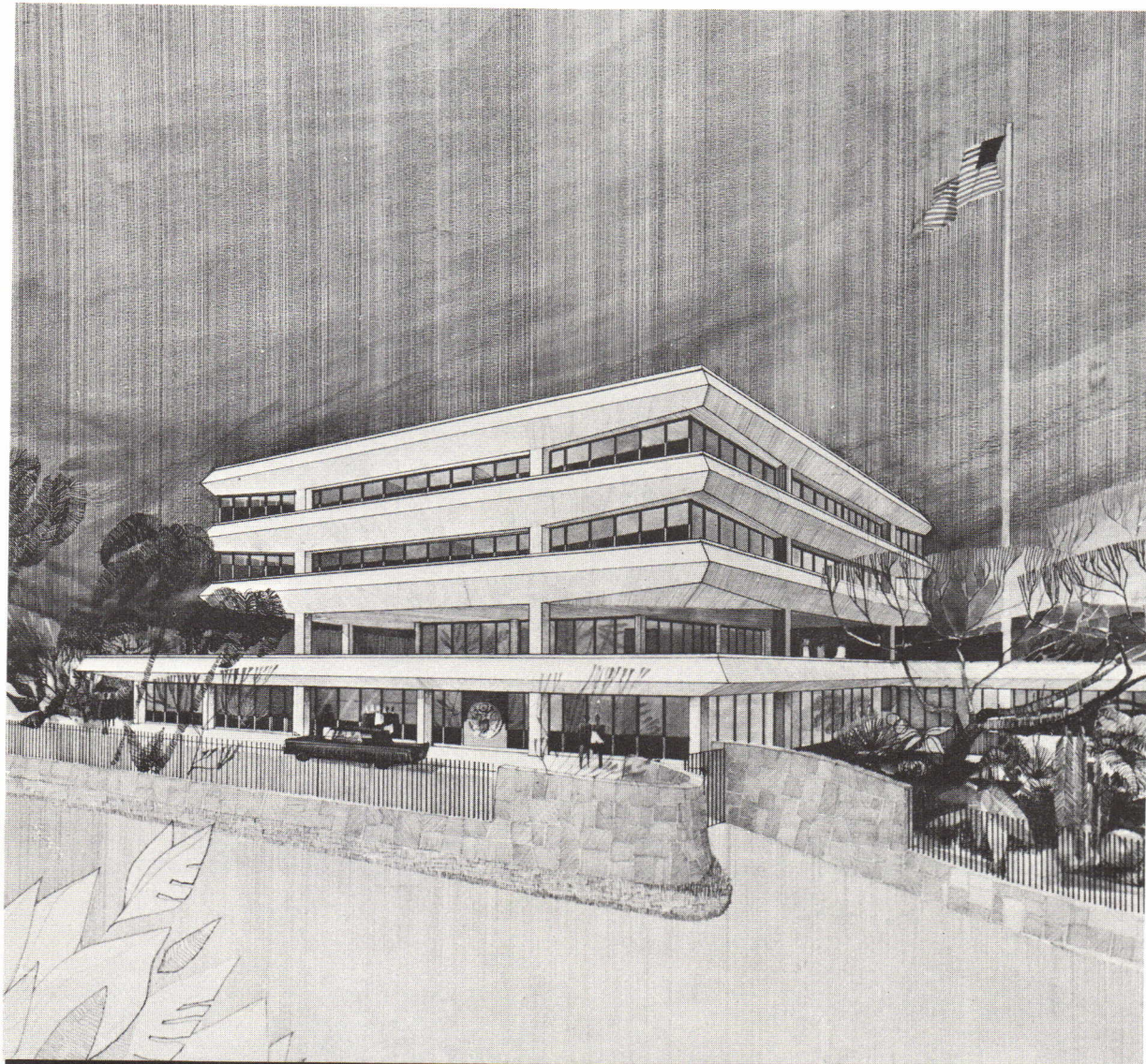
Seeing the enthusiasm expressed here today, and having received letters concerning this Conference from architects all over the country, it is not difficult to envision influential Committees creating an atmosphere in which discussion of esthetic values and responsibility is no longer considered bad taste or slightly effeminate. Recognition of the creative individual is gradually growing in opposition to the "personality cult." We are fighting immensity, the corporate mind and a total machine society in defense of our democratic life.

The nature of that fight becomes obvious when we realize that we have never been richer and poorer at the same time. More production and consumption seems to lead to lower standards of workmanship instead of longer lasting and more beautiful products and buildings. It is time for us all to question this contradiction, find its source, and move to demand its end.

Can we also end the baffling contradiction presented by the pressure for cheapness in the midst of our greatest period of prosperity? As long as a product or building "works" and sells it is, by our distorted definition, "beautiful." What a frightening disregard for beauty as a desirable end result of our efforts!

Broad public education and activity is needed to change this distorted definition. It must be changed and we intend to start work tomorrow, here in New York, developing the First Committee on Esthetic Responsibility.

I am certain you will respond when asked to participate in this movement of national necessity. ◀



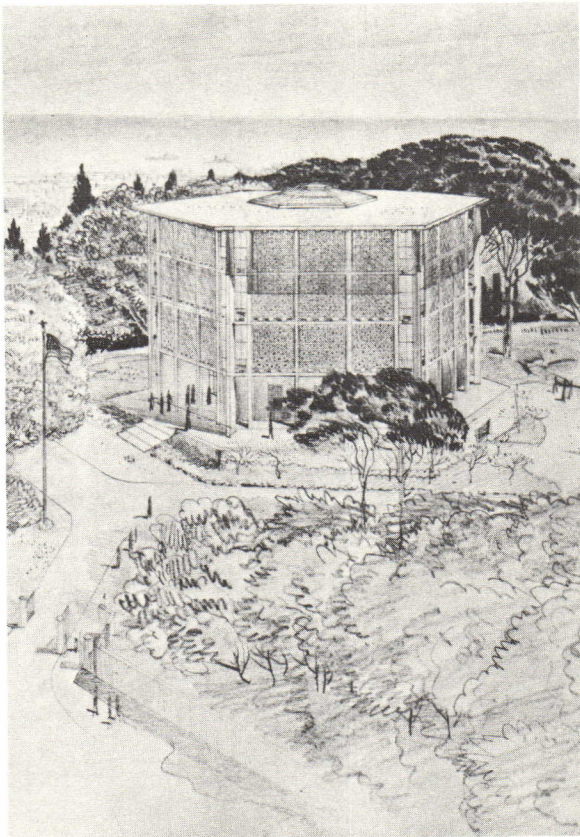
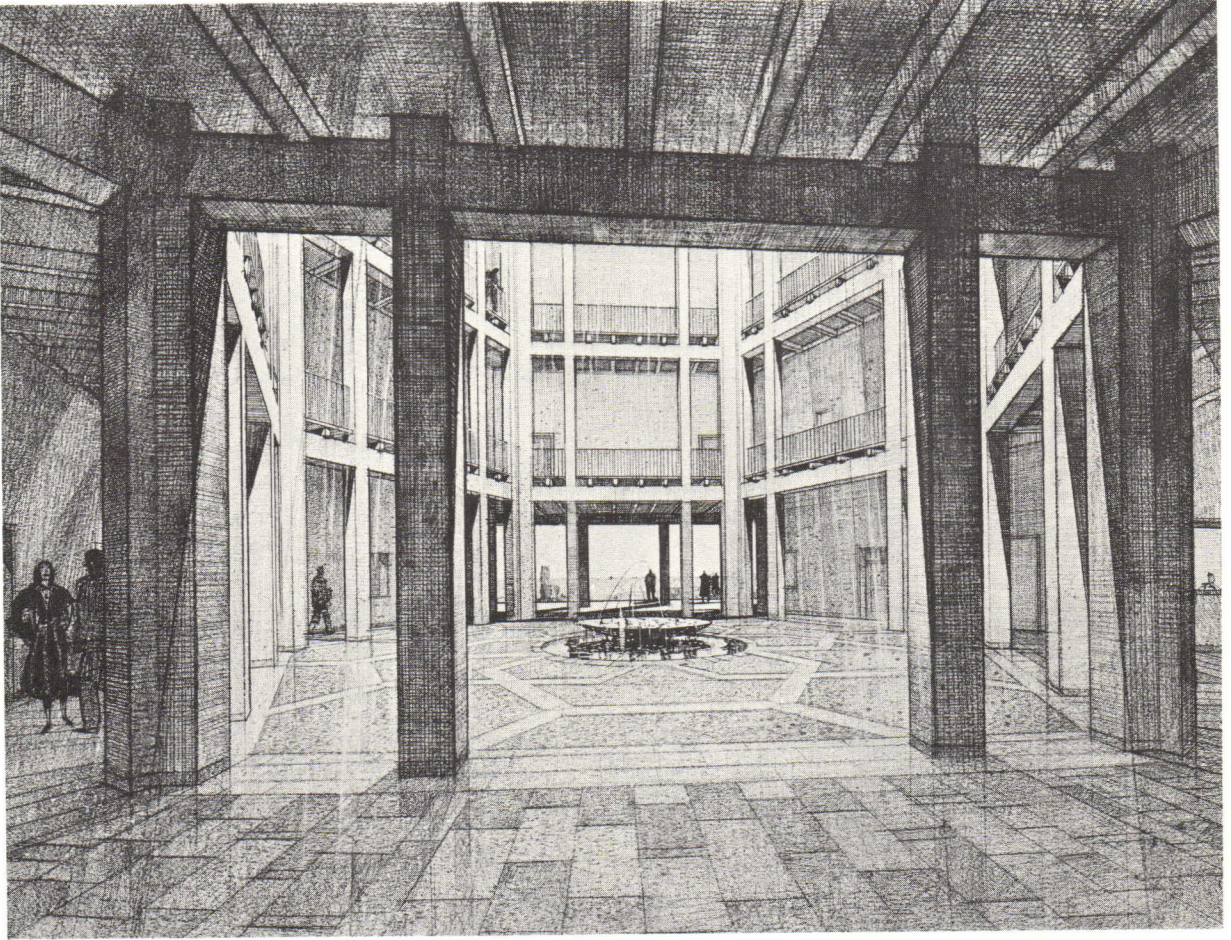
Embassy Office Building/San Salvador, El Salvador

Hellmuth, Obata & Kassabaum

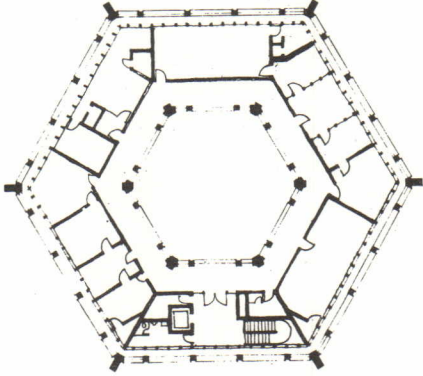
Overseas
Diplomatic and Consular
Buildings

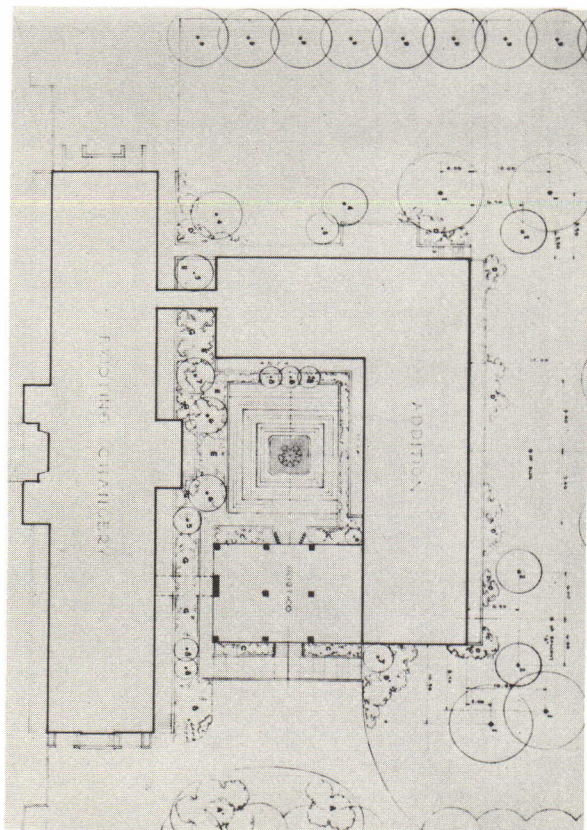
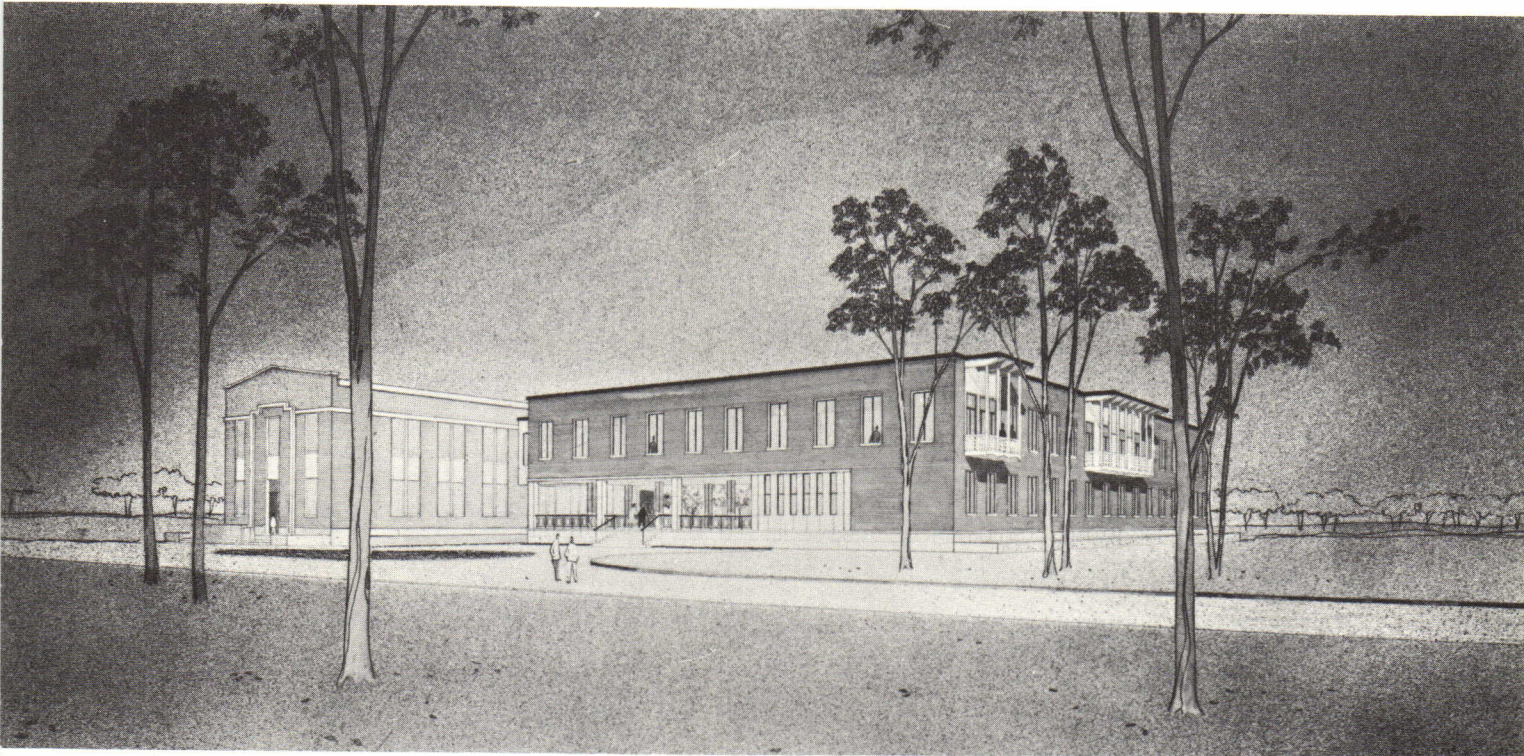
FOR THE OFFICE OF FOREIGN BUILDINGS

Department of State

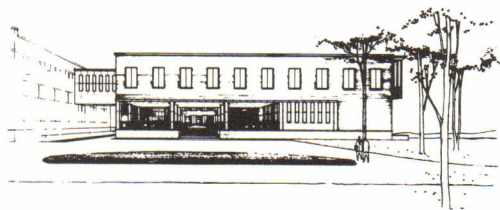


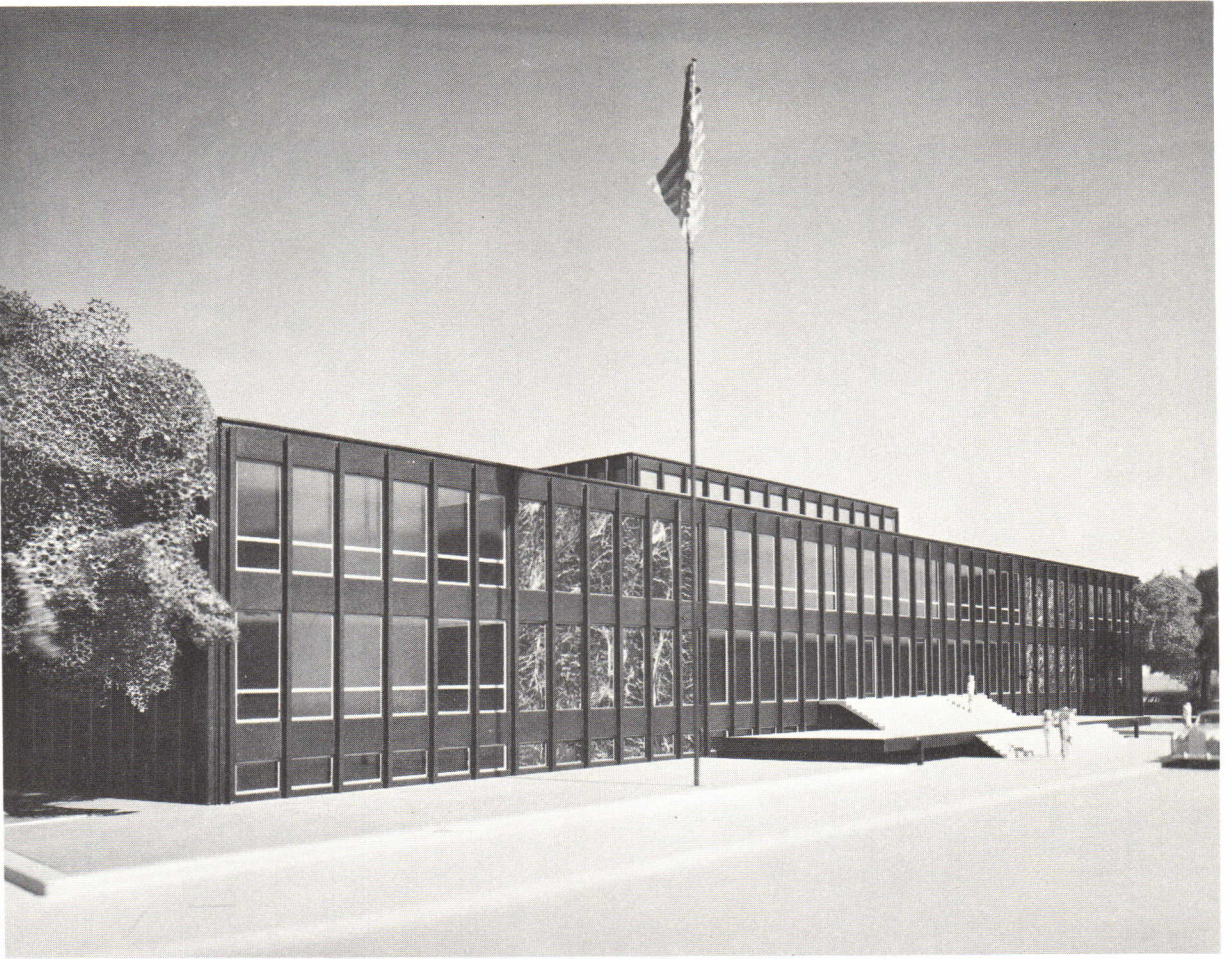
Consulate General Building/ Algiers, Algeria
John Lyon Reid, FAIA



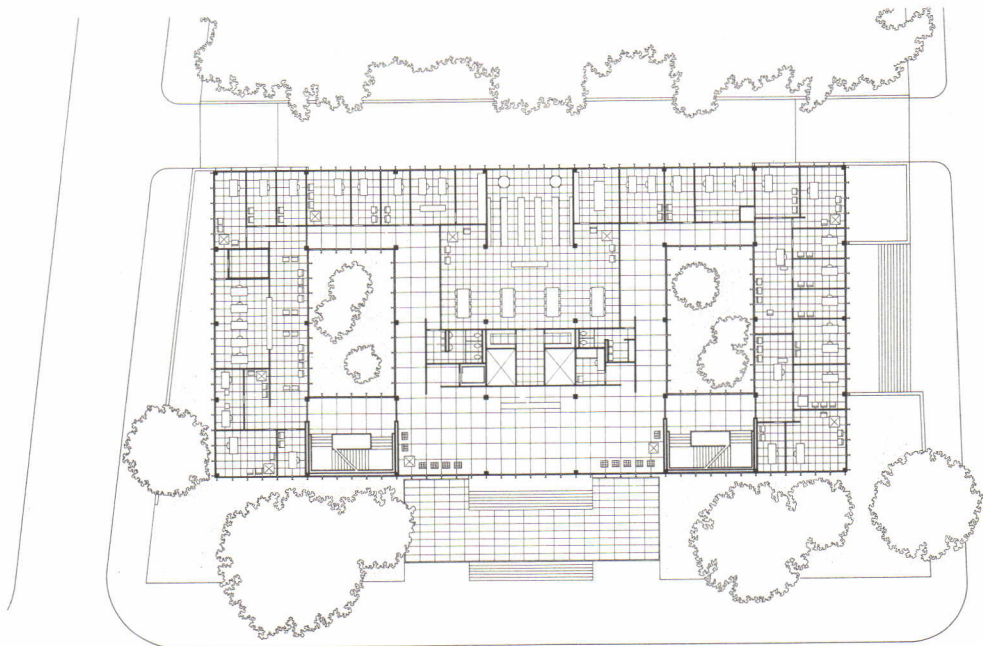


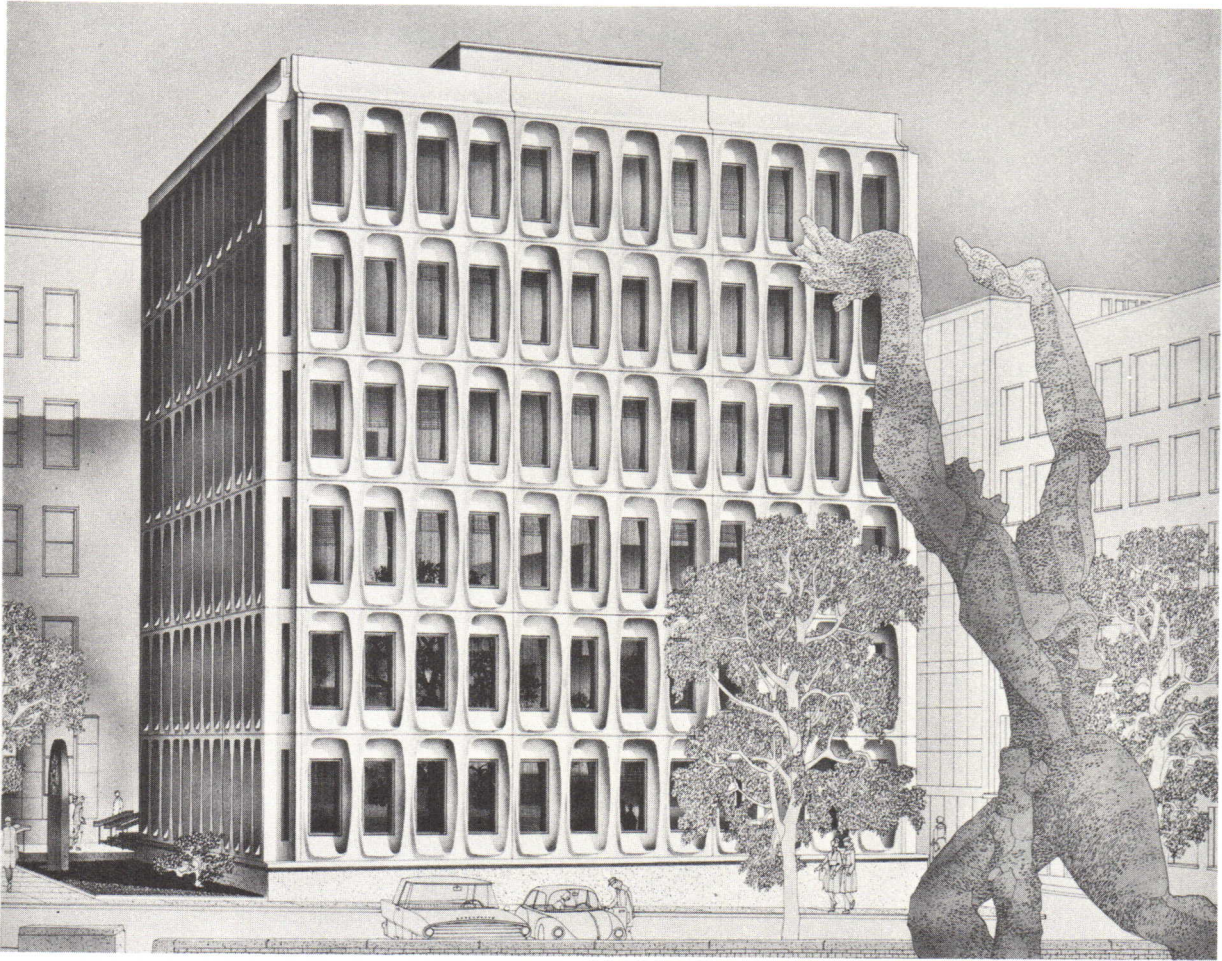
**Addition to Chancery/Tehran, Iran
Samuel E. Homsey, FAIA and
Victorine Homsey, AIA**



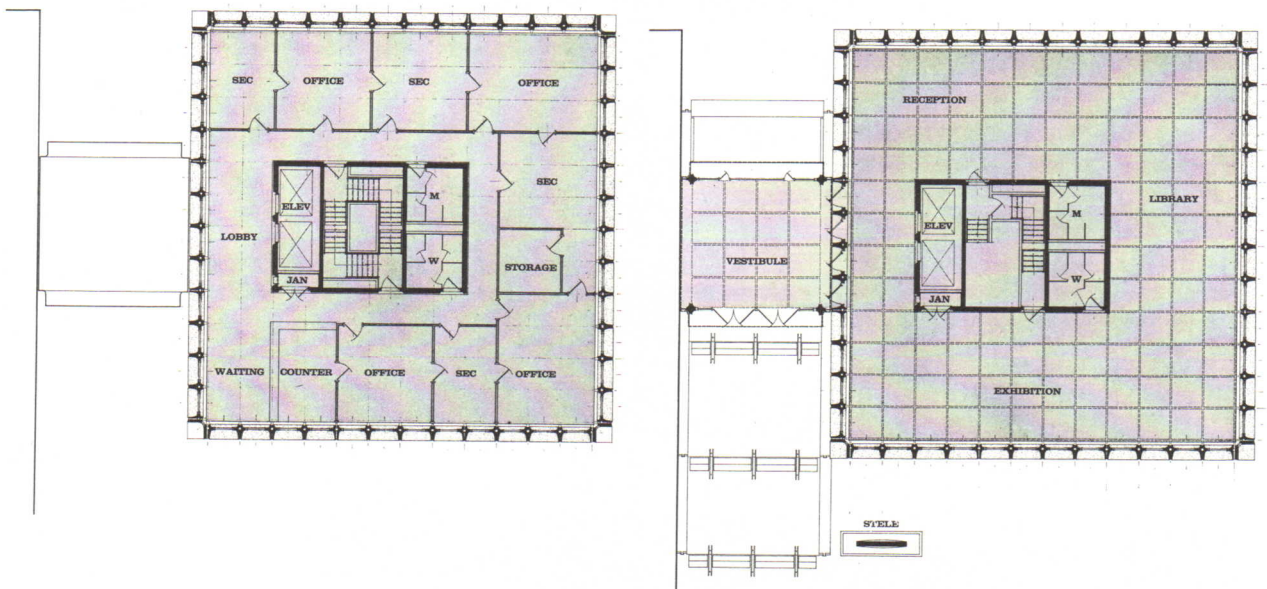


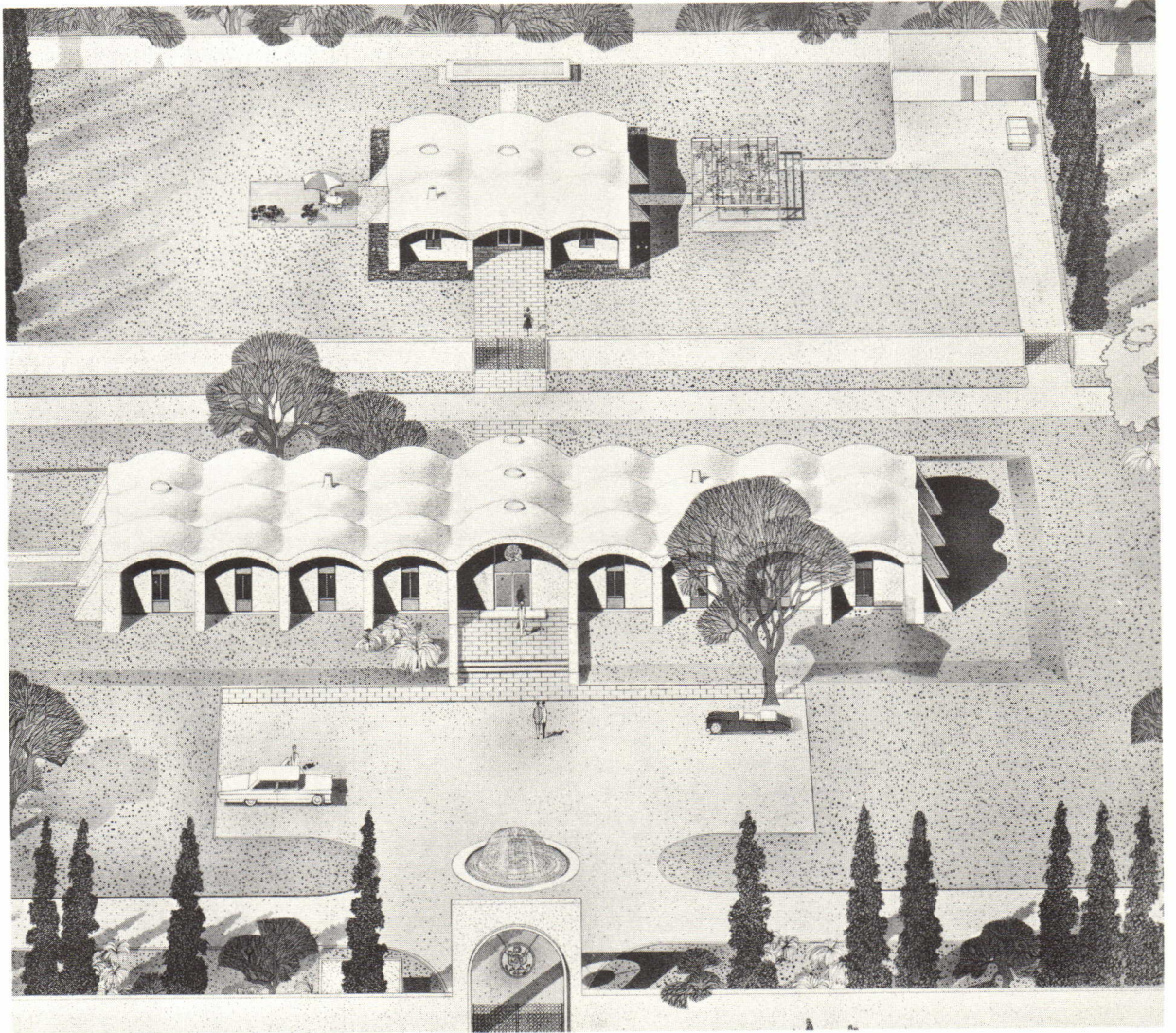
Consulate General Office Building/Sao Paulo, Brazil
Ludwig Mies van der Rohe, FAIA



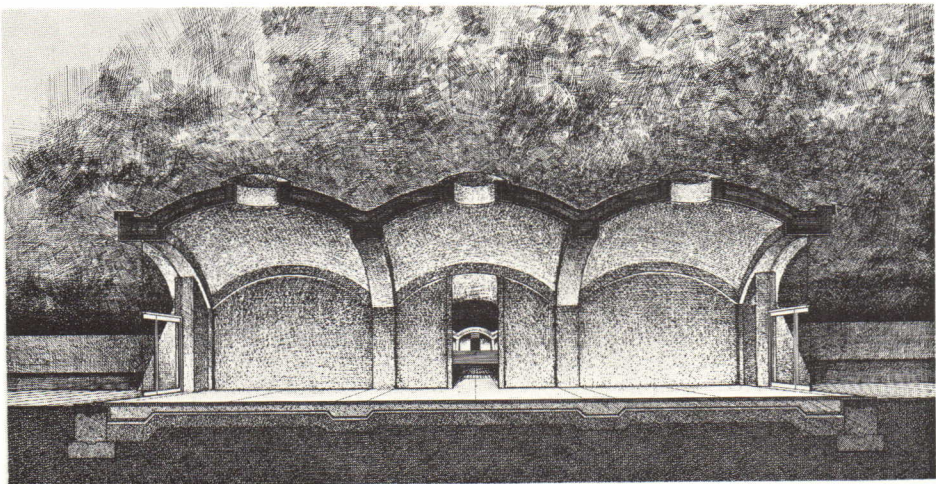


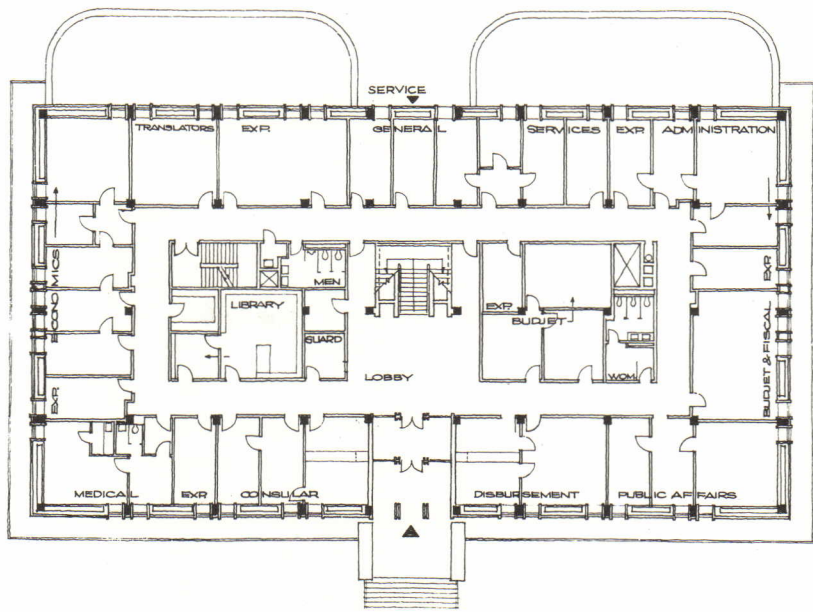
Consulate General Office Building/Rotterdam, The Netherlands
Victor Christ-Janer and Associates





Consul's Residence and Staff Housing/Tabriz, Iran
Edward Larrabee Barnes, AIA

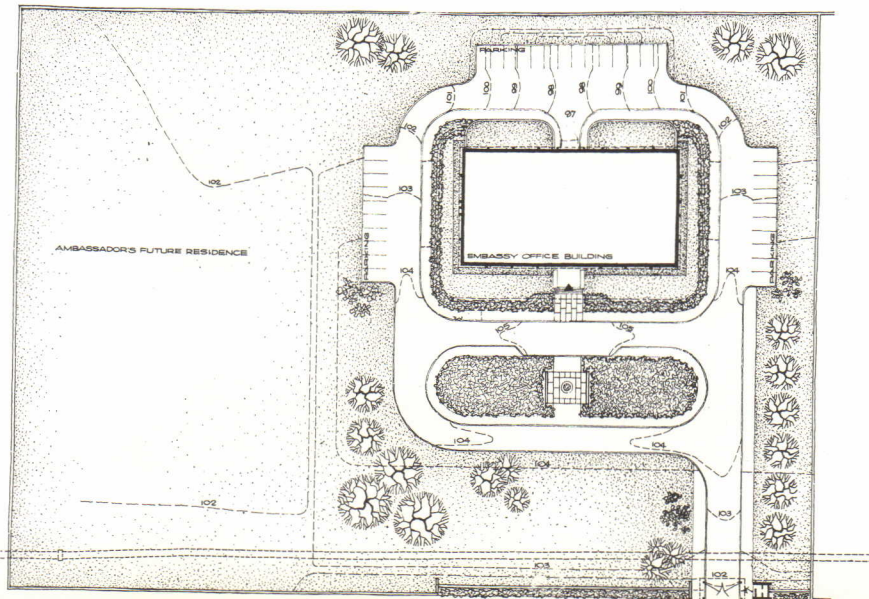


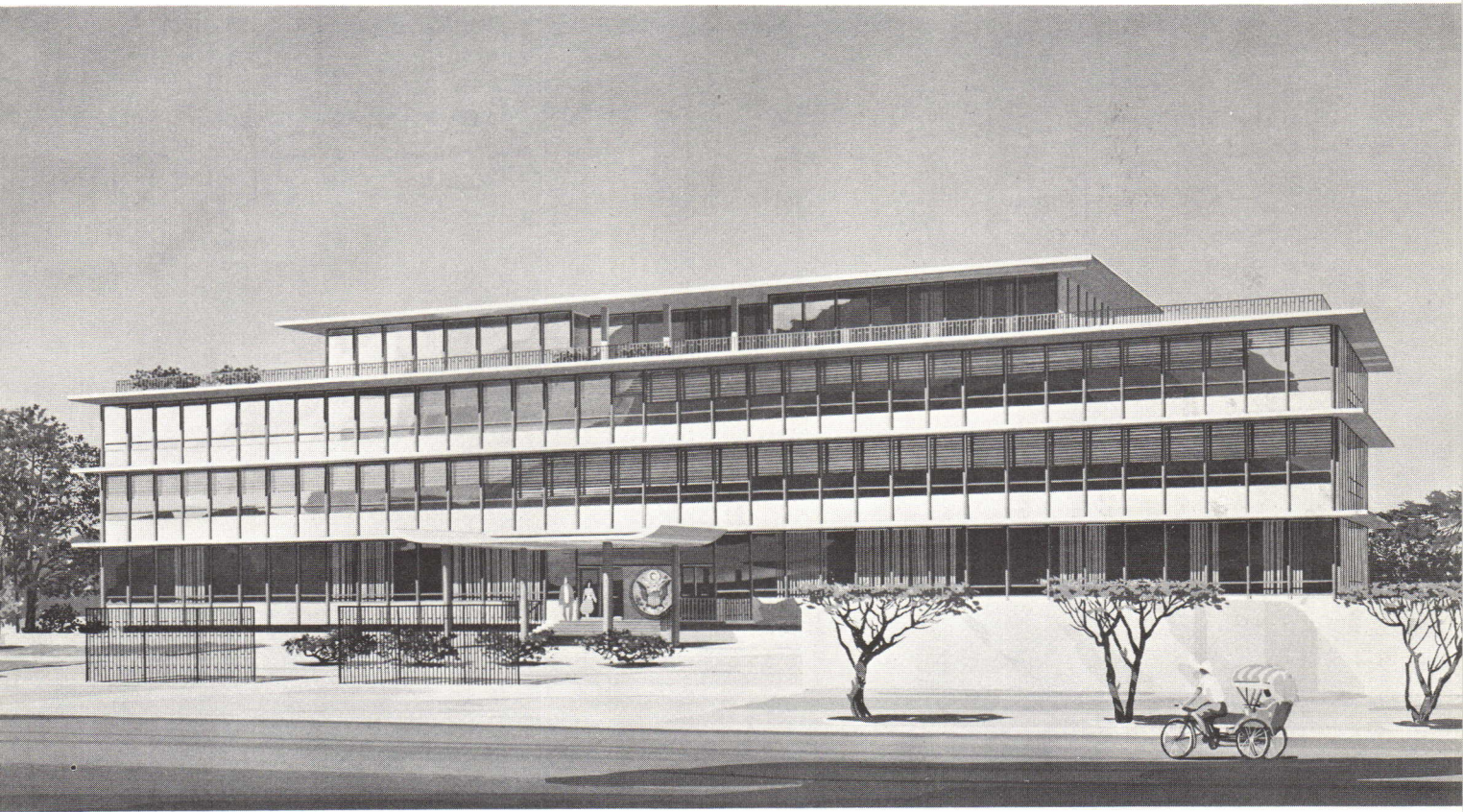


Lawrence S. Williams



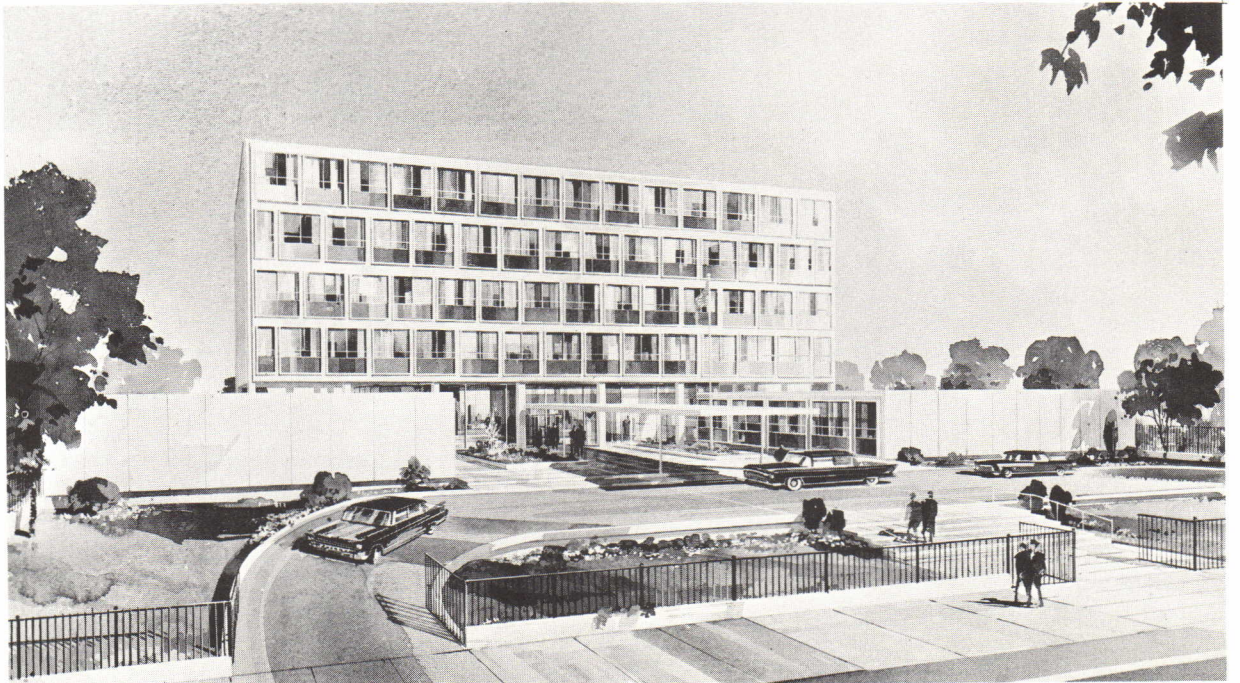
**Proposed Office Building/Kabul, Afghanistan
The Ballinger Company**

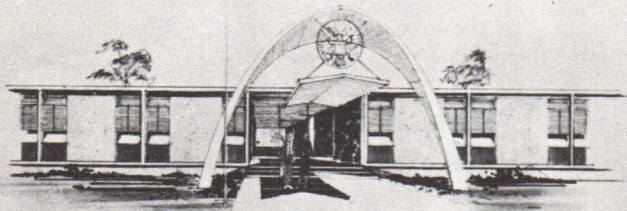




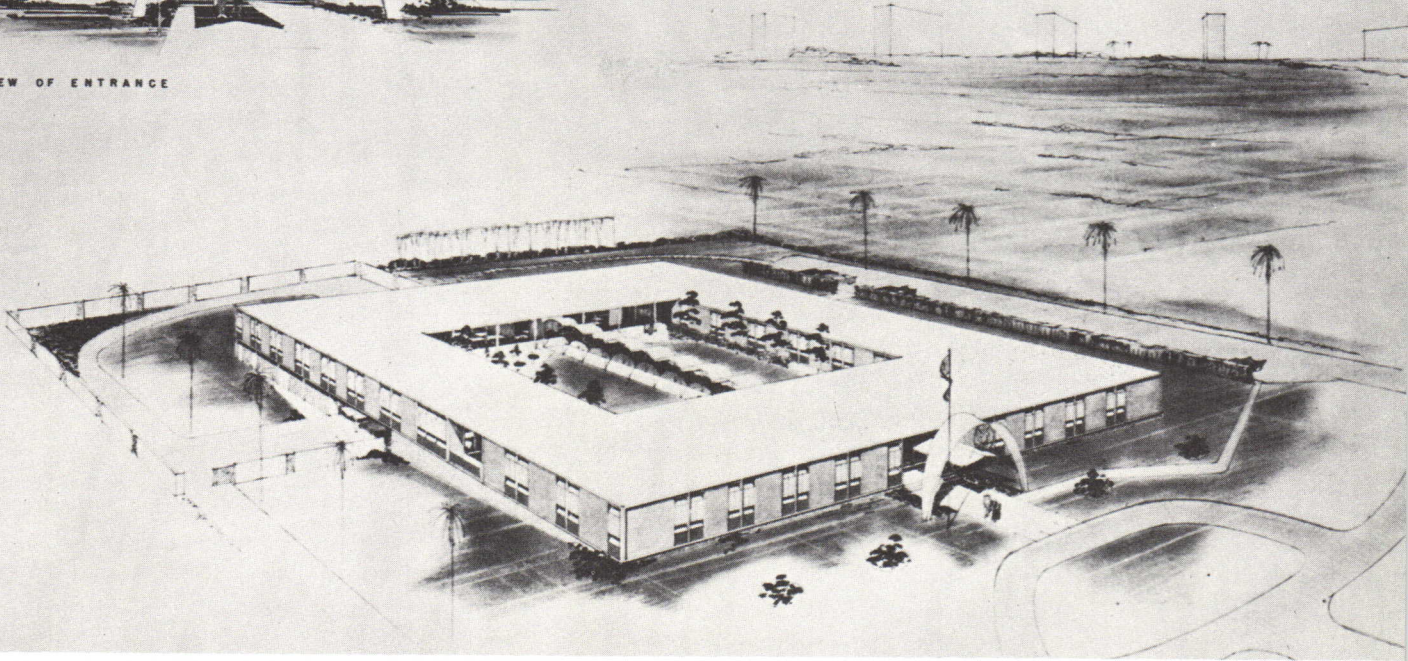
Embassy Office Building/Taipei, Taiwan
Anderson, Beckwith, Haible, Campbell & Aldrich

Embassy Office Building, Warsaw, Poland
Welton Becket, FAIA, and Associates



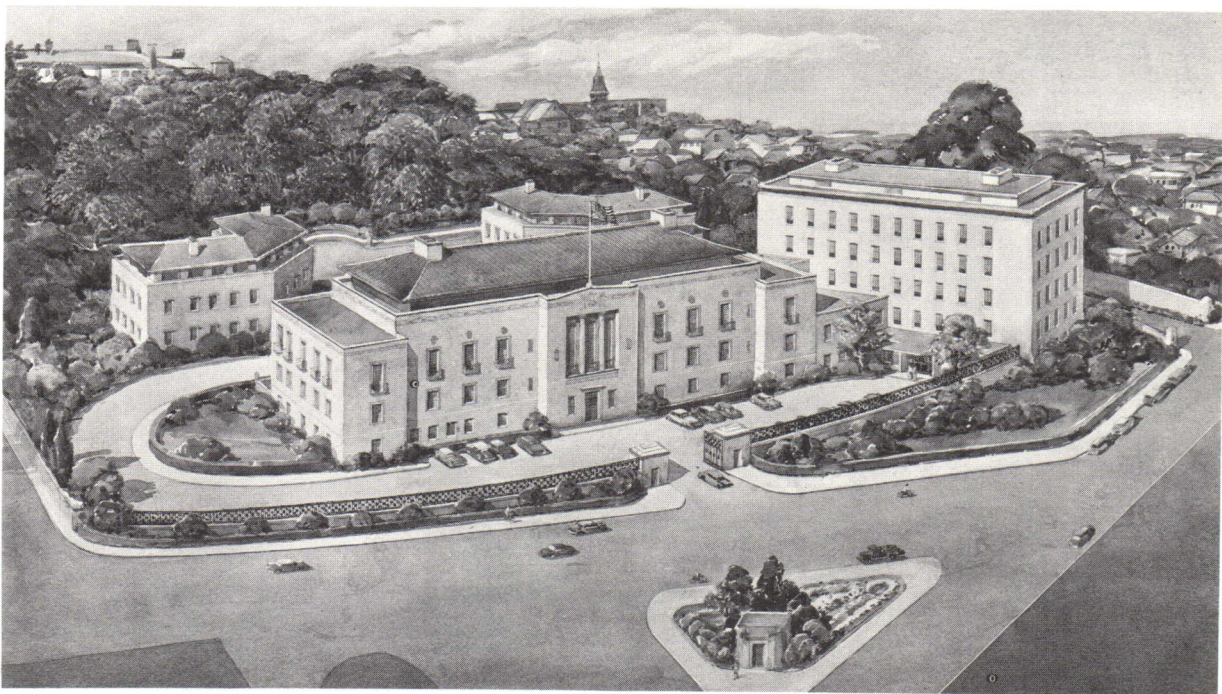


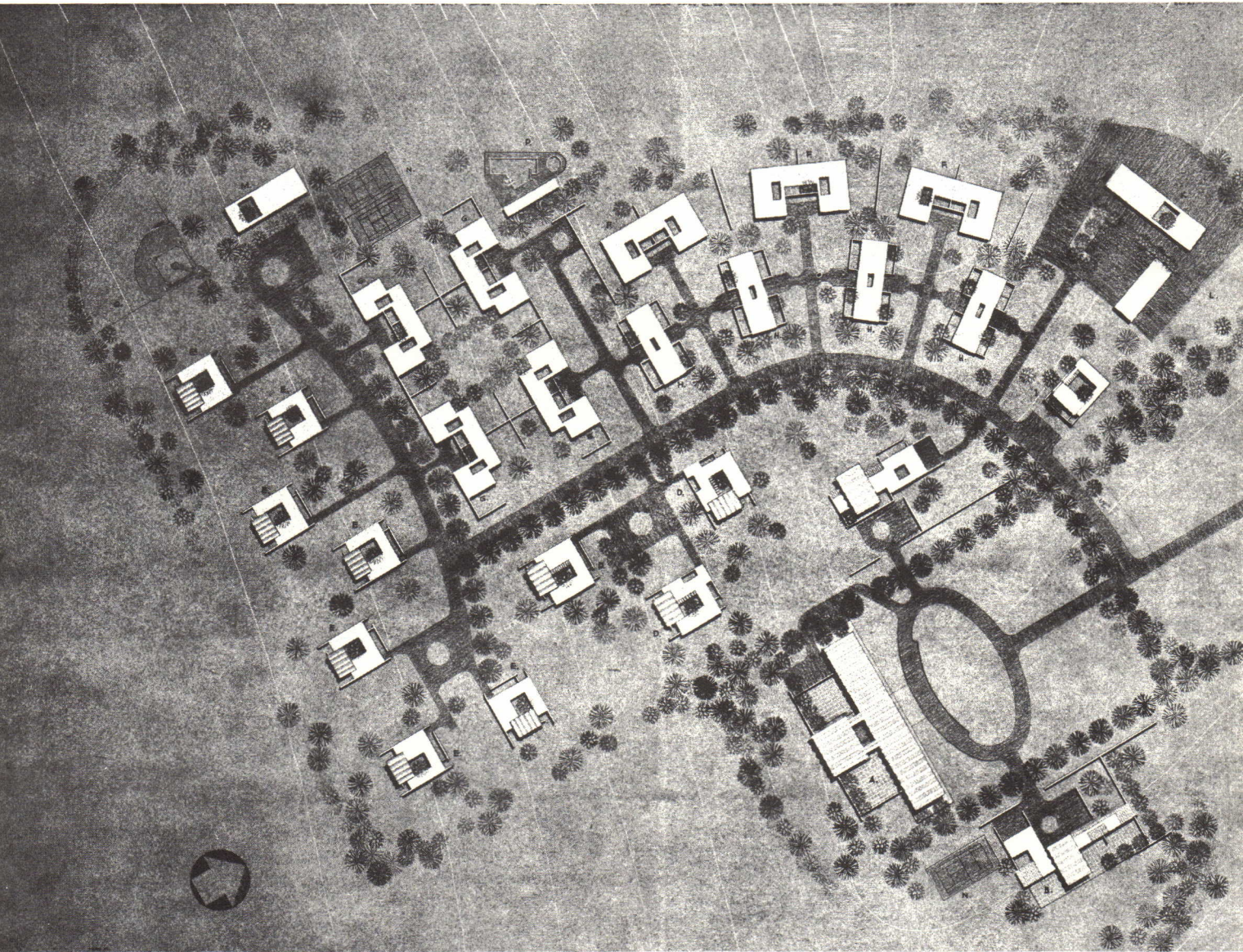
VIEW OF ENTRANCE



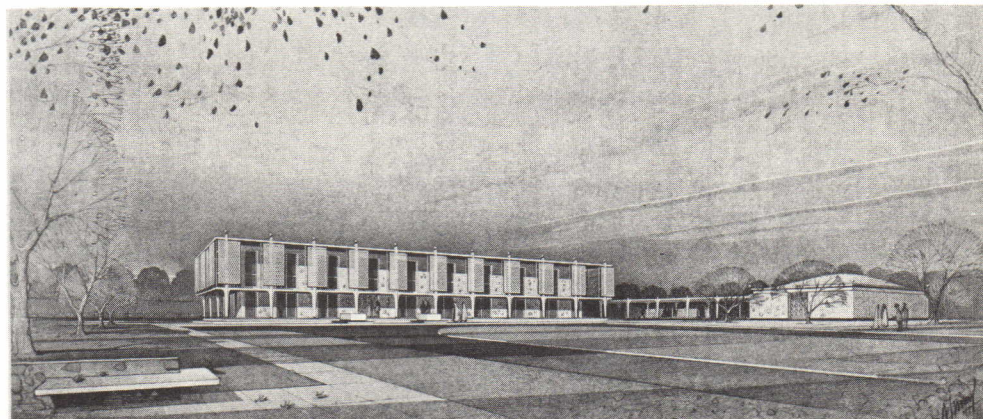
Interim Chancery/Brasilia, Brazil
McLeod & Ferrara

Embassy Office Building Annex/Tokyo, Japan
Edgar I. Williams, FAIA





US Government Compound/Mogadiscio, Somalia
Deigert & Yerkes and Associates
and Holden, Egan, Wilson & Corser



Comprehensive Architectural Practice

by **Dudley Hunt, Jr, AIA**

Within the concept of comprehensive practice, the architectural profession can serve the needs of its clients and society in the complete design and construction of buildings and environment. The new challenge is outlined here

"The conception which the new kind of architect has of his calling (is) that of coordinating organizer, whose business it is to resolve all formal, sociological and commercial problems and combine them into a comprehensive unit. . . ." (Walter Gropius, FAIA, "Scope of Total Architecture," Harper & Brothers, New York, 1955)

Comprehensive services

Creator of environmental design, counselor to his clients and to society, coordinator of the work of his design and construction collaborators, controller of the entire environmental design and construction process. These have been the traditional roles of the architect. They remain so today, but the scope of the environmental problems and the degree of their complexity have been magnified. The degree of change and the rate of change have speeded up. The needs of clients and society remain in evolution as they always have, but today the needs are swept up in a sweeping evolution of acceleration.

If it is to stay abreast of the wave of change, the architectural profession must expand its traditional services to meet the needs of the times. Such an expansion of architectural services has as its final result what might be called comprehensive architectural practice. Within this comprehensive practice concept, the architectural profession would be prepared to perform, or arrange for and coordinate, all of the many services needed to insure the success of today's complicated building and other environmental design projects. Individual architects would have to be knowledgeable in a number of fields in addition to those that are concerned directly with building design. Such fields might include, for example, real estate, finance, and operations programming and planning. It would not be expected that architects would actually perform services in such fields as these, but rather that they would act as the agents of their clients in procuring the necessary services and coordinating them. In this way, architects, acting for their clients, can retain the degree of control and coordination of their projects necessary to assure the clients of correct and unified results.

The new needs

There is scarcely any doubt today that the architect pictures himself as the central figure, the leader, in the process of bringing order into the design of human environment. Few architects would deny that their primary role is the creation of buildings and their surrounding environment in such a fashion as to cause them to contribute in positive ways to the well-being and progress of man. It is not in the definition of the architect's role, but in the limits of its scope and in the manner in which the role is to be played that some confusion and differences of opinion exist within the architectural profession. Most architects neither fail to recognize the importance of the role, nor do they doubt their own basic ability to play it. Only the details are not now clear. However, the time for clarification of the issues is here. For the profession must—at the present time—consolidate itself into a vigorous and united front against those who covet the great role of the architect for themselves. And the profession must meet the needs of its clients and the evolving society. While it is difficult to catch hold of a subject that is changing so rapidly, a few facts central to the whole subject of comprehensive architecture should help to clarify the picture.

The new methods

In order to make a positive contribution to the physical, social, intellectual and emotional needs of his clients and society, the architect must maintain his position at the center of the environmental design and construction processes. If the architect is not able to participate constructively in all of the basic decisions that go into a project, it becomes almost impossible for him to direct the unification of all of the variables into a satisfactory solution of the client's problems. And it will be very difficult for him to lead the group effort toward effective results.

The basic reasoning behind the comprehensive services concept is that the changing times have brought with them a situation in which the assembly of land, the financing of construction, the operations to be housed, and other similar considerations often determine whether a project will be undertaken; and if the project is undertaken, such considerations often determine in large degree the nature of the design and construction of the project. If the architect is not deeply involved in these considerations, he runs the risk of being forced to make unreasonable design and construction decisions based on dogma developed previously by others.

Architect's basic services

The standard services of the architect in preliminary design, development of working drawings and specifications, and construction supervision make up the nucleus of present-day architectural practice. Comprehensive services do not supplant the standard services but are an expansion of them, enabling the architect to retain his leadership of the entire environmental design process in the light of the realistic requirements of today.

Performance of services

An important aspect of the comprehensive-services concept is the need for constant improvement of design and the other basic services. For example, building programming and analysis and reliable cost estimating might be made phases of the basic services. Such improvements are an integral part of the solution of the overall problems of expanded practice.

Basically, preparation for comprehensive services is a job for the entire architectural profession. No one architect could hope to

Supporting services

perform all of the services needed. Nor could any one firm perform all of them. The individual architect needs to be conversant with certain broad principles of all of the services. The individual firm should be prepared to offer certain portions of the services, in combinations required by the type and extent of its practice and its own objectives.

Many of the services included in the comprehensive architecture concept would not be performed by architects at all. The concept is not intended to make of the architect a grand master of all things. The architect would not become a real estate broker or appraiser. Rather he would have an understanding of their work and its relationships with the other elements of the total project. He would coordinate such work, as the agent of his client, to insure the success of the project. The architect would not become an expert on finance but would be prepared to consult with such experts in the interest of his client when a particular project required it.

Types of firms

The traditional and unique contributions of such professionals as the engineers, landscape architects, and urban planners are necessary to the success of the comprehensive architecture concept. If anything, their contributions would become even more valuable than heretofore since these professionals would become more integrally involved in the complete process than might otherwise be the case. To round out a comprehensive practice, other technical and specialist services such as those of the interior designers, sanitary and utility engineers, highway planners, and analysts of various kinds would be added as required for specific projects.

The result of all this would be that the architect could surround himself with the specialists needed to offer a complete environmental design service to his clients, and would coordinate and direct their efforts toward a unified end.

The new practice

Under the comprehensive services concept, many different kinds and sizes of architectural firms can operate. Some firms may choose to include on their own staffs some of the specialists needed to perform services for their clients. For example, a firm doing a considerable amount of commercial work might employ on its staff, market or merchandizing analysts. One doing industrial buildings might employ on its staff one or more industrial engineers. Firms might very well make arrangements for outside consultation with specialists in various fields when required in operations planning, real estate, or finance, just as they now arrange for the services of outside engineers. The whole comprehensive-practice concept is extremely flexible. Within the concept, the possible methods of organization for practice would appear to be even more flexible.

Actually, there is very little in the comprehensive-services concept that is new. For many years, architects have been studying means of offering more complete services to their clients, as a direct answer to their client's needs. For years, architects have been attempting to develop means by which they could maintain their traditional position as the leaders of the design and construction processes. At the present time, a great number of architects offer their clients some portions of comprehensive services. This in direct answer to their individual assessment of their client's needs and the threat of competition from outside of the profession.

What is new about the comprehensive-services concept then, lies not in its elements, most of which architects have been doing right along. The new part is that for the first time, an attempt is being made to organize all of the elements into a complete system. It is not feasible for one architect or one firm to participate in all of the activities of the entire comprehensive services system. What is important is that the profession as a whole be prepared to offer the complete services, each individual architect or firm performing that portion that seems needed or desirable.

Specialization

Under the comprehensive-services concept, it is possible for individual architects to specialize, if they so choose, in a variety of ways. Currently, certain individuals within firms specialize in various phases of the work such as design, production, or specifications. Firms specialize in one or more building types. Many individuals and firms specialize without losing the generalist approach of the whole architect or of the complete firm. A trend is discernible now toward other types of specialization; also a growing trend toward more consultation between architects. For example, Pietro Belluschi often acts as a design specialist and consultant for buildings under development by other architects. Carl Koch specializes in design for industrial production of buildings and components. Eliot Noyes specializes in consultation with large corporations on their architecture and complete design programs. None of the three allow their specialized work to interfere with their general practice of architecture. Many other architects have found methods of bringing their special talents to bear on problems greater than those of the design and construction of single buildings.

Needless to say, a great number of architectural projects will never require anything like the whole extent of comprehensive services. Many will only need the standard services performed by architects, perhaps with more emphasis on analysis, programming, and cost controls. For these projects, architectural firms of all sizes will be able to perform their services much as in the past. This will also be true when firms perform services for less complex buildings.

The smaller office

It is by no means out of the ordinary for smaller offices to offer some degree of comprehensive services. Many already do. Some accomplish this through specialization in limited building types and by providing, within their own staffs, the specialists needed. Others carry on more diversified services by staffing themselves with talented generalists, and sometimes a few specialists, supplementing their abilities with those of outside consultants or collaborators. A smaller office with the right kind of staff talent theoretically could make arrangements to utilize exactly the best combination of consultants for each project that comes along. To put it another way, the smaller firm with exactly the right combination of its own and outside talents for a particular project might be preferred by a potential client over the larger firm forced to use its own specialists just because they are on staff, not because they are necessarily the best choices for the particular project.

Comprehensive Architectural Practice

Industrial Buildings

by **Robert F. Hastings, FAIA**

How comprehensive architectural services may be performed in the industrial building field by architects and their collaborators in related areas

Industrial clients' needs

If the architect is to serve efficiently the needs of many of today's industrial clients he must be prepared to perform more than the minimum basic services often offered in the past. Industrial projects today tend to be complex and large. In many instances, such factors as feasibility, operations programming and design, or financing must be thoroughly researched and analyzed before the building design can begin. If the architect cannot perform or arrange for and coordinate these services, he may lose control of portions of the design and construction process that may well be vital to the success of the project.

All of this simply means that the architect must be adequately trained in the areas of analysis, managerial, promotional, operational and supporting design services in addition to his training in the building arts and sciences in which he has traditionally served his clients. This means that the architect must have a broad enough vocabulary to enable him to call upon appropriate advisers to help him develop solutions to problems in areas in which the architect is not himself specifically qualified. In the industrial building field, such problems might well include those concerned with finance, real estate, marketing, manufacturing, and processing.

The architect's position in this would be that of agent for his client. His compensation would be based on the value of the specific services he renders his client. Trained in the broad requirements of all the related fields, the architect would have the vital role of coordinator of the total process, as well as that of adviser to his client. The services of the architect would not, of course, supplant the knowledge and skills of his client, but would supplement and complement them.

Expanded services

The following description of the types of services that an architect might provide for his industrial clients will give some indication of the dimensions of the role of the architect. In specific instances, services in addition to those discussed might be required for certain types of projects. On the other hand, only rarely would

Types of services

**Analysis, Promotional,
Managerial Services**

Establishment of needs

Project economics

Feasibility studies

it be necessary for any single architectural firm to provide itself with all of the skills described. Those skills needed by individual firms will be determined by the scope of their work, the types of clients they serve, and other variables. The present description is only intended to show the scope of the problems of practice today, and to serve as an illustration of the type of comprehensive or diversified services needed by many of today's clients, particularly today's industrial clients.

For many industrial projects, there is a need for professional services in such fields as feasibility, financing, operations, and site selection. Architects who are experienced in industrial building design should be prepared to serve their clients in these and often in other related fields.

Before a client makes a capital investment in a plant, it is essential that the need be established. This can be determined by analysis of the potential markets and studies of existing sources of supply. From such studies, it will be possible to relate, geographically, the sources of supply to the markets. This and similar considerations have a decided bearing on the need for creating a new manufacturing facility.

In addition to determination of needs, it is essential to study possible methods of meeting the needs. Studies of this sort would include surveys of appropriate manufacturing methods, distribution methods, and methods for obtaining the necessary raw materials and partially processed components. To these should be added studies of such factors as location of the plant in relation to the sources of raw materials, markets, and labor sources.

Finally, the economics of the proposed project must be completely studied and developed. These studies should give attention to such things as capital investment in real estate, plant facilities, and manufacturing facilities, the investment needed to develop the required organization and staff, and the costs of raw and partially processed materials, manufacturing, and financing. It should also include data on costs of sales, distribution, and taxes. All such cost factors, and any others that have a direct or indirect bearing on the final return on investments, should be analyzed. On the basis of such analyses, it is possible to advise the client on the risks involved in launching a new manufacturing facility and the prospect of a reasonable return on the investment.

In order to serve his industrial clients' requirements in the area of feasibility studies, the architect must have an adequate general grasp of the subject. In addition, he will have to make available to his clients the knowledge and abilities of experts in these areas. This can be accomplished with the architect's own staff people or with consultants from outside the firm.

By means of feasibility studies, it is possible to establish needs and to determine whether or not the development of a new facility is economically justified. When it has been established that a need exists and methods of meeting the need are feasible, it is then necessary to thoroughly explore possible sources of financing for the project. Usually such an exploration would include interim

Financial services

financing as well as long-range financing. Often interim financing is furnished by local banks or by initial investment in stocks or other securities by a limited number of people. Long-range financing, on the other hand, is most often supplied by large trust funds, insurance companies, and other financial institutions interested in investments that promise reasonable rates of return over longer periods of time.

Financing projects

Long-range financing can be provided for in a number of ways, such as direct loans, issuance of additional common stock, or issuance of debt securities such as bonds. The sale and leaseback method should not be overlooked. By entering into such a sale-leaseback agreement with an investor, the manufacturer can often gain a number of financial advantages under certain circumstances.

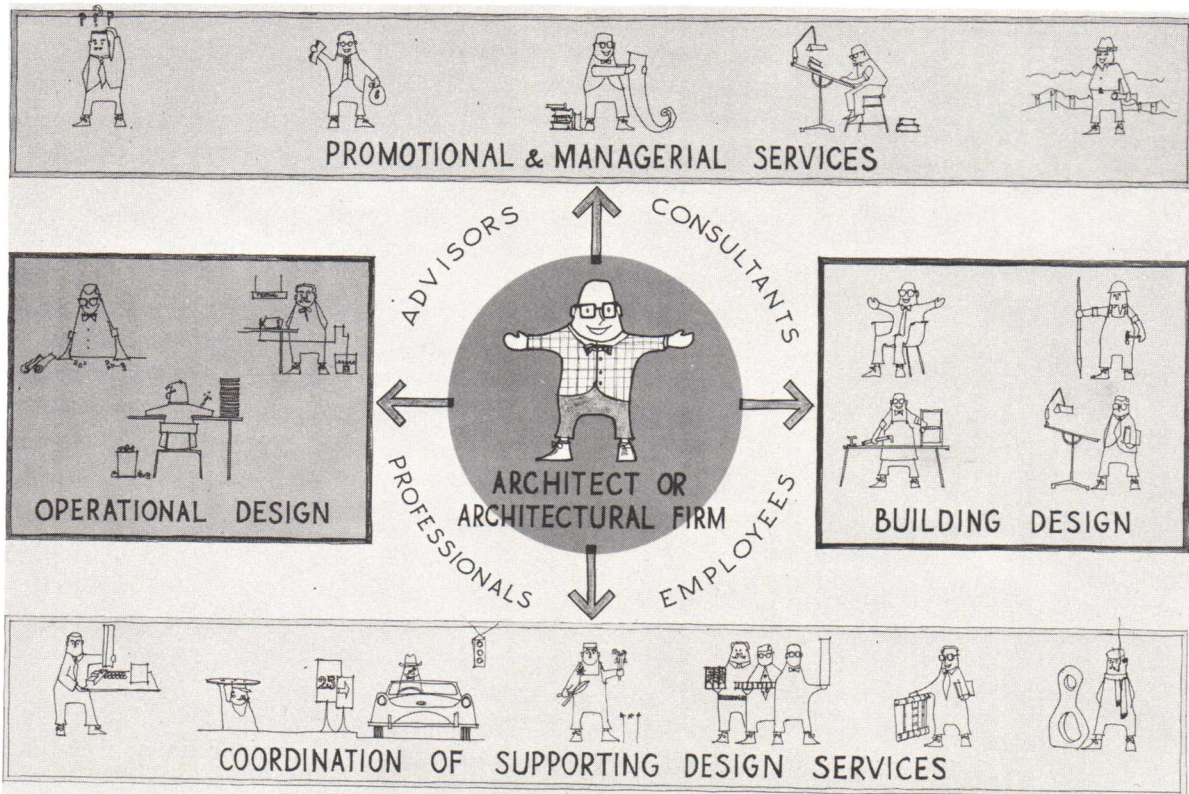
Interest rates vary from time to time. Investment regulations change. Accordingly, the financing of a project must be thoroughly explored in relation to current realities of interest requirements and legal regulations that tend to limit or encourage capital investment.

The architect can be of inestimable aid to his industrial clients in the financing of their buildings. The architect's own understanding of the over-all requirements of industrial projects can be combined with the specialized financial knowledge of his staff specialists, consultants from outside the firm, and experts from financial sources themselves.

Operations programming

For industrial projects, programming of the operations to take place within the buildings is almost always necessary before the

Comprehensive Architectural Services



programming of the buildings themselves can be accomplished. Operations programming involves detailed study of the total manufacturing process. At this point the broad objectives of an industrial project must be clearly defined. Here the information developed through studies of feasibility and financing is brought to bear on the over-all problem of the industrial project. Working from the principles developed in the previous studies, the general requirements for manufacturing, sales, organization, production facilities and so on are outlined. From such requirements, the detailed processes to take place in the plant may be determined and the basic decisions concerning manufacturing equipment and furnishings can be made.

During the operations programming phase, it is necessary to determine the types and numbers of personnel required to operate the facility. Detailed organization requirements must be developed. Job descriptions must be drafted and key personnel should be selected. Financing arrangements will have to be worked out in detail to assure that adequate amounts of money will be available when needed for various phases of the project.

Operations decisions

It is in the operations programming phase, and the operational design and planning phase that follows, that many of the major decisions that affect the outcome of the building design are made. If the architect is deeply involved in the decisions made at this time, he can relate them to the complete design and construction phases. In this way, he can more nearly assure his client of a successful solution of his problems than would be possible if the operational decisions were made independently of the architect or if the decisions had been made before the architect was engaged.

Building programming

Having established the operational needs of the manufacturing facility in the operations programming phase, it is then necessary to determine the type of environmental facility that will best satisfy those needs. This is where building programming of an industrial building begins. The basic philosophy of the building design must be established. Site and climatic requirements for the building must be determined. Space relationships must be defined. Building occupancy requirements must be spelled out in great detail. The design and construction phases must be scheduled, as must construction financing.

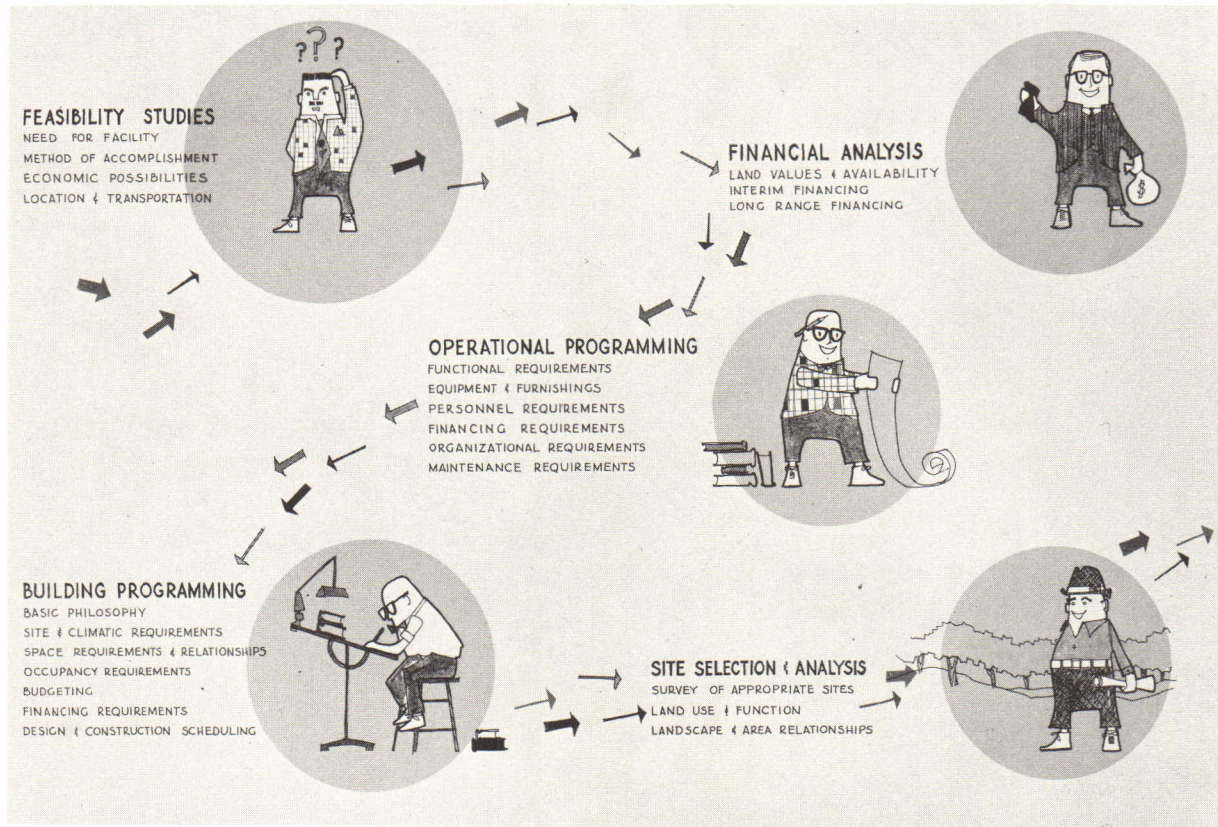
When the feasibility, financial and operational requirements of the project have been established, appropriate sites may be surveyed to determine which one best meets the established needs of the project.

**Design
and Planning**

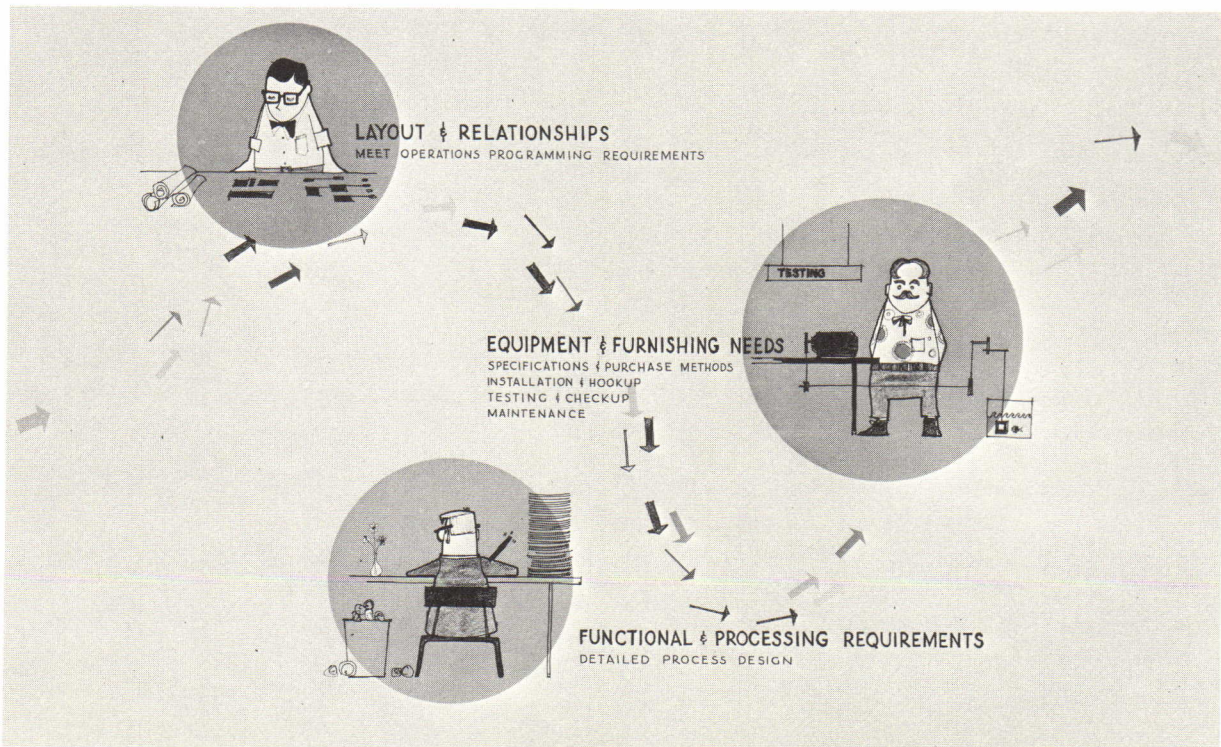
The next step in the development of an industrial facility is the beginning of the actual design and planning based on the analysis studies and the operations and building programs. Before design of the building itself can proceed, it is necessary to work out the design of the processes to be housed.

In an industrial building, the design and layout of the industrial processes are usually important keys to the design of the building. Operational procedures must be designed and laid out. The

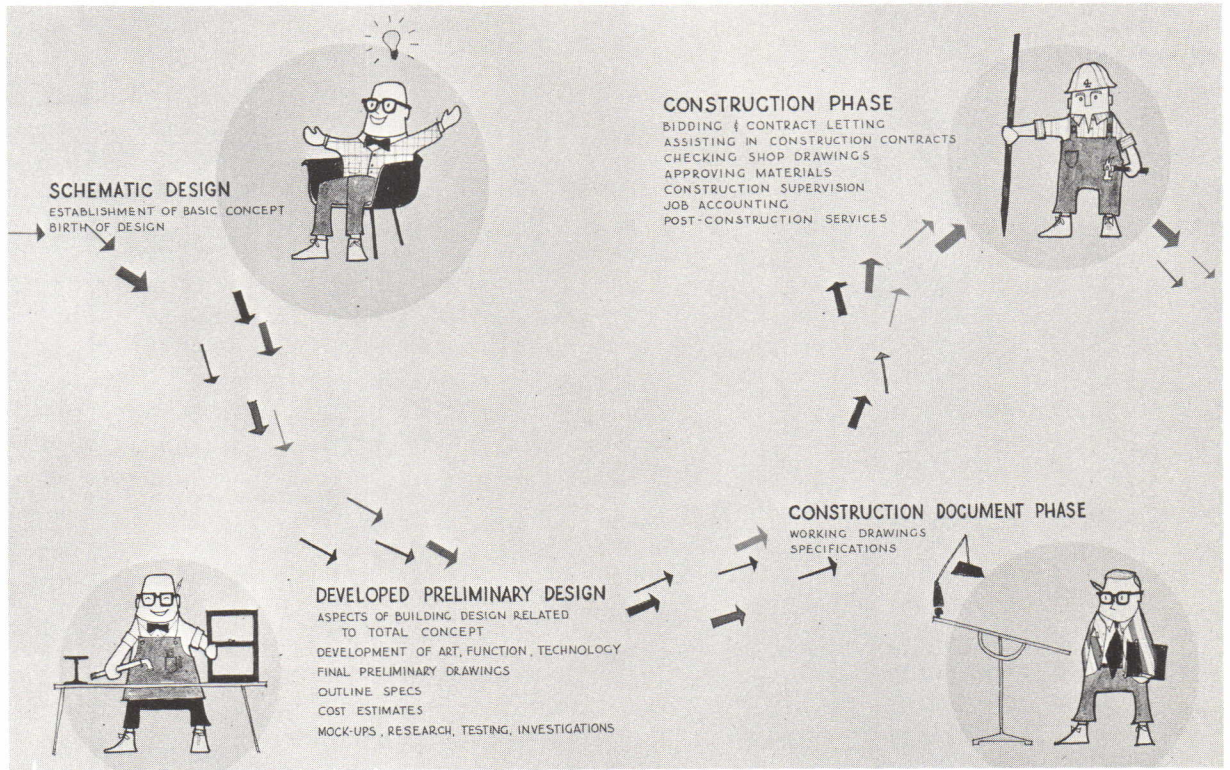
Analysis, Promotion, Management



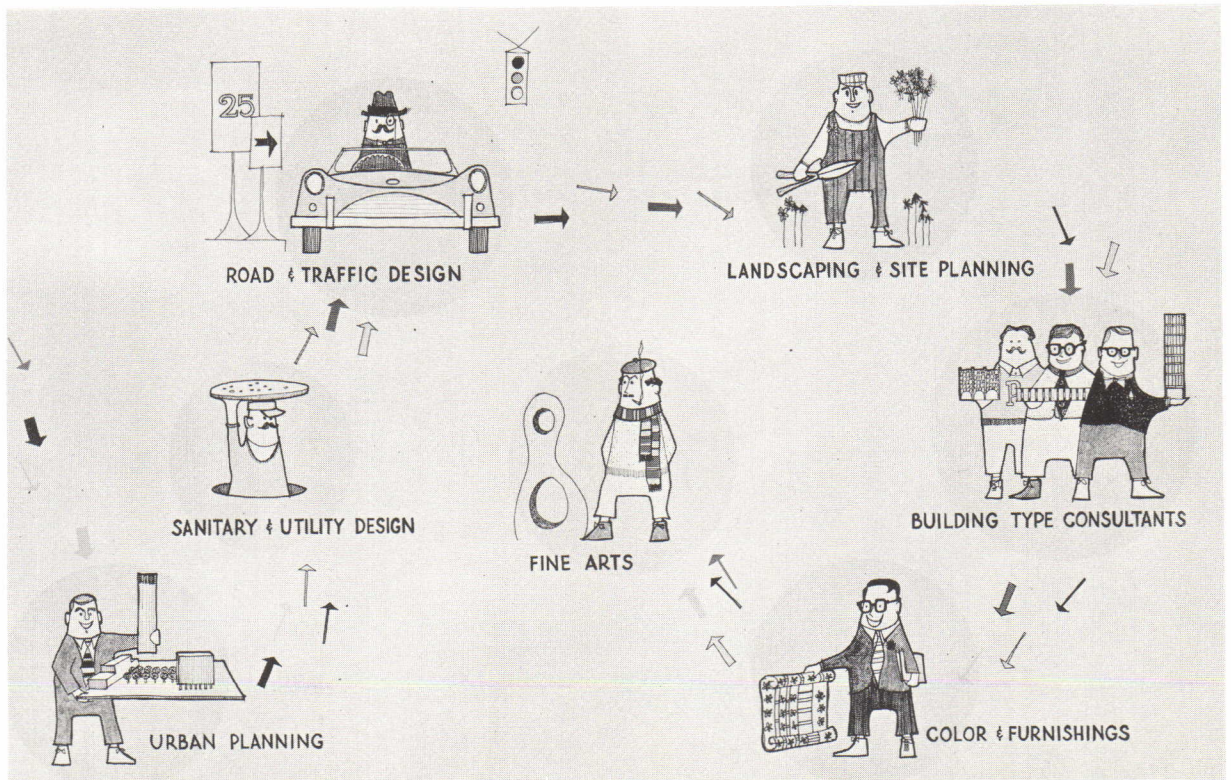
Operational Design and Planning

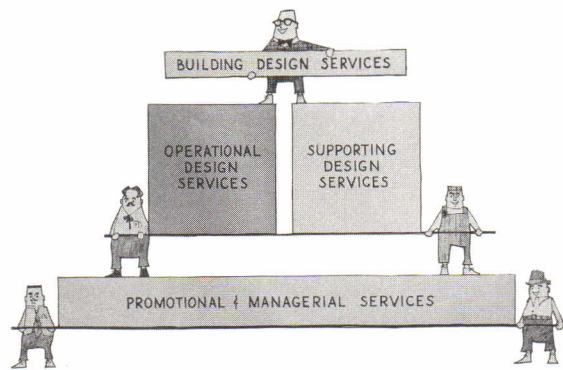


Building Design and Planning



Supporting Services





systems and processes to be used must be finally determined. It is necessary to develop a complete and detailed process design. From these designs, a plant layout can be made that will meet all of the operations programming requirements in the most efficient manner. At this stage, equipment and furnishings requirements to carry out the manufacturing operations can be clearly defined. These can then be specified and placed on order or purchased. Installation and hookup drawings can now be developed. At a later time, these drawings will be used in the supervision of the installation and hookup of equipment.

The scope of the services of the architect during the building design and planning phase is well established. For industrial buildings, these services will closely parallel those performed for other building types. However, it may be worthwhile to stress again the importance of close coordination of the work of all of the many professionals and others who participate in this phase. Accurate cost estimating is of utmost importance, as are proper scheduling and adherence to schedules, since budgets are often extremely limited and time almost always limited in the industrial field.

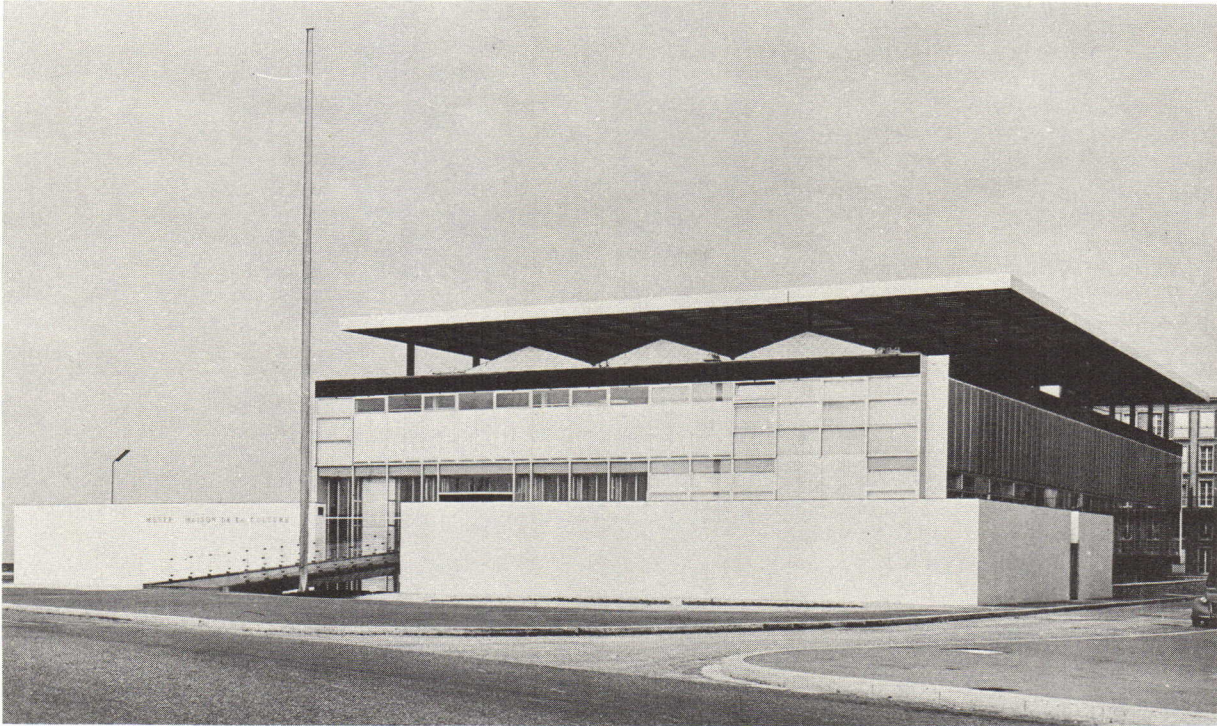
Construction Services

The architect's services during construction traditionally include, among other things, the taking of bids, recommendations for construction contract awards, approval of materials and equipment, checking of shop drawings, and supervision of the construction. In industrial building work, when the architect has been involved in the programming and planning of the operations, he will also have the responsibility for final approval of operational equipment installations. When the building has been completed and the equipment is in place and the hookup made, the entire assembly should be thoroughly checked and tested. In this way, it is possible to make sure that the process lines and all equipment meet the needs of the manufacturing processes with regard to accuracy, quality, quantity, and unit costs.

Supporting Services

In the development of a complete industrial project, the architect will be working closely with engineers and a number of other supporting design and consulting services. The architect should always keep in mind the importance of such supporting services as urban or community planning, landscaping, sculpture and the other related arts. These supporting services are necessary to the architect if he is to complete an industrial facility that is not only feasible and functional, but one that will also satisfy the environmental needs of persons who operate the manufacturing facility and of the people who live in the community. ◀





An ingenious solution . . .

The Museum Cultural Center at Le Havre, France, sheathed in glass and shielded from strong sunlight by a screen of aluminum louvers, was awarded 1962 R.S. Reynolds Memorial Award last month in Dallas

► Design for a museum by the sea won the 1962 R.S. Reynolds Memorial Award for the architects of the Museum Cultural Center, Le Havre, France.

Reynolds jurors were particularly impressed with the museum design's use and control of natural light. "From early civilization," their report said, "man through his artists and architects has attempted to capture the ever-changing qualities of natural light. . . . The Jury felt that the Museum Cultural Center represented an ingenious and sensitive solution to this problem. . . ."

Architects Guy Lagneau, Michel Weill and Jean Dimitrijevic, and consulting architect Raymond Audigier, sheathed the entire roof of the Museum with skylight glass; then topped the structure with a floating sunscreen of aluminum louvers designed to keep out direct sunlight. The sunscreen is supported by extensions of the building's main columns. The west wall, facing the sea and hot afternoon sun, is sheathed with an outer wall of thermopane, a three-foot air space, and another wall of glass with venetian blinds on the

interior. Air space between glass walls is ventilated.

A much-publicized feature is an "elephant-sized" aluminum door, with two swinging panels each ten by twenty-three feet. The lightness of the aluminum permits use of the giant door without special mechanical apparatus. Aluminum is also used for extruded profiles sheathing some of the structural framework, for wall and door panels, fittings, fillets and angles in the sunscreen.

In addition to housing both permanent and temporary exhibitions, the Museum contains a library, art school, and an eight-hundred-seat auditorium.

Jurors were: John Carl Warnecke, FAIA, chairman; Gyo Obata, AIA; Pietro Belluschi, FAIA; Lawrence Perkins, FAIA; Santiago Agurto Calvo, Hon FAIA.

President Philip Will, Jr, FAIA, and R.S. Reynolds, Jr, president of Reynolds Metals Company, presented the winners with their \$25,000 honorarium and an aluminum sculpture by Harry Bertonia symbolizing the award. ◀

The 1962 Reynolds Award

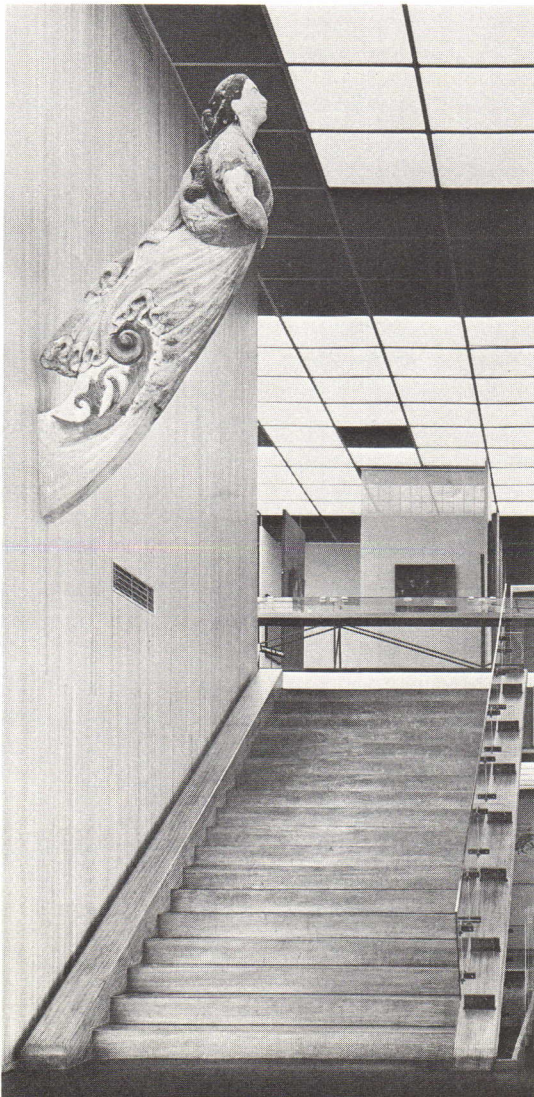
A floating
sunscreen
shields
skylight glass
dome



Closeup view of sunscreen

Pierre Joly-Vera Cardot

Pierre Berdoy

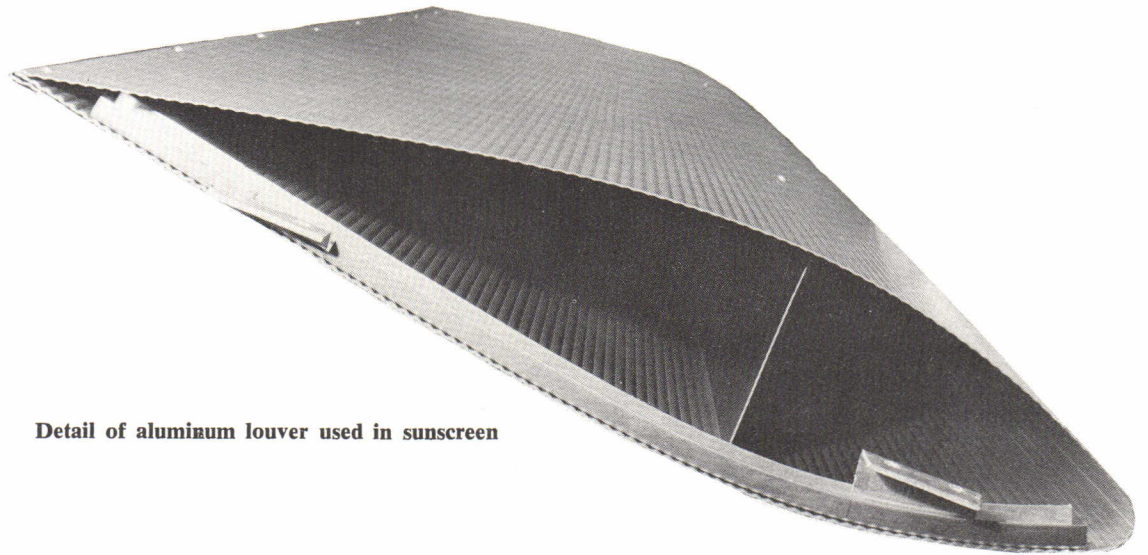


Northwest corner



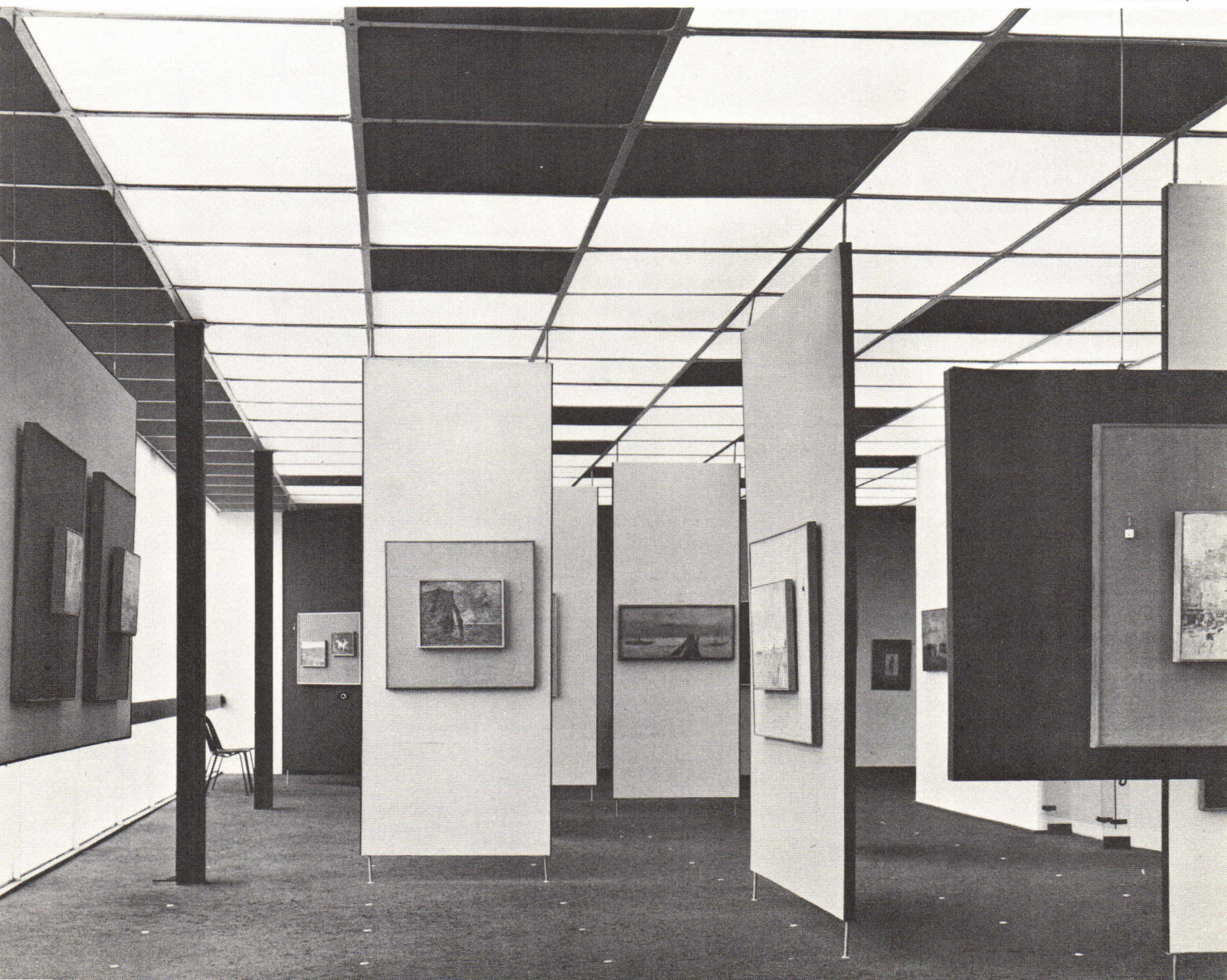
Fernez

Interior view



Detail of aluminum louver used in sunscreen

Pierre Berdoy





A. Reinhold Melander, President, Duluth, Minn; Chandler C. Cohagen, 1st Vice President, Billings, Mont; Paul W. Drake, 2d Vice President, Summit, NJ; A. John Brenner, Secretary, Phoenix, Ariz; C. J. Paderewski, San Diego; Earl L. Mathes, New Orleans; John E. Ramsay, Salisbury, NC; George F. Schatz, Cincinnati, Directors; Walter F. Martens, Past President, Charleston, WVa

Administering the Licensing Law

by John Scacchetti, AIA

The author is a former president of AIA's New Jersey Chapter and of the New Jersey State Board of Architects. For the past three years, he has been Chairman of NCARB's Licensing Committee. He is now working on a draft of a model licensing law for the entire US

► Licensing laws governing the practice of architecture have been in effect in all fifty states, Canal Zone, Puerto Rico and The District of Columbia for sufficient time for every architect to be aware of their existence.

Architects practicing legally in their own states should be aware also that similar regulations in other states require that a license be secured before engaging in any work if disciplinary action for violation of the statutes is to be avoided.

Time, too, is as important a factor as knowledge of the need for applying for a license.

Reciprocal licensing, whether applied for by the individual or through the National Council of Architectural Registration Boards, is neither automatic nor instantaneous. Qualifications considered sufficient for acceptance in one state cannot be assumed to be acceptable in all others. (This would be true even though all states operated under a uniform model law.)

An applicant, anxious to secure registration immediately to satisfy the demands of a project which has suddenly come to life, will in all probability find that the State Boards do not meet with such frequency as to coincide with his time schedule.

Even though the board may conveniently be in session to consider the applicant's plea, it is often further delayed by the tardy responses of the endorsers named in the application. Confronted

with seemingly unwarranted delays, an impatient applicant may harbor the suspicion that the board's inaction is motivated by a desire to restrict the number of licensees, or that bureaucratic conformity has caused his urgent pleas for immediate relief to fall on deaf ears. It would be unusual for the action to be considered as a necessary safeguard to protect the public, as well as to ensure that only the properly qualified will be granted licenses to practice.

The need for a model law is far less than that architects become familiar with the statutes now in effect.

Architects who are conscious of the need to study all laws and regulations concerning design and construction are curiously uninformed on those governing their own practice, often falling prey to their own weakness in this regard.

This deficiency is revealed not only when they apply for registration in other States, but is also apparent in the conduct of their practice in their home State.

When they are charged with a violation, a plea of ignorance is their sole defense.

The most casual practitioner, on securing a commission, will immediately check on all the laws governing the design and construction of a project, yet will carelessly delay taking steps to acquire the license which is essential before he can legally proceed with the work.

Complaints of an architect's activity before licensing as to require board action are often initiated by someone whose interests are neither in sympathy with the architect nor his intentions, and usually succeed in delaying processing of his application until the violation is cleared.

The discretionary powers of the board are limited and penalties for violations must be assessed in accordance with their statute. Through the years the New Jersey State Board has found, in rare circumstances, that sufficient reasons can

be advanced to temper the decision and allow a violation to be dismissed with censure, together with a warning that more drastic action will follow if the situation is not remedied.

It should be noted that violations and penalties become permanent records which are available to the NCARB and to any State Board seeking information on an applicant.

A board exists for the purpose of administering without prejudice a mandatory statute applicable equally to residents or out-of-state licensees.

Consciousness of responsibility and accomplishment in his profession are prerequisites to an architect's service on a board and are utilized in the discharge of his duty, which is to uphold the rights of the public and to protect their health, welfare and safety.

A board cannot, as a rule, judge morals or ethics, but must confine its decisions to the law in which penalties are provided for offenses which affect the well-being of the people, rather than to satisfy the wrongs presumably committed against the aggrieved complainant.

Practice by unlicensed individuals under circumstances permitted by exception clauses written in most statutes produce some rather startling evidence at hearings, yet the board has little latitude either to exact penalties or otherwise punish the offenders.

Flagrant abuses where fraud is more than reasonably evident are referred by the New Jersey Board to the Attorney General's office for action under other statutes beyond the limits of the board's authority.

On occasion, however, it is possible to assess penalties against violators for illegal practice.

Multi-unit residence structures on which permits are secured from drawings, with an affidavit of authorship attesting that occupancy will be for the individual or members of his immediate family, constitute one of the knotty problems which confront the New Jersey Board and for which there is no definite rule to govern its procedure.

Variants of this are found in combination business and residence buildings as well as industrial structures, in fact in any building where the individual is willing to swear that he will occupy the premises.

The use of stock or standard drawings can be more easily detected and discouraged by requiring the signature of a licensed architect to be applied to the original drawing so that it will appear on all reproductions. It should also be required that the seal be impressed on all reproductions which are to be used for filing or contract purposes, rather than a rubber stamp applied on the originals.

This regulation in New Jersey has succeeded in eliminating the indiscriminate circulation of standard drawings which heretofore had been available for adapting to any location and validated merely by obtaining the seal and signature of any architect willing to assume the responsibility for a trifling fee.

Press releases through the state agency listing violators and assessed penalties have not increased the Board's popularity in some areas, but complaints have been more than balanced by the pleased response of others whose interests are more directly affected.

Fortunately, not all the board's efforts are directed toward violations or individuals challenging its powers. An equally important activity is the preparation of examinations for prospective new licensees.



John Scacchetti, AIA

Applicants registering for the semi-annual examinations in New Jersey are carefully screened to be sure that scholastic and experience requirements are fully met. While the number of graduates from accredited schools is increasing annually, the problem of evaluating candidates with sufficient credits obtained from non-accredited or foreign schools requires close study by the board. In these latter cases the deficiency in schooling must be overcome by additional experience necessary to have the applicant conform to the minimum acceptable by the state. It is equally important, however, where the state standards may be lower, that the applicant endeavor to achieve the level required by the rules of the NCARB in order to facilitate future reciprocal registration.

In New Jersey and many other states proof of citizenship is a prerequisite to licensing, although a declaration of intention is sufficient in others. Some thought is being given to a compromise on both of these statutory limitations which will allow short-time limited practice by foreign architects who may be invited to contribute their talents to American architecture. (*Part Two of this article will appear in August.*)



Styles and Critics

► May I have a little editorial fun this time? It's strange how so many architects who are a naturally creative breed can succumb to what's stylish at the moment. Perhaps this tendency is most noticeable in design.

This year's Honor Awards Jury was rather sparing with its awards and made some fairly caustic comments in its report to the effect that they had a hard time finding good, clean, honest design. What bothered them was the recurrence of currently stylish design clichés (like grilles and special roof shapes) which were used on buildings with little reason.

It seems that a new motif when first introduced by a talented architect becomes an "idiom." Later, after mass-production sets in, it is a "cliché."

Older members of the profession distinctly remember the beginnings of widespread attention to modern design in the halcyon days of Beaux Arts Education. (We were through with the "styles" forever.) Frederic Hiron knocked off the classical cornices and essayed a flat, leaflike frieze which flowered under less skilled hands on many a late-twenties bank or apartment house.

Then, in thirty short years, there followed in fast succession a parade of history-free expressions, usually originated by a master and used and abused ad infinitum by lesser mortals. An editor has to be quick with his kudos for a new idiom or he will find the rebellion against it already started in his competitor's magazine. Perhaps historians will call it the "Rapid-Fire Era" of architecture.

Sid Harris of the *Chicago Daily News*, in addressing our Michigan Society, philosophized on perils to the creation of enduring art in our times. To paraphrase his thought, an architect today has more stuff paraded before his senses in one week than Mr Upjohn had in a lifetime. Never before could every architect learn so fast what everyone else is doing, and at the same time have so many materials to build with. And the result of all this information and command of media is the paradox of stylized idioms.

Another addiction to style seems evident to me rather lately in what I read of critical writing on architecture. Have you noticed how stylish it is to give the old raspberry to any of the recent efforts in urban design and redevelopment?

Unlike literature, painting and drama, architecture has few professional critics of recognized stature. The number of amateur critics is the same as the number of practitioners. If we accept the pattern in the other arts, a professional critic is one who is just that and not one of the creative artists himself.

It seems that we are ready for more professional critics if we are to go seriously into the matter of finding what is wrong with man's urban environment and deciding what to do about it. A gentleman visited my office not long ago with the serious purpose of allocating some grants to start this diagnostic process on a productive scale. This led us into a discussion of the professional critic's trade. Its most disturbing aspect is the penchant its beginners have for behaving as precociously as possible and using epithets to describe works of architecture. These *enfants terribles* just don't fill the requirements of the want-ad.

Some of the foregoing thoughts were expressed better by speakers at the New York Chapter's "Conference on Aesthetic Responsibility"—two days after I wrote this column. Some of these papers appear in this issue of the *Journal*.

Now back to our 14,500 amateur critics. Quite a few of them go to the trouble of setting down their thoughts for posterity and we are glad to give them public exposure in the pages of the *Journal*. My suggestion to them is to be themselves, avoiding the stylish clichés of current critical expression regarding our efforts to solve the most complex environmental problems in history. Design will undoubtedly survive the stultifying effects of clichés because there are architects who will spare the time to achieve honest design. There is potentially more harm in "stylish" critical writing which is supposed to be the expression of deliberate, analytical individual thought.

W.H.S.

Library Notes

Gifts to the Library

July 1 to December 31, 1961

- AMERICAN BATTLE MONUMENTS COMMISSION
Its "Lorraine American Cemetery and Memorial"
- AMERICAN INSTITUTE OF INTERIOR DESIGNERS
"Interior Design and Decoration, A Bibliography"
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION
Its "Architectural Awards of Excellence"
- AMERICAN IRON AND STEEL INSTITUTE
Its "Light Gage Cold-Formed Steel Design Manual—1961" and "Commentary"
- AMERICAN SOCIETY OF CIVIL ENGINEERS
1871-72 Constitution and Directory of the AIA
- LEOPOLD ARNAUD, FAIA
5 publications
- HAROLD A. BEAM, AIA
170 issues "Weekly Bulletin" of the Michigan Society of Architects
- ERNEST BROSTROM, AIA
2 books and 1 pamphlet including 1901 Chicago Architectural exhibition catalog with article by F. L. Wright
- A. O. BUDINA, FAIA
"Roster of Architects for Virginia" 15 issues
- BUND DEUTSCHER ARCHITEKTEN BDA
"Der Architekt — Heute und Morgen"
- JOSE FERNANDEZ DIAZ
His "Régimen Cooperativo de Vivienda"
- FOLIO PUBLICATIONS
"Architecture" by Derek I. Orbach
- GHENT, BOARD OF BURGOMASTER AND ALDERMAN THROUGH EMILE CLAEYS, BURGOMASTER
Portfolio of pictures of Ghent
- DONALD HOLDEN
His "Art Career Guide"
- CHARLES HUNGERFORD, AIA
"Le Concours d'Architecture 1927-28"
- SANTIAGO IGLESIAS, JR, AIA
His "Planning Around the World"
- INDIANAPOLIS HOME SHOW, INC
Design books for the 1959, 1960 and 1961 Indianapolis Home Shows
- MRS DAVID B. KARRICK
Catalog of the Eighth Exhibition of the Washington Architectural Club
- LIBBEY-OWENS-FORD GLASS COMPANY
3 books and 3 pamphlets
- LOS ANGELES, CITY PLANNING COMMISSION
Its "Accomplishments—1960"
- JOHN T. CARR LOWE, HON AIA
2 magazines
- JOSHUA D. LOWENFISH, AIA
"Research Study on the Cost of Housing"
- LUDOWICI-CELADON COMPANY
French volume of Tuileries Brochures
- MARVIN MAYEUX
3 slides
- ADOLFO MORALES DE LOS RIOS FILHO, HON FAIA
His "Teorie e Filosofia da Arquitetura," volume 2
- NATIONAL ASSOCIATION OF ENGINE AND BOAT MANUFACTURERS
Its "Marinas: Recommendations for Design, Construction and Maintenance"
- NATIONAL TRUST FOR HISTORIC PRESERVATION
Blueprint of the original Yates Castle at Syracuse University
- OHIO STATE DEPARTMENT OF HIGHWAYS
"Nineteenth Short Course on Roadside Development"
- MRS JUDITH NIES
"Medical School Facilities" 2 volumes
- RICHARD W. E. PERRIN, FAIA
"Wisconsin Magazine of History" with his article
- G. E. PETTENGILL
"American Architecture and Other Writings" by Montgomery Schuyler
- PONDEROSA PINE WOODWORK
Slide set on "Stock Wood Window Assemblies"
- PORTLAND CEMENT ASSOCIATION
Brochure for the 1964-65 New York World's Fair
- EARL H. REED, FAIA
3 books and pamphlets
- LEE F. ROBINSON
2 volumes
- ALOYSIUS SCHUSZLER, AIA
"Our Good American Home," a song by Baldeko Loigu with words by Aloysius Schuszler
- LOUIS SKIDMORE, FAIA
"A Tribute to William Emerson"
- SPAIN. COMICION NACIONAL DE PRODUCTIVIDAD INDUSTRIAL
"Construccion de Obras"
- GORHAM PHILLIPS STEVENS, HON FAIA
His article "Concerning the Parthenos"
- STRUCTURAL CLAY PRODUCTS INSTITUTE
Its "Man & Masonry"
- UNIVERSITY OF BRAZIL. FACULTY OF ARCHITECTURE
3 volumes
- MISS WANDA VON EZDORF
10 books and 120 magazine issues

G.E.P.

Book Reviews

Wood in Architecture. Finn Monies
New York, F. W. Dodge, 1961.
114 p. illus 8" x 9" \$6.95

The character of this slim and modest book by a Danish architect may be indicated quickly by part of one introductory sentence: ". . . wood can never become a dead material totally removed from nature. . ." Most of these sensitively-photographed examples are Danish and reveal the appealing, humazing quality of this material, beginning with a few pages of medieval and renaissance craftsmanship soon followed by page after page of modern houses and other buildings of today.

Brief chapters interspersed with groups of photos discuss wood and houses, interiors (stressing visible structure), the detail (clear and excellent drawings), textures and finishes, and wood in large structures. Captions are generous and full of information, two pages at the end give names of examples, architects and photo credits but no dates.

We would question only the statement in connection with hyperbolic paraboloids that stresses "are never greater than the wood is able to bear" and would caution would-be HP'ers to watch out for excessive marginal stresses. But this is a fine little book done with style, filled with unfamiliar work of good quality. E.P.

Annual of Architecture, Structure and Townplanning, an Organ for Tropical Architecture and Planning. Volume 2, 1961. Calcutta, India, 1961. v p illus, plans. 7½" x 10"

A comprehensive volume on various aspects of international architecture but with primary emphasis upon the tropical. A composite of new and reprinted material, it will be of most interest to Americans for its presentation of Asiatic structures.

Divided into some eleven major sections, it offers first a series of statements by architectural leaders, with in most cases illustrations of their work. Among those included are Le Corbusier, Gropius, Eero Saarinen, Torroja, and Edward D. Stone. Generally brief, they do present interesting contributions to the philosophy of architecture.

A note on the centenary of Tagore's birth and an article on his relationship with the planner Patrick Geddes are followed by an account of E. Maxwell Fry and his work in the tropics.

Under the heading "Buildings and Projects" are shown a variety of structures ranging from the Hotel Indonesia in Djakarta to Gauhati Oil Refinery in India. A research section on tropical architecture and planning presents materials on sun-shading devices and ventilation, in large part from other sources. A section on housing includes a presentation on American consulate staff apartments in Calcutta.

Nine schemes for universities present those at Baghdad, Chandigarh, Lahore, Jerusalem, Caracas and Bhubaneswar in some detail. Sports architecture is the subject of another section with major projects presented. Sections on planning, structure and materials, and reviews notes and news complete the interesting, useful volume. G.E.P.

The Human Side of Urban Renewal. Martin Millsbaugh and Gurney Breckenfeld. New York, Washburn, 1960. 233 pp. 9¼" x 6". \$4.50

Here is a series of case studies of grass-roots urban renewal efforts by aroused citizen's groups in Baltimore, Chicago, Miami, and New Orleans. It is enthusiastic but not naive. The authors recognize that picking up rubbish and slapping a coat of fresh paint on the fronts of shanties is not a panacea. They are quick to admit that in some cases, the renewal efforts have even created fresh problems in the wake of old ones. (After mentioning that a new low-cost housing project in Miami, instead of helping solve the high-density problems in existing Negro neighborhoods, had brought a new influx of impoverished Negroes from outside the state, they footnote wistfully, "One of the saddest features of the US race problem . . . is that the more any single city does to solve it, the more problem it gets to cope with.")

Nevertheless, the neighborhoods studied have managed to get results which are less disruptive, if less dramatic, than the bulldozer

approach. The authors are journalists and have treated their story in a straightforward way. But their sympathies are obviously with the Jane Jacobs, "let-us-be" school. This book would be a useful basic tool to include in any Do-It-Yourself Urban Renewal Kit. M.E.L.

The Politics of Urban Renewal.

Peter H. Rossi and Robert A. Dentler. New York, Free Press of Glencoe, 1962. 308 pp. 8½" x 6". \$6.00

Subtitled "The Chicago Findings," this volume turns a magnifying glass on one of the redevelopment efforts described in the Millsbaugh-Breckenfeld book—the Hyde Park-Kenwood area of Chicago. It is, in part, a scholarly study crammed with tabular material and socioanthropological jargon. Other sections of the book are almost gossipy, incorporating fragments of memoranda and personal correspondence between the people most violently for and against the Hyde Park-Kenwood renewal. The authors have appended a small-scale "attitude survey" of the residents (which is apparently not included in the main body of the book because they harbor some doubts of its validity—as they state, "there is good evidence . . . that interviewers tend to prefer as respondents white, well-educated home owners." The mystery is, then why include it at all?)

Reading this book is a little like following the progress of an ailing patient by alternately watching his fever chart and listening to the nurses whispering out in the corridor. But it is heartening to know that in Hyde Park-Kenwood, the operation was successful and the patient lived anyway. M.E.L.

Moment Distribution. Edgar Lightfoot. New York, John Wiley & Sons, 1961. 353 pp. 9¼" x 6". \$11.00

Subtitled "a rapid method of analysis of rigid-jointed structures," this book provides an up-to-date treatment of this special method of structural analysis.

The author, who is Reader in Civil Engineering at the University of Leeds, has specialized during sixteen years of practice and research in the analysis and design of rigid-jointed structures by means of moment distribution, plastic collapse and computer methods.

Mechanics of Engineering Structures. Grover L. Rogers and M. Lander Causey. New York, John Wiley & Sons, 1962. 423 pp. 9" x 6".

A modern text on structural engineering, designed to fill the needs of an age in which structures are composed of curved as well as straight elements. Essentially, this is a book on analysis, and the bar is the primary component under consideration. In discussing stresses and strains in bar-type structures, the authors use an integrated approach to statically determinate and indeterminate structures, elastic and elastoplastic structures, straight and curved members, planar and spatial configurations, and static and dynamic loads.

Plastic and Elastic Design of Slabs and Plates. R. H. Wood. New York, Ronald Press, 1961. 333 pp. 9½" x 6". \$12.00

A guide to structural design of slabs and plates, with particular reference to reinforced concrete floor slabs. This book examines the use of simple yield-line, or "fracture-line" theory, and other more recent developments in the plastic design of slabs, in the light of the theory of "limit analysis," and of the substantial modifications that can result from a study of composite action between floors, walls, and frameworks, and the beneficial effects of membrane action in slabs.

Modern European Architecture. A. Dorgelo, BNA, ed. Amsterdam, Elsevier Publishing Co, 1960. 242 pp illus. 10½" x 14". \$27.50

The editor's dedication to completeness of facts and uniformity of information is commendable in this review of contemporary European architecture—reduction of prose, emphasis on plans and photos, well-organized technical details, additional references for buildings make this a good reference work for one who finds what he wants here (not easy, there is no alphabetical index). The editor has no partiality to certain countries, no flowery compliments for architects. But this is not a book to read—one misses criticism and pleasant layouts—it is not a book to encourage what the editor wants, public understanding of "the 'visual language' of modern architecture."

We would also question the type of building included—a city composed of these would be miserably monotonous. There are no small structures, even churches are huge. Under "The Home" there are only complex multi-story structures, no townhouses or one-family dwellings. Under "Education" there are three universities, one welfare center—are there no new elementary or secondary schools in Europe?

In the text discussion of each building, where "Solution" was subdivided by "planning considerations," "technical considerations" and "architectural considerations," architectural contained only a description of the exterior as if planning and technique should be separated from architecture, as if the false front were stuck on by the architect after some mysterious planner had completed the functioning interior. M.H.P.

Holztreppe (wooden stairs). Otto Steinhöfel. Munich: Verlag Georg D. W. Callwey, 1960 166 pp illus.

"Please . . . you gotta let me spend some money here—we've saved it everywhere else—this hasta be a job I'm proud of too. . ." (*Architect to client—pointing to stairway on plan.*)

There are those who think the "how" of a building should be completely unobtrusive—you should not realize the means. Others see the "how" as a design opportunity—perhaps the essence of the architectural experience the building can give. Too often today the ability to design an important how is lacking. The taste to subordinate less-important ones is equally essential—only a worlds-fair pavilion can shout: "LOOK! HERE'S the DOOR! And HERE'S the STAIR! Don't spend too much time downstairs or we'll never get you crumbs outta the jernt. THIS WAY to the EGRESS!"

The ancient craft of stairbuilding, too often today a part of miscellaneous iron in the specs, had a certain fine distinction. Note—it was always the stair-builder, not (as for carts, wheels, plays or Frank-Lloyd) the stairwright. The bibliography in English includes a choice collection of less than twenty items between 1693 and 1888, and if you wish to dig into it you better brush up on solid and descriptive geometry.

For those architects who face up to this problem of designing a sig-

nificant and sympathetic how to get from down-here to up-there (or the reverse—and this is different) this will be a fascinating book. The fifty-page introduction, clearly and copiously illustrated, is in German only—the rest of the book (more than eighty examples of wooden stairs) has German-English-French captions for photos and detail drawings as well as tri-lingual explanatory text. E.P.

Books Received

The books listed below have been received for review. Their listing here does not preclude their review at a later date.

Simplified Mechanics and Strength of Materials. Harry Parker. New York, John Wiley & Sons, Inc, 1961 (2d Ed.) 280 pp. 5" x 7¾".

The Kohler Strike—Union Violence and Administrative Law. Sylvester Petro. Chicago, Henry Regnery, 1961. 118 pp. 5¼" x 8". \$3.00

Defense Materials System and Priorities. Department of Commerce, Government Printing Office, Washington 25, D. C. 52 pp. 5¾" x 9¼". 25¢ paperbound

General Excavation Methods. A. Brinton Carson. New York, F. W. Dodge, 1961. 392 pp. 7½" x 10". \$12.85

Failure and Repair of Concrete Structures. S. Champion. New York, John Wiley & Sons, 1961. 195 pp. 5¼" x 8". \$6.75

Prestressed Concrete Simply Explained. H. Kaylor. New York, John Wiley & Sons, 1961. 150 pp. 5¼" x 8¼". \$5.25

Prestressed Concrete—Design and Construction. James R. Libby. New York, Ronald Press, 1961. 459 pp. 6" x 9". \$12.50

Practical Prestressed Concrete. H. Kent Preston. New York, McGraw-Hill, 1961. 335 pp. 6" x 9". \$11.50

Aluminum Construction Manual. New York, The Aluminum Assn., 1959. 381 pp. 5¾" x 9".

Nursing Home Administration. Gerletti, Crawford & Perkins. Downey, Calif., The Attending Staff Association, Rancho Los Amigos Hospital, 1961. 469 pp. 7" x 9¾".

Prestressed Concrete Cylindrical Tanks. L. R. Creasy. New York, John Wiley & Sons, 1961. 212 pp. 8½" x 5¾". \$6.75

Specifications. H. Griffith Edwards. Princeton, N.J., D. Van Nostrand, 1961 (2d Ed.) 350 pp. 9¼" x 6¼".

**Who Is
—
Responsible
for
Ugliness?**

Who is responsible for ugliness? Who is responsible for juvenile delinquency? Who is responsible for the ever-present threat of war? The "Conference on Aesthetic Responsibility" seems to have decided that everybody is responsible for ugliness—just as we are all responsible for juvenile delinquency and the threat of war. We are all responsible because not enough of us get fighting mad enough to do anything about these triple threats to our equanimity and the harmonious life. Mr Atkin's exceedingly brief address was perhaps more to the point than anybody else's.

No doubt everybody hates ugliness—or thinks he does. But so often one man's ugliness is another man's delight. The gas station owner who decks his concreted area with fluttering paper pennants of many colors, surely must step back in pride and view his handiwork with "Isn't that beautiful! Now, by golly, they'll notice my station." The owner of a store in a dingy old building who paints the front orange and puts a flashing neon sign on it might admit that it ain't art, but it will bring in customers, so from his viewpoint it's beautiful.

Certainly, these are not legitimate standards for esthetic judgments. But they are the everyday working standards of hundreds of thousands of people. The esthetic standards of half of the population of this country are tied in one way or another to their pocketbooks. Who has ever shown or taught them anything different? A house is "beautiful" because it cost \$75,000; a picture is "beautiful" because it's a genuine hand-painted oil painting and cost \$500. Is there actually true beauty in a diamond? We gush over a diamond strictly according to its size—hence its price. A fine quality glass prism will refract the light just as well and sparkle just as brilliantly. We are all guilty.

Often, what is beautiful when it stands alone may become a source of ugliness when multiplied. The gas station owner's pennant-bedecked station might look gay and at least "pretty" if it stood alone. But when jammed in on a highway with both sides lined for miles and more and worse of the same thing, it becomes unbearable.

Unbearable to whom? Perhaps now we're getting closer to the heart of the problem. The answer is, of course, unbearable to those select few who have, or feel that they have, good taste; those few who are sensitive to ugliness. For there *is* a select few—possibly twenty per cent of the adult and thinking population (estimate my own)—who seem to belong to this esthetic upper crust. Do I put my estimate too low? Sorry. Double it and it still doesn't affect the real problem. So we'll call it forty per cent. On the other side of the esthetic ledger we must allow for an equal percentage of those who are hopelessly devoid of taste—and there is little we can do about it. That leaves a middle twenty per cent with whom we, the esthetically conscious upper crust, can perhaps have some influence.

Where do we missionaries of beauty and delight start spreading the gospel of one universal esthetic standard? Why in the schools, of course; the poor, over-worked, overpropaganded public schools. I don't believe good taste can really be taught. But good examples can be set forth and good standards can be taught to school-age children—and if we are to combat universal ugliness we might as well face the fact that it will take a generation or two.

And it is just possible that if we can instill the basics of good taste in one or two coming generations, the other problems of juvenile delinquency and even the threat of war, may cease to be problems any longer. Good taste can be extended to good taste in living, in personal relationships and even ultimately into international relationships. So perhaps the architect, insofar as he can affect the total environment of man, can also go a long way toward helping to solve many of the problems which plague the civilized world today.



Architectural Photogrammetry

by Perry E. Borchers, Jr, AIA

Professor of Architecture, Ohio State University

School of Architecture and Landscape Architecture

► During recent spring and Thanksgiving vacations, teams from Ohio State University traveled to Philadelphia, New Jersey, New York City, the Connecticut River Valley and Maine to record—by an unusual method—inaccessible towers and façades of a series of historic American buildings, too difficult and detailed for efficient measurement and drawing by conventional means. The method used is that of photogrammetry, and in the United States its application to the study of architecture is found only at Ohio State University.

Photogrammetry—the science of measuring by means of photographs—has interest for all engineering sciences.* Modern science is based on precise measurement and on quantitative data which support or amend emerging theories in every field. Photogrammetry is an ideal system for capturing complex, irregular, and elusive form for detailed examination and measurement. Its appropriate use, in architecture as in other fields, is for high precision under difficult conditions of measurement.

Photogrammetry first found large-scale application in the United States during World War II for preparation of topographic maps from aerial photographs. This work continues to absorb the attention of photogrammetrists and obscures the nineteenth-century beginnings of photogrammetry as a means of recording and drawing monuments of art and architecture. Pioneer work in the field of architectural photogrammetry was performed by the Prussian *Staatliche Messbildstelle* organized by Meydenbauer

in Berlin in 1885. The great files of the *Messbildstelle*, glass negative plates in 929 chests and weighing thirty-six tons, were seized by the Soviet military administration as an aftermath of the war and disappeared to the East. However, the proceedings of the *Messbildstelle* are remembered and to this day have their applications.

Equipment and Procedure

Precise cameras of known focal length and negligible distortion are used, with glass negatives of large format for good detail and for prevention of film shrinkage and distortion. The camera is normally mounted on a surveying instrument—together called a photothodolite—for turning precise angles and recording camera-orientation at two successive positions of photography. A few measurements within the picture area serve as survey control.

Data on the negatives are processed in three general ways. First, there is single picture measurement, employing a precise projection instrument known as the rectifier to correct for tilts of the camera and to allow rapid measurement or drawing of detail such as mural painting and joints of essentially plane surfaces—or the deflection of a beam—recorded on a single photograph.

Analytical photogrammetry combines measurement of two pictures, taken from successive camera positions, with geometric calculation of major dimensions of the structure photographed. Though replaced by more efficient methods of stereophotogrammetry in modern projects, the geometric procedures of analytical photogrammetry can be used for reconstruction of damaged or vanished structures from a

variety of photographic material—eg, actual use of amateur photographs to recreate the form and dimensions of a war-damaged tower in Munich, Germany.

Stereophotogrammetry employs two photographs, taken from successive camera positions, for creation of a three-dimensional projected or optical model, which can be scaled and measured in all directions and which, in such plotting machines as Ohio State University's Wild A7 Autograph, can be plotted and drawn directly in orthographic projection.

Projects in United States

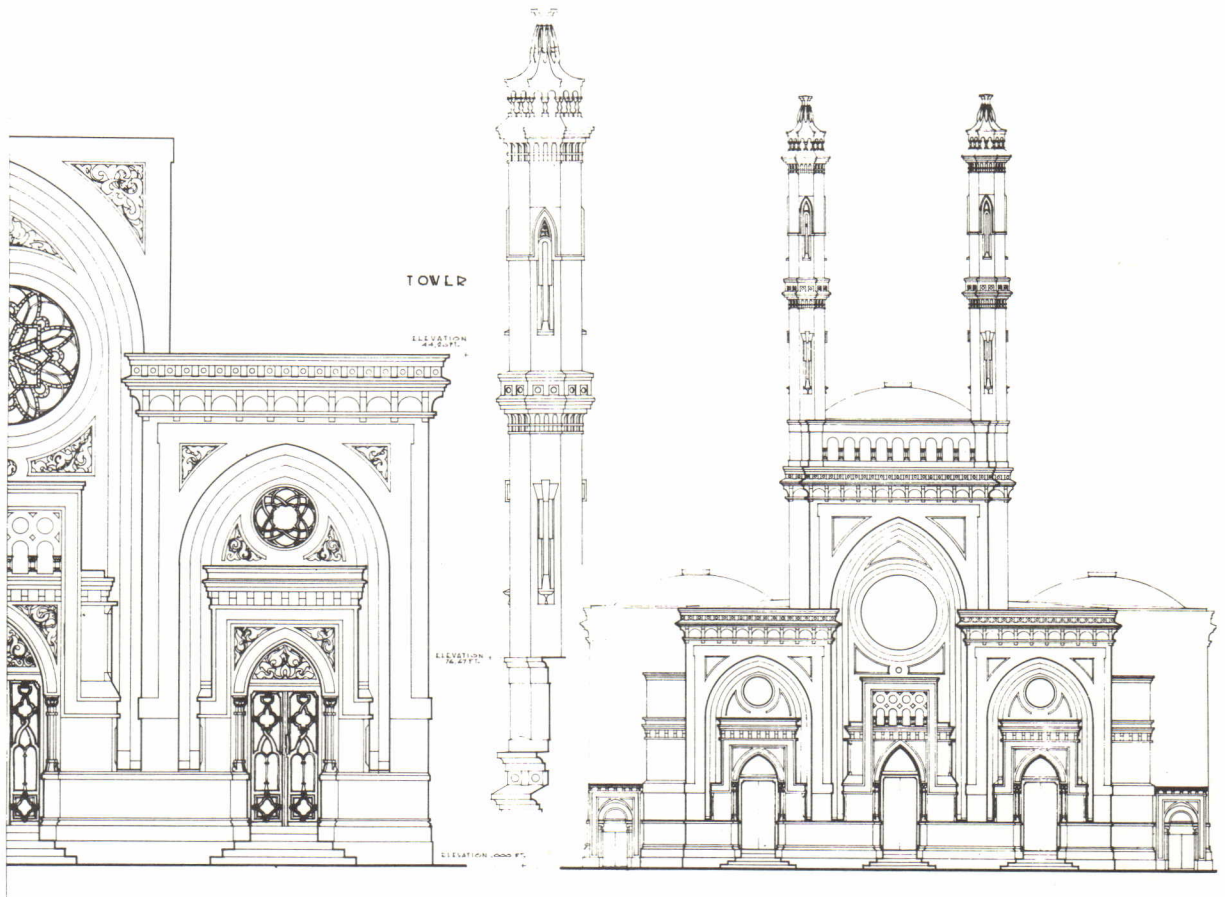
There have been twelve projects at Ohio State University supported by contract with the National Park Service, US Department of Interior and others, in the application of architectural photogrammetry to the Historic American Buildings Survey. Personnel of the School of Architecture and Landscape Architecture of the College of Engineering have employed equipment of the OSU Institute of Geodesy, Photogrammetry and Cartography in carrying out projects administered by the Engineering Experiment Station. As of March 1962, sixty-two sheets of drawings and 195 stereopairs, with survey control, of twenty-eight historic buildings have been furnished the National Park Service for permanent record in the Historic American Buildings Survey. An additional sixty-one stereopairs have been commissioned by others, including the Maine Chapter of the AIA, and fourteen sheets of drawings of St Paul's Chapel and Trinity Church in New York City have been prepared for the corporation of Trinity Church. Three reports

Technical

on applications of photogrammetry have been furnished to the National Park Service to aid in their planning of "Mission 66," a long-term program for recording historic early American architecture which is rapidly disappearing through demolition or neglect. A chapter on architectural photogrammetry has been written for the 1961 edition of the Historic American Buildings Survey's specification manual.*

Photogrammetry must be supplemented, in cramped and dark portions of buildings, by conven-

* An introduction to this subject was first published in *The AIA Journal*, October 1957, pp. 353-355.



tional hand measurement. But for complex, irregular, and inaccessible high portions of buildings its accuracy, efficiency, and economy cannot be matched. The front of the historic Plum Street Temple in Cincinnati has minarets towering 130 feet, yet this façade was recorded on the site in two hours by two stereopairs—four photographs—and a dozen quick measurements for survey control. The photographs and survey control are sufficient to create an optical model in the A7 Autograph which has all the characteristics and authority of the building itself for purposes of measurement. The building may disappear, yet be drawn and restored years later from the photogrammetric record (fig 1).

The process of taking stereopairs consists in setting up two tripods, levelling the phototheodolite, and photographing at each station at an angle perpendicular to the base line between tripods. Maximum depth of reasonably accurate plotting is twenty times base distance between tripods, but an increase of base to depth of plotting, known as the base/distance ratio, increases accuracy.*

The process of plotting and measuring in the Wild A7 Autograph consists of inserting photo-

graphic plates, reestablishing relative orientation between the two camera positions at time of photography, rotating this relative orientation so that vertical and horizontal directions in the optical model are in absolute orientation with similar directions on the plotting table, enlarging or reducing the optical model to fit a desired drawing scale, and finally plotting and measuring. The machine which performs these steps for a trained operator costs \$63,000. It will tabulate measurements, and ideally for the purposes of architectural photogrammetry, a shift of gears will change plotting from orthographic projection of elevations to floor plan, ceiling plan or horizontal section. The University is fortunate to have a machine of such precision and scope. It is used in the Institute of Geodesy, Photogrammetry and Cartography primarily for instruction in photogrammetry, but research projects keep it busy late in the evenings and weekends.

The A7 Autograph has 10-power magnification in the eyepieces, and the three-dimensional optical models recreated within it are the most impressive phase of the photogrammetric process. The horizontal and vertical movements of the instru-

ment immediately reveal the lean and deflection of structural elements photographed in the stereopairs, while the plotting table, with its drawing of true orthographic dimensions, slopes and proportions, discloses intentional or fortuitous optical illusions of architectural design.

Projects in Europe

Through an award by the University for research duty and travel, I visited projects on architectural photogrammetry in Europe and talked with European manufacturers of photogrammetric equipment in the spring and summer of 1958. Three months of this time were spent in Sweden at the Institute of Photogrammetry (*Kungliga Tekniska Hogskolan*) in Stockholm, where I enjoyed the hospitality and assistance of Professor Bertel Hallert, who in 1953-1954 was at Ohio State University to help establish the first Institute of Photogrammetry in the United States. I observed the recording of Rosendal castle near Stockholm by both aerial and terrestrial photography (figs 2 and 3).

Plotting of the roof plan of Rosendal castle was done from aerial photographs. First a traverse was surveyed around the building

and white targets were set to stakes as survey control. Photography was from an altitude of 300 meters (1,000') because of the proximity of Stockholm. Plotting of the building from these photographs was to an accuracy within 4 cm (1½"). This low-level aerial photography would have special value for recording entire old villages, historical patterns of land subdivision, battlefields, and historic sites. It may be used by the National Park Service to discover traces of trenches and earthworks on the battlefield of Saratoga after a lapse of 182 years.

Cost of a photogrammetric project is directly related to degree of accuracy desired. Degree of accuracy desired in the drawing of Rosendal castle was the thickness of a pencil line on the final drawings, ie, an accuracy within 1/1200. The phototheodolite used for terrestrial photography had been very accurately tested for distortion characteristics at the Institute, and the first calculation was the allowable distance of photography to meet the standards of accuracy.

The major government project in Europe in recording historic architecture is being carried on in Belgium on a scale approaching that of the *Staatliche Bildstelle* in Germany. Of some 6,000 historic buildings in Belgium, sixty major buildings have been chosen for recording by architectural photogrammetry. In the summer of 1958 about forty of these buildings had been done at a rate of about ten very large and very detailed monuments per year. Each year an additional ten or eleven historic buildings are recorded before remodeling or demolition.

Sets of the photographic plates are carefully disinfected to prevent bacterial damage to the emulsion, are sealed in lead boxes, and filed in underground concrete atomic-bomb resistant shelters with the national art works. Plotting from the plates has been limited to that necessary to assure accuracy of the photogrammetric recording procedure. Accuracy to within 1/1000 was considered adequate and quickly attainable. The Belgian survey team considered that many of their stereopairs of architectural sculpture would never be plotted

and drawn, even though required for reconstruction of a building, but would be viewed stereoscopically by sculptors and stone carvers for greater accuracy of sculptural feeling than could be conveyed by any series of drawings. It should be noted, however, that the contour drawing typical of topographical surveys has considerable value in representing sculpture. See the contour drawing of sculpture on the south façade of Rosendal castle in Sweden (fig 2).

It would be inappropriate to dwell on various projects for photogrammetric recording and restoration of historic architecture conducted at technical institutes of Europe without mentioning other important applications of photogrammetry to architecture. In Stockholm a series of great shelters

At left, Isaac M. Wise Temple, Cincinnati. Below, contour plotting, from stereopairs, of statue on south façade of Rosendal Castle (plotting by Sigmark & Schmutter, Fotogrammetri, Kingliga Teckniska Hogskolan, Stockholm, Sweden)



has been hollowed from the rock beneath the city. Computation of the volume of concrete to reinforce the irregular ceilings of these man-made caves was a problem solved by photogrammetric plotting. In Augsburg, Germany, a firm of architects designed, in model form, a scalloped shell ceiling for an auditorium. They discovered their ceiling was too complex to draw and dimension until Dr Josef Sutor, engineer and photogrammetrist of Munich, photographed and plotted the ceiling in contour drawing to provide rapidly some 1,700 dimensions for placing form work and reinforcing.

Study of Structural Movement

At Ohio State we have made investigations of the application of photogrammetry to recording short-term building movements. These movements are of special interest to the architect, for in his detailing of junctions of various materials and structural elements he must provide for movement while preserving structural integrity and weathertightness of his building. It also appears in the field of advanced structures that the engineer has much to learn about setting, deflection and movement of structure.

In 1958 photographic plates of Ohio structures were studied on the Zeiss Stereocomparator at the Institute of Photogrammetry, Royal Institute of Technology, in Stockholm. The ultimate accuracy of determination of structural movement was limited by the operator's accuracy in placing the measuring mark of the stereocomparator upon the point to be measured on the photographic plate. The standard error of several repetitions of this procedure—as determined by the method of least squares—was of the nature of 1/19,000 of the distance of photography.

In 1961, with a new Galileo-Santoni phototheodolite for architectural surveys purchased in Italy, a photogrammetric record was made of the settling of one of five thin shell concrete hyperbolic paraboloids over the grandstand of Scioto Downs Race Track south of Columbus, Ohio (figs 4a and 4b). The photographic plates were examined in a model TA3 Nistri Stereocomparator, recently acquired by the University, and disclosed a measurable settling and lengthening of the paraboloid and a rotation about its supporting pier. Though the extreme corners of the

* National Park Service, Eastern Office of Design Construction, Specifications, part 9, July 27, 1961.

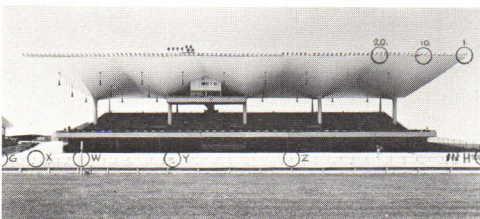
*For a more detailed explanation see the following article "Choice of Station and Control"



South façade, Rosendal Castle. (Statue at left of entrance is shown in contour plotting, previous page)



Scioto Downs, 6 May 1961. Second photo of a series recording settlement of hyperbolic paraboloid from which formwork is released



Final photograph plate from same station point of a series recording settlement and rotation of hyperbolic paraboloid. Camera pressure points, fiducial markings, survey control and measuring points circled, labeled

paraboloid had been cambered for an expected deflection of about 4", the photographic plates showed that the greatest deflection occurred at the thickened center of the forward edge, and that—allowing for the rotation of the paraboloid and for the deflection of the entire edge—the extreme corners had actually been pulled up $\frac{3}{4}$ " in relation to the center.

This study revealed that flatness of the photographic plate was another limiting factor on accuracy attainable with the photogrammetric method. Ultimate accuracy with present equipment and procedures and with considerable care is to within a standard error of 1/15,000 of the distance of photography, for example: $\frac{1}{4}$ " for photography at 300 feet distance recording structure 320 feet wide and 120 feet in height above camera axis; or $\frac{1}{64}$ " for photography at nineteen feet distance recording structure about twenty feet wide and fifteen feet high. There are

times when significant measurements can be smaller than the limits indicated by the standard error, as in the case when many measurable points on a façade move in concert under the effect of wind loading.

With very precise photogrammetric equipment now available at Ohio State University, more projects in recording structural movements by means of architectural photogrammetry can be attempted. For a necessary fuller understanding of advanced modern structures, architectural photogrammetry has the great advantage of providing data on the deflections and movements of actual structures in use—not models under laboratory conditions—with the possibility of recording and discovering movement in parts of the structure where no movement was anticipated. ◀

Choice of Station and Control

FOR EFFICIENT ORIENTATION AND PLOTTING
IN ARCHITECTURAL PHOTOGRAMMETRY

by Perry E. Borchers, Jr, AIA

Presented at the national convention of the American Society of Photogrammetry, Washington, D C, March 1960, and included as a presented paper at the Congress of the International Society for Photogrammetry in London

Terrestrial or Aerial Stations?

Application of photogrammetry to architecture has been an infrequent exercise for photogrammetrists whose natural tendency should be to reproduce conditions and procedures of aerial photogrammetry in plotting and drawing buildings. Sometimes this is possible, and an entire façade may be photographed in stereopairs with camera axes normal to façade, with relative orientation following the procedure for nearly vertical aerial photographs of essentially flat terrain, and with control measurements on the plane of the façade to determine absolute orientation and scale. More often than not, however, the building and its location do not permit this particular photogrammetric procedure.

First the camera must be inclined upwards. Then in indeterminate seas of grass or blank sky the points are lost at which, in aerial stereopairs, elements of relative orientation can be isolated. Finally the orientation which satisfied the general plane of the façade reveals its weakness when plotting is pushed in depth to distant towers or to nearby steps and terraces.

It is the need for accuracy in great depth of plotting that places architectural photogrammetry firmly in the category of terrestrial photogrammetry. Studies of such men as Professor Bertil Hallert of Sweden of problems of terrestrial photogrammetry have considerable application to photogrammetry of architecture.

Control Points—Measured Stakes

Professor Hallert's paper "Determination of the Accuracy of Terrestrial Stereophotogrammetric Procedures,"* describes the effect of small errors of convergence of camera axes upon plotting of a plane and upon propagation of error in depth of plotting. I have observed the Swedish system of using control stakes—placed as described in Professor Hallert's article—before Rosendal Palace which was being recorded and drawn by photogrammetric procedures, and I respect the accuracy of this method. However, I have never found, when recording historic American architecture in the centers of our cities, the situation which would permit setting up this auxiliary method of control. The stereopair of the east façade of Trinity Church in New York City, as photographed up the length of Wall Street, shows also the extreme base-distance ratios that may be forced upon the photographer using architectural photogrammetry (fig 1).

In recording historic architecture the building to be photographed is often hemmed in by others, and camera stations are separated from survey control points on the building by the rush of city traffic, and there is sometimes haste to take a stereopair of a façade in the sunlight which may shine down the long canyon of a narrow street for

only a few minutes. The overriding concern is to secure complete photographic coverage. On one occasion this has taken the phototheodolite onto the twenty-third floor parapet of a building overlooking the one to be photographed—more often it has taken the photographic team far up and down streets that border the building for angled and inclined views that show it in its full height. Stereopairs photographed from these angles cannot be oriented efficiently according to procedures of aerial photogrammetry.

Control Established by Geometric Principles

A major characteristic of architecture in contrast to other subjects of the photogrammetric process is its geometric regularity. Except in highly interesting cases where geometric regularity of the building is in question or the photogrammetric problem is to record building movements, this characteristic of architecture can be exploited in an appropriate system of orientation. The system is based upon geometric principles of perspective drawing which architects use for graphic presentation of designs and projects.

Perspective drawing is the reverse of the photogrammetric process. Starting with orthographic drawings of plan and elevation of the building the architect arrives at a perspective drawing which is an anticipation of a photograph of the completed building. His geometry assumes no distortion of the perspective rays in an imperfect photographic objective. On the drawing which contains the plan of his building, the architect chooses a station point, corresponding to a camera station, or, more precisely, to the principal point in a photogrammetric objective, and a picture plane, corresponding to the photographic plate. The line from the station point perpendicular to the picture plane corresponds to the camera axis of a phototheodolite.

There are two systems of architectural perspective drawing. One is known as two-point perspective. This system assumes a vertical picture plane upon which all vertical lines of the building appear vertical and parallel while systems of horizontal lines converge to vanishing points on a horizon on the same height as the station point. Three-point perspective assumes a picture plane inclined from vertical. Systems of horizontal lines still con-

*Photogrammetric Engineering March 1955

verge to vanishing points on the horizon, but now only the vertical line which is intersected by the camera axis remains vertical, while all other vertical lines converge to a vanishing point upon this line. There are three vanishing points for systems of lines parallel to the three coordinate axes.

It is now possible—having the fiducial markings of the photogrammetric plate to establish the horizon and line of sight normal to the façade—to make visually a quick and close approximation of the absolute orientation of the elements ω , φ , and α for single photographic places in the A 7 Autograph.

Main Survey Control Points

The most useful elements of survey control upon a building should now be evident. First is to establish one or more unquestionably vertical lines intersected or nearly intersected by the camera axes. In the case of highly irregular or deformed structures—and when there is no wind—a weighted line can be lowered over the eaves from a parapet or cupola to establish a vertical line in the photograph. A dimensioned vertical line can be established by lowering a steel measuring tape with prominent marking of major dimensions. For such structures as the cliff dwellings of Colorado, carved into and built up under an overhanging rock face, the vertical dimensioned lines of three measuring tapes lowered over the cliff, with measurement of horizontal distances between them, could provide effective survey control.

Second step is to establish the horizon. This may be done either by verifying the level of horizontal joints of the building or by sighting through the leveling telescope of the phototheodolite, preferably to a corner and two façades of the building, and marking height of camera horizon with tape at three or more points on the building for recording on photographic plates.

Third step is to have a known angle, generally a right angle, in the plane of the horizon. One dimension is now essential for scale, and two dimensions, in the directions of the two horizontal coordinates, serve with the horizontal angle to reveal elusive errors of convergence of camera axes. Two vertical dimensions at greatly differing depth in the optical model can serve the same purpose, and



Stereopair of east façade of Trinity Church down length of Wall Street, New York City, September 1959. Wild T 30 Phototheodolite—inclination upwards 10.4g—base 22.68'—distance approximately 660'



additional measurements allow determinations of accuracy and error of the entire photogrammetric procedure.

Camera Station

A choice of camera station which best satisfies the requirements of photographic coverage and the system of survey control described above is shown in figure 2, a stereopair of the north and west façades of Congress Hall, Independence National Park, Philadelphia, Pennsylvania. Parallel camera axes intersect façades of the building to each side of the vertical corner at approximately the same depth in the optical mode. The cameras are inclined upwards 10.4 grades, the maximum possible on the Wild T 30 phototheodolite with the base leveled.

The process of orientation—which must precede plotting and measuring in photogrammetry—establishes criteria for photographic equipment and procedures in the field. This process involves reproducing—

- inner orientation of camera used in photography
- relative orientation between the two camera positions at the time of photography
- absolute orientation of camera axes at time of photography with vertical and horizontal coordinate system chosen for the orthographic projection.

The inner orientation of the camera includes—

- precise focal length—either fixed, or variable in phototheodolites which record variations of focal length upon photographic plate.
- location of the camera axis, established by recording four fiducial markings upon photographic plate
- determination of residual distortion of lens and camera

Elements of relative and absolute orientation are—

- the principal horizontal component of the base between the two camera axes; designated as b_x
- the vertical component of the base between camera axes—usually designated at the right camera station as b_y''
- the horizontal component of the base in depth—along camera axis—when camera axes are not perpendicular to base line or to coordinate system; usually designated at the right camera station as b_z_x''



Stereopair of north and west façades of Congress Hall, Independence National Park, Philadelphia, April 1959. Wild T 30 Phototheodolite—inclination upwards 10.4g—base 12.42'



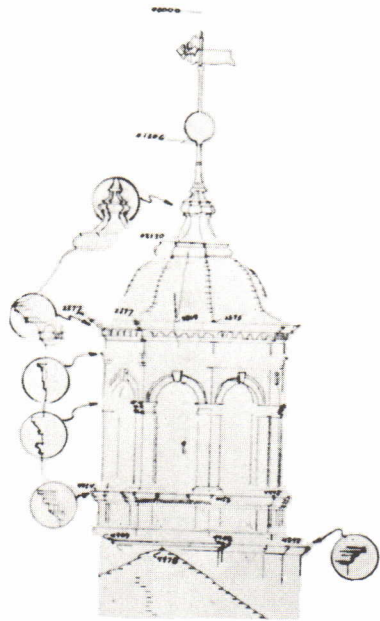


Fig 3, left—Foreshortened plotting of north and west façades, A7 Autograph—Congress Hall tower. Fig 4, below left—Partial plotting of plan, A7 Autograph—Congress Hall. Used for rotation of elevation plottings and for measurement of building leans and deformation

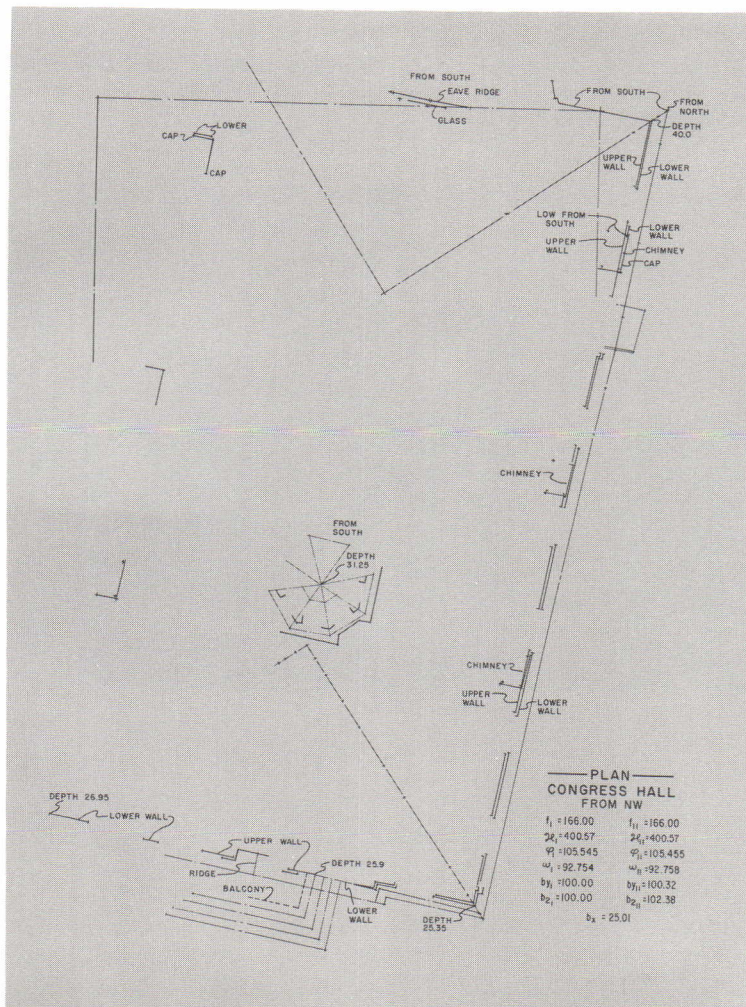
Fig 5, at right—North elevation, Congress Hall, as drawn for Historic American Buildings Survey

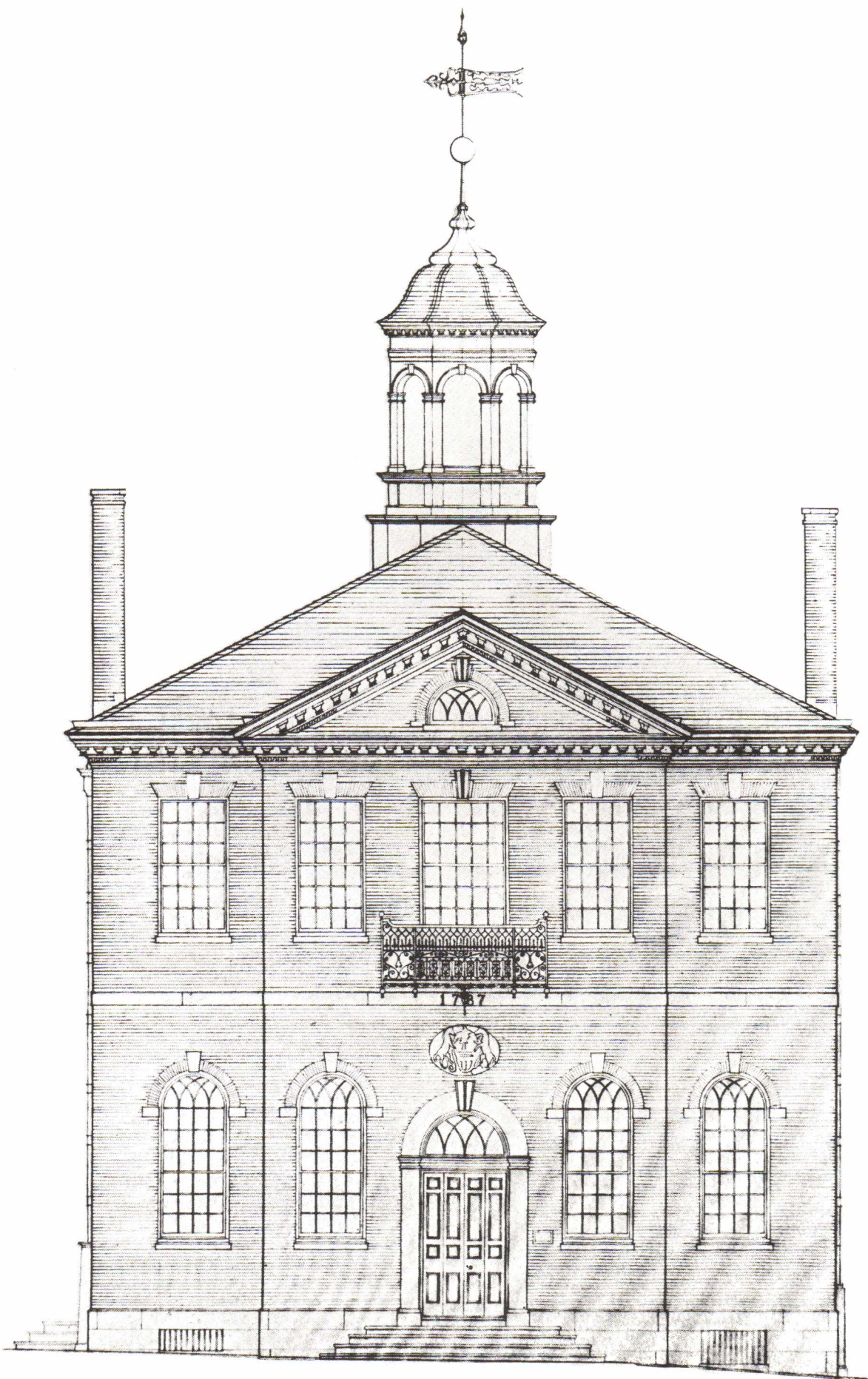
- tilt of camera axes upwards or downwards from a horizontal plane; designated at the two camera stations as ω' and ω''
- swing of camera axes—convergence or divergence—in the horizontal plane; designated at the two camera stations as φ' and φ''
- rotation of camera around camera axes; designated at the two camera station as κ' and κ''

Orientation Procedure

The procedure for orienting such a stereopair in the A 7 Autograph is as follows:

- set measured elements of inclination ω' and ω'' in the autograph
- measure distances within optical model with change of base— b_x —to choose approximate scale for greatest possible range of plotting
- make absolute orientations on single photographic plates of elements of rotation κ' and κ'' along vertical lines intersected or nearly intersected by camera axes, or—stereoscopically—at points of equal depth in optical model lying on two façades and on horizon
- make relative and absolute orientation of elements of inclination ω' and ω'' with change in depth along line of horizon upon building. Corrections of relative orientation in ω'' are characterized by over-correction of γ parallax or exaggeration of it at near and far points. Check absolute orientation of ω' and ω'' on vertical lines of building
- make relative orientation of b_z'' by elimination of γ parallax along a vertical line near camera axes
- make relative orientation of elements of convergence φ' and φ'' by elimination of γ parallax along a vertical line as far as possible to one side of camera axes
- with the terrestrial gear system of the A 7 Autograph plot in plan drawing corner of building and





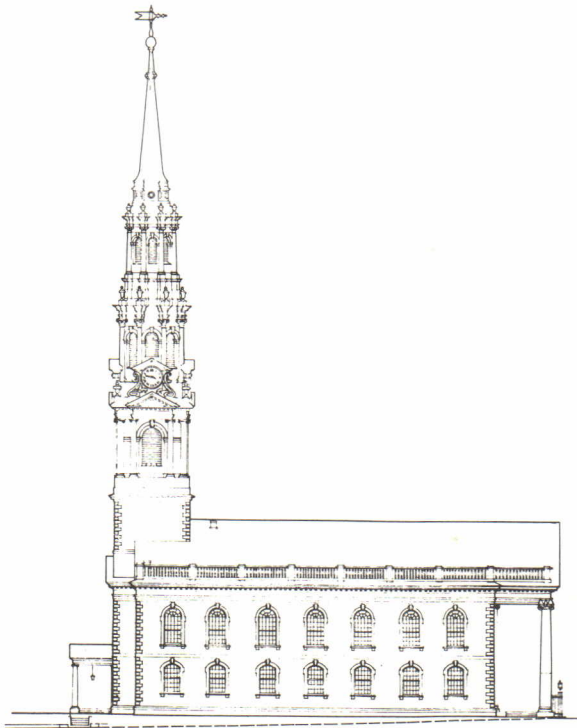
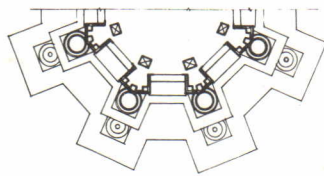
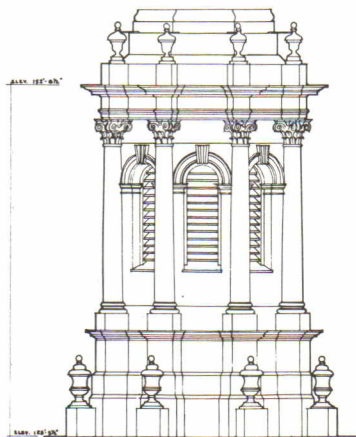


Fig 6—South elevation, St Paul's Chapel, Lower Broadway, New York. Drawn for the Corporation of Trinity Church, New York City, and the Historic American Buildings Survey



Half-plan of tower



Partial elevation of tower

horizontal dimensions measured from it; analyze any bow inwards or outwards of façades and any distortion of the right angle of the corner into small corrections of relative orientations of φ'' and bz'' . Orientation can be checked further for scale differences in two vertical dimensions which differ greatly in their depth in the optical model

- scale optical model with proportional changes of b_x , b_y'' and b_z''

Alternative Procedure

If it should now be impossible, because of limitations of the A 7 Autograph, to make an absolute orientation of φ and φ'' plotting of the building must be performed as shown in figures 3 and 4 also of Congress Hall in Philadelphia. Plotting is in both plan and elevation. It is part of the usefulness of the A 7 Autograph for architectural photogrammetry that a change of the gear system, from "aerial" with which architectural elevations are plotted, to "terrestrial" with which architectural floor and ceiling plans and horizontal sections are plotted, also provides correction of plotting distortions of common architectural cylindrical forms, as described in "Architectural Photogrammetry at Ohio State University."*

The resulting plottings, which require the plan drawing for rotation of foreshortened elevations into full frontal projection, as shown in figure 5, provide best determination of inaccessible dimensions on buildings, necessary for final drawings and for control of plotting of more nearly frontal stereopairs.

A comparison of vertical dimensions of the inaccessible tower of St. Paul's Chapel on Lower Broadway in New York City, shown in figure 6—as determined from various diagonal stereopairs of the building and before full development of the system of survey control and orientation described herein—indicated an accuracy to within one part in 1300 in height of the tower. This degree of accuracy is satisfactory for recording historic architecture. Other applications of photogrammetry to architecture can utilize the ultimate degree of accuracy possible with the science of photogrammetry. ◀

* *Photogrammetric Engineering* Dec 1957
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A Three-Dimensional Record of Byzantine and Baroque Architecture

by **Perry E. Borchers, Jr, AIA**

► For the McKim Fellowship of Columbia University in January, 1959, I proposed a project in three-dimensional recording of architecture intended to provide reason and example for a major advance in the visual presentation of architecture. This proposal was subsequently amended to include taking 300 stereopairs of Byzantine architecture in Turkey, Greece and Italy, and of Baroque architecture in Italy, Austria and Germany.

With the additional grant of assigned research duty from Ohio State University, I travelled and photographed in Europe from March 1960 through September 1960, starting in Sweden where the photographic equipment was tested with facilities provided by Professor Bertil Hallert of the Royal Institute of Technology in Stockholm.

The report which follows is slightly revised from that submitted to the School of Architecture at Columbia University in May 1961. The three-dimensional material from this project is in regular use in courses of architectural history at the Ohio State University and has been demonstrated in three-dimensional projection at Columbia University, at the AIA-ACSA joint R-17 course at Cranbrook in June 1961, and at the national convention of the Society of Architectural Historians in Boston in January 1962.



The purpose served by three-dimensional recording and presentation of architecture is to recreate visual realities of space and enclosure which must be grasped if architecture is to develop as a true art of designed environment.

Living within space and enclosure, men see binocularly and in depth. A three-dimensional record of architecture requires exercise of binocular vision and, far more accurately and powerfully than any

number of two-dimensional photographs and sketches, it allows the special study of space—the province of architecture; and the general study of form—the interest of all arts.

It was a good choice by the McKim Fellowship committee to make Byzantine and Baroque architecture the first subjects of three-dimensional recording and presentation. Byzantine architecture is characterized by sculptural and flowing form in intersecting domes, semi-domes, and heavy vaults, is commonly deformed by structural slipping and later buttressing, and has (or had before mutilation) over-all wall and ceiling decoration of fresco painting or light-reflecting mosaic representing Biblical stories and the presence of Christian saints. Baroque architecture is characterized by a flow of interpenetrating spatial forms with warped structural elements and decoration, by expert use of optical illusion, forced perspective and dramatic lighting, and by employment of sculpture and painting not only representationally but to modify architectural effects of structure and space. These qualities are elusive subjects for two-dimensional photography. Study of books and photographs beforehand did not prepare me for the actual visual effect of a single building I visited. Repeatedly I found unexpected relations of building scale and surrounding structure, of arrangement in depth and—particularly in Baroque architecture—of clarity and order in what had been represented in two-dimensional photography as proliferation and excitement. I am confirmed in a belief that a large body of architectural criticism and opinion is based on misconceptions arising from, or perpetrated by, two-dimensional photography, and that another body of awareness and understanding awaits effective illustration and example.

Studies of Space and Form

The material assembled under the McKim Fellowship as a three-di-

mensional record of Byzantine and Baroque architecture is the nearest visual equivalent to visits to the actual buildings themselves. Viewed binocularly, this material permits beginning analyses which would otherwise depend upon the presence of the structures and which include study of—

- sense of architectural space and enclosure—with an intensified impression of the observer's involvement in the environment through wide angles of view and his own evident location in space
- space-creating, -defining, and -accenting qualities of light—correctly assessed through binocular visual penetration into enveloping areas of darkness
- modification of space and enclosure—with varying success—through wall and ceiling paintings of geometric and atmospheric perspective
- binocular effectiveness of optical illusions of distance and dimension based on forced perspective in architectural structure
- modification of space by elements placed in depth within it

Besides these studies of architectural space the material permits studies of—

- sculptural, irregular, deformed, and superimposed architectural elements, clearly formed, separate and distinct in space
- late Baroque three-dimensionally-warped structural elements contemporaneous with and dependent upon development of the calculus
- sites and structural adaptation to irregular sites and foundations
- sculpture in full form without excessive foreshortening given by two-dimensional photographs
- apparent proportion of objects of representational painting or mosaic on irregular, curving architectural surfaces variously located in space

Other appropriate three-dimensional studies include—

- study of complex structural joints

- study of chromo-stereopsis—the illusions of advancing and receding planes of color in painting and in stained glass

Because the McKim Fellowship material has been photographed on film, it does not have the permanence and unchangeability of a photogrammetric record on glass which would allow—

- measurement and study of deformations of structure
- preparation of measured drawings which could govern reconstruction of buildings destroyed by future accident of war

The advantages of three-dimensional recording, presentation, and analysis of architecture are such as to provoke wonder at the lack of development in this field. Two reasons may be given: First, it is possible for an architect to enjoy artistic and financial success in the two-dimensional mass media independent of artistic success in three-dimensional actuality. Second, though the purpose of recreating visual reality is simply stated, the technique has some complexity and requires precision and great attention to detail in all the processes of photography, mounting, projection, and viewing—as will be described hereafter.

Vision

We see stereoscopically through an unexplained fusion in the brain of separate images received from two eyes displaced from each other in space. Between the same elements seen in the two separate images there exists what is known as parallax—the apparent displacement (or the difference in apparent direction) of an object, as seen from two different points. In an upright, level-headed condition this displacement is entirely horizontal, and the brain interprets variations of horizontal parallax as variations of placement in depth. In contrast, a vertical displacement between the images disturbs, instead of aids, perception of depth. All vertical parallax must be eliminated in photography and projection in order to enjoy acute and comfortable three-dimensional vision.

Not all persons see stereoscopically, and stereoscopic acuity can vary greatly between individuals and in the same individual after exercise in stereoscopic vision. No one in my classes in the School of Architecture and Landscape Architecture at Ohio State University would ever admit to not seeing

three-dimensionally, but to assess properly how effectively students see depth, they can be individually tested with the Zeiss-Aerotopograph pocket stereoscope and Prüfungstafel, or similar equipment, as students are tested before entering the field of photogrammetry.

Three-dimensional projection does not disturb the two-dimensional vision of a person who is seeing with only one eye, nor, if he is unaware of the fact, does it bring the realization of not seeing three-dimensionally. Occasionally a student is aware that one of his eyes has been injured or weakened and that its message has been subordinated in the brain to that of the stronger eye. By closing the stronger eye and looking until a definite image is recorded by the weaker eye, the student can then open his good eye and have the exciting experience of three-dimensional vision.

It is my opinion that continued exercise in stereoscopic vision strengthens the eyes, but no student should endure this exercise painfully without consulting an ophthalmologist.

Even a one-eyed person gains an impression of depth while moving through space from the interpretation of parallax between successive rather than simultaneous images. Motion parallax results from the displacement of the instrument of vision, not from its rotation in place, as with the static movie camera in the AIA's flat film production of "Architecture USA." Motion parallax will be mentioned again as a factor in determining the base of a stereo camera for producing realistic architectural photography.

Reproduction of the normal angles of vision is another factor necessary for photographic realism. Subject to individual variation, we have peripheral vision for awareness of enclosure and of movement through an arc of almost 180°. Our binocular vision covers approximately the central 90° of this arc, while our brows limit the angle of vision upwards to approximately 30°.

The type of camera lens described as extreme wide-angle captures these angles of view. When photography with an extreme wide-angle lens is enlarged or is viewed from so short a distance as to again fill the observer's field of vision, the observer loses his sense of detachment and enters the scene. This

is the attraction of all photographic enlargements and of the architectural photomural in particular.

Finally we focus within a narrow cone of vision. This cone is not wide enough to give us a sense of three-point perspective—the convergence of vertical lines—in architecture which surrounds us, except by inclinations of the head. We see three-point perspective in small objects on a table top, but wherever we focus our vision on a vertical line in architecture we see it as truly vertical.

These qualities of vision determine the ideal for three-dimensional photography and presentation of architecture.

Determining Stereo-base Width

The commercial type of stereo-camera manufactured for amateurs and tourists was not used for photography in the McKim fellowship project. Certain advantages were lost by not using such a camera—simultaneity of exposure, a rigid base between the two pictures of a stereopair, perhaps also, flatness of film at time of exposure—but the disadvantages were too great to tolerate. These included a narrow camera angle, small scale of film image restricting enlargement possible in projection, and a base between stereopairs insufficient to record architectural depth.

It may be objected that this base is equal to the distance between our eyes, and that photography with such a base should give the most realistic impression of space. It is certain, however, that in projection these stereopairs record depth to approximately twenty feet, showing people in the foreground in the round while architectural background takes on the quality of flat stage backdrops. This disappointing result may depend largely on a lack of resolving power of the photographic emulsion, but I believe it proceeds also from neglect of the factor of motion parallax in adding to the effective stereo base between our eyes. Continually I test my depth perception under difficult conditions of light, and I judge my depth perception to vary between fifty and one hundred feet. The stereobase necessary to record similar depth on color film varies between six inches and one foot, following an approximate rule that the distance of depth perception is one hundred times the stereobase. The choice of stereobase and resultant depth perception is of primary importance in the study of the

effectiveness of optical illusions of geometric and atmospheric perspective in architectural painting and of forced perspective in architectural structure. We must avoid exaggerating the effectiveness of these illusions—as occurs in two-dimensional photography—and must also avoid minimizing them through choice of too great a base in three-dimensional photography. From repeated tests of my own vision, I consider that one foot is the photographic stereobase which most nearly reproduces my depth perception within architectural space, and which accordingly records the effectiveness of designed optical illusion as I see it from varying distances. Wider stereobases are appropriate for studies other than those analyzing optical illusion. Stereobases of ten to thirty feet and the use of telephoto lenses allow us to approach, visually, distant buildings and view their adaptation to irregular terrain more accurately than we can see with our own eyes.

Equipment

A few of the stereopairs of the McKim Fellowship project have been taken with a hand-held Alpa 35mm camera with both a 180mm telephoto lens and a 40mm normal lens. Some exterior stereopairs were photographed with a Hasselblad 500C 2¼" x 2¼" camera with 80mm normal lens. Several interior stereopairs were taken with a tripod-mounted Alpa 35mm camera with a 28mm wide-angle lens and the 180mm telephoto lens. (Most of these stereopairs were photographed by my wife who was my assistant in this project, and my interpreter in all German-speaking parts of Europe.)

The majority of the stereopairs in the McKim Fellowship collection were photographed with a Hasselblad Extreme Wide-Angle 2¼" x 2¼" camera, with a Zeiss 38mm Biogon lens, mounted on a specially constructed parallax bar upon a sturdy tripod (fig. 1).

The Victor Hasselblad Company of Gothenberg, Sweden, prepared a special back for this camera which framed a 1½" x 2¼" picture free of excessive foreground. They also prepared for me two quick tripod couplings with special springs to hold the camera true. These tripod couplings were screwed to the parallax bar, parallel to each other and at the appropriate stereobase distance to permit

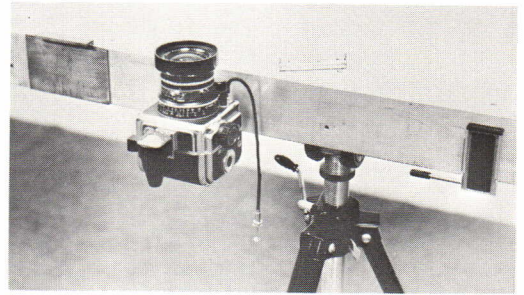
a rapid shift of the camera from the first to second position of photography.

The camera body has a leveling bubble which allows rapid leveling of the camera to eliminate all three-point perspective, the presence of which in architectural stereopairs introduces the effect of looking at a model. By having the parallax bar and camera level and by having parallel camera axes at the two positions of photography, one eliminates certain distortions of the stereoscopic model which are a major concern of stereophotogrammetry. The Biogon lens takes an exceptionally wide, accurate photograph. At a distance of ten feet from the subject the camera photographs an area fourteen feet in width. The camera was calibrated for me at the Institute of Photogrammetry, Royal Institute of Technology, in Stockholm, Sweden, and proved to have a maximum displacement of 20 microns (1/3000th of the width of the photograph) from the true location of any point recorded on a glass photographic plate, an accuracy approaching that of photogrammetric and aerial cameras costing thousands of dollars. The lens is well corrected for color.

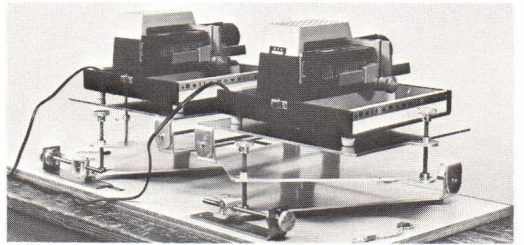
Defects and Problems

This camera has such excellent qualities that it is unfortunate to have to mention two failings which ruined some of my most promising stereopairs. The lens sometimes reflects light from sources far outside the picture area onto the film. The film, which passes through the camera together with a paper backing, sometimes bulges, producing distortions in three-dimensional viewing which cannot be tolerated. This fault did not show up during my tests in Sweden—perhaps there was a difference in rolling the films. Had I known, I should have duplicated every photograph I took to minimize the chance of loss of good subject matter. It is certain that three-dimensional photography requires the very best of cameras and lenses, for it will disclose any fault in them. The proportion of excellent photographs was very high with the Hasselblad Extreme Wide-Angle Camera.

Using one camera, it was necessary to photograph from successive positions. On certain occasions, with large crowds present, this meant that stereo-photography was impossible because of disturbing movement which would be evident



The Hasselblad Supreme Wide-Angle camera, quick tripod couplings, and bar arranged for rapid consecutive stereo photography of ceilings and domes. Quick tripod couplings are set for the best stereobase



Rear view of three-dimensional classroom projection equipment. Polarizing filters are mounted inside projectors. Projector base is designed for rapid elimination of vertical parallax by individual adjustment of tilt, convergence and rotation

within the stereopair. The solution to this problem is simultaneous photography with two carefully matched cameras, yet I am not convinced that stopping all movement—sometimes at moments of awkward unbalance—is desirable. There are occasions when the stereopair taken from successive positions correctly records the static quality of architecture in relation to people, pigeons, wind, and water.

Film

Film used in the McKim Fellowship project was Kodachrome for the 35mm camera and Professional Ektachrome for the Hasselblad cameras. The Professional Ektachrome proved especially well adapted for interior photography with the natural lighting which reveals the true spatial quality of the buildings. The film rarely required the use of color balance filters and had a good range of color—less contrast than Kodachrome—throughout light and dark interior areas.

Mounting Slides

Following photography comes the technical problem of mounting stereopair transparencies. Again the

standard commercial process is unsatisfactory. The two transparencies of a stereopair must be similarly mounted in frames to a vertical tolerance of one-hundredth of an inch to avoid uncomfortable visual vibration along the top and bottom edges of the picture. This standard is not met in commercial cardboard mounting of 35mm transparencies, and all such transparencies had to be remounted in aluminum frames with glass cover plates protecting the transparency from dust, scratches, and from bulging out of focus during the heat of projection.

It had been my intention to cut down the 2¼" x 2¼" and the 1⅝" x 2¼" Hasselblad transparencies to mount them as 1½" x 1½" super slides. This proved too wasteful of visual material of architectural interest, and, for my own slide files and for the files of the School of Architecture at Ohio State University, I have had them copied on 35-mm film, retaining almost the whole area of photography except that which is cut from the sides to create the effect of the "projection window." The projection window is formed by trimming the right edge of the right photograph and the left edge of the left photograph until the two edges assume a stereoscopic position in three-dimensional viewing forward of the subject matter. This manner of framing eliminates visual vibration at the sides and contributes greatly to realism and comfort of viewing. It is better to form the projection window in this manner than to attempt to gain the same effect by convergence of the camera axes in photography.

Projection and Viewing

To view the photographs and slide material three-dimensionally it is necessary that the right eye see only the picture taken at the right camera station and the left eye see only that taken to the left. There are various small stereoscopes that can be used for quick and convenient individual viewing and study. It is more complex to project a three-dimensional view of architecture before a classroom full of students.

Three-dimensional viewing in the lecture room requires the use of two projectors of similar lens characteristics, each with a polarizing filter differently mounted, projecting two simultaneous pictures upon a flat aluminum surface which reflects light without destroying its polarization. The spectators wear polar-

ized spectacles so that each eye sees only one of the projected pictures—still in full color—and the pictures are fused in the brain as a three-dimensional image. The success of this moment depends upon precision and attention to detail through a series of processes.

It depends upon photographs from two related station points with precise lenses, flat film, level camera, parallel camera axes, and quiet traffic conditions. It depends upon mounting which assures a coincidence of the top and bottom edges of the stereopair and a stereoscopic positioning of side edges forward of the architectural subject matter. It depends upon freedom from dust and scratches on the transparency, because these take stereoscopic position in projection and are much more annoying and distracting to the viewer than blemishes on two-dimensional slides.

Success of projection depends also on mounting the polarizing filters so that they do not rotate out of position with change of focusing of the projector. A stereobase illustrated in figure 2 is necessary for rapid and smooth adjustment to remove the last elements of disturbing vertical parallax in projection, and to allow pointing to elements in space. This is done by projecting a separate spot of unpolarized light upon the screen, and then by varying the convergence of the two projected images the spot seems to advance and recede in space, touching the elements which are to be the subject of attention. This play in space is restricted only by the need of assuring convergence of very bright elements—windows in dark walls—upon each other because the polarizing glasses cannot completely eliminate bright light of opposite polarization.

Success in reproducing the effect of architectural space depends also upon the widest possible projection screen without prominent seams and upon seating the observers within a tighter area before the screen than in the case of two-dimensional projection. The ideal point of viewing is that which reproduces original camera angles in lines of sight to various parts of the projected image. Certain things can never be accomplished, though sometimes the sense of reality is so great that the observer attempts to do so. No amount of shifting in the seat will allow one to see around a column, and the cocking of the head to see a section of painting on a sloping wall upright will only de-

stroy the selective reception of polarized light upon which the illusion of three-dimensional space depends.

Projection Screens

The recent development by Da-Lite of a 72" seamless flat aluminum portable screen provides good stereoscopic viewing conditions for an audience of about twenty-four persons. The eight-by-eight-foot screen suitable for a class of thirty to thirty-six students is not manufactured as a portable screen. As such a screen already lacks maneuverability, the most appropriate solution may be to take a large lecture room, cover the stage wall with a continuous hard, smooth plaster surface, spray-paint the wall with flat aluminum, and use the wall as a wide screen for three-dimensional projection before large groups. The lack of a large portable screen is the only real impediment to popularizing three-dimensional presentation and study of architecture.

With this report I have transmitted to Columbia University a total of 300 stereopairs of Byzantine and Baroque architecture—reduced copies of 1⅝" by 2¼" and 2¼" x 2¼" original transparencies—in aluminum masks and glass and aluminum 35-mm mounts protected and ready for projection. This number includes forty stereopairs taken by my wife Myra Borchers. This number of stereopairs can only scan the two styles and demonstrate the effectiveness of the three-dimensional method.

The cost of equipment necessary for three-dimensional classroom projection—including an adjustable double projection base, two 500-watt projectors, two series 8 polarizing filters, one 72" flat aluminum screen, and polarized spectacles for stereoscopic viewing—comes to between \$600 and \$700. The cost of reproducing transparencies and mounting them to the exacting standards of three-dimensional projection is approximately \$1.65 per slide or \$3.30 per stereopair.

I should be happy to see this school of architecture pioneer a collection of three-dimensional slides of great architecture around the world. I have come to distrust all architectural judgment and opinion based on two-dimensional photographs, and in three-dimensional presentation and study of architecture I see the basis for a new and surer environment. ◀



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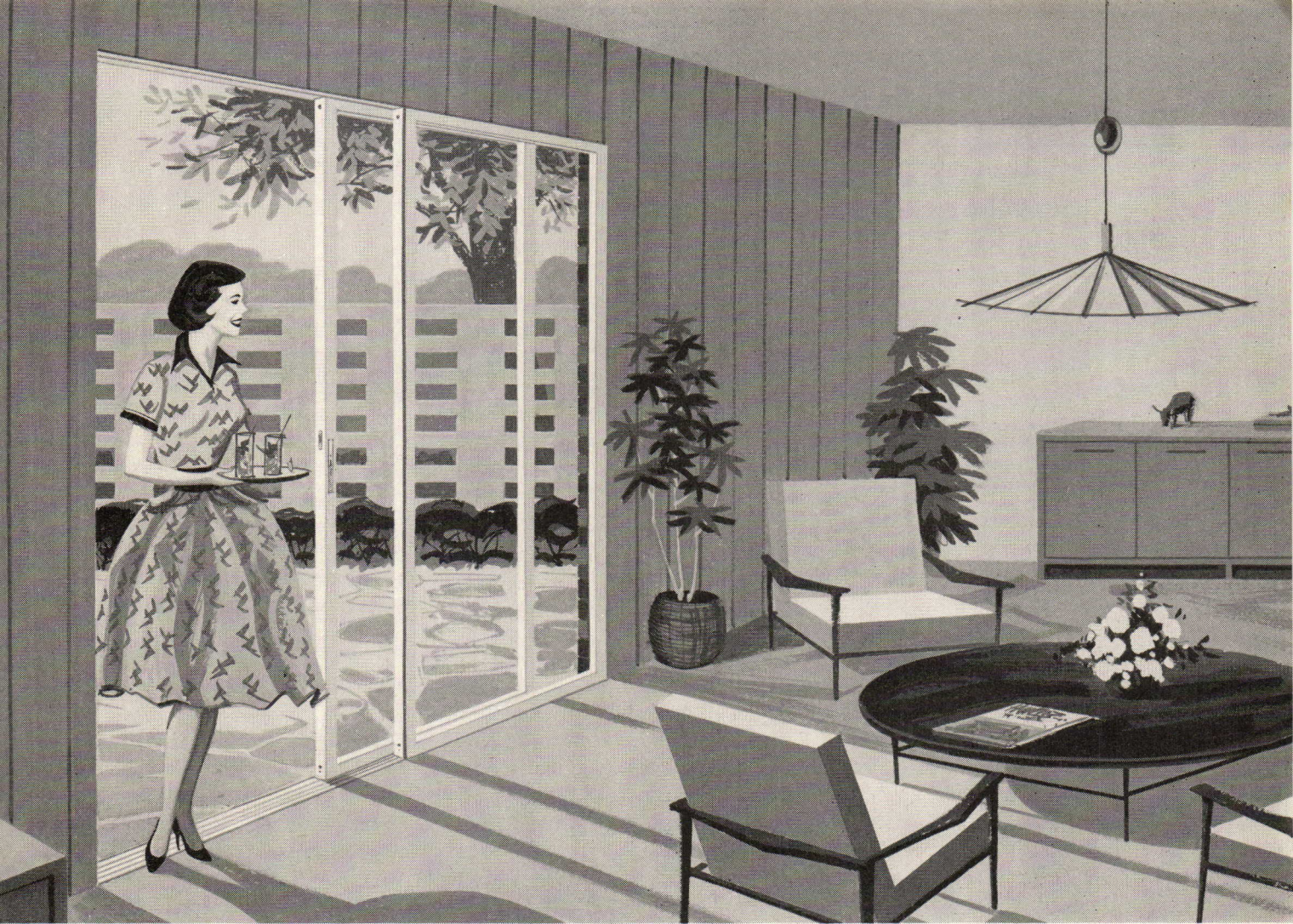
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Good News

by Wolf Von Eckardt

► There was good, hard news in the recent anti-ugliness rally in New York, more formally known as "First Conference on Aesthetic Responsibility." Bob Lewis of the Washington *Evening Star* could hardly wait for the speaker to finish before he snatched the text and rushed to the phone. But neither his, nor any other newspaper made much of it. No esthetic responsibility.

The headline should have read: KENNEDY AIDE PROPOSES PART OF PUBLIC BUILDING COST FOR ART. The aide in question was Daniel P. Moynihan, who spoke on behalf of Secretary of Labor Arthur Goldberg, who, by the time this is printed, will probably have spoken to the President to get final approval. Goldberg, whose office displays some of the best modern art in Washington, is chairman of an *ad hoc* Cabinet committee on Federal office space. He and his committee feel a great deal of esthetic responsibility and therefore also worry how the needed space will be enclosed. Hence they propose an architectural policy which would, among other things, provide one per cent of the construction cost for fine art to embellish the building.

Since Bob Lewis occupied the phone and I am prone to cover such things in unfathomable depth, anyway, I rushed instead to the Museum of Contemporary Craft to find out what this government money might buy. This wonderful little museum was, I knew, holding an exhibition entitled "Collaboration: Artist and Architect." The primary purpose of the show, which closed May 13, was to demonstrate to architects and, presumably, their clients, what artists and craftsmen have to offer for purposes such as Mr Goldberg's.

The exhibition was splendidly displaced, as always, but somewhat spotty in content. It suffered, I thought, from a confusing array of too many totally different items in too great a variety of scale and intended use. Colossal concrete reliefs and their fascinating wood molds (by Harris and Ros Barron for Gropius' and Fletcher's Hartford Jewish Community Center) were crowded in with such delicate small objects as Lippold's tiny (two by three by two inch) jewel, "A Star in an Egg," as well as decorative indoor

mosaics and tapestries. There was, in other words, no clear distinction between architectural art, which is an integrated or intricate part of the structure, and collectors' art, which can be moved about and displayed anywhere. There seemed no reason to show this latter category in the context of this exhibit. Harry Bertoia, for instance, would have been much better represented by photographs of his latest sculptural fountains and architectural screens, than by the original object d'art this show borrowed from the Staempfli gallery.

The dominant work, dominantly displayed, was John Mason's ceramic wall composition, a richly textured and excitedly colorful abstraction, which seemed to cast its exuberant gaiety on all the other objects. I'd bet this fine frieze would make a building look sunny even on a rainy day.

But the most prominent item on display was the model for Richard Lippold's giant metal sculpture for the grand foyer of Max Abramovitz's Philharmonic Hall in New York's Lincoln Center. It is a composition of long, narrow, highly polished strips of Muntz metal, an alloy of copper and zinc. The strips form two streams which, coming from both sides of the hall, clash into a stellar explosion, particles of which seem to drop almost to the floor. It will, of course, sparkle and gleam. But with all rational confidence in the invisible steel wires which suspend the metal strips, I think I will get psychologically scared of all this weight (five tons) dangling above me. It lacks visual anchor.

The importance of this exhibit, to me at least, was not in these well publicized show pieces of famous artists, but in the often exquisite skill, daring and design of the lesser known craftsmen-artists working in textiles, mosaics, ceramics and glass, stained or otherwise. (Freda Koblich's translucent plastic panel, for instance, was sheer delight.) Much of this work explores radically new materials, techniques and effects and combines absence of inhibition with conspicuous presence of good taste. Such feats bring color and life into our monochromatic architecture which all too often seeks these qualities in gaudiness and extravagant form.

I hope the government spends a good part of the proposed art money on such crafts. And the anti-ugly movement the New York Design Committee hopes to launch, might well sponsor similar exhibitions in the regions. They might go a long way to help combat ugliness. ◀