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Journal

September 1963

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Journal

SEPTEMBER 1963
VOLUME XL, NO. 3

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BPA

COVER: Camera of G. E. Kidder Smith FAIA catches Seville Cathedral (p 43)

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Editor's Page

Barrenness

Barrenness has for untold ages been an affliction of woman. She now must share this unhappy state of sterility with the noble art of architecture. Barrenness in woman is usually the result of unfortunate natural circumstances, over which she has no control. Barrenness in architecture is entirely the result of the thoughtlessness and carelessness of man—the greediness of man.

Yesterday I was driving up the Potomac from Mount Vernon into Alexandria, and I passed a group of buildings I had often seen from the air, as the plane heads up the river for its landing at National Airport. A huge complex of apartment buildings between the highway and the river—supposed to be a very nice place to live. What a dreary sight! Acres and acres of common brick walls, punctured with complete regularity and the utmost monotony with aluminum windows, all the same size and shape. Absolutely no attempt had been made to mass the buildings to create interest; no attempt had been made to break up or model the wall surfaces to give them life; no attempt had been made to study the grouping and spacing of the windows to introduce any rhythms—nothing but the blank, flat statement of fact: these are walls, these are windows; the people inside are well-sheltered and happy; you, Mr Observer, can go to the devil.

Of course, there's nothing unusual about the sight I've just described. Any reader can multiply it by ten or by a hundred from his own experience. And that just makes it that much worse. Forty and fifty years ago, in the bad old days, architects used to dress up the street fronts of their buildings and let the other sides "just happen." Now it seems as though too many architects let their buildings "just happen" all the way around. In the old days, the backs and sides of such buildings were at least largely hidden from view, but now the same buildings are set free from surrounding buildings and exposed in all their barren nudity on all sides.

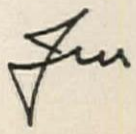
One of Bob Schmertz's inimitable architectural ballads is about the "jolly little house with the Queen Anne front and the Mary Anne behind." To build buildings which have Mary Anne behinds all the way around is the worst kind of cheating—worse even than dressing them up with Queen Anne fronts, for at least there is in that effort an attempt to observe the proprieties and show some regard for the sensibilities of the neighborhood.

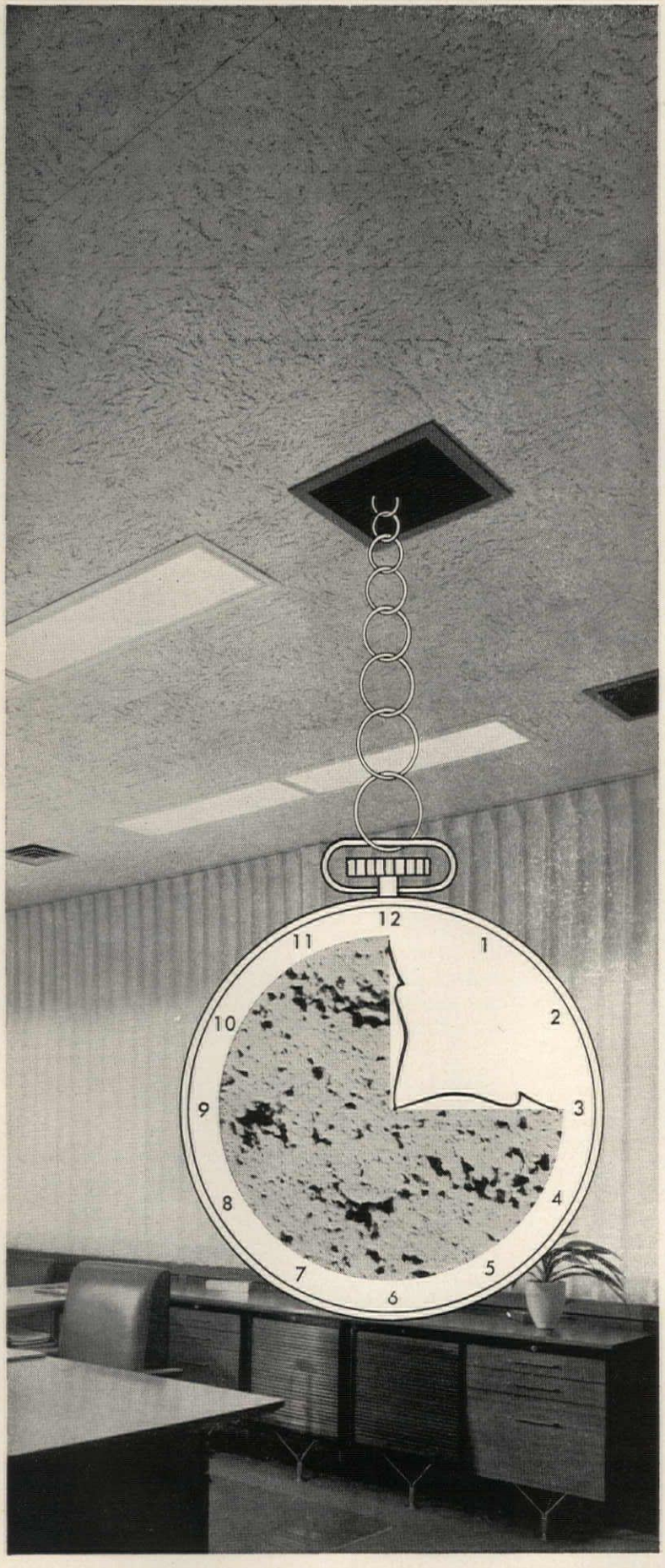
This barrenness, this cheating the observer, is not limited to speculative apartment houses, or even to the anonymous architecture which continues to be built no matter how carefully we educate our architects and enforce our registration laws. It is found also in monumental buildings and in "prestige" buildings. The only difference between the apartment house first described and the State Department Annex in Washington is the fact that the walls of one are faced with common brick and of the other with limestone—but the bleakness is the same. The prestige buildings lining Park and Madison Avenues in New York are, with a very few well-known exceptions, equally bleak expanses of glass and metal —no surface richness, no modeling, no shades and shadows. It is trite now to speak of the happy contrast afforded by some of the older buildings, with their engaged columns, their garlands and friezes and their deep recesses—trite, but so very, very true.

It is encumbent upon the owner and upon the architect of a new building that it be a delight to its neighborhood. That is the least that can be expected. Esthetics cannot be legislated—so it has always been said. Any form of esthetic control is anathema—so it has always been said. Maybe the right method hasn't been found. If persuasion can't protect us from the flood of dreary and commonplace facades being put up around us, maybe some form of control *is* necessary. One of Patrick Horsbrugh's suggestions to the city fathers of Pittsburgh was that the designers of every building to be built in the downtown area appear before some group composed of knowledgeable people—presumably the City Planning Commission—and show them, in fact, *convince* them that the building they were preparing to put up would be a visual asset to the neighborhood and to the community. It would seem to me that the very fact of facing such a presentation would make many owner-architect teams a lot more design conscious than they are at present.

The title of one of the late Talbot Hamlin's books —and an excellent book too—was "Architecture— An Art for All Men." Architecture is an art for the man in the street, whether he is aware of it or not. Architecture has two functions, two obligations: one is to work, to function properly; and the other is to add to its community, its environment; to bring in to some degree that essential intangible which Wotton —and Yamasaki—called "delight." *This* is the art-form for the man in the street. Acres of barren facades, glassy or bricky, will never produce it. Rows of columns and entablatures didn't produce it either. Although not barren in this same sense, they were just as dreary. They did have the one virtue, however, of introducing modeling, light and shade, rhythm. But we have wearied of that now, and we are wearying of the disposable container architecture of the past fifteen years too.

We are completely fed up with the bleak, the barren, the unimaginative. What good is *any* architect if he doesn't have imagination? And what good is *any* architecture if it doesn't demonstrate the creative imagination of the artist, working to enrich the spiritual values of his community through design?





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Letters

An Architect Looks at School Boards

EDITOR, *Journal of the AIA:*

The article appearing in the June issue of the *Journal* and entitled "Employment Secrets of Boards of Education and Superintendents of Schools" interested me very much.

Dr Hinchey says that on three occasions he has helped to choose architectural firms for multi-million dollar school plant construction. He also has visited the offices of some sixty firms and has examined more than 100 school projects.

Praise be to Dr Hinchey. He is a rarity among school superintendents. To entice school administrators and school boards into visiting the architects' office and completed projects requires, in most cases, some considerable effort.

As an architect engaged primarily in public school design, I am appalled at the methods usually followed in the selection of architects for school projects in my area.

My office, and I think I can include those of my colleagues who specialize in schools, would enthusiastically welcome the opportunity to assist school boards in organizing their thinking to make judgments.

In most cases we will receive a letter from a school district or sometimes a phone call asking if we would be interested in being interviewed. Sometimes we will receive a questionnaire to be filled out. Often we wonder who was assigned the task of preparing the questions, since for the most part the obvious answers will not serve to establish the competency of the architectural firm. Sometimes, from the wording, we suspect that an educational consultant is responsible.

After we have replied to the invitation, we are advised to appear on a certain evening and at a certain time, which may be anywhere from 7 pm. to 11 pm. We will be told that we will have not to exceed thirty minutes to make our presentation.

At the appointed time we are ushered into the presence of the board. After introductions have been completed and a description of our firm and experience has been hurriedly made and some photographs of our work shown, the thirty minutes has become forty minutes. All that is left is to frantically gather our material together and say good night.

During our presentation, we have suggested that a visit be made to one or more of the schools we have designed.

If we are still in the running, sometimes we are allowed to conduct two or three board members and possibly the superintendent on a tour. More often, however, board members are reluctant to take the time to visit completed work. In addition, school administrators seldom offer us the opportunity to gather pertinent information prior to an interview.

Dr Hinchey's suggestions are excellent, and if the architectural firms being considered were given the time necessary to emphasize the "sales aspect" of architectural services, I am sure a better presentation could be made.

Multi-million school projects are awarded to architects after hasty interviews and many times without looking at completed work. A superintendent with Dr Hinchey's experience could well advise school boards in the way to select architects.

WILLIAM GLENN BALCH FAIA
Los Angeles, Calif

Convention Comments

EDITOR, *Journal of the AIA:*

The July issue of the *Journal* gives an extended account of the doings at the recent convention. I presume it was necessary to include everything that was said or done. In my opinion, about 35 per cent of the material was of decided interest, 35 per cent was mediocre and 30 per cent was sheer twaddle.

To eliminate this last category, I propose that at all future conventions a large sign be displayed back of the rostrum bearing the immortal words of Abraham Lincoln: "The world will little note nor long remember what we say here."

EUGENE H. KLABER FAIA, AIP
Quakertown, Pa

EDITOR, *Journal of the AIA:*

A statement in my offering at the convention, "An architect who aspires to be sculptural needs to study sculpture," had no bearing in my mind on Paolo Soleri. In a margin of the handsomely composed *Journal* report, this quotation appears under a photo of the lobby display of Soleri's remarkable desert fantasy. The reader who notes that picture and quotation are separated by neutral white space and interprets this as meaning that each is unrelated to the other will be entirely correct.

GEORGE MC CUE
St Louis, Mo

EDITOR, *Journal of the AIA:*

Probably no idea in modern times has been more misunderstood, misapplied and distorted than Louis Sullivan's great concept of the relation of form to function. Now at last Robert Anshen, in the AIA convention discussion on "Quality in Architecture," has brought the concept of function back to the base on which Sullivan started—with architecture first of all the creation of environment for living people in which living includes thinking and feeling, as well as doing.

Most clients cannot see beyond the needs of "getting the job done," whatever that is. Mr Rudolph, its seems, would isolate feeling as a contradictory condition. Quality in all of history, whatever else it may be, has always expressed unity. How can there ever be unity of result without unity of thought?

BARRIE GREENBIE
Palisades, NY

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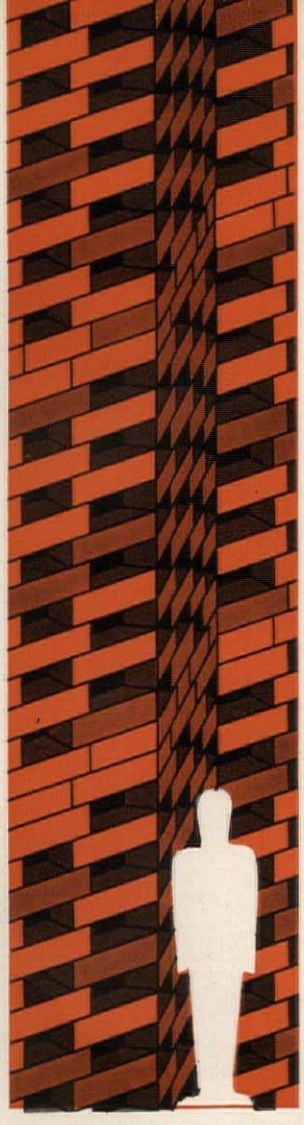

MEN AND MASONRY

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EDITOR, *Journal of the AIA:*

Congratulations on the layout of the *Journal's* convention issue! The faces are really terrific.

P. I. PRENTICE
Vice President
Time Inc

From the Philippines

EDITOR, *Journal of the AIA*:

The Philippine Institute of Architects and some of our distinguished architects who are your subscribers are greatly impressed by the architectural research material published in your *Journal.* We are encouraging our other members to subscribe to your very informative magazine.

On behalf of the PIA, may I convey congratulations for the great contribution the *Journal* has made to the advancement of architecture.

PATERNO N. ALCUDIA
Editor, *Perspective*
Manila, PI

ED NOTE: Initial publication of PIA's journal is scheduled for September.

More Plaudits for UD Series

EDITOR, *Journal of the AIA:*

May I take this opportunity to thank you and your Urban Design Committee for the excellent series of articles that are appearing in the *Journal.* The articles are well written and documented, and I have found they serve as good sources for my second-year architectural design class here at the University of Texas.

JON A. BOWMAN
Assistant Professor in
Architecture and Planning
University of Texas

EDITOR, *Journal of the AIA:*

You are to be congratulated on printing this very fine series on urban design.

DANIEL M. CRANE
Manager, Area Development
Pawtucket-Blackstone Valley, RI
Chamber of Commerce

EDITOR, *Journal of the AIA:*

I am thoroughly enjoying the series of articles on urban design. At its conclusion, I feel a reprint of the entire series would be well received by all AIP members.

W. ROY NEWSOME JR
Planning Director
Athens, Tenn

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CBD—A Candid Appraisal

It has been approximately fifteen years since plans for the renewal of the Pittsburgh urban core were announced. In the intervening period hundreds of American cities have announced similar programs devoted to a more-or-less comprehensive study and correction of the problems of decay and obsolescence in their Central Business Districts. It is estimated that currently some 300 American cities have programs of this nature. At this point it may be of interest to ask what have we accomplished.

There have been some spectacular individual CBD accomplishments—at least in terms of investments made and materials put in place. To be sure, the quality of the work done has varied. Philadelphia, Pittsburgh, New Haven, Detroit can point to a number of projects completed or nearly completed in the very core of the city. St Louis, Baltimore and Boston have core projects in various stages of construction. Chicago, Washington, DC, Seattle and St Paul all exhibit projects in various stages of completion on the fringes of the core if not at the center of the CBD itself. In a number of cities such as Rochester, Atlanta, New York City, Dallas and Houston, individual private developments, principally office buildings, have substantially modified the CBD even though they may not be specifically part of an overall downtown development plan. Some of our smaller cities, for instance, Pomona, Springfield, Kalamazoo, Little Rock and Knoxville, have made considerable progress in both planning and construction in their core areas.

All of this adds up to a pretty impressive picture of accomplishment. But is it really? Is it not safe to say that, although these examples of real accomplishment can be noted, the majority of CBD activity has been largely talk and study that has resulted in little other than scattered parking lots or a few limited retail promotional schemes? Is it not a fact that during this period of time our core areas, in the majority of cases, have gained more problems than they have solved, while studies and proposals pile up—architects' conception upon architects' conception, statistic upon statistic?

We might do well to look again at the five essential ingredients of any successful local CBD action program—Citizen Participation, Local Administration, Comprehensive Planning, Codes and Regulations, and Financing.

Citizen Participation means citizen-businessman participation. Unless the local businessman and the investor, and through them the average citizen-customer, indicate an enthusiasm for CBD redevelopment the program will fail in its early stages. This

Cont'd on p 14

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Construction Details on
Opposite Page

enthusiasm can be kindled but not sustained with fine architectural presentations.

Local Administration means a combination of all appropriate and available public and private organizations. The "Downtown Professional and Businessman's Association" is powerless before the specter of urban core decay without the complete cooperation of all local taxing bodies, parking authorities, planning commissions, state and Federal highway agencies, etc. Likewise, the public bodies are ineffective without the positive cooperation of their private counterparts. By such cooperation these bodies combine two essential tools of local civic action: the power of persuasion reinforced by the realities of municipal and business finance and the power of eminent domain.

Comprehensive Planning means, at least as it affects the urban core, the understanding and integration of all economic, social and physical pressures placed upon the CBD. Normally thought of as the responsibility of the local planning commission and the community's architects, comprehensive planning for the CBD is, in fact, the concern of anyone involved in downtown—whether his business is buildings or billboards, mass transit or trash collection.

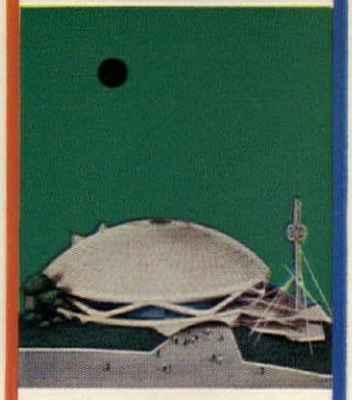
Codes and Regulations include all manner of regulations affecting the CBD from provisions of utility franchises to zoning codes. Even in our small to medium-size communities the number of regulations that somehow modify CBD development can be staggering in number. Building and zoning codes are often pointed to as being the most pervasive of local regulations. However, tax and property evaluation procedures, insurance rating methods, traffic regulation, utility easement requirements, transportation and postal rates, even though more subtle in their pressures on the CBD than the building and zoning codes, exert an enormous influence on decisions affecting downtown.

Financing problems lie at the bottom of many forgotten CBD development dreams. If local money is unwilling or is not available to finance CBD development proposals, and if state or Federal funds are somehow unacceptable or unavailable, then everyone's time is better spent going about their normal business without worrying about rejuvenating the urban core.

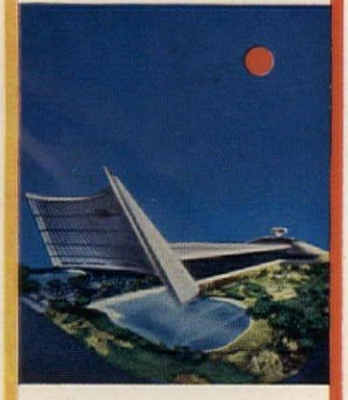
A recognition of these five factors and solutions to the questions they pose will be found in every CBD program that has been successful. If the program has not been successful, you can bet that one or more of the factors have been neglected in some way.

Architects have been and are involved in dozens of these CBD projects. Many AIA chapters report extensive committee work devoted to this subject. In other instances individual architects, as members of local and public civic organizations, have provided the principal local leadership. And, of course, we are all familiar with the well-documented projects completed by nationally known architect-planners. I believe architects of such experience will subscribe to the validity of the above comments. ◄

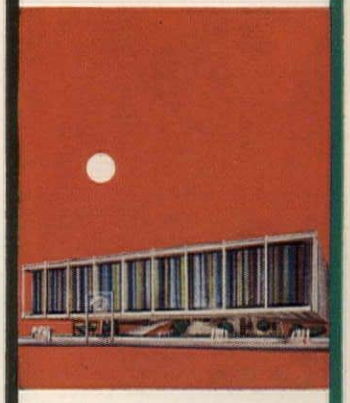
GENERAL ELECTRIC PAVILION



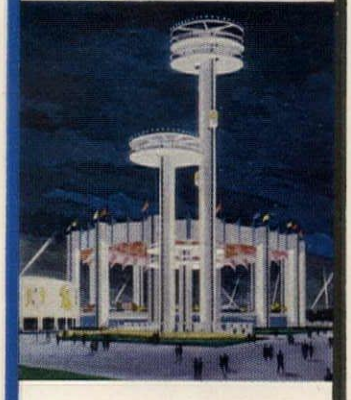
GENERAL MOTORS PAVILION



UNITED STATES PAVILION



NEW YORK STATE PAVILION



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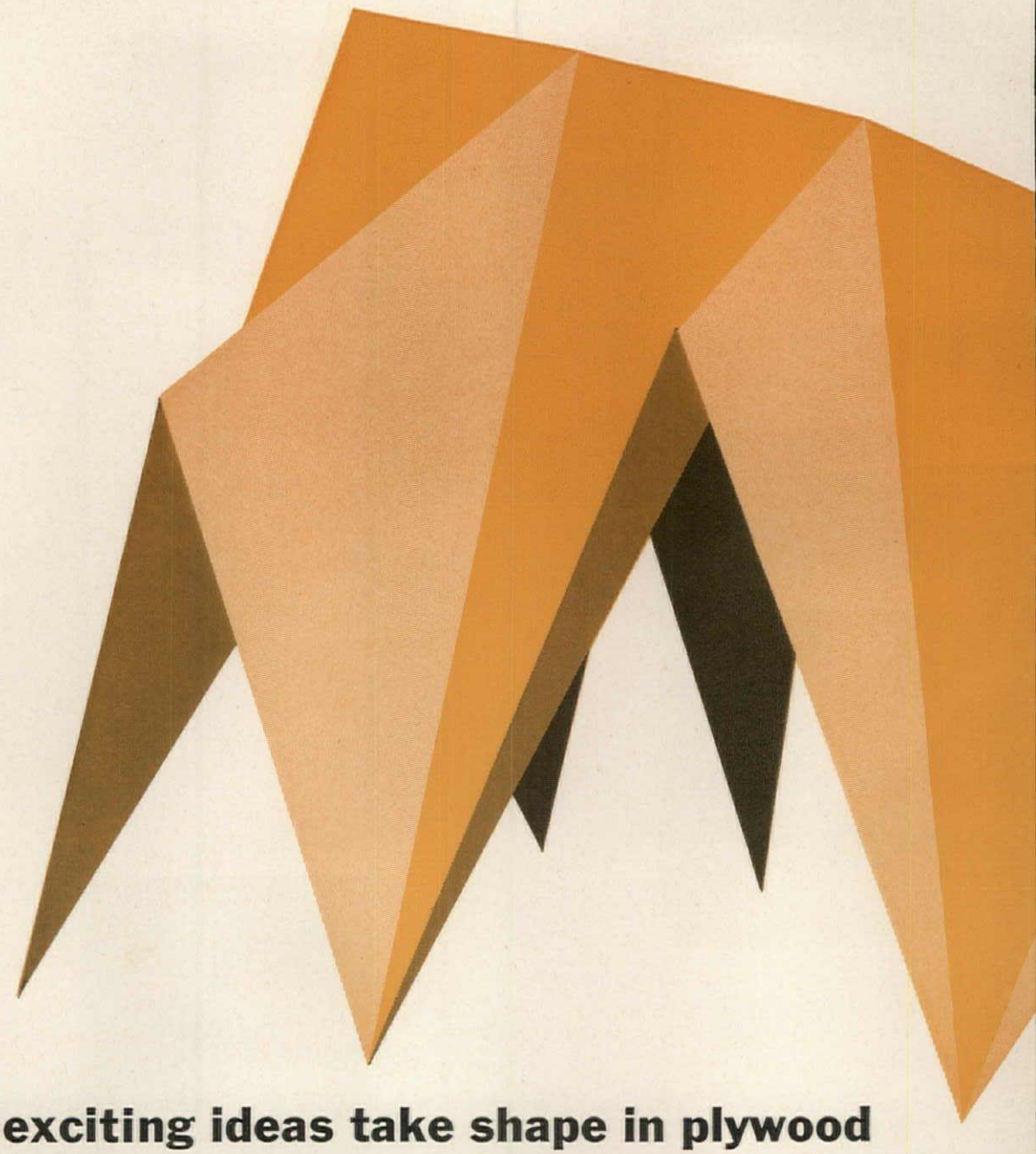
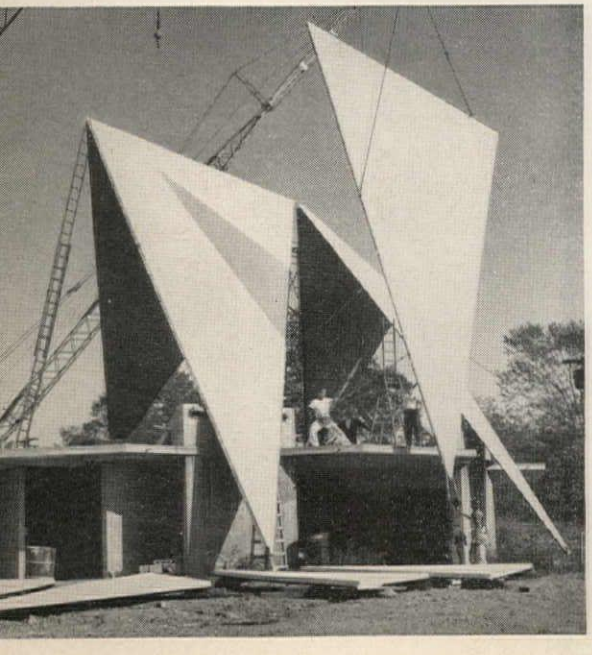
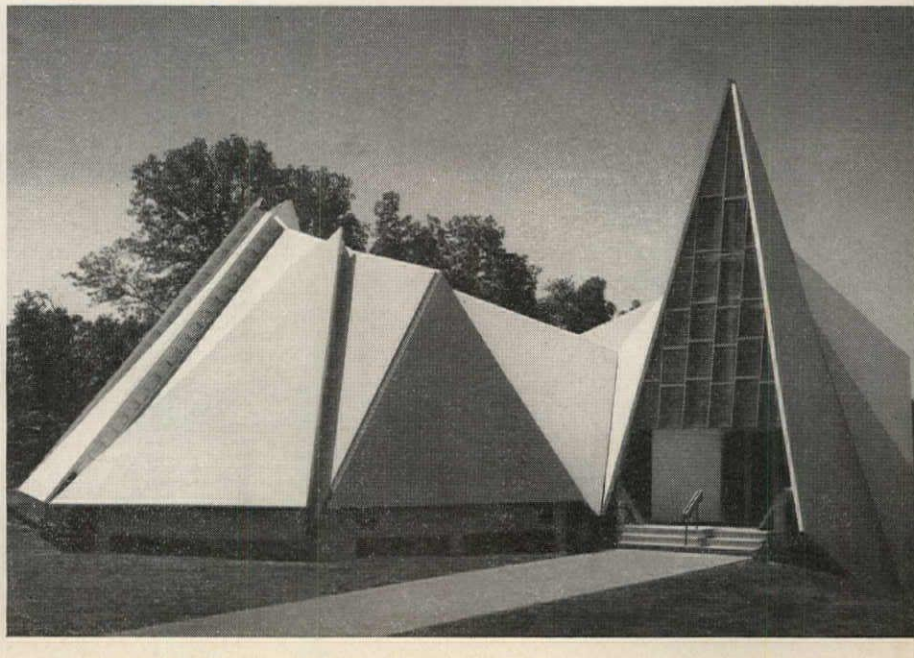


the most exciting ideas take shape in plywood





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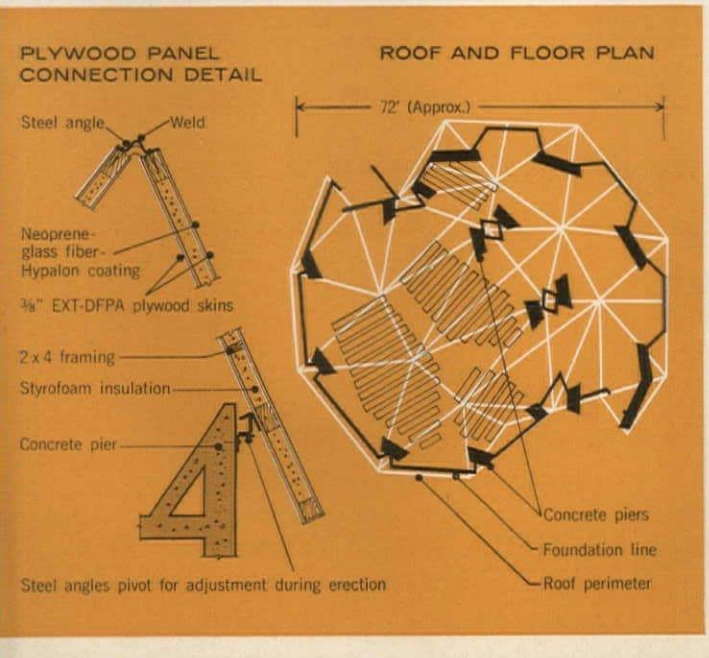

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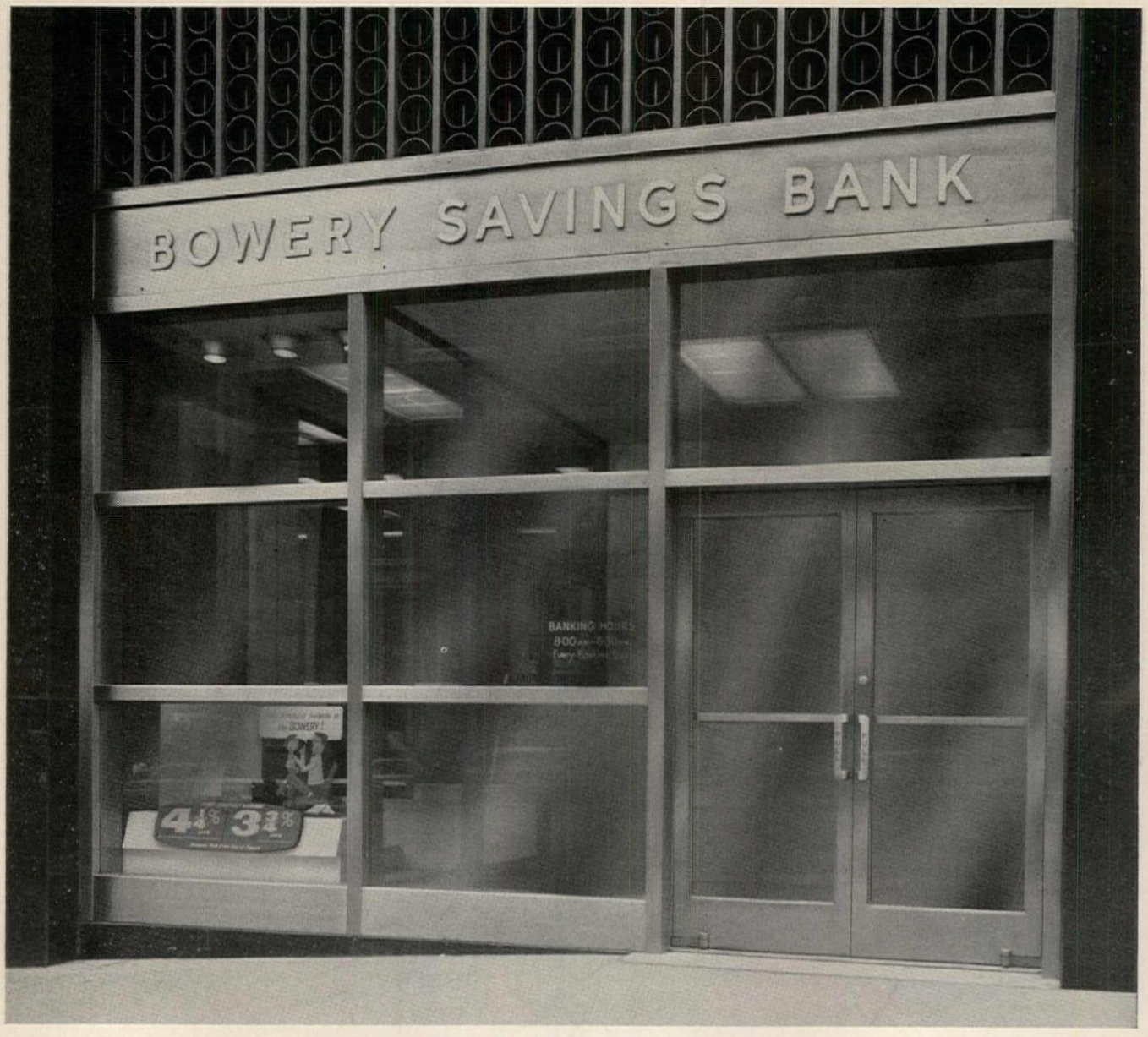

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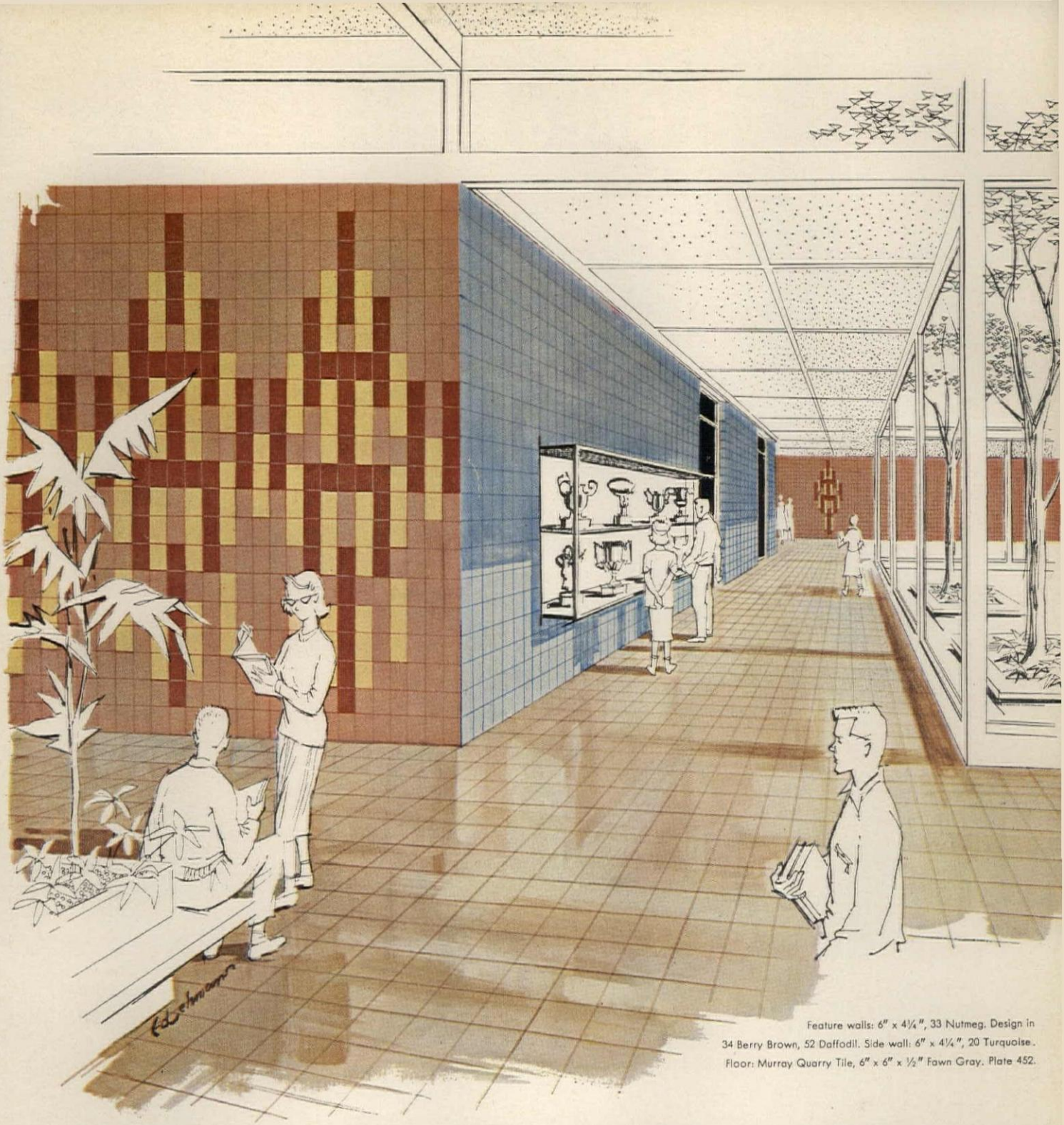

Feature walls: 6" x 4¼", 33 Nutmeg. Design in 34 Berry Brown, 52 Daffodil. Side wall: 6" x 4¼", 20 Turquoise. Floor: Murray Quarry Tile, 6" x 6" x ½" Fawn Gray. Plate 452.

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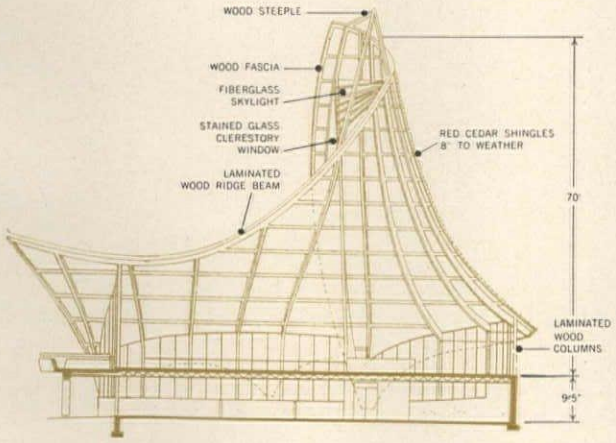

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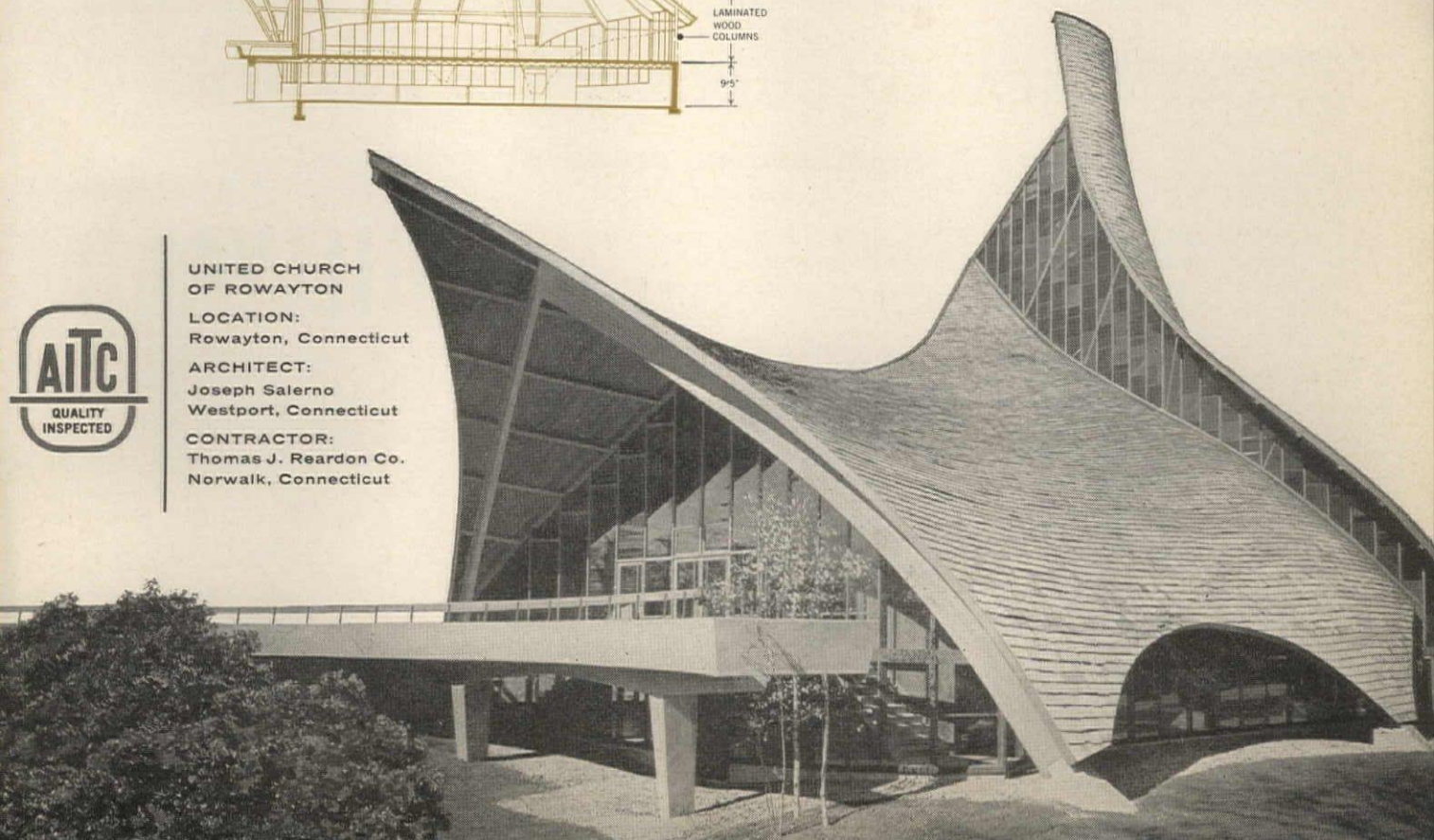

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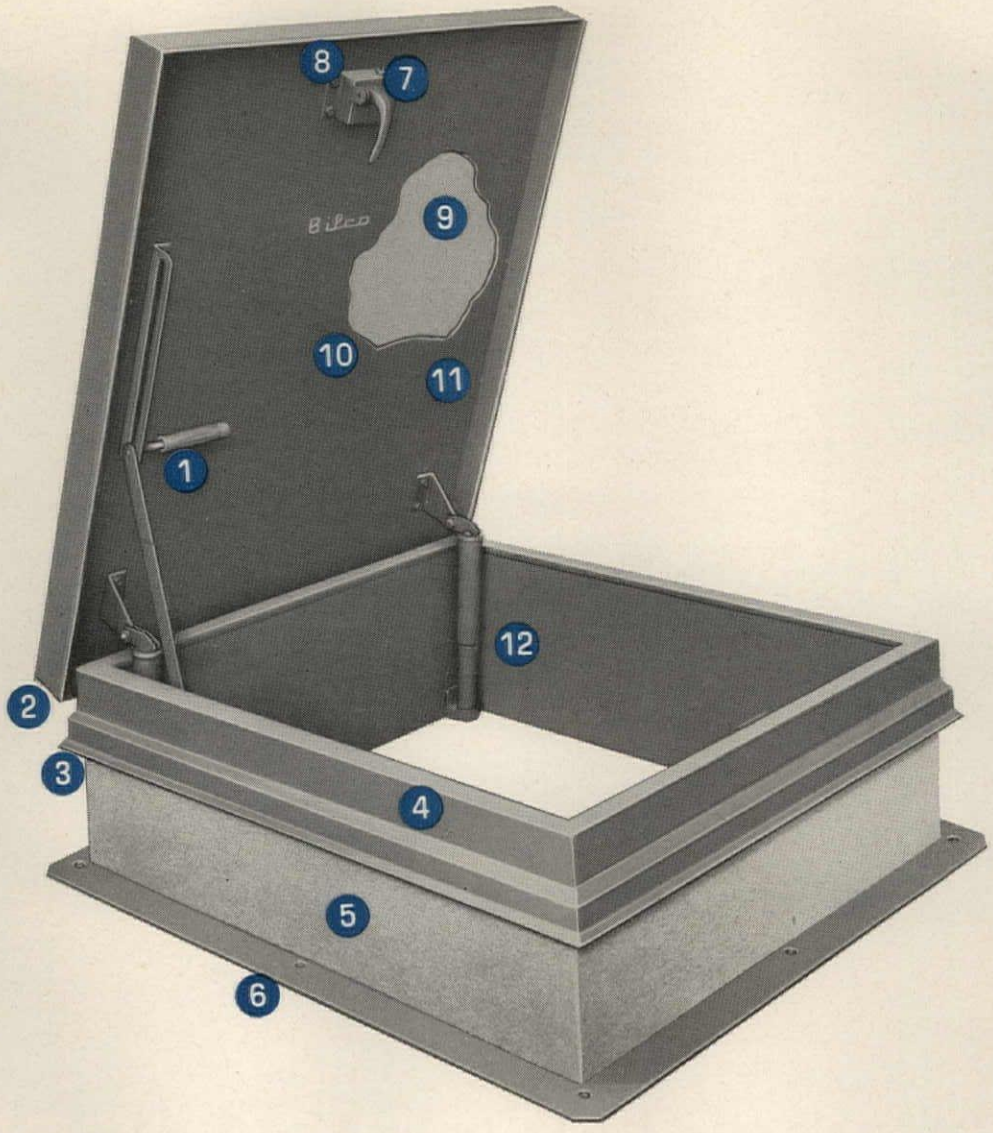

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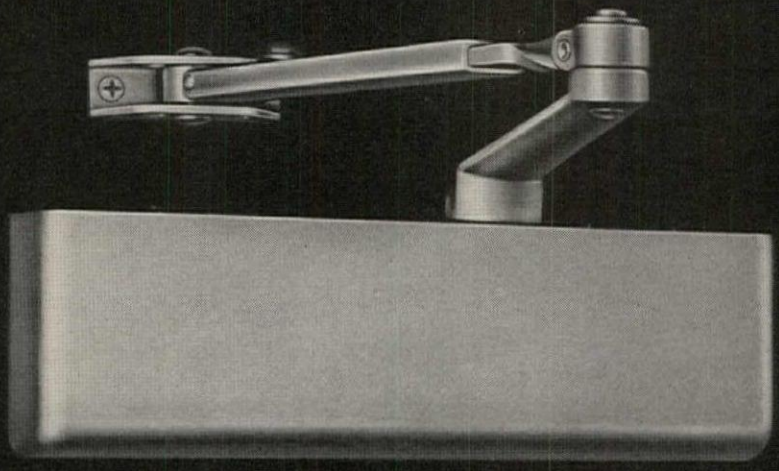

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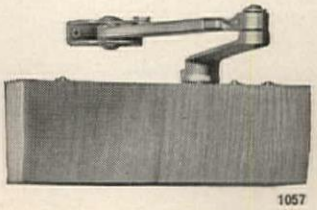

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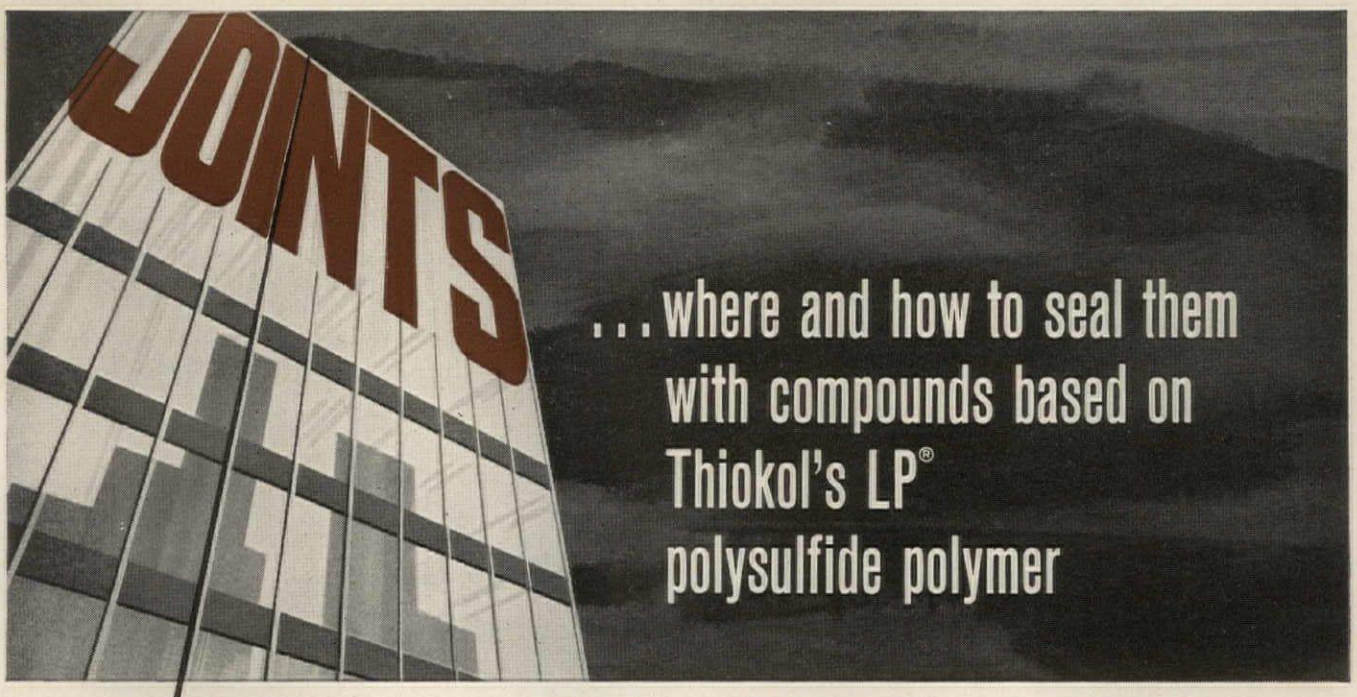

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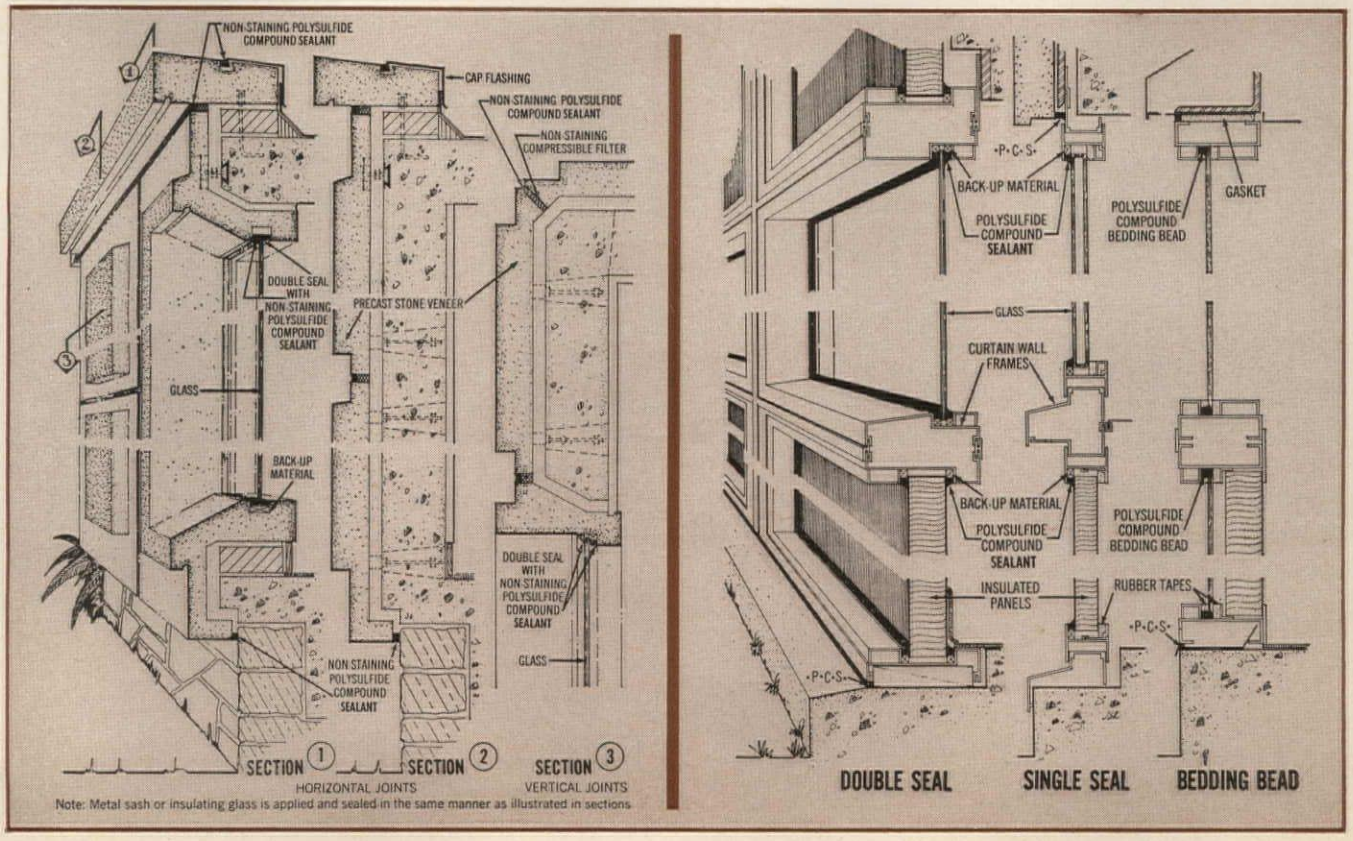

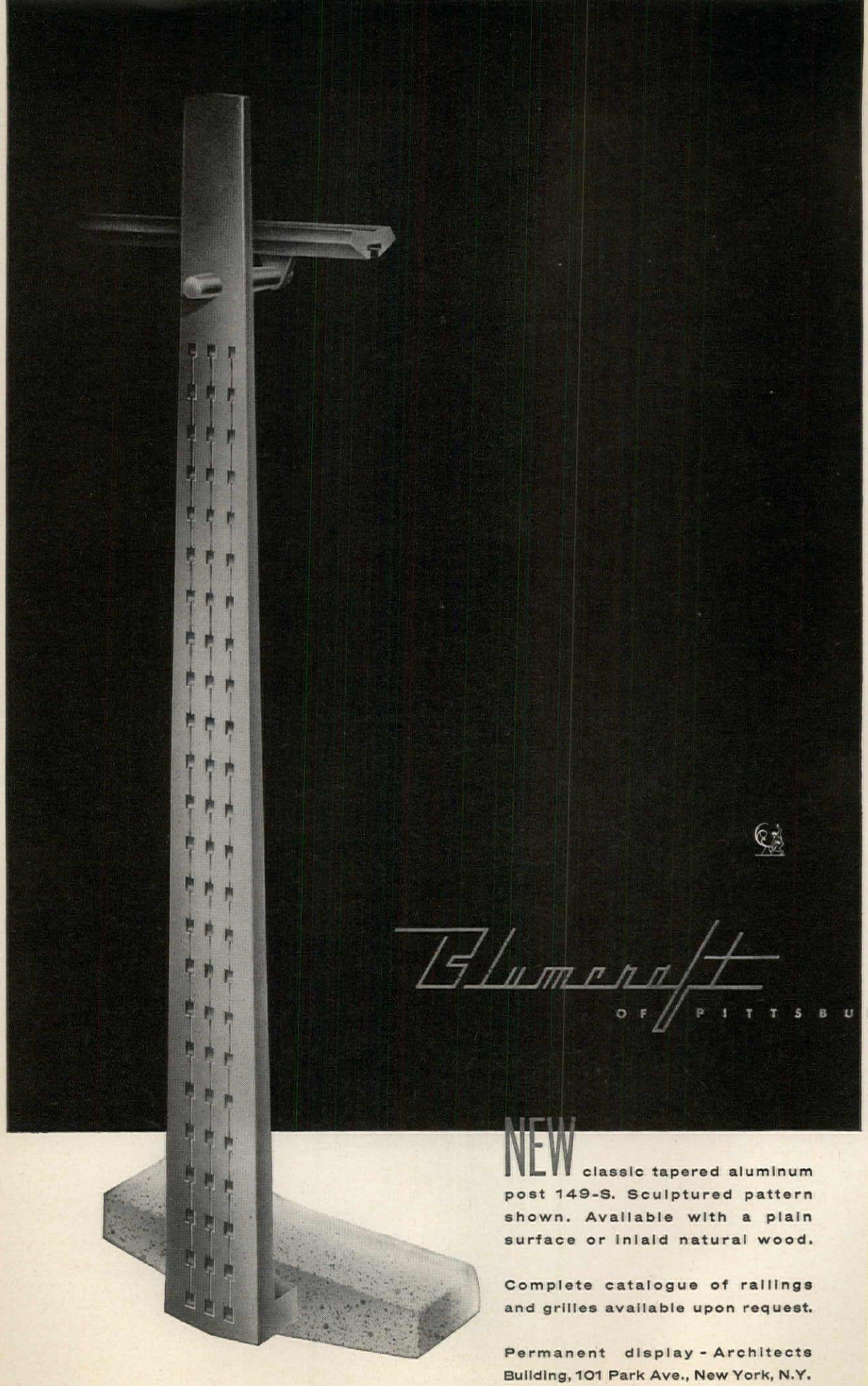

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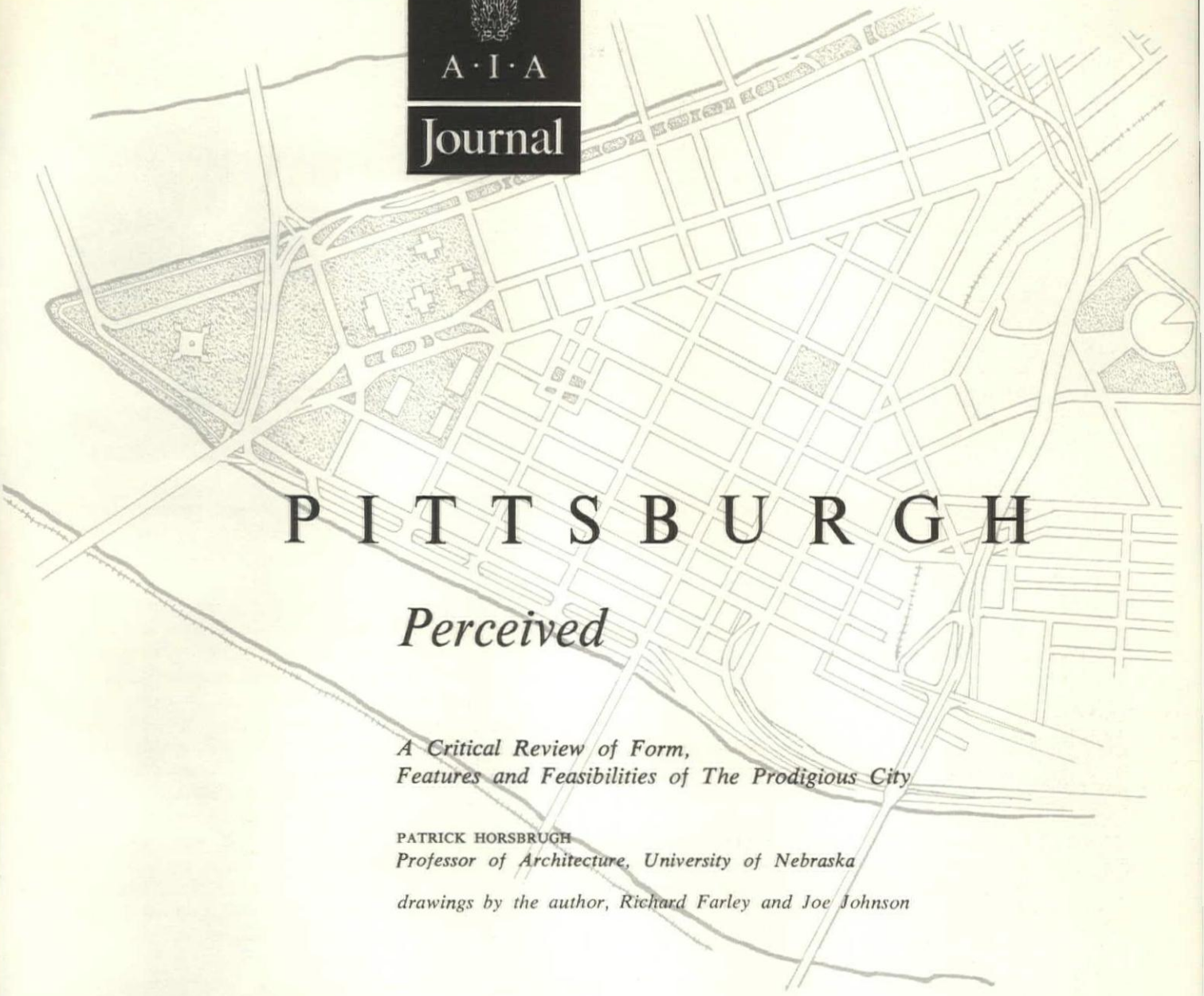


PITTSBURGH

Perceived

A Critical Review of Form, Features and Feasibilities of The Prodigious City

PATRICK HORSBRUGH
Professor of Architecture, University of Nebraska

drawings by the author, Richard Farley and Joe Johnson

As a part of its entry into a Community Renewal Program, the City of Pittsburgh commissioned Professor Horsbrugh to recommend "a design image for the city and design goals to be followed." This unique assignment necessitated an exploration of the topographical and physical conditions of the city as well as a survey of land-uses, transportation and all the other complexities of the city of today. From July 23 to August 31, 1962, Professor Horsbrugh covered the area by air, by water, by street and by highway, not only observing and noting, but talking to scores of inhabitants in shops and on streetcorners. Full cooperation was furnished by the City, of course, in particular the City Planning Commission and its Director, Calvin S. Hamilton, who requested the study, which was paid for by Federal funds.

The resulting 300-page report is an absorbing, prophetic and often poetic review of what Pittsburgh is today and preview of what it can be in the future. In these limited pages it is possible to excerpt only a few of the report's headings and a fraction of its observations and recommendations.

PITTSBURGH HAS MANY FEATURES that are apparently disruptive and alien to the concept of intensification: the topography, the mineral-based industries now depleted and the wide variety of background in the population.

Pittsburgh is not an inconvenience of hills, but a system of valleys. Pittsburgh is not a static repository, but an industrial interchange. It is not an assortment of passive people, but an assemblage of thriving communities, and others far from thriving. Can it be that Pittsburgh is the least typically American of American cities?

Topography

Topography must be used not defied. It must be understood and interpreted, not ignored, for its revenge upon misuse is as subtle as it is certain.

There is always the plea that planners should occupy themselves with the creation of beauty, but in the case of Pittsburgh, beauty of a kind is there in abundance, and it is therefore the identification and the emphasis upon such beauty that is of prime importance.

A change of mind is required, so that the hills are no longer looked upon with hostility by officialdom for the good reasons of inconvenience in services, transport and high maintenance costs.

Large-scale developments are therefore recommended for high ground, and in consequence, the speedy purchase and unification of hilltop areas by the municipality, or by an organization designed for this purpose and recognized as promoting civic interests, is necessary as a precaution against speculation in land values when the quality of elevation becomes recognized.

Since the real estate agents have appreciated the increasing value of hilltop properties, these have been developed very rapidly on the periphery of the city, but the scale of operations has continued to conceal the greater possibilities for urban improvement.

This haphazard development, while preferable to valley building, still represents a wasteful endeavor since these climax positions are certain to become scattered with houses in the manner of previous generations. The other possibilities of coordinated grouping of houses, terraces and high towers will produce the better economic results with their supporting shops and other amenities.

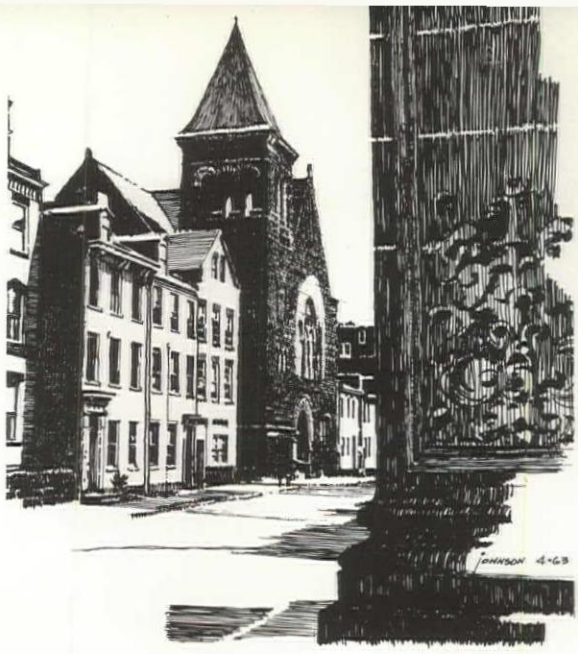
It is argued elsewhere that the valleys, because of their general narrowness and of the steepness of their sides, should serve primarily as transportation routes and for services, and be free of the encumberance of houses and petty industries. Exceptions must be made, however, in the interests of neighborhoods which, for one reason or another, possess distinctiveness and cohesion. Such social conditions are too rare to sacrifice lightly, and where these village or small town characteristics may be found in valleys, they should be identified and saved from disruption by the insertion of major thoroughfares.

Of the gross area of the city, 35,460.7 acres, there are approximately 10,283.6 acres where the slope of ground is 25 per cent or more. This represents some 29 per cent of the area of the city (excluding the waters) and establishes beyond doubt the need to use the surfaces imaginatively, as well as to use the forms of division with intelligence.

Vegetation

The healthy appearance of a city, throughout all the seasons, depends more upon an understanding of the qualities of the indigenous vegetation than is generally realized.

These adaptable plants, with widely differing characteristics, deserve special attention in the urban scene, not because they have been introduced as exotics from elsewhere and remain rarities, but because of their habit of introducing themselves, often in locations too unrewarding for other vegetation. They have many attributes including that of rapidity of growth, luxuriance of foliage, the seasonal differences which they emphasize, versatility in the matter of aspect, indomitable will to mature in the most unlikely places, and their healing grace in respect to erosion, excavations and dumping both large-scale and casual. These vigorous trees and redeeming weeds deserve more respect and direct encouragement. They



can restore stability to the soil and verdancy to the scene more rapidly and abundantly than any other plant that is indigenous to this region.

History

Any vigorous society whose economy is expanding, is sooner or later faced with the simple question of what to do with the accumulation of buildings that constitute the current environment, an environment that becomes increasingly restrictive.

The extent of growth and the rapidity of envirial change are always forcing our attention upon familiar scenes that are being destroyed in the name of improvement. If this natural inclination for replacement continues, society will soon find itself bereft of any evidence of time and of quality as represented by visible objects, and the urban scene will be impoverished by a lack of those contrasts of character which provide visual stimulation and which distinguish one place from another.

The alternative of zealous preservation for the sake of historic uniformity can only operate successfully in very limited circumstances and for very special purposes. Such a policy of total respect for envirial inheritance could not, for economic reasons, be seriously put forward as a general policy for any thriving metropolis.

Obviously the subject resolves on a basis of selection.

There appear to be three principal reasons why the American city declines more rapidly than those of ancient foundation, and it is very necessary that these should be understood clearly by all who are concerned with civic authority and order, for the forces of change are ceaseless, and their erosive effects are usually measured in terms of architectural and amenity losses.

First there is the combination of the impermanence of the building materials selected and the great speed of construction. These conditions may deprive the structures of any lasting affection which buildings of painstaking or lavish workmanship may inspire in their successive owners.

The second force for change is represented by the combination of mechanical equipment for moving

about and the gadgetry for domestic convenience. The third force of change is that of society itself; its composition, and therefore its very nature, is changing.

Having referred to the significance of Sentiment, the forces of Movement, and the potency of Population as powers of change, I want to add one other influence which is very particular to the sophisticated society of which we form a part. There exists a *trough of disregard* between each successive generation and its immediate predecessor.

It must be recognized that this familiarity which breeds contempt exists, and that changes in taste result. This fact is of vital importance when attempting to assess the potential value of the works of previous generations.

I know of no exception to this rhythm. It seems to apply not only to things deliberately fashioned according to the prevailing taste, but it pervades every major creative expression of human endeavor, in literature, music, painting and especially social leadership and politics.

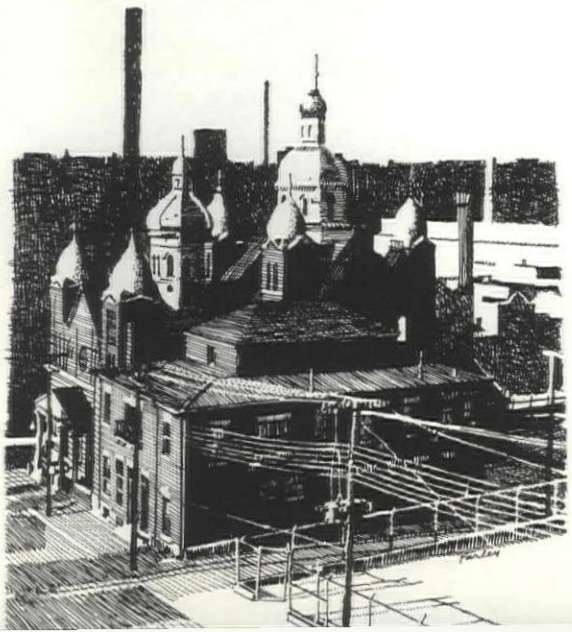
It is imperative, therefore, that in matters of architectural appreciation, this period of "disregard" be recognized for exactly what it is, a period of temporary esthetic blindness.

In matters of social pride and civic guardianship, this period is especially dangerous, insofar as our architectural inheritance is concerned. It may last seventy-five years or more, and it is during this period that works of distinction are deliberately or thoughtlessly destroyed.

Those buildings which exceed one hundred years in age have a vastly increased chance of survival, largely due to sentiment. This condition of survival is, of course, related to the momentum of an economically expanding society. It does not apply to those areas of economic or social stagnation.

I submit that a respect for history, a curiosity about the past, is the hallmark of a progressive, sane and balanced society. An ignorance of history, and of where we belong, leads at once to cultural megalomania, and to aridity in the stream of artistic creativeness.

For this reason, I plead that it is necessary to take a part of our inheritance with us upon the continuing journey, and give to others even as we have received, for they are certain to appreciate it more, since the gift will be more rare to them than it is to us.



The Four Portals of Pittsburgh

Most city centers are now reached through a weary wilderness of crud-lined lanes, blazing at night, loathsome by day. The entire approach is sacrificed to the motor vehicle, its service, and the service of its occupants: services which were once provided in the city's most central location, and upon whose reputation the city so largely depended for its good name.

Since the approach to every city is now sacrificed to the service of the motor vehicle, the distinctive qualities are largely concealed and hard to find.

Pittsburgh, however, is different, the vehicular impedimenta are remarkably scarce, and these are concentrated in areas rather than straggling continuously. Above all, the topography commands, and it is this factor more than any other which makes the various approaches to Pittsburgh so spectacular.

There are many ways of approaching the Golden Triangle, but it is, however, the arrival by highway that is so enthralling. The anticipation quickens, the topographic conditions become more insistent, the pavements yield in consequence, and suddenly there is a moment of confrontation, a revelation, an instant of entry, from which the traveler is aware that he has "arrived"—the margin has been crossed and the city is his.

Even more remarkable, this same dramatic experience is available in four different scenes, corresponding roughly with the four principal points of the compass, and consequently the visual impact is powerfully affected by the sun's position and by the changing atmospheric conditions.

It is the suddenness of the arrival that is the principal quality marking these four instants of entry, these Portals of Pittsburgh so astonishing. Every effort should be made to comprehend these varied qualities and to ensure that developments in the area subscribe to these effects and do not destroy them.

Pittsburgh Particularities

In attempting to respond to the invitation to perceive an "image," it became apparent immediately that Pittsburgh is the Cinderella of American cities, that Pittsburgh has always possessed an innate beauty, and that it is necessary to declare this fact with the utmost clarity and confidence—at once.

I know of no other inland city of similar size which possesses so many instances of visual drama, such spaciousness, vistas and enclosures. Nor do I know of any other industrial city that is so well endowed with the stimulating qualities of contrast as is Pittsburgh. Coastal cities have, of course, particular advantages in that they often present a recognizable outline from the water, dramatic in fact and fanciful in reproduction. New York, San Francisco and Chicago are exceptional in this respect.

But Pittsburgh has distinction in its hills, it has seclusion in its valleys, it has variety in its topography. It has vitality in its great waters, it has vigor in its population in that it has not subsided amid the welter

of its social, economic and physical problems, but has tackled these with spectacular success. Each successive endeavor has directly contributed to the condition of scenic beauty in some special way, and yet, the general appreciation of the *beauty of Pittsburgh* remains, apparently, unrecognized.

Greenways

Here again, Pittsburgh becomes an example of theory achieving successful practice by reason of the supposedly inconvenient land-form. There are many instances where communities and potential community areas are naturally divided by ravines containing not only the natural drainage, but also the vehicular traffic flow and services as well. Though many valleys have become clogged and confused by the accommodation of industries, transportation of every kind, and by residents, the fact remains that Pittsburgh can implement this vital tenet of planning theory, land-use separation, more easily and effectively than most major cities of this continent.

Further, as a natural result of the steep valleys, the extent of the luxuriant vegetation serves many other purposes than that of dividing neighborhood from neighborhood, such as deadening the traffic roar and screening the ever-rushing movement of vehicles from the windows. The vegetation also isolates and beautifies the serpentine routes for the benefit of the traveler in a way which could scarcely be achieved by design unless financial considerations were to be ignored.

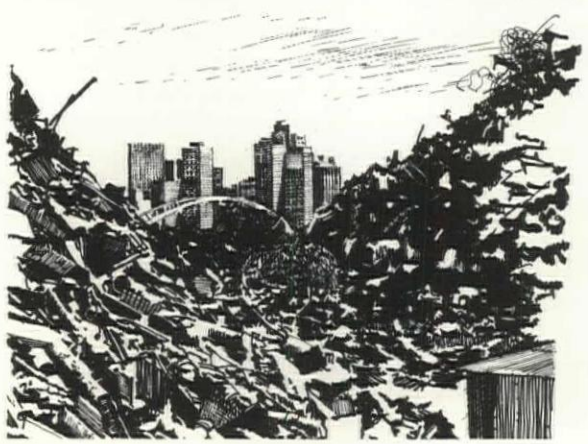
In Pittsburgh, the highways present a virtually endless game of hide-and-seek with the various points of interest in the metropolis. Amid the folds and counterfolds of the hills, bridges and buildings are glimpsed, rivers crossed and paralleled, hills pierced and prospects presented in rapid succession as these highways converge upon their climax, the Golden Triangle.

What other city can offer such spontaneous entertainment in preparation for arrival at such an architectural crescendo?

The Golden Triangle

The Golden Triangle should be considered as an enclosure no less than an exposition.

The dimensions of the area of the Triangle are remarkably regular, being set by the confluence of the two rivers, and by the rise in ground to the east of Grant Street, where the effect of the New Crosstown Boulevard and its interweaving is similar to that of a medieval defensive wall, defining within from without and providing that dramatic sense of entry or departure so essential in the creation of distinctive urban character.



The underlying geometric discipline of the Golden Triangle is, quite obviously, triangular, yet the conventional rectilinear form of the street layout has been imposed, not with consistent and clear authority, but with indecision—the regularity of each riverfront has been confirmed with a system of streets running parallel to and at right angles to it thereby acknowledging the basic port economy of the location. The resultant conflict of forms created at the points of junction between these two regular delineations is both wasteful in area and inconsistent in vision, and has endowed Liberty Avenue with embarrassingly irregular block sizes and shapes, and intersection problems which are unbecoming to a street of this importance. Any association between triangular building sites and rectilinear streets leads to distortions in both the flow of traffic and in the structural design. The logic and ease of movement that must exist between buildings and their envirium must be accepted as being of prime importance.

The Golden Triangle already possesses glaring examples of special discord in respect of the Sixth Avenue-Bigelow Boulevard-Grant Street Triangle and the Hotel Carlton House, and more recently in the uneasy juxtaposition of the raw-blue State Office Building and the thin-gold Pittsburgh Hilton Hotel.

These latter structures are sufficiently alike in form and character and in proximity to require some mutual acknowledgement, especially since they stand as sentinels at a moment of considerable visual drama, as the commercial citadel is reached after the sensational experience of arrival arising from the combination of concealment (Mount Washington), confinement (Fort Pitt Tunnel), exposure (Fort Pitt Bridge) and revelation (the descent from the Bridge).

This fumbled "grand entry" is not redeemed by the second design opportunity since the relationship between the larger and more striking cruciform Gateway Center grouping of structures and the complementary Gateway Four is even more distant in space, diverse in character and disassociated in form.

For these principal reasons the most dramatic kinetic sequence of events possessed by any inland city in these United States, the astonishing means and moment of arrival through Mount Washington is, at this moment, lost.

The changes in levels and in gradients, and the highway alignment from Fort Pitt Bridge, exert visual forces which strike the block facing Stanwix Street, between Penn Avenue and Liberty Avenue, in a way that is disconcerting for the viewer, disenchanting for the reputation of the city and dissatisfying for the designed-trained mind.

The ultimate reconstruction of this entire block carries with it very special civic and architectural obligations. Upon this site alone, the shortcomings already described can be resolved.

It is incumbent upon future developers, there-

fore, to ensure that this site be devoted to some worthy purpose. A multi-story parking rack will not do, no matter how urgent the need may become.

The proposals submitted by the Pittsburgh Regional Planning Association show the buildings upon this site to be unchanged, yet replacement buildings are indicated for most of the remaining seven blocks between Penn Avenue and Liberty Avenue, reaching from Gateway Center to the Greyhound Bus Terminal. For these collective reasons of recommended change, it is suggested that Penn Avenue and Liberty Avenue be combined upon a new alignment, within the limits of the present blocks.

Two major opportunities are thereby created by this realignment in addition to the general simplification of the crosstown circulation. A Grand Avenue is achieved in response to the Fort Pitt entry which establishes this area as the Champs Elysées of Pittsburgh, introducing the traffic arriving from the southwest or from the northeast to the whole Triangle at one gesture, and greatly improving the sizes and simplifying the shapes of the adjoining blocks.

The Street Scene

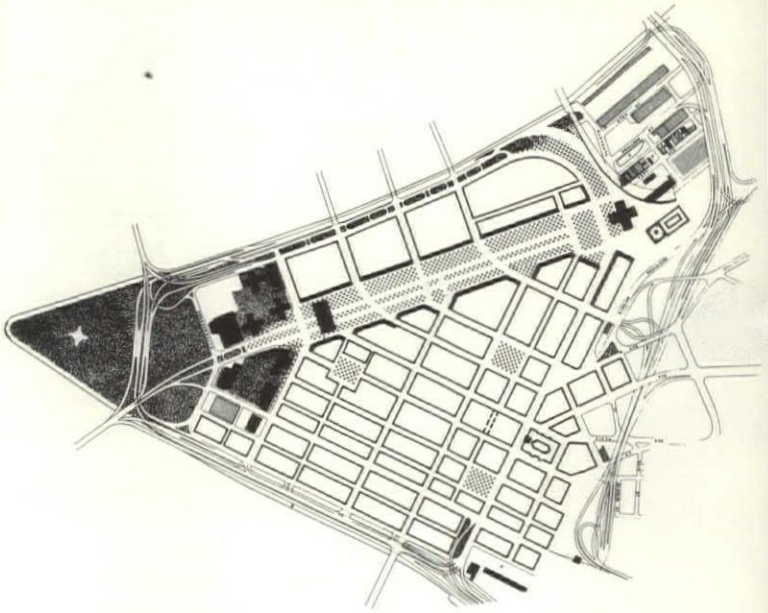
A properly balanced and self-conscious society is continuously selecting from its inheritance things that warrant prolonged existence for the benefit and information of generations to come. The fabric of a city is no exception, and most American cities have features which deserve respect, whether these be in public or private ownership. Decisions having powerful esthetic consequences are constantly coming before committees and councils where ignorance of relative values is tacitly admitted by all, nevertheless, judgments are reached without sufficient heed to this aspect of the matter. Indeed, there does not appear to be even one bylaw in the statutes of the City of Pittsburgh which deals with the subject of esthetics, either directly or indirectly, nor does there seem to be any record of an attempt having been made to introduce any such measure.

It is not suggested that esthetic standards should be defined for the guidance of council or commissioner, for this is clearly impossible, for the simple reason that even well-informed opinions vary and sensitivities, like fashions, are ever-changing. It is strongly urged, however, that any developer should be required by law to instruct his design agents, of whatever discipline they may be, to think about and to demonstrate the effect of their proposals upon the scene, street, streets or the neighborhood in general, and to reveal their conclusions simultaneously with the other data now submitted for planning approval.

Grant Street

Any city with the least pretentions towards civic consciousness possesses at least one street to which its citizens may repair on festive occasions, assemble for public spectacles or in which to stroll and to feel identified with the center of civic affairs, perhaps even to experience some uplift in the good order of things and to appreciate the design distinction of the place.

Is it possible that Pittsburgh can offer a street that declares the quality of the place? And if so, which



street can it be? The choice must lie, obviously, within the Triangle, but neither Fort Duquesne Boulevard, Penn-Lincoln Parkway nor the Crosstown Boulevard can qualify since these are vehicular preserves, not social exchanges.

Without a doubt, Grant Street is the best adorned on a building-by-building basis. The fortunate removal of the "hump" by lowering the pavement some 12 feet in front of the Courthouse, has ensured the unity of a street whose extremities, previously, could not have been seen from either end. The slight rise that remains, however, serves to provide emphasis and tribute, exactly where it is needed, before the principal architectural feature of the city, the Allegheny County Courthouse, by Henry H. Richardson, 1884-1887.

The promotion of Grant Street, as "the" street of Pittsburgh must rest, however, upon its architecture, and upon the uses of the varied assortment of buildings that compose its facades. These vary greatly in date, in size and also in quality, yet somehow they do compose and together they do create a grandeur that is clearly unsurpassed elsewhere in the Triangle.

It is recommended that a thorough facade-by-facade survey be made of Grant Street to determine, not only the relative esthetic qualities of the buildings, but the collective character of the street as a whole, for the purpose of encouraging certain property holders to maintain their buildings in good order as an insurance against the decline in real estate values; to encourage investors to redevelop their sites as befits a principal thoroughfare; and in particular to assist architects engaged in redevelopment commissions to respect the larger scene, and to design with the qualities of the street in mind, no less than the needs of their clients.

It is also recommended that the proposal to plant trees along certain sidewalks of Grant Street, made by the Pittsburgh Regional Planning Association, be abandoned.

Even now, this street is an architectural entity, whose present uneven cohesion will only be marred by the growth of large trees, while small trees will appear to be trivial distractions. Pittsburgh is a city of contrasts, and Grant Street is one of the standards.

It has a rigid formality, its rich detailing, its varied stonework and somber color do not require trees. On the other hand, the carefully composed towers and slabs of bleakly gleaming materials of Gateway Center do need, and are provided with, foliage.

The Point

Any perceptive examination of the physical conditions of Pittsburgh will confirm the undeniable climax which the Point represents, both geographical and psychological, and that the position possesses strong symbolic possibilities.

The quality to attract has been recognized by many who have made planning proposals throughout the years, and by those who have fought for the creation of a public park in this position, but somehow the supposed effectiveness of the position in the public behavior still remains illusive. The reasons for this are not obvious, but the exposure of the location is obvious, and therefore, the mystery is absent. Once a visit has been made and the experience of the position is felt, there is little inducement for repeated visits, and on this account, this singularly spectacular advantage is enjoyed primarily by visitors from out of town, by fisherfolk and those wishing to be alone, for they are assured of their solitude. This is both strange and disappointing in view of the location, but it is at present a fact that must be recognized since it suggests that there is here a curious condition of wastage, in acreage, in outlook, in opportunity and therefore a loss in some economic asset.

The development of the acreage as a State Park rather than as a municipal responsibility should not confuse the matter of the appropriate use of the site, either as originally proposed or as may be considered for the future.

The historical associations with the Point are of great importance, but the fortification reconstructions overlaid by traffic routes are a ludicrous piece of pastiche which will neither satisfy the historian nor attract the tourist. Seldom can there have been an instance of such confused thinking. The exact site of the original fortifications is used for the partial reconstruction of the defences in a position where the highway lanes could not yield to romantic desires. The resulting combination of ramparts and flyovers forms a composition that is less than worthy for such a location. This position represents a moment of impact, an instance of incomparable grandeur, a location of great potentiality and a rare example of easy association between buildings, bridges and highways. It is unfortunate that this compromise between sentiment and function should have occurred.

In brief, the Point Park must surely rank among the most ostentatious examples of financial disregard. The broad forecourt in front of the Seagram Building in New York, and the vacant sidewalk and lobby of the Inland Steel Building in Chicago are justified partly on the basis of urgent need for relief within the spatial limits of the immediate surroundings, and partly as a civic gesture, whose financial burden is taken mainly by the enterprises themselves. Fortunately, conditions permit extravagances of this kind from time to time, but the deliberate abandonment of the commercial opportunity represented by this singular site may prove to be very shortsighted indeed, unless, after the completion of the park, its popularity as a resort greatly exceeds expectations.

Against these observations of contrast and lack of comparison, the importance of the Point as a financial opportunity is the more striking, and the opportunity becomes an obligation which cannot be ignored indefinitely, once an imaginative proposal is put forward. The challenge should be declared.

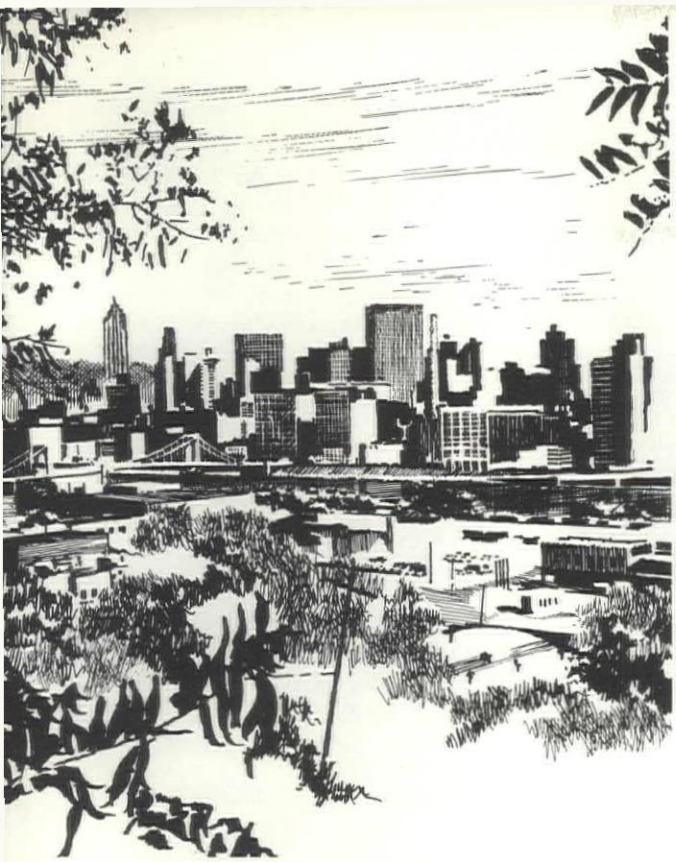
If any nationally-known organization is looking for a unique and convenient site upon which to concentrate, and from which to freshen its own familiarity in the public mind, this position at the Point can scarcely be surpassed.

In 1948, at the request of Edgar J. Kaufmann, Frank Lloyd Wright prepared two characteristically bold schemes for the Point area. One proposal consisted of a gigantic multi-level rotunda penetrated by three-deck bridges approximating the positions of Fort Pitt Bridge and Fort Duquesne Bridge. The whole composition was to be dominated by a thousand-foot tower and enlivened by monumental fountains. The particular quality and economic vitality of this immense and imaginative proposal lay in the combination of seemingly conflicting uses.

The need for some substantial marker at the Point seems to be acknowledged by each designer, for a strong vertical feature is proposed in every successive proposal.

The visual vacancy and the "value vacuum" so soon to become evident at the Point are facets of the same condition, and one possible remedy is to refer again to Wright's proposals for the redevelopment of the Point, and reassess the commercial advantages as they may appear some fifteen years later.

The following factors (many of which were included in Wright's potpourri of proposals) are therefore suggested for further consideration and analysis: That a Tower of unspecified height serving a variety of commercial purposes be erected in this location. That the principal occupant of the structure be a major corporation requiring a unique location for its headquarters, and by whose name the building might be known. That the structure rise from the water and not from the Point Park, thereby avoiding the matter of legislation in respect of infringing upon the Park as a public open space. That traffic reach and leave



the structure from the lower levels of Fort Duquesne Boulevard and Fort Pitt Boulevard. These routes can be enclosed or partly enclosed and may form the extended quayside of the Point Park and be covered over so that the general level of the Park would be higher by 12 feet than previously expected. That the structure should take the form of a tapering triaxial (faceted) tower rising from a base some 300 feet in diameter. That the center of the Tower should rise some 400 feet away from the tip of the Point, being detached from it by a stretch of open water.

Transport

Waterways. A re-awakening of the civic consciousness to the value of water was caused by the action of the rivers themselves. The St Patrick's Day floods, 1936, aroused Pittsburghers to the natural dangers, and from the various counter-measures (ten major flood-control projects) developed the whole succession of imaginative endeavors which has earned for Pittsburgh the name "Renaissance City." The focus of attention has, meanwhile, shifted from the water back to the land, and the Triangle is now road-bound.

It is ironic that so much of this ill-used land is under railroad influence or ownership, for it was their arrival that took much of the trading from river shipping. Within less than a century the railyards are wasting and once again, the waterways are thriving.

Hovercraft. New principles of vehicular movement (passenger and freight) deserve the closest attention from planners, for if their promise is realized, their effect upon land-uses as well as upon transport can make the greatest economic difference for the city that seizes the initiative to adopt the new systems. They may also provide the planner with the chance to change land-uses which were hitherto denied.

Hovercraft, and their variants, present just such an opportunity to the planner. The newly developed principle of movement, air-cushion support, propulsion by air jets, will permit substantial loads to be moved freely in any horizontal direction, and with little regard for the nature of the supporting surface, provided that no obstructions occur above the hover-height of the vehicle. The surface providing support must, however, be reasonably level, with gradients of less than 15 per cent. The supporting surface may consist of gravel, grass, snow, ice, water, marsh, sand or sea. The production of a variety of types of passenger- and freight-carrying hovercraft is well under way in Britain and apparently in the USSR.

This "release from the wheel" for overland movement is of the utmost significance for planners in general, and for Pittsburgh in particular because of the relatively complicated water-land relationships. Henceforward, the potentialities of every acre must be re-assessed, no matter whether it is land, water or swamp. All those born-of-river cities which have so neglected the cause of their origins, and become thoughtless of their water's-edge wastes may now be required to turn about.

The tyranny of the wheel has been challenged, and the economic and physical environment may be expected to change again as drastically as it has been changed by the invention of the railroad, and the development of the highway. On this occasion, however, the cost of continuous and costly trackage will not be necessary. Smooth swathes and water may prove to be sufficient.

Mass Transit. The present unpopularity of the public mass transit services has been growing for a long time, and at this moment of rising prosperity and apparent independence of individual movement, the subject is much out of favor. In almost every city, existing public services are poor, the facilities much worn and outmoded, yet there are incidents where new facilities have been sufficiently effective to confirm the opinion long held by urban planners, that public transportation systems remain theoretically valid for the larger cities. I share this opinion and urge that every encouragement be given to the re-creation of an effective system for Pittsburgh. The form of the required system, however, need not necessarily be new. The revision of some existing system may prove to be better than the introduction of something hitherto untried.

Individual transport facilities are scarcely likely to save the independent commuter from exasperation, and a return to the popularity of mass transit is, I believe, a certainty as soon as some efficient and attractive form can be devised. Whether or not the conventional track-bound conveyance is the most advantageous vehicle for mass transit is less certain. My own inclinations are against any repetition of the limitations of rail-confined systems with their heavy demands for maneuvering space and long periods of idleness of both space and equipment between peak demands. I am opposed to "exclusiveness" in any particular system within urban areas for reasons of

spatial demands, and for reasons of the multiplicity of incidental services.

Railroads. The development of railroads was undertaken in the compelling atmosphere of great territorial expansion in the certainty of gaining trade and of creating trading, and in the fiercest competition with other thrusting railroad companies. The current dilemma of how many separate and independent systems of transport the regional economy can sustain would have been incomprehensible to the railroad pioneers. Yet this question is now of the most pressing importance.

By the 1920's Pittsburgh was served by six trunk line railroads, and by sixteen other railroads, described as industrial and connecting lines, which provided for local needs. Four more maps must be added showing streetcar routes, about-town bus routes, suburban bus routes, and long distance lines, together with maps showing highways and highway proposals programmed for 1980. This accumulation of routes and services, overlaid upon the domestic street patterns, must have some physical limits whereby the abandonment of one system is part of the price of any new one, especially since the highway is now so demanding in acreage.

Four out of five of these systems, railroads, streetcars, buses and the comparatively free-moving traffic of the highways, have brought, consecutively, territorial expansion, social relief and movement complexity to the city within the space of one hundred years. This represents the provision of an additional system of transport approximately every twenty-five years.

In retrospect, the great highway concept was in the planning stage in the mid-thirties, bus services were emerging in 1910, streetcars were becoming familiar in 1885, and the railroads were no longer a novelty in 1860. If this approximate quarter-century rhythm is to be taken seriously another addition to the traffic systems now in operation is imminent.

The first of the new services has already begun in a modest way, the airport-downtown helicopter service; the second, the Transit Expressway, is recommended for experimental development; and the third, monorail, is sufficiently advanced to be considered as a serious competitor to the Transit Expressway proposal. In the further future of the 1980's, hovercraft will be a commonplace, vertical lift aircraft will have superseded the helicopter, and gravity-countering "motors" may add the supreme quality of silence to the wheelless vehicles of that time.

Highways. Each successive transportation system has demanded more ground, water and air space for movement and for maneuver than its predecessor, and each has required a greater reshaping of the land surfaces. The railroads necessitated enormous engineering feats of earth-moving and bridge building, but these are small by comparison with the needs of the highways, and it may be anticipated that where swaths are required for hovercraft, the scale of operations will be greater still.

Since 1958, the Pittsburgh Area Transportation Study has been examining, analyzing and forecasting events for the region, in respect to movements, quantities and comparative routings for highways and rapid transit systems. These intensely detailed studies convey the impression of very substantial highway, mass transit and associated constructions throughout the whole area, and in visual terms, the highways will compete seriously with the buildings for domination of the urban scene. Two potential "image" issues become apparent immediately.

First, the number of bridges required to carry these proposals is certain to be very large on account of the complicated topography and because of the likely need to raise the lanes at independent levels. It is essential, therefore, that attention be given to the design of the under-spaces. These spaces must already represent a very considerable covered volume, and it would make an interesting study to calculate the total volume presently formed by these highway bridges in the city area, and compare these with the commercial or industrial volumes that now exist.

Some effective and economically remunerative use should surely be found for these volumes. There is, of course, the legal problem of authority and the extent of responsibilities, and the problem of fire hazard and of vibration, but with imagination, these can be overcome. Many of these under-bridge caverns occur in locations where some formalized use of these spaces for industrial or warehouse purposes, for car-parking or for open storage would be welcome. There are other locations where these sheltered volumes serve as improvised playgrounds. With little extra expense at the time of construction these facilities might be deliberately designed. The problems created by these dank and rubbish-strewn deserts should be considered at the time of siting and design of the bridge since the negative influence upon the surrounding real estate of these cavernous wastes is very detrimental.

The second issue is also a matter of visual effect. Railroads and highways are very different in respect to the view of a city which they present to the traveler. The passenger in the train is only aware of the continually passing scene, the highway traveler is always conscious of the emerging objective. He is participating in the events, he is not passive, his attention is naturally focused by the perspective of the pavement, and he is more acutely aware of the incidents ahead, but is less aware of the details aside.

It follows, therefore, that the landscape and the city are also "presented" to windshield view, but they are not designed for this advantage. Cities are now being seen by the highway traveler in ways which are mostly unflattering, since the kinetic juxtapositions are entirely fortuitous. In the railroad era, a splendid station would convey the image of the city to the visitor, and it is obvious from the architecture that moments of arrival and departure were occasions of serious ceremonial.

The form of the city is now being re-exposed in ways which the highway engineer determines for economic reasons. While the results may be justified, they may fail to make the most of the features of the scene. The city's image, in visual terms, is largely at the mercy of a concentration of highly complicated circumstances in which there is, as yet,

no margin for "urban imagery." The fabric of the city is vulnerable to the highway engineers' preferences in determining the course and the elevation of the traffic lanes, and now the image, also, is moulded or marred upon their planners' drawing boards.

Pitt-Tivoli

Every new report on civic recreational facilities includes, inevitably, comments on the unique Tivoli Gardens in Copenhagen, and an inquiry about the possibility of reproducing a similar feature elsewhere. Every visitor, no matter of what age, nationality or background, is captivated by the easy charm, delight and diversity of this near-paradise. It has become an international reference point in matters of imaginative enterprise and it is a magnet that is of the greatest benefit to the Danish capital. Many attempts have been made to define the qualities of the Tivoli in the hope of cultivating anew this astonishing phenomenon, but no evidence of success seems to be available.

The essential condition of the Tivoli Gardens is its spontaneousness both in the manner of its creation, and in the casualness of its use. This intangible quality cannot be reproduced by special direction. It will emerge for reasons of its own, and it depends upon many factors of popular temperament and habit. It depends upon economic stability and social routine; it depends particularly upon climatic conditions.

The qualities of the Tivoli Gardens are well known, and if some enterprising entrepreneur should sense a combination of similar time, mood and place in Pittsburgh, then every official encouragement should be provided; but this seems unlikely, and it is suggested instead that Pittsburgh attempt to produce its own special form of public diversion.

The railroad yards that extend from Fort Pitt Bridge to Smithfield Bridge, between West Carson Street and the Monongahela River, offer an ideal location for a permanent Pleasance. The elevated acreage, achieved by over-building the tracks and car-parking accommodation, possesses the combined advantages of isolation with immediate location, of dramatic setting with attractive views. The monumental piers of the old Wabash Railroad offer support for direct pedestrian connection with Gateway Center, and prominent sites for restaurants, beacons or other properly composed advertising features.

The Civic Auditorium

A Civic Auditorium represents an immense investment, even for a city of Pittsburgh's magnitude and thrust.

It is to be expected, therefore, that in addition to the fulfillment of its intended purpose, a variety of other benefits should be achieved simultaneously.

The most important issue, obviously, is that of location. Apart from the mechanical considerations of convenience and vehicular routing, the effect of so large and so significant a structure requires the most careful review of a variety of sites so that the whole installation will not cause disruption among the adjacent buildings, and that the new will add more to the scene than merely its own presence.

Such obligations are not met by the new Civic Auditorium. Indeed, its uncomfortable location requires much elaborate contrivance to 'hold" it in position.

The whole area has been cleared, first because the location was in need of clearance on account of the degrading of the properties, and second, to provide room for the auditorium and other structures. The ground was known to be sloping, and it was also known that the auditorium was likely to be circular in form and dome-like in its enclosure. Research on the satisfactory siting of domes would have shown that the form of such a structure naturally commands respect, but that the placing of a dome on a sloping site is a proposition which has no successful historical precedent, and that an immense amount of site work would be necessary on the Lower Hill area if this error of siting was not to rob the structure of its natural pretentions to grandeur.

Unfortunately, both conditions prevail. The structure is not grand, and the site work does not redeem the situation.

The risk of this gigantic edifice appearing at a disadvantage will be confirmed with the completion of every neighboring building, and further, the chances of any amicable relationships between the

auditorium and these additional buildings is very much reduced by the selection of this site because of the sheer incompatibility of domes and hillsides.

While the Civic Auditorium must be one of the more audacious structures of the decade, it emerges as one of the least visually impressive, and it stands as a monument to the need for a better understanding of the whole subject of site selection, especially in respect of Pittsburgh's superb opportunities.

Advertising

Outdoor advertising has now become one of the principal features of the American landscape. There are few urban scenes that are yet free from these brilliances, while the invasion of the rural and open landscape has become so outrageous that many persons and organizations have felt impelled to introduce restrictive legislation to insure some respite from this all-pervading affliction.

Pittsburgh is again remarkable in that compared with most cities of comparable intensity and population it seems to be remarkably free from visual distractions of this kind. The larger hoardings seem not only to be fewer in number, but their siting seems to be more carefully considered so that in many cases they do contribute vitality and color to the street in addition to giving the necessary information.

The vital importance of all phases of advertising is sincerely recognized, yet when outdoor advertising reaches such a pitch of effrontery that it becomes a major feature of the scene, and imposes unduly upon the attention of the citizen, then clearly some control is required.

Illumination

Illumination has been scarcely more than a momentary incidental in the urban scene for centuries, but now controlled light has suddenly become a prime factor of urban design and of civic consciousness. The efficacy of illumination as a medium of determining what the image of a city should be, and its value in purely commercial terms, requires very special consideration in the case of Pittsburgh.

Pictorial illumination is the most recently identified art-form having civic significance. This is undeniably a social luxury, and a highly justifiable civic indulgence. It is simply a selection of features that will be attractive under illumination and the deliberate ignoring of ugly or irrelevant factors which cannot be concealed in the daylight.

This highly sophisticated form of artistry requires the total envirium to be considered, simultaneously, so that dramatic emphasis be placed only where it is desired, and in combination with other elements so as to create, exactly, the effect, the mood, the comparisons that will appeal. It also requires the complete authority which the artist can exercise privately upon his canvas. Imagine the consequences if the illuminations at Salzburg or at Edinburgh merely provided an incidental background for beer advertisements or flashing signs for brands of gasoline.

There is nothing incompatible in the notion of Pittsburgh, The City of Steel, becoming also Pittsburgh, The City of Light. Here, indeed is a proper combination of *son et lumière* on an unprecedented scale. The roaring and the blazing of the steel mills have provided an involuntary *son et lumière* for more than a century, and now it is timely that such evident dynamism should be adopted by the entire city.

The craggy blackness of Edinburgh is now adorned by an illuminated skyline and somber silhouette that is almost beyond compare, and is as different from the daytime scene as is fantasy from reality. Quebec has the further advantage of fantastic outline with river reflections. The festive city of Salzburg, the historic features of Avigon, the acropolis at Athens and the plateau-confined city of Orvieto are a brief list of the many places with which Pittsburgh shares certain topographical distinctions, and with which Pittsburgh could compare in imaginative artistry if not in historic possession.

Summary

The request for an image of the city of Pittsburgh was not accompanied by any reference to the context of time, past or present, or for an image of the future. On this account, I have felt free to interpret the request for image as having, first, present significance in respect to the prevailing conditions; and second, that the imagery must be orientated towards times to come representing, as it were, aims or a series of aims; and third, that these aims should have due regard for what is past and what this may signify for those of the future looking backward.

Each generation is unwittingly the means of conveying part of the inheritance of the past for those to come. We carry our history with us, either carelessly or with conscious pride and selectivity. The history of Pittsburgh is important in relation to the national, social, industrial, economic and educational development of these United States, because of its origins and of its consistent pioneering, and it is therefore important to appreciate the tangible records of these developments which yet remain.

These items will have an increasing significance with age. The greater the distance in time between their origin and the beholder, the more intense the interest in them is likely to be. For this reason the utmost care and scholarship must be exercised upon the constantly necessary problem of selection of how much tangible history to carry into the future, and of what kind, so that the weight of the past remains a welcome influence without becoming a burden that is economically insupportable.

The preceding observations and perceptions are not presented in a spirit of conclusive determination of what *should* happen in the redevelopment of the city, but rather, they are offered in sympathy, it is hoped, with the remarkable conditions that prevail in Pittsburgh. With energy and imagination such things *could* happen. These various recommendations have arisen from limited study and from other experiences, and no attempt has been made to divide the proposals between those more suitable for inclusion in the Community Renewal Program, and those better undertaken by the City Administration itself as a routine measure. ◄

URBAN DESIGN — A DEFINITION

GARRETT ECKBO, FASLA

ANY CONCENTRATION of 2500 or more persons is an urban area, according to the Census Bureau. If urbanism begins with the development of shared community facilities, much smaller groups would qualify. But today we are little concerned with how small an urban area may be. We are much more concerned with how large it may become.

Design is a problem-solving process. It functions, after thorough analysis of the elements, conditions and context of the problem, by projecting as precisely as possible the form which the solution will or should take. Thus a designer begins with a problem and ends with form. Occasionally this order is reversed, with startling consequences.

Urbanization is a process in which we all participate, in varying degrees. It is motivated by the basic dynamics of our society—population growth, search for a better life, expansion of industry, technological change producing new industries, new areas for development, and the shift from rural to urban life. Prime movers in the urbanization process are owners, bankers, realtors, developers, builders and materials producers. By and large their attitudes and objectives determine the form and arrangement of our urban environment. Government agencies set up to control, direct or persuade these prime movers toward certain directions, often described as "creeping socialism," usually seem to end up being converted themselves into rationalizers of the prime movers' programs. These programs have, however, improved considerably under pressure in the one hundred years since the general abuse of the privileges of private ownership led to the beginnings of community control.

Design is a process, not a person. Architect, engineer and landscape architect are controlled by state licensing, but design can be performed by anyone, and very often is. Professional planners and designers have societies whose aim is to set high standards for practice and production. But the prime mover is apt to think he can do his own design, with perhaps some technical help, preferably on his own payroll. This challenge to professional design has been answered with considerable success, in certain notable examples.

The quality of design is measured by the success of its solutions, once the wordscreen of salesmanship and promotion has withered away. We expect designers with training and experience to produce better solutions than amateurs with little of either, or commercial operators with special axes to grind. That is why we support and use professional designers. We expect competence, talent, imagination and unbiased objective advice.

Urban design is giving form to urban areas. In order to give them form we must understand what they are and where they are going—or rather, where they think they are going and where they might be persuaded to go. The designer must always know when to lead and when to follow his client. In an urban area he must also know who his client is. Is it all of the people?—some of the people acting for all of the people?—or some of the people acting for themselves?

Urban design is not the design of specific urban facilities by themselves. Residential, commercial, industrial, educational, health, cultural, recreational or transportation developments in themselves are normal design problems assigned to one or more of the established design professions—unless the developer thinks he can do it himself. Urban design is the design of the *relations between* these facilities, their interconnected reciprocal arrangement in space and time. In designing relations the design of the facilities is likely to follow as hand-in-glove, for there is no telling where one stops and the other begins. This is the difference between city planning and urban design. Planning establishes master plan patterns of land-use and circulation, buttressed by zoning ordinances and subdivision codes, then leaves the design of actual physical development to others. This is, of course, our traditional way of doing things. But urban design says it is not enough—that we must think about how it is going to look and feel, what precise form the development will take. The automatic charm of the handicraft environment has been replaced by the automatic ugliness of the industrial environment. Therefore, in order to protect ourselves and our progeny, we must think consciously about the end products of all physical development, in terms of quality as well as quantity. Design is, in the final analysis,

the conscious search for quality through form.

Quality is a product of the relationship between observer, single or plural, and surrounding scene. It is not a property of the scene itself, or of the observer alone, but of the interaction between the two. There are no absolute qualitative standards. Wilderness, farm or urban downtown may seem beautiful to some and ugly to others. But there are consistent general agreements, in space and time, which assign certain well-known scenes to continuous greatness.

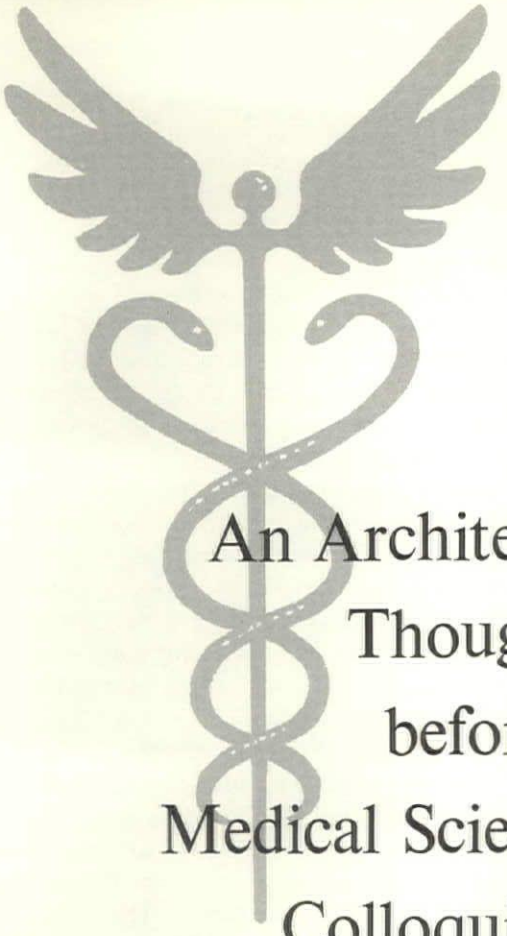
The urban landscape, like any landscape, is composed of everything that we see or sense wherever we go within it. Produced by a long and complex multiple series of disconnected decisions, beginning with the subdivision of the unbroken continuity of the natural land and ending with the fractional division of labor among the various design professions, this landscape is nevertheless one single experience for each observer each time he is there or passing through. Buildings and trees, streets and ground forms, shrubs and signs, autos and people, street furniture, water and rocks are all inescapable elements in the picture. Urban design must recognize, understand and deal with all of them, in interrelationships rather than singly. This requires remarkable design objectivity. It cannot be biased toward structure, nature, graphics, fine arts or any other special elements. It cannot have preconceptions as to whether or not urban plazas need trees. It must first absorb the local situation like a receptive sponge after a long drought, then search for the right balance of forms, elements and relations as relentlessly as a weasel in a hen-house.

Urban design is not concerned only with central business districts, fascinating and rewarding though they may be. It is concerned with the urban complex as a whole, or with any segment of it large enough to include a reasonable cross-section of the necessary facilities. It is concerned with the entire range of urban patterns, from downtown congestion to ex-urban scatteration, (which nevertheless must have shopping, school country club, etc). All of the various degrees and mixtures of life, work and play, all of the complex contrasts between various land-uses, between old and new developments, fragments of nature or of agriculture, waste land, engineering elements and special facilities, which lie between these extremes, are part of the concern of urban design.

Urban design is not a new field of design endeavoring to promote or preempt an area covered by existing fields. It is a new field of design produced and required by problems of a scope and complexity not solved by existing processes. It embodies a way of thinking and of feeling about the physical environment that is essential to counteract the fragmentation of facilities and of design disciplines which exists. When you separate residential, educational, recreational, health, cultural, religious, commercial, industrial and agricultural facilities completely from one another, treating each as an independent entity afloat in the limbo of our three-dimensional gridiron, you destroy the possibility of meaningful and constructive life for most residents. No amount of freeway construction, or even of mass transit (see New York), will rebuild this possibility. Only the re-integration of these facilities into organic urban complexes with Jane Jacobs' diversity and vitality can do this. That is a job for urban design.

When you separate structural, engineering, landscape, furniture, fine and applied art design processes from one another, treating each as a complete pursuit for its own sake, regardless of its effect on the total environment, you make difficult or impossible the production of the balanced, restful, inspiring surroundings which our tense and hectic lives demand. Only by developing a design discipline which can view buildings and trees, shrubs and signs, bridges and hills with a balanced eye, developing the most meaningful relations between them, can we begin to move toward that magnificent humane urban landscape which is in our dreams.

This will be design for real human living, rather than economic abstractions. It will design not only houses but the gardens which relate to them; the relations between neighboring houses and gardens, and their relations to vehicular streets and pedestrian walks, to school, park, church and shopping, to the facilities needed and used by the principal daily residents of home neighborhoods—wives, children, grandparents. It will promote variety by controlling density rather than type of construction. It will expand its thinking and feeling from neighborhood through community to metropolis and region, always concentrating on specific human need and experience. It will design workplaces inside and out, in terms of those who work there as well as those who pass through. It will design the relations between workplaces, and between them and homes, not relying on the auto *or* mass transit to solve the problem. It will design centers for secondary and higher education, for culture, for health, for administration and for all of the other multiple facilities of the community, always in terms of their specific requirements, their physical visual relations to neighboring development, and their social relations to those who will use them. Always the continuity of the landscape, in lively harmony, and the basic patterns of ordinary living, the central triangle between home, work and play, must be the primary considerations. ◄



An Architect's Thoughts before a Medical Science Colloquium

ALEXANDER S. COCHRAN FAIA

The opportunity for an architect to speak about the common goals of architecture and medicine has led me to analyze and re-evaluate the potentials of architecture, and to conclude with some strong convictions about the obligations of architectural practitioners today. Medicine and architecture are both ultimately trying to facilitate well-being, effective living, freedom to respond to life—all on the part of individual human beings. Attention need not be called to how bad architecture can impede these possibilities. I would concentrate upon the positive potentials of architecture to further the betterment of human existence, a goal which it shares with medicine.

THERE HAS just recently been published a very important architectural document, "Eero Saarinen on His Work." The wife of this architectural giant, recently so suddenly dead, has collected some of his writings before, as she observes, they are confused by interpretations of critics. Asks Saarinen, "Now what is the purpose of architecture? Here I would stake out the most ambitious claim. I think architecture is much more than its utilitarian meaning—to provide shelter for man's activities on earth. It is certainly that, but I believe it has a much more fundamental role to play for man, almost a religious one. Man is on earth for a very short time and he is not quite sure what his purpose is. Religion gives him his primary purpose. The permanence and beauty and meaningfulness of his surroundings give him confidence and a sense of continuity. So, to the question, what is the purpose of architecture, I would answer: to shelter and enhance man's life on earth and to fulfill his belief in the nobility of his existence."

In this statement I find the best expression I know of what is architecture's responsibility today—the discharge of which seems to me to be the answer to the challenge of my talk. This, incidentally, proposes to go beyond what medicine may do for man, "to enhance a man's life on earth and to fulfill his belief in the nobility of his existence."

I must admit that three years ago I spoke before a convention of architects on the subject "Design Jungle," observing that the state of architectural design was confusing to the verge of being chaotic. I rather desperately pointed to the leadership of three great leaders, Wright, Le Corbusier and Mies van der Rohe, as three separate ways through the apparent confusion. I no longer feel that there should be acknowledgment of such confusion—though there still is much within my profession today. Now, instead, my conviction is that in the sincere search for "enhancement of life and fulfillment of the nobility of man's existence" we are achieving and will achieve significant architecture which gives answers to the problem we are now discussing.

At this point I cannot but express my disagreement with Philip Johnson's recent statement, "The only principle I can conceive of believing in is the Principle of Uncertainty." I respect Johnson's work and his sincerity, but I disagree. In fact, I worry much that many may take this statement as counsel of despair in a time when this is distinctly uncalled for.

To those in the profession there is the well-known analysis of architecture into three elements by Vitruvius. Commodity, firmness and delight are rather archaic terms for adequacy of function, expression of structure and esthetic forcefulness. I would dwell upon this last: *delight,* or esthetic force. The achievement of delight for the individual user must be demanded of and achieved by the architect in every instance. Function and structure are indispensable elements of architecture, but I am convinced that they should not shoulder out esthetic force which produces happiness in the in-

Adapted from an address given by the author at the School of Medicine at Brown University

dividual user of the piece of architecture. Again I quote Saarinen's ambitious claim that architecture "enhance man's life and fulfill his belief in the nobility of his existence."

The emphasis upon expression of function comes obviously from the neglect or even concealing of the purpose of buildings in the stylistic architectural age of the recent past. Louis Sullivan's challenging dictum "form follows function" has become engrained into architectural thinking of today. But functionalism must not be allowed to dominate architectural design, especially if it be at the cost of delight, delight to the individual.

Vitruvius' "firmness," or attention to material and structure, in architecture recovered from the neglect of the turn of the century with great impetus of the American pioneers such as Frank Lloyd Wright. Uses of new materials have now become accepted as well as new uses of old materials. The danger of innovation for innovation's sake is obvious—especially when there is not commensurate pleasure. The expression of structural systems, whether new or old, makes possible strong architectural design statements. It is easy to put too much esthetic reliance on structure at the sacrifice of pleasure to the users.

And now to Vitruvius' architectural "delight," which I would claim the sine qua non of architectural design today. Let us dare to call this delight "beauty," beauty felt by the individual for whom the architecture is created. I so well remember my student-day self-consciousness about the concept of beauty. A wise professor steered us away from this word which had become sticky to us, because of our naive efforts to be sophisticated. He told us, and this was in one of the earliest "basic design" courses given in this country at Harvard in 1938, to ask whether or not our designs "made us feel good." This has stuck with me as a truly meaningful definition of beauty. Note that it calls upon the resulting good feeling or happiness of the individual. "Does it make you feel good." My grammar is deliberate—not feel *well* but feel *good*.

At this point you must bear with me referring to the recent book by the creator of Peanuts, "Happiness Is a Warm Puppy," by Charles Schulz. Followers of this commentator on our life know how profound are his observations. His examples are all from child life. Modern psychology reminds us of how childlike we all are and tells us not to be ashamed of this fact. So let me ask you to translate Vitruvius' "delight" to Schulz's "Happiness" for a moment. "Happiness is a fuzzy sweater, Happiness is a pile of leaves, Happiness is three people in a sandbox with no fighting. Happiness is eighteen different colors." You and I respond to these ideas—personally, very personally.

You may think I am getting away from architecture, but let me now quote one of the great thinkers of contemporary architecture, Le Corbusier—and this is on this same subject of delight-beauty-happiness:

"The architect by his arrangement of forms realizes an order which is the pure creation of his spirit. By forms he affects our senses to an acute degree and provokes emotions. By the relationships which he creates, he awakens profound echoes in us. He gives the measure of an order which he feels to be in accord with our world. He determines the various movements of our heart and of our understanding. It is then that we experience the sense of beauty."

In all architecture we must "experience the sense of beauty." This is what architecture can uniquely contribute to this individual man who is also the concern of medicine.

Feelings of beauty derived from our environmental architecture come to us through our senses. These are tactile and visual, as well as auditory, thermal and even olfactory. The sense perceptions must be within the grasp of the individual man, in a word must be scaled to the person. The intensity of this relationship makes possible the resulting richness of perceptual feeling. Its absence stops the whole process.

At this point I am reminded of an address by the anthropologist Margaret Mead before a national convention of my architectural colleagues. She rocked us more than superficially when she began by saying, "I have been reading your architectural magazines and I see that you architects do not design for people." The lack of people in so much of our published architectural photography is all too indicative of this fundamental lack of concern for the person, let alone for the person's happiness.

As the architect concentrates upon the perceptual aspects of design, the sense of touch deserves attention it is often not given. Buildings are approached on foot. The pedestrian literally feels smoothness to the point of slipperiness, or roughness to the point of unpleasantness. Between these extremes he can experience comfort, interest, or even fascination. Schulz observes of Snoopy, "Happiness is walking in the grass in your bare feet."

This calls attention to the impressions of touch: living or inert ground cover which the individual may enjoy by imaginary contact. Water, still or running, may be thought of for its rather fanciful vicarious feeling, as well as, perhaps, the temptation to wade in it.

Inside our buildings, more than outside, one's hands must touch elements of architecture: handrails, door knobs, plumbing fixtures, light switches.

Too seldom are these sensations distinctly of pleasure. Too often they are ordinary, even unhappy. Here is the architect's responsibility to create delight in a very particular way.

The more general bodily tactile sensations derive from furniture, which should be chosen by architects or at least be suggested by them—benches, chairs, tables, desks all are prime generators of tactile sensations. It was suggested to me that my Charles Eames reclining chair might add ten years to my life.

The most obvious perception of architecture is, of course, visual. Here above all the relation of the human figure is critical. The individual's awareness of architectural space is created by this relationship. Those familiar with the ocean waterscape, especially from a small craft, know how indefinable can be space at sea. The most distant architectural space is comprehensible when defined by elements recognizably scaled to the beholder. This may be natural material such as trees, or man-made contrivances such as fences, walls or even walks. The landscape architect helps give the individual happiness by making him feel related to and a part of outdoor spaces.

Though we all should know, we often forget that the spaces-in-between our buildings are as perceptually powerful as the buildings themselves. Man, the user, must not feel crowded but should feel happily surrounded. This takes great planning skill involving discerning compromises. As well as in between the buildings there may be space under them, actually clear or partially free. Whether this space seems to belong to the building or to the space around it, it must in any case belong to the beholder himself. And then there is always the wonderful way in which space is created around isolated structures. This is a peculiarly personal sensory experience. We can all recall monuments in open squares. Likewise, buildings themselves claim the space surrounding them. This should be a source of visual happiness.

Architects have always felt the responsibility that the exterior masses of buildings should be sources of delight to the beholder's eye. This is not the time to analyze all the possibilities, but I would emphasize the enjoyment by the individual man. Massive buildings may well be visually welcoming. Relatively open buildings have obvious fascination for the beholder. The architect must use discretion as to how much an open building belongs to the outsider.

Importantly involved in all manipulations of architectural space are the factors of tonal quality of color, value, intensity and on to texture and pattern. To analyze these in detail would be beyond the scope of this discussion. These tools at the architect's command are powerful generators of individual happiness. They need not be expensive. Architects must be responsible for the skillful and imaginative use of the full range of all tonal qualities—whether of natural or synthetic materials, whether undisturbed or manipulated.

Directly related to these tonal values is, of course, illumination both natural and artificial. The control of natural light has become an even more important concern of the architects today, and the decorative values of such devices are more and more in evidence. Artificial lighting is now a new discipline in our academic world. Its possibilities are limitless. I cannot but recall Schulz's child in bed, "Happiness is a night-light." From such intimacy the possibilities range to brilliant yet comfortable adequacy of a luminous ceiling. Always the pleasure of man, the perceiver, must be the criterion of whatever illumination may be provided.

An important area of sensory delight we often overlook because it is usually so well provided. I am referring to warmth and its controlled provision. That its source be concealed need not detract from the delight it produces. In contrast to warmth, of course, is the great delight of cooling, both artificial and natural. I would emphasize the latter, natural cooling. The individual derives great pleasure from cooling breezes, from ceiling heights and from cool-appearing materials.

Likewise, sometimes overlooked and so dreadfully missed if it is, is care for the auditory perception. Quietness is generally a delight—but so also is deliberate and controlled resonance for speaking or musical performance. The sounds of nature should never be forgotten where available —and I do mean the birds and the bees, as well as such natural sounds as running water. Only a few of us have been fortunate enough to visit Wright's Kaufman house at Bear Run, and to learn firsthand why it is named "Falling Water." It is a pervading sensory impression of almost awesome pleasure.

And finally, I recall that Walter Gropius was asked why he included a fireplace in his altogether adequately heated house. He quickly responded, "I like the smell of burning wood." This, I feel, is a fitting climax to this recital of personal sensory experiences of architecture.

I have spoken of these sensory values of architecture as primary generators of individual happiness. Though I have not always used the word beauty in these analyses, it could be used in every instance: beautiful spaces, beautiful shapes, beautiful things to touch, beautiful color, beautiful quiet or even beautiful sound, all beautiful feelings which delight the buildings' individual user.

Now I wonder how much has been noticed my omission of any mention of a feeling of delight

which is derived from association with previous experiences. Dean Hudnut at Harvard bothered us young converts to modernism by stating that "modern architecture is woefully lacking in associative values." This was another name for romanticism. It has been hard for the serious architects of our mid-century to grapple with this phenomenon of man's romantic tendencies as related to architecture. But we are speaking of something too powerful to dismiss, as I confess many of us may have been doing for too long.

Modern psychology would certainly make us much more, rather than less conscious of our past experiences, as important components of ourselves of the moment. Architecturally our past is always around us, in varying degrees of concentration. Pictorial reproduction and dissemination have enormously enlarged our awareness of this past. At times our literature and scholarship have deliberately stimulated our concentration on particular periods of our past. Sir Walter Scott and John Ruskin had enormous influence upon architecture.

Let us remember Saarinen's charge to the architect to "give man meaningfulness of his surroundings and a sense of continuity"—continuity with his past, of which he should be proud.

The easy temptation to copy pre-existing architecture literally is all too well known to us all, especially in academic communities. This is so generally discredited today that it will suffice to observe that literal limitation is not architectural flattery. The temptation to ignore older architecture is as great today, though perhaps not as dangerous, except when a new building flaunts older buildings with all the associative values there are about them. This can result in rudeness to that which expects, if not pride, at least respect.

Our new buildings must live alongside of, and therefore become a visual part of, our old buildings. If polite to them in the most subtle and ingenious ways there is the oportunity to utilize the great potential of delight in associative ideas. Saarinen's new Ezra Stiles and Morse Colleges at Yale are to my mind the most outstanding case in point. In this instance the old buildings are admittedly copies of older styles, even susceptible of being called Gothic re-revival. But John Russell Pope's Yale Gymnasium was in the sincere high style of its day, now long enough ago to claim its peculiar dignity, even if its ring is a little hollow.

Saarinen has made his buildings respectful of their neighbors in many ways. The rough stone and concrete is a new use of the old materials. The vertical window treatment is a freer, more subtly composed use of similar fenestration. The massing and silhouette of the buildings are directly related. Above all the scale is the same, perhaps even more successfully communicated. The total result is a common feeling of associative ideas, in this case ideas associated with twentieth century collegiate life at Yale. And we all know what a large constantly increasing body of users this is—at worst an almost professional group of sentimentalists, at best a loyal body of financial supporters. These Yale dormitories delight not only the alumni. I speak as the father of an enthusiastic Yale junior at Ezra Stiles College who because of his personal happiness there took the trouble to telephone his feelings to Mrs Saarinen. Her appreciation was touching. "That is what Eero would love to hear," she told my son.

Before concluding I would mention one other very real feeling of delight which is an essential for the architect to provide. It is essential loyalty to the project budget. Again to quote Saarinen, "The architect must have humility and crust—humility for the problems and realities, crust for solving the problem and sticking with the essentials of the solution." One of these realities and one of these essentials is the financial budget. The architect must not only design within the budget, but must make the final cost of construction stay within it. This includes insistence upon a realistic contingencies allowance, no matter how unpopular this may be. Perhaps I may make up another slogan, with apologies to Schulz, "Happiness is a satisfied client, satisfied with the construction cost."

I would assert again the simple prime obligation of today's architect to create delight in the individual users of our buildings. This is not a trite assertion. Recently I was surprised by the entirely sincere comment of a chance lay acquaintance, "It never occurred to me that an architect tried to make you feel happy." Well, truthfully, perhaps too few have really tried to do so.

August Heckscher's current book, "The Public Happiness," treats this subject in its largest scope. In his search he dismisses, as falling short of the answer, public welfare, and is even scornful of comfort. Instead he grapples with beauty as the ultimate criterion of public happiness. It heartens me that simply setting the goal of beauty does not satisfy him. He challenges that "not beauty, but the striving for beauty is what lifts men up and makes a civilization."

It is this striving for beauty about which these thoughts of a practitioner of architecture have been concerned. Certainly this is no new concern, but I would hope that its restatement in terms of the problems and potentials of today may have new meaning With this emphasis I am convinced that our architecture can begin to answer Eero Saarinen's challenge that we not only shelter but "enhance man's life on earth and fulfill his belief in the nobility of his existence." ◄

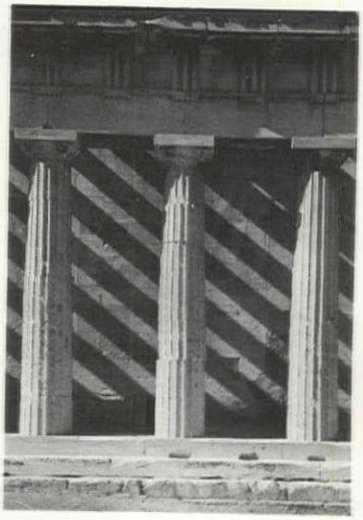
Portfolio by G. E. Kidder Smith, FAIA

Winner of the 1963 AIA Architectural Photography Medal

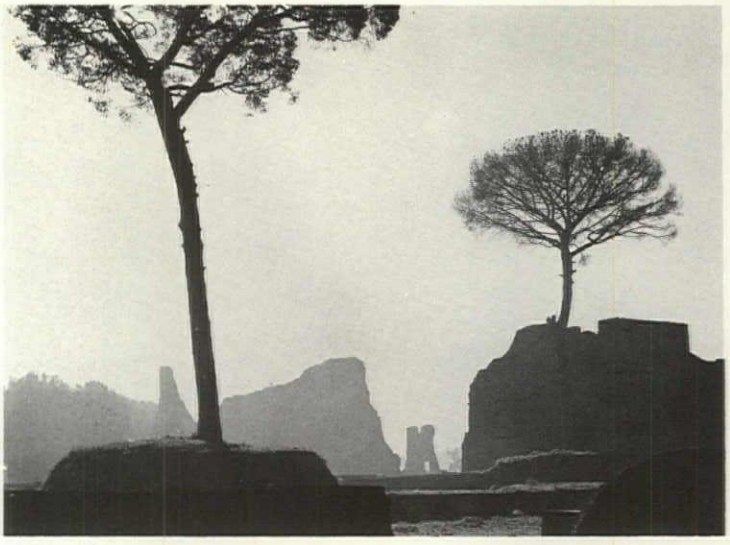
Chartres

Orvieto
Cathedral

Theseum



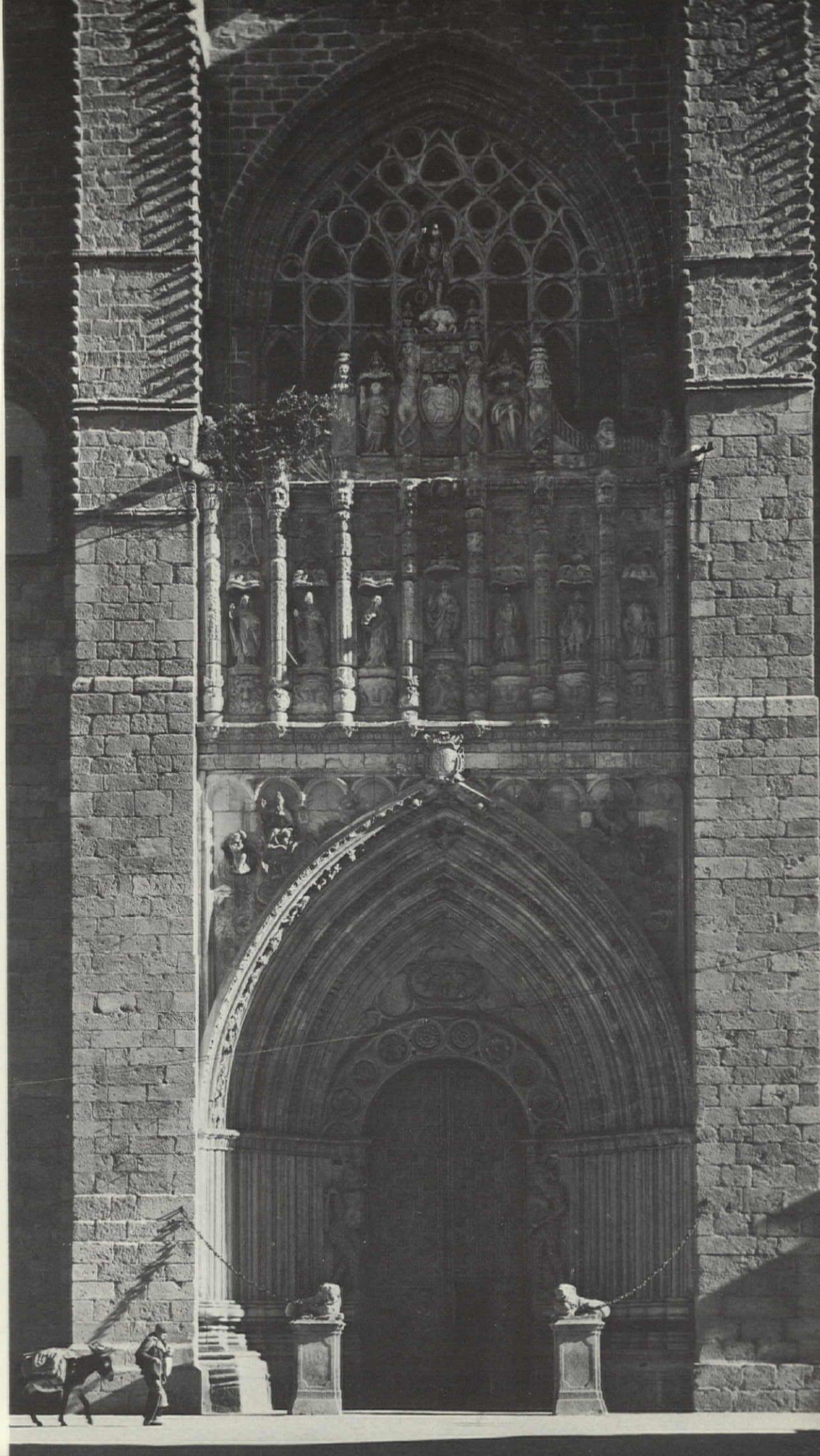
Horses on St Mark's
Venice



The Upper Forum
Rome

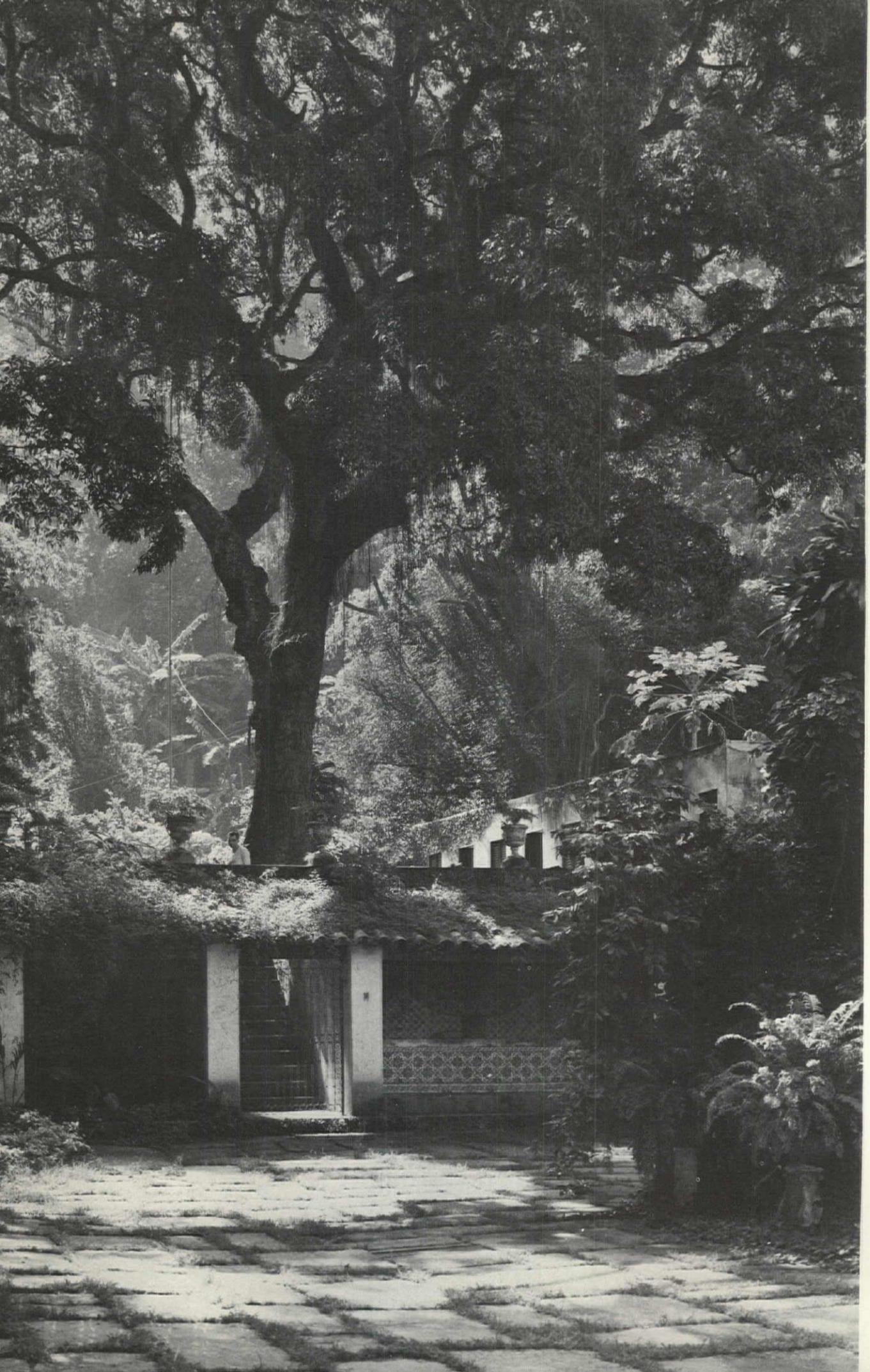
Santa Sophia
Istanbul

Avila, Spain

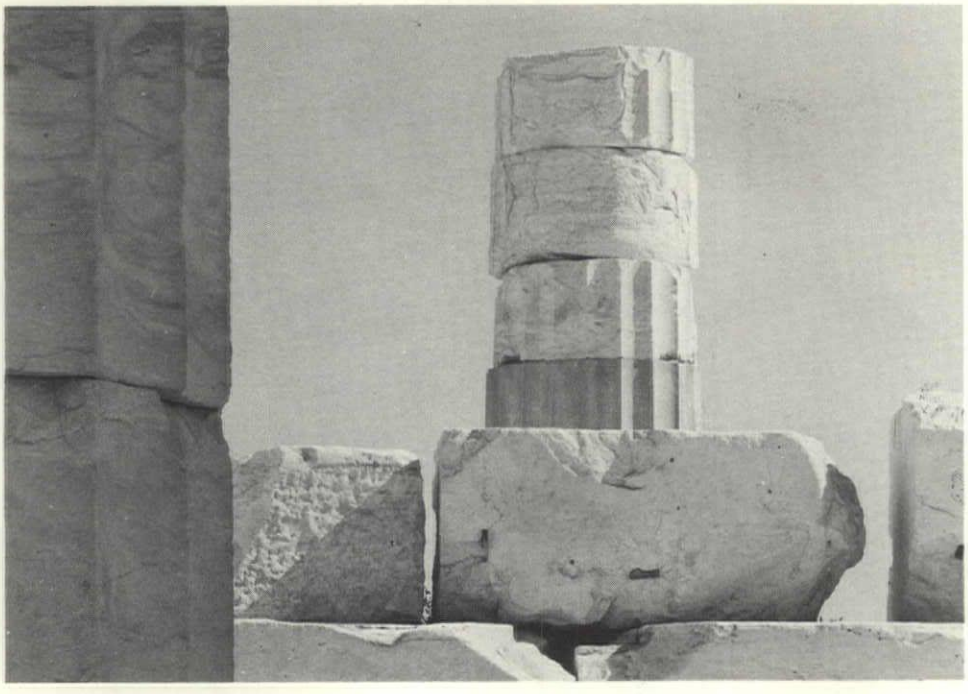


Propylaea from the Erechtheum

Timgad,
Algeria

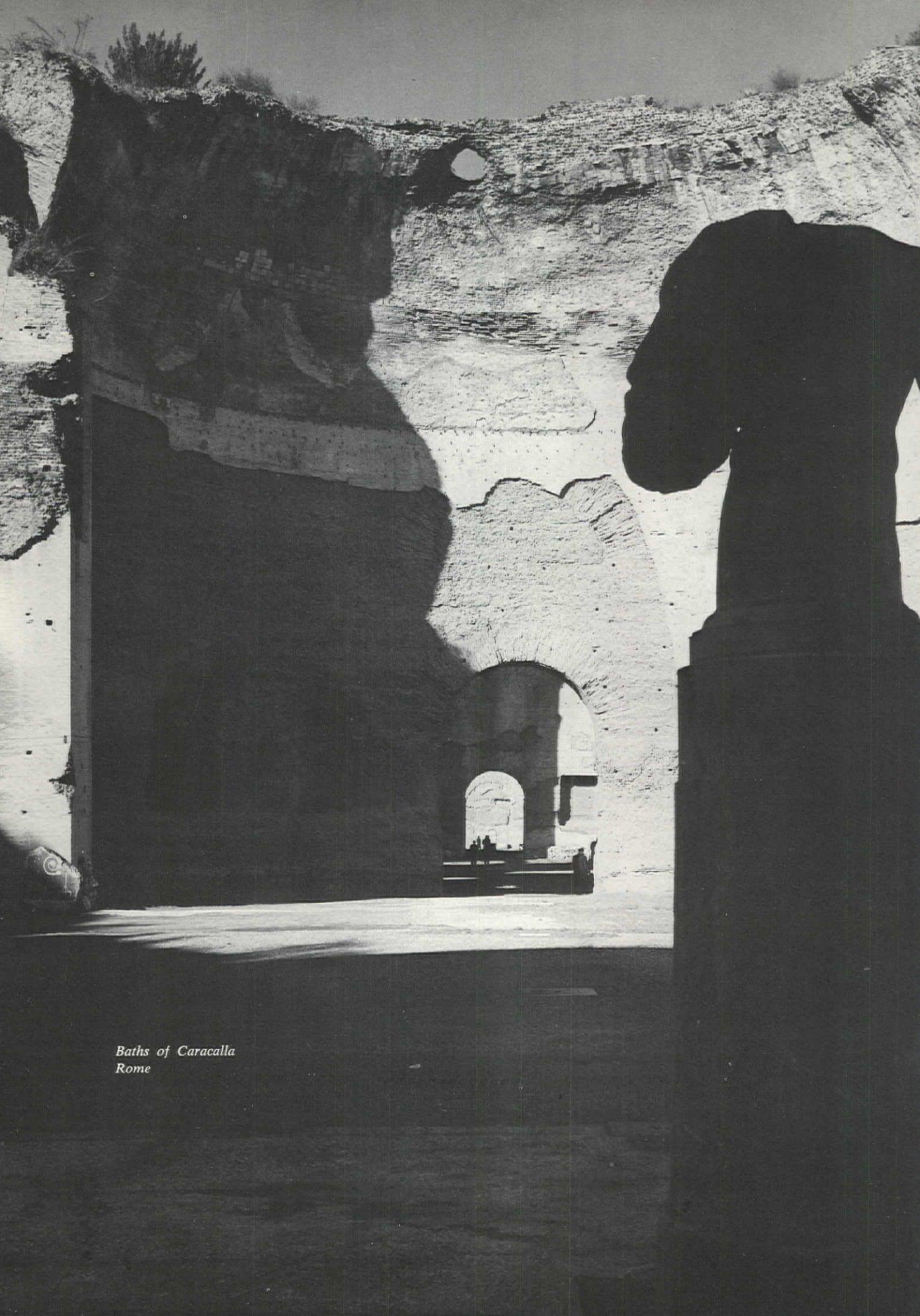


Garden Rio de Janeiro



Columns of Parthenon

Appenzell, Switzerland



Baths of Caracalla
Rome

The Society of Architectural Historians

J. D. FORBES HON AIA, *President, SAH*

Every other architect is an amateur historian at heart—at least as far as buildings are concerned. All such architects belong in SAH; if interested, write to the Executive Secretary, Mrs Rosann S. Berry, Box 94, Media, Pennsylvania

THE SOCIETY OF ARCHITECTURAL HISTORIANS is several societies combined into one, but their functions are so intertwined and interdependent that they could only flourish within the one whole. It is a learned society. It is an educational society. It is within certain limits a preservation society.

The SAH is a learned society and as such is a member of the American Council of Learned Societies. The SAH actively promotes learning—the serious historical study of architecture and architects. This encouragement of scholarship is accomplished by means of four principal activities:

1 Publication of the *Journal*: The *Journal of the Society of Architectural Historians* is the only architectural history periodical published in this country; through it the Society provides a medium for architectural historians to present their findings. Research for its own sake may be a diverting pastime, but to be constructive its results must be shared. The existence of this outlet promotes further research, and the steadily increasing volume of publishable manuscripts submitted to the *Journal* and the increasing thickness of succeeding issues testify to this expanded productivity.

2 The Annual Meetings: Many thoughtful articles published in the *Journal* were first presented as papers read aloud at one of the several sessions of an Annual Meeting of the Society. Some of the papers read are "trial balloons" sent up to advance ideas provisionally without the commitment of formal publication. Some are the first work of younger scholars, and the Society feels a very real responsibiilty to encourage the group coming along.

The yearly meetings have been held jointly with the College Art Association of recent years. They take place in the last week of January between the terms of the standard academic year. They are held in cities with individual buildings or areas of architectural significance.

3 The Annual Book Award: The Society promotes the publication of book-length studies on architectural history by giving a citation each year to the author of the book which, in the opinion of the Committee, is the best book published during the preceding year in the field of architectural history by a US citizen or on a US subject. The award carries with it the Alice Davis Hitchcock medallion, a Wedgwood jasper plaque of James Stuart, the Scottish architect.

4 The Tours: For on-site examination of buildings not readily accessible to the tourist, the Society operates two types of field-trips. The

August Tour is an annual week-end visit to some area of concentrated architectural interest in the United States. The less frequent Foreign Tours have made it possible for members to see closely at hand private houses and other buildings not usually open to view in such centers as Dublin, Vicenza and parts of The Netherlands.

Since education is the other side of the coin of scholarship, it goes without saying that the Society performs its educational function with the same four activities, the *Journal,* the sessions of the Annual Meetings, the Book Award and the Tours. Within the Society, members are informed of the activities of the five Chapters of SAH (Chicago, Houston, New York, Pacific Section and Pittsburgh) and of members' endeavors in the areas of scholarship, preservation and allied fields through the publication of a quarterly *Newsletter.*

Consistent with the idea that the *Journal* is published to be read as well as to be written for, is the attention paid to readability and the presentation (with the expert help of The Meriden Gravure Company) of visual materials.

The Society of Architectural Historians is concerned with historic preservation. The services of its members are always available to groups wishing professional advice about the provenance or merits of buildings or information about how to conserve or restore them. This activity is concentrated primarily in the Preservation Committee. The Board of Directors and the officers are ready to join with others to intercede for the protection of buildings worth preserving which are threatened with destruction. The Society is associated with the National Trust for Historic Preservation and takes every opportunity to urge its members to join or form local preservation committees to save specific worthwhile monuments and areas, though the Society itself remains a scholarly rather than an action body.

Part of the preservation function is associated with the educational in that the papers read at meetings and the articles published in the *Journal* repeatedly point out the architectural merits of buildings and styles long neglected or out of fashion and thus particularly vulnerable to destruction, such as the Victorian. This is not to say that contemporary architecture is *neglected*—many sessions in the Annual Meetings, tours and articles in the *Journal* are devoted to contemporary architecture.

Too often the forces of change—which is not necessarily "progress," that perverted and deceitful justification-word—bring about the destruction of a handsome piece of architecture. In these cases the architectural historian's job is to record the building for posterity. For most important structures this will already have been done before the building is doomed. As we regard the self-devouring American cities and the relatively short lives of seemingly permanent buildings, we say to the practicing architect: We architectural historians are your immortality. ◄

Coming in the October Journal

The Stockade Story, GILES Y. VAN DER BOGERT AIA

An exciting urban renewal and historic preservation has been taking place over the past fifteen to twenty years in what is known as the "Stockade Area" of Schenectady, NY.

One-Man Panel on Architecture, EDWARD LARRABEE BARNES AIA

This address, presented at Sarah Lawrence College, might well serve as a model of how the architect can tell his story effectively to non-professional audience.

Computer Technology, JAMES J. SOUDER AIA AND WELDEN E. CLARK

Suggestions on how systems analysis and techniques for man-computer interaction offer powerful tools for strengthening architectural judgment.

Commission on Professional Practice, William W. Eshbach AIA, Chairman
Committee on Office Procedures, Daniel Schwartzman FAIA, Chairman

Letter Form of Agreement Between Owner and Architect

LUTHER LASHMIT AIA

FOLLOWING A SURVEY of some 200 practitioners in 1962 "to determine whether AIA Document B-131 is as short a form of agreement as is advisable today," it was the consensus that a full understanding of the architect's and owner's responsibilities would require a form containing the essential provisions of B-131.

Architects who initially called for the continued publication of the shorter form B-121 and who objected to B-131 because of their reluctance to present it to their clients have since found that clients and their legal counsel favor the complete conditions of agreement contained in B-131. Significant too is the increasing acceptance of B-131 by practitioners as they become familiar with aspects of professional liability which B-131 is designed to minimize.

Misunderstandings due to inadequate agreements can be burdensome to both parties whether a project is small or large. Often the so-called "minor" project is in fact the once-in-a-lifetime investment of an owner and the "big job" in the early stages of a young practitioner's career.

Practitioners who are familiar with B-131 but who prefer the informality of a letter form of agreement for minor projects should be guided by the contents of B-131—preparing the letter to cover the variable conditions of agreement and attaching a statement to cover the fixed conditions of agreement. This statement should exactly parallel the articles following the heading "Terms and Conditions of Agreement Between Owner and Architect" as they appear in the September 1963 Edition of B-131, just published by the AIA.

The September 1963 edition of AIA Document B-131, a revision of the 1961 edition, is the result of many months of study by the Committee on Office Procedures and others. It contains four separate sheets, each printed on one side only. The "Terms and Conditions" articles referred to above are essentially those articles contained under Section C of the 1961 edition. Since they are printed on separate sheets they can be removed and attached to a letter form of agreement. The revised document also distinguishes between "Statements of Probable Project Construction Cost" and "Detailed or Semi-Detailed Cost Estimates," clarifies the architect's "Additional Services" and his "Direct and Reimbursable Expense," provides for insurance counseling services to be paid for by the owner, and follows a new layout format and article numbering system adopted for all AIA agreement forms.

The Institute continues to urge the use of the full B-131 document in its published form. However, for the practitioner who wishes to employ the letter form of agreement, AIA Document B-131, September 1963 Edition, should be of real assistance to him.

The letter form of agreement, in whatever informal manner it is prepared, would include as a minimum, 1) the date of the agreement, 2) the description and location of the project, 3) the architect's compensation, 4) reference to an attached "Terms and Conditions" as being part of the agreement, 5) specific mention of any modifications to the Statement of Services, and 6) a requirement that a countersigned copy of the letter be returned as a condition to the performance of services. A sample letter might read as follows:

Dear Sir:

We are pleased to confirm your verbal decision, made during our conference on (date), to employ our firm as architects for (project description) to be constructed at (location).

As decided during our conference all work in connection with this project will be bid and awarded under a single lump sum contract except (item) which will be let under a separate contract.

It was determined also that our fees of ——% of the construction cost of the work under the lump sum contract and ——% of the cost of (item) are agreeable to you.

To assure a clear understanding of all matters relating to our mutual responsibilities, including payments to be made periodically for services rendered, we are attaching a copy of The American Institute of Architects' "Terms and Conditions of Agreement Between Owners and Architect" which is part of our agreement.

Additional services will be performed only with your knowledge and authorization. Our charges for such services will be —— times the regular rates of pay of technical personnel directly engaged in performing the services, and in addition principal's time is to be paid at $——— per hour. Reimbursable expenses are defined in the attachments.

We are happy to have this opportunity to be of service to you professionally.

Your signature of approval on the second copy of this letter, returned to this office, will serve as our notice to proceed with the development of your Project.

Obviously a "sample" letter can not be a "form" letter covering all situations. Therefore reference to the bidding and awarding of construction contracts and to fees must be adjusted to the needs of the project and to local practice.

In areas where laws of long standing require separate prime contracts for general construction, mechanical and electrical work the local level of normal fees may be already adjusted to this circumstance. In areas where lump sum contracts are normal, higher than normal fees are required for the preparation of special documents for multiple contracts and their administration during construction.

Regarding charges for extra services a factor of 2½ to 3 times the regular salaries of technical personnel is commonly used. General experience is that overhead about equals salaries and that an additional 50% to 100% of salaries is required for capital expenditures, working reserves and profit, depending on the size and complexity of the project and whether principals are included in the salary factor or the profit factor. When the time of "unsalaried" principals is included as a technical salary an hourly rate should be stated with an indication whether such rate is gross or subject to the multiple factor. The same is true of consultants.

A reproduction of the "Terms and Conditions of Agreement Between Owner and Architect" articles, excluding the preamble and signature spaces, taken from the September 1963 Edition of AIA Document B-131, follows:

ARTICLE 3. ARCHITECT'S BASIC SERVICES

3.1 *Schematic Design Phase.*

3.1.1 The Architect shall consult with the Owner to ascertain the requirements of the Project and shall confirm such requirements to the Owner.

3.1.2 He shall prepare schematic design studies leading to a recommended solution together with a general description of the Project for approval by the Owner.

3.1.3 He shall submit to the Owner a Statement of Probable Project Construction Cost based on current area, volume or other unit costs.

3.2 *Design Development Phase.*

3.2.1 The Architect shall prepare from the approved Schematic Design Studies, the Design Development Documents consisting of plans, elevations and other drawings, and outline specifications, to fix and illustrate the size and character of the entire Project in its essentials as to kinds of materials, type of structure, mechanical and electrical systems and such other work as may be required.

3.2.2 He shall submit to the Owner a further Statement of Probable Project Construction cost.

3.3 *Construction Documents Phase.*

3.3.1 The Architect shall prepare from the approved Design Development Documents, Working Drawings and Specifications setting forth in detail the work required for the architectural, structural, mechanical, electrical, service-connected equipment, and site work, and the necessary bidding information, General Conditions of the Contract, and Supplementary General Conditions of the Contract, and shall assist in the drafting of Proposal and Contract Forms.

3.3.2 He shall keep the Owner informed of any adjustments to previous Statements of Probable Project Construction Cost indicated by changes in scope, requirements or market conditions.

3.3.3 He shall be responsible for filing the required documents to secure approval of governmental authorities having jurisdiction over the design of the Project.

3.4 *Construction Phase—General Administration of Construction Contracts.*

3.4.1 The Architect shall assist the Owner in obtaining proposals from Contractors and in awarding and preparing construction contracts.

3.4.2 To the extent provided by the contract between the Owner and the Contractor, he shall make decisions on all claims of the Owner and Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the Contract Documents. He shall check and approve samples, schedules, shop drawings and other submissions only for conformance with the design concept of the Project and for compliance with the information given by the Contract Documents, prepare change orders and assemble written guarantees required of the Contractors.

3.4.3 He will make periodic visits to the site to familiarize himself generally with the progress and quality of the work and to determine in general if the work is proceeding in accordance with the Contract Documents. He will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work and he will not be responsible for the Contractors' failure to carry out the construction work in accordance with the Contract Documents. During such visits and on the basis of his observations while at the site, he will keep the Owner informed of the progress of the work, will endeavor to guard the Owner against defects and deficiencies in the work of Contractors, and he may condemn work as failing to conform to the Contract Documents. Based on such observations and the Contractors' Applications for Payment, he will determine the amount owing to the Contractor and will issue Certificates for Payment in such amounts. These Certificates will constitute a representation to the Owner, based on such observations and the data comprising the Application for Payment, that the work has progressed to the point indicated. By issuing a Certificate for Payment, the Architect will also represent to the Owner that, to the best of his knowledge, information and belief based on what his observations have revealed, the quality of the work is in accordance with the Contract Documents. He will conduct inspections to determine the dates of substantial and final completion and issue a final Certificate for Payment.

3.4.4 If more extensive representation at the site is required, the conditions under which such representation shall be furnished and a Project Representative selected, employed and directed, shall be agreed to by the Owner and the Architect and set forth in an exhibit to this Agreement.

ARTICLE 4. ARCHITECT'S ADDITIONAL SERVICES

The following services cause the Architect extra expense. If any of these services are authorized by the Owner they shall be paid for by the Owner as a Multiple of Direct Personnel Expense:

4.1 Making planning surveys and special analyses of the Owner's needs to clarify requirements of the Project.

4.2 Making measured drawings of existing construction when required for planning additions or alterations thereto.

4.3 Revising previously approved drawings or specifications to accomplish changes.

4.4 Providing Semi-Detailed or Detailed Cost Estimates.

4.5 Preparing documents for Alternate Bids and Change Orders, or for supplemental work initiated after commencement of the construction phase.

4.6 Consultation concerning replacement of any work damaged by fire or other cause during construction and furnishing professional services of the types set forth in Article 3 above as may be required in connection with the replacement of such work.

4.7 Arranging for the work to proceed should the contractor default due to delinquency or insolvency.

4.8 Providing prolonged contract administration and observation of construction should the construction contract time be exceeded by more than 25% due to no fault of the Architect.

4.9 Preparing as-built drawings showing construction changes in the work and final locations of mechanical service lines and outlets on the basis of data furnished by the Contractor.

4.10 Making an inspection of the Project prior to expiration of the guarantee period and reporting observed discrepancies under guarantees provided by the construction contracts.

ARTICLE 5. THE OWNER'S RESPONSIBILITIES

5.1 The Owner shall provide full information as to his requirements for the Project.

5.2 He shall designate, when necessary, representatives authorized to act in his behalf. He shall examine documents submitted by the Architect and render decisions pertaining thereto promptly, to avoid unreasonable delay in the the progress of the Architect's work. He shall observe the procedure of issuing orders to contractors only through the Architect.

5.3 He shall furnish or direct the Architect to obtain at the Owner's expense, a certified survey of the site, giving, as required, grades and lines of streets, alleys, pavements, and adjoining property; rights of way, restrictions, easements, encroachments, zoning, deed restrictions, boundaries, and contours of the building site; locations, dimensions, and complete data pertaining to existing buildings, other improvements and trees; full information as to available service and utility lines both public and private; and test borings and pits necessary for determining subsoil conditions.

5.4 He shall pay for structural, chemical, mechanical, soil mechanics or other tests and reports if required.

5.5 He shall arrange and pay for such legal, auditing, and insurance counselling services as may be required for the Project.

5.6 If the Owner observes or otherwise becomes aware of any defect in the Project, he shall give prompt written notice thereof to the Architect.

ARTICLE 6. PROJECT CONSTRUCTION COST

6.1 Project Construction Cost as herein referred to means the total cost of all work designed or specified by the Architect, but does not include any payments made to the Architect or consultants.

6.2 Project Construction Cost shall be based upon one of the following sources with precedence in the order listed:

6.2.1 Lowest acceptable bona fide Contractor's proposal received for any or all portions of the Project.

6.2.2 Semi-Detailed or Detailed Estimate of Project Construction Cost as defined in paragraph 6.4 below.

6.2.3 The Architect's latest Statement of Probable Project Construction Cost based on current area, volume or other unit costs.

6.3 When labor or material is furnished by the Owner, the Project Construction Cost shall include such labor and material at current market cost.

6.4 If a fixed limit of Project Construction Cost is stated herein, or if otherwise authorized by the Owner, Estimates of the Probable Project Construction Cost prepared in Semi-Detailed or Detailed form by an experienced estimator will be secured by the Architect during the Design Development or Construction Documents Phase.

6.5 If the Statement of Probable Project Construction Cost, or the Semi-Detailed or Detailed Cost Estimate, or the lowest bona fide proposal is in excess of any limit stated herein, the Owner shall give written approval of an increase in the limit, or he shall cooperate in revising the project scope or quality, or both, to reduce the cost as required.

6.6 Since the Architect has no control over the cost of labor and materials, or competitive bidding, he does not guarantee the accuracy of any Statements of Probable Construction Cost, or any Semi-Detailed or Detailed Cost Estimates.

ARTICLE 7. DIRECT & REIMBURSABLE EXPENSE

7.1 Direct Personnel Expense includes that of principals and employees engaged on the Project including architects, engineers, designers, job captains, draftsmen, specification writers, typists and Project Representatives, in consultation, research, designing, producing drawing, specifications and other documents pertaining to the Project, and services during construction at the Project site.

7.2 Reimbursable Expense includes actual expenditures made by the Architect in the interest of the Project for the following incidental expenses:

7.2.1 Expense of transportation and living of principals and employees when traveling in connection with the Project; long distance calls and telegrams; reproduction of drawings and specifications, excluding copies for Architect's office use and duplicate sets at each phase for the Owner's review and approval; and fees paid for securing approval of authorities having jurisdiction over the Project.

7.2.2 If authorized in advance by the Owner, the expense of Project Representative, overtime work requiring higher than regular rates, perspectives or models for the Owner's use.

7.2.3 If their employment is authorized in advance by the Owner, fees of special consultants, for other than the normal structural, mechanical and electrical engineering services.

ARTICLE 8. PAYMENTS TO THE ARCHITECT

8.1 Payments on account of the Architect's basic services shall be as follows:

8.1.1 A minimum primary payment of 5 per cent of the compensation for basic services, payable upon the execution of the Agreement, is the minimum payment under the Agreement.

8.1.2 Subsequent payments shall be made monthly in proportion to services performed to increase the compensation for basic services to the following percentages at the completion of each phase of the work:

Schematic Design Phase	15%
Design Development Phase	35%
Construction Documents Phase	75%
Receipt of Bids	80%
Construction Phase	100%

8.2 Payments for Additional Services of the Architect as defined in Article 4 above, and for Reimbursable Expense as defined in Article 7.2, shall be made monthly upon presentation of Architect's detailed invoice.

8.3 No deduction shall be made from the Architect's compensation on account of penalty, liquidated damages, or other sums withheld from payments to contractors.

8.4 If any work designed or specified by the Architect during any phase of service is abandoned or suspended in whole or in part, the Architect is to be paid for the service performed on account of it prior to receipt of written notice from the Owner of such abandonment or suspension, together with reimbursements then due and any terminal expense resulting from abandonment or suspension for more than three months.

ARTICLE 9. ARCHITECT'S ACCOUNTING RECORDS

Records of the Architect's Direct Personnel, Consultant, and Reimbursable Expense pertaining to this Project and records of accounts between the Owner and Contractor shall be kept on a generally recognized accounting basis and shall be available to the Owner or his authorized representative at mutually convenient times.

ARTICLE 10. TERMINATION OF AGREEMENT

This Agreement may be terminated by either party upon seven day's written notice should the other party fail substantially to perform in accordance with its terms through no fault of the other. In the event of termination, due to the fault of others than the Architect, the Architect shall be paid for services performed to termination date, including reimbursements then due, plus terminal expense.

ARTICLE 11. OWNERSHIP OF DOCUMENTS

Drawings and Specifications as instruments of service are the property of the Architect whether the Project for which they are made be executed or not. They are not to be used on other projects except by agreement in writing.

ARTICLE 12. SUCCESSORS AND ASSIGNS

The Owner and the Architect each binds himself, his partners, successors, assigns and legal representatives to the other party to this Agreement and to the partners, successors, assigns and legal representatives of such other party in respect of all covenants of this Agreement. Neither the Owner nor the Architect shall assign, sublet or transfer his interest in this Agreement without the written consent of the other.

ARTICLE 13. ARBITRATION

Arbitration of all questions in dispute under this Agreement shall be at the choice of either party and shall be in accordance with the provisions, then obtaining, of the Standard Form of Arbitration Procedure of The American Institute of Architects. This Agreement shall be specifically enforceable under the prevailing arbitration law and judgment upon the award rendered may be entered in the court of the forum, state or federal, having jurisdiction. The decisions of the arbitrators shall be a condition precedent to the right of any legal action.

C-C Potential

WITHIN THE NEXT TWO MONTHS, the Commission segment of the new AIA Commission-Committee ("C-C") System will reach the climax of its first year of operation in two significant meetings. I believe the membership should know more about the C-C System and its potential.

One of the remarkable characteristics of the AIA is the extent to which its goals are defined and attained by the voluntary hard work of several hundred members serving on more than fifty national committees. Their achievements are reinforced by hundreds of counterpart committees at regional and chapter levels. Several thousand AIA members are thereby united in their efforts for the advancement of the profession.

The sheer size and importance of these member activities were responsible for a study last year seeking to make them operate still more effectively. The result of this study was the Commission-Committee concept which arranged the national committees into five functional groups, each supervised and coordinated by a Commission. The C-C System was described in the 1963 annual Report of the Board and in the 1963 Committee Directory.

In November the First Vice President will convene a meeting of the Commission Chairmen as the Committee on Committees to nominate members and chairmen for all national committees in 1964. The selections will be made from lists of names from all of the Directors and incumbent Committee Chairmen who will have given much thought to members in every region best qualified for nomination. Thus the continuity and renewal of national committee manpower will receive thorough and deliberate consideration.

The Committee on Committees is also charged with a new responsibility under the C-C System. It must continually review the need for and performance of national committees. A committee whose work is completed should be abolished. Some committees might be combined or realigned with those in another Commission. Thus the tendency of the committee structure to "grow like Topsy" can be changed to an orderly development that maintains dynamic quality.

The second important meeting will take place in December. All Commission members will meet to review the 1963 annual reports of all national committees.

On the second day, the Commission Chairmen, meeting as the Project Priority Review Committee, will review, evaluate and assign priority to all projects proposed by the national committees or others. On the following day, the Finance Committee will determine the allocation of funds from supplemental dues or other sources to projects in the order of their assigned priority. These committee actions are, of course, subject to review and approval by the Board.

This unspectacular and orderly procedure is actually a great leap forward for the AIA, made possible in no small measure by the supplementary dues. These funds, set aside for *new* projects and activities, make it possible to encourage the national committees to originate and propose projects for the benefit of the membership. Not so very long ago we almost dreaded to see a good proposal because of the likelihood of its death for lack of funds. Now we hope to see a lively competition for priority by well considered projects for public relations programs, research, regional seminars, advancement of comprehensive services and the like.

The C-C System provides the mechanism for selecting and developing projects that represent a "grass roots" demand from the membership.

The potential of the C-C System is still greater than this. Through the eyes of the Commissions and their Chairmen, the total activities of the far-flung national committee structure can be seen as the forest rather than the trees. No committee need perform as an isolated unit with limited objectives. Instead the work of all committees can be integrated into a master plan for the improvement of design, the advancement of practice, the stimulation of research, the education of the membership and the conveyance of the profession's message to the public. W.H.S.

This Series is a Project Financed by Your Supplementary Dues

Comprehensive Architectural Practice
Architecture and Industrialization

CARL KOCH FAIA

How comprehensive services, used with intelligence and imagination, can lead to future accomplishments in the largely unexplored area of mass-produced, standardized and interchangeable components that can be combined into varied, successful and satisfying designs for buildings and the entire environment

"What matters to a society is less what it owns than what it is and how it uses its possessions. It is civilized insofar as its conduct is guided by a just appreciation of spiritual ends, insofar as it uses its material resources to promote the dignity and refinement of the individual beings who compose it."
(R. H. Tawney, "Equality," New York: The Macmillan Co., 1961)

In Classic Greece, architects designed and built beautiful buildings using almost identical elements over and over again, refining them over long periods of time. In the Middle Ages, the cathedrals, which expressed man's hopes and aspirations better than ever before or since, derived their breathtaking beauty from the necessity to use a single material—stone—in an imaginative way. Involved in a process of very slow evolution, architects of these eras accepted the rigorous discipline necessary to build in the media available to them.

Today, we can do an almost limitless number of things with our new processes and new materials. We can simulate natural materials. We can support buildings with air. We can do almost any job with a bewildering choice of methods and materials. We can, as one engineer has said, ". . . correct almost any design mistake with technology." Yet we somehow seem to lack the imagination necessary to harness the industrialized process by accepting the disciplines it imposes on us.

Buildings part of larger environment

Almost no building today is sufficient unto itself. Rather it is a part of a much larger environment; and industrialized components, designed with imagination and discipline, can be instrumental in making this a better environment. By the kind of discipline required to achieve efficient, economical and beautiful industrialized components, we can harness industry to achieve an

Sketches by Gardner Ertman

attractive, civilized environment we can afford in our communities.

In industrialization, basic word is repetition

Before attempting to relate industrial components and community design, it will be well to look briefly at the relation of repetition, the basic word in industrialization, to the other design aspects required in a civilized society. First of all, industrialization is only a means, not an end. Secondly, the main features of industrialization are mass production and distribution. Today it is volume which reduces costs. The key features of any factory-produced item are repetition and interchangeability. The *assembly* of components may vary considerably, provided that the components themselves are repetitive. In other words, to achieve both beauty and economy, flexibility must be achieved within a standardized repetitive system.

The word "repetition" conjures up, for many people, a nightmare of monotony and ugliness, but it shouldn't because repetition is actually a key element in every esthetically satisfying composition. The standard component is found universally in nature—and in art. For example, most organic cells appear to reproduce repetitively. With only the 26 interchangeable parts of the alphabet as the elemental components of literature, and with words as sub-assemblies, we are able to build sentences, express ideas and construct an essay, a novel or a poem.

The number of letters in our alphabet is quite arbitrary; the Chinese, for instance, have thousands of "letters." The form of their literature is necessarily different from ours and therefore presents tremendous complications of mechanics. For the Chinese, written communication requires, for complete understanding, considerably more scholarship than it does for us. Other examples of the use of components could be cited: our nine digits and the cipher, zero, permit extreme variety and, in music, our 13-note scale allows us to create almost inexhaustible variations that are meaningful and beautiful.

Industrialization can lead to esthetic quality

Neither architecture nor any other art is a process of evasion or concealment of the discipline of repetition. Rather all of the arts must react to, and treat of, this discipline with creative intelligence and imagination. Indeed, the industrialization of buildings, in imaginative hands, can lead to esthetic quality in architecture through intelligent discipline and repetition.

It is quite possible to apply the repetitive principles of mass production very effectively and still permit the outward appearance of the building to be treated individually. In fact, it can be demonstrated that in a three-story building the exterior walls represent only about 20 per cent of the surface area of the building shell. If the balance of the building surface were built from standardized parts, the facades could be varied considerably without a large increase in costs. At the same time, if the standardized components have been carefully proportioned, the total building can be made intrinsically sound in proportion; and it will form a strong framework in which variety of the surfaces can add interest without deteriorating into chaos. The discipline afforded by standardization can go a long way toward the elimination of the most immediately obvious failure of modern buildings in cities and suburbs—the lack of coherence which stems from partly accidental and partly deliberate, if abortive, attempts to

achieve individuality. True individual expression is not only possible, but is enhanced, by incorporation into an over-all pattern, rather into the current artificial multiplicity of materials, heights and roof slopes. Historically, this principle may be seen in the basically repetitive nature of the patterns of the 18th and 19th century architecture of Bath, England, in that of Beacon Hill in Boston or of the Greek island towns, all composed of basic patterns and similar materials, colors and textures, but with rich variation in detail.

Cannot house construction be as intelligent as that of automobile engines?

Granting that a house and an automobile engine have different sets of functional and esthetic factors, cannot the house be built in as intelligent a way as the engine? A house certainly presents no more difficult a problem and, on the whole, the materials used in a house, because of the static nature of their use, are subject to fewer restrictions. An automobile engine built the way an average house is built might well cost $10,000. That engine built in Detroit costs $200; yet it is an incredibly complex assembly of precisioned machined parts—parts that by functional necessity are far more complex and far more precise than in a house; and the engine is made of special alloys that are far more expensive than any of the materials in the average house. The simple fact is that the components of this potentially expensive assembly have been standardized in order to allow production to be large enough to justify the use of tools, dies, machines and processes—at every stage—which drastically reduce the time required to convert raw materials to machined parts.

Limitations of present-day industrialized building components

A great many of the components of buildings are available as standard items, it is true. Three observations, however, may be made on this point. First, most standard items are developed largely in isolation from all other standard items. Thus, plywood and plasterboard are 4 ft wide, bathtubs 5 ft long and floor tiles 9 x 9 in, illustrating only the simplest form of our irrationality in this respect. Secondly, even within the existing framework of standardization, the common tendency is to fail to take maximum advantage of what exists. Thus, dimension lumber comes in standard lengths, but usually, on visits to constructions jobs, we find lumber being sawed to odd lengths. In the third place, the available components, on the whole, are in smaller increments than they should be. For example, when plywood and plasterboard precut studs and machine cut shingles are being used, assembly is ordinarily performed at the site. Clearly this whole wall could be factory produced in large sizes.

Indeed, a whole house can be factory-built with potentially substantial savings. For some housing problems this is often the best answer. But people vary; so do weather, topography, soil and density requirements. A more flexible approach for our larger needs would entail, therefore, a system of standard parts which themselves are designed for mass production. The optimum size of such components would obviously be a compromise between the complete factory-produced house and the bits and pieces that are commonly used for most housing today. The key word in this is "system" since only through interrelated systematized standardization of all of the necessary elements can the volume necessary today be established.

Intelligent use of available human resources

Another aspect of the mass production of standardized, systematic building components is that more intelligent use can be made of human resources through intelligent use of manufacturing processes. We are approaching a stage in most areas of our socio-economic organization in which routine mechanical and heavy work can be performed by machines, so that, for those with the capacity and interest, work can become more skilled and creative. One can visualize an industrial process designed to permit statistically correct proportioning of work so that all phases of it are geared to the varied capacities of the workers. The ideal component system is so perfectly interchangeable that assembly can be done by totally unskilled personnel. This goal is normally thought of as related primarily to cost savings, but the human values involved may be equally as valid a goal. Waste in many forms is inherent in the so-called building industry today. This industry, if it can be called such, in fact, is not unlike a giant centipede whose legs are quite uncoordinated.

Today, almost every single building is treated as a unique creation in every respect. Two hundred pages of specifications (full of time-worn phrases, paragraphs and sections) are necessary to describe it. In contrast, a standard mass-produced product can be described in a page, since the quality and attributes of all the parts are controllable and predictable. A large proportion of the motions involved in the design and construction of a building are, in fact, repeated over and over again. In almost every field except building, we have placed the production of the constants in our factories.

Improvement of construction industry is feasible now

Every facility is now at hand for vast improvement of the construction industry, for improvement of the livability of our buildings and our cities and for the enhancement of our esthetic environment. Why have we resisted it so long? Many reasons could be cited, but it seems self-evident that in his traditional role as professional leader of the whole field, it is the architect, above all, who must meet the challenge. In the next few years the architect must face up to this problem, or face being written off as an interesting example of surviving customs from the past, like the Beefeaters at the Tower of London.

Opportunities industrialization offers in urban design

Urban renewal and the construction of new city housing and related physical facilities make up, perhaps, the largest building construction market any society ever had. This great market represents, particularly to architects, opportunities for improvement in the environment that are limited only by our capacities. Perhaps the largest part of this market—and the hardest to crack—is in mass housing for middle- to low-income groups.

There would seem to be no better target than this at which to aim the skills and concerns of architects today. On the pages following, is described a study of the genesis of a series of urban building components designed by architects for other architects to use and improve upon. One of the main aims of the study was to provide better, bigger "bricks" to build with so that the architect may be freed by the machine from some of the endless and ever-changing minutiae of building design and construction—that he may turn his thoughts and imagination to better building groups and, finally, to a better complete living environment.

Excerpt from Edward Logue memo to BRA:

"A key element in the rehabilitation of residential neighborhoods is the construction of moderate-rental housing to provide not only for the relocation of displaced families but for the stabilization of such neighborhoods through new residential investment and construction. The opportunity to develop new private housing both for relocation and for low- and moderate-income families is better now than ever before because of the adoption by Congress of Section 221 (d) (3) of the Housing Act of 1961.

"The terms . . . provide for mortgage loans at an interest rate of 3⅛%, substantially under the market rate. Preliminary studies by the Authority staff indicate that this 'under market' interest rate will make it possible to provide two- to four-bedroom family dwellings at rentals ranging from $85 to $105 per month, including heat. In order to obtain such rentals, however, developers . . . must be prepared to take advantage of every possible economy in design, construction, administration and management while developing structurally sound, easily maintainable, livable dwellings of maximum architectural quality. . . ."

With an experienced young builder, Mark Waltch, our firm was hired by Edward J. Logue, Development Administrator, Boston Redevelopment Authority (BRA), to develop prototype plans for housing of maximum architectural quality, consistent with the use of optimum low-cost construction materials and methods so that the units could be leased at the lowest possible rentals. The studies will also develop construction cost data, financing and operating cost information for this high-quality low-cost housing.

The essence of the project, then, is the initiation of an approach to the residential portion of Boston's renewal program which will answer the following needs:

1 Provision of a rich living environment, urban in character, and purpose; not a weak imitation of suburban attractions, but a new statement of the vitality of city life;

2 Establishment of a visual pattern expressive of urban vitality, without resort to chaos, in order to find again the proportion between anonymity and the richness of individual expression of the Beacon Hills and Georgetowns of yesterday;

3 Provision of these values, together with the more obvious aspects of good housing, at a monthly cost range low enough to meet the requirements of the relocated and/or poorly-housed families for whose needs the program is primarily intended;

4 To find these answers, or their beginnings, in a program for which construction can begin immediately.

As suggested previously, all of these goals may be met in a program, founded on a system of standard parts, which will:

1 Reduce construction costs by taking advantage of volume production of standard components;

2 Reduce construction time;

3 Create an inherent discipline within which individual

expression of architects, owners and tenants will enhance the patterned proportion of the whole;

4 Establish a framework for better cost, quality control;

5 Through reduction, for architect, developer and builder, of some of the time-consuming mechanics of working drawings, estimating and other processes now necessary, increase the time available for important studies of planning and design;

6 Insure a repeatable—not a unique—demonstration of the values cited previously.

Basic premise of study: 500 dwelling units under construction in first year of program

The studies, planning and ideas of the present project were founded on the premise that the construction of at least 500 dwelling units could begin during the first year of the program. Not all mass-producible elements can be made ready for use within such a short time schedule; but enough elements can be made ready to make a significant initial demonstration. Five hundred units is the minimum quantity of standard components which will amount to a volume large enough to obtain significant cost advantages. This minimum quantity for the first year is, therefore, the basis on which this study was made. Undoubtedly, additional cost reductions might accrue if the production volume were increased.

In addition to the establishment of a single family of parts that would be interchangeable in whole or in part, and that could be combined into a system of components, the following factors were also considered important:

1 Efficiency one-, two-, three- and four-bedroom family units at moderate rentals;

2 Two-, three- or four-story, and eventually high-rise, buildings adaptable to varied site, soil and density conditions;

3 Ideally, both frame or skeleton construction (in wood, steel or concrete) and bearing wall-slab construction. Of these, the basic shell of concrete appears to offer the most advantages, not the least of which is its promise of significant lowering of costs within the next few years;

4 Adaptability to varied exterior treatments that would permit sympathetic placement in the existing environment and also permit individual expression and creativity on the part of architects and owners.

Need for flexible modules

In other words, a search was made for a basic module, flexible enough for the desired variations, that would permit moderate-sized basic unit sizes yet allow for increased sizes if cost factors permitted. Dimensions were to be suitable to a variety of structural elements and readily divisible into sizes for component parts that could be produced from materials on the market. Each system of components had to be composed of interchangeable parts.

With these aspects of the problem in mind, as well as the criteria set forth by BRA, a number of progress studies were made of the elements of the over-all problem.

In order to ensure maximum standardization of floor and roof components, the number of breaks through these elements had to be minimized. While the need for this is most obvious in a concrete system, whether precast or preformed, in terms of mass-production, this is equally valid for framed floors of wood or steel.

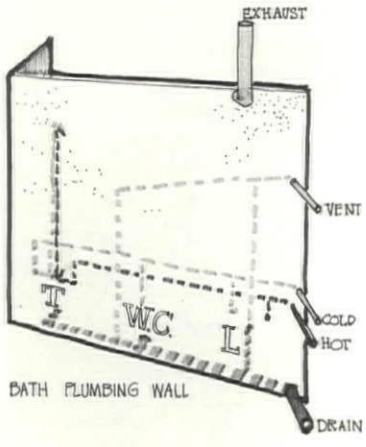
Importance of standardized stairs and mechanical systems

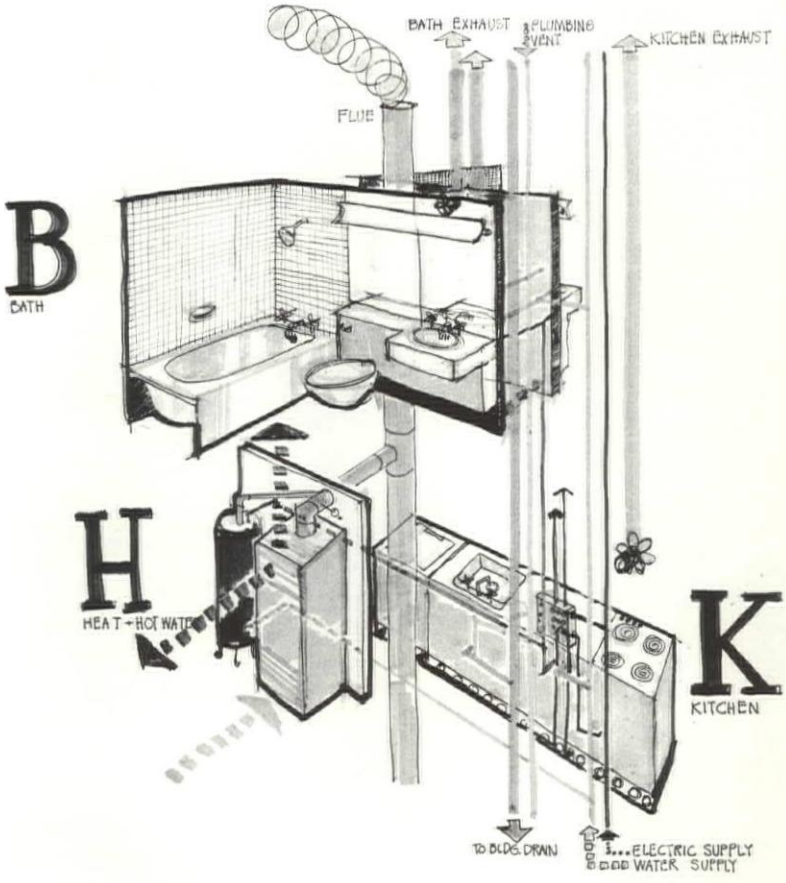
Since special floor panels or slabs are necessary where stacks, vents or stairs penetrate the structure, these elements should

be standardized within their special functions. Approaches to a solution of this problem include: establishment of specialized structural panels for such things as plumbing, heating and stairs; grouping all of these elements and locating them between, and along, party walls; and, as in the example shown here, grouping the elements in a central location. The separation of stairs from mechanical is practical in a frame system but precast concrete slabs require an in-line arrangement of these elements. A number of systems of this type were studied.

On this page is shown one basic in-line grouping, from those possible, for a mechanical core and, on the following page, one such system for stairs. All of the elements shown may be standard regardless of unit size, building type or structural system.

The mechanical elements have been divided into: 1) chase, which contains the stack, water supply, flues, vents, ducts and electrical service and 2) prebuilt baths, kitchens, heating units and electrical panels for individual apartments. This standard chase would serve the requirements of up to four apartments, each with an individual heating unit, where conditions call for this. Central heating, and/or central domestic hot water would permit simplification, but the chases have been sized for the more stringent condition. Baths are standard and should, eventually, be preplumbed, with field connections required only at the main stacks and supplies. The kitchen will also have a standard pre-wired preplumbed base unit (sink, range and washer) with cabinets that can be added for different plan situations.



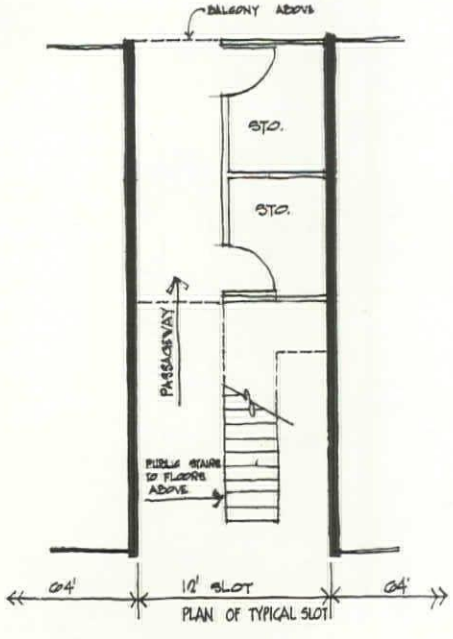


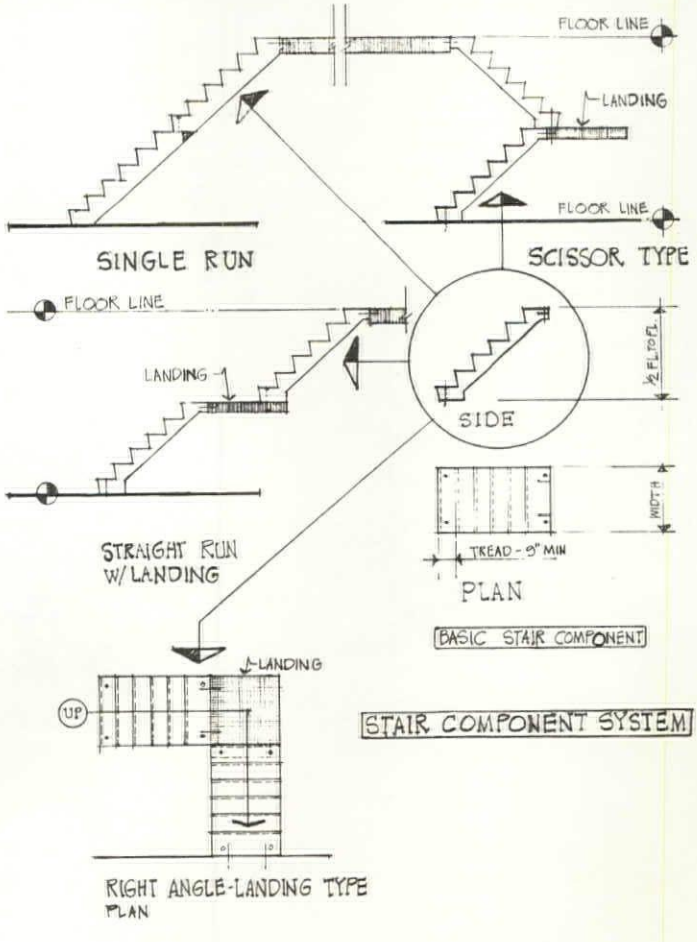
Development of structure 1: Precast concrete slab systems

The basic component of the stair is the half-run, which may be assembled to form a variety of stair types as shown. Public access stairs may be fabricated on the same basis, and the principles may be applied in either wood or precast concrete.

As shown across-page, the first structural system studied combines structure, enclosure and finish in a precast concrete system. Present indications are that such concrete structures are economically feasible—they may, in fact, be nearly competitive in initial cost with conventional frame structures—and that they provide definite savings in operating costs. While box-frame construction may eventually prove to be less expensive, at the present time available plant equipment and know-how seems more adaptable to a system employing precast, prestressed floor slabs (the extruded-core types seem to be the most competitive in price) and solid or extruded bearing walls.

It may be seen that the grouped core of vertical elements permits the maximum use of identical slabs, the special elements being limited to the central area; in this way, even the special elements can be made standard. With this approach, a 500-unit project can generate a volume of rigidly standardized production sufficient to make competitive prices possible. Walls may be built-up of the same cored units, running the full height, or precast in flat beds full width and one story in height. At the present stage of development, unfinished concrete block still runs slightly below precast concrete in cost; but to bring concrete block to the performance level of precast concrete in fire rating, acoustic value and





finishes would probably make it cost more than precast, particularly if the minimum is 500 units.

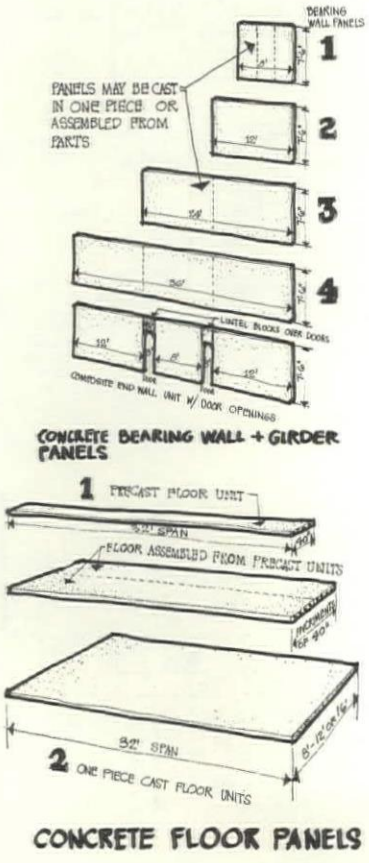
In the future, there is every reason to believe that large precast elements will not only cost less (and perform better) than concrete block, but will also cost less than conventional frame materials. On the other hand, there seems to be very little room for significant cost reductions in wood framing.

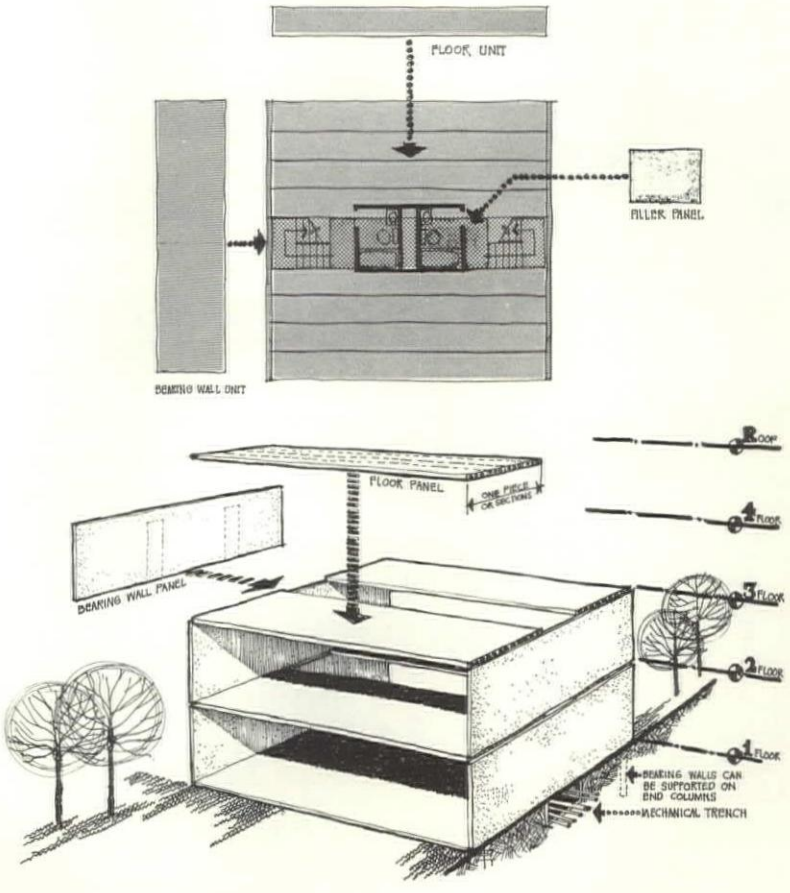
Development of structure 2: Skeletal systems

A second basic concept studied is a skeletal structure with infill for shelter and finish. The grouped core may also be used with such a system. The frame may be light steel or precast concrete; floor and roof and walls may be steel, wood or concrete, or a mixture of these. We are also working on a system of prestressed wood floor panels set into a light steel frame. In the immediate future, this system is the one most likely to meet the cost requirements. To support a light frame, more foundation work is required than for the precast slab, and more steps are required in construction. However, where fire and acoustic protection are of lesser importance, and where buildings are generally limited to two stories, a system which continues traditional wood frame residential construction remains useful.

Development of plan systems

The stair and mechanical core plus the structural elements form a block within which all of the requisite plan types are obtainable. In the case of concrete, any number of stories can be built, subject to design criteria and site conditions. The basic units may be enlarged by adding structural components, without changing the core elements. Thus a family of plan types and sizes can





be established. The larger units can be built in such a way that extra space is considerably lower in square foot cost than space in the smaller base unit.

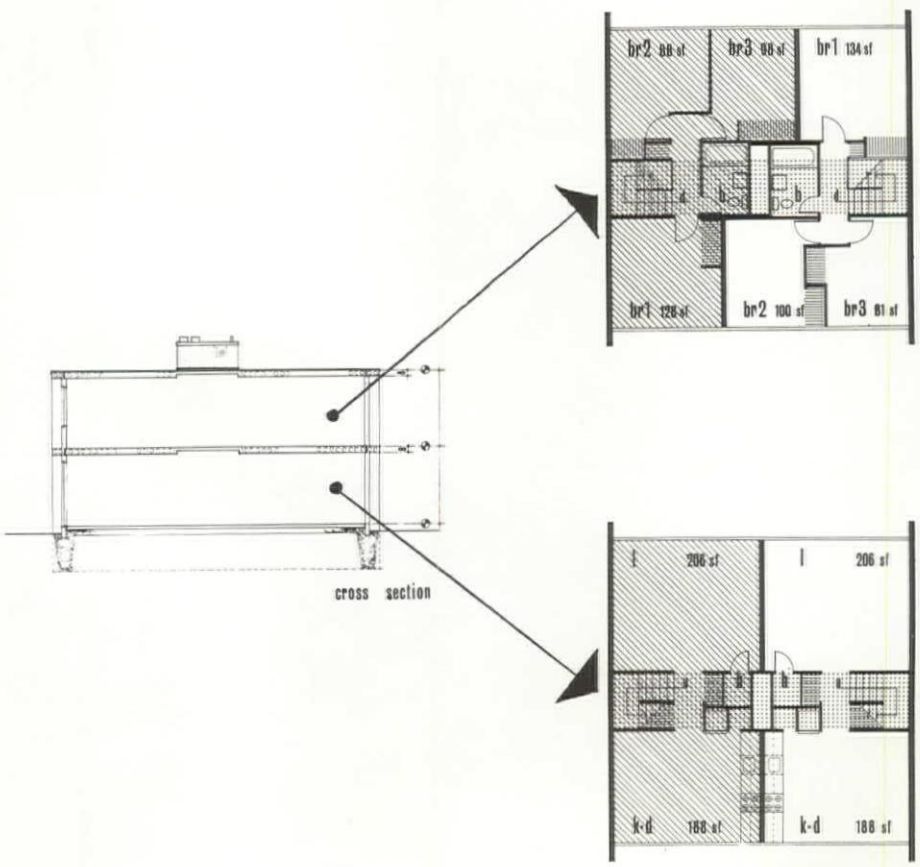
Establishment of key plan dimensions

The key dimension (32 ft, divisible by two for frame systems) was arrived at as a result of considerable study of planning flexibility in conjunction with structural requirements; and 20-, 24- and 28-ft planning bases were also tried. All presented drawbacks when several unit sizes were involved. The 20-ft block is too small to take full advantage of the characteristics of prestressed concrete and too large for practical frame components. Neither 24 nor 28 ft can be divided into two good living room widths. Also, the 32-ft size gives three bedrooms with more workable widths than the two possible in 24 ft or three in 28 ft.

At this time, it should be in order to point out again that what is being developed here is a series of standard parts which can be repeated regardless of structural methods or materials; the modular discipline of the system can be similarly repeated. Such orderly repetition results in cost savings through standardization and in an orderly urban environment through the application of esthetic disciplines.

Interior partition placement is flexible

Within the party walls, and around the cores, interior partition placement is entirely flexible, since none are fixed structural walls. Also a modular system of standard partition and closet components can be established.



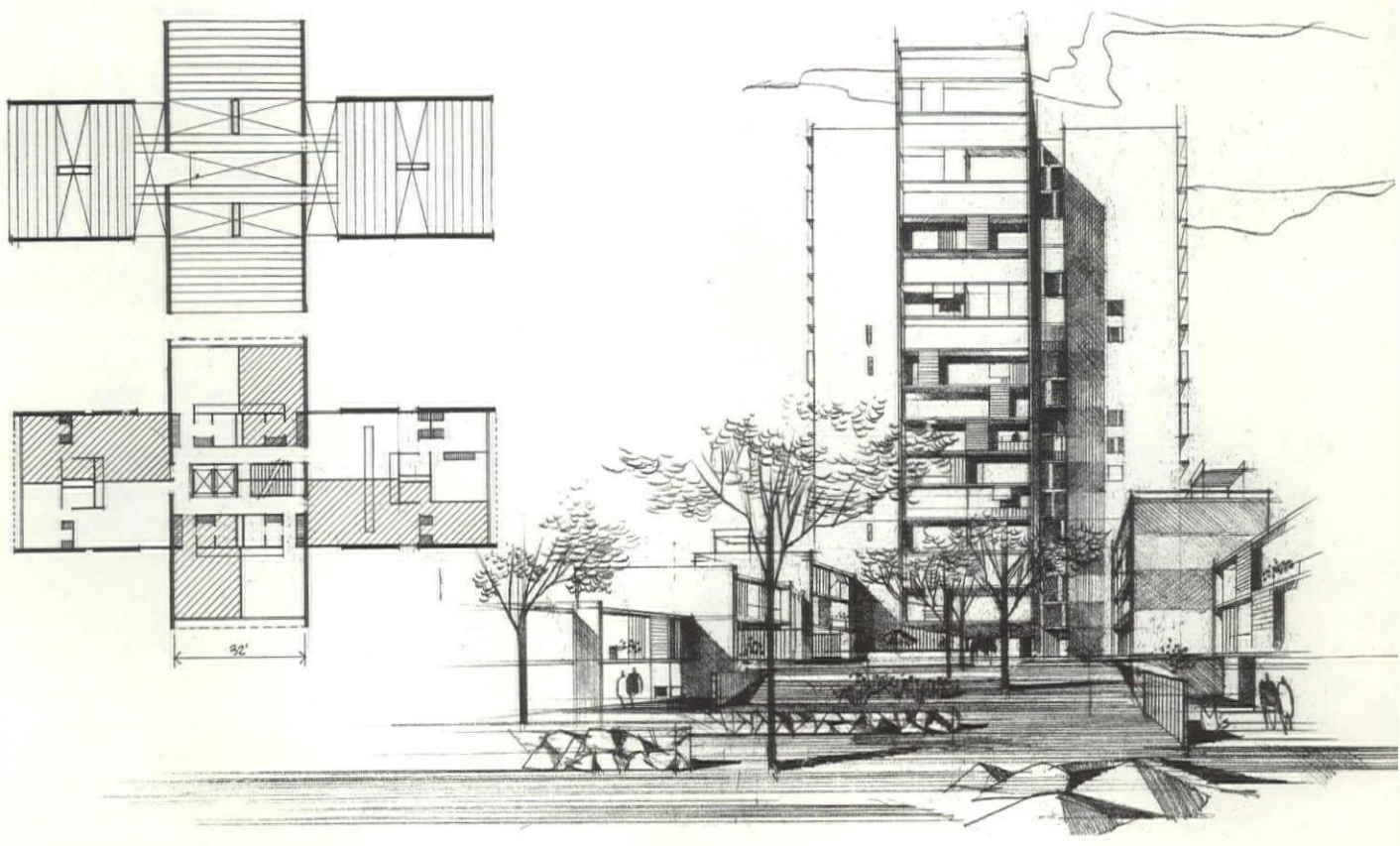
Standard exterior walls will be proposed when specific projects are developed under this program. However, the over-all intent of the program is to provide a framework for considerable variety within the bounds of the structural module. The complete shell of these buildings represents about 30 per cent of their total cost. In a typical example, about one-fourth of this is in the exterior non-bearing walls. Thus with only some six to nine per cent of the total cost involved, the non-bearing walls may be varied considerably without significant increases in the total costs; in this way, allowances have been made for preferences in material, color, texture, fenestration and even variation in planes.

Considerable variation possible for varied topography

The disciplines established in the studies allow considerable latitude in adapting the buildings to varied topographic conditions. In addition, the structural systems proposed—in particular, the precast concrete system—are suitable for poor soil areas.

The Way Ahead

In order to avoid any misinterpretation of the foregoing, it should be pointed out here that what we have accomplished so far is little enough indeed. Even though my own main interest, as an architect, has been in research and development in housing and its immediate surroundings, we have found no client, public or private, who is able—or willing—to employ us on other than a very tentative, short-term basis. The approach of our private industrial clients has been limited to the short-term utilization of their materials and products in housing, with little reference to the



rest of the house or the environment. The approach of public clients has also been short term, for political or budgetary reasons. Our experience is not unusual in this respect; on the contrary, our office seems to be one of the very few that is able to eke out even a part of its income from this marginal business of research and development in housing, if what we do can be called research at all in the real sense of the word.

How can housing research be encouraged and performed?

In "Better Housing for the Future," a report prepared at the request of the Office of Science and Technology of the Executive Office of the President, the conclusion was reached that, because of the present state of the housing industry, government sponsorship of research in this area is, in the public interest, necessary in order to unlock the flood of new technology in other fields so that it may provide the much-needed flow of life blood in this segment of our economy. The same report suggests that the experimental program of FHA and the demonstration program of HHFA are pointing the way. This is, I am afraid, only a hope, not a fact. After several years, the FHA appropriation of $1 million for this purpose is almost entirely intact, except for the money spent for three or four small projects, each costing $25,000 or so. Ironically, none of these may be experimental enough to entirely pay for itself without using any of this fund. Yet, as anyone who has worked with low-income housing of any sort is well aware, the FHA, in a very real sense, is more definitely in control of design than the architect, builder or client. And because of the staff and budget control limitations of the FHA, there are almost irresistible pressures to take no step that does not have 20 years of experience behind it and whose shortcomings have, through long usage, been accepted as inevitable.

The report mentioned also states that most growth industries spend an average of about 1½ per cent of their sales income on research and development, that at this rate the amount spent for these purposes in the housing industry should total $360 million a year, but that only one-sixth to one-tenth of this amount is actually spent. Though the report does not make the point clear, it is my assumption that the amount actually spent includes—and in fact, is almost entirely made up of—*product* research, which leads to almost nothing that is applicable to the dwelling as a whole, much less the environment of which the dwelling is only one part.

Basic current needs

In order to meet our needs in this area, I believe we must do at least three things: 1) We must learn from the neighborhoods we have already built, 2) We must build neighborhoods from which we can learn even more, and 3) We must encourage young architects, and related professionals such as sociologists and economists, to educate themselves for work in this area.

How little we have learned from the billions of dollars of housing we have already built is illustrated very well by a search made recently by our office for information on the mundane, and very practical, subject of refuse and garbage disposal in multi-family housing units—a problem of increasing dimensions in our planned-obsolescence society. The end of this search was well summed up, in a thoughtful letter received from Thomas E.

Thompson, Assistant Commissioner for Development of PHA, approximately as follows: "We have found no satisfactory means of handling this problem, but are hoping to engage a foundation to make a study. . . ." (Any other suggestions will be much appreciated.)

Basic problem is building new—and better—neighborhoods

Essentially, in housing today, we are faced with the problem of building new neighborhoods. Any further delay in solving this problem can only multiply our difficulties in the future. A word or two about how we can go about solving the problem—and about the great opportunities open to us, if only we take advantage of them—is surely in order at this time.

Four essentials of new and better neighborhoods

We have learned, from such varied sources as St Augustine, Plato and the Bagavadghita, that there are four essentials in making anything—including an urban neighborhood—well. The first of these is over-all *purpose*—or *motivation*. The American constitution lays down such a set of purposes, all providing for the ultimate good of man. The second essential is *concept* or *idea*. Here again, in the America of the past, we have provided a solid foundation in our New England towns and in certain residential areas in older cities such as Boston, Philadelphia, Washington and San Francisco. Even as late as the 1930's, the greenbelt towns provided a real answer to the first two essentials. The third and fourth essentials are the *materials* from which things may be well made and the *techniques* for accomplishing our purpose and concept with the materials. There are few who have any doubts about the American ability to accomplish, with awesome effectiveness, in the material and technique areas, whatever we set our minds to. In this lies our dilemma.

Purpose and concept can be lost sight of in development of materials and techniques

In developing our materials and techniques, we have, to a frightening degree, forgotten our purposes and concepts—the first two essentials for making things well. In our concentration on materials and techniques, we have developed a degree of power and wealth that is unprecedented in history but, as Senator William Fulbright has said, "Neither power nor wealth is, in itself, the condition of the good life." And power and wealth cannot be substituted for the first two essentials—purpose and concept.

A few years ago, after searching for several years for effective methods of building good mass housing at low cost, I came upon a plant producing a precast, prestressed concerete material that obviously was better for my purpose than any I had seen in Europe or Russia and of already proven quality. At that time, the product had already been installed in supermarkets and warehouses at prices as low as 80 cents per square foot. Today, the product is being used in a number of states; but not for housing for Boston specifically designed to permit the use of this product on a completely standardized basis and in quantity. Here, after receipt of a written quotation at an acceptable figure from the president of a supply company, at the last minute he was overruled by his management; now we are faced with a floor system 40 per cent more expensive. The reasons for this are not all clear, but enough are clear to make a good essay on futility.

A proposal for future housing development

As one way of escaping from our dilemma, I have dreamed up a project based on the four essentials—purpose, concept, ma-

terials and technique—and founded on my own recent experience in housing. First, it would be necessary to pick a number and a time-span, say 500 housing units to be built within three years. These figures are based on the experience of Bill Levitt, for whom we are trying to develop a new group of house designs. Using the current Levitt materials and techniques as basing points (and nowhere is better housing space and equipment provided per building dollar), any changes made in materials or techniques would have to be proven by their producers to be equal or better than those currently in use, at the same or a better price.

Fitting of concept, materials and techniques to purpose

Non-profit financing and tax formulas, similar to those of Boston under which we are now building our project in Roxbury, would be necessary for the success of this project. In addition, the project should be a cooperative. In American multi-family housing, the cooperative is the nearest present equivalent to individually owned homes that is practical. Also, monthly costs can be lowered considerably in a co-op since a considerable amount of the management and maintenance responsibility is placed on the individual families. To these ingredients must be added the principles of the design philosophy heretofore expounded. Thus armed with concept, materials and techniques, three of the essentials, it would be necessary to present the program to the trustees of the first essential—purpose—personified in Boston by Mayor Collins and Edward J. Logue. Optimistically assuming that these trustees of the public purpose will remain in office for the full three years necessary for the project, it should then become possible to carry out the provisions of the 1949 National Housing Act, "A decent home and a suitable living environment for every American," or at least for our 500 families. In doing this, we would accomplish our first essential—purpose.

Good design plus cooperative equals lowered rents and better environment

In a project we designed in New Haven, a two-bedroom apartment rents for $88 a month with heat. The rents for the Roxbury homes in Boston are expected to be at a similar level, but are of better construction and have more amenities than the New Haven example. At the estimated construction cost of Roxbury, about $8.50 a square foot, the rental of a two-bedroom apartment in a cooperative should run as much as $25 a month less than the $88 cited above. This may be accomplished because FHA procedures for co-ops allow a reduction in vacancy allowances from seven to two per cent and all interior decorating, repairs and maintenance to be performed by tenants, thus eliminating reserves for replacement of equipment, reducing annual fixed charges for curtailment and including the allowable income tax offset. If we can also reduce the construction cost with sacrificing quality, rentals can be reduced even further. There would seem to be no insurmountable reason why this cannot be done.

In our studies for Boston, I think we have made a small start toward solutions to our problems, in spite of the obstacles we have encountered. However, as in other cities, more, and better, professional and business help is needed, along with far greater public understanding, and backing, for the efforts that are being made. Our children, and those in the rest of the world, are at least as dependent on what we accomplish in this as on the question of whether we reach the moon before—or after—the Russians.

The College Housing Program

HARRY HEWES, *Information Specialist*

Community Facilities Administration, HHFA

LONG-TERM, low interest rate loans totaling $1,966,523,000 to finance construction of student housing and related facilities on the campuses of 1,045 American colleges and universities, had been approved in the Housing and Home Finance Agency's College Housing Loan Program up to April 30, 1963. Reservations for 140 other projects amounted to $193,619,000. In terms of dollars, Congress has authorized $2.9 billion for the program through 1965.

With current full-time enrollments aggregating more than 4,200,000 students, these campus residence halls and dormitories provide study-sleeping units for 244,723 men and 195,290 women and new apartments will house 20,941 student and 3,636 faculty families. In terms of service, one in four resident students is living today in such a facility, and more than 70 per cent of the eligible institutions with 85 per cent of the students, have participated in the program. Augmenting the Federal loans, the colleges and universities have put up $393,078,000 of their own funds.

On urgent representations of educators and college administrators, still reeling from the impact of student-veterans on jammed-up campuses under the so-called GI Bill of Rights and other massive makeshift educational legislation growing out of World War II, Congress created the College Housing Loan Program as Title IV of the Housing Act of 1950 and made it a part of the far-flung housing workfields of HHFA. Administration of the direct loan program was assigned to the Housing Agency's constituent Community Facilities Administration but because of the Korean conflict and clamped-down priorities on materials and services, the program did not get off the ground until 1951.

Jay du Von has been Director of the College Housing Branch since its inception, and he has been directly in the middle of a significent partnership between higher education and the Federal government which has been forming in the last dozen years.

The time was to come, however, when it was evident that student housing alone would not meet the needs of the burgeoning campuses, and Congress was persuaded that recreational and social facilities were essential in the changing picture. It adopted an amendment to the College Housing Title, introduced by Senator Fulbright in the Housing Act of 1955, which expanded the program up to, but excluded, the educational plant.

Under this amended authority loans were made to finance the construction of more than 500 college unions, student centers, dining halls, cafeterias and food service buildings. As with the residence halls, these generally are self-liquidating projects and the terms of the loans may run as long as fifty years. Numerous infirmaries have been built, and fallout shelters are encouraged and may be included in the loans, which can cover the cost of the site, all construction and fixed equipment. (Movable equipment and furnishings cannot be part of the loan.)

Since 1957, hospitals which have training courses above high school level are eligible for loans to build or acquire housing for student nurses, interns and resident physicians. As of last April, CFA had approved loans amounting to $48,989,000 to 93 hospitals for housing to accommodate 758 men, 8,784 women and 534 families. For these projects the applicants put up $28,559,000 of their own funds.

It was in the year of the Fulbright Amendment that the program began to assume its full stature as a major Federal activity. Congress, proud of its stalwart brain-child, extended the original program and increased its college housing authorizations time after time over protests of the White House and the Bureau of the Budget.

Then in the Housing Act of 1961, at the request of President Kennedy, Congress authorized appropriations of $300 million a year for each of four years. Campus planning for long-range and future needs thereupon became a more orderly business because educators and administrators knew where and how far they could go. The shape of vastly increased enrollments calling for record new campus facilities was clearly discernible.

LAWRENCE S. WILLIAMS

LAWRENCE S. WILLIAMS

Saarinen Dormitory, University of Pennsylvania, houses 656 women students. Exterior of brick and steel presents deliberately unpretentious aspect, which heightens effect of five-story interior court. Student rooms are on perimeter; social and public rooms surround and face into court. Eero Saarinen and Associates, architects

Among public institutions the technological schools anticipate the largest percentage of increase in enrollment—56.8; junior colleges, 56.5; teachers colleges, 55.5; liberal arts, 55.5; professional schools, 45.5; and universities, 36.8. By size the public institutions of the 10,000 and over category were being utilized to 99 per cent of capacity, while the smaller institutions, below 2,500, tended to have more vacant student places.

Projections of population growth and college entrance rates that foresee 7,000,000 students on American campuses by 1970, may not, in fact, be out of line. Not only will there be more of them but thousands will stay longer to earn graduate degrees. There also are estimates that indicate an aggregate national expenditure of $19 billion (funds from all sources) may be needed for physical facilities required in higher education during the "crucial 1960s."

Examining other studies, notably one by the Educational Facilities Laboratories, Inc, there is reason to believe that our institutions of higher learning will have to add about 1,500,000 residential units during the present decade. The study concludes: "The bill for the added housing will run to at least $3 billion. Present trends and construction costs and institutional policy make $4½ billion a more realistic figure. A $6 billion price tag is entirely possible."

These housing units, it is expected, will only just about meet the demands of qualified students who will be knocking at the college gates. These are not statistics—they are live kids now in school; the unprecedented crop of war babies is reaching campus age. There is no overwhelming jolt of surprise in the warning of the College Entrance Examination Board to expect a 50.5 per cent increase in the number of applications in 1964-65 as compared with 1963.

How does the program work? It is a fairly simple proposition at heart. CFA borrows the money from the Treasury at 3¼ per cent, the quarter of one per cent differential paying the cost of administering the program. The loans to the colleges are for forty and fifty years, and are on an amortized basis similar to most home mortgages with level payments of principal and interest. The magic of the low-interest, long-term spread has made it possible for the financing of new residence halls which, in effect, pay for themselves with the modest rentals paid by the students.

Both in the areas of higher learning and in the government there is an expressed pride in the record of the College Housing Loan program which during almost thirteen years has never had a default of principal or interest, and which is presently operating in the black. Moreover, private investment agencies are participating in the financing of college housing in increasing numbers, and this is due in part, unquestionably, to the program's unblemished record.

CFA Commissioner Sidney H. Woolner likes to paraphrase a statement in a recent "working paper" of the Commission on Federal Relations of the American Council on Education:

"American higher education," he says, "is an asset of the highest order, not only to the nation, but to the world. It cannot be spoken of simply in terms of the value of its buildings and equipment, the number of persons enrolled or the number of persons teaching, or the cost of operations. It is all of these but something more.

"It is a resource not only in the sense that it

can be used for great national purposes or the fulfillment of personal aspirations, but also in the sense that, given favorable conditions, it can renew itself in much the same manner as a forest can be renewed if it is selectively cut and properly reforested."

The Program and the Architect

Out of this tremendous College Housing Loan program which has successfully met conditions of direct urgency, no distinguishable *pattern* of campus architecture appears to have emerged, although some notable buildings have been designed by some of the nation's top-flight architects and now adorn the campuses. Nor, despite statements of certain critics, has the government made any slightest effort to impose such a pattern on school or architect.

George F. Baughman, President of New College, in Sarasota, Florida, in a recent article,* designated outstanding buildings which have been added to the residential plants of American campuses with Federal financing.

"On the whole," he wrote, "freedom to fit the design with diverse campus needs has been encouraged and no readily-identifiable pattern of architecture has resulted nor has one been imposed by Federal regulations.

"There are many who believe that it took broad vision and courageous administration to permit colleges and universities the freedom to plan and construct housing suitable for their dissimilar and separate campuses and student bodies. This ranges from the single-story garden apartments, generally occupied by student families, to the high-rise skyscraper built on city sites."

Program Director du Von carries the matter further. He asserts that in its unique and close-working relationships, CFA and the schools have assumed that American higher education with its maturity and diversity should be given the utmost freedom to meet the needs of each campus and particular species of students who inhabit it.

"This is definitely not an area," he affirms, "for Federal standards and specifications."

Congress itself recognized this in the wording of the College Housing law which requires only that "economy will be promoted in construction and . . . it will not be of elaborate or extravagant design." Within this injunction it has been possible for many types of institutions and their architects to seek and find widely varying solutions to meet the highly specialized needs of their campuses and their students.

Mr du Von adds: "The economic equation which governs the loans has constrained the colleges toward functional buildings which are economical to maintain, but they have run the entire architectural gamut from the most traditional to the most advanced. There have been no prototypes, and no one can identify a building constructed under the program from its types or styles. And this is as it should be, because diversity seems to be close to the heart of American higher education.

* "The College Housing Program; What It Has Done in 11 Years." *College and University Business,* March 1963.

NEWMAN SCHMIDT

Architectural styles under the program range from classic serenity of new women's dormitory (below) at Furman University, by Perry, Shaw, Hepburn and Duncan of Greenville, SC, to (above) striking new residence hall at University of Pittsburgh, by Deeter and Richey. Circular towers are part of a single-base building. Study, sleeping rooms are grouped around a central utility core

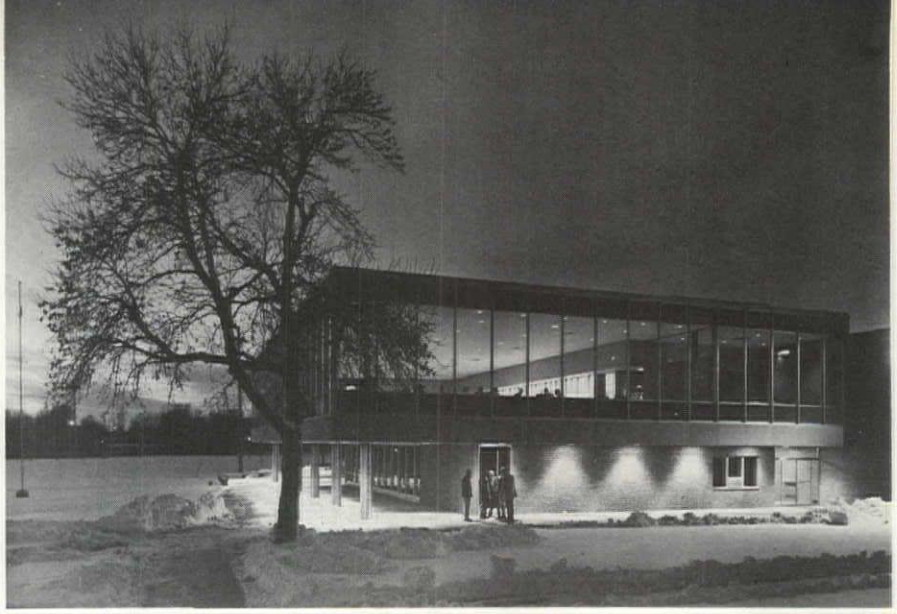
HENRY ELROD

"Always in mind, however, should be kept the relation between the cost per bed and the rental it is feasible for the student to pay. This economic relationship will govern the sort of facilities that will be provided rather than governmental rules and regulations."

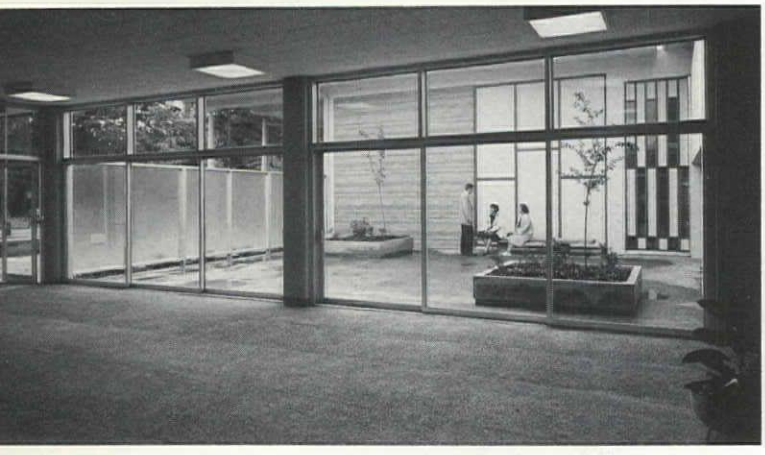
CFA has found that in some cases where student rentals are very low the quality of construction has suffered because of design compromises and simplification made necessary by the financing requirements. There have been plenty of critics to point this out and CFA doesn't dodge this charge, but Commissioner Woolner explains:

"Generally the battle to achieve low cost with quality has been won again and again," says Mr Woolner. "When it was lost the lessons learned have been applied in the next round. The quest for design and methods to reduce cost and time is continuing in many of the fields of streamlined building practices and in the use of prefabricated components.

Union Buildings



Nighttime scene outside union building on Augustana College campus, Sioux Falls, SD. Union has dining and recreational facilities for 1000 students, replaces WW II buildings. Harold Spitznagel FAIA, *architect*



HUGH N. STRATFORD

Entrance and patio of centralized dining facility at Western Washington State College, Bellingham. Facility is part of multi-unit project which includes residence halls for 240 men and 140 women on a hill overlooking campus and city. Paul Thiry FAIA, *architect*

"We recognize that there are perplexing problems confronting the factory, the builder and the supplier but we are aware, also, that in the matters of technical ingenuity, effort and vision these problems today are commanding the interest of many practical and gifted men—designers, builders and material suppliers, in the shop, in the laboratory, on the drawing board and the building site."

As the big program progresses, there is evidence that campus structures are being better designed, better built and more significantly integrated into the academic community. There are tremendous jobs ahead to translate college housing operations into design that is consistent with realistic educational aims. But at this moment in history there is no escaping the fact that a large part of our college student population is living in inadequate quarters.

In 1962, HHFA's thirty-member College Housing Advisory Committee of university presidents, chancellors and administrative officers, heard Harold B. Gores, President of Educational Facilities Laboratories, Inc, deplore the "bland factory look," and the "sterile antiseptic cubicles" designed as the "cheapest student nocturnal storage unit," which, he asserted, is "promoting the academic slum." Some students were described as living "anonymously in identical boxes along bleak, bowling-alley-like corridors," and some college housing was described as "hybrids of the standardized municipal public housing development and the luxurious resort hotel, with little relationship to the educational enterprise."

There was some truth in Dr Gores' statement because, despite the fact that the program has been used by more than 70 per cent of the eligible institutions, there were then some college administrators, who, if they had heard of the program, apparently did not understand its capabilities.

Too often, they have represented institutions which lacked means to replace with adequate residence halls the time-worn, ill-planned dormitories financed with the gifts of benefactors long since departed that had run up operating and maintenance costs too heavy to be borne. Sometimes, dormitories of all-round minimum standards were built in the urgency of rapidly mounting enrollments, when benefactor assistance was not available, and when, for one reason or another, college housing loans were not sought.

Over the years, creeping obsolescence had set in on the converted barracks and other war-built structures which had been trundled to the campuses and rebuilt at a cost to the Federal government of $160 million, when the swarms of new veteran students threatened to smother the institutions by sheer

Memorial Hall, college union on Berkeley campus of University of California, has cafeteria facilities for 1000; connects with residence halls by covered passageways. Large portion of cost was financed under College Housing Program. DeMars and Hardison, architects

weight of numbers. Then, finally, these facilities also stood as an intractable backlog, beyond patching, make-do or improvisation. Thousands of college students, however, still reside in them.

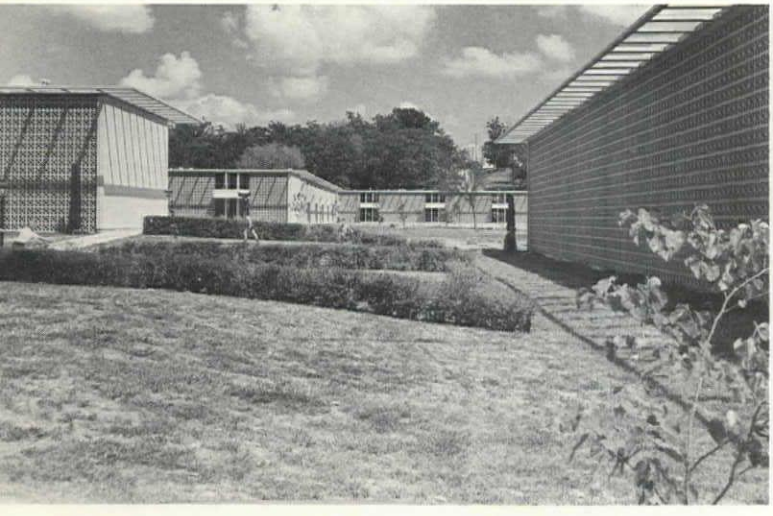
Events of fundamental significance to higher education in America were started in these early post-war years and have left their mark on the campus ever since. In the first place, the veteran pretty well knocked out the old traditional class of college student as he eased in beside the scions of middle-class and top-bracket families. And the married student, that upsetting phenomenon of the GI Bill days, kept coming, not only to graduate school but in undergraduate classes as well. Students with families today register about 24 per cent of college enrollments.

So, in these years a significant new chapter in higher education began to be written because these fighting men, first out of World War II and later the veterans of Korea, their green years left behind in combat or training camp, proved to be students of such earnestness and tirelessness, maturity and discipline, that a new adult-type student came to the campus. Today, when a baccalaureate diploma may be regarded as essential to economic acceptability, these ex-GI's are determined that their own youngsters shall go to college, too.

Approved College Housing Loans and Reservations of Funds as of April 30, 1963
(dollar amounts in thousands)

State	Approved Loans	Reservations of Funds
Alabama	$ 36,884	$ 1,360
Alaska	5,576	2,500
Arizona	20,904	2,538
Arkansas	28,921	5,990
California	122,254	3,991
Colorado	62,433	1,700
Connecticut	17,299	—
Delaware	7,407	—
District of Columbia	19,459	9,075
Florida	54,214	1,742
Georgia	26,527	450
Hawaii	1,724	—
Idaho	7,241	1,200
Illinois	98,322	6,665
Indiana	75,650	13,940
Iowa	19,537	4,640
Kansas	37,275	1,700
Kentucky	49,114	8,150
Louisiana	50,463	3,200
Maine	1,605	—
Maryland	14,402	2,385
Massachusetts	67,999	10,530
Michigan	43,275	3,825
Minnesota	33,655	3,000
Mississippi	32,867	3,420
Missouri	87,177	4,095
Montana	12,431	5,600
Nebraska	6,113	300
Nevada	1,777	2,400
New Hampshire	6,534	1,445
New Jersey	32,157	1,200
New Mexico	12,435	—
New York	162,985	6,430
North Carolina	44,532	5,409
North Dakota	7,612	—
Ohio	105,817	12,910
Oklahoma	28,490	1,000
Oregon	14,949	3,585
Pennsylvania	97,591	12,442
Rhode Island	12,592	—
South Carolina	15,037	1,200
South Dakota	15,323	—
Tennessee	33,934	2,609
Texas	126,716	10,017
Utah	20,443	—
Vermont	14,193	—
Virginia	13,711	1,918
Washington	61,660	5,850
West Virginia	25,059	525
Wisconsin	64,009	13,730
Wyoming	—	—
Puerto Rico	8,239	8,953
Totals	**$1,966,523**	**$193,619**

Married Student Housing



Edward Durell Stone FAIA *designed Carlson Terrace buildings to house 200 student families at University of Arkansas, his alma mater. Decorative tile sunscreens form front and back walls. All apartments are two-bedroom, each has private patio or porch*

HHFA's College Housing Advisory Committee, comprised of educators and administrators of institutions of higher learning, has indicated strongly that good results are obtained when "institutional planners and architects are motivated by realistic educational purposes." Providing just sleeping and study quarters will never meet the whole bill, they hold, because they regard housing as an important part of the whole institutional program as it affects attitudes, behavior and receptivity toward the academic life and the level of the student's identification with the college community.

Planning—The College Housing Specialist

More and more, higher education approaches the status of Big Business. Emphasis on advanced study and research calls for new and costly equipment and facilities. The college housing official, a comparative newcomer to the administrative ranks, must be equipped to fulfill the functions of a town manager and those of a programmer of new construction, and he will be expected to view his duties in their educational context.

This housing official, who now frequently is given faculty rank, will have to equate costs per student with costs per square foot in matters of construction, and later, of maintenance and operation. He will be responsible for mechanical equipment, furnishings, traffic patterns and administration tasks calling for specialized experience. Higher education has had to assess, as Harold C. Riker points out in an introduction to "Planning Functional College Housing," * both the nature and the extent of more space in better campus housing. And, in short, the college housing specialist is called upon to meet tremendous responsibilities for which formulae and precedent may be lacking.

He may find within his charge new student communities, particularly those designed for student families, grouped in platted villages or towns ranging in population up to 8,000 persons, where the physical plant will be assessed in millions and with service and maintenance staffs numbering between 20 and 400.

Then closely related to the campus housing are the new student centers, college unions, cafeterias, dining halls and food services, each requiring different types of operating personnel. And here again there have been large financial investments, in revenue-producing facilities to be sure, but in which the business element sometimes tends to predominate. It is the housing manager's job, in such instances, to keep the services and the educational purposes in balance. At the smaller colleges he may also teach.

After attending to these various responsibilities, his attention must be centered on such matters as parking, traffic, sidewalks, area lighting at night, trash and garbage disposal, and in the student family communities he will plan and keep an eye on protected playgrounds, family recreation areas, laundry facilities, storage space for infrequently-used family equipment, yard tools and mechanical buffers for tile floors. Frequently he will be the busiest man on campus.

The US Office of Education, in an introduction to one of its many surveys, sums up the situation:

"If growth in enrollment were at a uniform rate and promised to be evenly distributed among the institutions of higher learning, the task of planning for growth would be greatly simplified. This is not the fact.

"In the case of an individual institution the qualities attributed to it such as superior personnel, or facilities, or low cost which bring large numbers of applicants, also imply a point of saturation. Someone must face the problem of what to do with the overflow.

"Privately controlled institutions are free to reject any and all applicants in excess of their ceiling —ceilings imposed by their own institutional philosophy or by physical limitations, or by financial stringency. But publicly controlled institutions are ultimately subject to the will of the electorate. When a public institution finds it necessary to limit its acceptance of qualified applicants because of lack of facilities, the people seek other places to send their children, and, if necessary, start new colleges."

In an informal inquiry made last year, *Architectural Forum* found prospects for a possible 200 new colleges in the near future. ◄

* Teachers College, Columbia University. New York 1956

Coed and Co-Academic Residence Halls

ROBERT M. CRANE

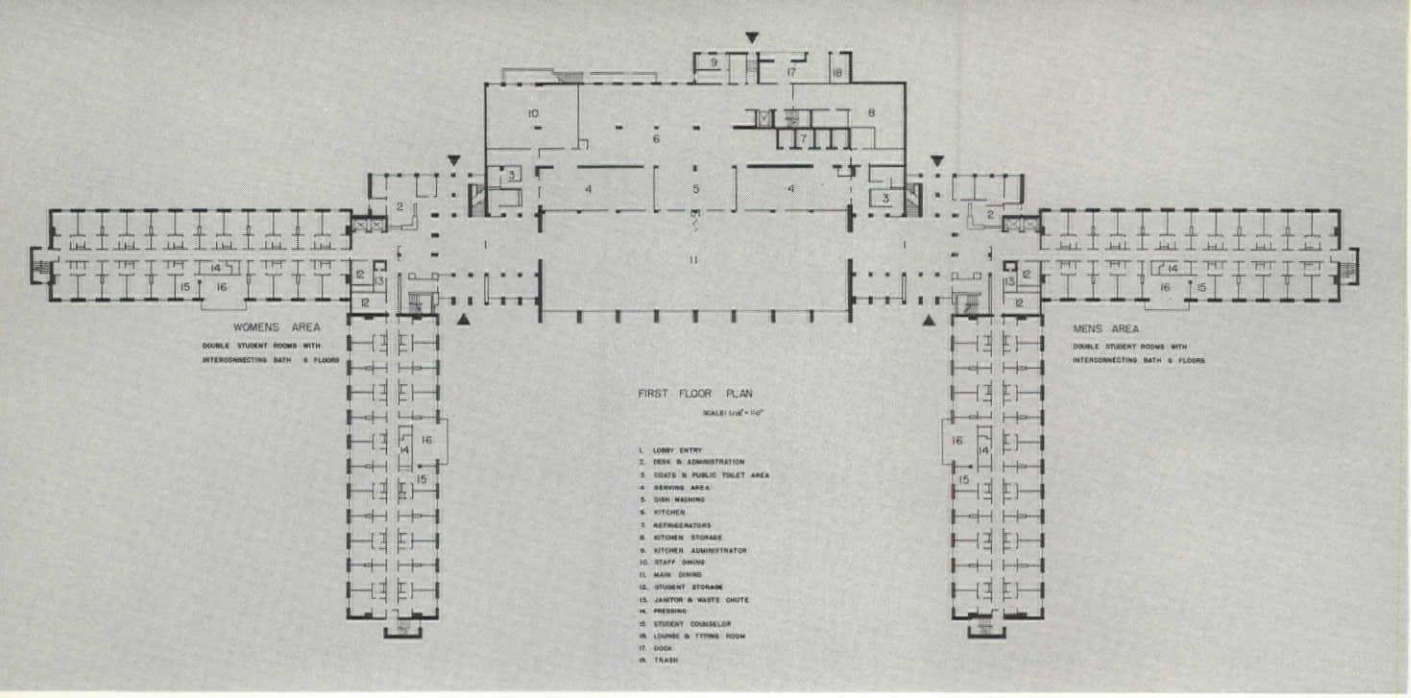
Associate Dean of Men, University of Illinois

IT IS VERY UNLIKELY that any one type of building plan or design in university-owned and -operated residences will, or in fact should, dominate the major university campus of the future. As campuses and their communities grow in size and scope of offerings, so must residential units be regarded as serving different needs and purposes, both in physical plant and in the variety of educational programs to be offered. During the last five years three major universities in the midwest—Michigan State University, Indiana University and the University of Illinois—have occupied new residence halls whose architects have recognized the need for creativity and imagination in building design, in flexible space and in prior planning with "living-in" or human relations and academic program potential as primary considerations. Multipurpose educational program approaches need to be made to students through diversified and flexibly designed residential facilities. Such diversity and flexibility can add choices and new dimensions to the student's life and enrich the total undergraduate or "collegiate" experience and to those of us who are engaged in teaching in and managing or administering of undergraduate programs. For purposes of clarification, coed halls as defined here are adjacent buildings with restricted access to single-sex living units, but with maximum coeducational use of all public areas such as dining rooms, recreation rooms and lounges. Co-academic halls are residence centers in which the formal classroom and faculty themselves are brought to the living center for a total approach to living, teaching and learning—combining formal and informal learning processes into what will be termed from here on a "collegiate" or college-centered experience for the single undergraduate.

The House Concept

The history of residential programs in American higher education is yet to be written; however, there are evidences in colleges and universities over the nation that the British influence—the collegiate type house or hall—has been felt. Recent visits to, and concentrated study of, many campuses over the country have demonstrated this to the writer. Amazingly enough, in view of the over 330 years of higher education in America, it was not until Woodrow Wilson proposed the Princeton House plan in 1905 that real thought began to be given to the whole range of values inherent in academically-integrated facilities and programs in residential units. Harvard and Yale developed their programs in the late 1920's. For the most part, the few houses and halls built and operated by colleges and universities have been regarded as shelters, rather than as a vital part of the collegiate experience or the college way of life. This has been especially true in regard to state universities, for very few of them owned or operated their own facilities prior to 1900. These public institutions depended, as did many privately-sponsored colleges and universities, upon private householders and entrepreneurs and, of course in many places, fraternities and sororities for the housing and care of students out of class. In the early decades of this century came discussions of the values of collegiate residence halls or houses, and the contributions such living could make to the total experience of the undergraduate. President Lowell of Harvard set the tone for the university's "house" plan in his inaugural address. Women's colleges and women deans influenced the setting of priorities on college- and university-owned facilities for girls. Much can be observed in the way of increased school spirit and the positive effects of teaching loyalties to the alma mater through housing programs of fraternities and sororities and now, in many places, residence halls.

At present there are several trends in housing which must be recognized and understood. First, there is still the pure ideal of the British tradition or the "house" plan in which the small residence, twenty to thirty students, is considered the center of formal and informal education as at Harvard and Yale. Modified programs of this house concept exist on cam-



MICHIGAN STATE UNIVERSITY

Sarah A. and Albert H. Case Hall

Michigan State University (East Lansing)

Two six-story housing wings are joined by two-story dining, recreation, and academic area. North wing houses 516 women; south wing, 516 men. Academic areas were not originally included but were introduced later by addition of two natural science labs, converting several student rooms to faculty offices, changing selection of furnishings of multipurpose areas

Each pair of student rooms has connecting bath. Students assume responsibility for maintaining own bathrooms, thereby amortizing extra cost of connecting baths in four years with savings of custodial labor costs

Construction cost does not include site development or utility installation outside building

General construction cost	*$3,810,000*
Architect fees	*189,000*
Furnishings (incl food service; $2400 for furnishing academic areas)	*610,000*
Total cost	*$4,609,000*
Cost per student	*4,466*

Lewis J. Sarvis AIA, *architect*

puses across the nation. Second, there is on many campuses the "halls" or "center" concept of living in which the academic processes are to a greater or lesser degree, and selectively so, infused in the living-in program. Miami University at Oxford, Ohio, where freshman academic advising is done within all halls, sizes ranging from 150 to 300 students, is one example of such a rare program at a state university. At Miami, as at Wellesley and many other colleges and universities, there is the concept of "hall" living wherein no more than 300 students live together, have their own dining, recreation and study facilities all contained within the one building. This plan and the separate small "house" program have become so expensive to build and operate that their priorities as fine programs have been slipping.

More recently, due to the tremendous need for campus housing, large units housing 500 to 1000 or more students have been built. Examples of all extremes of these are strictly bed-and-board accommodations, others are bed, board, social and recreational facilities, and still others show some recognition of

MICHIGAN STATE UNIVERSITY

the academic values with libraries, lounges and multi-purpose space planned within them. In a few of these large units very recently built, classroom space and even office space for faculty have been provided. Within this array of housing units now being built and planned all extremes of architecture have been used with what can be done within these facilities in regard to academic, cultural and social-recreational programming being dramatically set by physical or building limitations. It is this latter point which needs some elaboration.

Those engaged in high-level planning and developing of residence halls must recognize that buildings can make individuals' lives either more or very much less confining. Flexibility, function and practicality must be considered in planning student halls. Consultation with human relations experts also must be included prior to designing residential buildings which are so vital in higher learning today. Coordinate planning is a real requirement in making up a campus residence hall plan. Student personnel staff, faculty representatives, architects, housing and operations officers, student consultants, maintenance engineers and all-campus planning personnel meeting and working together can convey their joint recommendations for the actual building program or plan.

Islands of Learning

Though size of building and components will be varied, each living "center," "complex," "area," or "design" ought to be self-contained, ought to have a uniqueness, a "profile" of its own. One thing to be avoided is stereotyped, prison-like or mass-like buildings which produce the feeling of an impersonal, humdrum, confining, sterile type of environment. Buildings are either for or against the human beings who occupy them. Rarely, if ever, are they neutral. What is called for in residence halls is more feeling *for* than *against* the collegiate way of life. Each large campus can create its own collegiate experiences, it is contended, by creating "islands of learning and living" which students can select to live in and belong

Alfred and Matilda Wilson Hall
Michigan State University

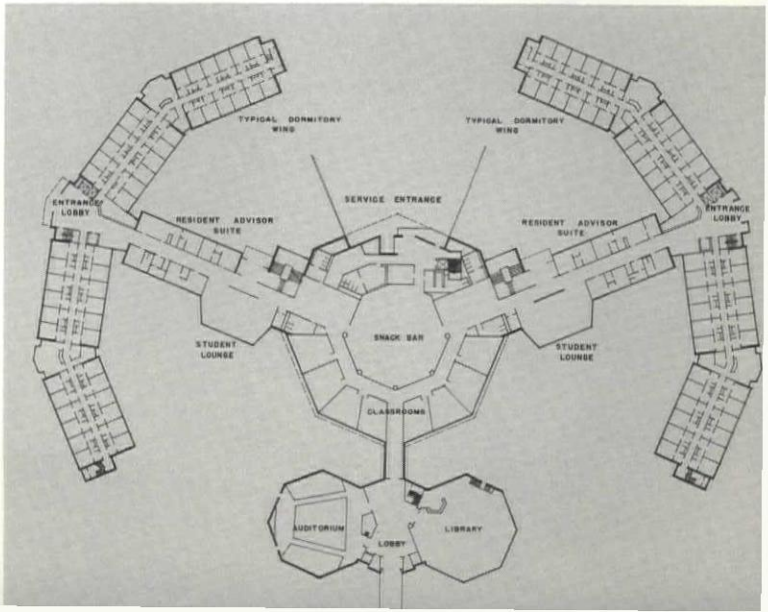
Wilson Hall has two six-story resident wings, two-story dining/academic structure, small connecting wings, and lecture hall/library connected to central area by passageway. Residence wings house a normal capacity of 564 women, 560 men; present housing shortage necessitates housing three students in rooms designed for two, by replacing lounge chair with sofa-lounge. Like Case Hall, Wilson has connecting bath between each pair of student rooms

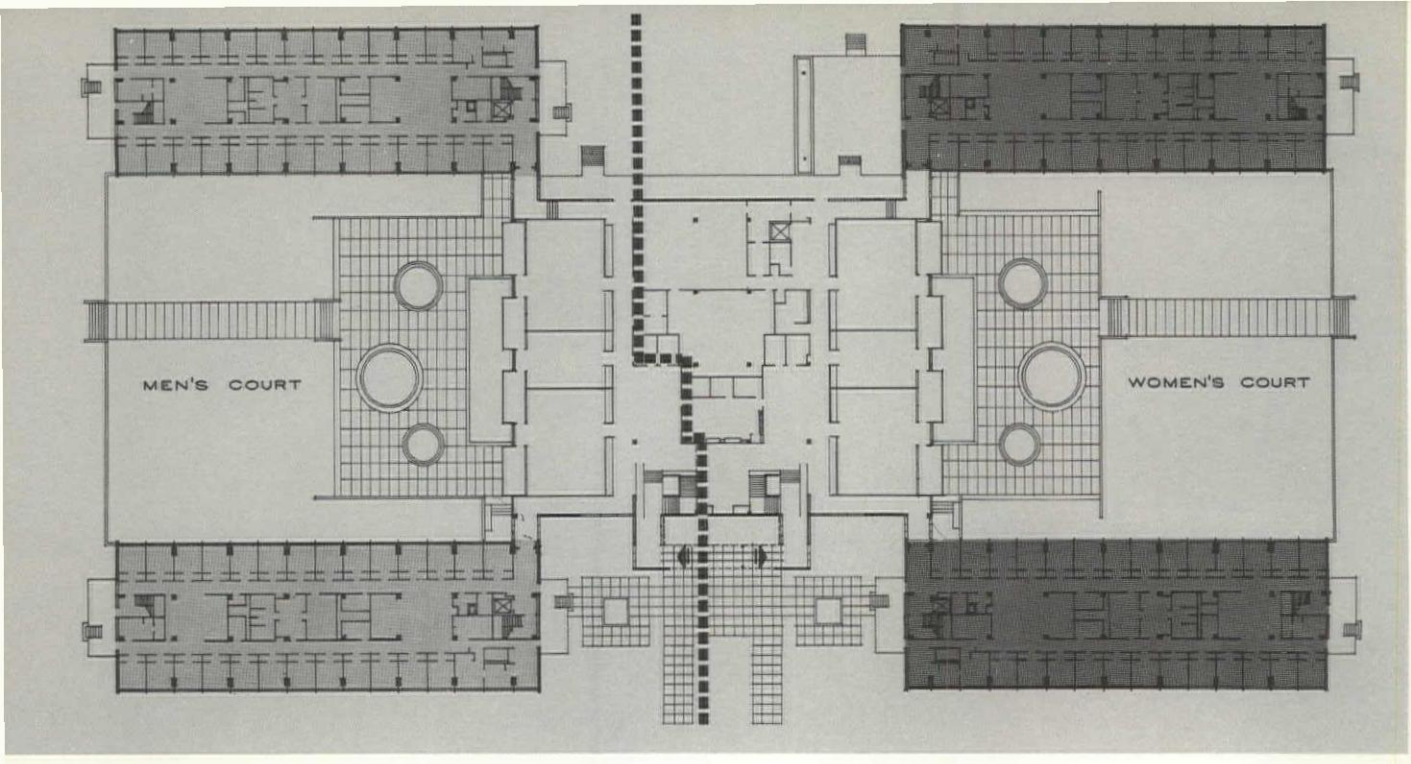
Kitchen and dining rooms are on second floor of central structure; first floor has classroom and snack bar. Terrace level contains faculty offices, secretarial pool, conference room, two natural science labs

Costs were not complete at this writing; figures which follow are estimates.

General construction cost	*$4,576,000*
Architect fees	*235,000*
Furnishings (incl food service; $3500 for academic areas)	*670,000*
Total cost	*$5,481,000*
Cost per student	*4,876*

Ralph R. Calder and Associates, architects





Pennsylvania Avenue Residence Halls
University of Illinois (Champaign-Urbana)

Each of four five-story residence halls houses 258 single undergraduates. Typical floor consists of thirty double rooms, core bath and recreation/lounge space. Single room and bath on each floor for graduate resident assistant; four head residents have three-room apartments with outside entrance as well as entry doors within halls

Coed center building contains dining rooms (one with movie facilities), lounges, offices, recreational facilities and library. One kitchen serves two dining rooms. Central building is totally airconditioned. (Photo above is side view)

A second coed structure is under construction, for 1964 occupancy

Total cost	*$5,750,000*
Cost per student	*5,500*

Richardson, Severns, Scheeler and Associates, architects

to, can know and understand, can be influenced by and can exert their own influence in, as the total learning and living process goes on.

The following "design for living" is set down as a skeleton for large units. Within their largeness an individual can identify and set up an immediate and meaningful relationship only within a small and intimate "primary" group. Other advantages and facilities accrue from size, but this one human-relations factor must be taken into account. Concerns in planning a "design for living" should center about the following:

- The student room. More and more concerns are being expressed that there should be some single-room accommodations in all halls. Today's pressures on students to succeed academically are such that this needs to be considered
- The house, corridor or flow plan with a number of residents ideally set from 40 to 60—with "horizontal" traffic and physical limits, with "core" facilities
- The hall or larger unit plan with, ideally, no more than 200-250 residents or four or five units or houses so that "hall" identity could be a reality

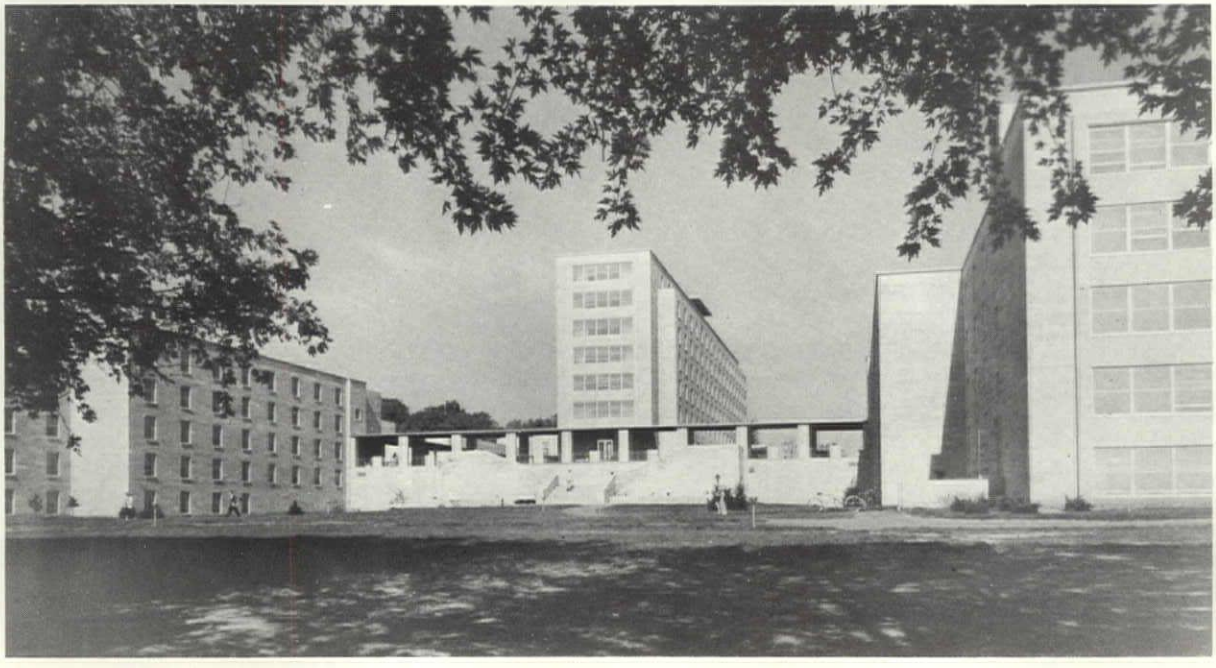
Teter Quadrangle
Indiana University (Bloomington)

Six buildings in a rectangle; four three-story units house 886 men, seven-story unit contains library, lounge area, offices and rooms for 316 women. Sixth building is kitchen/dining room unit with four dining-social rooms. Arcades which join buildings provide recreational areas; upper floor is open breezeway

Other features include kitchenettes in women's building, suites for head counselors; a browsing library, typing and hi-fi rooms; dining room set up as study-hall with bookshelves; airconditioning in main lounge, library and dining-rooms; sun-decks (four for men, one for women)

	Total Cost	*Cost per student*
Construction	*$5,825,731*	*4,846*
Project cost (less furnishings)	*6,431,709*	*5,350*
Furnishings	*369,000*	*306*

Edward D. James AIA, *architect*
Eggers and Higgins, supervising architects



• Single staff (graduate resident assistants) rooms to be located centrally on the corridor and in the separate hall. (More and more we must consider "married staff" and part-time faculty living-in to meet all the demands for the future. This means private living areas for these people within or adjacent to undergraduate ones)

• Dining facilities centrally located with no more than 200-250 spaces in each segment—preferably opening into a large room adequate for 1000 people seated or dancing

• Central lounges and communications area—large enough to accommodate the traffic of the complex or center

• Library, classroom and study facilities to accommodate a good percentage of the total residents. Dining areas can be used interchangeably when costs of separate facilities are prohibitive

• Recreation facilities for each hall or building housing 200-250 preferably. Here is where scheduled parties and leisure activities by buildings could be held

• Student government and staff offices and meeting rooms adequate for such a complex

• Laundry and storage facilities for each hall or building

• A well-devised plan of housekeeping and central services to students

• Throughout the living complex—library, dining halls, lounges, recreation rooms and even classrooms and offices—cultural and esthetic decor and facilities ought to be in evidence; eg, pictures, pianos, record players, books, newspapers, magazines, etc—all located with a view to their particular use and enjoyment

The goals of residence hall life must, of necessity, reflect the dynamic nature of the community of learners. Residence hall living must be enhanced with educational programs reflecting certain values in areas of intellectual development, citizenship development and social development; otherwise the physical and material provisions for students are the only benefits derived from group living. The vast amount of incidental or informal learning in living units must not be minimized by letting students

merely live together, with little or no direction or educational programming in evidence.

House faculty sponsor or adviser programs have been successfully carried out on some campuses, as have faculty guest programs and speaker programs. Indiana University (in the new coeducational residence hall Teter Quadrangle featured here) has such a program in the house and/or halls programs, but here is an area which ought to be enlarged upon and examined in terms of its potential for each campus. Naturally, rooms for such a program must be provided in the design of buildings. There are many courses on campuses, many programs in the colleges which lend themselves to such interaction between halls and classroom. Specifically, English classes, various introductory courses, honors seminars and some orientation courses taught by certain colleges could be taught as well in halls. Courses taught by television also are now offered in halls on several campuses.

Michigan State University has built an integrated physical plant for bringing closer together the academic and residence halls programs. This plan (featured here) is the Case and Wilson Halls program and is an exciting innovation in large campus residental plans. Wonders Hall, a new and yet similar building, will open soon adjacent to Case and Wilson Halls. This program at Michigan State University is most interesting with respect to its "return" historically to a college-centered residence unit, combining coeducation, the large-units concept, and the formal teaching processes in the halls' design and program.

Art, music, drama, international and intercultural programs could be infused much more into residence hall life, to great advantage, if facilities were provided in the "design for living." Certainly there are many implications for architects in programs like these. Some new facilities need to be planned specifically for educational programs; however, some lounges and areas which presently exist on many campuses can be converted easily to such academic use. In the Pennsylvania Avenue Residence Halls at the University of Illinois, English courses will be taught in the lounges this fall. This building is most flexible and offers several opportunities for educational program expansion.

These designs for living should not necessarily dominate a campus scene, for there are many other kinds of living experiences to be considered such as room-only accommodations, apartment or suite-type dwellings for single students, cooperative-type facilities and the variety of work-study building arrangements which could be conceived for special needs of undergraduates. The large university has an obligation to serve in a variety of ways the special housing needs of individual students—single, married and graduate.

Much yet must be considered on all of these ideas by campus planning groups before we can honestly say we have something really workable. One caution ever should be before us: Coed and co-academic programs in halls should have as their main goal the return of the excitement of living, teaching and learning to the undergraduate or "collegiate" experience on the large campus. ◄

Housing for Married *Problems*

F. BLAIR REEVES
Associate Member Florida North Chapter AIA
Associate Professor, College of Architecture

AMONG THE DILEMMAS facing university administrators and the architects who design for them is the problem of housing the married student. Virtually unheard of until his emergence from the aftermath of World War II, the married student and his family were first considered a temporary anomaly in the academic status quo. As such, it was appropriate to house him in temporary shelter. Now, some twenty years later, it is obvious that the married student is a permanent campus feature. It is time that the university re-evaluate its expedient but piecemeal solutions to his unique housing problems.

There is no question of achievement in providing for the married student. Budgets, already strained by increased enrollment and by demands of specialization, have somehow been stretched to provide shelter for him and his family. Temporary structures, available from war's aftermath, are slowly being replaced with more adequate low-cost housing.

What has been done, however remarkable under extremely trying circumstances, is not enough. Without a prototype to direct their actions, administrators and designers have followed the well-defined trail of ordinary low-income housing. It becomes obvious from many examples apologetically located on the fringes of academic communities that the ordinary minimum apartment does not meet the needs of the married student. A specific building type is necessary to meet the rugged requirements of both academic and family life. Housing for the married student must be as much a part of his academic environment as is the library and classroom and, at the same time, be conceived so as to enrich the sometimes-trying years of early married life.

The designer of this building type is confronted with an assembly of problems bound to tax both his talents and his knowledge. The first problem may well originate with the university clients who still may be fundamentally opposed to the admission of married students and who only grudgingly admit that housing him is their responsibility. Or the university

Students:

and Solutions

University of Florida

client may be sympathetic to the situation, but unable to cope with financial factors of construction and unwilling to risk deviation from the time-tested plans developed for multi-purpose, low-income housing.

The most difficult problem confronting the designer is that he has *two* clients; the university sponsoring the project and the married student occupant. While the requirements of the university are probably specific, little is actually known about the student and his family. Because of the urgency of the situation and the absence of necessary criteria, most design programs are usually dominated by the university's demands, with whatever concessions that can be made to meet the estimated needs of the actual occupants.

In an effort to provide necessary information on this unique building type, a study was pursued to find out what kind of housing is made available to the married student and his family, what he thinks about it, and what suggestions he could make to help establish basic design criteria. The investigation was limited to an appraisal by the married student occupants of housing sponsored by eleven universities of various types throughout the nation. From a total of 1,385 questionnaires that were forwarded to housing offices and distributed to occupants of institution-sponsored housing, 903 were returned.

The Married Student and His Family

If 900 respondents can be organized into a single entity, it is possible to describe the married student with some accuracy and to organize his needs into a meaningful pattern. Although the dangers of generalization are obvious, the results are worth the risks.

The married student and his family are very young. He and his wife are in their early twenties and have been married less than three years. More than likely, the marriage is a product of either high school or college romance. There is one child and probably another one on the way.

Money, of course, is their main problem. The student and his wife probably have a small scholarship, work during the summer for the major portion of income and when possible during the academic year. He works an average of twenty-five hours per week at a part-time job. During an economic emergency, he may work more than thirty hours at a second part-time job. The wife has full-time employment which is almost essential to meet the expenses of everyday living. Although an off-campus job usually pays more, she may be employed by the institution and allowed to do part-time study.

Job-related expenses probably included transportation, a wardrobe and a part-time maid or baby sitter who also helps with housecleaning. Some mothers, in order to remain at home with their own child, often do ironing, sewing or care for the children of others.

Because of economic limitations, all household expenses must be kept to a minimum. Rent, therefore, becomes a major consideration and the factor basic to the quantity and quality of housing.

"It would seem that the first question students will ask in selecting housing is, 'How much?' " *

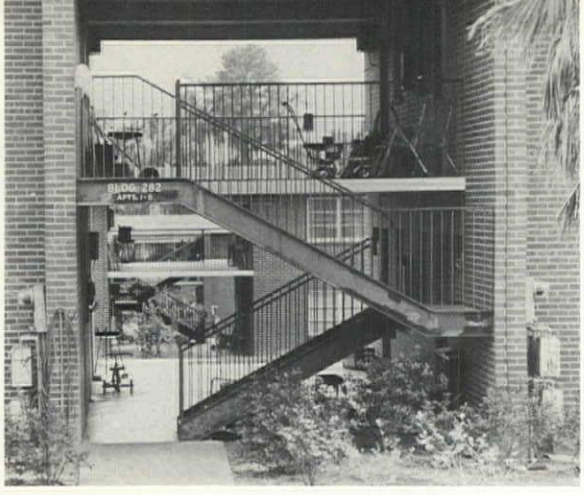
"Rents are of primary importance, so it follows that housing should be provided so as to allow students to effect economies in their housing. Amortization of new housing units should be on a long-term basis in order to lower rents. Local market conditions or commercial retail practices should not serve as a guide for university housing practices."

"Student housing is a need, not a luxury."

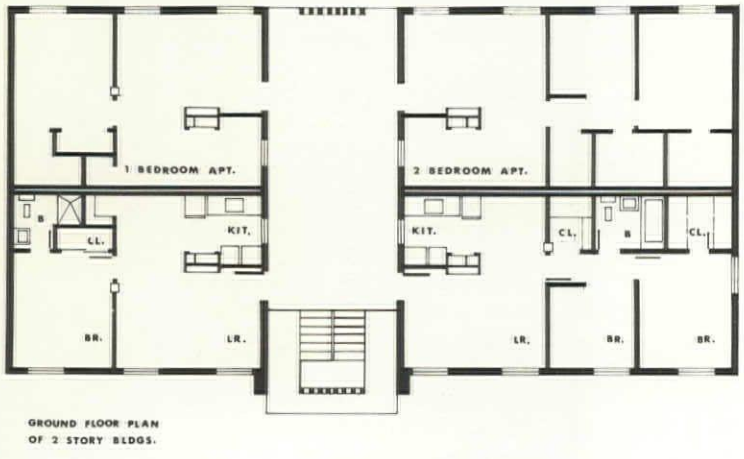
Study Habits

It can be accurately assumed that a typical student studies both at school and at home, depending upon assignments and family schedule. Because no special provisions have been made for home study, other than perhaps a desk or what facilities he has

* All of the quoted material which follows was taken from the questionnaires, substantially in the respondents' own words.

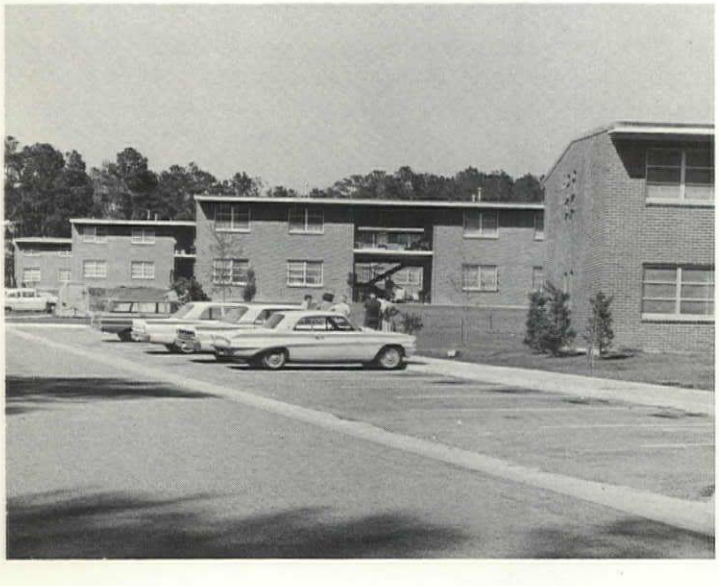


Innovations like these breezeways (left) at University of Florida can do much to relieve monotony, if climate and site permit. But any element, if misused by occupants or institution, will only contribute to confusion or poverty of the situation



GROUND FLOOR PLAN
OF 2 STORY BLDGS.

Typical plan of one- and two-bedrooms units at Corry Memorial Village, University of Florida. Modified plan for future units permits conversion of large closet in bedroom two into study area. Students complain of "parking lots right under bedroom windows" and "adults gossiping on sidewalks outside. . . ." (below) but add, "Corry is an excellent housing facility!"



improvised, the student ordinarily works in the bedroom or at the kitchen-dining table. He keeps his work hopefully out of child-reach and away from kitchen calamities, but there is really no place where he can safely leave it to return to later. Noise and family confusion, mostly because of proximity and lack of isolation, are his principal problems.

"I study in a converted closet—includes book shelves and a 2′ x 4′ study board (I assume this installation has been modified by each subsequent tenant—the plywood desk is our contribution.")

"I study in the bathroom. It's the coolest place when it's hot."

"We have our own desks and light. We felt that the board supplied was inadequate and not conducive to proper study habits."

"Lights are placed so as to give direct glare at eye level. Improved lighting might save my eyes."

"Where I study varies depending on where the children are."

"I study at home only after everyone is in bed; otherwise it's impossible."

Housekeeping and Child Care

Housekeeping for the student wife, complicated by her inexperience, the rigorous demands of employment away from home, caring for a young child, and the erratic schedule of her student husband, is made even more difficult by inadequate provisions for normal living. Their apartment does not afford enough space for a young, intense, active family. Very little consideration is given to the provision of efficient storage space, ample work space in the kitchen, good lighting or to the use of materials which are hard to damage and easy to clean. Washing and drying machines are located in a central laundry room convenient to all apartments. The arrangement allows simultaneous laundering, baby-sitting and gossiping by either husband or wife, but they would prefer having these facilities within their own apartment.

"Clothes lines are located out back, but we have no back door."

"Brick walls in kitchen absorb grease spatterings."

"Cheap tile breaks easily, and students pay damage."

"Non-grassed area in front causes excessive dust."

"Plasterboard is not satisfactory for permanent housing with children—paint must be washable."

"Garbage facilities are inadequate—trash cans

STANFORD UNIVERSITY

STANFORD UNIVERSITY

Escondido Village (Stanford University, directly above and above right) rates high—occupants say "gives student's family a feeling of self-esteem and pride. . . . If you are searching for a desirable plan, check out Escondido"

A wife's comment: "I prefer a two-story apartment where children can be easily isolated at bedtime . . . but bedrooms must have door and four walls—no balcony type!"

STANFORD UNIVERSITY PHOTOS

are constantly misplaced or removed—paper disposal not fenced in."

"Some kitchen cabinets have no doors, and grease settles on whatever is in them."

"There is no place to keep dirty shoes, winter clothing, raincoats, etc."

"Convenience outlets in kitchen are poorly and unsafely located."

"When my husband is studying, I do not have anyplace to go. I work all day and would like to get my house organized at night, but my husband can't study then. If the bedroom were larger or a room provided for his study, I could carry on my activities. This would help."

"Of help would be a central storage area per building with cages or lockers for bulky items such as trunks, etc."

Although some couples without children are very critical of the irresponsible behavior of the children within housing projects, most young parents are very concerned with the well-being of their offspring. Many of them live in institution-sponsored housing so that their children will be protected from the dangers of traffic and slum areas, will have playmates of their own age, and will have baby-sitters to fill gaps between class and work schedules.

Child care is often needlessly complicated by inadequate or poorly planned play areas; landscape or architectural features on which children can get hurt; inadequate storage for tricycles, baby carriages, sleds, etc; uncovered garbage and trash storage.

"Too much glass area, sliding metal doors are dangerous to children's fingers."

"Baby carriage must be wheeled across lawn to get out of project."

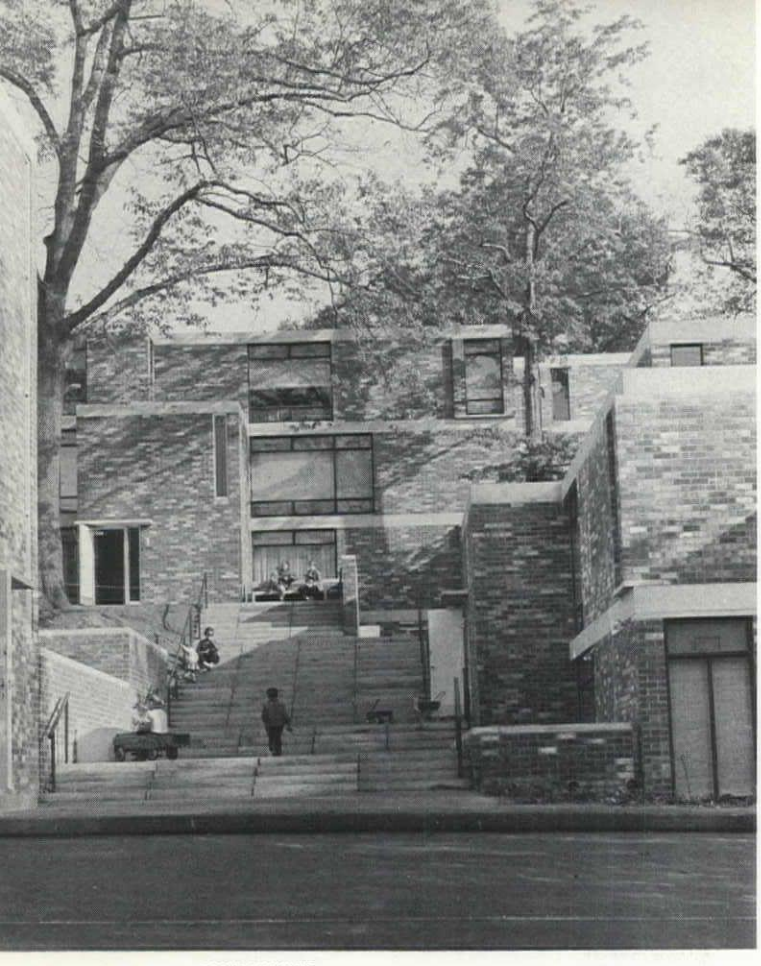
"Thin walls—noises awaken baby."

"Increased percentage of children's illnesses—if one child gets sick, all children will sooner or later."

"No thought given to outside recreation area for children."

"Some provision should be made for the recreation of older children, with a supervised play area away from the housing units—fenced in and with adequate area to run, trees to climb, as well as standard playground equipment. The apartments could then each have a tiny yard for young children, instead of a communal yard where children can get into a neighbor's garbage and laundry or play immediately beneath the neighbor's bedroom windows."

The typical respondent student and his family live in institution-sponsored housing provided for undergraduate and graduate students. It is located within walking distance of the academic center of the campus. Their apartment is in one of several multi-story buildings composed of both one- and two-bedroom apartments and occupied by couples with or without children. Apartments are let on a first-come-first-served basis. The student family is lucky to have



JOHN FOWLER

"What about outside recreation areas for children? An apartment for a family with children must be designed quite differently . . . it's difficult to move furniture, etc through corridors and up stairs." But these units at Yale show more than routine concern for esthetic values

a two-bedroom apartment on the first floor, particularly desirable because of their small child.

Overcrowding and monotony due to the standardization of housing are the principal drawbacks of the project. The most obvious annoyance factor is noise—noise from adjacent apartments, from children at outside play, from the community laundry building, railroad and automobile traffic, mechanical equipment and from maintenance at odd hours. Other drawbacks include insufficient storage, lack of privacy and inefficient recreation areas for children. The respondent is especially annoyed with his irresponsible fellow-students who fail to discipline their children or control their television and hi-fi, who hold late parties, or are otherwise inconsiderate.

Although he sometimes appears to be unnecessarily critical of his living conditions, the married student knows how fortunate he is that the university is willing to provide housing. He expects no more than the minimum housing he can poorly afford, and appears to become aroused only when his accommodations fail to meet his basic needs for study, allow efficient housekeeping, and to provide for the safety of his family.

"Please remember, in planning housing for married students, [that] most students are on scholarship and have to work part-time even to live in relatively slum areas and housing. So for God's sake, keep it simple, roomy and cheap. It doesn't have to be fancy, only warm and clean(able)."

"In order to afford an education, most students are willing to live with certain drawbacks. Without some drawbacks, housing, at least for us, would be prohibitive. We feel that it is expected to have to accept certain disadvantages for the sake of an education."

"The problems that arise from this housing are caused by the people who live in them, not by the university which has done a very good job of providing decent, fairly attractive housing at a fairly low rate."

"In our opinion, the main point of concern in married student housing should be: cheap, ample in room and of such construction that it can be kept neat and clean with normal effort."

Design Criteria

• *General Criteria:* The basic function to be satisfied by this building type is to provide efficient housing for the student and his family. It must be within the economic limitations of both occupant and sponsoring institution. It must be designed to meet the normal housekeeping demands of a very young family and be a literal extension of the student's academic environment.

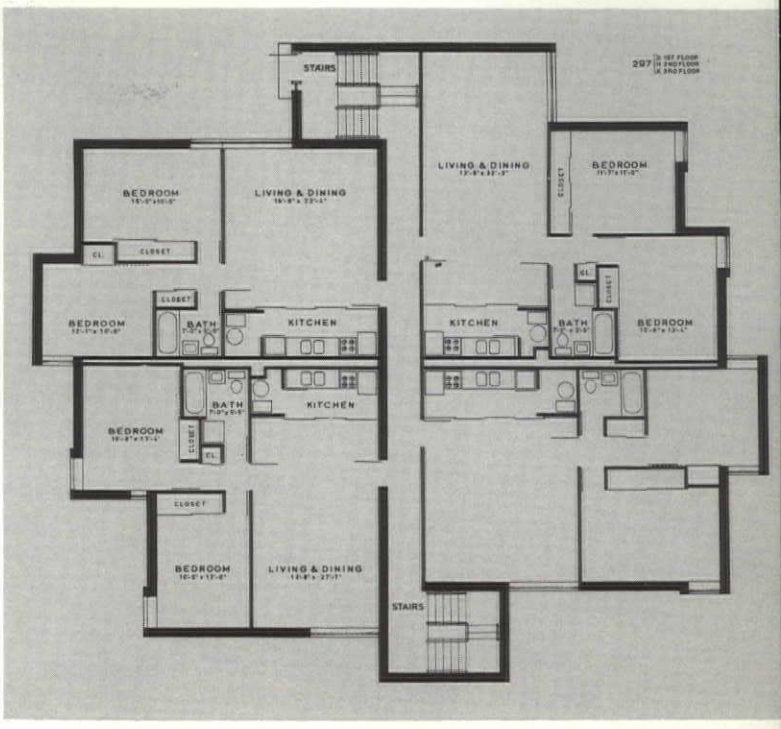
• *Housekeeping:* Housekeeping should be simplified by utilizing surfaces which are hard to damage and easy to clean, by carefully planned storage, ample work space in the kitchen and by convenient laundry facilities. Adequate lighting is a necessity, since most of this work is done at night.

• *Study Facilities:* A place for study should be completely separated from the normal living area, but located within the apartment. It must be a quiet, secure, well-lighted and ventilated space, reserved for study purposes only. It should *not* be large enough to double as an extra bedroom, nursery or playroom.

• *Occupancy:* To avoid monotony of population some consideration should be given to the mixing of family types within a project. Couples with children should be grouped into neighborhoods or clusters, but not in separate projects secluded from couples without children. Separation should be sufficient, however, to prevent children at play from disturbing childless couples, or childless couples from upsetting normal schedules of the very young.

Some consideration must be given to differences of family size and age. Housing for couples with children requires special safety precautions, supervised play spaces, provisions for storage of toys, perambulators and nursing equipment, and special considerations for study. Washing machines and dryers should be placed, whenever possible, within the apartments for couples with children. Those occupants who already own laundry equipment should be allowed to install it. Window heights, railings, finishes, and mechanical equipment must be selected and installed from the child's viewpoint. When children are

GEORGE CSERNA



Married student housing units at Yale University, Paul Rudolph AIA, *architect. Note simplicity of interior (above)—students say "Keep it simple, roomy and cheap. . . . It doesn't have to be fancy, only warm and cleanable"*

involved, noise becomes a problem. Sound transmission, possible to retard by appropriate materials, construction techniques and zoning, must be carefully avoided.

• *Location:* A housing project should be within easy walking or cycling distance to the academic center of the campus. It should be situated in a quiet area from the noises of playing fields, industrial areas and heavy traffic. Its site should be free from unpleasant odors, soot, dust or any unpleasant by-product of industrial processes.

Buildings should be located to avoid monotony or standardization due to placement and relieved by utilizing variations in topography and planting. These variations will also increase the possibilities of privacy so necessary to family life and to study. Where density of population is the rule, visual and audio privacy becomes vitally important to the occupants.

Proximity to public transportation is not as important as it might initially seem to be. Most students drive their own cars to class and note that too many municipal transit systems are unreliable.

Housing projects should be located near shopping facilities rather than relying on a project store, unable to compete with the low prices of a larger store. If a store is included in a project, it should stock only small amounts of staples.

Because some children will be of school age, it is desirable to locate projects near kindergarten and elementary schools.

• *Parking, Drives and Walks:* Off-street parking spaces should be provided for each occupant and should be convenient to his apartment. Both parking and drives should be separated from spaces set aside for children. No through traffic should penetrate the housing site.

Parking, drives and walks should not be within noise or visual range of apartments. These elements should be particularly well lighted because of the unusual schedules of the occupants.

Surfaces must be well drained and stable to avoid deterioration, causing unnecessary maintenance or complicate housekeeping.

• *Services:* Trash and garbage storage must be ample, convenient to apartments and sufficiently serviced to prevent overflow. This storage must be situated and designed so that there will be no scattering by wind, children and animals. Maintenance should occur at times so as not to disturb occupants.

• *Community Places:* If it is not possible to install laundry equipment within each apartment, community laundry rooms should be in a central location for those who use them. Use should be controlled to avoid unnecessary noise late at night. Play areas should be provided near the laundry so that mothers can simultaneously wash, gossip and care for their children. Drying yards should not be utilized as play spaces for children.

Play spaces for older children should not be combined with those for the very young. Apparatus should be placed to separate the different activities. Small and confined play spaces should be located near the apartment for supervision, but placed away from quiet areas.

Interior play spaces for young children should be provided for use during inclement weather. These spaces can be adjacent to laundry facilities or part of a community lounge. Supervision might be voluntary, subsidized or sponsored by various departments or colleges.

Study halls within a project are not as desirable as a study area in each apartment. If a study hall is

placed in a project, it should be divided into cubicles or carrels for individual study. Typing should be isolated from general study areas because of the noise. Study halls should be well ventilated.

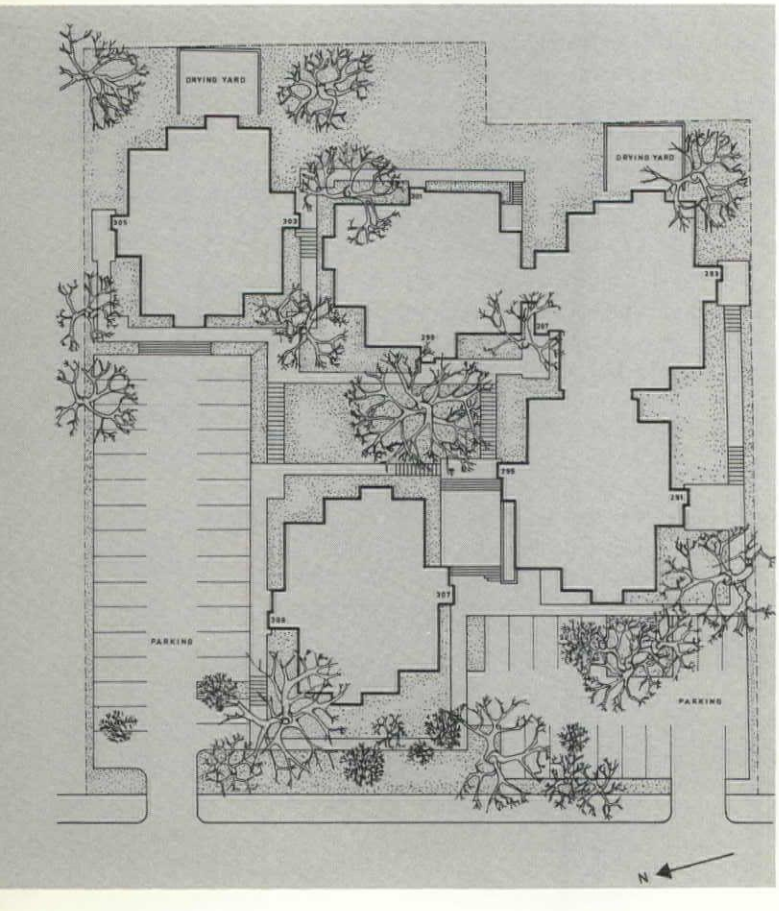
Social halls or lounges should become focal points of projects, both actually and symbolically the center of community life. Provisions for dances, suppers, meetings, supervised play, motion pictures should be considered insofar as they are appropriate to the particular community. Noises from these functions must be screened from apartments or study areas.

If a combination lounge-study hall is contemplated, these functions should be entirely separated by visual and sound barriers.

All community spaces should be accessible from all apartments, but they should not be close enough to impair privacy.

• *Safety:* Safety is a basic but very important standard, especially when large numbers of young and inexperienced families live in close proximity. Fire safety must be achieved through careful construction; through elimination of gas, oil or electrical hazards; and through provision for rapid egress. Accidents can be prevented by ample and efficient lighting of circulation and work areas, sturdy guard rails, appropriate walking surfaces, maintenance to remove harmful objects, and separation of vehicular traffic and parking from pedestrian and play spaces.

Site plan, married student housing, Yale University, Paul Rudolph AIA, *architect*



• *Mechanical Equipment:* All mechanical equipment must be selected and installed on the basis of inexpensive operation, maintenance, quietness and safety. Airconditioning, including heating, cooling, and/or ventilation should be from a central source with individual apartment control. Total airconditioning simplifies housekeeping, retards sound transmission, insures greater comfort and localized fire hazards. If central airconditioning is not possible, equipment within the apartments or the housing unit should be quiet and safe, its operation must be efficient and inexpensive, and it should be located so that maintenance is easy.

Plumbing should be insulated or placed to avoid noise transmission. Garbage disposal units, if not properly mounted, generate considerable noise. When located in apartments, washing machines should be placed in the kitchen-utility areas or off a hall.

Lighting deserves special consideration because of the unique demands of the married student family. The nocturnal study and housekeeping habits require a high intensity of light, particularly in the study area and over the range and sink. Convenience outlets should be of sufficient number and effectively placed for lamps, appliances, television, hi-fi and radios. Antennas should be permanently installed with jacks provided. Lighting of public areas, if controlled by automatic shut-off devices, should be timed to meet the students' needs.

• *Windows and Doors:* Of standard types, sliding or fixed windows are preferable. They should be so placed as to avoid down-drafts over beds, bathing areas and seating. Excessive glass areas, particularly those extending from floor to ceiling, should be scrutinized for safety considerations.

More than one entrance should be provided for each apartment. If two doorways aren't feasible, then egress through windows should be possible. A vestibule is particularly desirable in severe climates and reduces housekeeping in any case. A soundproof door should be placed between living and sleeping areas, particularly if the bedroom is to be used as a study space.

• *Plan Types:* Organization of interior spaces is especially important in this building type. Total separation of living, sleeping and study space is of particular importance in housing for couples with children. Many difficulties can be avoided by grouping of similar functions, using storage elements as visual and audio barriers, and by carefully considering the specific functions demanded by each element and space.

Large bathrooms with tub-shower combination are necessary for couples with children.

If split-level solutions are contemplated, bedrooms should not open directly into the upper portion of the living area. This plan type is not particularly desirable for couples with small children or for expectant mothers.

A variety of plan types within a unified concept can combat the traditional monotony of this building type, relieve the tensions of conformity, and tend to create for the student and his family a feeling of self-esteem and pride in being a student. ◀

ASSOCIATION OF
COLLEGIATE
SCHOOLS
OF ARCHITECTURE

The Advancement of Architectural Education: the ACSA Committee Reports

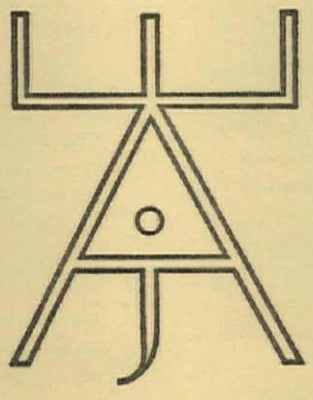
Graduate Programs 1: The University of California
by Joseph Esherick, Sami Hassid and Charles Moore

Architectural Education and Behavioral Science
by Carleton Monroe Winslow Jr.

Historical Research in the Undergraduate Curriculum by Vernon Shogren

Books: reviews by Robert E. McConnell, Philip Thiel and Bunji Kobayashi

Letter to the Editor from Walter Gropius



Since the stated purpose of the ACSA is the advancement of architectural education, the committee appointed to study that subject has a special place among ACSA committees. At the annual meeting at Miami Beach in May the Committee on the Advancement of Architectural Education submitted a report which, whatever the ultimate fate of its various recommendations, is likely to provide a framework for discussion of the subject for some time to come, and which for that reason is printed here in toto. *The report was accepted by the membership with the exception of the section on general education which, after considerable debate centering around the recommendation that students should have the equivalent of two years study in the liberal arts and sciences before entering professional programs, was tabled. It was felt by some that greater flexibility, as well as merit, might accrue if the course work in general education occurred simultaneously with the work in the professional program. The committee responsible for the report consisted of Walter Sanders (Chairman), Roger Bailey, Thomas Howarth, Walter Netsch, Buford Pickens, Ralph Rapson and John Williams.*

The Committee met January 4, 1963, in Chicago and discussed the major problems facing architectural education today. These emerged as: 1) the need for a broader general educational base prior to professional training, 2) the upgrading and greater integration of the professional training programs provided by the schools and the offices, 3) increased participation by the schools in administering the state board examinations, and 4) the revision of curricula to reflect more adequately than at present the emerging changes in professional practice.

In dealing with these problems the Committee confined its consideration to those aspects of the subject that appeared to fall within the scope of its particular assignment, "to make a continuing study of the objectives of architectural education for our time, and to suggest ways and means of realizing them." This report sets forth a number of recommendations dealing with these problems.

General Education

We believe that the significant questions of our time are ethical and esthetic questions—those demanding answers that require an understanding of the richness of life beyond concern with mere animal necessity. To comprehend the culture and vital ideas of our time requires a broad general education the central purpose of which is to understand "why." Professional training to provide the "how" logically follows the "why."

If insights are to be gained into the interaction of the humanities and social sciences on the one hand and the technologies on the other, levels of intellectual discipline must be raised for those aspiring to positions of leadership in the profession of architecture. If architects are to assume their full responsibilities to the community and fulfill their roles as designers of the man-made environment, their cultural understanding must match their technical skills. To achieve these ends it is recommended that:

a) *The member schools of ACSA revise their programs as conditions permit to require, ultimately, that students entering the professional programs have a minimum of the equivalent of a two-year course of study in the basic liberal arts and sciences*

b) *Schools of architecture applying for membership in the ACSA meet this requirement as a condition of membership*

c) *No new schools of architecture be established without first meeting this requirement*

d) *The Secretary be requested to prepare the appropriate wording to include items a), b) and c) above into the new bylaws of ACSA as soon as possible, following the proper constitutional methods of procedure*

Professional Training

It is generally agreed that the schools and the profession share the responsibilities of professional training, but individual responsibilities remain unclear and undefined. The problem is complicated by the spectrum of architectural practice which ranges from the newly registered one-man office whose local practice is concerned primarily with small individual buildings, to the well-established large organization with many special departments whose regional or national practice is concerned primarily with large institutional, industrial, or commercial centers. Granting eventual acceptance of the concept of expanded services, what emerges as the primary responsibility of each the schools and the profession?

Can the profession continue to require apprenticeship as a prerequisite to examination without assuming responsibility for training after graduation? Can the schools go on adding subject areas of specialization to their programs without at the same time recognizing the need for further integration? Can the profession provide no more than record and rating devices such as the Log

Book as their contribution toward upgrading professional training? Should there be accreditation of the offices as well as the schools?

The schools, as the prime builders of the profession fifteen years hence, must match this responsibility with equally responsible performance in continuing their investigations into the "why", as well as introducing the "how" into their programs. The profession, concerned with its obligations of immediate urgency, must match this with equal attention to the long-range emergency of the apprentice as a full-fledged professional in its contribution to the "how" of professional training. The "quest for quality" must be as penetrating in the profession as it is in the schools, and each should recognize that the best teachers are architects and the best architects are teachers. To establish at least a broad division of responsibilities, it is recommended that:

a) *The schools direct their efforts toward a broad, professional approach to practice, with primary responsibility for teaching principles of enduring validity having to do with the design of the physical, thermal, audial and visual environments*

b) *The profession direct its effort toward a responsible and ethical approach to practice, recognizing the social, visual and economic factors in the administrative and technical areas of prime responsibility*

c) *The schools and the profession develop with NCARB the definitive statement on experience so that the profession can establish an orderly program of training*

d) *The officers of ACSA initiate joint action with AIA, if possible, by assigning the coordination and effectuation of items a), b) and c) to ad hoc committees at the local, regional and national level*

State Boards of Registration

State Board examinations test the applicant's ability to reason as well as his ability to make practical use of the knowledge he has acquired. If the schools of architecture are to share with the profession the responsibilities for professional training, they should also share in the examination of products of that training. Lack of instruction and advice to examination applicants, and wasteful re-examination in subject areas previously satisfied in the schools, lead to a retrogression after graduation that is as shameful as it is alarming.

Great strides have been made by the NCARB in gaining recognition of its Certificate and in providing some degree of uniformity of standards of examinations. Nevertheless, most State Boards are neither organized nor equipped to render to the particular needs of the architect-in-training. We believe that the State Boards could fulfill both their legal and moral obligations, and at the same time provide more effective and fair examinations, if the schools played a larger role in the examination process. With this in mind, it is recommended that:

a) *The administrative heads of the schools of architecture be at least ex-officio members of their respective State Boards of Registration, and that the NCARB and the AIA support such appointments*

b) *The appropriate accredited school of architecture in each state be made responsible for recommending exemption in particular subject areas of candidates believed by the school to be qualified*

c) *The preparation and evaluation of examinations be the joint responsibility of the various State Boards and their respective accredited schools of architecture*

d) *A professional degree in architecture be a mandatory requirement for eligibility for examination by the various State Boards and their respective accredited schools of architecture.*

e) *The President of ACSA arrange a summit meeting with the President of NCARB to discuss the best ways of implementing items a), b), c) and d) above*

Revision of Curricula

The variety of approaches by the schools to the primary objectives of architectural education is one of their major assets. Nevertheless, significant changes and controlled experimentation in the programs are sporadic and often neither documented nor evaluated. A planned, comprehensive study of the goals and directions of training for an emerging, expanded professional practice would provide a badly needed frame of reference by which the schools could appraise their own approaches. Such an opportunity exists as the result of the work of the AIA Three-Man Commission appointed late in 1961, consisting of a representative of the AIA, the ACSA and one from outside the profession, whose assignment it was "to isolate and identify the relationships required of the whole design process for man's environment, and to correlate these conclusions with educational processes."

The report of the Commission outlines two basic approaches to architectural education and recommends that each be developed by a competent architectural educational consultant, that a third consultant study the special problems of internship, and that a project head be responsible for coordinating the work and preparing the final report. Supporting funds for the salaries, expenses, etc, of the consultants are to be solicited from foundations, the AIA, and professional firms and individuals. This Committee has studied the report of the Commission and discussed it in detail with the AIA staff representative assigned to the Commission, and recommends that:

a) *The ACSA approve the AIA Three-Man Commission Report, and cooperate in every way in implementing its recommendations*

b) *The ACSA give financial support within its fiscal limitations toward implementation of the recommendations of the AIA Three-Man Commission Report*

c) *The ACSA Member schools be encouraged to undertake experimentation in their educational programs both within and beyond the scope outlined in the Commission's Report*

d) *The President of ACSA ask each school to study the Commission Report during the 1963-64 academic year and forward a summary of its views and proposed action, if any, to the secretary for distribution prior to the 1964 Annual Meeting.*

Graduate Programs

1: The University of California

by Joseph Esherick, Sami Hassid and Charles Moore, The University of California

This is the first of a planned series of articles that will discuss graduate programs in American schools of architecture. In an introductory message, Dean William W. Wurster writes: "Part of the growth of the graduate program at Berkeley stems from the introduction of the five-year undergraduate program in 1953, and the genuine desire on everyone's part not to have the graduate program merely a continuation of the undergraduate program. By this I mean that it should embrace more research, more factual things as touched by economics and social science, rather than only the grace of design. If we succeed, it will be due in great measure to the work of Messrs Esherick, Hassid and Moore, who have given time to discuss and write down their opinions as to the direction that we should take."

Architectural schools are essentially geared to the preparation for a career in architecture. Augmented by a period of training or apprenticeship, the undergraduate programs of these schools, when accredited, form the basis for certification. In other words, an architect does not need a graduate education to practice as an architect. As a matter of fact, he does not even need the successful completion of an undergraduate program which may well be replaced by a somewhat longer period of training.

What then motivates the holder of a Bachelor degree in architecture who seeks further education in a graduate program? What should the objectives of such a program be to satisfy the expectations of applicants and the needs of the profession?

One is inclined to say that the objectives of a graduate program in architecture should not differ from those of graduate programs in other fields; that they should encourage scholarship, methodical investigation and research undertakings, all of which may lead to original contributions; that they should encourage the development of independent thought and the formation of future leaders for the profession. These may indeed be the objectives of a full graduate program such as is normally crowned by a doctorate degree of some sort. Since the offerings leading to a PhD degree in architecture are not yet fully developed at Berkeley, our discussion here will be limited to the program leading to a Master of Architecture degree.

When the Master's program is considered, several questions come to mind. Should this program be a watered-down version of, or a step towards a PhD program? Should it be a sequel, an affirmation or an amplification of the undergraduate program? What else could it or should it be? To answer these questions, it may be proper to review some of the objectives of graduate programs offered in various schools before we describe the program at Berkeley, what it is doing and what is hoped for its future orientation.

The Objectives of Graduate Programs

A graduate program may aim at broadening the outlook of students by giving them opportunity

for general education. This kind of opportunity is very necessary with the present structure of many undergraduate curricula which concentrate on strictly professional subjects. Some schools have resolved this problem by requiring a liberal arts education at college level prior to enrollment in architecture. Inevitable drawbacks of this method are that it lengthens the total duration of study while the period devoted to architecture is reduced. Another solution may be found in revamping the undergraduate curriculum, and this is what we are hoping to do at Berkeley.

A large number of existing graduate curricula aim at imparting to students a higher level of general professional skill. This system is exemplified by the design thesis, a somewhat more exacting version of the undergraduate design thesis. Students attack problems of larger scope and a higher professional level of accomplishment is expected. "Research" is usually limited to the search for background information, data and bibliographic material as would be expected in actual professional practice.

A few graduate programs train specialists in particular fields or building types, such as housing, hospital design and school design. Students are given factual knowledge pertinent to the specialty and conduct detailed inquiries into the requirements, data and solutions of specific types of buildings. With the existing deficiencies in most undergraduate curricula, the risk exists that the outlook of students may narrow even further.

A legitimate objective of a graduate program may be to develop the student's creativity above the minimal expressive and productive levels of current undergraduate education in architecture. Invention and innovation are encouraged through development of better tools and new approaches to solutions. Fundamental understanding is sought through investigations into the roots of problems. This kind of objective requires a balanced program integrating the generalist approach based on comprehensive and diversified education, and the specialized techniques suitable for generating new knowledge. Research is of paramount importance in this kind of a curriculum which is interested in process as much as, if not more than it is interested in content.

The Graduate Program at Berkeley

The present graduate program leading to the degree Master of Architecture started in 1958, five years after the five-year undergraduate curriculum introduced by Dean William W. Wurster was put into effect. A former program, now defunct, followed a four-year undergraduate curriculum and led to the degree Master of Arts in Architecture. A main objective of the present program is to develop the individual student's insight into problems, to develop his ability to analyze problems, to develop his power to propose responsive solutions for these problems, and to develop his skill in making effective decisions within and between his proposed solutions.

Two basic options are available within the program, a twenty-unit plan culminating in a Master's thesis and a twenty-four unit plan where a comprehensive examination is given in lieu of the thesis. In both cases, ten units of courses offered within the department are mandatory; the remaining units may be taken in any department of the university.

The required course "Seminar in Architectural Research" and the course "Seminar in Architecture" have been described on a previous occasion.[1]

The required course on "Major Problems of Architecture" might be more correctly titled "Major Problems for Architecture." The course seeks to consider certain aspects of modern social life where no clear solution exists for the appropriate physical form. Problem areas have been generally cast in urban situations. Strong emphasis is placed on the process of problem analysis, on methods for describing general solutions and on methods for effectively evaluating the solutions and reaching decisions about them. Every effort is made to show the limiting effects of formalism or preconception on possible solutions. The students are urged to take nothing for granted, but at the same time to propose solutions to problems in our terms of the problems (not in terms of some other problem). The problem here is to free the student from fixations about what solutions ought to be or are supposed to look like. The effect of five years of training in fixation is hardly felt and fought.

The required course on "Architectural Design and Research" accomplishes two objectives. For those students taking the comprehensive examination, it is a continuation of the course "Major Problems of Architecture." For students

[1] Sami Hassid, "Graduate Research at Berkeley," *Journal of Architectural Education*, March 1963

writing a thesis it is designed to provide a communication link and a sounding board. In both cases, the attempt is made to refine the broad goals of the previous course, to develop and refine thinking about individual student goals, and to integrate the student's thought processes with a reasonable and appropriate image of modern life.

The Department also offers a course "Special Study for Graduate Students" which is tailored to the needs and desires of the students, and which allows them to pursue certain investigations in which they are particularly interested.

Comprehensive Examination vs Thesis

The relatively short history of the present graduate program over the last five years shows a marked decline in the number of students electing the thesis option, and a corresponding increase in those electing to take the comprehensive examination. This, in turn, reflects a re-orientation of the faculty's opinions regarding the relative merits of the options. While the thesis was encouraged at the start of the program, and recommended in official literature, our present feeling is that for most students the comprehensive examination option is better for a variety of reasons. First, we have found that virtually every student has a limited general background, being particularly weak in the humanities and the physical and social sciences. Until the undergraduate schools can come closer to taking over what we feel to be a fundamental responsibility, one of the purposes of the graduate school is to make up for this lack in general education. Further, few students are matured or experienced enough to do genuinely significant thesis work. At the start of our program, the students elected the thesis option probably because it was officially encouraged, and also because it constituted the pattern they had known. All too often, the thesis became little more than an expanded undergraduate design problem, expanded out of all reason and proportion. Finally, one of the great evils of design training as it exists is that it tends to encourage fixation, a major deterrent to good solutions. Under the worst circumstances, some of the students appear to actually have been trained in fixation. One of the major difficulties, then, of the thesis is that, in some cases, it may tend to become a mere extension of this fixation process and to encourage more fixation. The thesis may thus be more dangerous than helpful.

This is not to suggest that a design thesis is the only possibility available under the thesis option. As the program developed, and from time to time during this five-year period, very interesting and useful theses have been presented. The most successful ones are a far cry from the traditional design thesis. They have value beyond mere educational value for the student himself. To do something of real value often takes more time and maturity than many a Master's candidate may have at his disposal. This has been realized by many students and explains the recent trend toward the comprehensive examination option. A series of tests and safeguards are included in this option to ascertain the maturity of thought of the student. Apart from the additional four units required, a student electing the comprehensive examination option must take a series of written, graphic and oral examinations. These are mainly designed to find out whether the year spent in graduate studies has developed in the student a capacity to learn, an ability to make reasoned judgment and a proficiency in the process of solving problems.

Taking stock of the status of our graduate program at the end of its fifth year of operation, one cannot help but feel that it has had distinctive merits in encouraging research, an inquisitive attitude and competency in the process of analysis and problem solving. At the same time, one cannot leave unnoticed certain in-built difficulties and the implications that these difficulties entail in various sectors of the educational process.

Interaction with the Undergraduate Program

Foremost among these implications are the interactions between graduate and undergraduate programs in architecture. The graduate program in architecture at Berkeley reflects attitudes we have towards the teaching of undergraduates as well, and we expect the development of our graduate curriculum sharply to influence our efforts toward a coherent undergraduate program. We are however determined, at least for now, that the graduate program will be not a continuation of an undergraduate design sequence, but an antidote to it. This determination is based on a strong dissatisfaction with most of the architectural education we know about, which seems to drift along on "expression" (at worst) or "craft" (at best), allowing and even encouraging students to look to their own psyches and to rely on their whims for decisions which are certainly susceptible to rational analysis, to knowledge of human behavior and physical fact. It appears to some of us that the usual architecture curriculum is an elaborate framework for playing architect; it supplies the student with the notion that he is in charge of all sorts of factors he scarcely knows about, and develops therefore arrogance in lieu of responsibility. Our present efforts with our undergraduate curriculum are mostly toward a more responsible identification of the problems of the physical environment and the development of the tools for

their solution, with a heavy reliance on discernible fact. We do not shy away from theory; indeed we believe that only with the development of a coherent body of transmittable theory based on verifiable information (*not* dogma) will it be possible for the architect to make a really responsible and necessary contribution to the society.

We find that our dissatisfaction with architectural curricula is shared by an increasing number of good students, willing and able to undertake a far more rigorous discipline than is presently available. We are making progress, we think, toward a more reasonable and more rigorous design sequence at the beginning, especially, of the undergraduate sequence. But meanwhile there exist a number of mature students who have completed undergraduate curricula in architecture, have had some exposure to the professional world (and often to some other discipline which offers them additional insights) and who are anxious to have a graduate program devoted not to a continuation of the artistic activities of their undergraduate career, but a change to reconsider their attitudes and ideas, to learn from exposure to other disciplines, to discard fruitless prejudices, to re-evaluate their position. It is these students toward whom our graduate program is aimed. And we believe that from these students and this program should come a great deal of the impetus for the continuing development of our undergraduate curriculum, as well as the chance for increasing relationship with other disciplines in the University, a breaking down of the intellectual walls that too often surround schools of architecture.

We must face the fact that the development of a strong undergraduate program in our Department will not, per se, solve the problem of the deficiencies encountered in the previous training of our graduate students. Most of our graduate students come from other places, and we have no control over their undergraduate education, other than post-facto scrutiny of their record. Until there is more generalized acceptance of stronger and broader undergraduate programs by schools of architecture, problems of inequality in previous education will have to be faced. Lengthening of the period of residence to fill in gaps in the background seems to be inevitable in many cases.

Interdisciplinary Studies

There has been considerable discussion in our Department of the need to encourage interdisciplinary studies related to architecture. The broad approach of the generalist and the development of new knowledge in architecture require or can be greatly enhanced by an interdisciplinary attack of the problems involved. This poses problems at student and faculty level. How do we best effect this interaction at both levels? A suggestion has been made for some kind of offering at graduate level under the aegis of the Department of Architecture, in which students from various disciplines would conduct many-pronged attacks on problems of the urban environment. In turn, this supposes a preparatory period in which students with various backgrounds would be filled in on aspects with which they should be familiar.

The development of graduate and undergraduate curricula of the kinds outlined in this report requires the retention of a faculty with a broad view of the problems of our time, and an inclination towards creative approaches and the discipline of research. This brings up the problem of the balance between professional practice and research activity as corollary attributes for successful teaching. The attack of interdisciplinary problems also implies the participation of a faculty from various disciplines. Some of the offerings needed may be available in the various departments of a large university, In many cases, however, available courses may not be suitable for an interdisciplinary program in architecture. This may well result in an increasing recruitment of non-architects in schools of architecture.

The orientation of emphasis in future offerings and the philosophy of the graduate program may be affected by the image we may have of the graduate whom the program is supposed to produce. We may see him as a well-rounded man having a broader outlook on life and on the problems of his profession than is normally acquired through traditional undergraduate architectural education. We may think of him as a future educator, or we may envision him as a researcher capable of undertaking specialized research singly or collaboratively. We may also assume that he may become a practicing architect, equipped with up-to-date methods and tools to better perform his task. A graduate program should be flexible enough or structured to allow for different directions resulting from diversity of interest and of intended activity after graduation. A program such as ours, directed toward process and allowing for a diversity of content, seems to us especially well adapted to cope with the widely varying demands of those seeking a graduate education in architecture.

Architectural Education and Behavioral Science

by Carleton Monroe Winslow Jr
University of Southern California

Few buildings today are brought down by structural failure; many—some would say most—are weakened by what the author of this article, an architect and educator who holds a degree in sociology, calls anthropological failure. If this state of affairs is to be remedied, Carleton Monroe Winslow Jr maintains, there will have to be more and better courses in behavioral sciences at the undergraduate level in architectural curricula, together with an increase in empirical research into the part played by environmental factors in determining social behavior. And the latter, no less than the former, will have to be instigated by the schools.

Architects and planners constantly assert that respect for human behavior is central to their design considerations. To some extent this is true. Physical size is considered in terms of heights of doors and spaces. Sight is sometimes acknowledged by color and illumination. Hearing is sometimes reflected in noise and acoustical considerations. Despite this, more buildings fail anthropologically than structurally and these failures, I suggest, are due to 1) inadequate courses in behavioral sciences at the undergraduate level in architectural curricula and 2) lack of empirical research in the isolation of environmental factors as determinants of human behavior.

What is needed at thc undergraduate level is a course or sequence of courses which cuts across the rather arbitrary (and frequently disputed) frontiers between the disciplines of biology, anthropology, sociology, ecology and psychology. Such a course must be designed to accomplish two things: 1) survey the range of human behavior and 2) take the architect right to the current frontier of current research methodology, not with the idea that he will become a social scientist, but with the idea that he will be aware of the body of existing data and further that he will be able to pose the *intelligent question*. Such a course will also train the architect to think about social problems, in a scientific way. For instance, the mere observation that a high incidence of juvenile delinquency occurs in areas of sub-standard housing does not in itself mean that the poor housing conditions *cause* the delinquency. Both phenomena may be a product of some more fundamental problem related to economics or race relations. As a result of this training, then, the student will learn to distinguish between mere association and a cause and effect relationship. He will further learn to examine the criteria used to establish such factors as "incidence of delinquency" and "substandard housing." He will learn something of the nature of sampling and statistical analysis upon which so much social research relies. He will be just as able to read a sociological report as the results of a soil analysis.

We are now led to the second reason for anthropological failure in buildings. This is lack of empirical research in the isolation of environmental factors as determinants of social behavior. This area, it seems to me, can become an important one for architectural research but it will have to be accomplished as a joint effort with various branches of the behavioral sciences. Architects and planners *talk* about the presumed benefits of well-designed environment but they really do not know how these benefits are reflected in terms of behavior. In fact, since the demise of the so-called "School of Geographic Determinism," sociologists have come to regard environment as a *limiting but not predetermining factor in social behavior.*[1] It is therefore quite natural that social scientists should be attracted to the apparently more fruitful areas of social stratification, race relations, etc.

There is, however, a growing body of information in the areas of community and urban soci-

[1] This quotation, in essence, is taken from a personal discussion with Professor Edward McDonagh of the Department of Sociology, University of Southern California

ology. The status of these branches is indicated by assigned categories (17 and 18) in the reference periodical, *Sociological Abstracts*. During 1961 and 1962 over two hundred articles were abstracted in these areas alone. It is true that few appear to concern themselves with isolating environmental factors for use by the architect but on close examination many of the studies may contain valuable material.

We must face the fact, too, that social research will follow encouragement. Environmental design will have to encourage environmental research in the social science field, which is another way of saying that money is needed. If the United States Navy allocates money for research in the area of leadership on a broad basis, social science will engage in research in leadership. That the sociologists stand ready to engage fully in urban and community problems is attested by the articles mentioned above. An idea of the range of interest with which these articles deal is indicated in the selected bibliography.

Ernest Manheim, in a paper entitled "Theoretical Prospects of Urban Sociology in an Urbanized Society," feels that as urbanism is becoming an increasingly dominant factor in American life, urban sociology will develop toward something approximating the study of American civilization:

> Urban society is rapidly becoming American society. The majority of text books on urban sociology clearly reflect this change. There are few subjects of sociological research in any province of American life which are left out of standard textbooks and understandably so, because there are few areas of problem-oriented research which in this country are unrelated to urban society.[2]

Urban sociology, however, does not imply isolation of environmental factors as determinants of human behavior. It means that more and more social problems must be studied within the urban frame of reference because more and more (in the words of the abstract) American society is approaching a state of total urbanism.

Structurally our buildings are designed to three or four places beyond the decimal point; sociologically we design by hunch. This will only be changed when a significant body of research on the influence of environment on human behavior is accumulated. The only place this work will be done is in the social science departments at the instigation of, and in cooperation with, the schools of architecture and planning at our universities.

[2] Ernest Manheim, "Theoretical Prospects of Urban Sociology in an Urbanized Society," *American Journal of Sociology*, LXVI (November, 1960), 226-229

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The following books and articles are selected from those reviewed in *Sociological Abstracts* in 1961 and 1962. They were selected to give some idea of the range of current social research. Few, if any, attempt to isolate environmental factors. All should be of interest to environmental designers.

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Historical Research in the Undergraduate Curriculum

by Vernon Shogren, North Carolina State

There are not many disciplines in which the undergraduate student can make a valid contribution to the stock of recorded fact while deriving educational benefit from the process, but architecture is one of them. The chief means by which the architectural student can do this is the measured drawing, which as a recording device rather than a transmitter of "exemplars" for the eclectic has made a notable comeback in the past ten or twelve years. The revival of the Historic American Buildings Survey has had much to do with this, and so has the National Park Service summer program for students, which was described by Ernest Allen Connally under the title "Preserving the American Tradition" in the AIA Journal *for May 1961. Most school programs are undertaken in concert with the HABS. One that has been in operation three years, the HABS Measured Drawing Project at Carnegie Institute of Technology, is described in the May 1962 issue of* Charette, *the publication of the Pennsylvania Society of Architects, under the title "Project H. H. Richardson," by James D. Van Trump; in this case the survey is an adjunct to the courses in architectural history but is conducted separately from them. In the following article Vernon Shogren discusses the educational value of such programs and describes the working and the goals of the one, now twelve years old, at North Carolina State—a program of which Matthew Nowicki was an enthusiastic supporter.*

To architecture's "old pro," historical research is something vaguely akin to archeology. He sees in it merely a welter of dead ideas and dead facts—"dead" because they are not directly applicable to the solution of problems which he faces daily. For one pressed by the present, the past becomes, as Henry Ford put it, bunk.

However, this same "old pro" will accept without question another set of dead ideas and dead facts which do him infinitely more harm—those of the present which he accepts without thought or analysis. It is not easy to distinguish between sense and nonsense in our own time. This situation is complicated for the contemporary architect by the great technical and esthetic freedom which he enjoys; any kind of posturing mannerism is possible and permissible, provided it can be justified in some vague way or other.

Here, as always, freedom and responsibility are inseparable, for the architect's responsibility must include a constant evaluation of the ideas and facts of the profession to determine which are real and which are illusions. A nose constantly to the grindstone may produce a flat nose, but certainly no enlightenment. To see clearly, we must remove ourselves occasionally from the arena of self-conscious struggle. Historical research can accomplish this removal, if pursued beyond the superficial level of appearance to the fundamental levels of objective and meaning.

If a school of architecture is to have any educational values beyond those of a trade school, it must be concerned with these very areas of purpose and meaning. The "how" of architecture becomes meaningless and grotesque unless it is firmly harnessed to objectives which go beyond form and appearance. Historical research has the great advantage of being divorced from value considerations in regard to fashion and style. Here, perhaps, one can think clearly, see without distortion, and evaluate without prejudice. From such study, insights may be gained as to how to set sensible objectives for our own time.

The School of Design at North Carolina State College adopted a requirement in 1952 that each student complete a project of measuring and recording a work of historical significance, to be completed before entering the fifth year. Ordinarily, proposals are made and approved by the end of the second year, and the subsequent summer provides the time to measure and do research. The student registers for the course the following year, and submits a set of six sheets in the spring of his third year.

The general purpose is threefold:

1 To record works of architectural importance

which would otherwise vanish anonymously;
2 To give the student experience in personally examining, measuring and recording the realities of building;
3 To test the student's abilities in recognizing architectural merit in a time context different from his own.

It is necessary to emphasize the last two of these three objectives in order to avoid the dilemma which is otherwise unavoidable—namely that any region will soon be exhausted of "great" examples, with the concerted efforts of sixty to eighty students per year. It is easy for a course such as this to disintegrate into dry pedantry if too much attention is paid to immemorial distinction in each case. It is imperative that this type of program remain an *educational* instrument; and education here, as elsewhere, must be based on personal involvement and personal judgment.

The student is encouraged to select a period of local or regional history, preferably before 1900. He is then asked to try to analyze those functions which would have posed pressing problems to building of the period. Within these areas, he is expected to select intelligent and sensitive solutions and to back up these selections with fact and data proving the integrity of his judgment. In other words, all selections need not be great architecture, but they must be important.

It also seems essential, in a program such as this, to avoid the romantic attraction which a mere patina of age gives to buildings. Few works of any age survive for long, and as a consequence we tend to overvalue those which do, either for eventual or sentimental reasons. A house may be important to historians because "Washington slept here," but it may be insignificant to architects and designers. Buildings recorded by students at the School of Design of North Carolina State have included the following: Bunker Hill covered bridge, Claremont, NC; Quaker Meeting House, Adams, Mass; a tobacco barn in Franklin County, NC; C & O Canal lock house at Lock II, Georgetown, District of Columbia; the first Andrew Johnson house, Greenville, Tenn; Louisville Slave Market, Louisville, Ga; Leffert's Grist Mill, Lloyd Harbor, NY; Netherland Inn, Kingsport, Tenn; St. Louis Cemetery No. 2, New Orleans, La; Caffey's Inlet Life-Saving Station, Outer Banks, N.C.

The actual labor of measuring and recording is of great value to students of the second and third year. The student learns the difficulty and challenge of assessing a structural system at first hand, and reconstructing that system in graphic form. Also, he discovers, usually by repeated trips back to the site, the kinds of information needed to describe a completed building accurately. This entire process has much the same educational advantage as that associated with remodeling—one of the facts of life soon encountered after education.

The subject-matter of a course such as this can and should remain flexible. It is not necessary to restrict the student to buildings as such. Groups of buildings, or even towns, can often be reconstructed in collaborative groups. In the North Carolina area for example, projects involving entire plantations with fields, out-buildings, etc, are currently being undertaken. In this respect, a program of research can and should reflect the scale of problems with which the architect of today is faced, wherein he must deal with the building not as an end in itself, but as a means to an end.

Books

SOM: Architecture of Skidmore, Owings & Merrill, 1960-62
Introduction by Henry-Russell Hitchcock and text by Ernst Danz. New York: Frederick A. Praeger, 1963. $18.75

The individual creative genius will always be with us in architecture. In his lonely contemporary garret he will sit in his mantle of professional sanctity and will produce a few buildings that will point

the way to the future definitions of form and space. God bless him! It would be a dreary world without such dedicated architects.

However, America is moving with such velocity that the solitary geniuses cannot hold the reins alone. This is America the energetic, America the affluent where, in the next few decades, our cities will be rebuilt and new cities will rise in the wastelands. They will be promoted by the corporate client, the opulent lender, the ravenous realtor, the subcontracting contractor and—like it or not—the ballooning government. Put on your smock and beret, rush into the street weeping—but it will still be true. They will build America, with us if we are willing or without us if we are reluctant. The message of this book to the student of architecture is this: there are large architectural firms in America, of which SOM is an outstanding example, that are able to cope with bigness, to produce Architecture with a capital A, and to continue to grow in excellence.

SOM's achievements are all the more remarkable in that there are multiple offices spanning the continent, a multiplicity of partners and an international clientele. In a framework of comprehensive services they have been able to excel in concept and detail without letting their architecture succumb to the ravages of administrative detail or timidity.

In this book we are given handsome photographs of it, beginning with Lever House, a 1952 milestone in urban space, proceeding through such familiar works as the Heinz Plant, Hanover Trust, Connecticut General and the Air Force Academy, and ending with a series of works in progress, such as the library-museum-theater complex for the Lincoln Center (done in association with Eero Saarinen & Associates). One of the most interesting facets of SOM's development is thus illustrated: the progressive growth and sophistication of their attitudes toward the curtain wall. The new work shows increased concern for sunshading and three-dimensional relief coupled with such traditional materials as marble and granite.

The most disappointing aspect of the book is the total lack of color photography. Students who have had the opportunity of visiting a few of SOM's works will know that the gray anodizing and the blue-green glazing are often neutral backgrounds to vivid shades of interior color, frequently approaching primary colors. It is unfortunate, too, that SOM's 1963 AIA First Honor Award winner, the Albright-Knox Art Gallery addition in Buffalo, should be missing. However, their 1963 Award of Merit winner, the New Orleans John Hancock Building, is a handsome substitute. John Hancock represents the enlightened type of corporate client that is blessing our cities with a series of distinguished buildings by SOM and others.

What is of particular importance to the student? Study the use of materials (John Hancock, San Francisco), the use of scale (Pepsi-Cola, New York), the use of commissioned works of art (Chase Manhattan, New York), the detailing (Air Force Academy), and sunshading (John Hancock, New Orleans).

In this age of over-communication when each new work must be sorted out and filed according to style, there is a great temptation to call SOM's work "International style" or "Miesian." However, a better category would be "American style," used in the best sense of the term. New projects for United Air Lines, Tennessee Gas and MIT suggest that this huge American firm, born in the 1930's, is in fact young in spirit. It is a youth that our nineteen-year-old students are challenged to match.

ROBERT E. MC CONNELL
Arizona State University

Kenzo Tange

By Robin Boyd. New York: George Braziller, 1962

This book is important if for no other reason than that in it the western world now has its first publication devoted to the life and work of a contemporary Oriental architect. Not only that, but because it is one of a series called the Masters of World Architecture, we are given to understand that the Japanese Kenzo Tange is now assigned a significance equal to that of Bucky Fuller, Philip Johnson, Louis Kahn and Eero Saarinen.

Thus our horizon broadens. Our profound ignorance of the Orient has become transmuted, by the accident of an enforced awareness, into a profound interest. Japan, as the most accessible part of the Orient has become our new cynosure; and Tange's work has become the pre-eminent symbol of all contemporary Japanese design achievement.

What do we look for, through our new windows opened on the East? Do we look for new solutions to old problems? As the heirs to all traditions and the possessors of none do we perhaps envy the Japanese guidelines? As the despoilers of nature do we long to possess that which we destroy, and perhaps hope to learn from those with whom nature seems to carry on a secret dialogue? Having all material resources do we understand none, and perhaps covet the disciplines of necessity which have been a Japanese source of strength? Swamped by our mutating cities are we perhaps drawn to where the urban problems are much worse than our own, and thus look through the new eastern windows for new answers to new problems?

It is the virtue of this book of Robin Boyd's that these problems are explicitly recognized and are discussed in a subtle essay on the interaction and response of a sensitive man in our present overwhelming context. We are taken along the outer fringes of this sensitivity, where the feelers of new growth are seeking their support; and to do this as lucidly as the author does in no mean achievement. He has Tange's own words at times to help him, and the effect is a welcome warm quality in the cold print: we feel the touch of a human on the pages.

On the other hand, it is the vice of this book of Robin Boyd's that he judges one culture in terms of another. An appreciation of Japanese, non-western values is essential to a true understanding of the significance of Tange's accomplishment, irrespective of

the fact that Tange is concerned with problems that transcend national boundaries. His buildings are still in Japan and are used by Japanese. When Tange is faulted for not "assisting Japan to find its own popular branch culture in the modern world" by allowing "the Le Corbusier influence to dominate too strongly," Robin Boyd is wasting our time. The popular culture of Japan is centered on the new and the foreign, and has been for centuries. And Robin Boyd's "inconsistencies in modern Japan," as witnessed chiefly in the chaos of the Japanese cityscape, suggests he does not realize that the social structure of Japan is based on a network of private, interpersonal obligations. Public chaos is perfectly consistent with the non-existence of public responsibility.

But for the time being this book is the best we have. Perhaps improved cross-cultural understanding will give us better ones later. Perhaps publishers will also sometime later give us more and better reproductions of plans; perhaps they will even find some inexpensive way of putting text and illustrations into a closer relationship than by merely binding them between the same covers.

PHILIP THIEL
University of Washington

Japanese Architecture

By William Alex. New York: George Braziller, $4.95

William Alex, editor, writer, designer, exhibition consultant and currently the general editor of Masters of World Architecture, has studied Japanese architecture at the University of Kyoto as a Fulbrighter, mainly under Professor Jiro Murata to whom this book is dedicated. In one of the most readable books on the subject ever written, he discusses it from its beginnings in the neolithic pit-dwellings down to the residential architecture of the climax, the Katsura Royal Villa of the seventeenth century, and includes by way of postscript some sketches of twentieth-century architecture. His account, based as it is upon personal observation and experience, is always interesting and often vivid.

Since he is evidently most interested in residential architecture, the author's discussion of the development and spatial expressions of Shoin style (pp 32-37) is particularly good. The reader will be enchanted by his beautiful and thorough account of this rather unfamiliar residential style of the Far East. Japanese gardens too are well discussed, from their origins in the Nara period down to the Katsura Royal Villa, in relation to tea houses and buildings of Sukiya style, and so on; the photographs of these gardens and their details are excellent. Needless to say it would be virtually impossible to mention everything in so small a book, and the author inevitably has had to make certain omissions; little is said about medieval temple buildings of either Shinto or Buddhism, about castle complexes and city planning, and nothing about progress in construction. Glossary and bibliography are well selected and will help those who may wish to study the subject further. It is good that he cites some of the classic books on Japanese culture, such as Morse's "Japanese Homes and their Surroundings" and "Japan Day by Day" and Okakura's "The Book of Tea."

When we Japanese read a book on our own culture written by a foreigner, we expect his interpretation to be somewhat different from ours. In this respect, it seems to me, the author keeps rather closely to what he learned in Japan. Certainly information and data should be correct; yet he might have allowed himself room for personal criticism and interpretation. For instance, he says of the Shosoin Treasure House that the excellent preservation of the treasure appears to be due to the walls expanding and closing during wet weather, thus keeping moisture out, and contracting during dry weather, so that fresh air can circulate within. This is an explanation of the efficacy of this log-house type of storage widely accepted in Japan—yet surely questionable. If we consider that there are no posts or columns to support the heavy tiled roof, it would seem that expansion and contraction of each log member can result only in a slight variation in the height of the building, not in the creation of a slit for air circulation between the logs.

The author is so faithful to first-hand observation that mention of contemporary architecture in the Postscript is limited to what he personally saw. After referring to Horiguchi's Okada house (1934) and Sakakura's Museum of Modern Art in Kamakura (1951), he jumps to Tange's city plan proposal for Tokyo (1960). Even when it is granted that the confines of the Postscript are narrow indeed, these three examples can hardly be regarded as an adequate representation of modern architecture in Japan. Some minor slips in the body of the text should be listed for our historians: Sumida (bronze mirror, p 16) should be read as Samida, Honden (treasure house, same page) as Hoden; the Shitomido, described as a paper-covered wooden lattice (p 27, also in the glossary), is not in fact covered with paper, but with wooden board; Tiare family (p 30) should be Taira family. The style of Daibutsu-den in Todai-ji, Nara, is described as Tenjiku style, which was introduced in the late twelfth century (pp 22-23). Readers may get the impression that the present Daibutsu-den was built in the late twelfth century, when in fact it was rebuilt in 1709 and consequently not a good example of that style. It would have been better if the author had referred either to the south gate of Todai-ji or to Jododo in Jodo-ji, which were built in 1199 and 1194 respectively.

The illustrations are very adequate and well repro-

duced. They include lesser-known buildings such as Shimmei Shrine (Nagano Prefecture), Nachi Shrine (Wakayama Prefecture), Yokokan Villa (Fukuishi), and a number of informative scenes from picture scrolls. The only illustration not up to standard is No 33, a section of Toshodai-Ji Kondo which shows the results of poor restoration done early this century, with some western trusses in the roof; another restored section should have been used.

Finally, I know very well that Bill Alex has a wonderful collection of color pictures of Japanese gardens and architecture. It is a pity that none of these could be reproduced in this book. One may hope that he will show us some of them some day in a second work on Japanese architecture.

BUNJI KOBAYASHI
Nihon University, Tokyo

Other Books Received

Inclusion here does not preclude review in a future issue.

STRUCTURE IN ARCHITECTURE. Mario Salvadori and Robert Heller. Englewood Cliffs, NJ: Prentice-Hall, 1963. $9.75.

THE ARCHITECTURE OF FANTASY. Ulrich Conrads and Hans G. Sperlich; translated, edited and expanded by Christiane Crasemann Collins and George R. Collins. New York: Frederick A. Praeger, 1962. $16.00.

PIER LUIGI NERVI: BUILDINGS, PROJECTS, STRUCTURES, 1953-1963. Pier Luigi Nervi; translated by Giuseppe Nicoletti. New York: Frederick A. Praeger, 1963.

Letters to the Editor

The Bauhaus: Crafts or Industry?

Sir:

In his answer to my statement on the Bauhaus in your last issue, Mr Dearstyne has come to a wrong conclusion. Since he alleges that I am trying to "rewrite history," I feel obliged, for history's sake, to offer evidence from my own original files for the correctness of my statement. Mr Dearstyne, not knowing sufficiently the background to the initial Bauhaus program, errs when he states that the original Bauhaus was set to educate craftsmen only, and that I was only later "persuaded by Doesburg of the error of the Bauhaus way." The craft training in the Bauhaus was indeed, right from the beginning, not an end in itself, but a means to an end. Everyone who cares to look at my own production in architecture (prefabrication and industrial buildings and products) and into my writings *before* I started the Bauhaus and before I met van Doesburg cannot be in doubt that my thinking was all along aiming at industry, and not at craft work as an end in itself. Here is the chronological evidence from my early articles:

1) November 1911. From an article on industrial buildings printed by Poeschel und Trepte in Leipzig: "One has to put up with the fact that the craftsman's profession is dying out today, so to speak. Whereas the individual craftsman of old combined in one person all three fields of the technician, the businessman, and the artist, the modern so-called craftsman is now only a salesman or a tradesman, slipping more and more into the realm of industry. All along the aim is to mechanize the work to eliminate the accidental. This tendency, no doubt, has smothered any artistic urge of the modern worker, and probably the decline of the crafts is closely related to the bankruptcy of the arts during the past decades. . . . Since the machine is lifeless and since the independence of the modern worker had to be limited to a minimum, the necessity has arisen to guarantee the artistic quality of the machine product *right at the start* and to ask the artist to conceive the fitting form for the product to be multiplied. Only such a teamwork between the technician, the artist and the businessman might perhaps replace permanently all the factors of the individual work of old."

2) 1913. From an article in the Yearbook of the Deutscher Werkbund titled "The Development of Modern Industrial Architecture": "Industries face today the task seriously to consider artistic problems. The manufacturer must be intent on removing more and more the connotation 'ersatz' from his products and to give them back the noble qualities of the former craft product on top of the advantages of the machine process. Only then the initial main idea of industry, namely, the replacement of handwork by mechanical means, will find its perfect realization. . . . Exactness of form free of everything accidental, clear contrasts, clear order of the component parts, rhythmic repetition of equal parts, and harmony of form and color, will become the esthetic tools of the modern designer according to the energy and economy of our public life."

3) January 1916. From "Proposal for Founding an Institute to Advise Industry, Commerce and Crafts" written in active service during the War and sent to the State Ministry in Weimar who had asked me, after an interview with the Archduke of Saxe-Weimar-Eisenach, to write down my ideas in answer

to their own tentative suggestions for the future of van de Velde's School of Arts and Crafts. Published in "Das Bauhaus" by Hans Wingler, pages 29-30: "While in former periods the total amount of human production was made only by hand, today an infinitesimally small part of the world's production is still made without the help of machines; for the natural effort to increase the output of work by introducing mechanical means is growing steadily. The artist, whose task it is to conceive form and to develop it consistently, can prevent the imminent danger of letting form decline into insignificance only by coming to terms with the mightiest means generating form, with the machines of any kind . . . by making them subservient to himself instead of avoiding them in misapprehension of the natural trend of the development. When this trend is understood, however, it will by necessity lead to a close collaboration of the businessman and the technician on the one side, and the artist on the other."

4) October 1919. From "Baugeist oder Krämertum?" a lecture published in "Schuhwelt" No 37-38 Pirmasens, and in "Messe und Qualität," January 10, 1920. In promoting state-supported workshops as training ground for crafts and industries, I state, "It has been doubted whether the installation of state workshops would not cause competition detrimental to private enterprises. However, danger of competition can never arise, for the aim of such workshops points to the opposite direction. Their intent is to help all crafts and industries, not to hinder them. They are meant to establish a suitable professional training ground for the rising generation of craftsmen and industrial workers. . . . They want first of all to create models, the particular quality in workmanship and form of which should bring commissions into the country for the benefit of all crafts and industries which have been stimulated by the activities of these workshops."

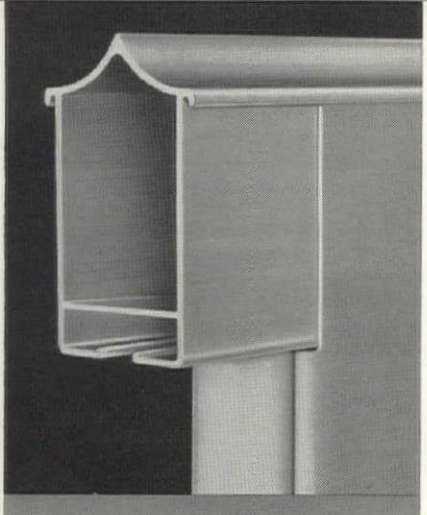
5) Spring 1919. In the first Bauhaus Proclamation from which Mr Dearstyne quotes that "a *foundation* in handwork is indispensable for every artist," which I believe to be true even today, there is also the following sentence, not quoted by Mr. Dearstyne: "constant interrelation with leaders of the crafts and with the industries of the country."

6) Spring 1919. Right after the opening of the Bauhaus, I addressed the representatives of the local crafts and industries in Weimar. I quote from the original manuscript: "We can reach our aim only when arts, crafts and industries interpenetrate each other. Today they are widely separated from each other, so to speak, by walls. The crafts and also the industries need a fresh influx of artistic creativity in order to enliven the forms which have gone stale and to reshape them. But the artist still lacks the craft training which alone will safely enable him to shape materials into masterly form."

From these quotations it is evident that I believed that the student must learn how to use craft tools before he can understand refined modern machine tools. This was the reason for making a craft training basic for the Bauhaus curriculum. It would have been wrong to have students, right from the start, design for industrial production, for they had to find their own way first by themselves through playful studies in the preliminary Bauhaus workshop, and through the more serious appenticeship in our professional workshops before I could expect them to do competent design work for industry. A gradual development of the curriculum in progressive stages, in which both faculty and students should have a hand, was my intention from 1919 on. Consciously, I abstained from imposing my own conclusions on the students, whom I wanted to find their answers from their own research and observation. I certainly was, myself, in the beginning of the Bauhaus not as articulate in my answers to all our problems as in later years after a step-by-step clarification via innumerable discussions and arguments within the faculty and the studentship took place. My basic trend of thinking, however, as to the role of the crafts as a means to an end only, and to the role of industry as the future basis of production has never changed since the beginning of my professional activities (see quotation No 1). The emphasis on crafts during the first three Bauhaus years was, therefore, not an error, as Mr Dearstyne regards it, but it was the first logical and necessary step. The students knew very well from innumerable discussions with me—which unfortunately were not written down—that learning a craft was for training's sake, but not an end in itself.

Theo van Doesburg wanted to teach in the Bauhaus in 1922. I refused, however, to appoint him since I considered him to be too aggressive and too rigidly theoretical: he would have wrought havoc in the Bauhaus through his fanatic attitude which ran counter to my own broader approach. I was determined to avoid narrow one-sidedness and oversimplification until a new totality and unity would grow organically and naturally out of the initial chaos of the Bauhaus melting pot. We all were interested in Doesburg's philosophy, but his influence was temporary and has been greatly exaggerated.

WALTER GROPIUS
Cambridge, Mass



Pat. Pending

New Anti-Grip headrail discourages gymnasts — adds strength

A quick glance at the illustration of this new Weis headrail and you can almost "feel" the uncomfortable grip that awaits the youngster who has planned some extra-curricular gymnastics—a dangerous prank, common in public toilet rooms. Integral protective channels in the one piece extruded aluminum headrail cover the top edges of the stile to add greater strength, safety and improved appearance.

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Weis belongs where toilet compartments really take a beating

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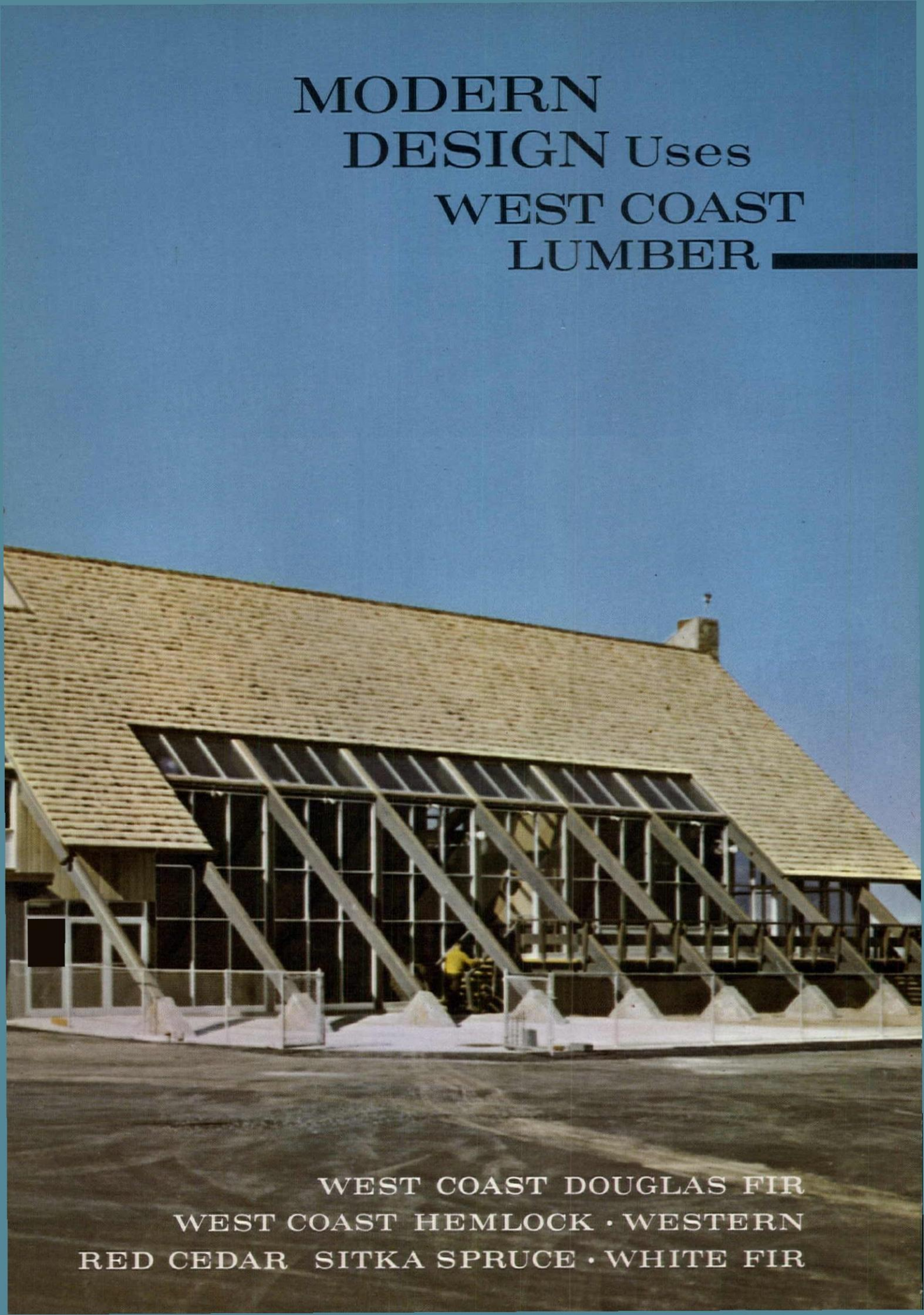
MODERN DESIGN Uses WEST COAST LUMBER



WEST COAST DOUGLAS FIR
WEST COAST HEMLOCK · WESTERN
RED CEDAR SITKA SPRUCE · WHITE FIR

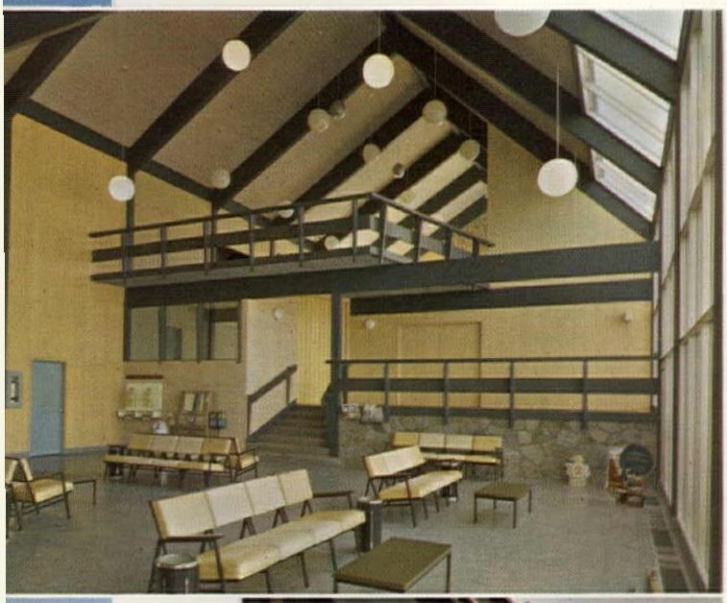
For AIRPORT TERMINALS

So dynamic that it almost seems airborne itself, this modern airport terminal at Butte, Montana, is built with the standard grades and sizes of dependable West Coast Lumber. The architectural design is an example of blending the sturdiness of glued laminated beams with the intrinsic beauty of coast region species to create a friendly atmosphere.

The 60′ x 168′ terminal houses public service facilities on the spacious first floor, and the partial second story is devoted to the technical services of air transportation. West Coast Hemlock random width V-Joint paneling is interestingly applied, with the joints cut at an angle parallel to the roof line. Two one-inch walnut plugs are inserted at each joint to give the rustic "pegged" effect.

West Coast Douglas Fir 4″ x 6″ double tongue and groove "Dex" Heavy Wall and Roof Plank is used extensively in the terminal building. It is used for sub-flooring, roof decking and is preservatively treated for the observation deck that extends along the front of the building.

This practical and economical terminal is another example of the design potential for outstanding buildings, using the standard grades and sizes of West Coast Lumber . . . available everywhere lumber is sold.



Architect: Norman Hamill & Associates, A.I.A.

The standard grades and sizes of West Coast Lumber used in the construction of this air terminal were:

MILL 10 WCLA CONST — **West Coast Douglas Fir** 2"x4" spaced 16 o.c. for interior partitions. Exterior wall studding is 2"x6" spaced 16" o.c. Floor joists are 2"x8".

MILL 10 WCLA SEL DEX PAT. 305 — **West Coast Douglas Fir** 4"x6" double tongue and groove is used for sub-flooring and roof decking. Preservatively treated pieces form the floor of the observation deck.

MILL 725 WCLA B&BTR — **West Coast Douglas Fir** 2"x12" stepping and 1"x8" risers are used for interior stairways. All millwork, interior trim and railings are also of this grade.

MILL 725 WCLA B&BTR — **West Coast Hemlock** random width vertical grain paneling is applied to the walls in the public rooms and offices.

MILL 725 WCLA C&BTR — **Western Red Cedar** 1"x8" tongue and groove siding is applied with the sawn surface to the weather.

West Coast Douglas Fir is used to form several sizes of glued laminated beams and purlins for the "A" frame type of construction.

FREE! "The Bright New World of West Coast Hemlock," 8 pages of full color design ideas. For your personal copy write:

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1410 S.W. MORRISON STREET PORTLAND 5, OREGON

Allied Arts

The Public Happiness

WOLF VON ECKARDT, HON AIA

"The separation of art and life has been a disaster falling across the modern period," August Heckscher has written in his "The Public Happiness." "The divorce between art and the state has been a deviation unknown in epochs where the political community was most alive. . . . What we need to restore is not so much the love of art—that has never vanished—but the tradition of art as a source of common enjoyment, a focus for the pleasures and delights of the citizenry."

Within weeks after these words were put in type, Mr Heckscher was given a more promising opportunity to put them into action than any author has a right to expect. He used his opportunity as the Special Consultant on the Arts to the President of the United States better than any readers have a right to hope for.

August Heckscher's recently published report, after well over a year in the White House, is, to be sure, no blueprint for some utopian golden age of American culture. It does not propose to establish some Federal cornucopia to fatten the muses or some Federal ministry of culture to organize and regiment them. In his astute and so refreshingly commonsensical manner, Mr Heckscher simply proposes, in the main, that the government do what it is already doing and must do anyway in the realm of art, design and architecture with greater discernment and greater concern for the public happiness. Put into the language so frequently used in this *Journal*, Mr Heckscher told the President that the Federal government must assume the esthetic responsibility for our total environment. AIA and the architectural profession could hardly ask for more.

The government acquires or commissions art for memorials, statues, murals, fountains and other embellishments of public buildings and spaces. Mr Heckscher proposes that the government stop being niggardly about this and increase the number and worth of these works of art, mindful of its great potential for giving support to creative talent. He advocates resuming the policy of the pre-war Roosevelt Administration which set aside one per cent of the cost of public buildings for their artistic enhancement.

The government furthermore produces art and design in the form of postage stamps, posters, exhibits and printed matter of all kinds. Mr Heckscher proposes that the government raise its design standards mindful that "everything done by the government bears either the marks of excellence which we like to think characteristic of a free and great people, or else in some measure it betrays the government and degrades the citizen."

The government also, in often unrecognized ways, commissions art work such as portraits, films and drawings for documentary or educational purposes. During the Cuban crisis, for instance, the Navy sent an artist to Guantanamo, and an artist was commissioned by NASA to document the landing of astronaut Major Cooper. Mr Heckscher would have the government be just as anxious to find the best available talent for these jobs as it would be to find the right man for its military or scientific endeavors. It can be done.

The collection of photographs commissioned by the Farm Security Administration in the New Deal days, for instance, is famous for its artistic excellence. The exhibition prepared by the New York Museum of Modern Art and now traveling the country under the title "US Government Art Projects: Some Distinguished Alumni" reminds us that the alumni of the WPA and Treasury art projects of the thirties is, indeed, distinguished. The names include Stuart Davis, Willem de Kooning, Jackson Pollock, Mark Rothko and Ben Shawn among many others who handsomely repaid the taxpayers investment by placing American art into a position of world leadership.

The government commissions a good many buildings, of course. Mr Heckscher heartily endorses the President's directive of May 1962, calling for the finest contemporary architectural thought in their design. He would extend this policy to *all* Federal building activity, noting that the government has, in the words of a distinguished US Senator, "contributed more than its share to the ugliness of the American landscape." The national highway program, urban renewal, mortgage insurance policies and all manner of public works must, says Mr Heckscher, be humane and creative "in the service of man's highest needs."

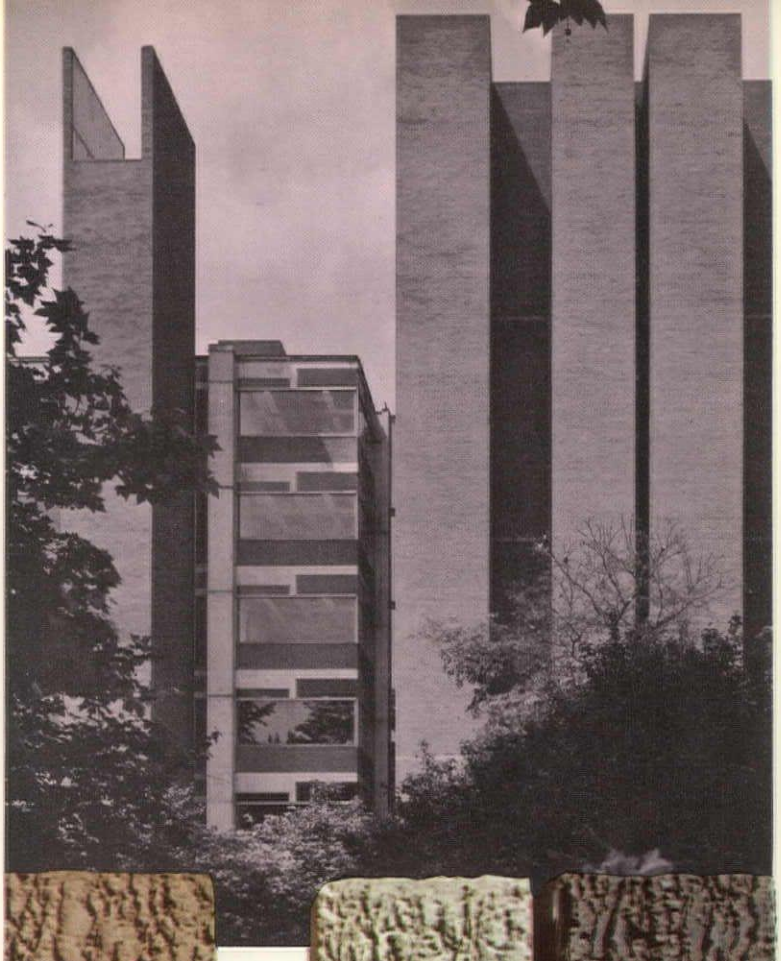
Among his many other recommendations, Mr Heckscher also believes that the government must find ways, as most foreign governments do, to provide funds for international gatherings in this country such as the Pan American Congress of Architects which AIA will host in Washington in 1965.

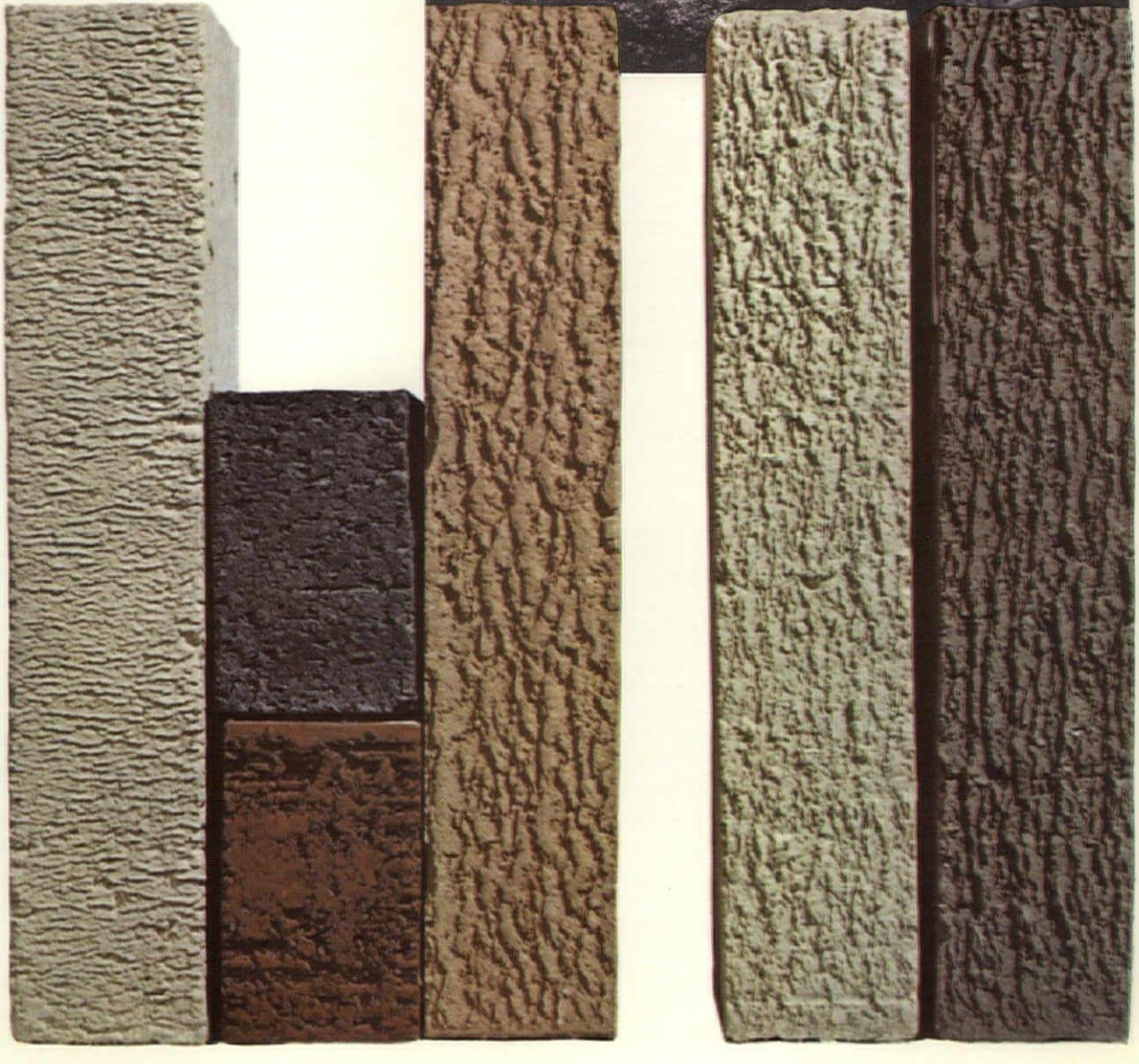
The most realistic way to help assure all this, Mr Heckscher suggests, is by appointing special advisory committees of outstanding artists, architects and critics such as those now assisting the State Department's foreign buildings operation and the Federal Aviation Agency with altogether happy results. A permanent White House Advisor on the Arts, reinforced by an Advisory Council, would coordinate this effort, and give it the prestige of the President's office and the necessary day-by-day attention.

At this writing this art advisor has not yet been appointed. The recent appointments to the Fine Arts Commission justify the highest hopes as to his competence and caliber. But no matter how able, high-minded and realistic he will turn out to be, he will find it difficult to fill the shoes of August Heckscher who is regrettably but understandably leaving the White House to continue his labors for the public happiness in private. ◄

The Beauty Of Order

Severe but sensual, monumental yet delicate, the architecture is a statement of masterful discipline. Clothed in brick, an orderly material which yields easily to the artist, it reaffirms the Vitruvian principle. The building: Richards Medical Research Building, University of Pennsylvania. The architect: Louis Kahn.





Calendar

September 8 to 11: Seminar on Preservation and Restoration, Williamsburg, Va. Co-sponsored by the National Trust for Historic Preservation and Colonial Williamsburg

September 18 to 20: Producers' Council Annual Meeting and Chapter Presidents' Conference, Shoreham Hotel, Washington, DC

October 6 to 11: Prestressed Concrete Institute Convention, Sheraton-Palace Hotel, San Francisco (moving on to Honolulu, see below)

October 8 to 11: Symposium of the International Union of Architects, Mexico City (see tours)

October 13 to 16: Continuing PCI Convention, Surfrider Hotel, Honolulu

October 17 to 20: National Trust for Historic Preservation Annual Meeting and Preservation Conference, Shoreham Hotel, Washington, DC

November 11 to 14: American Concrete Institute Fall Meeting, Royal York Hotel, Toronto

November 13 to 27: International Building Exhibition, London, England.

November 19 to 21: BRI Fall Conferences, Mayflower Hotel, Washington, DC

AIA Regional and State Conventions

September 8 to 12: Northwest Region, Winthrop Hotel, Tacoma (moved from the Hyatt House). Theme: "Architecture on the Move"

September 19-20: Minnesota Society of Architects, Hotel Radisson, Minneapolis

October 3 to 6: Architects Society of Ohio, Arlington Arms Motel, Columbus

October 12 to 18: California Region and Pacific Rim Architectural Conference, Mexico City, Mexico

October 16 to 18: Gulf States Region, Dauphin Island (Mobile), Ala

October 17 to 19: Middle Atlantic Region, St John's College, Annapolis, Md

October 20 to 23: New York State Association of Architects, Grossinger's Hotel, Grossinger, NY Theme: "The Efficient Architectural Office"

October 24 to 26: Pennsylvania Society of Architects, Hotel Hershey, Hershey

October 30 to November 1: Central States, Oklahoma City, Okla. Theme: "Quest for Beauty"

November 7 to 10: Florida Region and Florida Association of Architects, Grand Bahama Hotel. British West Indies

November 8 to 9: Illinois Region, Chicago

Tours

September 25 to October 7: Mexican Architecture and Interior Design Seminar-Tour, coinciding with the UIA Symposium. Tour repeated February 2. Contact: Gira Arquitectura, Apartado Postal 20351, Mexico 5, DF, Mexico

October 6 to October 31: Architecture and Gardens Tour of Japan. Special extension to Hong Kong to November 3. Contact: Kenneth M. Nishimoto AIA, 263 S Los Robles Ave, Pasadena, Calif

News

Salvage Program for Historic Sites

The importance of historic preservation as an integral part of urban renewal will be recognized during a day-long session set for October 19 in the Shoreham Hotel, Washington, DC. With the cooperation of the Urban Renewal Administration, the National Trust for Historic Preservation has planned a program on "Salvaging Historic Sites" during its 17th annual meeting.

W. C. Dutton Jr, Executive Director of the National Capital Planning Commission, will preside at the morning session devoted to activities necessary in salvage programs. The speakers: Christopher Tunnard, Professor of City Planning, Yale University; Edmund N. Bacon AIA, Executive Director, Philadelphia City Planning Commission; and Theodore B. Brown, Assistant Professor of Art History, University of Louisville.

Procedures which have been effective will be discussed at the afternoon session, with Charles A. Horsky, Presidential Advisor on National Capital Affairs, presiding. Two speakers selected by URA Commissioner William L. Slayton will share the podium.

Brunner Scholarship

Applications from active architects and those in related fields will be received until January 15 for the $5,000 Arnold W. Brunner Scholarship, offered annually by the New York Chapter AIA. The grant calls for study in some special field which will effectively contribute to the practice, teaching or knowledge of the profession. For further details, contact the New York Chapter AIA, 115 E 40th St, New York 16, NY.

Davern Promoted

Jeanne M. Davern, senior editor and assistant to the editor of *Architectural Record,* has been promoted to managing editor. An Associate member of the New York Chapter AIA, she also serves on the executive committee of the Architectural League of New York.

Third Edition, AIA Building Products Registar

• Scheduled for publication in early 1964, the Third Edition of the AIA Building Products Register again will contain useful technical data and characteristics on a vast number of products used in all types of construction. Among the new features: vertical binding, larger type, simplification of material, alerts on product usage covering each of the twenty-seven categories and 150 sub-categories, three new categories and an alphabetical Index of Product Types.

Features of the current edition, which will be continued, include an Index of Product Categories, Index of Manufacturers, Index of Product Trade Names, Directory of Organizations and Manufacturers' Associations, and expanded sections of abstracts of Standards Tests and Reference Material.

The current volume is still available. Particulars on how to list products and how to acquire the volume may be obtained by writing Theodore W. Dominick AIA, Head, Department of Architectural-Building Information Services, AIA, 1735 New York Ave NW, Washington, DC.

Michigan's Dean Lorch Dies

Dean-Emeritus Emil Lorch, 92, of the University of Michigan's College of Architecture and Design and a former president of the Detroit Chapter AIA, died June 20. Known as the "father" of architectural education at the UM, he came to Ann Arbor in 1906 as first head and organizer of the Department of Architecture in the College of Engineering.

With the establishment of a separate College of Architecture in 1931, Mr Lorch became its Dean, serving in that capacity until 1936. He continued as a Professor of Architecture and as a member of the administrative board of the College, however, until his retirement in 1940 after thirty-four years of service on the faculty.

Dean Lorch, who drew up the first plan for the UM campus in 1907, designed the present College of Architecture and Design Building in 1925.

Rome Prize Fellowships

The American Academy in Rome is again offering a limited number of fellowships to encourage younger architects, artists and scholars.

The fellowships, which are open to US citizens for one year beginning October 1, 1964, carry $3,000.

Applications and submission of work must be received by the Executive Secretary, American Academy in Rome, 101 Park Ave, New York 17, NY, by December 31.

(For representative work of two of the 1963 winners in architecture, see August *Journal*).

International Competition

University College, to be built on a site of over 200 acres near Dublin invites AIA members to submit designs in an international competition for the layout of buildings and in particular for a block to accommodate the Faculty of Arts, Administration Offices and Examination Halls. Registration forms, which must be returned by October 17, 1963, may be obtained by writing the Competition Registrar, University College, Dublin 2, on deposit of £5.

Chester B. Price Collection

The drawings of the late Chester B. Price FAIA, regarded by the profession as one of the finest architectural delineators, will be preserved as a collection by the Avery Library at Columbia University. Institute members who have renderings by Mr Price which they feel should be included in the collection should contact Dr Adolf H. Plczek, Avery Librarian, Columbia University, New York 27, NY.

Correction

A news item in the August *Journal* describing an independent study course in Fallout Shelter Analysis, which the University of Wisconsin will offer in cooperation with the Office of Civil Defense, listed an incorrect address for requests for application forms. Architects and engineers who are interested in participating in this course should send their applications to the Director, Training and Education, OCD, of their respective regional offices, as follows: Region 1—Oak Hill Road, Harvard, Mass; 2—Olney, Md; 3—Thomasville, Ga; 4—Battle Creek, Mich; 5—Denton, Tex; 6—Federal Center, Denver, Colo; 7—Santa Rosa, Calif; 8—Everett, Wash.

Necrology

According to notices received at The Octagon between July 1, 1963, and July 31, 1963

BALDWIN, FRANCIS J., Baltimore, Md
ILGENFRITZ, HAROLD D., Detroit, Mich
JANSSON, EDWARD F., Chicago, Ill
KOCH, JOHN J., Whitestone, NY
RIPLEY, CHARLES W., El Dorado, Ark
SHERMAN, ROGER WADE, Miami, Fla
SMITH, DELOS H., FAIA, Alexandria, Va
WALKER, GEORGE R., Dayton, Ohio
WEST, ROBERT J., Detroit, Mich

Honorary Fellow

DE LA FONTAINE, PHILIP, London, England

Book Reviews

Two Books on the Theater
Reviewed by Eric Pawley AIA

The Open Stage. Richard Southern. New York, Theatre Arts Books, 1959. 125 pp illus 5½″ x 8¼″ $3.00

This engaging brief argument *for* the open stage and *against* the picture-frame proscenium was first presented in a series of four lectures at the University of Bristol, England, ten years ago. The authority of the author and the persuasiveness of his approach are still of value today in the current and perhaps endless controversy over these methods of presentation.

Southern's little book clarifies some quite turbid nonthinking on this subject, a topic which remains the sure-fire way of stirring up almost any group of theater people. The book is of extreme value to architects caught between these diametric philosophies of the stage.

The four parts consider: origins, differences affecting the building, dramatic exigencies, stage scenery and "placelessness."

"Certain figures and plays of modern drama have a strange urgency which is unreconciled to the conditions and limitations of our contemporary stage . . ."

The possibility of advancing well into the audience upon a stage with some spectators (and auditors) on three sides gives a plastic use of space as well as an almost different medium, a position for soliloquy, for instance, which is a more persuasive difference from conversation than the artificial "aside." The theater of today is not a question of convincing illusions. The theories (and practice) of Brecht, for example, consider the theater-experience not a truly esthetic experience unless you are continually conscious of technique. It calls for an audience capable of using its mentality as well as its sentimentality. The very male BB (Bertolt Brecht *not* Brigitte Bardot) as a playwright wanted you not to lose yourself in some vague "suspension of disbelief" or in the childish empathy our soft-headed academic critics have proposed as proper audience reactions. He was not at all interested in the American dream-state of passivity. The curious result is that these powerful aspects of theater persist, seem enhanced by such physical denial of illusion. If the individual spectator in another sense tends to lose himself in the mass-audience becoming a part of it because it is obviously there, observing what is obviously a performance (and it better be skillful under these circumstances), his personal involvement may be even greater and his emotions range through a broader spectrum with the momentum of participation.

The "aside" concerning skillful performance in the last sentence may reveal one true motive for the proscenium—the one-sided, distant action-picture with illusionistic scenery is much less demanding of actor, designer and playwright. Perhaps also a spectator. With the open stage you do not "sit in the auditorium and look into another room" (the stage).

Southern also sees the open stage as the proper medium for poetry in the theater—an important renaissance today which is ill-served by the picture-stage and orthodox acting techniques of avoiding direct address in order to preserve a fiction of illusion.

He has perceptive comments also for the architect concerning the emphasis on space possible with the open stage—consideration of the "actor's stride."

Southern is no dilettante but a distinguished theater historian and scene designer with production and acting experience. He warns that all this cannot come about without deep changes in theater thought in six areas: architecturally, visually, in acting, in viewing, in playwriting and in scenery design. It is not easy to empty this bathos-tub without losing the baby.

Theater of the Bauhaus. O. Schlemmer, L. Moholy-Nagy, F. Molnár. Middletown, Connecticut, Wesleyan University Press, 1961. 110 pp illus 7″ x 10¼″ $7.50

A translation by Arthur S. Wensinger of the original publication "Die Bühne im Bauhaus" (1924) with a new introduction by Walter Gropius which tells of development of his famous theater project —*Totaltheater* (designed 1926). Never built, yet influential ever since for advanced theater design,[1] this project was planned for 2000 seats with mechanical rearrangement of acting area and seating, surrounded by twelve rear-projection screens for complete envelopment of audience.

Schlemmer, director of the Bauhaus stage shop, contributed two essays to this book. The first was "Man and Art-Figure" (artificial human figure), an analysis of performance and performer geometry. In an effort to transcend what seemed to them the false note of the natural human body, in all their 1920 concern for mechanization, Schlemmer and his students invented *stage costume* types. These were not the same as period or folk costumes but remind one of the little Michelin man of French automobile tire advertising—troweled smooth. This chapter is illustrated with photos and drawings of amusing Bauhaus productions showing great ingenuity in mask and costume design.

Schlemmer's other essay was from a lecture-demonstration (1927? added? how come in a 1924 book?) concerned with philosophy and objectives of the Bauhaus stage. Central statements seem to be: *". . . we are concerned with what makes things typical, with type, with number and measure, with basic law . . ."* and *"The art of the stage is a special art . . ."*

We can second the second of these statements, in fact have urged that education look upon the theater consciously as a *vision-teaching* medium much needed in these times of unfortunate emphasis on two dimensions.

The first statement, concerning the search for the typical, number and measure, basic law—we believe was a mix of several misunderstandings. We can

[1] Latest offspring, the Ford Foundation theater project by Paul Rudolph and Ralph Alswang

appreciate the concept of stage types, such as Harlequin or Pierrot—but the essence of the great symbolic stage character includes individuality. Pierrot is Pierrot no matter who wears the costume but Charlie Chaplin, Tabarin with his hats, or the Fratellini made their place because—while they symbolized common human frustrations and ephemeral triumphs—they were so uniquely different that no one could get away with swiping their act. Take-offs never convince. "Doesn't he do Charlie well?" admits an imitation of the real thing.

The reference to number, measure and basic law is understandable in view of the interest of the Bauhaus in collaborative effort, in mass-production, in "industrial design" which fathered our too-slick curtainwall environment of today. It is again the old confusion of socialized design, the brainstorming team, a Buddhist lily of quality from the mud of quantity. The American poet, e. e. cummings, puts an opposite attitude vigorously ". . . nothing measurable matters a very good God damn . . ." Professor R. W. B. Lewis of Yale, in a parallel attitude, refers to ". . . that nonrational aspects which it is death for any culture to try to hide . . ." [2]

The Bauhaus excitement about the machine never attained the satisfying character and serenity of some of Naum Gabo's constructivism—which he assures us is nonmathematical invention. As we look back on the central Bauhaus idea of machine expression in this most interesting book it seems as dated as pure Marxism.

Another chapter, by a Bauhaus student, Farkas Molnár, describes the *U-Theater,* a case-study in theater design embodying some of these ideas.

Moholy-Nagy's chapter: "Theater, Circus, Variety" counteracts some of these mere mechanisms—with more mechanics, sound and other sensory effects, scored together for performance—but insists on the presence of man "reduced to equal status" with the other media of this new theater. Much of this is good and still advanced theater in concepts of mutual penetrations of performance space and audience. A lot of it is 1920 postwar social consciousness by Merz out of Dada.

One important idea counsels avoidance on stage of any "literary encumbrance" as not germane to "the creative forms peculiar only to the stage. . ." While this would deny most of the world's dramatic literature from the Greeks through Shakespeare, the French classics, Shaw, Giraudoux and would perhaps stop only just short of Samuel Beckett—there is a point here of significance for this kind of theater of tomorow. It has been stated rather violently in the book "The Theatre and its Double" by that pathetic genius Antoine Artaud—a call for a theater of action.[3] The great French actor-director, Jean-Louis Barrault, refers to Artaud's book as ". . . far and away the most important thing that has been written about the theater in the 20th century . . ."

[2] *Yale Review* (Winter 1962:211) "American Letters: A Projection."

[3] Evergreen original E-127 (paper) $1.95 NY, Grove Press 1958

"The Theater of the Bauhaus" is an excellent book about a period in which most significant steps were taken for design and the theater today. We have not caught up architecturally with many of these ideas. Although some individuals (as I have) may object to certain warps of thought, the woofs (!) are bright, alert, loud and typical of that charming breed: "theater people."

10 Designs/Community Colleges. Ed. Bill N. Lacy. Houston, Rice University, 1962. Copies may be obtained from the Department of Architecture, Rice University, Houston, Texas, or Educational Facilities Laboratories, Inc, 477 Madison Ave, New York 22, New York.

Reviewed by F. Lamar Kelsey AIA, for the *AIA Journal*

When an exciting idea is mixed with a generous portion of architectural talent and fine graphic design is added as a catalyst, we have a mixture worthy of consumption by members of the architectural profession.

The idea—a "Design Fête" at Rice University on the subject of community colleges. The talent—ten outstanding architects and fifty advanced students of architecture gathered together for ten days of concentrated design work; and the result—a handsome book titled "10 Designs/Community Colleges."

While the body of the book contains a profusely-illustrated report of each of the design solutions, it is important to understand first the process by which the solutions were reached.

Each of the ten architects invited to Rice University was assigned a team of five students, one of whom served as job captain. The ten architects then drew straws for programs which described hypothetical, but typical, community college situations. Each program included biographical sketches of typical students, courses of study, site plans, climatological data, a description of the community and its economical, social and ethnic orientation, and a collection of questions and statements concerning the criteria for a good community college.

The goal of each architect was to solve his problem and give a presentation on the ninth day to the other participants and consultants. The solutions were presented with drawings, plans, sketches and models and supported by calculations and graphs showing projected growth. No restricting guidelines were placed on the architects, and they were encouraged to seek new solutions and new concepts both in architecture and education.

To this reviewer, the graphics used in the book itself were nearly as exciting as were the designs that it contained. Certainly, beautiful graphic design such as this should be a tool of the trade for the architectural publishing field.

Credit should go to the Educational Facilities Laboratories, Inc, who provided funds for the Design Fête. The whole affair made me wish I were a student in architectural school again. As one of the architects who participated in the Design Fête told me—"It was a ball." So is the book!

Committee Reports

NOTE: *This initiates periodic publication of reports by AIA Commission and Committee Chairmen, as suggested by the Executive Committee of the Board.*

Commission on Architectural Design

The Commission on Architectural Design's chief objective is to organize and promote close collaboration between its own committees and between the Commission itself and the other Commissions of the Institute. This collaboration is aimed at the ultimate distribution to AIA membership of the results of the work of our national committees in their various fields so that this information may strengthen and expand the technical proficiency and professional status of the architectural profession.

This Commission therefore endeavors to be more than an assembly of committees each devoted to the technical perfection of a single building type. Above and beyond that, each of its committees is attempting to clearly define the relationship of that building type to the concept of comprehensive services, to urban and community planning and, above all, to the esthetic values of architecture and its collaborating arts and professions. In this endeavor, the Committees on Esthetics, Collaborating Arts and Urban Design act as an advisory group to the Committees on Hospital Architecture, Housing for the Aging, Industrial Architecture, Public Housing Administration Liaison, Religious Buildings, Residential Architecture, Schools and Educational Facilities, and Theater Architecture.

The regional seminars sponsored by the Committee on Esthetics and now scheduled in seven of our seventeen regions represent the start of face-to-face contact and collaboration between the profession and the public in a common cause—the fight against ugliness. The Committee on the Collaborating Arts hopes to enlist members of the other design professions—sculptors, muralists, landscape architects, engineers, craftsmen—in this over-all campaign for more beautiful communities. The Committee on Urban Design supports and enlarges this objective.

All committees are endeavoring to make available to Institute membership, either through the *AIA Journal* or separate publication, one or more guide books or technical articles per year on their own phase of architectural art or science. It is hoped that this will constantly sharpen the tools of architectural practice and as constantly define and reinforce our professional goals.

MORRIS KETCHUM JR, FAIA, *Chairman*
CHARLES M. NES JR, FAIA
ROBERT L. DURHAM FAIA

Committee on Theater Architecture

CTA is in its second year of life. As an eight-member committee (including three corresponding members), its assignment is to inspire and aid in good theater planning and collaborate with other professions and agencies toward this end.

Why is theater design so difficult today? Are architects prepared to design all the various types? Is there a close understanding between actors, producers, theater technicians, special consultants and architects? What are the factors justifying a civic or community theater? What are the features of the fast-growing repertory theaters? Where can one find up-to-date criteria for theater design? Who is interested in exhibiting plans and photos of outstanding new theaters? Where are the new theaters being built? How are students being prepared for this challenging field?

Are there theater specialists and what kind: acoustics, seating, vision, stage equipment, finance and production? When is a general theater consultant desirable for the design of a new facility? What does "multipurpose" mean? Where is research on design for the performing arts being done? What does "educational theater" mean? Do AIA members know that new college and community theaters are being talked of in the hundreds? CTA is producing some answers and you'll be hearing from us. May we hear from any interested members?

JOHN M. MORSE AIA, *Chairman*

Committee on Hospital Architecture

The aim and purpose of the Committee on Hospital Architecture is to provide the rapidly expanding field of hospital architecture with the support of information and liaison of private and governmental agencies with like interests. CHA attempts to serve as a center for the assembling and dissemination of new and pertinent information, to offer guidance to those seeking basic information and sources. A major interest is the development of new talents. To this end the AIA and the American Hospital Association jointly sponsor three scholarships. These are available to students desiring to augment their training with graduate study in the study of hospital-medical buildings. To assist and encourage undergraduate students, the Committee prepares and distributes architectural design problems formulated to provide basic and intermediate studies in health field building.

To further an understanding of purpose and direction, the Committee maintains a continuing liaison with governmental agencies with interest and activity in our sphere of endeavor. By correspondence, conference and personal contact, CHA works with Public Health Services, Veterans Administration, Department of Defense, National Institutes of Health and others on the national level and corresponding equivalents on the regional and state level.

Private agencies associated with hospital architecture are a vital source of information and cooperation. The Committee on Hospital Architecture continues to maintain a most cooperative and friendly relation with the American Hospital Association. Members of the AIA are on their staff committees and serve on instructional staffs at training institutes offered by the AHA.

We always welcome your ideas, plans and sharing of experiences and objectives.

MATT L. JORGENSEN AIA, *Chairman*

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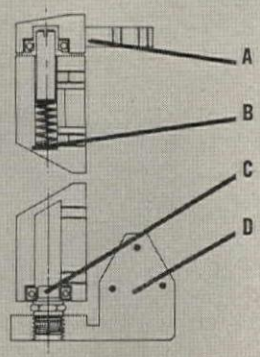

A Full-race ball bearings at top and bottom.

B Die-cast aluminum, polished and buffed, all-weather acrylic coated.

C May be adjusted vertically after door is permanently in place.

D Bottom frame adapter secured to frame, threshold, floor.

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Library Notes

Architecture in Our Time

Reyner Banham's "Guide to Modern Architecture" (London, Architectural Press, 1962) is a provocative book. Mr Banham contends that laymen who criticize modern architecture often cannot distinguish bad buildings from good ones and that architectural appreciation has been "beaten down by the glass-eyed solemnity of the Ruskin tradition, and diluted to tastelessness by the mincing frivolity of the followers of Geoffrey Scott." This book seeks to remedy the situation. Mr Banham explains the elements of a modern building (function, form, construction, space) and discusses examples of architecture which seem to him to have "power and authority." The buildings he includes are described as "monuments to the creative skill of men in a particular situation—our present situation—not as demonstrations of philosophy or justifications of any theory." Mr Banham's claim is that modern architecture should not really be too difficult to appreciate because it is "like any other architecture only more so: it has more things to say and more ways of saying them."

Just what architecture is saying in our time in many parts of the world is revealed in a number of recent books. Udo Kultermann in "New Architecture in Africa" (New York, Universe Books, 1963) points out that a few years ago it would not have been worthwhile to publish a book on modern architecture in Africa since most of the buildings were in no way characteristic of Africa. Recently dramatic changes have taken place, and there is a "new" architecture which is "African." This book attempts to document its development and at the same time establish criteria for future building. Mr Kultermann travels widely, and he has written also "New Japanese Architecture" (London, Architectural Press, 1961). Using more than 180 photographs, backed by analytical texts and biographies of two dozen leading architects, the book reveals that the contemporary Japanese architect has no fear of mating the most advanced technology with the most revered traditional usages.

Perhaps no other country has merged tradition with modern architecture so successfully as Mexico. In "Modern Architecture in Mexico" (London, Tiranti, 1961) Max L. Cetto clarifies the historical background, including Mexico's heritage from Aztec and Maya cultures, and examines current architecture critically. Each of one hundred buildings of the last ten years has comprehensive coverage in photographs. After looking in on our neighbor, we may well ask what architects in the United States are designing in the 1960's and what forces are shaping these designs. Such questions are raised and answered in John Dixon's "Architectural Design Preview, USA" (New York, Reinhold, 1962). Mr Dixon has selected 144 projects in the design stage by 111 architects, his aim being to show us "current thought, not present construction." Several forms occur so frequently that they must be products of the time, among them the bonnet roof. Other trends are interesting to contemplate, such as minimum vertical support, with two examples given of buildings that stand on one foot. Flexibility is stressed, and concrete would seem to be the favorite medium for architectural design today.

"Art in Latin American Architecture," by Paul F. Damaz (New York, Reinhold, 1963), demonstrates the dynamic and imaginative qualities of contributions made by such architects as Pani, Niemeyer, Reidy and Matta. While, of necessity, many examples of worthy Latin American architecture are omitted because the architect did not seek the collaboration of artists, the book gives an excellent general insight into current architectural trends. Handsomely illustrated, it analyzes structures where art and architecture have been integrated successfully.

Current architecture in the British Commonwealth countries is considered by J. M. Richards' "New Buildings in the Commonwealth" (London, Architectural Press, 1961). Essays introduce each country or group of countries, followed by photographs, sketch-plans and brief descriptions of architectural achievements.

In 1959 Germany faced a shortage of 5,800,000 homes. Ulrich Conrads traces the many difficulties confronting the architect after ten barbarous years in his introduction to Werner Marschall's "Contemporary Architecture in Germany" (New York, Praeger, 1962). This candid essay is a social document of postwar years. The young generation of German architects at first seemed to be "unimpassioned" and "unrevolutionary," with principles of purpose, function and economy. During the past five years subtle changes have occurred, however, and responsibilities are being recognized, chances taken and interests aroused, according to Mr Conrads. The architect's part is "to give form and substance to the problems of building in a democracy. In this respect the prospects are already encouraging, as indeed some of the buildings collected in the volume reveal."

If one would construct a truly complete picture of contemporary architecture, it would include a study of tendencies and ideas "off the beaten track," but influential and interrelated nonetheless. A tribute to human imagination in architectonic shape is "The Architecture of Fantasy: Utopian Building and Planning in Modern Times," by Ulrich Conrads and Hans Sperlich (New York, Praeger, 1962). This is "a collection of what had to be discarded in order to arrive at an orderly definition of present architecture," where "the idea of an economy of means and methods predominated." Ranging from "untutored folk-fantasy" to the ruthless logic of sophisticated technology, the fantasies include imaginative works of such personalities as Fuller, the Luckhardts, Niemeyer and Soleri.

The books mentioned here are but a few representative ones on contemporary architecture in the AIA Library available on loan to members.

MARY E. OSMAN

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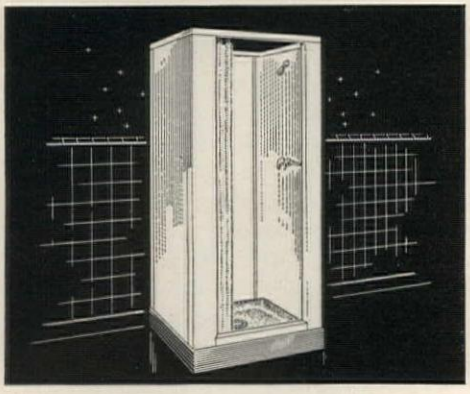
SHOWER CABINETS



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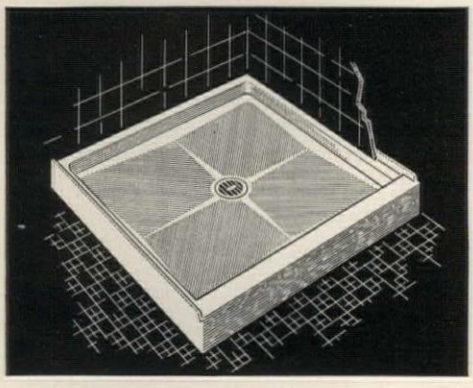

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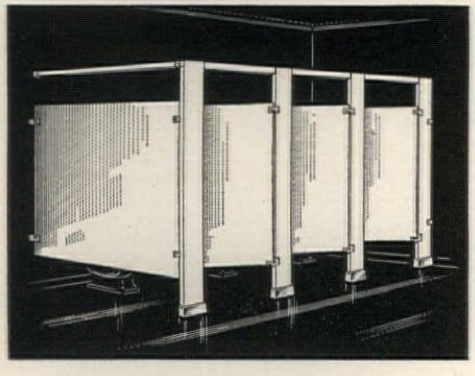
TOILET ENCLOSURES



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See Sweet's 22B/Fi and 26C/Fi or write nearest Fiat office for literature.

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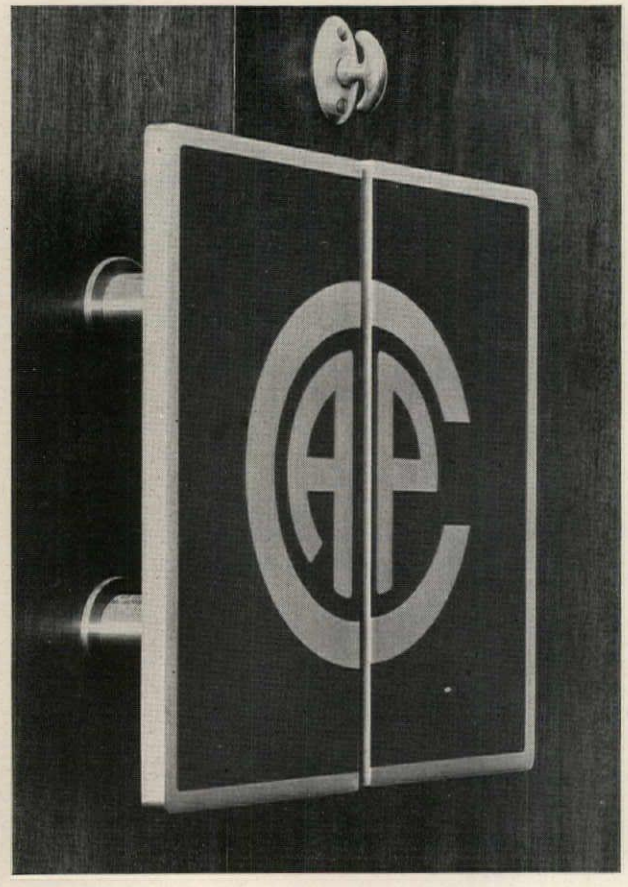
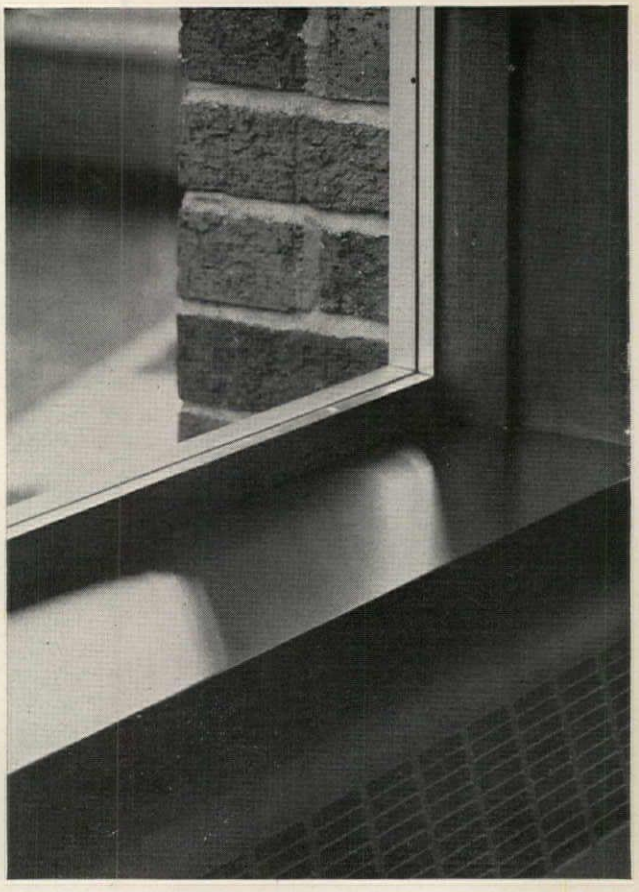


1

DOOR PULL

Two-part pull used for double swinging doors of a corporation board room. Entire face plate and fittings are of Armco Stainless.



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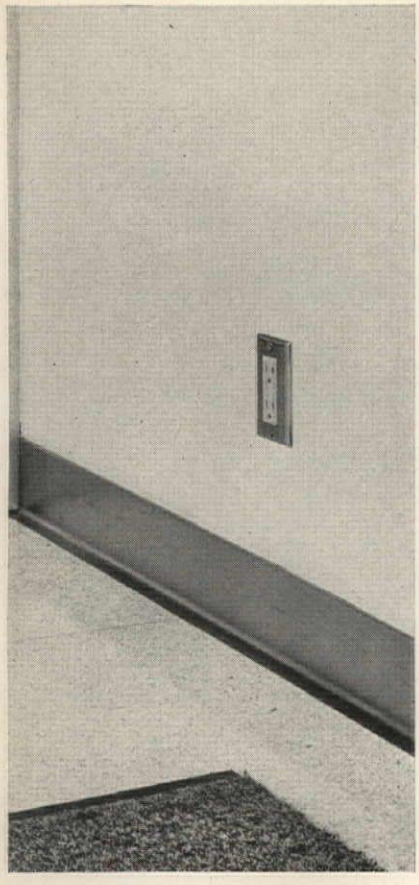

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- Provide clear identification of dry lumber.
- Reduce the waste and overbuilding caused by oversized dry lumber.

The great weakness of the present system is the requirement that dry lumber be manufactured oversize to satisfy span tables based on the lesser strength of green lumber. The new standard establishes a realistic minimum thickness for dry lumber of 1-½" and tightens up moisture content requirements.

The new standards are being circulated now as revised *Simplified Practices Recommendation 16-53*. Although Weyerhaeuser is one of the largest producers of green lumber, we support revised SPR 16-53 in the interest of architects and specifiers everywhere. We strongly urge that you write the Department of Commerce, Washington 25, D. C., now expressing your support.

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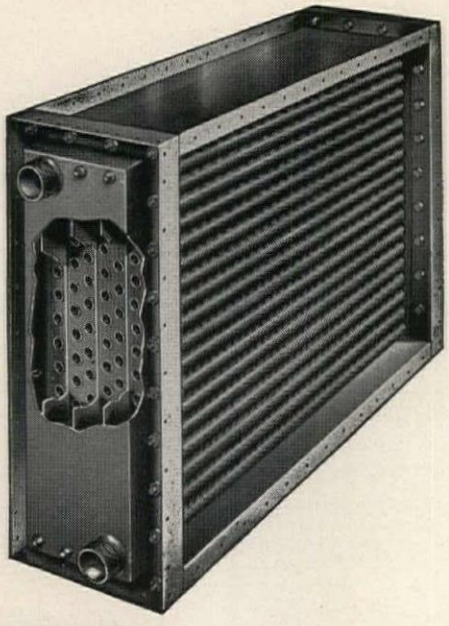

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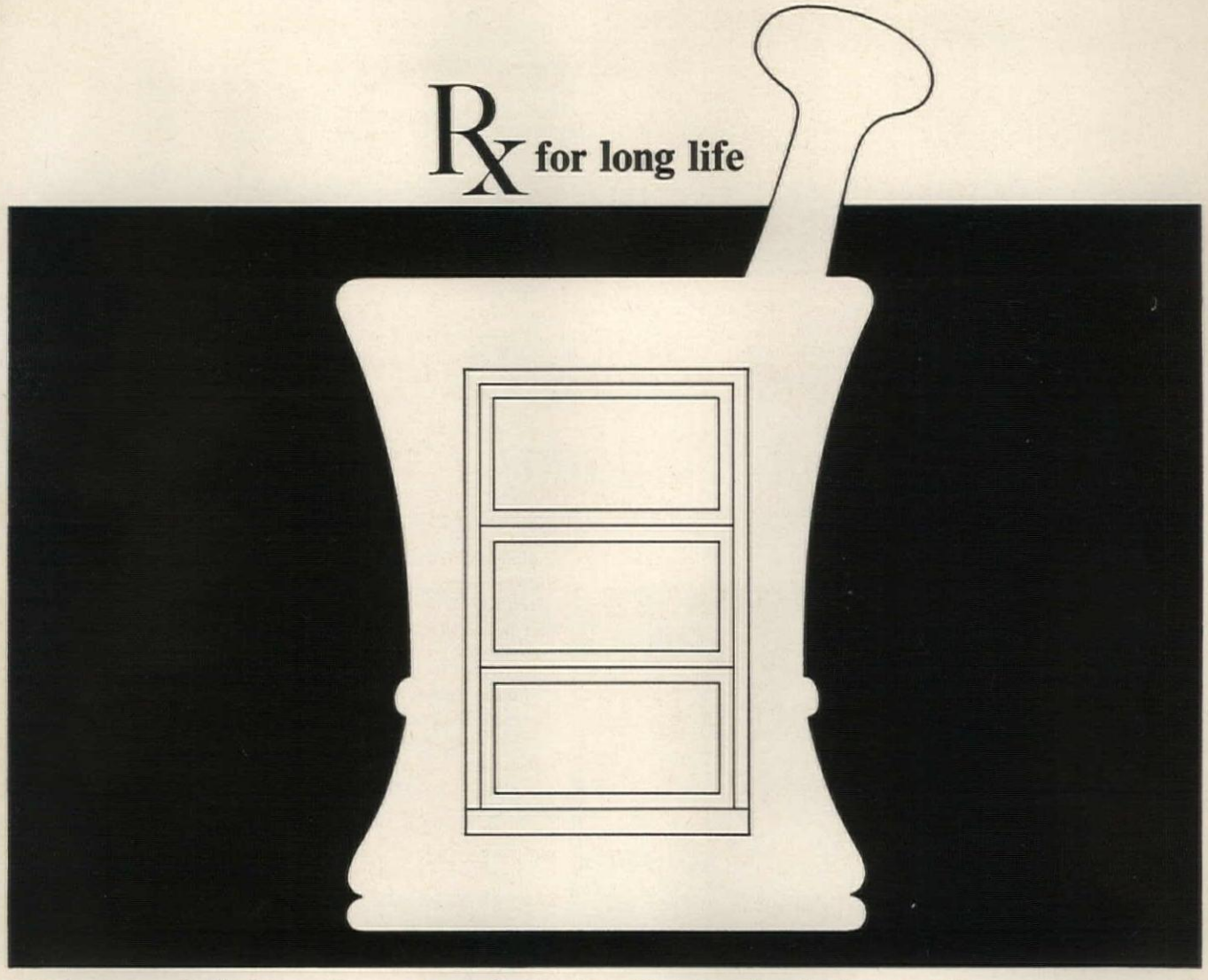

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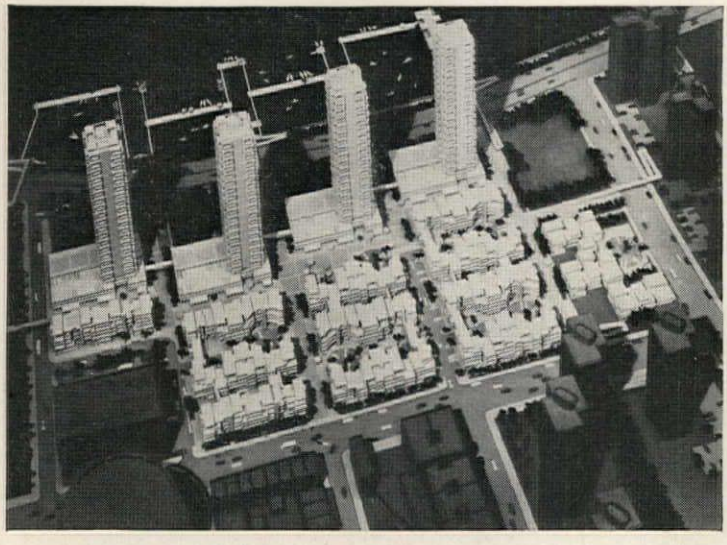

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In Ruberoid's Fifth Competition, conducted with the co-operation of the City of New York's Housing and Redevelopment Board, the attention of the architectural profession was directed to one of the nation's major problems—Urban Middle Income Housing. For this problem the City provided an actual site in Manhattan's East Harlem area and cooperated with Ruberoid in developing the Competition program. The City Housing Board also agreed to exert every effort on behalf of the winning concept for use in building the project.

Professional interest and participation reached a new high in the history of Ruberoid's architectural competitions. The opinion of the Competition Jury was that important new ground was broken by the winning awards in a challenging area of American life. It felt also that many of the ideas presented will be brought into existence and make a contribution to housing of the future.

The winning designs will be reproduced in a brochure later this year. For a copy write to The Ruberoid Co. on your letterhead.

THE DISTINGUISHED JURY that selected the winners (Left to Right)

- Herbert J. Gans, Research Assoc. Prof. of City Planning Inst. for Urban Studies and Dept. of City Planning. University of Pennsylvania, Phila., Pa.
- David A. Crane, A.I.A., Dir. of Land Planning and Design, Boston Redevelopment Authority, Boston, Mass.
- Lewis E. Kitchen, Lewis Kitchen Realty Co., Specialist in urban redevelopment; Kansas City, Mo.
- Albert Mayer, F.A.I.A., Chairman of Jurors, eminent architect and consultant, specialist in town, city and rural planning and development, New York, N. Y.
- Sir Leslie Martin, F.R.I.B.A., Prof. of Architecture, Univ. of Cambridge, England, Past Vice-Pres. Royal Inst. of Architects, leader in urban planning and redevelopment.
- Milton Mollen, Chairman of Housing and Redevelopment Board of City of New York, eminent lawyer.
- Harry Weese, F.A.I.A. widely experienced engineer, architect, and community planner, Chicago, Ill.
- B. Sumner Gruzen, F.A.I.A. (not shown) professional advisor to Competition, leading architect and engineer, Principal of Kelly & Gruzen, New York, N. Y.