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Journal

May 1963

OF THE AMERICAN INSTITUTE OF ARCHITECTS

*AIA  
Honor  
Awards*







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**BPA**

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# Editor's Page

## Anti-Ugliness

*NOTE: The Editor was invited by the New Mexico Chapter AIA to participate in a panel on "Who Is Responsible for Ugliness?" An unexpected trip to the hospital forced him to cancel out on the trip to Santa Fe, but at the Chapter's request he wrote out the few words he had most on his mind. For the same reason, the Editor was unable to write his usual two columns for the May issue, so he is taking the liberty of printing excerpts from his Santa Fe talk:*

The question, "Who is responsible for ugliness?" has been batted around for quite a while now, and I think we all know the answer—there seems to be only one, and that is, of course, that we are *all* responsible for ugliness.

It's exactly the same as the question, "Who is responsible for civic corruption?" Who indeed? Not the gamblers, the touts and the bribe-givers and takers. Arrest them and put them in jail and corruption goes on just the same. It is only when the people of a city get really and truly aroused and "throw the rascals out of City Hall" that any lasting corrective measures are taken, and they last only as long as the vigilance of the public and the new man in City Hall. After the peak of corruption reached during the administration of New York's snappy and appealing little Mayor, Jimmy Walker, the good folk of the city got really excited and voted in a genuine reform ticket, headed by Fiorello LaGuardia, one of the best and most colorful Mayors New York ever had. But after him the city drifted back into its old ways again—the spearhead of the vigilantes was gone.

So it is with ugliness. Not until a sufficiently large number of people become deeply aroused, until vigilante groups are formed, *backed up by City Hall*, can anything permanent be accomplished.

More on that later, but speaking of New York, here is a point I want to make: Fifth Avenue is unquestionably one of the great avenues of the world. At its best, on a sunny spring day, with all its flags flying and its shop windows sparkling, walking up it from 42nd Street to the Plaza is a genuinely thrilling urban experience—*every* city should have its own little bit of that Fifth Avenue flair, even if it's only for two blocks instead of twenty. But even Fifth Avenue, with all the thought and care lavished on it by the city, the Municipal Art Commission and the Fifth Avenue Association, is deteriorating—and much of that deterioration is caused by the do-gooders themselves. The curblin is littered with junk, to the point that you can't see the Avenue for the litter.

Last month I was waiting for an appointment with my son on the west side of Fifth Avenue between 54th Street and 55th Street. To amuse myself, and as an exercise in the criticism of urban design, I itemized the objects cluttering the curb. Starting at 55th Street and working south, there were the following objects, all within two feet of the curb:

- 1 lamppost, supporting two street signs, a one-way sign, a no-parking sign and one miscellaneous cardboard sign tied on with string

- 1 litter receptacle, an ugly, bulky thing on a pedestal and standing shoulder-high, painted gold and with signs on both sides
- 1 red-white-and-blue mail box
- 2 very sick and shabby evergreens in massive concrete tubs
- 3 equally sickly saplings, each tied to two poles
- 1 no-parking sign on a post
- 1 more litter can, as above described
- 1 sand-filled ashtray standing on a pedestal
- 1 more lamppost, as above described

Total, twelve objects within a few feet of each other, in a short two-hundred-foot block. Please note that the majority of those objects were put there to make the city "more beautiful." How could it be done differently? The lampposts are the only practical essentials; the three saplings are the esthetic essentials. The mail box and one of the litter boxes could be built into the sidewalls of the buildings, as has so long been done in Europe. The other items could be eliminated. Enough for New York—but I'm sure any city could turn up equal and worse situations.

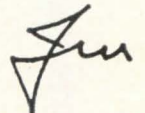
Unfortunately, the character of the appearance of the landscape, both city and country, is established by the *worst* conditions, not the best. We seem to be set hell-bent on a program to pave the world with concrete and asphalt. We bulldoze out the forest and sell off the topsoil containing the accumulated natural history of a million years. Then we plant a few saplings. We can plant trees, but we can *never restore the forest*. We destroy the entire ecology of an area, and then complain because there are too many insects, because our plants are subject to every disease and bug in the book and because we are overrun with floods and erosion, to name only a few of the evils that overtake us.

Perhaps you are saying to yourselves, "This guy is talking conservation, not ugliness. He's off the beam." No, he's not at all off the beam. Conservation, the preservation of our countryside and forest land in all its man-tilled and natural beauty, is very much a part of the campaign against ugliness. This problem of combatting ugliness has many fronts, and it must be fought on all of them. Is there anything uglier than acres of countryside denuded and bulldozed to make way for a looping interchange?

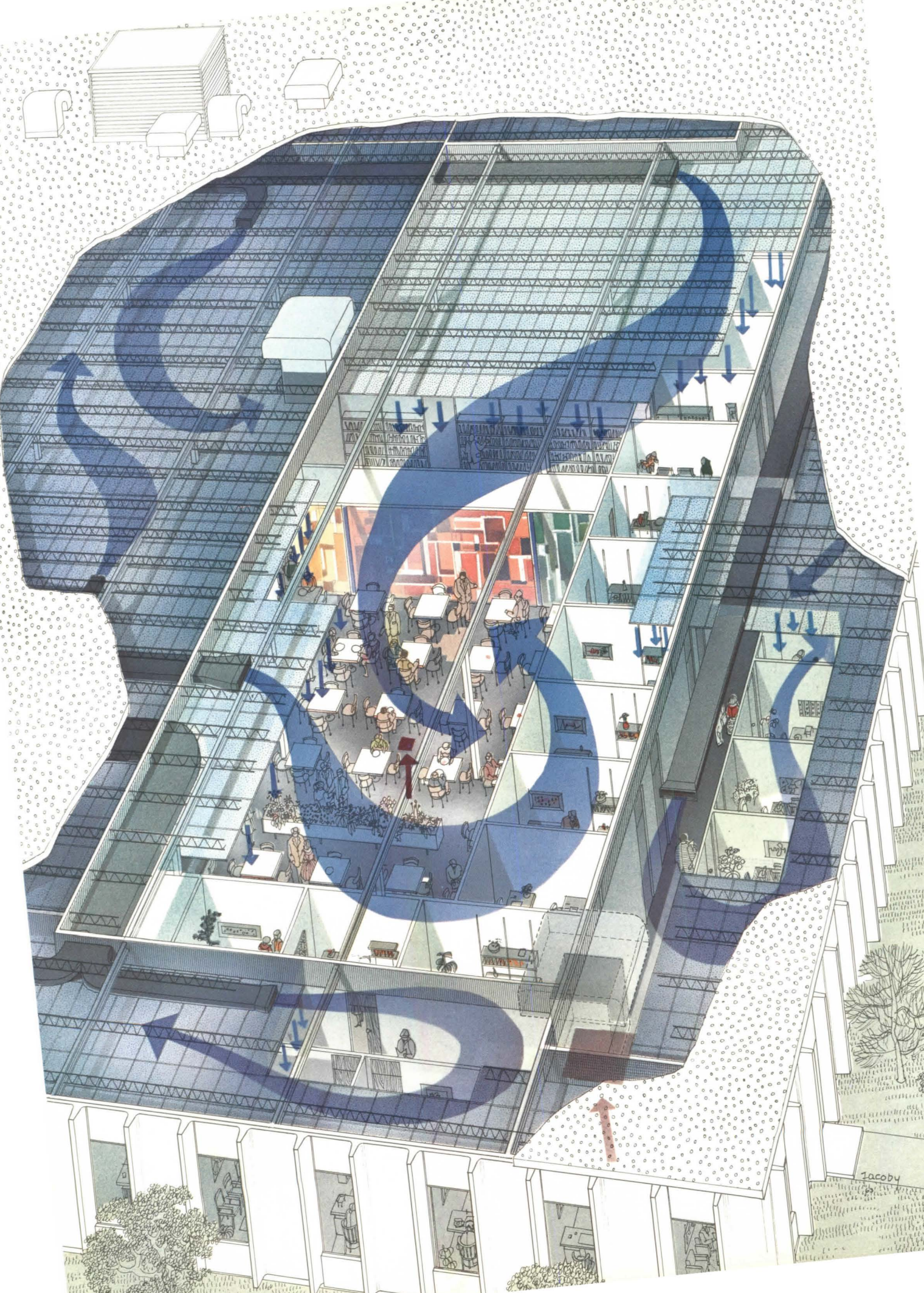
We must put *worst* things *first*. Whether it's billboards, ugly street furniture and too much of it, automobile junkyards, eroded countryside or expressways slashing concrete-lined canyons through the heart of a city that people live in, we must turn our attention to the sorest spot, and do it quickly.

What to do? One of the most important things we can do is to organize our woman-power. Now I do not mean to imply for a minute that an anti-ugly campaign is simply women's work—it is a job for all men. But we must remember that the Garden Club of America gets most of the credit for whatever anti-billboard regulation there is now as a part of the Federal highway program.

Put worst things first, but start where you can; don't wait for a big issue, start with the little ones and the bigger ones will come more easily. Newspapers will support such efforts, and public opinion will follow. Make anti-ugliness an issue in every community.









# Letters

## Proof Positive

EDITOR, *Journal of the AIA*:

For some time I have sensed that the *Journal* had overtaken the other architectural publications. I now have the final proof. I have just clipped my 1962 copies to the tune of one pound and eleven ounces, considerably more than I have ever salvaged from any of the Big Three. This does not include the Convention issue which I always keep intact.

I might add I enjoyed Von Eckardt's piece on stamp design with which I am in 100 per cent agreement. May I suggest that you feature the new Griffin stamp of Australia. It may be a long, long time before another American architect gets his picture on a postage stamp, particularly one as well designed as this one.

WILLIAM LYMAN AIA  
Birmingham, Mich

EDITOR, *Journal of the AIA*:

Concerning "Allied Arts," well written by Wolf Von Eckardt in the March issue of the *Journal*, I concur 100 per cent that our nation's stamps are very ugly among the nations of the world. When we look at the fine printed newspapers, detailed pictures in magazines, one begins to wonder why the Bureau of Printing and Engraving turns out design-lacking stamps annually.

Being a philatelist since 1928, I have noticed good designs crowded on small stamps and poor designs hardly filling the space on our large stamps. A good example is the centennial commemorative for the AIA issued in 1957. A reproduction of the orders would have been more apropos than the new concrete column.

A solution for good stamp design would be to include architects on the twelve-man Citizen's Stamp Advisory Committee.

EDWARD J. KUNTZ AIA  
Weehawken, NJ

## Moving Mountains

EDITOR, *Journal of the AIA*:

The implications of the study on land-forming entitled "Man's Use of Landform," which appeared in the December 1962 issue, are sufficiently monstrous as to deserve comment. Since I live in the county where this proposed "controlled nuclear blast" would be detonated, since I practice architecture and planning here, and serve as a member of the Marin County Planning Commission, I feel it incumbent upon me to make some reply to this shocking proposal.

In the first place, the suggestion that a county whose present population is 165,000 should attempt to absorb a single development of 400,000 in one small valley is simply irresponsible. The fact that this study was made as a student thesis should not ex-

empt the author from the basic obligations of sound planning. The study has been dignified by publication and therefore must stand on its own merits. But anyone who knows the area must realize immediately that this type of project would desecrate our natural landscape and play havoc with current population and transportation projections of the entire Bay Area.

In the second place, the casual attitude here displayed toward problems of nuclear fission is positively horrifying. The dangers of such nuclear blasting are not as yet known. Potential effects upon local ecology are grievous to contemplate and are, furthermore, at present completely unmeasurable.

Worst of all is the arrogant presupposition that man has the right of duty to alter great masses of land to this extent and by this means. The architect has traditionally been a friend of Nature. Granted he now has the technical power to rearrange it at will, does this give him the right to destroy the beauty of the earth which is his source of nourishment?

Many of us hope that this land, when it is released by the military, will be acquired as part of the Golden Gate Headlands Park. As the population of the Bay Area continues to increase, rare seclusion and tranquility of this relatively unspoiled valley will become more and more valuable as a refuge for our crowded masses of urban population.

In closing, I must add that I am most distressed to see that the AIA saw fit to grant a Fellowship to the author of this thesis for further study of "land-forming" in Europe, presumably again by the method of nuclear blasting.

If the AIA will not stand for common sense and conservation in land planning, then who will?

FELIX M. WARBURG AIA  
San Rafael, Calif

FELIX M. WARBURG:

If man doesn't move mountains, who will?

CHARLES W. MOORE  
Chairman, Department of  
Architecture  
University of California  
Berkeley, Calif

CHARLES W. MOORE:

"Man's great mission is not to conquer Nature by main force but to cooperate with her intelligently but lovingly for his own purpose. . . ."—Prof Lewis Mumford, University of California, Davis, January 12, 1962.

FELIX M. WARBURG

EDITOR, *Journal of the AIA*:

Felix Warburg showed me a copy of Donald C. Royce's article, and though I am not a subscriber to your *Journal*, I feel compelled to add my protest to his.

What appalled me about the hypothetical place of mayhem at the tip of Marin County was not so much its crass disregard for the beauty of natural land contours—though this is distressing enough—but its total misapprehension of the logic of land-use planning. I think it would be more properly titled "Land-

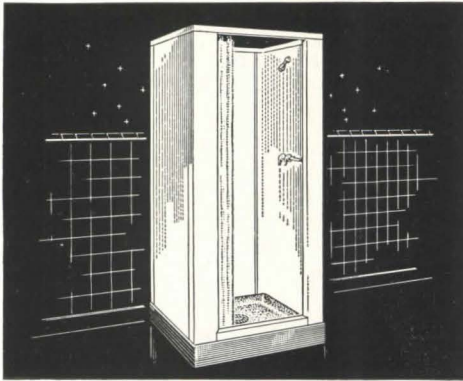
*Continued on p 12*



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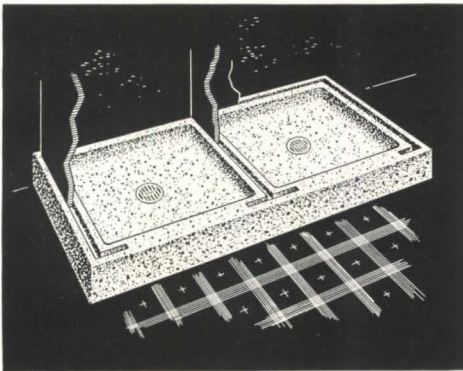


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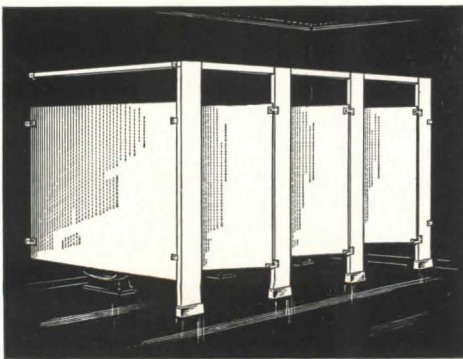


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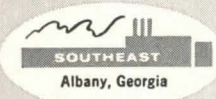
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## Letters Cont'd

form's Use of Man," since its object seems to be to fulfill somebody's squeezing and distorting a group of human beings into it. It appears to stem from a basic confusion between what is technically possible to man and what is desirable, the latter representing a much more difficult and demanding question.

If you start with individual human beings—and where else would you conceivably start—then the problem in a metropolitan area like ours is to satisfy the expressed preference in living environment of those now here, accommodate those to come, and still maintain job accessibility for all. It is my impression, after four years on the county planning commission, and many more as a participant in interested citizens' groups, that one of the primary urges that has brought people to Marin is the urge to have close around them unaltered manifestations of nature—hills, water, soil, organic life, even natural climate. It is true there is a "banana belt" in Sausalito, but there also is a "pneumonia gulch" about which people joke and in which they continue to live, presumably by choice.

Another preference suburbanites have amply demonstrated, both here and throughout the country, is that for living in small communities—by small I mean something under 25,000—the outlines of which they fashion, since geographical isolation no longer prevails, out of natural land features and political boundaries.

The necessity for doing as much violence to these human preferences as Mr Royse's proposal involves would have to be amply demonstrated indeed.

(MRS) MARGARET AZEVEDO  
Tilburon, Calif

EDITOR, *Journal of the AIA*:

Congratulations on publication of the two timely articles, "Every City Is a Four-Season Festival," by Robert Zion, and "Tears for Our Alabaster Cities."

HUBERT B. OWENS  
Head, Landscape Architecture Department  
University of Georgia  
Athens, Ga

### Washington: From Its Autos to Its Jungles!

EDITOR, *Journal of the AIA*:

In the *AIA Journal* for January 1963 the various articles on phases of Washington's problems, which are the problems of other modern developing centers, lay obvious emphasis on the problems created by the private automobile. The resultant traffic problems of the motorists and the visual problems of important public buildings surrounded by masses of autos are emphasized. Definite answers to the problems raised are not offered nor are they easy to state with certainty.

As some one truly said, "All generalities are false, even that one," but I would like to suggest one that seems to me adequately indicated as a future necessity. Surface streets and highways are made available for the use of vehicles moving from one place to another, not for the use of motorists as places for temporary storage of their autos during periods in which the motorists are temporarily engaged in study or con-

ferences or shopping within the adjacent structures.

As a general policy I, therefore, suggest that modern city planning needs to adopt the policy of providing subsurface areas for parking adequate to the needs of the local area and its structures. The parking of cars needed should be provided under the surface highways, under the structures in one or more layers and on any open area adjacent to the structures. Traffic rules should provide definite limits to the right of motorists to "park at the curb," but these rules must assume the responsibility of the community and its structures to provide adequate other spaces for storage of autos that must, as a normal result of human activities, remain idle for longer periods of time.

A substantial service of this sort can, of course, be provided in public garages, but greater convenience to the motorists involved will be provided in future if important structures provide on their land or within or under their buildings adequate space for such use by those needing the service provided by the structure or its occupants.

Here is a future general policy that seems to be needed as a basis for constructing highways in our central business areas and as a basis for the requirements of the owners of properties involved.

Since writing the above I have just read the following paragraph in the statement of the AIA Committee on the National Capital which says the same thing:

Washington's grossly inadequate parking situation requires immediate attention. Parking structures should be constructed as integral parts of new buildings not as separate projects or garages, which displace street frontages that can be better used for other purposes. Underground parking directly connected to freeways and considered as part of freeway design would do much to alleviate both parking and traffic congestion.

The Committee applies this to the needs of Washington. It seems to me my wider application of it as a generality suited to the needs of all modern congested centers is equally correct.

WILLIAM STANLEY PARKER FAIA  
Boston, Mass

EDITOR, *Journal of the AIA*:

Since the President's grand Lady has done so much to bring culture to the jungles of Washington, I am wondering if this would not be the appropriate time to join with the Kennedy renaissance and begin agitating for the removal of those structures which dwarf the White House. Let us, therefore, *demand* the removal of the Treasury to the east and that unclassifiable monstrosity to the west, once known as the State, War & Navy Building.

If we can bring this about, then let us see if we can't do something about tearing down those "White House Wings."

Without a doubt the Treasury Department would be happy to vacate and move to a new monumental building somewhere on the outskirts large enough to house all of its Washington functions.

The Smithsonian's "castle" on the south side of the Mall isn't quite complete—or wasn't at last accounts—for it is lacking a moat and a drawbridge. How, one wonders, could that have possibly happened in the era of brick? Perhaps the same influences prevailed when

*Continued on p 18*





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## U R B A N I S M S

*A regular column by our specialist on urban affairs, Matthew L. Rockwell, Director of Urban Programs*



### Pigs' Knuckles and Caviar

Knowledgeable visitors to Washington all want to see its great new Southwest district. Great because it is one of the nation's largest renewal areas in one piece; new because nothing remains of its former blight but some scaly sycamores and three historical houses. (The renewal area mentioned herein borders a public housing project and taken together both areas comprise the "district.")

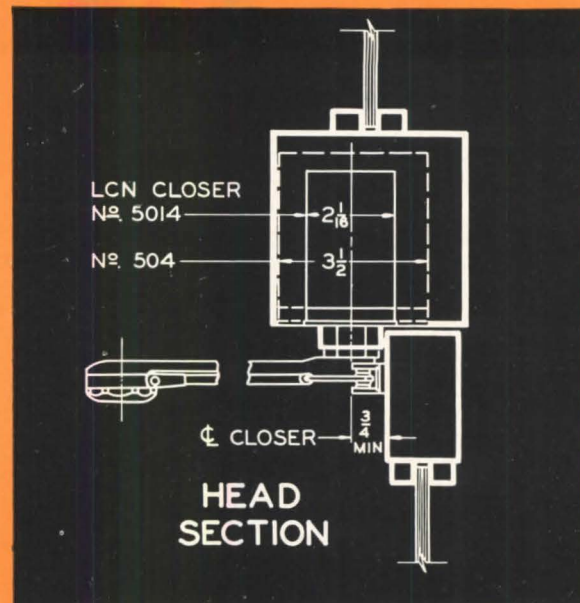
Of the nine or ten potential parcels, each large enough to be handled easily by individual developers, three are complete. All but one of the remaining have been approved by the Redevelopment Land Agency. The unique waterfront plan is still under consideration.

Others have commented more fully on the exceptional architecture and urban features involved in the projects themselves. Not so many have commented on the neighborhood problem itself—which becomes more obvious when architects talk to people other than architects! The case in point was the occasion of a trip which my university extension class in urban design made to the area last week. This assorted group lost no time in questioning the large open space which divided the public housing from the high-rise apartments of the newest renewal project. The space was particularly noticeable because it was entirely fenced off from the private renewal area by expanded wire; similarly the recreation area of the apartments was walled off from its public neighbor by a more decorative brick wall.

Everyone accepts the fence and wall with good grace, regardless of income or color, because, after all, there are no fences in the one supermarket which serves both conclaves. Here pigs' knuckles and caviar lie happily together completely unconcerned as to which side of the curtain will be their ultimate destination. How long can we as architects ignore the social aspects of our designs?

This is not my only concern. The high-rise building of the newest project shelters a bevy of town houses

*Continued on p 16*



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Installation Details on Opposite Page



**Urbanisms Cont'd**

entirely on its west side, and unfortunately appears to support the unofficial acknowledgement of its developer that the high-rise itself was intended to be a "wall." If true, of course this is blatant urban "mis"-design. I would tend to disregard even this if I had more confidence in the total form of the new Southwest. Frankly, I doubt when each square foot has responded to its intended density (which is even now being reconsidered) that the building interrelationships will have the character of their predecessors. It is undoubtedly treasonable to state this in view of the precautions taken to prevent such an unhappy end. I recognize the individual quality of projects themselves, each of which will have its own character, its own charm, but the sketches, drawings and models leave me unconvinced. I also recognize the tremendous accomplishment in coming thus far. I'm beginning to suspect that while urban design has been solved at the project level, most of us simply do not understand what it means, or how it can be adapted to large-scale thinking.



**Swan Song**

If the last statement is true, then it is time to do something about it, present company not excepted. So this will be my last word from Washington. I am leaving just after this is written to become Deputy Director of the Northeastern Illinois Metropolitan Area Planning Commission. This state commission, under the direction of architect-trained Paul Oppermann, is working to mold the Chicago region into a more form-ful area. It is perhaps the only official planning commission in the nation with a statutory provision for "improvement in standards of urban esthetics and civic design." Among its other rather traditional responsibilities, this one has such a particular luster that its appeal is irresistible. Combined with that other new frontier, Chicago—much as I have learned to appreciate Washington—the challenge is too great.

My two-year stint to organize the Urban Design project (formerly UD 62-63) is over, and the project itself will continue in the hands of Paul Spreiregen. Robert J. Piper, Master of City Planning from Cornell and presently Department Head of Professional Practice and Technical Secretary, in addition to his other duties, will direct the future programs of the Institute in the urban field. ◀



(\*) Detroit Bank & Trust Company Building, Detroit

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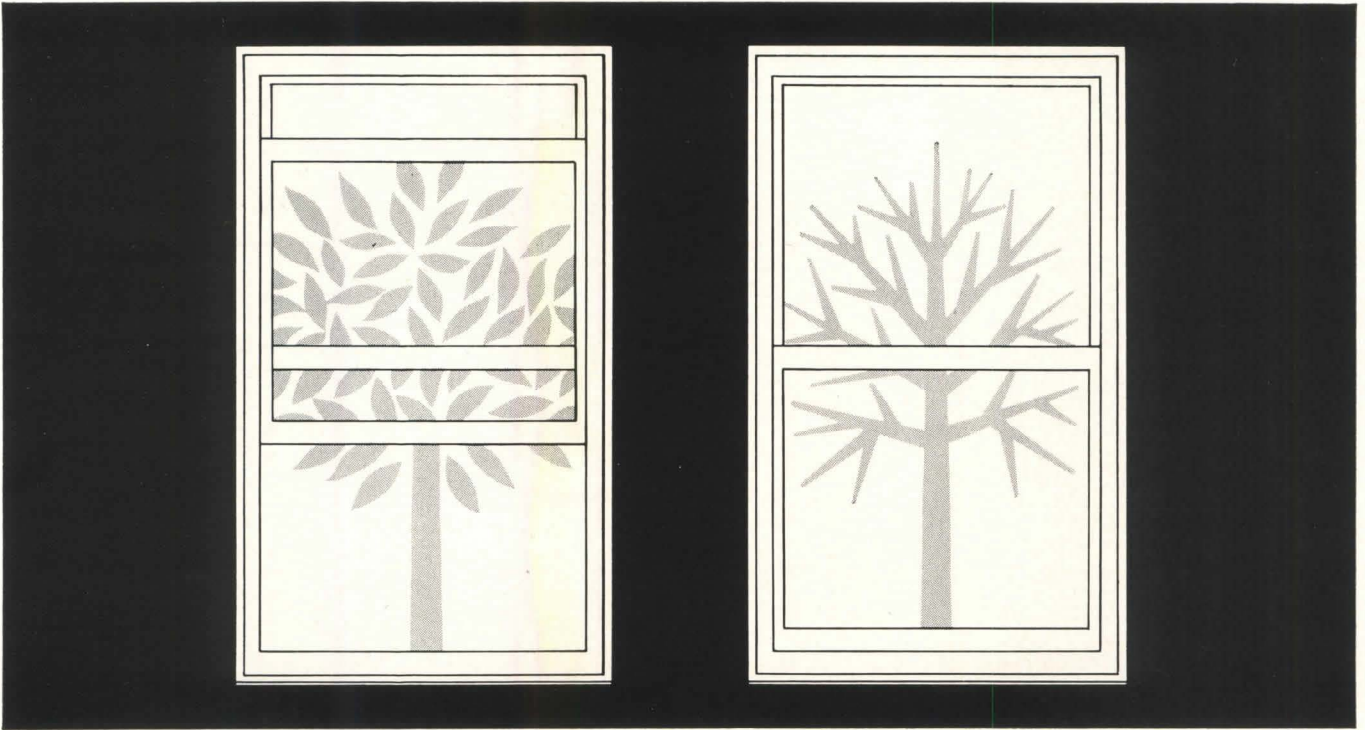
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- (\*) **DETROIT BANK & TRUST COMPANY BUILDING**  
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 Construction: Minskoff-Detroit Construction Corp. New York, N. Y.  
 Mfg. by: Pre-Cast Concrete Co., Marysville, Michigan
- MASONIC HOME CHAPEL, Fort Worth**  
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**Letters Cont'd**

they put that big red brick barn up at Fifth & G and called it The Pension Building.

I do hope the AIA, who would know how to go about it, can get something done about the White House. Let the Smithsonian rustle its own moat and drawbridge.

COL JOHN M. DE WITT KYLE II  
Washington, DC

EDITOR, *Journal of the AIA*:

In your editorial in the December issue, you remark that Washington as a city belongs to all of us.

A good many years ago the AIA had a committee known as a Committee on Washington, DC. We had a dedicated Chairman, Mr Horace Peasley of Washington, and one member from every chapter of the Institute. When anything of interest came up in Congress regarding Washington, the chairman would notify members of his committee, and we were supposed to telegraph our Senators and Congressmen. We thought we had considerable influence. At that time New York's Senators were Wagner and Copeland, and our local representative was Frederick Davenport of Clinton.

On the chairman's notification, I always telegraphed all three, stating our attitude toward legislation. I never heard from Wagner or Davenport, but I always had a nice reply from Senator Copeland saying that he had received my telegram and would give it con-

sideration. Once when I was busy, I neglected to send the telegrams when notified, but I got an answer from Copeland just the same.

We used to report conditions in Washington at every meeting of the chapter, and I think it kept alive the interest in the capital and brought it closer to the members.

EGBERT BAGG AIA  
Utica, NY

Editor's note: The AIA has, of course, a very active Committee on the National Capital, as the recent "Washington in Transition" issue of the *Journal* would indicate. However, it is interesting to learn how the committee functioned in past years—the direct and immediate contact with Congressmen is something we might emulate.

**Wanted: Professional Pen Pal**

EDITOR, *Journal of the AIA*:

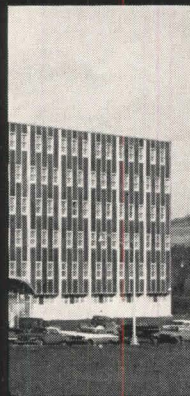
You may be surprised to receive this letter from a complete stranger. I am a member of the Architectural Institute of Japan and am on duty at Kisaburo Ito Architectural Office. (It means incorporation of architects and engineers.)

Now, I am very anxious to correspond with some young American architect or engineer in order to develop a better understanding about US architecture.

TADASHI NAKAGOME  
c/o K. Ito Architectural Office  
Toyokawa Building  
8-4, Higashi Ginza  
Chuo-ku Tokyo, Japan



Western Pennsylvania State School & Hospital; Cannonsburg, Pa.  
Celli-Flynn, McKeesport, Pa.; Archt. & Engs.  
John McShain, Inc., Baltimore, Md.; Contr.



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## *The 1963 AIA Honor Awards*



THE AIA HONOR AWARDS have become the most distinguished award an architect can receive for outstanding design. This year's Jury selected thirteen for award, five for First Honor Awards and eight for Awards of Merit. It is of interest to note that two firms won awards in both categories, and that one of the Awards of Merit went to an AIA Chapter, collaborating on an urban design project in its city.

In contrast to last year's Jury, which took the occasion to deliver a stinging statement on the low level of architectural design, this year's Jury found the submissions much more encouraging. Following is its statement:

"The members of the Jury for the 1963 Honor Awards program thoughtfully reviewed 411 submissions. The Jury found an abundance of good architecture in a variety of building types—ranging from modest homes and churches to impressive skyscrapers. The over-all standard of excellence was unusually high, making the deliberations of the Jury more exacting.

"The Jury was encouraged to note a trend away from stereotyped clichés based on imported eclecticism. There are many indications that the best American design is now characterized by appropriateness and creative individuality.

"The buildings selected for awards manifest dependence on a simple palette of materials and a clear and purposeful use of structure producing genetic solutions to difficult problems. The awards recognized creative expression, simplicity and refinement in detail without making any effort to find every building type. The absence of schools and industrial buildings among the awards, although regretted by the Jury, occurred only because of the large number of superior entries in other types of architecture.

"The profession should be pleased with this progress toward the creation of a more delightful environment."

ROBERT L. DURHAM FAIA, *Chairman*  
WILLIAM L. CAUDILL FAIA  
MARK HAMPTON AIA  
ERNEST J. KUMP FAIA  
HUGH A. STUBBINS JR FAIA



*first  
honor*

## *Eero Saarinen and*

**Project**

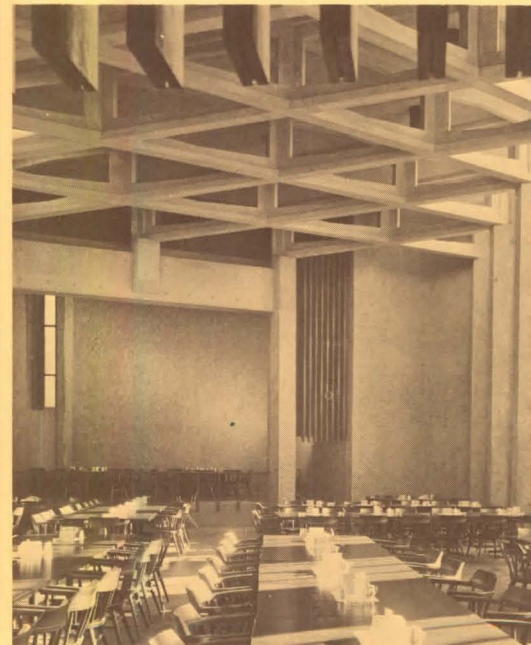
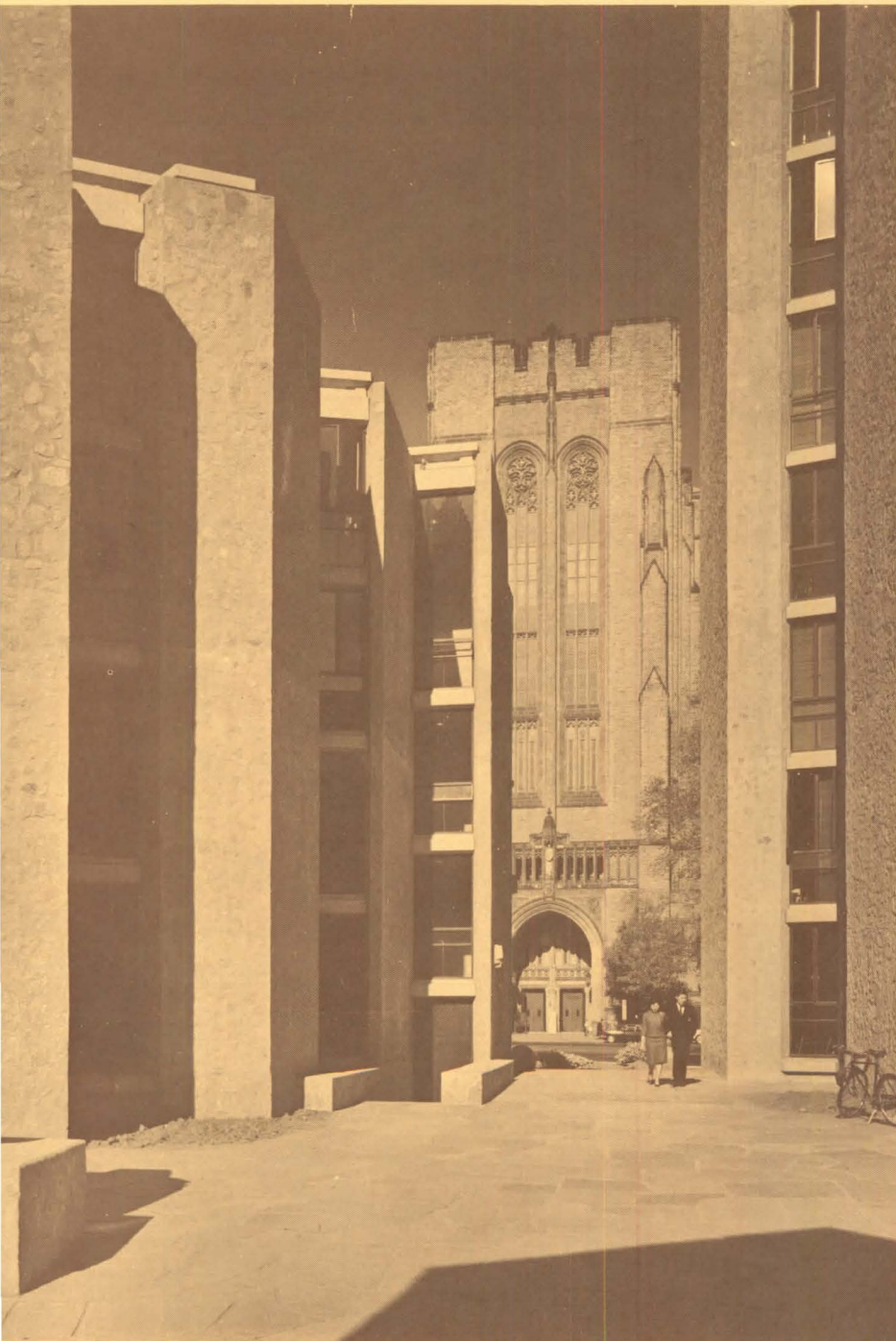
Ezra Stiles, Samuel F. B.  
Morse Colleges, Yale  
University, New Haven,  
Connecticut

**Owner**

Yale University

**Structural Engineer**

Henry Pfisterer





# *Associates*

**Landscape Architect**

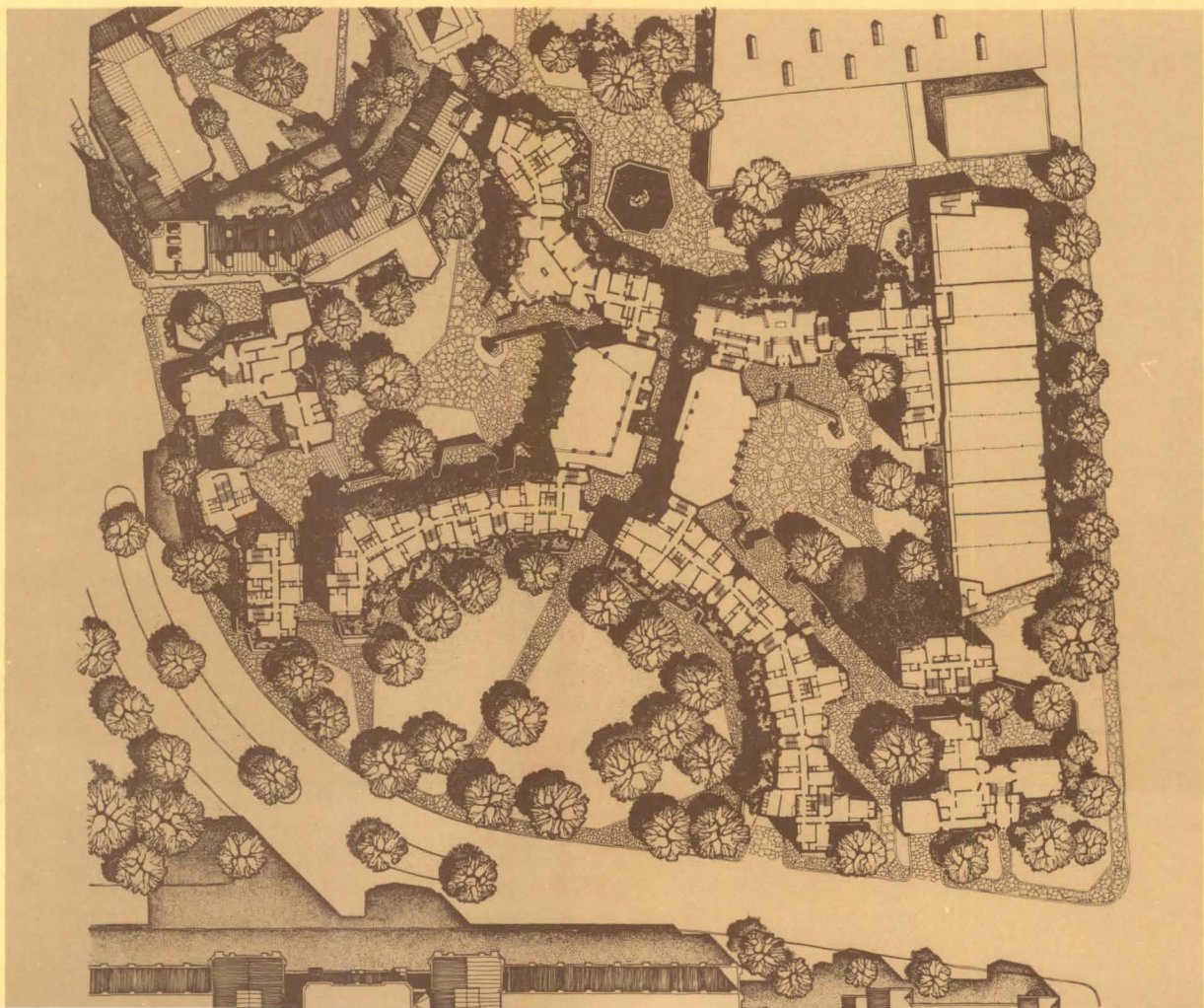
Dan Kiley

**Contractor**

The E. & F. Construction  
Company

**Photos**

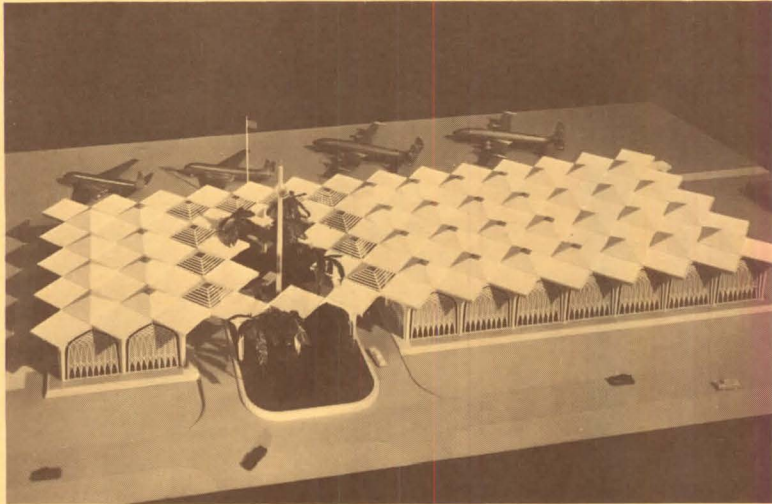
Joseph W. Molitor







*Ralph M. Parsons*  
*Minoru Yamasaki FAIA*

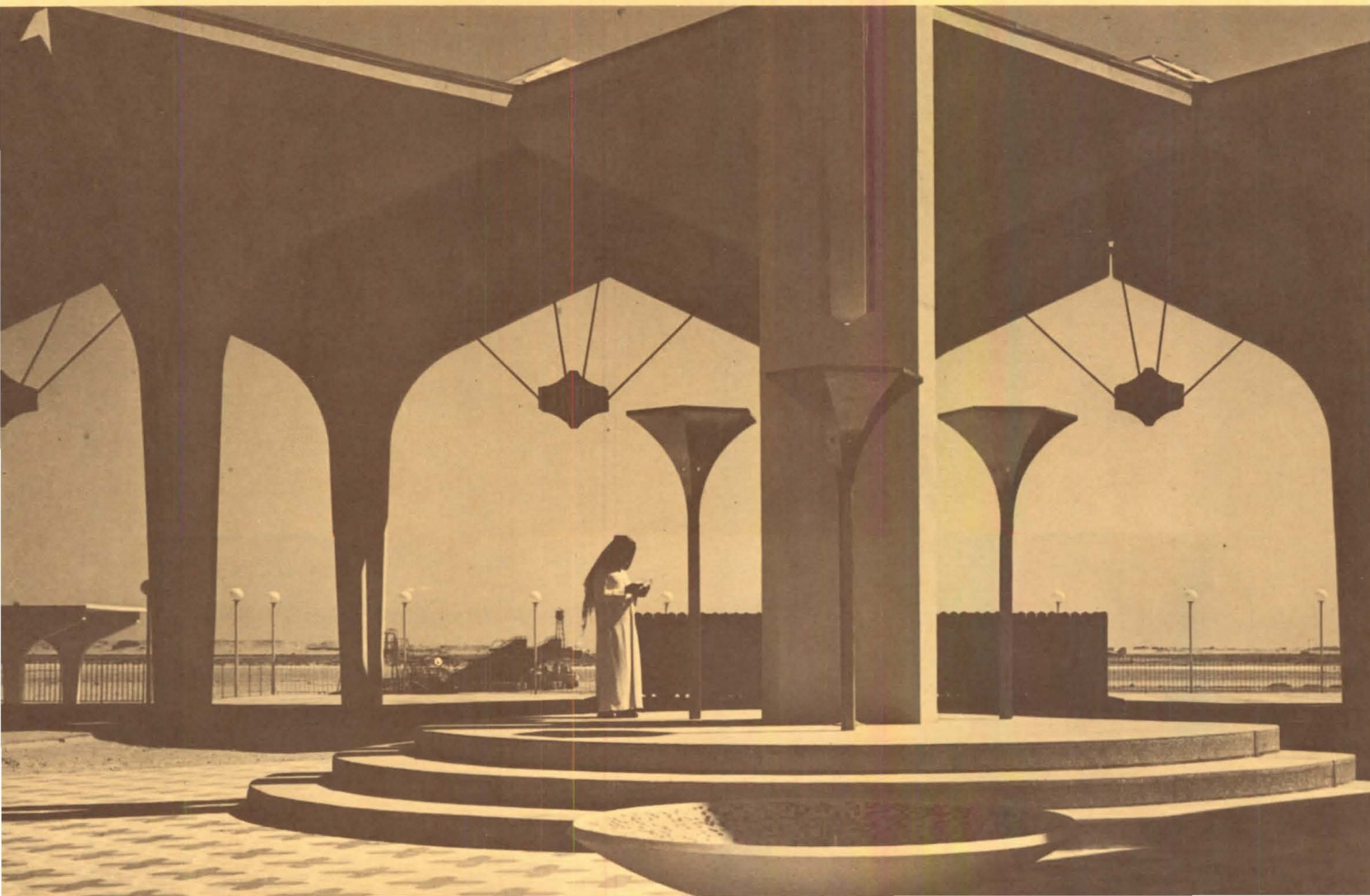


**Project**

Dhahran International Air  
Terminal, Dhahran, Saudi  
Arabia

**Owner**

United States Government,  
Corps of Engineers





# Company

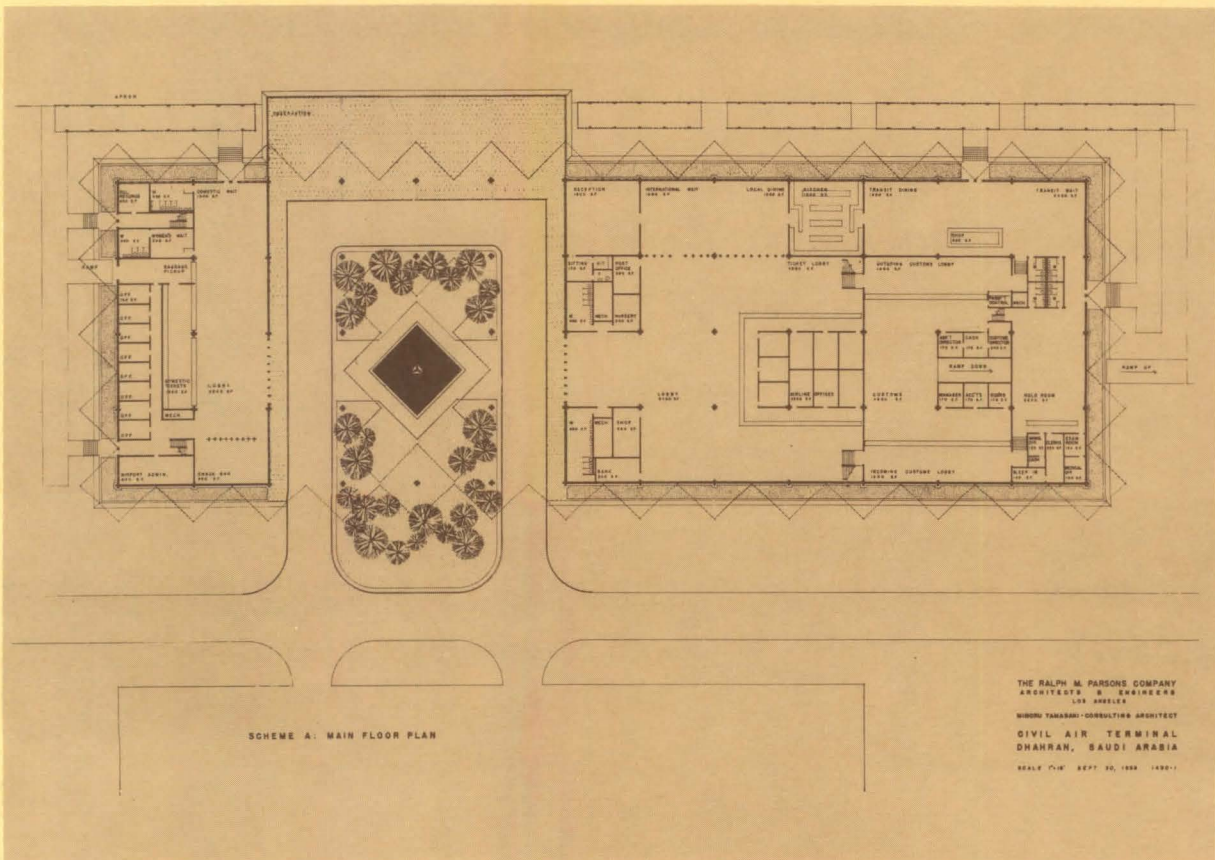
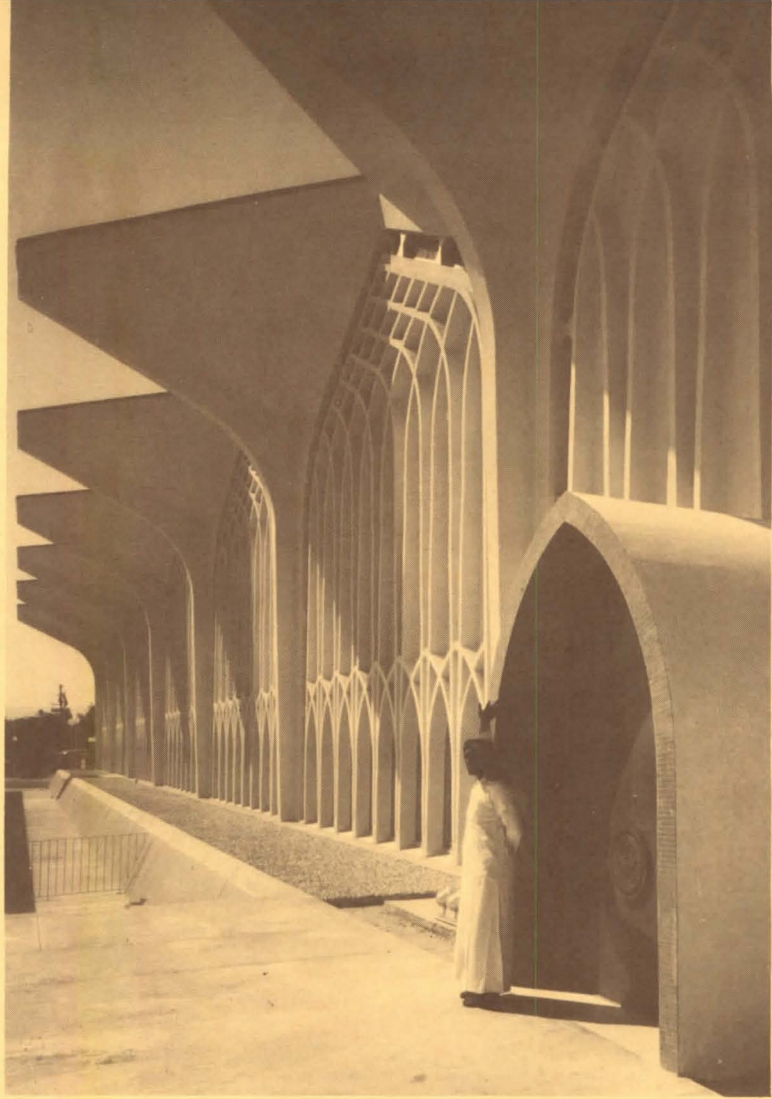
Consulting Design Architect

## General Contractor

Oman, Farnsworth and Wright

## Photos

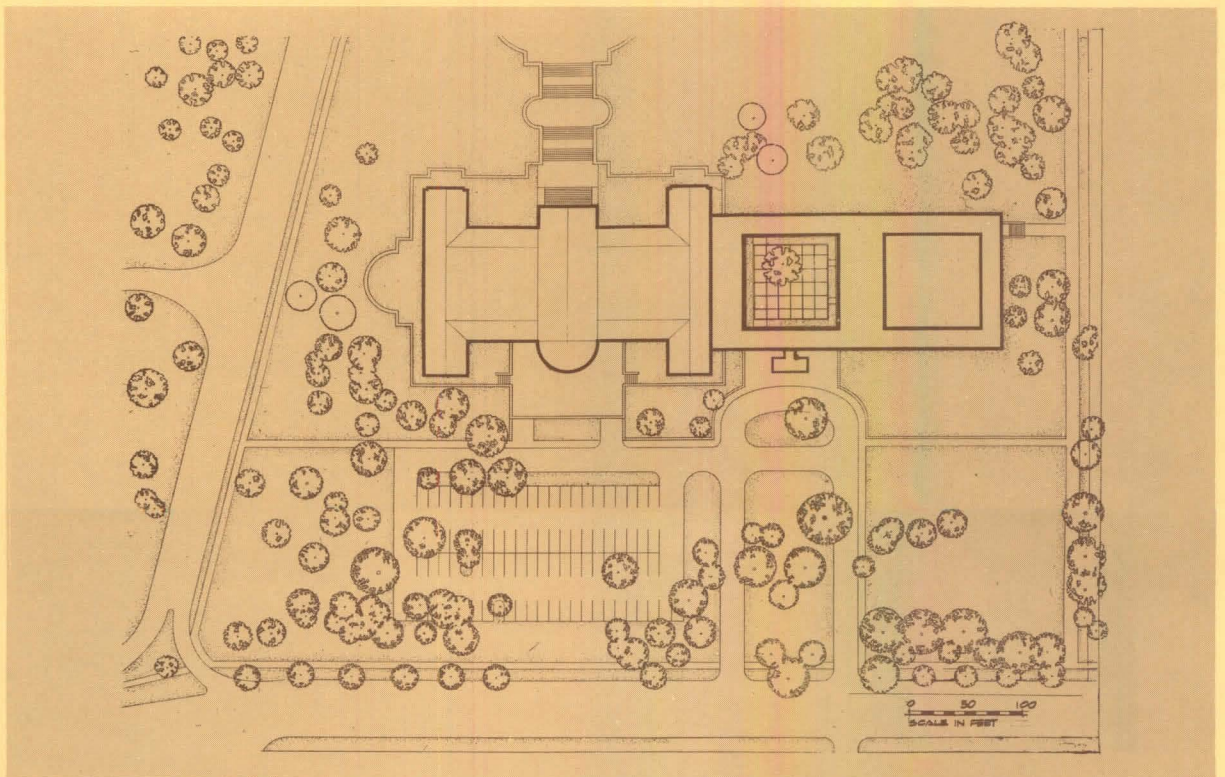
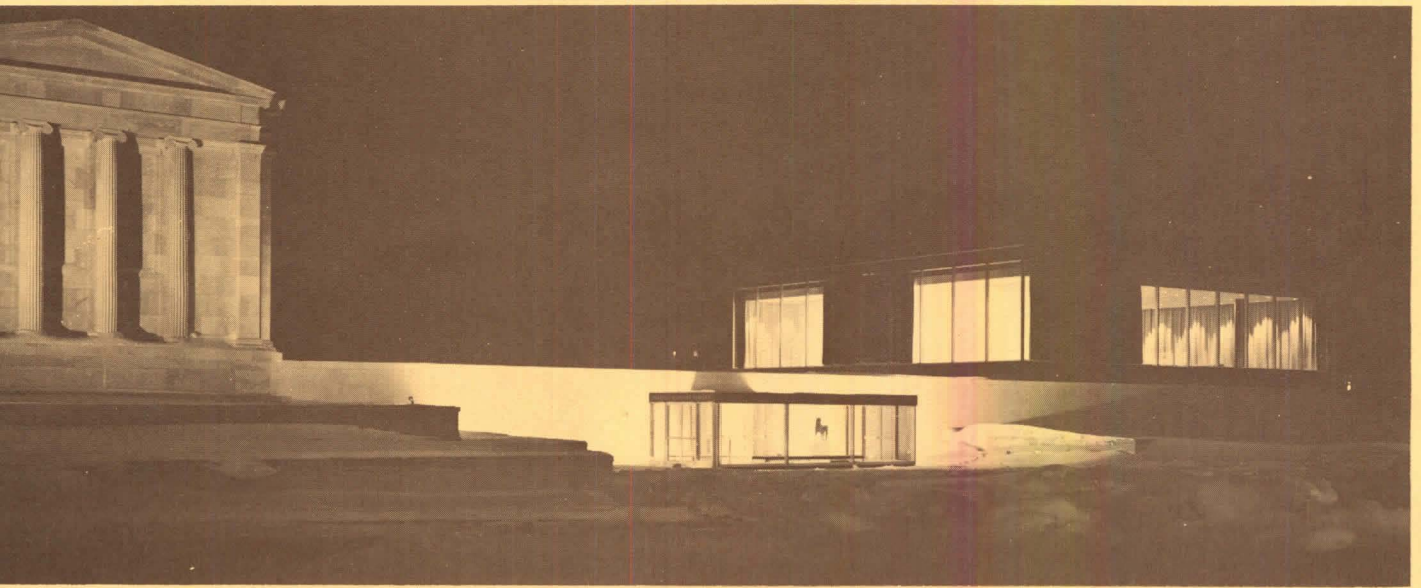
Ralph M. Parsons Company





*first  
honor*

*Skidmore, Owings & Merrill*





**Project**

Addition to Albright-Knox Art Gallery, Buffalo, New York

**Owner**

Albright-Knox Art Gallery

**Structural Engineers**

Paul Weidlinger

**Mechanical Engineers**

Jaros, Baum & Bolles

**Lighting and Fixtures Engineers**

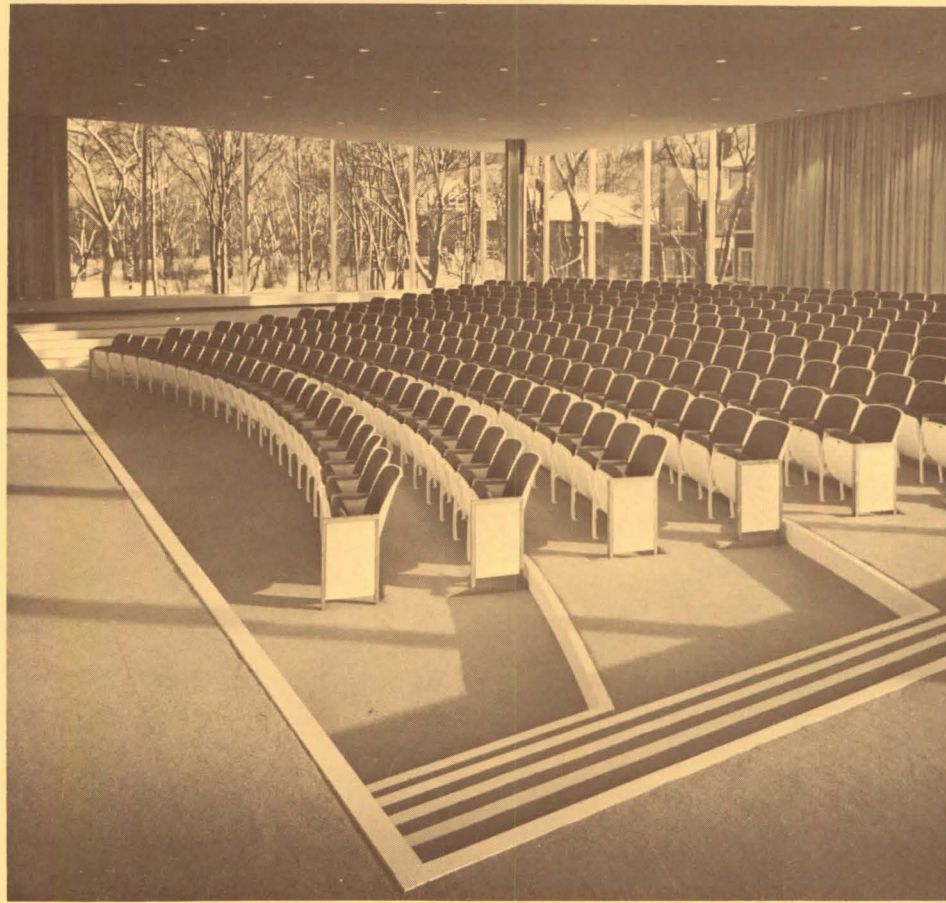
Edison Price

**General Contractor**

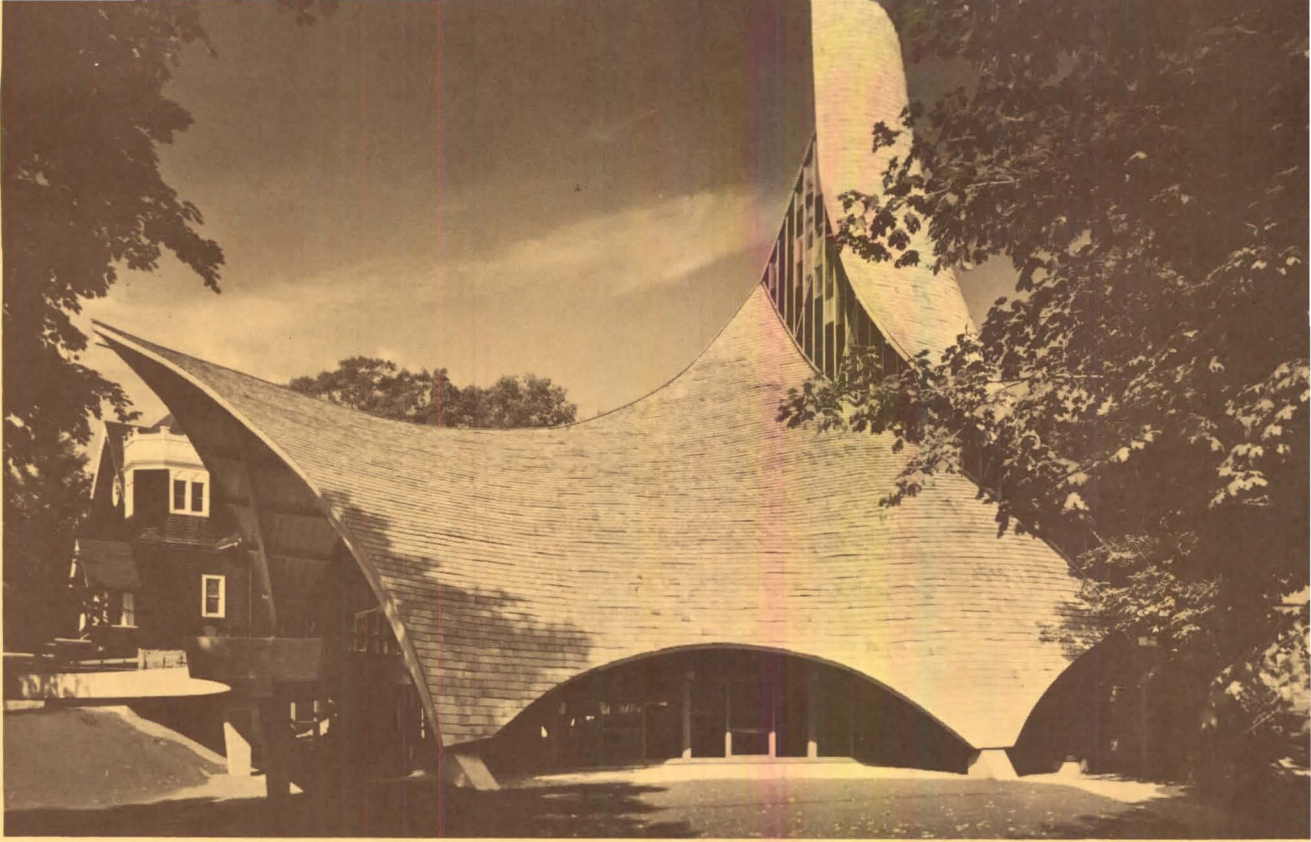
The John W. Cowper  
Company Inc

**Photos**

Ezra Stoller Associates

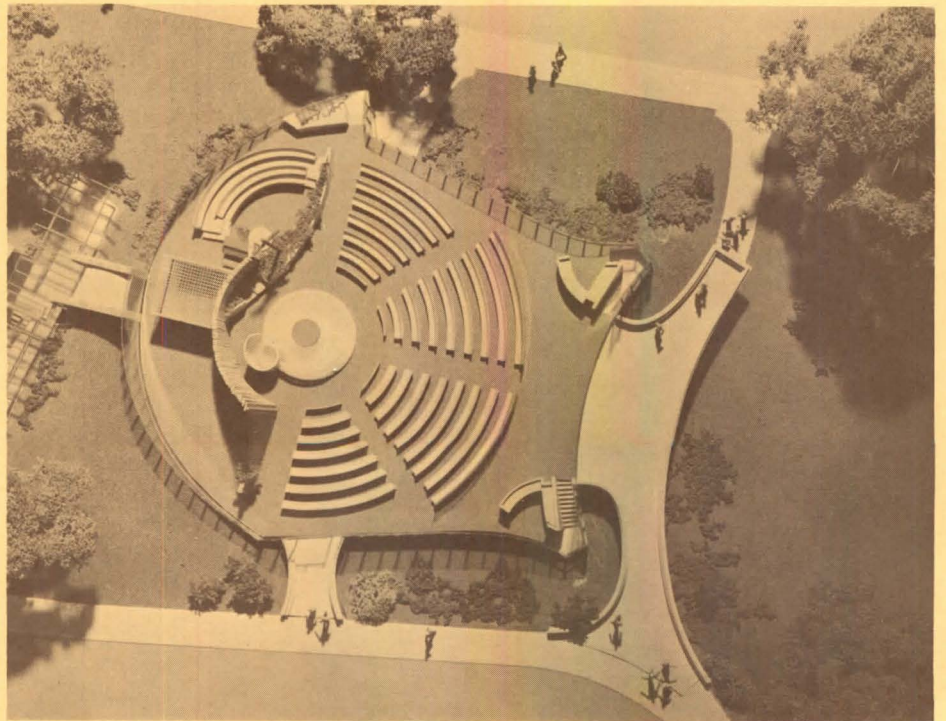




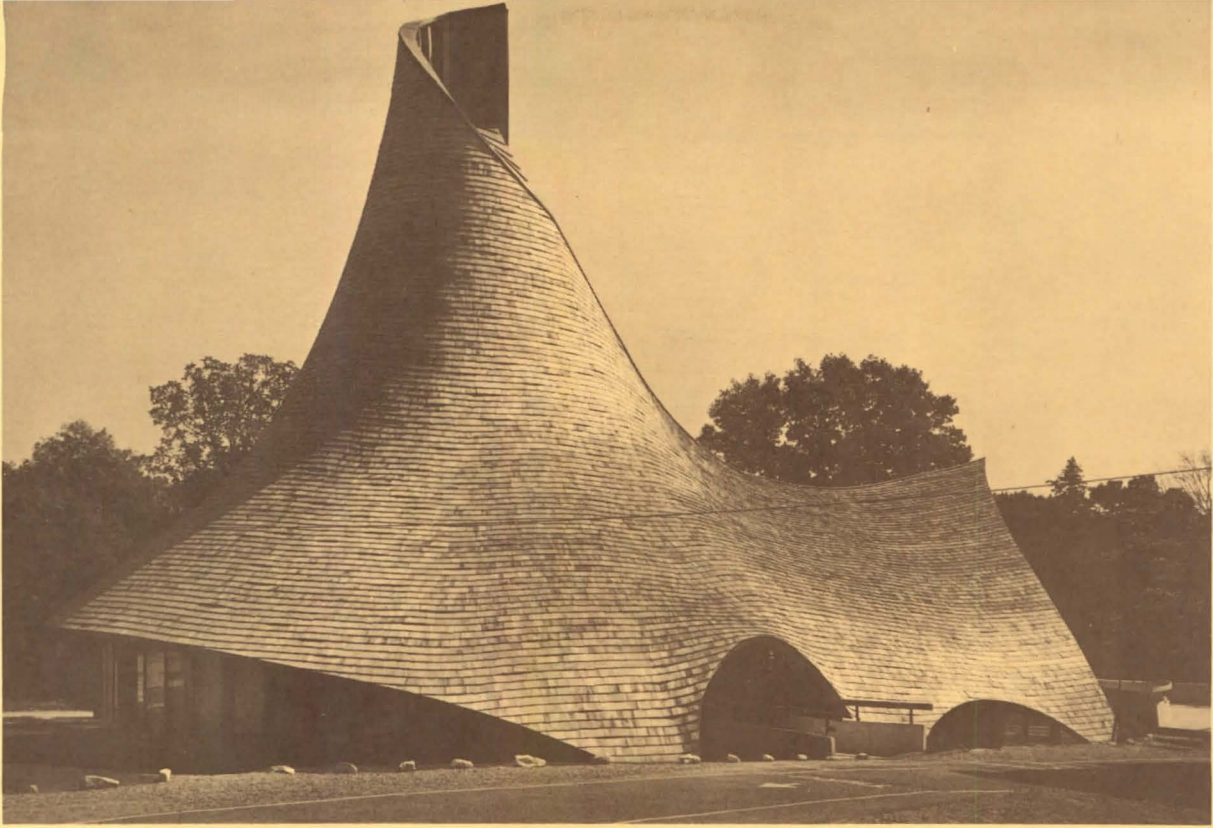


*first  
honor*

*Joseph Salerno*







*AIA*

**Project**

House of Worship—United  
Church of Rowayton,  
Connecticut

**Photos**

P. E. Guerrero







*first  
honor*

## *Anshen & Allen*

### **Project**

International Building  
(General Office Bldg), San  
Francisco, California

### **Owner**

Natomas Company

### **Structural Engineers**

Gould & Degenkolb,  
Robert D. Dewell

### **Mechanical Engineers**

Eagleson Engineers

### **Electrical Engineers**

Charles Krieger

### **Landscape Architects**

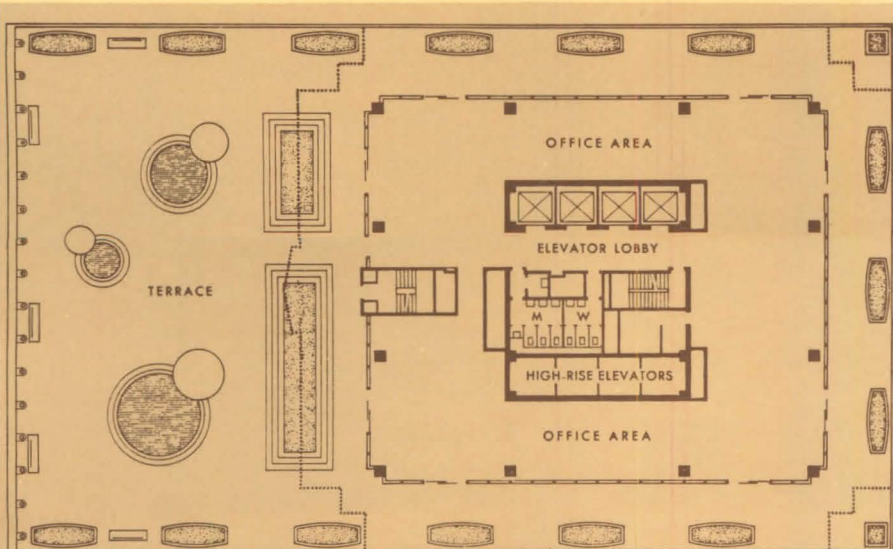
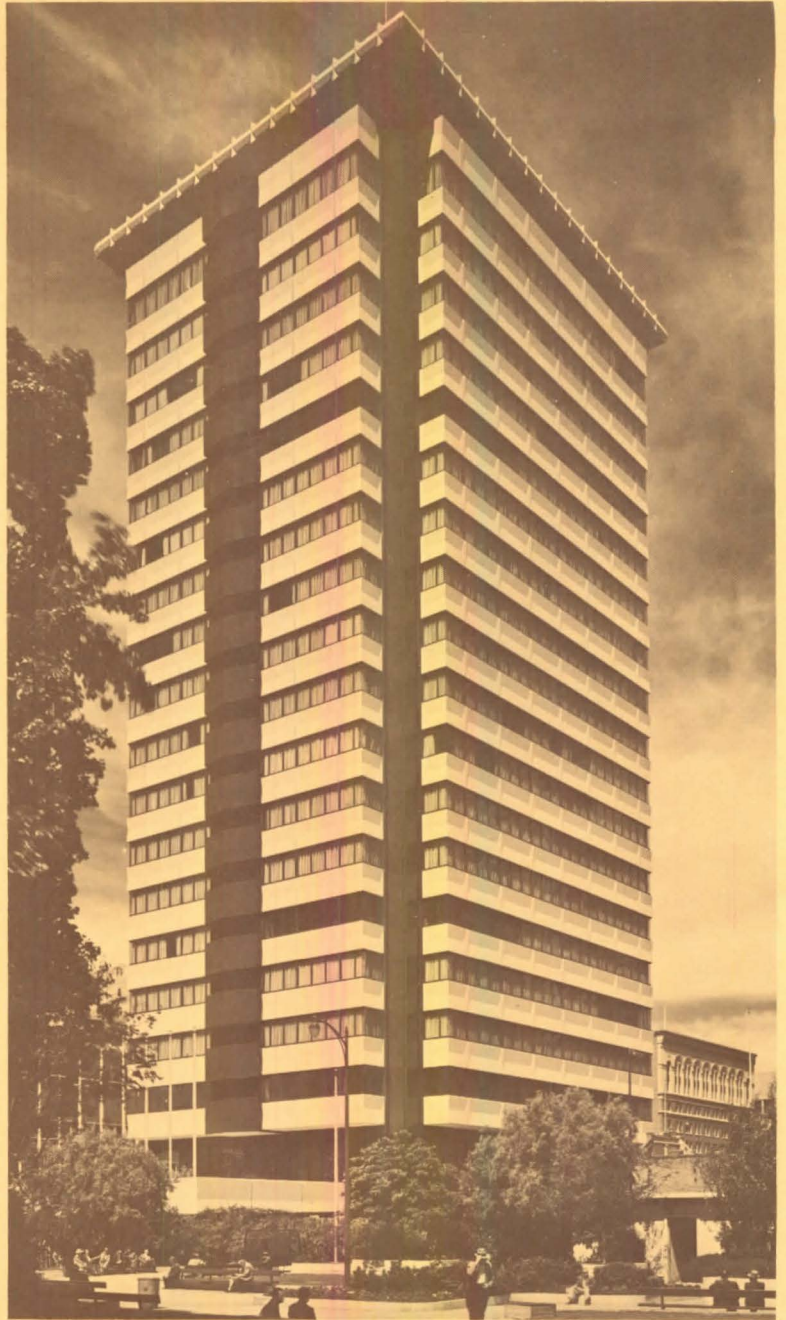
Royston, Hanamoto & Mayes

### **General Contractor**

Dinwiddie Construction Co.

### **Photos**

Julius Shulman



FOURTH FLOOR PLAN





*Award of Merit*

## *East Tennessee Chapter AIA*

**Project**

Market Square Mall  
Knoxville, Tennessee

**Owner**

City of Knoxville

**Structural Engineers**

Southern Cast Stone Company

**Landscape Architects**

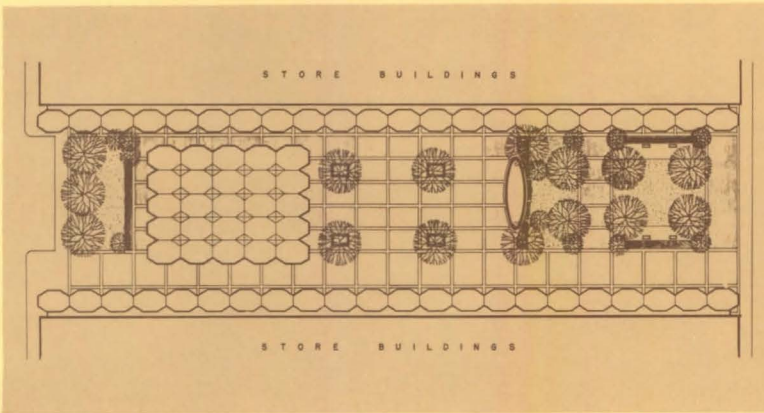
Tennessee Valley Authority

**General Contractors**

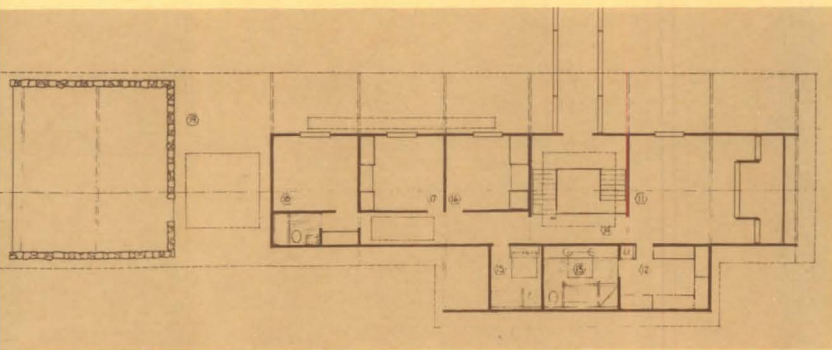
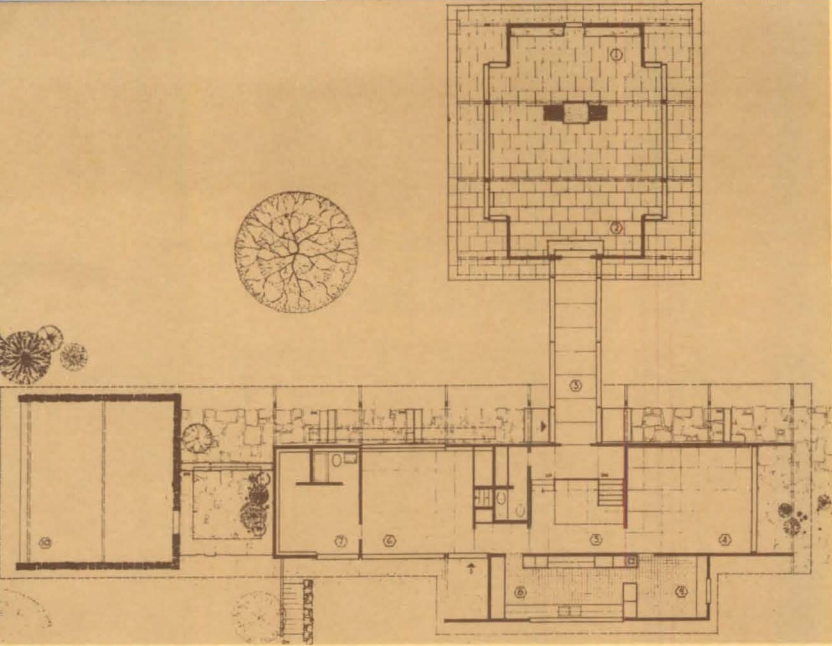
Roehb Construction Company  
and Southeast Construction  
Company

**Photos**

Hedrick-Blessing

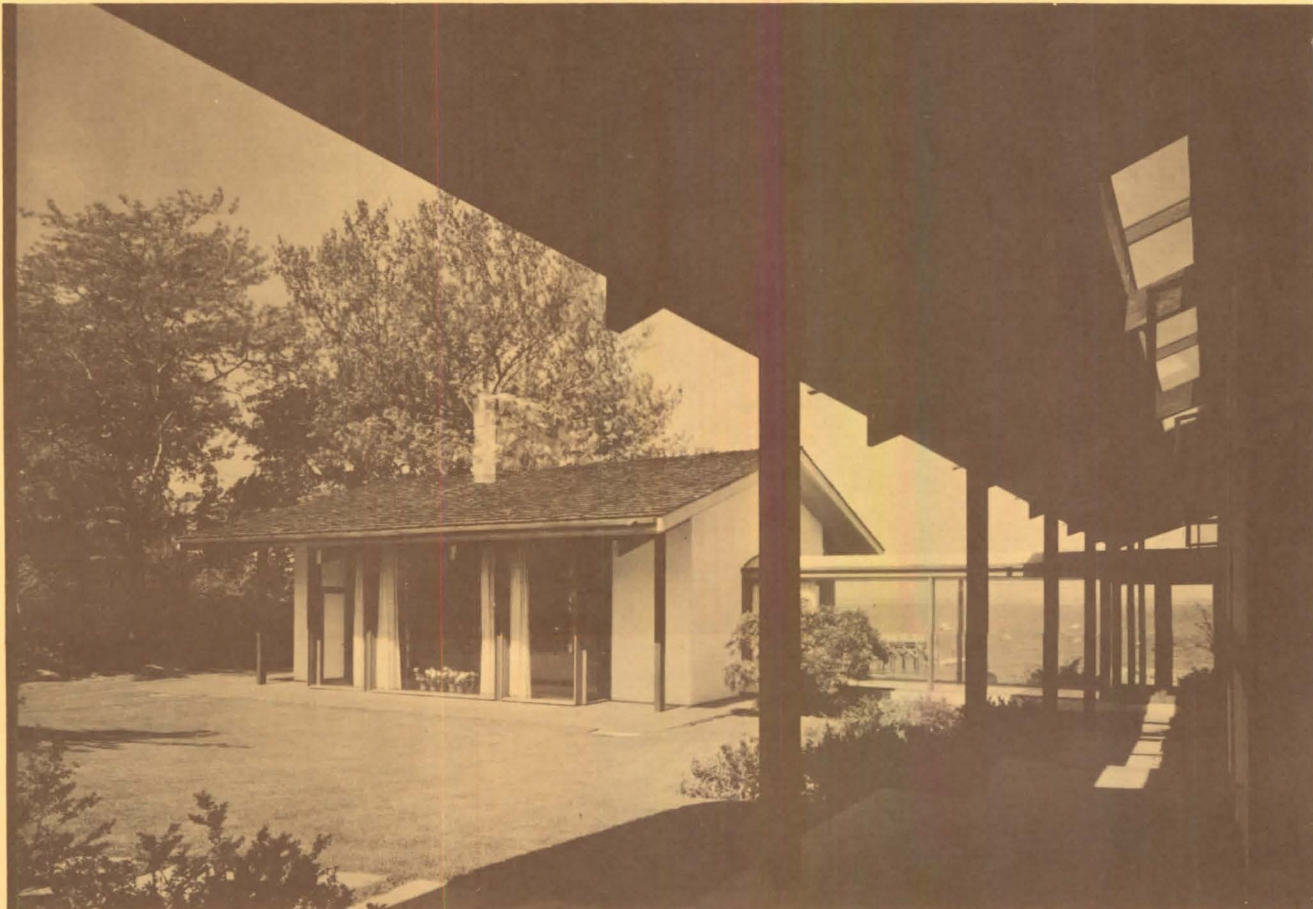






*Award of Merit*

*George  
Nemeny  
AIA*







**Project**

Residence for Mr & Mrs  
Marshall Safir, Kings Point,  
New York

**Landscape Architect**

J. J. Levison (deceased)

**General Contractor**

Architect Supervised Separate  
Contracts







## *Eero*

**Project**

Trans World Airlines Terminal  
Building, Idlewild International  
Airport, New York

**Owner**

Trans World Airlines

**Structural Engineers**

Ammann & Whitney

**Contractor**

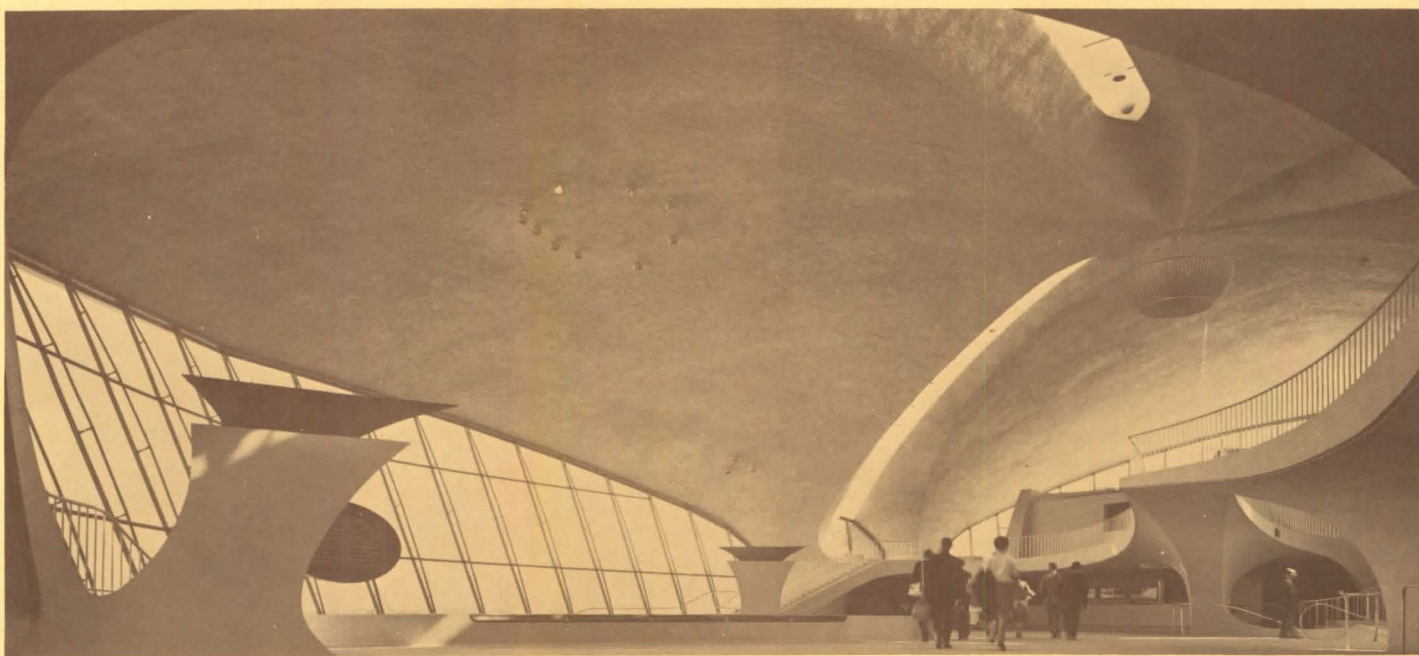
Grove, Shepherd, Wilson  
& Kruge





*Award of Merit*

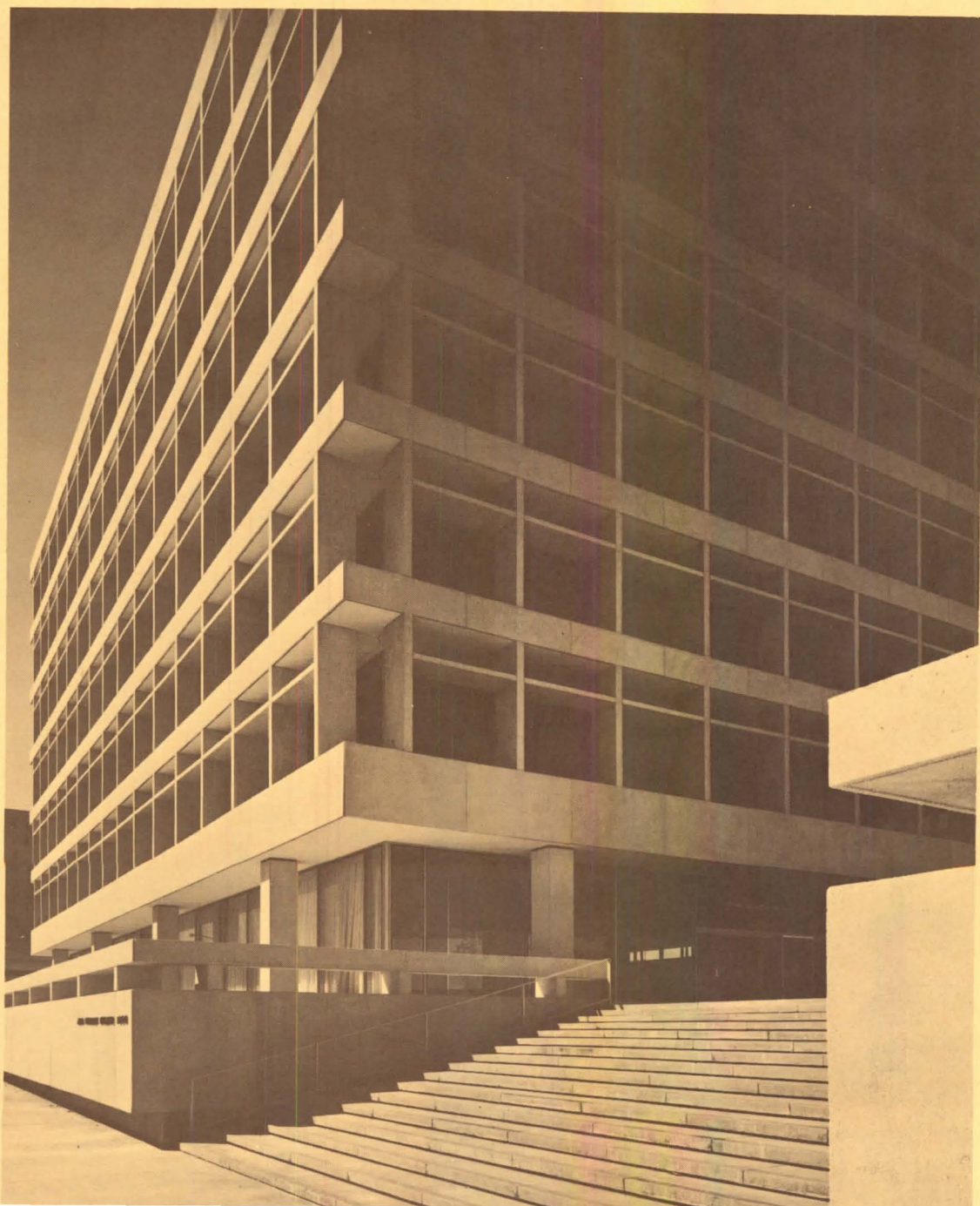
*Saarinen and Associates*





*Award of Merit*

*Skidmore, Owings &  
Nolan, Norman*





# Merrill & Nolan

Associate Architects

## Project

John Hancock Building,  
New Orleans, Louisiana

## Owner

John Hancock Mutual Life  
Insurance Company

## Structural Engineers

Paul Weidlinger

## Mechanical Engineers

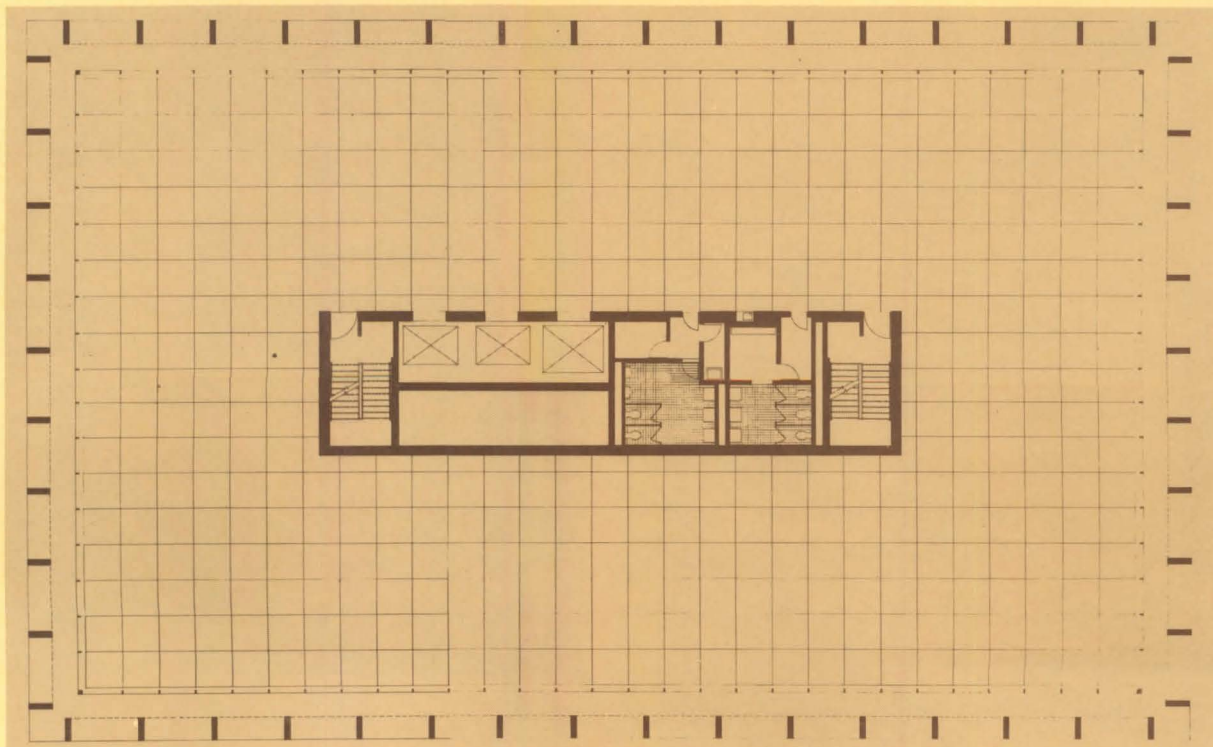
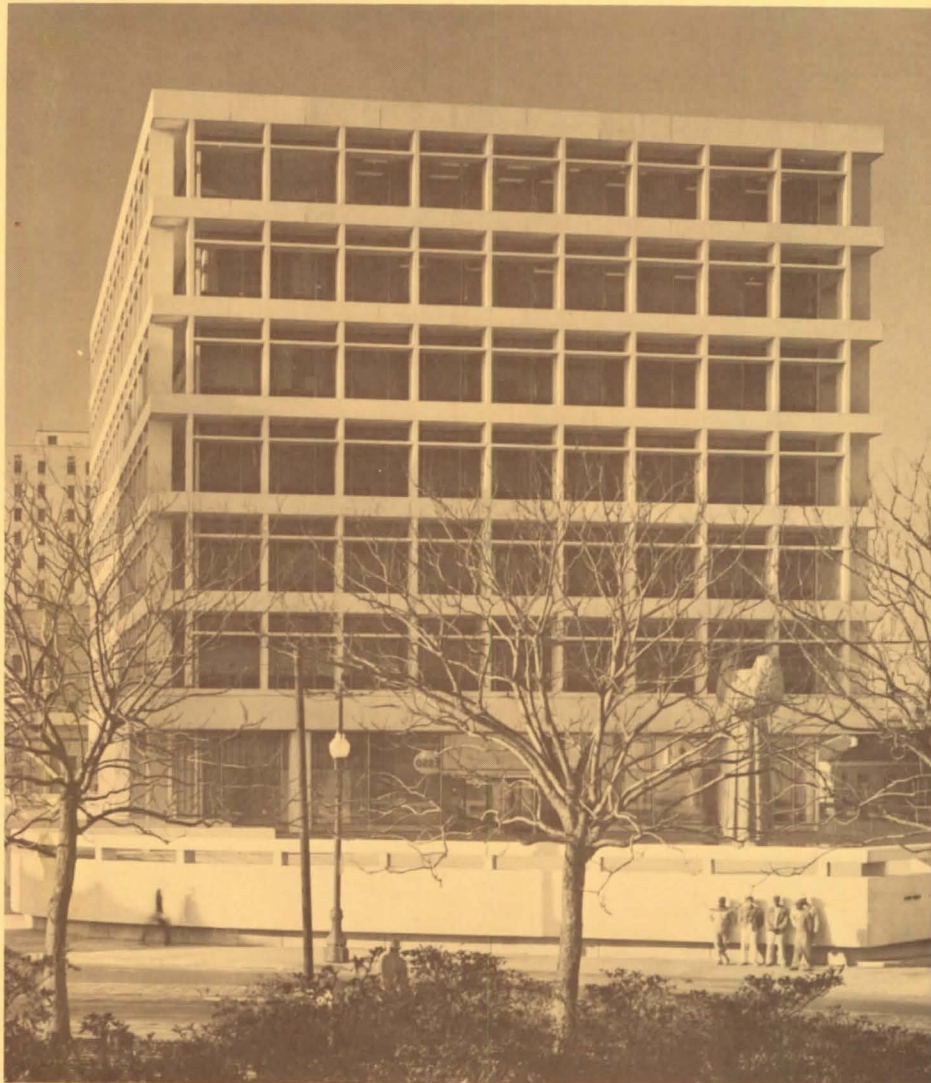
Syska & Hennessy Inc

## General Contractor

R. P. Farnsworth & Co Inc

## Photos

Ezra Stoller Associates





*Award of Merit*

*Edward Durell Stone*

**Project**

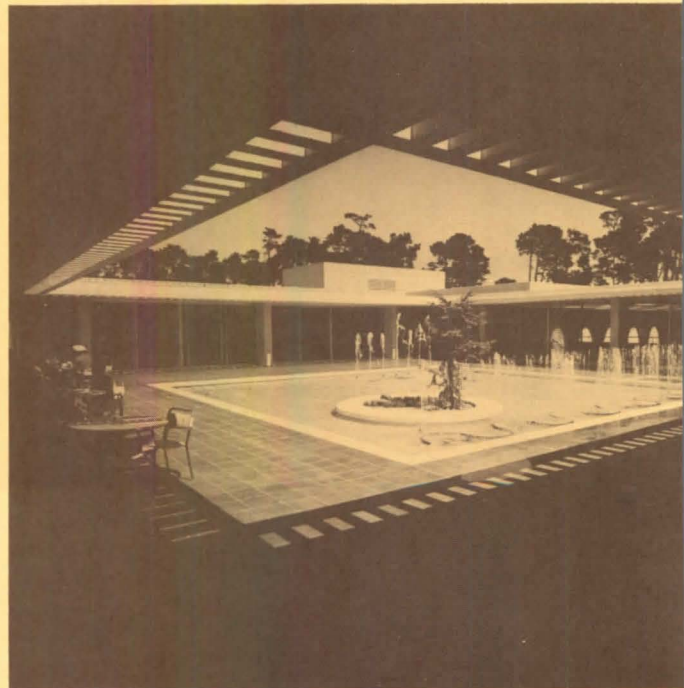
General Community Hospital  
of the Monterey Peninsula,  
Carmel, California

**Owner**

Monterey Peninsula  
Community

**Structural Engineers**

Pregnoff and Mathew





# FAIA

## Mechanical and Electrical Engineers

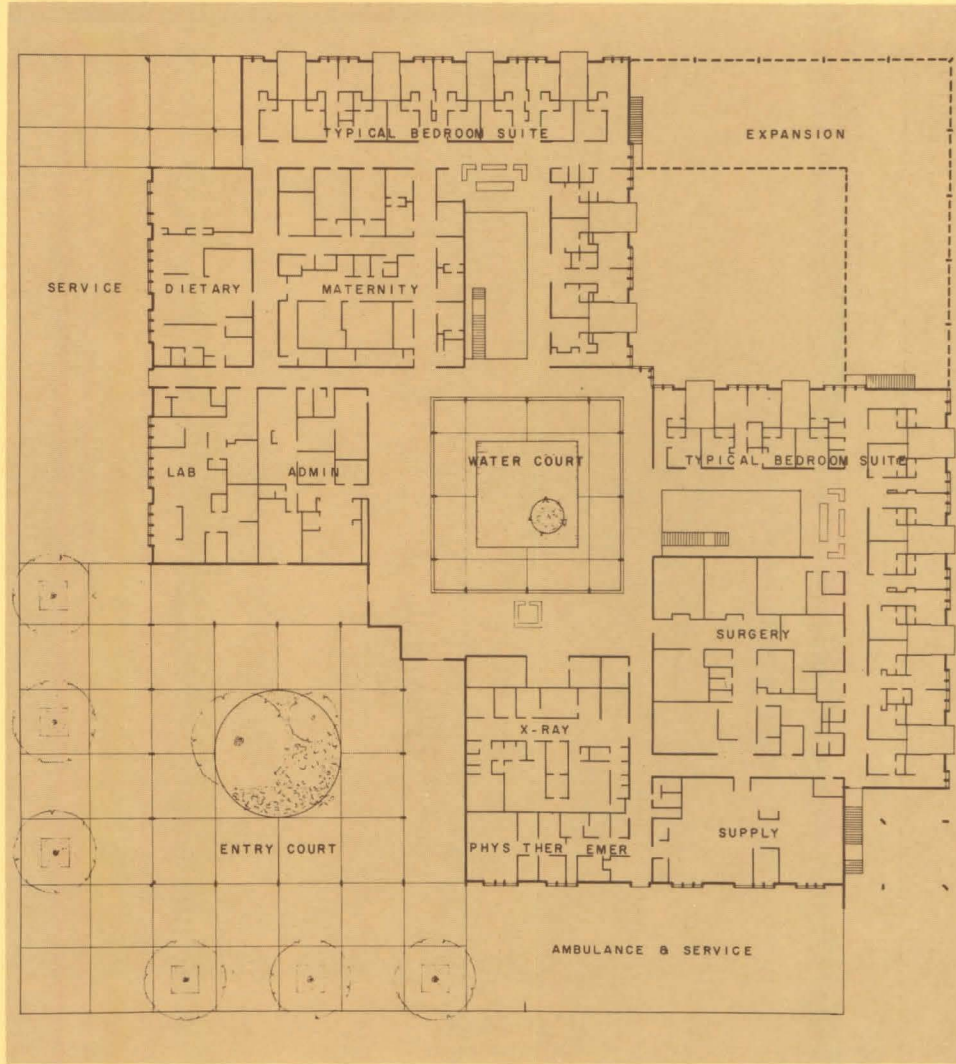
G. M. Simonson

## General Contractor

Daniels and House  
Construction Company,  
California Stolte Inc

## Photos

Roger Sturtevant





*Award of Merit*

## *The Architects*



**Project**

Academic Quadrangle,  
Brandeis University, Waltham,  
Massachusetts

**Owner**

Brandeis University

**Structural Engineers**

Goldberg, LeMessurier and  
Associates

**Mechanical Engineers**

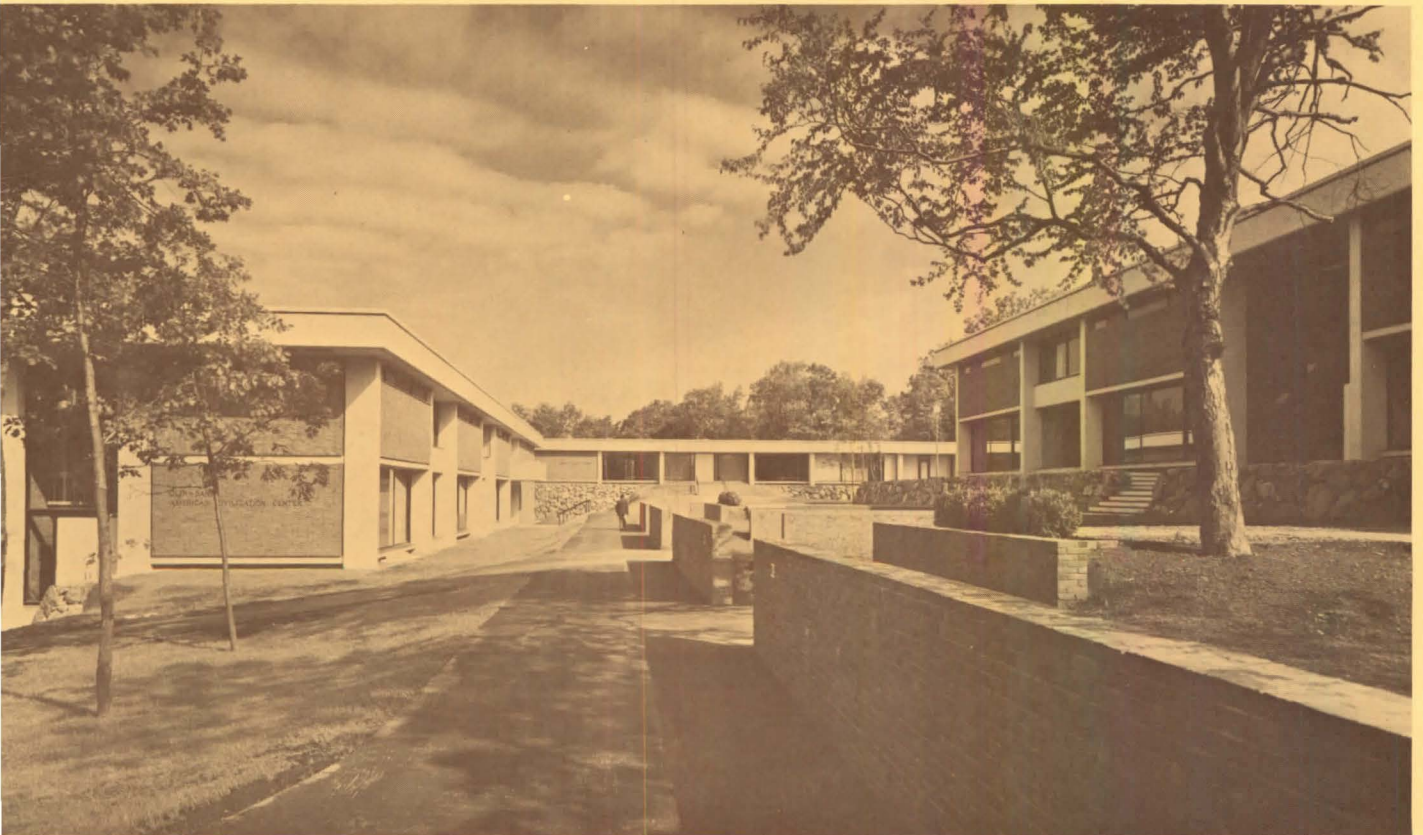
Reardon and Turner

**General Contractor**

G. B. H. Macomber Company

**Photos**

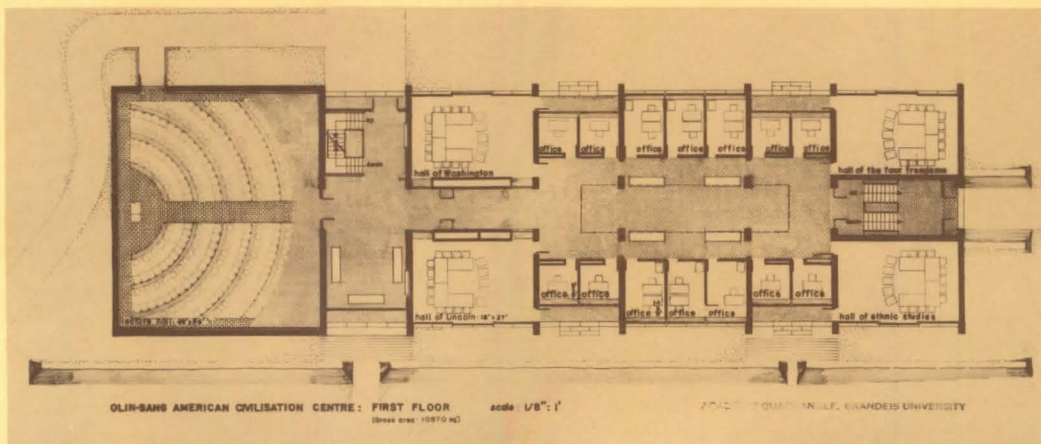
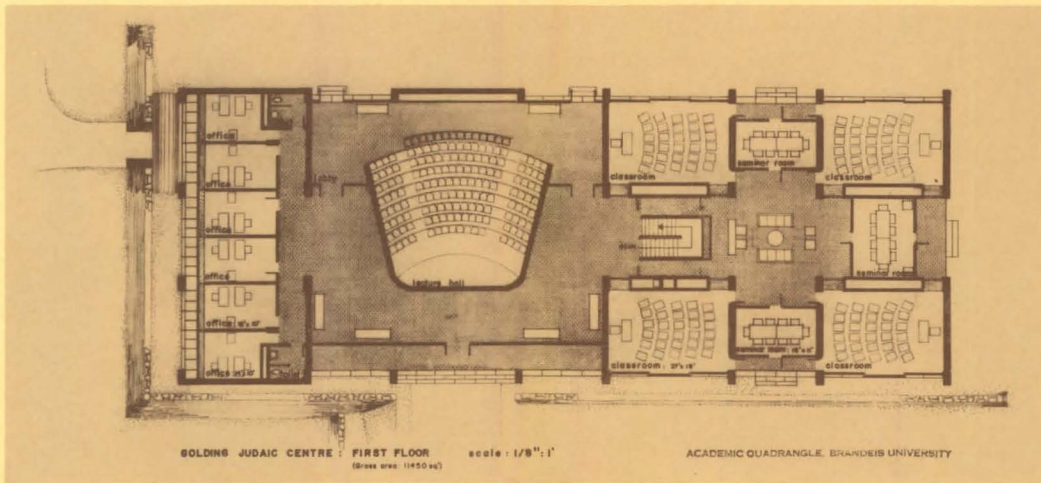
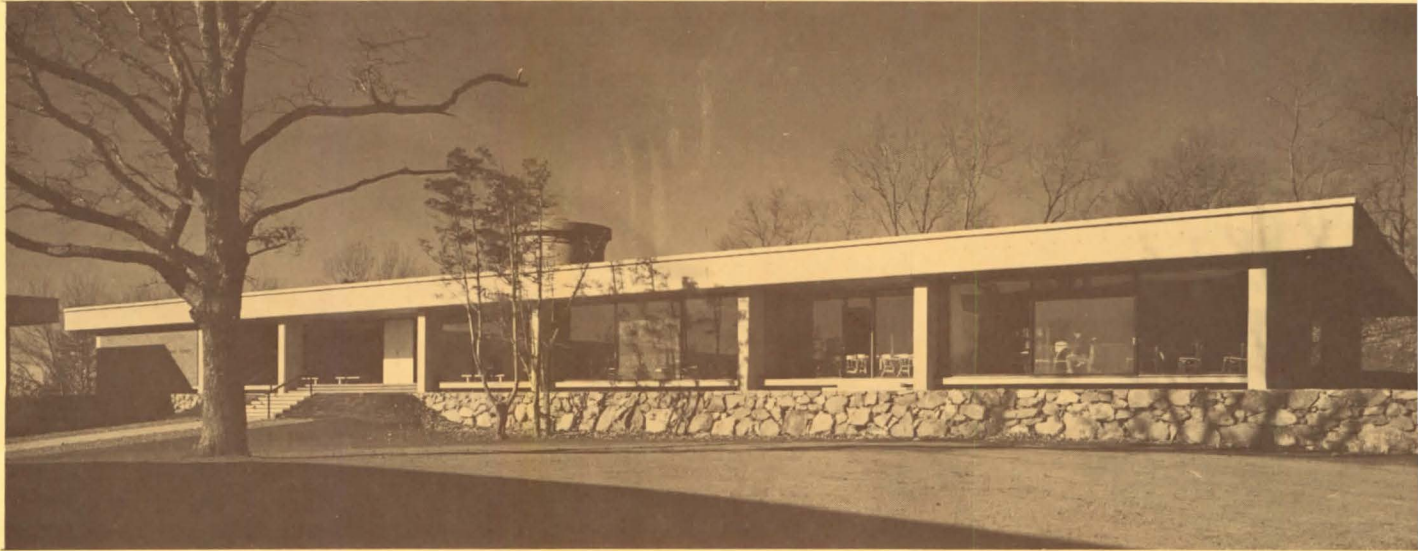
Ezra Stoller Associates





# Collaborative

Benjamin Thompson, *Partner in Charge*







*Award of Merit*

## *Marquis*

**Project**

Green-Johnston House, Mill  
Valley, California

**Owners**

Virginia Green and Leila  
Johnston

**Structural Engineer** Eric Elsesser

**Landscape Architects**

Royston, Hanamoto, Mayes  
& Beck

**General Contractor** Guy Baldwin

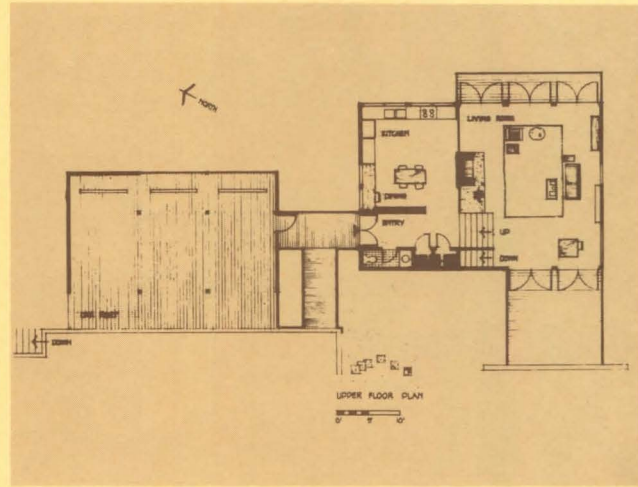
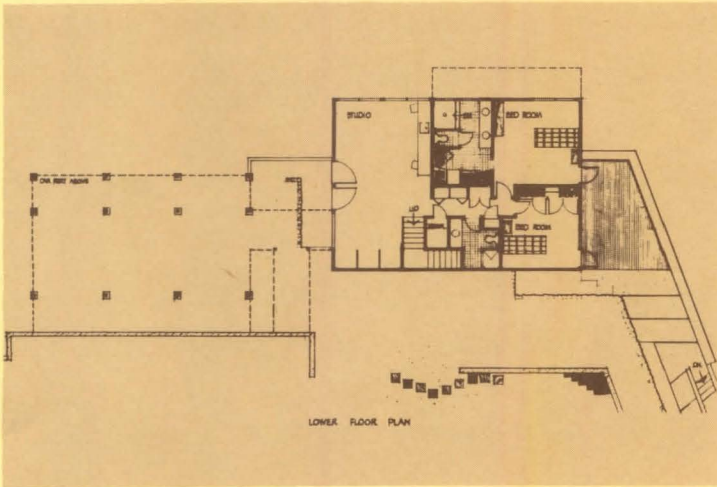
**Photos**

Ezra Stoller Associates





*and Stoller AIA*







*Award of Merit*

*Harrell  
&  
Hamilton*

**Project**

Apartment Tower, Tulsa,  
Oklahoma

**Owner**

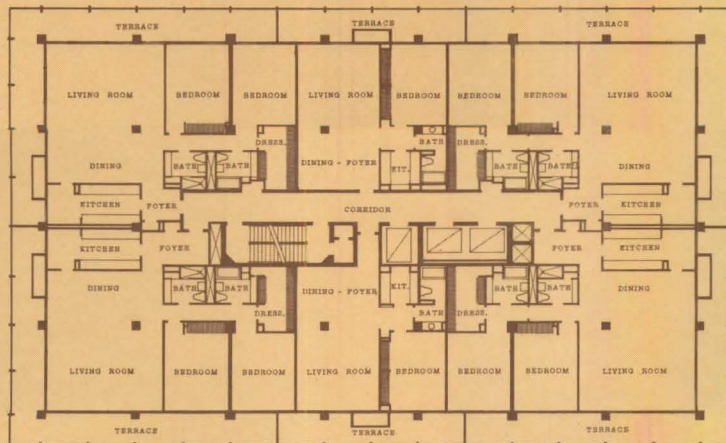
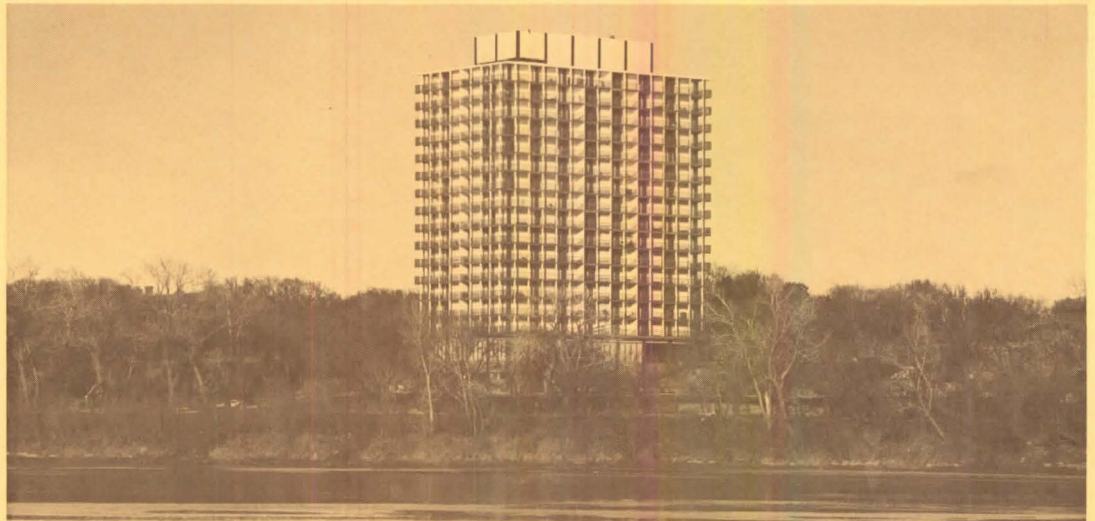
2300 Riverside Corp Inc

**General Contractor**

Centex Construction Company

**Photos**

Bob Hawks Inc





# A Critique on Criticism

by **Richard M. Bennett FAIA**

*We all agree that we need more good architectural criticism. Although, as Mr Bennett points out, the best criticism is self-criticism, the architect should count as blessings the writings of our foremost architectural critics, and "the scope of their concern should be widened, their responsibilities recognized"*

► Architectural students learn from teachers whose role is often recognized by their title of "critic." Once graduated, students' further growth depends on more criticism.

Great architects have almost always had a keen self-critical sense that spurred their own development. A good example is found in the recent book of Eero Saarinen's writing which beautifully illustrates the depth of critical concern he felt for what he had done, and the objective honesty of his self-appraisal. In other cases we have had great architects who have been acute and, sometimes, wicked critics of the work of others.

Most new architectural ideas stem from criticism leading to the modification or destruction of previous concepts. The writing and talks of men like Sullivan, Wright, le Corbusier and Gropius, professing their own aims, tend to supplant previous architectural ideas, methods and forms—often including those they themselves had fostered. Such a creatively-critical attitude underlies historic change in esthetic goals and structural principles—as well as mere vagaries in style and fashion.

Emergence of buildings with a new or different look excites the public and press to voice their reactions to the unfamiliar. This form of criticism usually begins with suggesting what the new structures "look like" and the application of associative labels such as "glass boxes," "buildings on sticks" and "layercakes." Popular articles are written explaining the derivation, novelties and advantages of the new projects. Such reporting, of course, has its effect on architects alert to follow public fancy. Their concern with catering to what they think will attract clients, the potential users of buildings, and prospective tenants or customers, often means surrendering to current and ephemeral taste rather than seeking more logically unfolding design solutions.



Unfortunately, architects can be consciously or subconsciously over-sensitive to both the direct and implied judgments of commercial journalism which so far outweighs, in bulk, serious and balanced professional literature. Commercial advertising, industrial promotions and articles inspired by public relations campaigns are also kinds of critical forces which have as their purpose—and often have as their result—definite influence on the direction of architecture. All of these often conflicting influences enrich our profession whether they open new paths or confirm established convictions. They are helpful or harmful to the degree that the individual architect can absorb them creatively.

This absorption is the area where the architect should be most helped by the independent architectural scholar and critic. From them, he deserves incisive insight and a forthright evaluation of the condition of building. Architects should count as blessings the work of Bannister, Burchard, Bush-Brown, Von Eckardt, Fitch, Gutheim, Hitchcock, McQuade, Meeks, Mumford, Banham, Scully, Sybil Moholy-Nagy and Allan Temko—to name a few of the outstanding of today's writers. We need more of them. They should be afforded even greater independence; the scope of their concern widened; their responsibilities recognized. It is a welcome sight to see more signed articles of criticism in our professional journals.

The development of better architectural criticism is hindered by some publishers' fear of offending someone—whether architect, owner or advertiser; by too much reliance on the camera as the recorder and interpreter of buildings; by the impossibility of covering the fantastic number of structures being built each year; and possibly by an unclear image of the scope, role, responsibility and basic craft of the critic.

Publishers have in the past expressed the fear that the objective criticism of a building might be linked to its subsequent financial failure and result in the publishers being sued for damages. This, of course, implies that architecture cannot be approached as are the other arts—which are most certainly subject to published judgments that affect their financial success or failure. Drama, music, painting, sculpture and literature thrive on thorough critical investigations and are undoubtedly the better for it. The movies are an interesting exception in that American movie reviewing and movie magazines have been notorious for a soft attitude toward the "industry." The lack of informed independent criticism must have been a factor in allowing apathy to weaken public support and lead to the triumph of television. The current renaissance of movies reflected in the building of new theaters stems from the vigor of

foreign producing. There is a similar danger in architectural literature which so often concentrates on the fashionable, the novel and the spectacular.

It may be that the fear of lawsuits and the fear of offending has led to the emphasis of the idea that the art of architecture is its visual manifestation. It may be felt that by limiting concern to that which anyone can see for themselves, criticism is kept in an area which is fair game—an area where the publisher and critic cannot be held responsible. Of course, it may not be in the public interest to publish the real workings of a building, its true functional efficiency, its relative operating costs, the inevitable "bugs" encountered in any new probe toward improvement, and a balanced total assessment of its success or failure; but when such factors are ignored, all-around professional judgments are impossible. There are commercial buildings lauded for their esthetics which are accepted by tenants only after rentals are drastically adjusted because certain architectural values superseded usability and livability factors. There are instances of high praise being given an architect's use of a building material—but nothing ever printed when he uses a more common material for his next solution to the same problem. A generation of misinformed students results, and throughout the country architects feel their region is somehow operating under differing conditions from those found elsewhere. Professional communication has broken down. We learn from both success and failure.

The sheer bulk of building today denies the possibility of an over-all view. The selection of projects that are critically significant must often be based on photographs rather than the experiencing of a building. Our passion for change, progress and hurry demands news and judgment of buildings before they are really finished—certainly before they have been given the test of use. Our medium of reporting is too often enhanced by the artistry of our fine photographers and so often limited by the single, stationary lens. The free spaces created by a Wright, Scharou or le Corbusier cannot be apprehended without binocular vision, and the sequential experiencing of unfolding volumes and vistas escape even the movie camera. On the other hand, rectangular constraint and elementary symmetry are suited to the camera which easily transmits their obvious relationships. The emotional mystery and vibrant delight of total, moving space sensations elude reproduction. The selective eye of the camera edits a building to its own comprehension, and when even that scope is cropped to eliminate the building's relation to its site, true architectural evaluation is impossible.

Reliance on the camera and the surfaces of a



building also minimizes what a building does to its daily users; its sociological implications; how one feels within it and other qualities of architectural import. Only the critic can make certain all the aspects of a building are considered and evaluated. Contemporary criticism suggests the idea that serious architects and serious architecture are determined by appearance and magnitude of budget. Buildings are clearly serious if they are big, quite simple, made of fine, expensive and permanent materials, and give promise of ultimately subsiding into acceptably handsome ruins for the edification of future archeologists. A high peak was reached when such purity of form was attained that a critic was able to lament that seeing scientists at work in a laboratory built for them was regrettable because they interrupted the spatial experience!

Confinement of architectural criticism to its visual elements results in seeing buildings as one does sculpture or painting and evaluating them in terms of abstract art. Certainly, great buildings do beautifully encompass such values, but they have other qualities to consider. To relate building to the mumbo-jumbo surrounding the current fashion in contemporary painting is interesting. To scorn utilitarian values denies fundamental purpose.

Today, as in every age, we have our monuments. They are memorializing our great banking and insurance institutions, our complexes of industrial corporations, our research establishments and other significant manifestations. Buildings become the billboards for consumer-oriented companies and institutions and, as such, justify the fortunes that can be invested in their unique appearance. These significant buildings symbolize the processes, services or products that generate the profits which subsidize their initial cost and maintenance.

A far greater number of buildings must be designed to make within their own shells the money they cost. A self-sustaining building and a symbolic structure are both serious architectural problems deserving good architects and good criticism. For the critic to ignore economic factors and the successful operation of buildings can only result in an oversimplified awareness of today's architecture. That more beautiful America so many people desire demands creative criticism of the bulk of our building. Better design *within* economic limits needs encouragement, for such buildings may be beautifully different from our better subsidized efforts.

In the field of music there are critics who report on operas, soloists, symphonies and jazz bands. The aural resources of a great orchestra dwarf the Brubeck Quartet, but each can be criti-

cized according to its own purposes and range of possibilities. Of course, there are many other architectural qualities and aspects beside the visual and economic. Literary critics recognize the existence of both romantic and classical writers—creative individuals attacking literary problems from different points of view with differing styles of writing. Evaluation consists of considering an author's objective—and how well he achieves that purpose. The critic does not limit the kinds of writing with which he will come to grips. A good literary critic is not just a proponent for that which he could or would do were he the author. A good critic is best able to see and understand a work of art when he has empathy and some sympathy for its creator. Today, French and English art critics are taking American Primitives seriously. The same pictures would have been laughed at in Europe at the time they were painted. Fashion blinded the eighteenth century connoisseur and can blind one today.

The usefulness of the critic to the architect can be increased when there is more mutual understanding of the critic's function, scope and the rules of his craft. The problem of having criticism transcend "I like this" and "I don't like that" is well illustrated in a devastating attack on Eero Saarinen's new Yale Dormitory by Rayner Banham, that first-rate English writer.\* It is possible to read his article and get the idea that Banham had absolutely no time for the basic premises behind the design and that his dislike was compounded because the buildings are probably the *best* of the sympathy-for-environment, pro-individualism, romantic movement. Beyond that, the reader is apt to remember that Eero was a delightfully disturbing designer for critics to handle because as each masterpiece came along they were quite apt to say, "Eero is a great architect, but this particular project is a failure." He refused to fit in a pattern. Each building was a frame for solving the problem of a particular client, on a particular site. He looked at and into his designs more carefully than almost any other architect. His projects were neither accidents nor sure-fired, smashing repackages of previous successes. They are meaningful contributions—attempts, as his wife tells us—at a vocabulary, not a style. When every building a man builds resembles the others, that man has a style convenient for the historian to trace and attribute. It demands more of the critic when he faces a unique solution that tries to synthesize all the factors, human and architectural, in a particular problem. When the critic believes there is only one universally correct solution he fails to be a critic and becomes a protagonist.

\* Reprinted in *Architectural Forum*, December 1962



In approaching today's dormitory problem, the logic of the long corridor bordered by identical cells leads to a solution of great purity. Unfortunately, experience shows that in colleges where students can express choice they will struggle to be assigned odd-shaped rooms—dormer-windowed attics, rooms with a particular view—any space that helps them be distinct from their fellow students. There is an earlier age-span when young people fear to differ from their mates, but at college age, the search for individual expression emerges. Of course, some never overcome the desire for complete conformity and it could even be argued that wanting different type rooms is an attitude to which they all conform. Nevertheless, variety becomes an objective to which many college housing officials subscribe. Such subjective variety for a human society can be a design goal as desirable as the esthetic objective of architectural order convenient for manufacture in a machine age.

At any rate, the objective Eero accepted was the search for an out-of-this-world, personalized retreat for learning. Banham, having dismissed the validity of that premise then decided that the motive for the natural lighting of the rooms was to assure dramatic publicity photos; assured the reader the students would be unhappy in their rooms; described his pleasure when, following his visit to the dormitory, he spent an evening in a

glass pavilion he did like; and boasted that no one else would dare offend the architect's widow with such a brave attack. Surely such an outright personal approach to criticism can be amusing, penetrating, valuable and honest, but the same bravery would be more effective if presented in a more considered manner. However, if we want criticism, critics must be free and that means each man and each magazine is entitled to its own position. We must remember how difficult it is to understand, after an afternoon's visit, the years of thought and effort that may have gone into a building and sense empathy for how it will serve its future years. We must sometimes reassure ourselves, and sometimes caution ourselves, against believing that first evaluations will be the true, total and final tests of a building.

Yes, an architect must heed all the criticism he can absorb, but finally value most of all his own self-criticism of, the users' feelings about, and the quality of the users' performance in, his buildings when they are no longer new. More than that, he must know what he wants to do and cleave to the problems he wants to solve, remembering that in one lifetime, he cannot solve everything. He needs broad, deep, scholarly, ideal and practical criticism. He needs the capacity to enjoy judgments that may seem only personal, petty, childish, cliquish or arty—and then the bravery to read them again, because they may be true. ◀

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## *Increase in Subscription Rates*

*Beginning with the July issue, Volume XL, Number 1, the subscription rates to non-members of the AIA will be as follows:*

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# Alvar Aalto

by **Frederick Gutheim**

President, The Washington Center  
for Metropolitan Studies;  
author of "Alvar Aalto," in Masters  
of World Architecture series

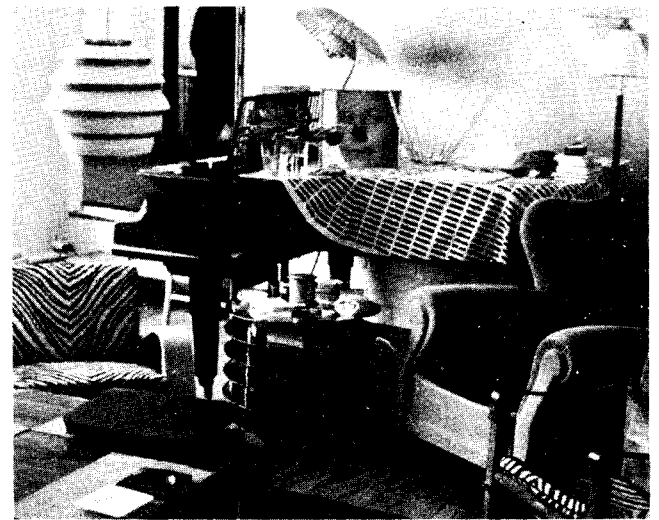
The opportunity to revisit Finland and take the measure of Alvar Aalto's current architectural activities, as reported in the April issue of the *Architectural Record*, was one to which I responded—with four cameras. While no serious claim can be made for the 8mm Minox as an architectural camera, Tri-X film (ASA 400) has greatly increased the range of its "notetaking" with available light. Interiors especially become photographic opportunities because the camera itself is also likely to be "available." Of the pictures that follow it can at least be said they would have been taken with no other camera, and the footnotes they provide on Aalto, his home and his office are useful additions to our knowledge of the Institute's Gold Medalist for 1963.





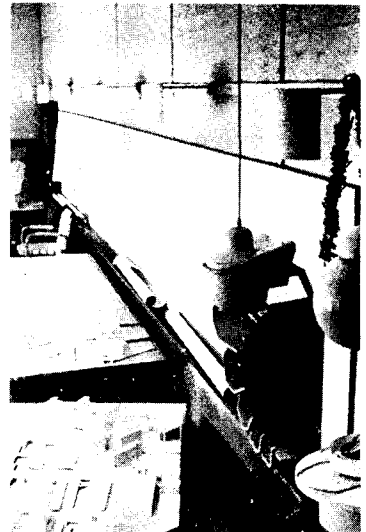


An inspection of the Enso-Gutzeit corporation headquarters with interested company officials finds Aalto in good conversational form. Mme Aalto, herself an architect, and Alvar explain a detail



The living room of the architect's house offers cozy domesticity drawn up around the raised fireplace, and a crowded mixture of modern paintings, folk art, house plants and crafted objects, traditional and modern furniture, lamps and other experimental pieces designed by the architect, noted for his use of wood





Some thirty architects are crowded into the atelier Aalto built in suburban Helsinki in 1955. Strongly international in character, the group contains two Americans, William Booth and William Odum. The offices are divided into a general drafting room, with adjoining individual rooms; and a room for competition projects, model work, etc





# Human Factors in Environmental Architecture

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*A report on the  
eighth annual Student Forum  
at the Octagon,  
November 18-21, 1962*

Over the past eight years, the Student Forum has evolved into one of the Institute's most effective and enthusiastically received educational programs. Under joint direction of the Committee on State and Chapter Organization and the Committee on Academic Training, with the assistance of the officers of the Association of Student Chapters, AIA, a truly provocative program was arranged for the four days preceding Thanksgiving. Each of the seventy-four schools of architecture are invited to send one delegate who receives partial travel expenses from the Institute as well as others who wish to attend entirely at their own expense.

The theme of the Forum, "Human Factors in Environmental Architecture," was the students' choice, with the agreement of the two Committees. The format was changed this year to provide more active participation by the students attending. After each day's professional program, the students went into one of ten working groups to which they had been assigned in advance. Each group was led by a volunteer Washington architect or planner, selected for his ability to articulate, stimulate and provoke intellectual curiosity. The working groups met each day to analyze the preceding talks, to formulate group questions for a second meeting with the speakers, and ultimately to write a paper summarizing their conclusions. This added so much to the worth of the proceedings, it will very likely be continued.

Two tours were conducted: one of the Southwest Renewal Area conducted by staff of the National Capital Planning Commission and the Redevelopment Land Agency, for which Carl Feiss FAIA, provided a perceptive briefing; and the other to Dulles Airport, conducted by Saarinen's supervising architect, Kent Cooper AIA.

The most important factor in the success of this program was the generous contribution by Harvard Professor Walter F. Bogner FAIA, who acted as moderator for the entire four days. By his penetrating analysis and sense of timing, the proceedings maintained pace and impact. Professor Bogner provided continuity by his introduction of all speakers and his handling of the transitions and question periods.

The following pages can only briefly suggest the stimulating contribution of the two speakers on each facet of the theme: "Introduction," "Cultural Aspects of Environment," "Physical Values in Environment," "Form Determinants in Practice," and "Summary—

The Urban Architect's Role." Nevertheless, these and the following question-and-answer excerpts serve to reveal the progression of student thought over the entire program. Concluding this report are selected student reports presented on the final day, together with Professor Bogner's thoughtful summation.

An added highlight of the Forum was the address by August Heckscher, the President's Special Consultant on the Arts. Because it was not specifically directed to the Forum theme, and because of its significance, it is not summarized here, but is being reserved for future *Journal* publication.

SUNDAY SESSION

## Cultural Aspects of Environment

In the Introduction, Executive Director Scheick welcomed the delegates on behalf of the staff, and described the rapid changes taking place in today's society and their effect on the profession today, but more importantly on the students present who will be the leaders of the profession twenty years hence.

First Vice President J. Roy Carroll Jr FAIA greeted the students on behalf of the Board and explained the Institute's response to the changes delineated by Mr Scheick. He described the AIA's broad programs and planning for the future, among them the continuing effort to educate the profession in Comprehensive Services and Urban Design, the far-reaching changes in architectural education outlined by the Special Committee on Education, and the program to create a community atmosphere for better design through well-organized design seminars with leading laymen.

**John Ely Burchard**, Dean, School of Humanities & Social Sciences, MIT. Co-author of "The Architecture of America, a Social and Cultural History" (with Albert Bush-Brown), 1961, and many others.

Dean Burchard sketched for the students his breathtaking, panoramic view of present and past building as a man who has been a long-looker and broad absorber, raising moral and critical questions at a jet-paced clip. Here was a kind of mind they might aspire to themselves, after time has passed and they have found their own many levels of observing, recording, scorning, and being in the architecture around them.

"Perhaps of all the imagined roles (the architect can assume in his work), that of king is the one in which his personal predilections are least likely to lead him astray!"—to quote Dean Burchard.

**Professor Albert Bush-Brown**, President, The Rhode Island School of Design, Providence, RI.

Mr Bush-Brown gave a slide-lecture to set forth principal ideas in modern architectural design. He posed the questions related to seeing architecture as a source of order, or as a reflection of the themes of current society. He acknowledged that there are values we follow and those that we denigrate. In his view, the first space-shape in importance is the circulation pattern; next is geometry. Light is a medium grossly neglected in modern architecture. He made it clear that architecture can be imaginatively discussed in terms of its form, use, scale, rhythms and inflections.



## Questions and Answers

QUESTION: Would there be an ideal form of city, depending on where it is located? Where is there an ideal city form? How should size influence it?

MR BUSH-BROWN: The whole question is almost academic in a civilization like ours where you have the entire nation aiming for the same thing from a cultural point of view, the distances being minimized by modern means of travel, with climatic conditions being dealt with effectively by technological means, the people being exactly the same. Should there be a difference between an Eastern, Middle Western, and Western city? The local history, the local geography, the local cultural institutions are going to affect different forms, even where the circulation systems are similar.

Now by circulation systems, we generally mean the problems that occur at the interchange points, because anyone can design a highway to cross an open plain. It's where that highway crosses another highway, where the occupant of an automobile must leave the automobile and become a pedestrian—those are interchange points. Where, having flown easily, one descends to an airport, must pick up luggage, must make a *fix* on all of those systems of transportation, for luggage, for human beings, for conveyance, that coincide; that's an interchange problem. These, I think, are often less well considered. These may have certain universal answers, but once they are located in time or place, in a San Francisco versus a Boston, they ought to reflect differences between Boston and San Francisco because the technology, the economics, the cultural background, the geography, among other things, are different.

DEAN BURCHARD: I'd like to press this a little further and from a somewhat different point of view. Yes, there is an ideal city, but has there ever been one? No. Some have come closer to it than others and we all know what they are, and they are New York City and not Shreveport, Louisiana—with all the defects of New York City; and they are Paris and they are Rome—and they're not a little town on the periphery of London where there's nothing to do after ten o'clock at night except go bowling, which is fine for those who want to bowl but murder for those who don't want to bowl. What is a good city? I think a good city is very simple: It's a city which maximizes the chance for everybody to have the kind of experience he wants. There are, I suppose, a lot of people less clever than we who will settle for some kind of a small experience, and I don't think one should sort them out. This is what we're so shocked about: If these people are content, if this peripheral man and this peripheral woman, living on the periphery, going to the peripheral market and the peripheral movie and the peripheral school, with no sense of deep community—is that necessarily wrong? No. This should be provided for, but that must not smother everything else.

QUESTION: What elements of architectural esthetics are explainable to the laymen, and how can they best be explained?

MR BUSH-BROWN: On this point it is helpful to remember logic—I don't mean as an answer, but as a means of finding your own imaginative ways to answer—if a person says I like this and I don't like that, what he is saying is not really a value judgment on the *quality* of the thing. For example if he says, now I've been studying this thing and it's ugly, and fur-

thermore I don't like it—which of these statements is a value judgment? The first, that's it's ugly, you will read "in my opinion it's ugly"; the second, I don't like it,—there's no question about that at all, that's sheer autobiography. That is, I have declared to you that as of this moment I don't like it. If you can separate these two matters, you have made the first big beginning on the question of esthetics, and therefore on the question of presenting to the layman a professional point of view about design.

The second thing is to disassociate the question of style from quality. The time that a thing is done or the style in which it is done have no reference whatever to goodness or badness in esthetics. This means that in architecture, there may be a Gothic revival church that is better than a modern church. I believe that—I think the chapel at Princeton is better than the Lloyd Wright Wayfarers' Chapel in California, for example, and my judgment is not based on the fact that one is modern, which I advocate, or that one is ancient, which I admire but do not advocate for rebuilding. A thing can be, conversely, modern in style and approach and be better than something which is Gothic. Now admittedly there are some pets that I have that you don't agree with me about, but if I asked you to name the thousand buildings (you see that makes it difficult) that you thought were truly great, in their time, in their place, and in your time and place, for the purpose they served and for the purpose they serve now, I rather imagine that you'd include the Parthenon, the Pantheon, Fontainebleau and so forth.

Does that mean that you and I are in agreement and shaking hands on the fact that our thousands are going to be the same? I don't think so. I think it means that for the purpose of evaluating a thousand buildings we're going to accept a certain purpose, a certain scale, a certain esthetic quality, just in terms of composition and form, of appropriateness and rightness of use, which make your house lovely for you and my house adequate for me, but not acceptable on this list. And I may like my house, but that's a matter of autobiography. The point is that when you become engaged in this sort of evaluation of what esthetic judgment is, you can make the statement "It is great esthetically, but I do not like it." That's a fantastic statement: "I don't like it and yet I know it's fine." That means that you have separated this business of personal preference as to style, you have seen something that goes beyond it.

I think the layman's confusion revolves around these several points, and how *you* win him is up to your imagination. Most architects have done it by a winsome sketch.

## MONDAY SESSION

# Physical Values in Environment

**Robert B. Newman**, Vice-President of Bolt, Beranek and Newman, Inc, Consultants in Acoustics of Cambridge, Chicago, and Los Angeles. His firm has served as architectural acoustics consultants for many contemporary and highly regarded buildings, and it is now collaborating in designs for the new Lincoln Center for the Performing Arts in New York.



Mr Newman investigated the range between quiet and noisy, which he emphasized must be thought through for each kind of space. Because every aspect of the acoustics of a space affects how we feel about it, the architect must be aware of using the effects of sound for the result he wants. Privacy can be assured not only by noise insulation but by introducing other masking sounds. "Acoustic tile is the last thing that acoustic is": acoustics control and create any appropriate environment.

**Professor Edward T. Hall**, Anthropologist, Director of Communications Research Project, Washington School of Psychiatry, Washington, DC. He has served as Director of the State Department's Point IV Training Program. His interests in human response to the space in which we live led him to write "The Silent Language."

Dr Hall brought his science to bear relevantly on architecture's art. He went back to an anthropological starting point: The first thing a living thing does is to lay claim to space, and as animals and men differ in how they do it, so do men in each culture differ. He described the use of a ticket counter in an airport as a structure of personal space and as a communication, and showed how a bus stop brings out territoriality in people. He demonstrated that furniture arrangement, office size, speaking distances between people, all have a meaning beyond that on the surface. Using many slides of every-day happenings, he gave the students a new way of observing the human uses of space.

### Questions and Answers

**QUESTION:** We are interested in finding the degree of intimacy or size that is needed or desired in a residential community for open spaces, and the degrees of intimacy that may depend on the size of public spaces.

**DR HALL:** This is not an easy question, and we don't have anywhere nearly as much information as we'd like to have on this one. I think in general open spaces have a function, and very often more than one function or purpose; the purpose to which they are put will in part determine the scale you are using, but if you take a place like San Marco's Square—I had an awful time getting the dimensions of San Marco's Square—there you have an enclosed space which seems to be about the right size. Actually, you have to take a whole series of disciplines and have them all contribute. My own discipline has to do with social relationships of people, and San Marco's Square is big enough so that you can cross one end of it and not recognize someone on the other end; this is an operational definition. If a plaza is so small that you cannot have your own part of it, not obtain some anonymity, it's a different kind of plaza or open space. I can see where you might want to have smaller spaces if you were dealing with smaller social groups, so again it's a matter in part of what's going around it and what's going on in it.

**QUESTION:** What kind of noises in our cities are assets or liabilities in fostering an urban environment image?

**MR NEWMAN:** You mean what makes a city sound like a city? Certainly in our modern cities we do have a number of new and excessive noise sources. The jet airplane, for example, is a horrible neighbor for a city, and in planning Dulles Airport we recom-

mended that they have about twice as much land as they were able to acquire, land which would be forever controlled and on which people would never be allowed to build houses, just to safeguard against annoyance in jet aircraft operations. In many places where there are airfields with jet operations, more and more people are needed to run them and they want to live nearby, so we have people building houses close by. Helicopters landing on the tops of buildings in cities are hellish noises, and there isn't a great deal that can be done about it. Some measures perhaps can be taken, but helicopters and jet airplanes are not quiet animals and they can't be.

I think those noises are hardly what we would call desirable noises in a city, but the ambient traffic, those noises that we have gotten used to, are just fine. I don't think—and I view with alarm statements by people who say we in our modern society are being ruined by noise—that any of us are suffering from intense trauma as a result of noise.

**QUESTION:** How would the techniques of anthropology be applied by the architect? Why aren't anthropologists more concerned with the problems of architecture in cities?

**DR HALL:** By and large, anthropologists, up until quite recently, have spent most of their time studying the primitive or so-called exotic cultures, and there aren't too many who have directed their attention to twentieth century technological cultures. An anthropologist who studies a complete culture obviously has to limit himself, and I have settled on time and space, particularly on space, simply because everything happens in space, and it's a wonderful way of studying culture and being very specific about it. I'm always glad to talk within limits to architects because somehow the kind of thing that I have been studying and dealing with—well, you get the impression it's been neglected, that the emphasis is a little more on winning prizes and building a building that looks nice, without too much investigation of the cultural and sociological facts. In talking with architects the first thing that comes up is the matter of the fee. You make hardly enough to cover your costs now, and how do you pay for an anthropologist to come in and study the family that you're building a house for? There is this: In the old days I think architects were nearly all anthropologists. They were dealing with more or less homogeneous groups, they knew their own culture and they didn't move around so much. Now we're dealing with incredibly complex cultures. This one in the United States is not homogenized at all, and this is one of its problems: It isn't a mixing pot, it's an emulsion. You really have to know what you're doing, and I think the anthropologist should be involved in these things because the space that you put people in exerts a tremendous influence over their lives, greater than we ever suspected before.

## Form Determinants in Space

TUESDAY SESSION

**James J. Hurley**, Developers' Consultant

Mr Hurley spun out a myth of the modern city, replete with gods and spirits, to tell the students just how things are for a builder in the city. Good and



evil are on every side, and though greed and power score more often, he continued with examples from real life that all was not lost—money and wits are all that a fellow need to keep about him. Noble thoughts are all right too sometimes, but “if your client is really your own ego you will probably end up an architect of literature, the quintessence of Dr Purist with your files of unbuilt dreams.”

**Barclay Jones, Associate Member AIP**, Associate Professor of City and Regional Planning, Cornell University, University of Pennsylvania, B Arch 1950, University of North Carolina, MRP and PhD in Economics 1956. Dr Jones has also taught at the University of California and practiced as a Community Planner for the Citizens' Council on City Planning in Philadelphia.

Dr Jones suggested that the architect and designer can become more creative by using computers and other mechanical “thinking” devices. He suggested that if the architect thinks through all of the decisions he makes in the course of creating forms, he will find that there are many that could be resolved by feeding the relevant information to a machine. Dr Jones emphasized that the machines need to be programmed creatively too. Once free from the details of creation, the architect can have more control over his work and more autonomy in his work.

### Questions and Answers

**QUESTION:** Do you really believe that there are large areas of design in which creative thought is being wasted? Can you identify them?

**DR JONES:** The primary area, it seems to me, is in terms of working through alternate schemes. That in any kind of a decision situation, the number of possible acts that you could take must be large. This is especially true when the decision situation is a sequential process with actions related to other actions and choices related to other choices that you have made previously. Simply weighing all the complex alternatives in a complex problem situation of this kind can be tremendously time-consuming. Solving a situation of this kind by use of high-speed electronic machinery, it is possible to go through every single alternative that is available and weed out those which seem to be least likely, identify those which seem to be most likely, then concentrate your attention on these. In a simple situation you will probably intuitively immediately weed out the unlikely alternatives and settle on a few that seem most promising and be able to follow those through. This is the process that you generally use in your normal activities. With a very small-scale problem you can reach the answer intuitively, pretty thoroughly, pretty rapidly. However, with some of the more complex kinds of problems this is not necessarily the case, and the solutions which seem to be most promising may not be the ones that occurred initially on an intuitive basis.

**QUESTION:** Will the continuance of the compromise between the morals and the responsibilities of the “gods of the pure” and the “gods of power and greed” contribute to the esthetic role of the architect?

**MR HURLEY:** I'm only an analyst, not a prophet in these matters. There are plenty of historical examples of it. Professor Bogner alluded to the city of Bath in his remarks today. The city of London has many examples from the early nineteenth century and late

eighteenth century of builders who financed and backed architects who had a somewhat pure approach. I don't know that it was totally pure—they were in it to make a few pounds—but I do think that the strong motive for architects like Nash was an esthetic one. I think they believed that they could design parts of the city of London to fill a practical need, that is to provide housing, albeit for the wealthy merchant class and the town house aristocrat, but the architect did in many cases impose profit limitations on his backers.

**QUESTION:** What would you consider to be an ideal school for urban design?

**DR JONES:** An ideal school for urban design, to my mind, would be one that would stress those things that the urban designer has in common with other people who are coping with other kinds of problems in our present society. It would not be a school that stresses the differentiations between the urban designer and any other kind of creature. It would *not* be a school that is dedicated to developing cult, instilling dogma, teaching a point of view, teaching a final product, a final way of looking at things; rather it would be concerned with, not answers in themselves, but means of finding answers, and would try to get the student urban designer to look around him to other professions to see how they tried to seek knowledge, to solve problems that they are faced with, and how very many points in common he has with other people. In other words, it would be a school that would produce a professional who would be a fellow among other professionals, who would be able to communicate with other professionals, who doesn't spend all of his time going around insisting on how different he is from all of these other people and going farther and farther apart from them, dropping the possibility of communication with them so that he isolates himself from further knowledge.

### WEDNESDAY SESSION

## “Summary— the Urban Architect's Role”

On the last day, one student from each group presented a short paper that summarized the group's response to the Forum as a whole. The few papers that are published here show the range and depth of that response. One individual was moved to compose a poem which captures the feeling of the entire assemblage and does great credit to the spirit evoked.

We believe that the title of this conference partially answers the questions it poses:

**Human Factors:** There are about as many human factors as there are humans and, as such, are fallible, not infallible, relative and not absolute, and often are not even determinate.

**Environmental Architecture:** The phrase has meaning only within a specific situation, or a particular and unique context. We suggest, furthermore, that broad generalizations about architecture have a very limited application.

Our conclusion from the discussions is simple: The



measure of success for an architectural design depends upon the degree to which all these forces are intensified and brought together in a single expression.

Within the existing city, we observed that the urban complex has no visible, ordering structure or framework—no thing or no one quality which on all levels “tells the story” of the city, except to convey the ideas of mass and confusion, no distinct element of the city to which the individual architect could make reference as being more important than the impossibly variant buildings on either side of his own restricted site. We debated the concept of one unifying intercellular framework for the whole existing city, to be constructed within the present city’s system of public spaces, streets and squares, a system which could make out of the city’s great chaos an unmistakable order, and one which could architecturally contain the natural diversity of human activities. The idea presents the opportunity to make these channels of communication a vital means of explaining how the city works to all its users, something the city dweller can point to and the city visitor refer to in locating the most important functions and the most central, most humanly valuable assets. The problem with the idea lies in that we as a country—an “almost-culture”—still want nothing like it. Artistically, our experiments with form are just beginning to explore the possibilities offered by fracturing and discordance, juxtaposing the unlikely and making “brilliant clashes” with the match. And with such a trend, we probably are not to see this other, unifying idea soon as worthwhile, unless another quick-change becomes fashionable. And too it might appear as too distracting from the other campaigns of the planner to meet the really crying social-humane problems of the unsightly slums.

This and other problems also came under considerable discussion. Among these were questions relating to the diversity of spaces. How much do we need; what kind, taking for comparison le Corbusier’s strict geometry and verticality, and Jane Jacobs’ horizontal continuum of sweet diversity as extremes? And the motivating effects of the quality of space we use for daily living. How much does it matter really whether spaces are clean and the colors are right? And the real needs of the people who do different things in the city. Is it part of the lot of the “lower order” that their condition include a degraded environment? Are we trying to eliminate this whole order by promoting all to more comfort? And what are our purposes anyway—locating joy or providing comfort? And relocation of the slum dweller: As fruitless as the immediate results of the urban renewal project appear to him, was this effort necessary and worthwhile, or can the slum dweller too take pride in a growing “order” in his city?

And when will the results of many present and future studies by anthropologists in conjunction with architecture be available and how might they really be made effective in view of the entrenched systems of outmoded controls? What are those needs of people? What are useful ranges of intimacy in the size of spaces? How ready might we be to mix different economic and ethnic levels to make a truly diverse community experience? Would this step be a useful measure toward greater integration of peoples if encouraged with greater design emphasis? To what degree now? Possibly one course of action would be

the sponsorship of a pilot program by the AIA and anthropological scientists—and the status makers—to determine what are the possibilities to effect better new patterns of living together.

Many times designers are too possessed by a pre-conceived idea which they seek to implement at all costs. Many times also, structure is considered without imagination and totally without relation to the many other factors and the result is that the final building or group of buildings is totally lacking in the spatial feeling needed by the people involved.

In planning space we must decide what degree of interaction is desirable, and of course this would vary according to the activity to be housed, the sex and age composition of those engaged in the activity and the groups to which these people belong.

We hope that the professional architects of our country and of others will be sensitive enough in the future to apply the basic tenets of distance and space to obtaining for all mankind an environment which expresses the needs of all men and the dynamics of the functionalism and emotion, when allowed to interplay, will be the direction of our cultural future.

This Forum has made clear the fact that the era in which we, as neophyte architects and planners, will eventually find ourselves, is the greatest era of building the world has ever known. It will be a chance to exert our individualism as a product of years of study and development, as well as an opportunity to be an integral part of an even greater team working towards solutions of complex problems beyond the comprehension of any previous period in history.

As experts in the behavioral sciences determine patterns of existence in urban, suburban and rural communities; as engineers determine new structural and mechanical systems and develop new materials; as economics becomes an even greater predeterminant of form than it is now; and as the fantastic population growth makes it necessary, the architect and the planner shall assume an ever-increasing role of responsibility, more specialized in many respects, but broader and more encompassing than ever.

We will be given the opportunity to intervene—to create what we hope will be a proper and better environment. We cannot be anachronistic: We must cherish and learn from the values of the past, but not live in the past. We must discover the constants that give order and form and we must find the variables that give identity to individuals and social groups.

It is perhaps then the understanding and realization of the complexities of our society, and the identification of the problems that exist, that is the task that confronts us in the immediate future.

The poor condition of urban design and the environment in which we live today indicates an inadequate understanding of the values of design in the human environment by the public and officials, and inadequate standards, knowledge and moral consideration on the part of professionals directly connected with urban design.

We believe the public and officials should be educated in the essentials of good urban design through the use of the mass media and other methods.



We believe the professionals in fields concerned with the urban environment need more knowledge of the subject to better design our cities. We believe also that professionals need higher moral standards and more design responsibility to prevent the exploitation of the uneducated public. When the above objectives are achieved, a well-designed human environment will be possible.

#### CLOSING ADDRESS

Professor Bogner kept the pace and impact of the Forum high throughout the four days, and in these concluding remarks so moved the students that he was accorded a standing ovation:

"I hope that what you have had an opportunity to do here in Washington has given you what I have repeated from time to time: namely, a view of the horizon. I also hope that it has done one other thing: that you have grasped that there is continuity. I think most of you young people are thinking that today it is le Corbusier, a few years ago it was Mies Van Der Rohe and a few years before that it might have been Gropius and so on down the line; you will have blinders up and you will have curtain walls of direct linear division one time and curvilinear walls another time and go on in that way. No! Architecture is a bigger thing than that. Architecture is a

sculpture which is ageless and timeless. You will find that if you go traveling in Europe those things that have distinguished themselves are just as distinguished today and will give you just the same reaction that they have given generations in the past.

You are confronted with a terrific challenge because you are designing now for entirely new conditions. You are designing for an industrial age, for a new kind of society with a tremendous amount of mobility, with cities that are going to spring up all across the country. Your problems are going to be great. I envy you for being able to be in this world in which space will be conquered and new technological devices will be made available to you so that you will have a better language, or rather, better means in which to express your language.

I'd like to explain to you that I hold in my hand a pencil, which is the sacred tool of the architect if it is used to design. If it is merely used to produce words you will not be able to achieve buildings. And what this tool can shape on a piece of paper can shape it in such a way that you can actually translate it through these wonderful techniques that we have at the present time so that it takes a visual image, a visual position in the landscape, and comes into contact with human beings and gives them that reaction which is, in simple terms, the reaction of happiness."

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We came in search of answers. We came to give a few.  
But questions brought more questions, and the answers were all too few.  
What, why, where . . . ? How many, for whom, and when?

The problem of people, many people, all kinds of people.  
More open space needed for the people, but we must not have sprawl.  
Open space for what? More order needed but yet less regimentation.  
Order based on circulation, but can circulation be extracted as an element—*independent of the whole?*  
*Visual harmony*—it fits—or *variety*—it's needed. You must design for people's needs!  
What are people's needs? Do the people know? Do they care?  
Do we know? Who knows? Can we decide? Must we decide?

We must fight the gods, the gods of finance and power.  
Yet, we are here because of these gods.  
Can these gods not have other faces?  
Faces of truth and integrity?

Can we really feed these questions to a hungry machine that will spew forth answers?  
Answers based not on judgments of wise men, but on precise, mathematical, systematic progressions  
and deductions?

Clean concise answers, many answers?  
But where are the people? the good people, the bad people, the indifferent people?  
The people who cannot be analyzed, programmed, typed or classified?  
People who eat, work and play? People who need homes, markets and temples?  
People who need us?

No answers. More questions.  
We came with questions and we will go with questions.

We must search.

EDWARD PINONI  
*University of California*



# Neo-Eclecticism



► About a year ago on this page, I noted the absence of a good machinery for professional criticism of the lively art of architecture. Although we have a handful of good critics (other than practitioners) we can't match the critical mechanisms for drama, literature, music or art.

The program for the Convention at Miami promises to be an exercise in architectural criticism. You can't deal with "The Quest for Quality in Architecture" without it. Our seminar for the press at Columbia encouraged some of the newspapermen who attended to return home and venture into the field of criticism. If these moves succeed in developing more critics from outside the profession itself, our skins may have to get thicker but the result should be healthy. Published critiques should make the public more aware of architecture—something we devoutly desire.

At this particular time in history an architectural critic is going to have a tough job compared with such an assignment about 1910, for instance.

Our friend, Wolf Von Eckardt, writing in the *Washington Post* about this year's AIA honor awards used statements like these: "This year's awards are representative of the enormous and chaotic variety of forms and styles in present-day architecture. Never in history has the art of building design changed so fast—moving in different directions at once. . . . None [of the award winners] would harmonize with the other. Put together, they never would add up to an orderly cityscape."

"Today's trouble is that building technology makes almost anything possible. . . . We have not yet succeeded in harnessing technical knowhow with purposeful artistic intent."

The Honor Awards Jury in its report was "encouraged to note a trend away from stereotyped clichés based on imported eclecticism . . . the best American design is now characterized by a sense of appropriateness and creative individuality." Which prompted Wolf to write "the present architectural free-for-all encourages creative individuality. It is doubtful, however, that we have

really foresworn 'imported eclecticism'. . . . Nor is domestic eclecticism any less eclectic."

Wolf has stated the problem all right. But I think we will have to develop philosophies in design and criticism which recognize the times, just as we are looking at education and practice in terms of the modern era. The Egyptian, Greek, Roman, Romanesque and Gothic styles were not eclectic and the Renaissance only superficially so. The architects of those times were simply designing in each style as a modern architecture. American architects once were eclectic in their ability to copy any historical style.

The new eclecticism does not borrow from the past but is evidence that building technology does indeed make anything possible. Isn't this a truly basic fundamental for design? Shouldn't today's architecture express this freedom as a real characteristic of our time in history? Self-imposed limitations could be artificial, resulting in sterility rather than the exuberance belonging to an age of limitless form and media.

Wolf says the danger is chaos in the cityscape. Contiguous variety in design is not necessarily chaotic. St Mark's Piazza is admired for its wedding of four successively "modern" styles. Today's critics deplore the monotony of new buildings in New York and Washington. Urban renewal offers opportunities for blending the variety of the old and the new. The problem for the design of a new AIA headquarters will be to create a fine statement of contemporary architecture which is compatible with the historic Octagon House.

The Honor Awards Jury had the right word—"appropriateness"—as a basic criterion for modern design. This will surely be an elusive quality to capture in architecture or urban design. Some architects will achieve it—frequently, we hope. At any rate, our Jury has given us the right word for designers and critics alike. Perhaps our new Committee on Esthetics will have more to say on the subject and develop our thinking in regional seminars.

WHS



# Book Reviews

**The New Exploration.** Benton MacKaye. Urbana, University of Illinois Press, 1962. 243 pp maps 5½" x 8" paper \$1.75

With the subtitle, "A philosophy of regional planning," and an introduction by Lewis Mumford, we are again able to enjoy and profit from this 1928 pioneer essay—originally published a generation ahead of its wide appreciation. Mumford places MacKaye up next to Thoreau in character and influence, and indeed the ideas of this Yankee forester and conservationist turned regional planner are still out in front of current practice.

It is to the great credit of the *AIA Journal*, under the editorship of Charles Harris Whitaker, that it published Benton MacKaye's original proposal for the great Appalachian Trail (1921)—for twenty years now a reality. He was active after that with the new Regional Planning Association of America (Clarence Stein FAIA, Henry Wright Sr and several others, including Lewis Mumford as Boswell or Apollinaire). His plans for parts of New York State, the Massachusetts Bay Area (not followed) and Appalachia as a whole all had and have proven significance. "The Townless Highway," an essay included as an appendix in this short book, was published in 1930 and is still valid for a national highway policy.

As Mumford points out, MacKaye's great original contribution is in the analysis of Metropolitan America—the process of metropolitan flow—and in his evaluation of Indigenous America, the forces of our indigenous culture. In a brief two hundred pages, this study told us and still tells us things we need to know. One unexpected effect of thirty-year-old statistics may even be salutary. Each figure or relationship cited as a warning signal cannot help but shock us as we realize how still worse the situation has become. Demography is the most frightening science. The demons of uncontrolled population growth and migration are no doubt the root of most of our pressures today. MacKaye's twenty-nine US cities over 200,000 have grown to more than sixty. We can hear the question: *This is bad?* Of course not in itself—yet. It is the establishment and confirmation of patternless growth that plays into the hand of exploitation.

MacKaye's denial of the suburb as a way-of-life at the very time it was fastening its grip on millions is particularly significant. The perverse forces fighting to preserve the dubious values among the cultural potentials of the urban environment are still with us—still creating the "wilderness of civilization" he described. Read the book for his alternative.

This was first published about the midpoint of the problem-peace between World Wars I and II. The second war, and its residual swings since its "end," have distorted the economy and polity of our times. Rational regional planning even where accepted has not had and could not have the opportunity to operate free of such influence. It is a stubborn apparition in the transaction of life today. It takes a strong mind to hold out for convictions of value. MacKaye's "Metropolitan invasion" has continued due to the old pressures but under the shadow of the daily invasions of our minds, the obscuring of the sun of nature by the

migrations of flocks of fluttering paperwork and gadgetry, the political use of credit, the elevation of management to an end in itself instead of a function aiding creativity for a higher purpose. Solitude, the sort MacKaye has built upon—is a *rara avis* today, as he is himself—one of the healthiest minds in America.

We have heard now for decades of the onset of a leisure still elusive—how will we use it? This small book by a tall man may start you thinking. We can't think of a better introductory textbook on regional planning. EP

**World and Dwelling.** Richard Neutra. New York, Universe Books, Inc, 1962. 8½" x 12" illus 159 pp \$15.00

Recently the Russian government decreed a gradual abolition of one-family homes in the urban communities of the Soviet Union. It appears that this action was motivated by economics as well as by ideology. Certainly, the decision to abandon the building of one-family homes was not so much a result of their "corrupting" influence on the individual in a collectivistic society as it was the necessity for more housing for more people in Russia.

Perhaps the difference between Russia and the United States today could not be stated more forcefully than to contrast the decree published in Russia with the publication of "World and Dwelling," dealing with Richard Neutra's houses and philosophy of domestic architecture.

"World and Dwelling" furnishes us with an interesting insight into the mind of one of our great architects. Not only do the photographic essays of the houses of Neutra reveal the ways of an architect's work, but they are physical embodiments of the personalities of the people who live in the houses.

These are not "market houses" in any sense; neither are they destined to be inhabited by descendants of the people now living in them. Our changing society does not allow an ancestral home. These homes are built once and for always around the qualities of the original clients; hence, the houses necessarily belong to a time and a place, and yet they are timeless.

One of the delights of the book is the way in which the photography has revealed the reality of the relationship between the building and its environment—whether the mountains, the seaside, the desert, or the woods.

Photographic studies of the houses with plans and descriptions compose the major portion of the book. An opening section assembles activities which emanate from the social needs of the dwellers of the house. This endeavor to portray the social and institutional environment in which the house is set is not wholly successful. After all, the house, regardless of how fundamental, is only a unit of the world of man and his activities. The endeavor to compress the activities stemming from the home into such short space with such small accompanying photographs does not convey the full range of the purpose intended.

It is regrettable that all of the houses presented, except two, are built along the sea or in the hills along the edges of the sea, or in the desert of California. There is one house in Litchfield, Connecticut, and another in Chattanooga, Tennessee. The philosophy the book seeks to portray is not confined to



residential architecture in California, and the impact of the book would have been greater if the geographic location of the houses had been more varied. These houses, too, are all either on the edges of or beyond the city. Are we to believe that family houses possessing personality cannot be built in the city any more? Are the Russians the heralds of the future? And are the cities of America to be without hope of residential architecture of distinction?

All of the houses are works of art. They confirm the fact that the level of living in America is advancing to higher levels all the time. Here perhaps lies the difference between Soviet Russia and the decision to abandon one-family dwellings and the American ability to build the houses presented in this book. Neutra comments upon this predicament of modern man in the opening essay: "Possibly the architect of the third millennium will not have the chance to study individual clients, single houses and sites."

Unlimited urbanization has taken over the land, however, and this book presents us with the dialectic of our contemporary civilization: the house versus housing. America need not be too smug about the decision of the Soviet Union to abolish one-family houses since the pressures of population appear to be driving America into anonymity of housing. Neutra speaks as a prophet when he comments that "the single house . . . is very instructive for everyone concerned these days." MARY E. OSMAN

**Office Buildings.** Leonard Manasseh ARIBA & Roger Cunliffe ARIBA. New York, Reinhold, 1962. 208 pp illus 7½" x 9¾"

The flyleaf optimistically declares: "Businessmen and developers, architects and office interior designers will find here all there is to be said on the subject [of building, modernizing office buildings], not forgetting economics." According to the foreword, this is actually what the authors, both British architects, have attempted—a comprehensive compilation of information of office building design from technical papers at meetings of learned societies, technical journals, architectural magazine, etc.

However, its usefulness to American architects is partly limited—most of the sources, examples and statistics are British, cost figures are in British currency, references in the back of the book to further information is scanty, not very recent, and usually refer to British publications not always available here in architects' offices or neighborhood public libraries. And much information in a book of this type is quickly out-dated. Buildings used as illustrations were completed between 1951 and 1959, so architects must still rely on the latest journals and technical papers for up-to-date facts.

Every conceivable item that would be encountered in planning a new office building has been at least mentioned. First are discussed the people who must use the building, not their dimensions, but requirements for doing their jobs well. Next, individuals concerned in planning—client, architect, engineer and consultants; then site, layout, regulations, economics. Much space is given to interior environment—lighting, acoustics, heating, services (including stations for tea breaks), then furniture (with vivid prose: chair—"The best shape for the backrest is saddle-

shaped, like a banana lying horizontally"), and finally structure.

Twenty-one notable buildings, mostly English and American, are very thoroughly investigated for layout, construction, interior design and environment control, with good diagrams and photographs.

Important for a reference book, information is easy to find—good index and table of contents; although type is small, matte paper makes it comfortable to read, and good bold subheads assist the hurried page-skimmer. MHP

**Jonathan Child and His House.** Carl F. and Ann Schmidt. Rochester, NY, Authors, 1962. 43 pp 14 pl 10¾" x 8¼" \$4 boards, \$2 plastic.

First mayor of the city of Rochester, son-in-law of Nathaniel Rochester, and prominent in the affairs of the community, Jonathan Child built for himself a new house in the Greek revival style about 1835. In 1850 his wife died, he sold the house which passed through various hands, including service for nearly forty years as a boardinghouse, until it was finally purchased in 1957 by the Society for the Preservation of Landmarks. It was planned to have this as a "working" property and this has come about with its occupancy in January 1962 by the Rochester Bureau of Municipal Research.

The Schmidts have written an interesting book about Mr Child and his house. In the first part there is material about Mr Child and the historical background of Rochester. Then Mr Schmidt outlines briefly the origin of the Greek revival style, discusses its importance, and notes examples that have been preserved in Rochester.

The final and largest section of the book is a detailed architectural description of the house. This is supplemented by photographs and several measured drawings, including cornice details, which have been prepared by Mr Schmidt. Another in the interesting series of volumes in which Mr Schmidt has been recording some of the architectural heritage of Western New York State. GEP

**Detail: Contemporary Architectural Design.** Editor, Konrad Gatz. London, Iliffe Books, Ltd, 1963. 308 pp illus drwgs, 9" x 12" 95 shillings

From the pages of the German magazine "Detail—Zeitschrift für Architektur und Baudetail" a collection of details has been published for "The Architect and Building News." The editor stresses the importance of details, which can often determine the character of the entire work, as a consequence of which details should always be consistent.

The wide variety of examples have been grouped into four main divisions: structural detail; exterior detail; interior detail; and unity of detail. The variety to be found is indicated by the items treated under exterior details—facades, balconies, railings, wall openings and fittings, canopies, steps, gardens, parks and street furniture. Although the majority of the examples are from Germany and Switzerland, architects of thirteen other countries including the United States are represented, giving the volume an international flavor.

If used as suggested as an aid to the study of detailing, it should prove useful to the architect in arriving at his own original solutions in detailing situations. GEP



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

# The Architect as an Expert Witness

by **Robert J. Piper AIA** and **Fredrick F. Kalivoda**

*Mr Piper is Head of the Department of Professional Practice of the Institute; Mr Kalivoda is a prominent attorney practicing in Rockford, Illinois*

► There are few greater tests of a professional's qualifications and attitudes than that of appearance as an expert witness before a court of law. Architects should expect to be called upon during their careers to so serve society, and the initial occasion can be one filled with anxiety and foreboding. However, having undergone this test of fire the professional will emerge a better man and professional, finding that he has firmed up many ideas and philosophies that have been in mind but not in hand. The experience can be disappointing. However, this disappointment is often the result of an ignorance of judicial processes and testimony requirements.

## Who Is an Expert Witness?

Some have said that an expert witness is one who testifies to opinions based upon facts, while non-expert witnesses testify only to facts. The expert is experienced, trained or skilled in some particular subject, and as a witness is recognized as being especially qualified to speak upon that subject. He speaks to opinions that have been reached through a process of reasoning peculiar only to those with his special experience, training or skill. The non-expert witness' testimony is limited to the facts as he observed them.

There are various grades and kinds of acceptable expert testimony. There may be expert testimony which consists of opinions based upon personal observation of facts; or that which consists of opinions based upon facts as described by others. Some opinions may represent only an approximation of the thing to be proved.

An expert witness' testimony is admissible when his opinion on a particular subject, because of his special qualifications, is required to aid the court in its determination of the case. The law would prefer that the case be limited to the facts and necessity only dictates the admissibility of the expert's testimony. The necessity arises when the nature of the fact is such that an expert's testimony, or opinion evidence, would be valuable to the proof of the fact.

## How Is an Expert Qualified by the Court?

The court qualifies the witness; his qualifications as an expert must be shown by examination and may be tested by cross-examination by the opposing counsel whereafter his competency is a matter of the court's discretion. Even though once established as an expert witness, the weight of his testimony is still entirely a question for the court or the jury.

After the expert witness has given his opinion evidence, he may again be cross-examined as to his qualifications. His credibility as an expert witness may be impeached. The opposing counsel may review the testimony to search out any factor that weakens its weight or effect, ie, bias or prejudice (such as might be suggested by cross-examination on the witness' fee for testifying), intolerance, contradictions, inadequate knowledge, or the inherent improbability of the testimony. However, the well-qualified and prepared professional should feel no concern in contemplation of this cross-examination; since it must occasion a severely critical self-analysis, it can well be one of the most rewarding aspects of the entire process.

## Should I Be a Witness?

When first asked to participate as an expert witness the professional should not immediately accept or reject the invitation. He must first examine the aspects of the case and understand his function in, and value to, the judicial process.

As an expert witness, he will participate as a professional rather than a partisan. In effect, his will be a job of educating the court in his particular field of expertise. The court will rely on his competence and integrity and any display otherwise will lead to an attack on the credibility of his testimony and the consequent loss of his value to the court.

The client's attorney will be vigorously partisan. He will present the most compelling case for his client as is his professional obligation and legal duty. However, the expert witness must testify only to those facts or conclusions that are dictated by his informed judgment.

## Preparing the Testimony

In preparation for testifying the expert should initially review all background materials pertinent to the case. This applies to *all* materials—whether or



not they have direct application to the contemplated testimony. The expert witness' value to the court lies in the relevance of his testimony to the case at hand and this relevancy is strengthened by the witness' complete understanding of the matter in controversy. The witness must be able to identify his part in the history of the case—were there conferences, conversations, hearings, agreements, etc, in which he participated that relate to the question? When did they take place? Where? What other people were involved? If a public law or regulation is involved, a building code for instance, he must be familiar with its provisions and with its administrative history.

Secondly, the expert must work with the client's counsel to thoroughly acquaint the lawyer with the facts. The law arises out of the facts and the counsel must understand their scope, pertinency and value to properly present the case. The value of good counsel will be appreciated here, for in a short period of time the lawyer must become an expert himself, nearly as knowledgeable of the witness' field as the expert himself. The lawyer chooses what to include. The witness cannot extend his testimony on matters overlooked by counsel before the court. The witness must know what questions will be asked; the lawyer, what answers to expect. This demands that the witness understand the legal issues as defined by the lawyer, and that the lawyer appreciate the principles upon which the expert bases his opinions. The lawyer-witness team must also be familiar with the latest thinking on the subject at hand. This latter is particularly true of any new ideas or techniques that may not have yet been accepted as general practice by the profession or by society. For these reasons, prior rehearsal of testimony, hours of it sometimes, must be undertaken by the team.

Finally, preparation for testimony will require decisions on exhibits. The criteria here is one of relevancy of the exhibits to the testimony to be given by the expert. Does it legitimately relate to this testimony? Documents entered as exhibits must be identified by the expert. Therefore, documents prepared by him eliminate the need for additional witnesses.

### The Testimony

It is again emphasized that the job of the expert witness is one of educating the court since in all probability it is not familiar with the facts of the case. However, the expert witness should confine himself to answering only the questions asked and not volunteer testimony or otherwise elaborate beyond the scope of the questioning. He should resist the temptation to display knowledge and information not essential to answering the questions posed as this may disjoint and confuse an otherwise orderly presentation of evidence. Opinion evidence and explanations stated clearly, simply, convincingly and with an absolute minimum of technical language will be appreciated by all parties. The witness must control his emotions with a tight rein, and should extend maximum courtesy and polite consideration to all parties.

Like any other undertaking, the court has certain rules of operation and protocol and the witness must observe and adhere to these. Looking directly at the lawyer during his questioning, the witness should state his answer clearly to the bench. Remember the poor court reporter! If possible, the witness answers

simply "yes" or "no," or "I do not know" if, in fact, he does not know the answer to the question. The reporter has difficulty transcribing "Unhun," "Unun" or other grumbles. Also, he cannot record two or three simultaneous conversations, so the witness must avoid speaking when others take the floor, even though they may have interrupted him. When referring to admitted documents, they should be mentioned by exhibit number since no reporter can translate a reference such as "this paper" or "that document" into a readily understandable transcript.

The judge may take an unusual interest in some testimony, directing his own questions to the witness. Here, the expert is more or less on his own since both counsel will respect the judge's interest. Clarity and simplicity are still the rule. However, the judge's interest suggests that this point ought to be emphasized and the witness is justified in giving a thorough treatment to his response, remembering, however, that the pleading and arguments are the lawyer's responsibilities.

The witness should watch the progress of the case. He should continuously analyze the evidence presented to appreciate how it will reinforce or contradict his own testimony. He should anticipate unique questions, if possible, to frame his answers in context with the rest of his testimony. Here, the expert must especially guard against bias, intolerance, arrogance, presumptuousness, or contradiction creeping into his testimony.

In some cases the court will accept a motion to exclude all witnesses except the one who is about to testify. In this event, the expert would not have the advantage of hearing the case presented. In this situation, the expert must, of course, rely upon his client's counsel for details of the presentation prior to his own testimony.

Finally, "the hypothetical question." This is one reserved for the expert since because of his qualifications he is presumed capable of forming an opinion based upon purely hypothetical circumstances. This questioning technique may be used where an opinion is desired based on facts that are not within the personal knowledge of the expert. These circumstances and facts must, of course, have pertinence to the case in question, but may result in totally different opinions when put to two or more expert witnesses. This should not be troublesome, however, for in the real world few issues are crystal-clear. The court recognizes this and knows it is its duty to encourage vigorous exchange of divergent views in order to comprehend the entire scope of the case in question. The expert witness must listen carefully to the hypothetical question so that he has in mind all elements of the factual situation as disclosed by the question. Only when he understands all of these elements can he safely give his expert opinion. He must anticipate being cross-examined on this portion of his testimony.

### In Conclusion

An appearance as an expert witness can be most rewarding. If his testimony is based on firm background, is well-organized and concisely presented, the witness will have educated the court and contributed to the proper disposition of justice. In addition, the witness will have educated himself and found that the exposition of well-considered opinion based on thorough knowledge of facts is one of life's most satisfying experiences. ◀



# Marketing the Services of Architects

by D'Orsey Hurst \*

**How to organize basic and comprehensive architectural services for growth, profitability and efficient, stabilized practice that will meet needs of clients**

*\*The author is a management consultant who had broad experience with architects and others who offer services, and is president of D'Orsey Hurst & Company, Management Consultants—Business Research*

*Establishing a stable economic environment*

*Goals for practice*

In order to turn out a good product you must have a stable economic environment. This is just as true when the product is architecture as when it is an automobile. Establishing a stable economic environment requires a continuity of commissions, and this continuity in turn requires that your firm be organized to compete. Without dwelling on the subject of competition, perhaps it is enough to point out that you not only compete with your fellow architects but, as you no doubt know, with the whole gamut of so-called "specialists" in everything from construction to the manufacture of building products.

Another way of saying all this is: you've got to acquire commissions; you've got to build, maintain and control an organization to execute these commissions, and finally, you must operate efficiently and at a profit. However, the main subject here is the acquisition of commissions; yet this in turn calls for review of your business development program—the "where" and "how" of selling architectural services.

Maybe it is best to begin by asking yourself some questions: Am I satisfied with my present volume of work? Am I satisfied with the composition of my current practice? With the types of projects and extent of my participation in these projects? Is my



current practice stimulating to me, to my associates and to the bright, younger staff men whom my firm must attract and hold in order to prosper?

If I am not satisfied with things as they are, where do I want to be? In other words, what are my goals? It is no doubt safe to assume most architects want stability as well as growth. If this is so, then how do I want to grow; in volume, in profitability, in terms of a more diversified practice?

*Specialized or general practice*

For example, growth, as a specialist in one—or a few—building types, may offer stability since specialists seem always to be in demand. This avenue may therefore satisfy growth and profitability. However, there are obvious limitations in such a practice—in terms of holding on to well-qualified staff members who demand stimulating and challenging assignments. Also there is the risk of becoming overweighted in one direction and thereby running the risk of losing the ability to provide the comprehensive services possible in a full-scale architectural firm.

*Comprehensive architectural practice*

The decision may be to grow in the direction of comprehensive architectural practice. This may be necessary for sheer self-preservation since more and more of the architect's work is being taken away by non-architects, many of whom specialize in some of the so-called peripheral services. Or some other growth path may be chosen. The fundamentals of the "where" and the "how" of selling architectural services apply no matter which route is taken.

*Current status of practice*

Now, let's examine your practice as it exists today: What are your strengths? This should be readily apparent. As part of this self-examination, you must be your own severest critic in terms of client satisfaction. Have clients been satisfied with your meeting of completion dates and budgets? Probably the most important and influential factors in the eyes of the businessman prospect are your firm's ability to control the costs of jobs and to meet deadlines.

What is the character of your repeat business? Do the same clients come back? Do they refer prospects with the same building types, or do they consider you versatile enough to do a variety of types of projects?

Let's examine the experience of your key staff members, again in terms of their abilities and experience. And, finally, it will be well to take a long look at the scope of services which you can now offer with your present organization.

Analysis of your own organization, its experience and strength, is only part of the job in developing a sales program. The next and equally important step is an analysis of the needs which exist within your community, county and state, or however you define your market area. The mechanics for determining and analyzing the types of work which presently exist and most probably will exist during the foreseeable future is a subject for an article in itself. However, your own knowledge and experience locally has no doubt given you enough insight to make such a determination for the purpose of establishing, generally, the direction you wish to take in the near future.

*Practical objectives for practice*

Finally, you must interpret these factors of *self-analysis* and *market analysis* in terms of a series of practical objectives. The single most important question to ask yourself at this point is:



Do I possess the experience, personnel, satisfied clients and scope of services to compete for the types of commissions which exist in my market area?

You must then pinpoint the types of commissions you wish to go after in the future.

As the last step in this self-analysis, it is then necessary to make an effort to determine the standing of your firm in the eyes of the prospects you have selected. Are you typed? If so, how? For example, if you are typed as a school architect and have selected industrial commissions as your next target, you must evaluate to what extent your "school" image is an impediment and to what extent you can relate this as strength.

Here's one approach you might take. Break down the components of work you've done for schools and relate the points of similarity to the average industrial commission. There are many similarities: in site location, cafeteria, laboratories, administrative and clerical areas, heating and ventilating, and other mechanical facilities—strengths and experience in such areas will relate to many building types.

Up to this point you've examined your experience and background, where you stand in the community and, to a degree, what types of work are open to you—based on achievements to date and building types planned in your market area.

Now, it is time to take a look at how you are currently organized to sell architectural services. What sales tools do you have? Do you have an up-to-date brochure? How recent—is it designed to be updated? Or do you make up a detailed individual letter each time a new prospect comes along? Do you need separate brochures—in other words, one general brochure and one for each important category of your work?

*Organization for practice*

How are you utilizing articles on the work of the firm? Do you obtain reprints of speeches and articles? Are you maintaining a mailing list of former clients and personal contacts who can represent or influence references and recommendations for future commissions?

What are your presentation practices? Do you use film strips, slides or other audio-visual presentation tools, in addition to photographs and drawings? Do you continue to document your work in a professional manner? This means using qualified architectural photographers. Since prospective clients often ask questions concerning how your firm will be organized for their project, are you prepared to make a visual presentation on how you will function if you are selected?

How are you currently organized for business development? It has been our experience that the biggest single thing lacking in architectural firms is a well-defined new business function. The most successful practices in the country today—from the standpoint of stability and profitability—are those with effective, organized business development programs. These firms also know how to speak the language of their prospects, especially in terms of budget and calendar requirements. Who shares the business development responsibility? Or is it the responsibility of one

*Organization for business development*



*How past commissions were obtained*

individual? Or, as so often happens during busy periods, is it unassigned and based on “who has time now?” What budget in terms of time and dollars do you allocate to the business development function? How are you organized to carry out a continuing development program?

The best method for appraising your strengths and weaknesses in terms of development of future commissions is an analysis of how you obtained commissions in the past. Why did clients select you? This may seem obvious in many cases, but careful investigation may reveal that the most obvious reasons do not tell the whole story. Such analysis may reveal strengths to be re-emphasized in your selling program. Any prospect faced with a choice—in products or services—wants to know the benefits or points of uniqueness that you can offer in terms of his needs. Basically, the buyer asks this question: “What makes you better than your competitors?”

*Unique selling proposition (USP)*

If you can provide strong answers to this question, you are well on the way to development of what is known in industry as the “Unique Selling Proposition” or USP. The answer to “why did clients select us” may provide you with the soundest possible answer to “why *should* clients select us.”

Now that you have assessed “where you are, how you wish to grow, the types of commissions you want, your current business development program, strengths and weaknesses, and your “Unique Selling Proposition,” you are ready to tackle the next step, planning your program.

Your program must be planned around the objectives described earlier. Which are your best prospects in terms of building classifications and past clients? What are your sources of new business?

*New business targets*

Who should be hearing of you and from you? Since decision-making usually involves more than one person, and fewer and fewer commissions are being awarded by a single individual, it would be well to pinpoint your new business targets by evaluating their categories in the following manner:

*The Initiators* These are the men in the prospective client’s organization who make the initial inquiry or “feeler” to you. Obviously, in order to do this, they must have heard of you (or, *from* you), directly or indirectly.

*The Influencers* These are the various executives all along the line—committee members and others in staff positions—whose goodwill is important. They don’t make the final decisions, but they influence it indirectly.

*The Permitters* These are the executives higher up the line who seemingly are not directly involved in the decision, but who can express approval or disapproval in the narrowing-down process leading to final selection of an architect.

*The Deciders* These are the line officers who are charged with the responsibility for making the actual decision. However, as has been pointed out in the discussion of the other three targets, the Deciders do not make their decisions in a vacuum. They are influenced all along the line—by the Influencers and the Permitters. And, if the Initiators did not bring up your name for consideration



at all—then of course the real decision-maker involvement with you will be quite simple: there will be none. As one of our recent reports to a firm of architects pointed out: “Never neglect the top officials, but never cultivate them alone. . . .” The top officials are of great importance, but not necessarily of the *greatest* importance to you in your practice.

It is an excellent idea to think of each prospect in terms of the decision-making process within the firm. Then plan your strategy to approach the appropriate individuals at the appropriate times.

Now let's look at some fundamental elements which will enable you to shore up your business development program. You may be doing all—or many—of these things now, but ask yourself if you have an organized plan or just a hit-or-miss proposition. Remember, the firms that are most successful are those which have established business development policies—and stick to them.

First—establish a budget for business development. Look at what you have spent in the past—in terms of your own experience—and consider: “Was the amount spent realistic, in terms of the materials and man-hours that are needed?” Setting a budget in terms of a percentage of gross income is difficult, since we've seen a range of from 3 to 18 per cent. Frequently, when the percentage was on the high side, the budget was a catch-all for all non-billable time. On the other hand, one particular firm with a 5 per cent budget has a far more effective sales effort, due to their organized sales approach, than another firm with an 18 per cent budget. Certain types of business development work may take more time and effort than others, due to such factors as appearances before boards rather than individuals. You may find that you have to invest considerably more than you have in the past, and this will require a basic policy decision to appropriate a larger initial fund to “position” your firm.

One firm that has considerable stature today was relatively small, a few years ago, but it had a few prestige jobs behind it and loads of ambition. The senior partner realized the firm had reached a point requiring just such a basic policy decision—whether or not to appropriate a sum, which for them was of an unusual size, for a major business development effort. Shortly before Christmas he called his key staff members together, carefully explained his point of view and gave them a choice. “We've had a good year,” he said, “and X-thousands of dollars are now available for us all. Do you want to take this money as a bonus now or to invest it in our future through a major business development and public relations program?” The majority agreed with the senior partner to invest in development of the firm. This was a wise decision, since today the firm is one of the most successful in the country.

Second, assuming you have arrived at a budget, you must have proper sales tools in order to implement your business development program. These tools, referred to earlier, include an adequate brochure, reprints of speeches and articles, as well as professional documentation of your work in the form of adequate photographs and drawings. You might at this point also include the services of a professional public relations consultant.

*Budgeting for business development*

*Proper sales tools*



**I Review of present  
business development function**

**Evaluation Criteria for the Marketing of Architectural Services\***

**A Organization and Responsibility**

- 1 Business Development Function
  - a Assigned to partners, associates
  - b Assigned to specified department
  - c Assigned by client, type of work, geography
  - d Assigned by combinations of above
  - e Sole responsibility of an individual
  - f Unassigned ("who has time now?")
- 2 Chart of Responsibility and Authority
  - a Individuals involved full time, part time
  - b Accountability
  - c Budgeting of time by individuals involved

**B Business Development Budgeting and Controls**

- 1 Formal, informal
- 2 Standards, goals, in terms of numbers of calls, proposals, timing, "markets," sources
- 3 Basis for standards—past experience (how analyzed?), professional experience exchanges

**C Presentation and Client Proposal Practices**

- 1 Screening proposals to clients and proposal possibilities
- 2 Standards of time, money to be invested and policies involved
- 3 Preparation of presentations and proposals—how organized and handled
- 4 Pricing

**D Planning and Timing**

- 1 Pre-expiration of job planning in relation to lead-time
- 2 Goals by industries, types of work and markets, by types of skills and services (both basic and comprehensive)

**E Communications**

- 1 Internal, sales progress meetings, other
- 2 Direct contacts programmed, personal (by whom), mail, other

**F Procedures**

- 1 Handling and referral of inquiries, old clients, new clients
- 2 Client, prospect records, files, call reports
- 3 Follow-up calls on current prospects
- 4 Follow-up calls on dormant former clients
- 5 Follow-up calls on prospects to whom proposals have been made
- 6 Geographic, or type of service, limitations
- 7 Call and follow-up frequency
- 8 Goals by types of calls, proposals, number of sales, dollar values of fees by types of work, by sources
- 9 Organized news-scan (early identification of opportunities)

\* Prepared by D'Orsey Hurst and Company

- 10 Presentation and proposal screening procedures, budgeting of proposal work
- 11 Internal participation (assigned to staff) and follow-up, contacts, speeches, articles, other activities
- 12 Incentives to staff for development, intelligence, interest, and/or activity
- 13 Budgeting for above activities
- 14 Training methods to maximize effectiveness of above

**II Evaluation of organization for business development and utilization of business development tools**

- A Objective evaluation of all facets of organization for business development listed above
- B Assessment of effort and effectiveness of utilization of appropriate business development tools covering (but not limited to) the following:
  - 1 Direct contact with prospective clients
  - 2 Follow-up contact with former clients
  - 3 Other cultivation activities to stimulate referrals and recommendations, including financial community relationships
  - 4 Participation in activities of associations and societies
  - 5 Speeches at appropriate forums and conferences
  - 6 Professional publications
  - 7 Publicity
  - 8 External mailings and publications (brochures, reprints, other)
  - 9 Presentation tools (photographs, brochures, slides and films, display panels, other)

**III Evaluation of attitudes and opinions: image**

Confidential research by means of personal interviews (disclosed or undisclosed) among present clients and prospects, "lost" prospects and others covering (but not limited to) the following:

- A Professional and competitive standing—strengths, weaknesses
- B Utilization of "top level" selling approaches and methods, effectiveness, drawbacks (if any)
- C How firm is "typed." Does this classification do justice to firm's capabilities? How was this "image" acquired? Growth assets and liabilities in relation to market outlook and potential

**IV Planning and programming for firm's growth: the recommended program**

- A Market research, market outlook, apparent needs, determination of the firm's goals
- B Establishing objectives, short term, long term—classifications, practice "mix," industries, geography
- C Developing programs and assigning responsibilities
- D Management controls to measure progress. Improvements in procedures where possible
- E Outline for implementation—timing and budget
- F External assistance services if needed



*A workable program  
for business development*

*Periodic review and  
measurement of progress*

*Key staff members can help*

*Former clients can help*

*Principles and ethics*

Now you are ready to go into action, but to be most effective you must depend for your success upon a realistic, workable—and even rather rigid—program. Your key words for this activity are continuity and control. All too often the business development function is pushed aside the moment there are increased pressures of daily production. New business becomes a sporadic function, and in short order, this leads to a complete breakdown of the program with a resultant loss of whatever momentum had been created. Again, remember that the most successful firms are those with the most consistent new business development programs, and that—in these firms—the programs continue regardless of other pressures of any kind.

Another important ingredient in making your program work is periodic review and measurement of progress. This is essential for control. Ideally, your program should be of sufficient importance to command a formal, periodic review at predetermined intervals. If all partners and key personnel cannot be available at these times, a more informal review arrangement may be necessary. The important thing is to have a review of some kind. For this purpose, a central prospect file and progress report system is necessary. Your system should describe each prospect in terms of what is to be done next and by whom. This responsibility must be seriously assumed or the system will fail. Many techniques are available and can be tailored to the requirements of *individual* firms so that the people in the firm can make their plans work.

You have a basic selling resource right in your own office—no matter how you plan your business development program. This is the sum total of the potential of your key staff members. Each associate should be a representative of the firm—alert at all times to new commission possibilities in his own universe (community, classmates, fraternity brothers). Staff members cannot function effectively in this role, however, unless *properly indoctrinated* and *enthusiastic* about the strengths of the firm.

Still another resource too often overlooked is past clients. How many architects, after a building has been completed, fail to make routine follow-up calls periodically to inquire about the building's condition and performance? Such continuity leads to referrals and repeat commissions and should be made a definite responsibility of the firm's principles.

The firms that represent increasing competition for architects are business and sales oriented. Such firms can advertise, use high pressure, work on speculation, and use every other device known to modern sales promotion. However, as a practical matter, these methods cannot earn the respect and dignity of an architectural firm that sells its services within the constraints of the professional ethical code—so long as good use is made of the tools and sound sales development principles which are permitted by the code of ethics of the profession.

The operating principles and ethics expected of architects by clients and prospects seeking their services are within the bounds of respect and dignity associated with such professionals as bankers and lawyers. Departure from these constraints, in fact, creates—among clients and potential clients—a negative image.

# Comprehensive Architectural Practice— Bank Building

by George F. Pierce Jr FAIA

To architectural offices of all sizes—from the smallest to the largest—bank buildings present opportunities for comprehensive architectural practice, especially in such important areas as operations programming and planning

*Opportunities for  
comprehensive services*

*Bankers recognize values  
of good environment*

Bank commissions offer architects, regardless of the size of their organizations, a great number of opportunities for rendering comprehensive architectural services. In the first place, a large number of banks are being constructed today; and nearly every architectural office finds itself, sooner or later, with a commission for a bank. Secondly, the bank client is not usually experienced in the coordination of design and construction of numerous projects for his institution, as an industrial or commercial corporation client might be. Hence, in a bank, there is normally no “built-in” departmental organization that may have completed economic, feasibility, financing, operational studies before the architect is called in.

In addition, today’s banking fraternity is quite receptive to the value of an attractive environment for their operations, not only for efficiency and the well-being of their employees, but for



the attraction of customers and their enjoyment. Therefore, it will often be much easier for an architect to convince a banker than some other type of client of the importance and value of architectural coordination of total design, including comprehensive services prior to actual building design as well as coordination of fixtures, furniture and furnishings, architectural graphics, and even stationery, letterheads, check books, statement forms and related printed materials. Thus the architectural profession has an excellent opportunity to demonstrate the values and usefulness of comprehensive architectural services, whenever its members are favored by clients with bank design commissions. This opportunity must not be missed.

Other articles have outlined general procedures for conducting comprehensive practice, either through assembly of the required specialists into a large organization with a permanent staff, or with outside consultants and collaborators. Either organizational method (or a combination of the two, which is usually the case) can be made to work very satisfactorily in the client's interest if the architect accepts the professional responsibility for complete coordination. In this article, methods by which comprehensive architectural services can be applied specifically to the design of a bank facility are outlined. Of course, some services in addition to those mentioned here may be required for specific banking facility projects.

**Analysis, Promotional,  
Managerial Services**

Often the architect will find himself in a position in which he can help a bank client establish whether or not a need exists for a remodeled or new bank facility. This can be accomplished by analyses of present operations, efficiency of existing methods of paper work and personnel flow, inter-relationships of departments to each other and to their present locations, adequacy of space allotted to employees and customers, the sufficiency of parking and drive-in banking facilities and of the general environment. Some architects may be astonished to discover how well qualified they are in these areas, if they will only take the time and effort to expose themselves to the realities of such problems first hand.

*Establishment of needs*

*Economic analysis*

After the completion of a thorough study of an existing banking operation, the architect will have on hand most of the information required for study and development of an economic analysis of the proposed project. He will then be in a position to advise his client on the probable costs of new or remodeled facilities and the prospect of a reasonable return on his investment. The architect should then be able to establish accurate estimates of new equipment required, personnel, the building area which will be required to operate efficiently now and in the projected future, and also the size and general type of site on which such a project should be located. From these facts, and with the assistance of qualified consultants and collaborators, an accurate projection of the scope and the cost of the entire facility can be easily completed.

*Financial consultation*

For a bank client, there will probably be little need for an architect to render financial advice. This is the specialty of the banker; so the architect will find the consultants for this phase built-in. Interim and long-range financing will almost certainly be

smoothly organized and completed by the bank client. If not, the architect might well begin to worry about the reality of the entire business project affairs.

*Land assembly*

After feasibility studies have been completed, economic studies made and favorably considered, and financing has been assured, decisions to find and purchase a site and proceed with planning can be made. The architect, depending on the size and qualifications of his staff, can take on the responsibility of seeking for—and assembly of—the land for a site. The more usual role of the architect would probably be that of agent for his client for the purposes of retaining a qualified realtor, specifying the site qualifications required, reviewing the prospects which are available, and finally making a recommendation for purchase to the client. Certainly, the architect, in close consultation with his client, is better qualified than any other person to judge all of the many aspects of a prospective site for a specific job. This is especially true if the architect has already proceeded through the economic, feasibility and financial services previously outlined in this article.

### **Operational Programming**

During the period of the search for—and purchase of—a proper site for a bank facility, the architect can save time by beginning the operations programming phase of his services. The results of this phase will have more to do with the eventual success or failure of the operations in a bank facility than any other responsibility the architect assumes. The results of operations programming also serve to demonstrate clearly the thorough understanding the architect has gained of a particular planning problem and its ideal functional solution—not only from the standpoint of his client's business philosophy, but from that of the personnel who will direct the bank's operations and from that of good banking practice. On the following page, typical banking operations are outlined in some detail.

*Relationships between  
bank operations*

Of course, the architect's knowledge that the functions outlined exist in most banking institutions will not, in itself, solve the problems. The architect must establish how these operations should work theoretically, before he can begin to relate the operations in their functions and before he can develop a plan concept. This requires close co-operation between architect and client.

### **Operational Design Services**

Establishment of operational methods is best accomplished by means of diagrammatic studies of functional relationships and personnel and work flow. The operational diagram, shown on the following page, was developed for an actual bank planning project. It was finally accepted by both client and architect as the theoretical solution of the special problems of this particular bank only after a number of other such diagrams has been discussed and rejected or altered. It may be noted that both present and future personnel requirements are shown, together with the theoretical separation of floor levels dictated by site limitations. Before such a final, comprehensive diagram of a bank's operations program can be completed, the building occupancy requirements (both personnel and departmental) must be firmly established, site acquisition completed, and the basic philosophy of banking operations and building design must have been agreed upon.



Bank Operational Program Outline

Major banking operations can be divided into the following basic functions:

I Banking Floor

A Public Spaces

- 1 Circulation—ingress and egress
- 2 Checkwriting desks, line-up space
- 3 Lounge, waiting space

B Tellers

- 1 Commercial
- 2 Savings
- 3 Notes

C Officers Platform

- 1 Open desk space
- 2 Private offices, conf. rooms

D Access—Safe Deposit, Money vault

II Operations

- A Bookkeeping Department
- B Proof Department
- C Clerical, Mail, Record Vault

III Safe Deposit Vault

(may contain bank money vault)

- A Safe deposit boxes
- B Clerk-Receptionist
- C Coupon Booths

IV General Services

- A Toilet, Employees Lounges
- B Snack Bar
- C Mech. equip., Maintenance, PBX
- D General Storage

In addition, the following operations are often a part of the functional requirements of banks:

V Automobile Parking

VI Drive-in Tellers

VII Meeting Rooms

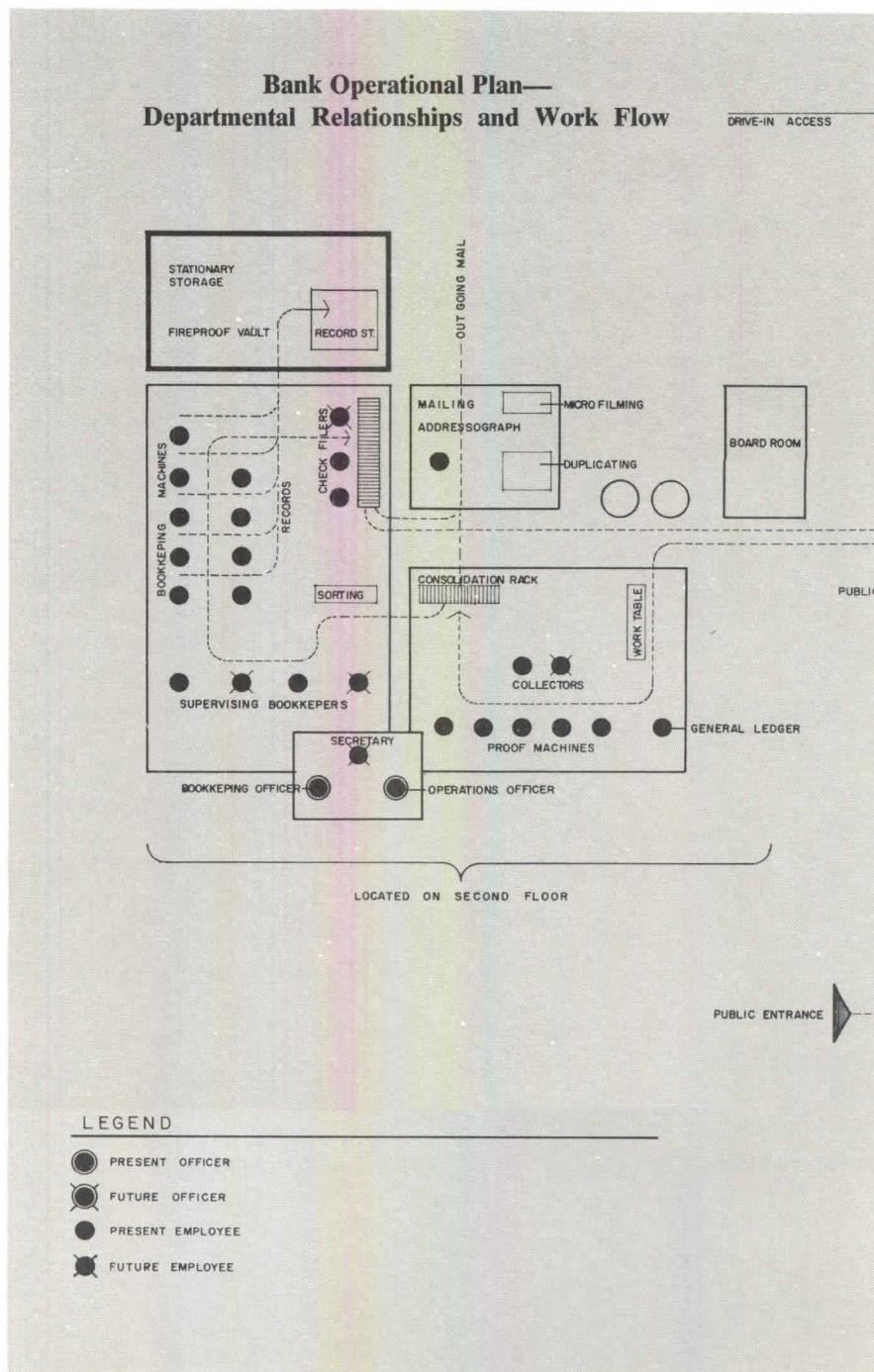
- A Board of Directors
- B Community
- C Employees

VIII Trust Department, Foreign Exchange, etc.

Operational plan for First National Bank, San Angelo, Texas; The Office of George Pierce—Abel Pierce, Architects and Planners; Lovett and Sellars, Associate Architects

If a banking institution is large enough to require it, the diagrammatic chart idea can be profitably carried a step further into studies of the theoretical functioning of each department.

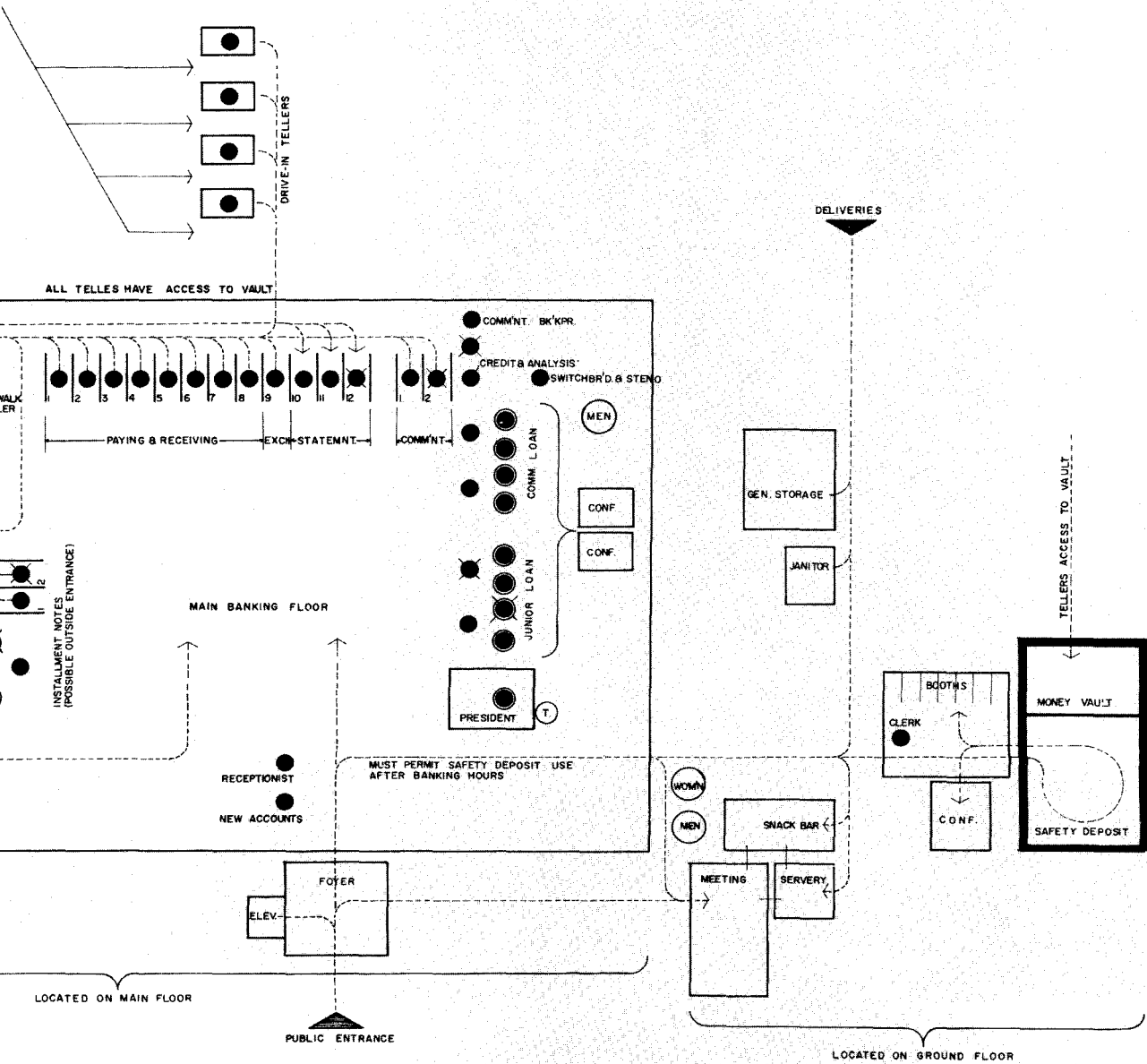
After the departmental relationship and work flow diagrams have been completed and approved and a satisfactory site has been acquired, the design and construction phases of the project can be scheduled to fit the financing timetable. The architect can then proceed with the succeeding phases of his services, many of which he has performed traditionally. There should be no need to stress here the importance of recognition of the general environ-



ment of which the new structure will become a part, or of creating a building that will be a compatible asset to the surrounding community. And the influences of climate, materials, traffic patterns, approach vistas, effects of structures in close proximity to the site, etc, which are of such basic importance in good architectural design, probably should not even have to be mentioned. Yet only too often these factors are ignored, often resulting in a potentially good solution that has been ruined by oversight.

On the other hand, it will do no harm to re-emphasize the necessity for close cooperation and coordination of the entire

*Cooperation, coordination  
important*



M A Y 1 9 6 3



### Supporting Services

design team during the development of preliminary designs, working drawings and specifications. Those professionals who are to be responsible for furnishings and furniture can—and should—contribute a great deal to the design and detailing of built-in tellers' counters, storage units, space dividers, and other bank fixtures. Architectural graphics should be integrated into the preliminary design concepts, and then followed through within the project based on the established criteria, not "stuck on" later wherever convenient locations can be found. Teller money-changing machines can be made an integral part of the counters, rather than placed on top later. Adding machines can be installed with their faces set flush in check-writing tables thereby reducing maintenance and accidental damage which may result when they are mounted in more exposed positions. File cabinets can be made into handsome space dividers through careful selection of styles and colors and by covering groups of them with smart looking and useful one-piece tops. Sculpture, murals and art work should be closely coordinated from the beginning. The potentials of architectural lighting may well be the least realized of all of the facets of good architectural design; in any case lighting is usually the last facet to be considered. And there are many ways to attain proper circulation of cooled or warmed air within building spaces, without the usual offensive and dull, symmetrical spacing of supply and return grilles on the ceiling, in the vertical enclosure surfaces, or at the window perimeter.

### Construction Services

During construction, a bank project demands no unique or special services that ordinarily would not be rendered by any qualified architect on any quality building. Fine materials and finishes are usually specified for banks and can be attained only by meticulous observation of the contractor's work. However, the desire to fulfill the goal of total design of the physical banking environment requires something more than this. The purchase and installation of all fixtures and furniture should be professionally coordinated. Graphics should—and can—be controlled and well-designed, including building signs, large-scale instructional and directional materials, personnel identification markers, stationery, office forms, check books, promotional material and public advertising. It is really not impossible to carry off such a program, if the architect will make a positive effort to convince his client of the dividends he will receive at no added cost. A growing number of highly qualified independent interior consultants are currently striving for professional association with architectural firms. Capable graphic artists and designers are somewhat more difficult to find. However, the architect is better qualified than he is usually willing to admit to be a helpful advisor to his clients in their relationships with interior designers, artists and other such consultants.

Comprehensive architectural services for a banking institution, or for any number of other projects, really begin when the architect simply gets himself into the spirit of the control of total design and then does everything he can to perform effectively. Of course, this is an oversimplification of the facts. Yet architects are actually very well qualified indeed to fight for this important position at the center of things if they go on out and get their feet wet.

*The Commission on Architectural Design, Morris Ketchum Jr, FAIA, Chairman*  
*Committee on Hospital Architecture, Matt L. Jorgensen AIA, Chairman*

► The electron microscope is a most important research tool because of the extraordinary way in which it has increased our ability to look into the structure of matter. In this way it has opened up new sources of knowledge, which have made possible the advancement of medical science and other fields of research.

Greater magnifications and much higher resolving power are possible than with the light microscope.

The instrument is analogous in principle of operation to the ordinary light microscope, notable difference being that the electron microscope uses an electron beam as a medium of illumination, rather than a beam of light.

Focusing is accomplished by means of electromagnetic fields. Because electrons are easily absorbed in air, the microscope column surrounding the beam must be operated under high vacuum. The focused electron image of the specimen is observed by means of a fluorescent screen placed in the path of the beam. Photographs of the image are routinely made with a built-in camera.

The complete electron microscope laboratory must provide space and facilities for installation of the electron microscope and its accessories, as well as laboratory facilities for specimen preparation and photographic facilities for developing and printing.

### Operations

The electron microscopist does more than just observe and photograph specimens. Much of his time must be spent in the laboratory preparing acceptable specimens for examination. These and other important operations which the electron microscopist will do in the course of his research are:

- specimen procurement and general preparation including micro-dissection, fixation, and embedding
- specific preparation procedures pertaining to suspensions, surface films, replicas of surfaces, thin sec-

tioning (ultra-microtomy), and preparation of supporting media or substrates

- routine upkeep of the electron microscope, including alignment, compensating lenses, and general testing to obtain adequate or optimal resolution

- cassette loading, unloading, and plate (or film) development

- print development, enlarging
- maintenance and repair of mechanical or electrical nature

- filing of electron micrographs (negatives and prints)

These operations and functions apply basically to any laboratory installation, regardless of size or extent of research program.

Operations involving specimen procurement and general preparation may be expected to vary widely with the source and specimen. Sources may range from a living anesthetized animal from which a small sample of an organ, muscle or bone is removed and sectioned, to bacteria or virus cultures which may require filtration or centrifugation. Fixation techniques may vary from chemical means, including pungent and hazardous chemicals, to freeze-drying or physical fixation. Chemical fixation and investigations involving distillation or purification of various embedding media are normally carried out in a fume hood.

Perhaps the most critical operation in specimen preparation for electron microscopy is sectioning. The ultra-microtome, like the electron microscope, is sensitive to mechanical vibrations and temperature fluctuations. It is best if the instrument is mounted on its own sturdy table in an area relatively free from air currents. Specific values of air velocity which prevent good sectioning are not available, but certainly the microtome will not want the microtome located in the direct blast of a ceiling- or wall-diffuser.

Photography requires a darkroom which, for convenience, should adjoin the microscope room. The investigator loads the cassettes with film or plates in the darkroom and then inserts them into the mi-

## Planning the Electron Microscopy Suite

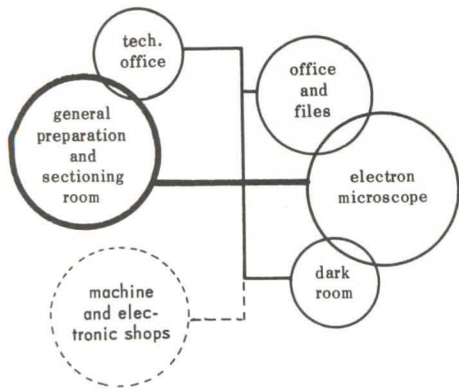
by **J. Clyde Sell**

Illustrations by  
**William W. McMaster Jr AIA**

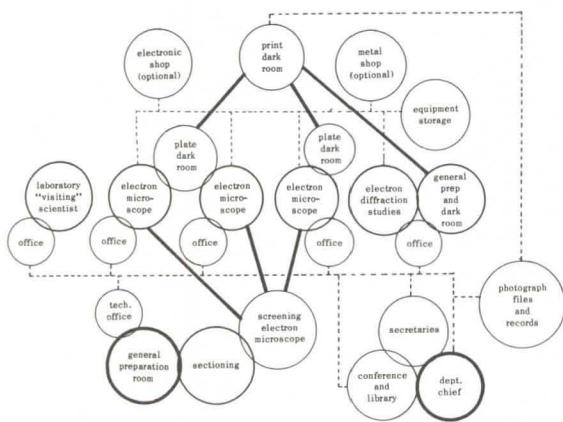
Development Section  
 Research Facilities Planning  
 Branch  
 National Institutes of Health

*This article is intended to help the planning architect familiarize himself with the type of equipment, operations and environment associated with electron microscopy. While each installation has unique qualities, there are many points of similarity. The author wishes to acknowledge the help of many NIH scientists and microscope manufacturers who supplied ideas, comments, and constructive criticism*



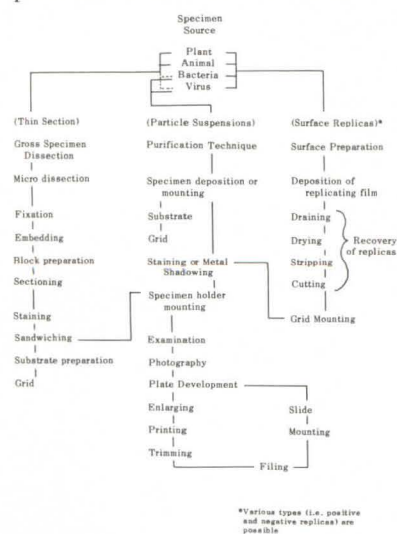


Small histological electron microscopy suite (functional relationships)



Large histological electron microscopy suite (functional relationships)

Typical flow diagram showing sequence of operations for typical applications in biomedical research



\*Various types (i.e., positive and negative replicas) are possible

croscope. After the required vacuum is obtained, he examines the specimen and exposes the film or plates. Development of negatives is done in the same darkroom. Usually this darkroom should not be shared with other groups, although it may accommodate more than one microscope. In small installations involving only a single microscope, both plate and print development may be done in the same darkroom with no loss of efficiency.

An electron microscope will undoubtedly require routine cleaning, periodic service, maintenance, and in some cases repair. A great deal of the day-to-day maintenance must be done by the researcher. He cannot depend on a serviceman for this type of work (ie, changing gun filament, cleaning apertures, etc) although manufacturers do offer routine checkup and emergency service.

Instrument accessibility is particularly important in maintenance. In case it is ever necessary to remove large components from the microscope console, there must be ample space around the instrument to permit easy access from all directions. For this reason it is advisable to locate most instruments near center of the room.

The final product of electron microscopy is the micrograph. This represents the photograph which the investigator studies and examines. During the course of an investigation, many photographs will probably be collected and from time to time viewed and reviewed. These are valuable information and should be kept on reference file in an orderly manner to avoid loss or damage.

### Typical Installation

The program which the senior investigator outlines will establish space requirements and point out unique features needed in a specific installation. Typically, the electron microscope laboratory will be designed around a single microscope although research laboratories with more than one microscope are not uncommon. Provisions for a program of teaching and training as well as research or specialized applications (specimen screening, electron diffraction) will undoubtedly involve several microscopes. Regardless of the number of microscopes in an electron microscopy laboratory, provision must be made for all necessary activities and operations. In the small in-

stallation where only a single microscope is used, many activities must be consolidated, particularly general preparation procedures. In the larger installation with many microscopes in use simultaneously, this degree of consolidation is not warranted or possible. These two situations are contrasted by the functional schematics at left.

Probably the typical situation for new installations is represented by figure at top left. As the initial research program grows the installation can expand accordingly, so that eventually it will become similar to that shown at center.

A flow diagram below indicates the sequence of operations for typical applications in biomedical research.

As indicated, these operations will vary with the application and the investigator's field of research. Histology, for example, will require thin sectioning procedures and an ultra-microtome, while for the study of viruses such equipment and procedures may not be required. Almost every laboratory will need a vacuum unit either to produce evaporated substrate films or to enhance contrast of viral, bacterial, or histological preparations through shadow-casting.

Some provision must be made for maintenance and repair of the microscope. Unless the research program is highly experimental, facilities such as a machine shop, electronic instruments, and electronic repair facilities can be shared with other groups because of their infrequent need. Facilities such as these are not a necessity in every case, but their availability is certainly a convenience. An eventual need for them should be considered.

### Location

In choosing a location for the electron microscope laboratory it is important to remember that interference from mechanical vibration may have a detrimental effect on the performance of the microscope. Most microscopes are sensitive to vibration and are likely to be affected adversely by levels of vibration which might be considered normal for most laboratory equipment. Ideally, location should be free from vibration, but this is not usually practicable. Levels of vibration in various parts of the building can serve as basis for a selection. Where a building is not yet constructed, it may be advis-

able to consult experts to obtain advice on potential problems and possible solutions.

Vibration studies made at NIH during 1962 have, to a degree, correlated performance with ambient background floor vibration. In general it was found that when vibration level is in the region of  $10^{-3}$  "g," performance of many microscopes is impaired. This value corresponds to an amplitude of two to three micro-inches at a frequency of 20 cps.

This threshold value may be greatly exceeded in areas close to heavy rotating (or reciprocating) equipment such as elevators, fans, motors or pumps. Generally, vibration levels are lower in basement locations than in upper floors, since the basement (or ground floor) is continuously supported and may be more rigidly constructed. Vibrations may also arise from outside sources such as moving vehicles, trains, earth-moving equipment or seismic disturbances.

In addition to being a source of mechanical vibration, electric motors, elevators, fans and other moving equipment may generate troublesome stray magnetic fields. Stray fields may also be generated by stationary equipment such as transformers, X-ray equipment, and common fluorescent light ballasts. Large fluctuations in temperature and relative humidity also adversely affect microscope operation.

### Microscope Room Requirements

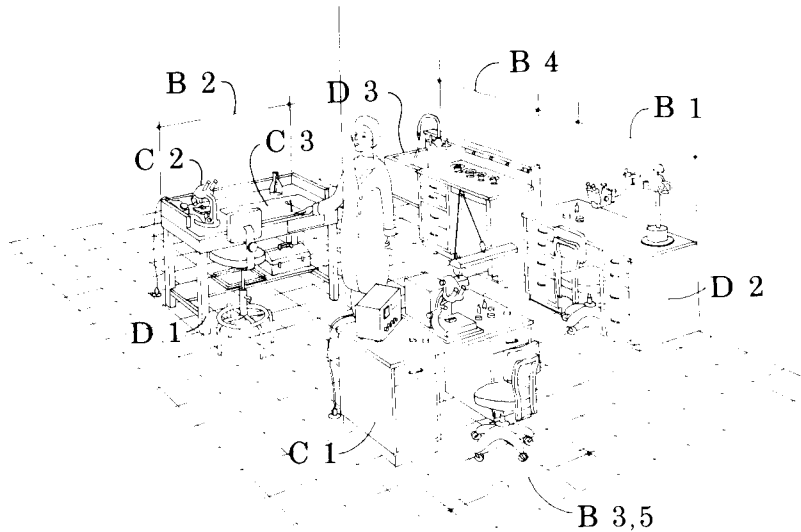
Since the investigator may spend many hours sitting at the microscope observing details, his comfort is a major consideration. Both for efficient microscope operation and the comfort of the operator, the following details should be taken into account.

#### airconditioning

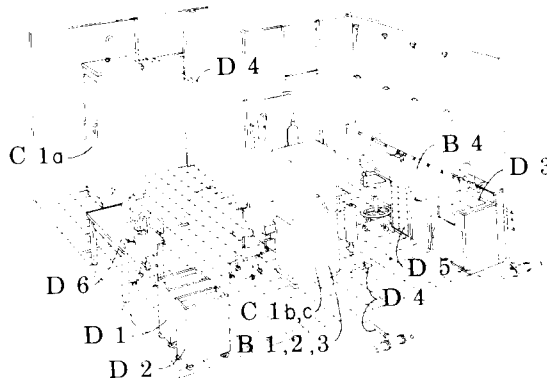
- important for maintaining control over both temperature and relative humidity, for microscope operation and operator comfort
- heat load imposed by microscope and its power supply should be considered

#### lighting

- light switches should be near instrument since operator will need to turn room lights on and off at frequent intervals
- no need for natural light—(windows also undesirable as a source of dust and dirt). There should be no bright light-sources or

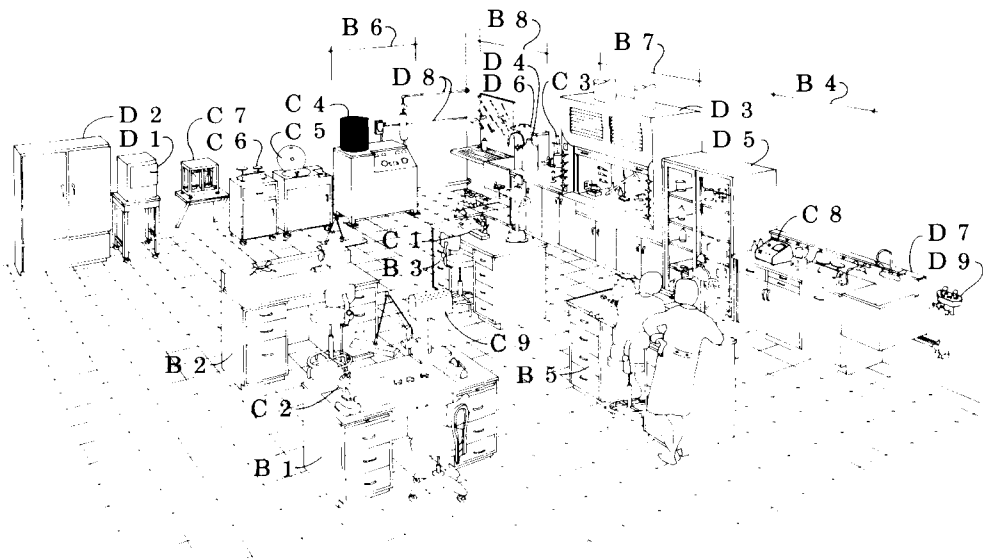


Typical ultra-microtomy room. B 1—preparation of block; 2—knife preparation and inspection; 3—cutting; 4—staining; 5—mounting. C 1—ultra-microtome and bench; 2—binocular microscope; 3—glass-cutting tools. D 1—table; 2—storage cabinet; 3—sink, hot and cold water



Electron microscope room. B 1,2,3—mounting in microscope; cassette loading; examination; 4—photography. C 1a—power supply; 1b, c—vacuum pump and voltage stabilizer. D 1—tool cart; 2—cabinet; 3—sink; 4—electricity, water, drain; 5—storage; 6—microscope, bench

Preparation, histology. B 1—gross specimen study; 2—dissection; 3—microdissection; 4—chemical fixation; 5—embedding; 6—substrate preparation; 7—chemical preparation, distillation; 8—glass washing. C 1—micromanipulator; 2—optical microscopes; 3—freeze drying; 4—vacuum evaporator; 5—centrifuge; 6—Harvard balance; 7—analytical balance; 8—pH meter; 9—ultraviolet lamp. D 1—oven; 2—refrigerator; 3—fume hood; 4—distilled water; 5—storage; 6, 7—sinks; 8—electricity, water; 9—eye-wash





reflectors to annoy or fatigue operator

*wall and ceiling materials*

- materials should have good sound-reduction qualities and should contribute to general cleanliness of room
- joints should be tight

*flooring*

- good-grade tile or adequately sealed concrete—must resist damage from oil, organic solvents
- structurally, floor loads imposed by microscope and power supply must be considered

Table 1 summarizes typical structural requirement.

**Microscope Utilities**

Principal utilities required for the microscope are water, electricity, and compressed air. Although commercial models differ in water consumption and pressure, it is generally agreed that water should be free from solid matter which may eventually build up, clog the tubing, and interrupt cooling water flow. A replaceable-type filter is a worthwhile investment if it is not supplied with the instrument. Water pressure, pressure regulation, inlet temperature, and water flow requirements are usually stated in the manufacturer's literature. Provision should be made to check visually the flow of water, although some instruments are equipped with an alarm which automatically notifies the operator of failures.

Various commercial manufacturers specify that the microscope power supply or voltage regulators be located some distance from the instrument in order to avoid electrical disturbances to the microscope from this equipment. The electrical installation including conduit, grounding, switches, wire sizes, insulation, fusing, and power requirements should be known so that the components, and their relative location are compatible with the microscope manufacturer's recommendations or specifications. Proper electrical grounding is important and the need for an isolation transformer to eliminate circulating ground current effects should not be overlooked.

A summary of utility requirements is presented in Table 2.

The checklist which follows is designed to help in planning ancillary facilities (darkrooms, machine and electronic shops, etc).

**Table 1—Typical Structural Requirements<sup>1</sup>  
For An Electron Microscope**

	<i>Min limit</i>	<i>Max limit</i>
<i>Weight</i>		
Power Supply (lbs)	600	3000
Microscope (lbs)	600	3300
<i>Dimensions</i>		
Height (in)	60	92
Width (in)	29	57
Depth (in)	36	72
Floor loading (psf)	100	280

<sup>1</sup> This information does not pertain to any particular model. It is intended to show the approximate range of each parameter.

**Table 2—Typical Utility Requirements<sup>1</sup>  
For An Electron Microscope**

	<i>Min limit</i>	<i>Max limit</i>
<i>Water<sup>5</sup></i>		
Pressure (psig)	20	40
Flow Rate <sup>2</sup> (quarts/min)	.2	2
Flow Check	(May be visual or alarm)	
Supply Temperature (°F)	—	77
<i>Electrical<sup>5</sup></i>		
Power	1 KW	4.5 KW
Voltage Regulations <sup>3</sup> (%)	15	10
Supply Voltage (50/60 cycles)	100	440
<i>Compressed Air<sup>4</sup></i>		

<sup>1</sup> This information does not pertain to any particular model. It is intended to show the approximate range of each parameter. For specific requirements consult the manufacturer's literature.

<sup>2</sup> Some microscopes require cooling water for more than one component.

<sup>3</sup> Values refer to below nominal (min) or above nominal (max); some manufacturers may specify transient changes also.

<sup>4</sup> Used intermittently on some models.

<sup>5</sup> Also required by vacuum evaporating (shadow casting) equipment.

**Plate Darkroom**

*Function*—Direct service to electron microscope

*Technical Procedures*

- loading and unloading of cassettes
- processing the photographic plates

*Services and Equipment*

- photographic sink (variable water temperature)
- floor storage cabinet
- plate storage (controlled environment)
- safe lights
- timer
- thermometers (for air and liquid temperatures)
- photographic trays
- distilled water

**Print Darkroom**

*Function*—Preparation of photographic prints from prepared negatives

*Technical Procedures*

- photographic enlargement
- photographic processing
- drying
- identification

*Services and Equipment*

- enlarger
- dryer (electricity required)
- photographic sink (variable temperature water)
- print washer sink, agitator type

- floor cabinet storage (paper)
- floor cabinet storage (chemicals)
- safe lights
- thermometers (air and liquid)
- work table

**Photograph Files and Records Room**

*Function*—Storage of micrograph plates, photographic prints, and equipment or experimental records

*Procedures*

- trimming and mounting of micrographs
- filing

*Equipment*

- work table
- paper cutter with table
- file cases for micrograph plates, micrographs, letters and slides

**Machine Shop\***

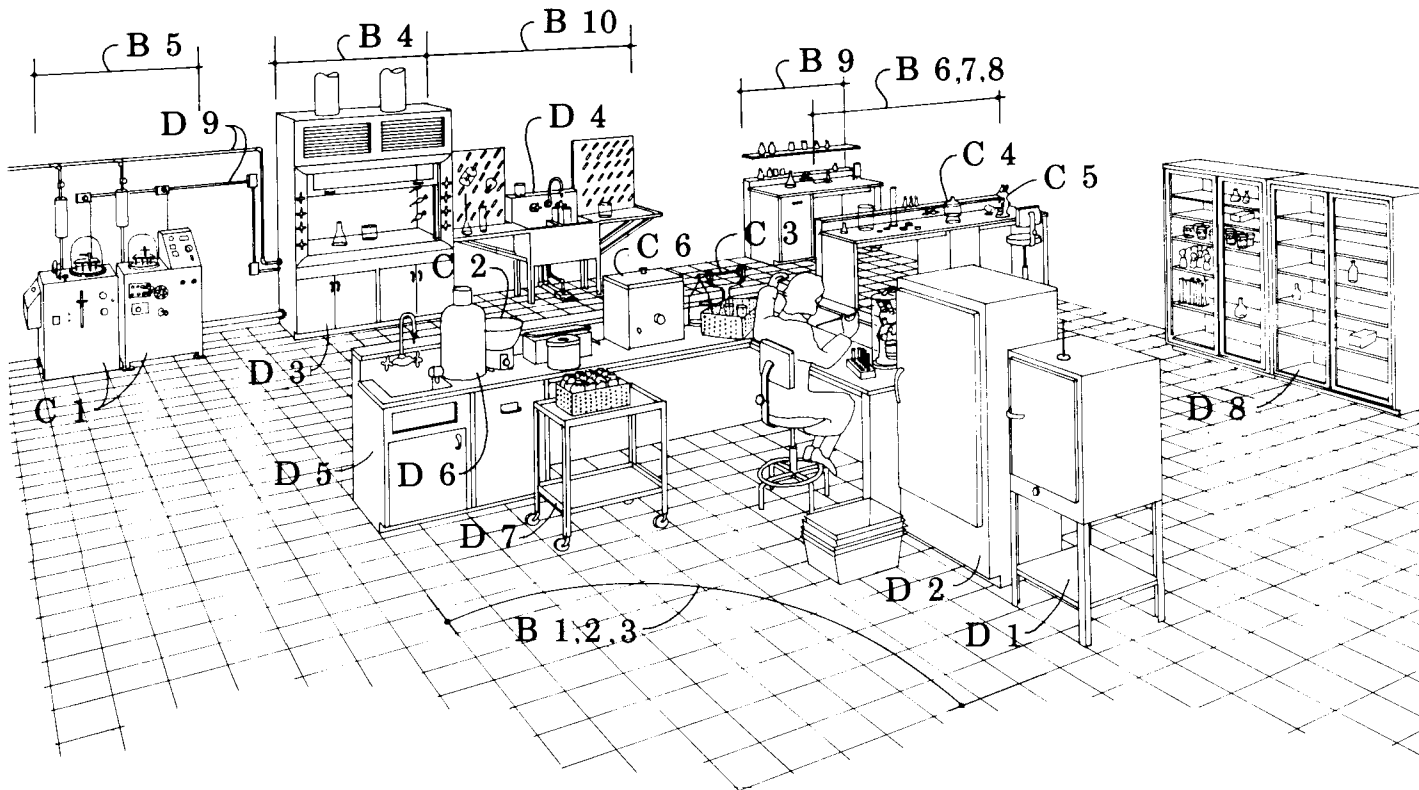
*Function*—Maintenance of electron microscope and associated equipment

*Procedures*

- repair of equipment
- manufacturing of parts

*Basic Equipment*

- lathe
- mill
- drill press
- sheet metal brake
- oxyacetylene torch
- spot welder



Preparation room for bacteriology and virology. B 1—sample preparation; 2—separation and purification; 3—suspension; 4—specimen deposition or mounting; 5—metal shadowing or replication; 6—drying, stripping, cutting; 7—grid mounting; 8—specimen holder mounting; 9—preparation of chemical solutions; 10—glass washing. C 1—vacuum evaporator; 2—centrifuge; 3—triple beam balance; 4—dessicator; 5—optical microscopes; 6—water bath. D 1—oven; 2 refrigerator; 3—fume hood; 4—sink, wash; 5—sink, hot and cold water; 6—distilled water; 7—movable cart; 8—storage; 9—electricity and water for vacuum evaporator

- band saw
- bench grinder
- hand tools
- small hand press
- workbench and vise

#### Electronic Shop\*

*Function*—Maintenance of electron microscope and related equipment

#### Technical Procedures

- repair of equipment
- manufacturing of parts

#### Basic Equipment

- oscilloscope
- vacuum tube voltmeter
- volt-ohm-milliammeter
- capacitance bridge
- Wheatstone bridge
- tube tester
- floor cabinet
- vacuum leak detector
- special circuit testing equipment

#### Selected References, 1949-1961\*\*

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\* Optional facilities

\*\* Compiled by Gertrude Fox, Librarian

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Hitachi electron microscope type

HU-11. Tokyo, Japan, Hitachi, Ltd, (n d) 15 p (Available from Erb and Gray Scientific Inc)

JEOL Electron Microscopes. *Bulletin No FS-240*. Pittsburgh, Pa, Fisher Scientific Company, 1961 23 p (Available from Fisher Scientific Co, 711 Forbes Ave, Pittsburgh 19, Pa)

Norelco—EM 200 Electron Microscope: installation data. Eindhoven, The Netherlands, Philips, (n d) (Available from Philips Electronics, Inc, 750 South Fulton Ave, Mount Vernon, New York)

Pre-installation instructions for Norelco EM-100/15 electron microscope. Mount Vernon, NY, Philips Electronics, Inc, (n d) 5 p (Available from Philips Electronics)

Radio Corporation of America. *Engineering Products Department. Scientific Instruments Section. Installation instructions for electron microscope type EMU-3, MI-12945*. Bulletin 2W8-2.01. Camden, New Jersey, Radio Corporation of America, (n d) 12 p

Siemens, New York, Inc, Measuring Instruments Division. *Instructions—Planning the layout and preliminary requirements for installing an Elmiskop 1. Part I: text; Part II: Folder of drawings*. New York, 1960. (Available from Siemens New York Inc, Empire State Bldg, 350 Fifth Avenue, New York, NY)



# CHH TABULAR HISTORY—1958-1962\*

(now *Committee on Hospital Architecture*)

► Five eventful years of the activities of this important national AIA Committee have elapsed since its history was outlined from its establishment in 1945 to 1957. In these last five years some thirty members of the Institute have served on the Committee, most of them actively, in great contrast to the first decade of its history, before the Committee caught fire under the leadership of Wilbur Tusler FAIA (1954).

The traditional cooperation with the American Hospital Association (AHA) has continued, through participation in AHA annual conventions, planning institutes, seminars, exhibitions, committees, and joint projects. Our Committee has collaborated with other organizations as well and enjoys a continued excellent relationship with appropriate branches of the US Public Health Service.

All of these collaborations have helped the AIA to offer leadership in architectural aspects of the programs and publications of other groups. It is not generally recognized that AIA building-type committees (hospitals, schools, religious buildings, theaters), have this function of great importance

to Institute membership as a whole. Because they work with these other organizations composed of clients or advisors of clients, they perform some of the most effective professional and public relations work we could possibly accomplish—and most often at a financial sacrifice to the committee member.

Over a period of these five years the Institute has profited from the voluntary contributions of time of thirty top-notch architects, most of them principals, in this field alone.

As a means of keeping abreast of latest developments which may affect its programs, when it is possible, the Committee has included in its meetings inspections of new facilities and installations in the health field. While it has not proved possible to bring full technical reports of these visits to the AIA membership (a lack which Committee members have often deplored) certain publications of the Committee have given some information on them.

Our years of relative isolation have recently been remedied by some active international collaboration and CHH has been in the forefront of this Institute change. Meetings of the Committee

itself have been held in Montreal and in Mexico City (the first AIA committee to do this) on the basis of members paying the difference in expenses to meet in these neighboring countries over expenses of meeting in Washington. Our Canadian and Mexican colleagues were enthusiastic and generous in their participation and hospitality on the occasion of these joint seminars and the tours which followed our regular business sessions. These sessions also were open to our neighbors to acquaint them with some of our problems and typical agenda as an aid to mutual understanding. In the recent CHH meeting two of our Canadian friends repaid our visit of 1961 by coming to our meeting in Washington.

In addition to such pioneering CHH meetings the Institute now has a regular six-year representative on the Working Commission on Health of the International Union of Architects (UIA), and has a few members active in the International Hospital Federation tours and congresses. (See "IHF Belgian Tour" in this issue.)

Collaborative projects in which CHH (and/or staff) assisted which resulted in

publications, have included the "AHA Hospital Program Manual," a book on rehabilitation centers (F. C. and C. F. Salmon, both AIA), a guide for hospital bedroom lighting (USPHS), USPHS hospital evaluation procedures (Wheeler). *AIA Journal* articles have included papers on typical hospital bedrooms, physical and occupational therapy departments, the Hopper Fellowship, reports of meetings at Auburn University and in Montreal, and the unique New York Chapter CHH research program resulting in the scholarly articles on the surgical suite (Robert Hyde Jacobs AIA). The AHA-AIA long-term collaborative research project in hospital planning (W-59) has still not reached its final report.

Other continuing projects which will eventually result in publications or papers include the Mexican meeting, CHH architectural school programs for health facility designs, a statement on responsibilities of various parties to a hospital contract, hospital department area studies and electrical data for patient rooms.

\* A supplement to tabular history of this committee (1945-1957) in *AIA Bulletin* (Jan-Feb 57: 11-14)

## 1958

### membership

	C. F. Masten
	S. Morss
<i>Jan-Oct</i>	M. H. Schmeer Jr.
A. N. Kiff, Chmn	A. E. Thomas
H. C. Baskerville	E. T. Wheeler
C. C. Britsch	<i>Oct-Dec</i>
J. T. Canizaro	A. N. Kiff, Chmn
A. Clark III	J. F. Canizaro
F. R. Hammond	R. L. Linder
M. L. Jorgensen	S. Morss
R. L. Linder	E. T. Wheeler

### meetings

May 58	Rochester Minnesota Mayo Clinic tour
Nov 58	Boston Massachusetts Children's hospital tour Diabetic Clinic tour
Aug 58	Chicago Illinois AHA convention

### collaboration

AIA-AHA: W-59 research project  
AHA: convention and exhibition  
collaboration on programming manual  
NFPA: Committee on Operating Room  
Safety  
American Dental Association: CHH  
review proposal for research grant  
APA: MHASP: mental hospital conferences  
CRC: rehabilitation guide

### other agenda

CHH cost studies  
CHH archl school program  
CHH unit plans  
articles for *Journal*  
AIA Committee on Human Safety  
Hill-Burton legislation  
Nuffield Foundation

<b>1959</b>	<i>June-Dec</i>	Nov 59	Washington DC	AIA-AHA: W-59 research project	CHH unit plans
<i>Jan-May</i>	A. N. Kiff, Chmn	Aug 59	New York NY	AHA: regional planning conference	CHH archl school programs
A. N. Kiff, Chmn	H. C. Baskerville		AHA convention	convention and planning institute	statement on responsibilities
J. T. Canizaro	C. C. Britsch			manual of hospital planning	Hill-Burton legislation
R. L. Linder	J. T. Canizaro			procedures	
S. Morss	E. W. Fickes Jr			"Rehabilitation Centers" by Salmon and	
E. T. Wheeler	M. L. Jorgensen			Salmon—US grant secured by AIA	
	R. L. Linder			co-sponsored proposal	
	S. Morss			APA: MHASP: mental hospital conferences	
	W. R. O'Connell			UIA representation	
	M. H. Schmeer Jr			NFPA: Committee on Operating Room	
	E. T. Wheeler			Safety	
				CAP: requested CHH collaboration on	
				planning guide for pathology labs	
<hr/>					
<b>1960</b>		Feb 60	Auburn Alabama	AIA-AHA: W-59 research project	UIA: hospital committee program
E. T. Wheeler, Chmn	S. Morss	Oct 60	Washington DC	AHA: convention and exhibition	CHH study on patients' rooms
R. W. Allen	W. R. O'Connell	Aug 60	San Francisco	NFPA: Committee on Operating Room	CHH study of surgery suites
W. W. DeNeff	A. H. Roessling		AHA convention	Safety	ACHA: questions of ethical practice
J. M. Hewitt	W. B. Schultz			USPHS: CHH reviewed use of nat'l hosp	<i>Journal</i> articles
M. L. Jorgensen	Z. L. Yeates			plumbing code by USPHS	AMA regional conference attended
A. N. Kiff				CAP: planning guide	by AIA-CHH
V. G. Kling				ADA: liaison continues	Hill-Burton legislation
R. L. Linder				Cement and Concrete Association in	IHF USA tour
				London—AIA-CHH aided hosp exhibition	
				AAHC: established liaison	
				NIH: CHH staff executive review of	
				rehab research proposals	
<hr/>					
<b>1961</b>		May 61	Montreal Canada	AHA: convention and	hospital department area studies
E. T. Wheeler, Chmn	R. L. Linder	Sep 61	hospital tours	exhibition participation	AHA: Planning Institute
R. W. Allen	S. Morss		Atlantic City NJ	AIA-AHA: Fellowship in Hospital	Committee on Design
W. W. DeNeff	W. R. O'Connell		AHA convention	Architecture (formerly Hopper)	and Construction
J. M. Hewitt	A. H. Roessling	Jul 61	London England	W-59 research proposal	CHH statement on responsibilities
M. L. Jorgensen	W. B. Schultz		UIA Commission on	USPHS: hospital cost surveys	<i>Journal</i> article on Montreal meeting
A. N. Kiff	Z. L. Yeates		Public Health	hospital bedroom lighting	Hill-Burton legislation
V. G. Kling		Jun 61	Venice Italy	RAIC-CHH: seminar on operating rooms	
			IHF 12th International	CIE: hospital lighting committee	
			Hospital Congress		
<hr/>					
<b>1962</b>		Feb 62	Washington DC	AHA: convention and exhibition	<i>Journal</i> articles
M. L. Jorgensen, Chmn	W. B. Schultz	Oct 62	Mexico City, Mexico	AIA-AHA: W-59 research project fellowship	US Bureau of the Budget: hospital
R. W. Allen	F. H. Voss		Medical Center tour	USPHS: evaluation procedures	program staff—space studies
C. C. Britsch	Z. L. Yeates	Sep 62	Chicago	hospital bedroom lighting	AHA: Committee on Hospital
W. W. DeNeff			AHA convention	NFPA: Hospital Committee	Design and Construction
J. H. Flad	<i>Board corresp member</i>		regional workshops and	SAM-CHH: joint seminar on	IHF: congress—liaison, hospital dept
J. M. Hewitt	M. Reynolds		planning institutes	intensive/progressive care	area studies project design guide
S. C. Hutchings				CIE: hospital lighting committee	archl school programs
B. K. Johnstone	<i>Corresponding members</i>			UIA: Commission on Public Health	AIA-CHH chapter activities suggestions
W. J. Kreps	A. W. Clark III			VA: Advisory Board	data sheet on basic electrical layout—
E. H. Matthei	D. E. Neptune			CAP: speakers from CHH	patient rooms
S. Morss	E. W. Fickes Jr				possibilities in hospital design research
W. R. O'Connell					
A. H. Roessling					
E. L. Schaible					



# International Relations

by Victor G. Probst AIA

EUROPEAN  
HOSPITAL TOUR

INTERNATIONAL  
HOSPITAL  
FEDERATION

► Early, very early, on the morning of Sunday May 27, 1962, the transatlantic jet airliner touched down on a moist, fog-shrouded airfield. At the ramp our charming hostess announced a short intermission and that the passengers could deplane if they so desired. The writer put on his shoes, gathered his trench coat and cameras, then went down the mobile stairway and into a small "arrival" building. Another charming hostess smiled and greeted us with an announcement: "There will be a short delay due to mechanical difficulties. Tea and biscuits will be served shortly, and I will open the concession booth now." Which she did. We were in Manchester, England. Looking out the other side of the room to an adjacent parking stand, there was a full-sized airplane with the tremendous red letters, "TSA" painted on the tail section. It crossed my sleep-numbed mind that the Texas Society of Architects would go to any, yes, any, means to promote the architectural profession.

After the proper amount of time had been spent by an assorted group of attendants, mechanics, station agents, tourists and charming hostesses, staring at the unhinged cowl of the left inboard jet engine, the lady mechanics who had been dispatched to find the pliers and baling wire returned, repairs were made and once again we were airborne. Destination—Brussels, Belgium.

The sun shone, the English Channel was busy washing ships and the lowlands of Europe were neatly divided by the reflective lines of straight canals. And then suddenly we were landing at the Brussels airport. This was an imposing

structure of contemporary design—lots of glass, some painted, large dining area, no patrons and an electric tram station in the basement. This called for camera work, so the tourist (resembling the writer) set to clicking the 35mm. It was apparent that major remodeling work was in progress. An English-speaking baggage man explained that the project was hurrying to completion in expectation of the traffic for the 1958 Exposition. This was an introduction to the leisurely pace that progress on construction takes in Belgium. We were to encounter this same phenomenon in some of the hospitals of this country. And the reason for this trip was to join with the International Hospital Federation group on a study tour of Belgian hospitals.

The primary purpose of these study tours is to personally inspect hospitals and related health facilities within the host country. Secondary benefits included a multitude of things—among them, discussions with architects, administrators, doctors, hospital department heads, nurses, hospital board members, hospital magazine editors, and representatives of national health ministries on various subjects ranging from prefabricated operating rooms to practical ways of poaching eggs in *vin rosé*. Friendships are made and the inevitable invitation to "come visit our hospital and country" is given. Several of these generous offers were accepted by the writer (Holland, Denmark) and also given to newly-acquired friends.

Organizer of the tours is the International Hospital Federation, with headquarters in London and a branch office in Washington, DC.

Briefly, on "even" years a study tour of some country—usually in western Europe—lasting for a period of two weeks is conducted. On alternate or "odd" years a congress of one week's duration is held, and again the site is rotated to different countries—next year, Paris, France. Belgian hosts to last May's swarm of information-seekers were the Belgian Ministry of Public Health and the Family, The Belgian Hospital Association, and the Caritas Catholica Hospital Federation. The Belgian organizing committee performed an excellent job of recovering lost luggage, rounding up strays in wayside bars at rest stops, and answering a monstrous number of questions (both sensible and the other kind), but they were at their best in making various facilities available for inspection and in the several phases of planning, construction, remodeling, and operations. We viewed projected plans, visited buildings under construction, and sat in on an open-heart surgery via color television and later viewed the same operation through an observation dome of an operating suite. Bloody.

The participants, who came from twenty-two countries and numbered 162, plus some twenty wives, were exposed to more than forty hospitals in twelve days. Naturally, one person cannot inspect that many in so short a time. So there were four groups of a more-or-less fluid composition that scattered in four directions by bus each morning to visit a hospital, then met for lunch and off again in the afternoon on their several trips of investigation, returning in the evening to a common gathering for a gala reception, speeches, cock-



Part of IHF study tour of Belgian hospitals

tails and dinner. Occasionally, all the groups descended upon one lonely and unsuspecting hospital, while at other times one or two of the groups combined to scrutinize a single project. Each bus came equipped with an interpreter, courtesy of American Express, who must have been lonely (except one attractive girl) because all the participants were either very busy talking to each other or asleep. Inevitably upon arriving at a hospital they were greeted very graciously in two or three languages with drinks, divided into small groups of four to ten people designated by particular interest (that part of the facility to be inspected) and language. Then off with our guide to disrupt any operating facility and always an inspection of the boiler-room, since I usually fell in with a batch of architects. And, I may add, there are some beautiful boiler-rooms in Belgium. Space appears to be no problem over there, for they have lots of it—boiler-room and elsewhere! Time, gentlemen, please, and back to the large meeting room (all Belgian hospitals have them) for a miniature reception (with chocolate-chip cookies, Scotch, Coca-Cola, cheese, beer and sandwiches) where speeches of thanks were made in the name of IHF and numerous questions (both kinds) were asked of our hosts of the moment.

An appreciated item in the organization of this particular tour was the limiting of our bases of operation to three cities—Brussels, Spa and Ostend. For the old hands at IHF tours, it was a welcome relief to stay in one hotel for several days in lieu of one-night stands as previously experienced.

All the foregoing, despite the volume, is a fairly condensed version of the physical working of the tour. The next part will describe the hospitals visited by the writer and his impressions, if any.

#### Brussels—Monday, May 28

*morning—Institute Jules Bordet*

This is the University Tumor Center (cancer hospital) operated by the Free University of Brussels and the agency, Public Assistance of Brussels. It is a 170-bed teaching hospital constructed before the Second World War. At the time of our visit a department to house a betatron and two gammatrons was under construction. It is a ten-story L-shaped building with kitchen and dining-room on top floor. Wonderful view of the city from the terrace adjacent to dining-room—especially during *apéritif* pause prior to the first of many wonderful lunches. The one unusual feature of this hospital was an 8'-wide ramp from first floor to eighth. There are elevators (lifts), too, but it seems that there are frequent power failures. Also this was useful during the war when the British used it as a military hospital.

*afternoon—Clinique Saint-Etienne (St Stephens)*

A hospital of 150 beds built in 1960 with an additional seventy-seven under construction at the time of our visit. Operated by Sisters of Charity of St Vincent de Paul. Construction materials similar to ones we are familiar with—concrete, hollow tile, brick, cut stone, etc. Wood doors had an excellent high-gloss furniture finish with metal edge banding. Corridor walls finished rough with a trow-

eled-on asbestos material. Very handsome stairway of steel and glass—open—which would be outlawed by our fire codes. It is interesting to note (and this is true generally throughout all hospitals visited) that here was a 150-bed hospital operating with a total personnel of eighty-four people—broken down into medical staff—twenty; nursing personnel—thirty-six; and domestic personnel—twenty-eight. The breakdown of hospital beds is: surgery—110; medical—fifteen; obstetrics—thirty. There are an additional fifteen beds for personnel. A cobalt therapy department is maintained in the basement.

#### Louvain—Tuesday, May 29

*morning—Cliniques Saint-Raphael (University)*

One of the teaching hospitals of the medical school of the University of Louvain, which was pointed out as the ninth university founded in Europe. Great conglomeration of elderly buildings with a few new smaller structures. Of interest was the stainless steel-lined, airtight, germ-free animal operating rooms for research. Entrance is gained through a water lock that completely submerges the person (or animal, I suppose). It was in the testing stage—not operational. As could be expected, much research work was being conducted at this facility. This includes physical design of equipment—such as a special “strait-jacket” tilting chair used in brain surgery (real purpose was to pinpoint location and hold boring mechanism for drilling into skull bone). Also saw artificial kidney machine. Could just as well





Kitchen, State University Hospital, Ghent



Queen Astrid Maternity Hospital, Charleroi



Operating theater, State University Hospital, Ghent. Flexible tube supplies surgeon with stream of cool air

Medical gases outlet, operating theater. Non-explosive gases are used



have avoided the visit to the morgue/autopsy room.

#### Lovenjoel

*afternoon—Institute of Medical Pedagogy*

A very pleasant school for selected retarded children in a suburb of Louvain. Architecturally, it had very little to offer other than a pleasant rural campus. Excellent cookies.

#### Charleroi—Wednesday, May 30

*morning—Civil Hospital*

A very interesting facility to visit. It is the replacement of an existing complex of buildings with a new structure—on the same site, in fact on the same ground space in several instances—without interrupting the occupancy of all existing beds. The new sections are also in use with construction of new and razing of existing structure going on simultaneously. This hospital contains an operating suite where the interior of the operating room is a semi-oval prefabricated metal shell. Operating rooms are connected by a staff corridor lined with closed cabinets which are used for storage of sterile goods. This corridor *almost* connects with central sterile supply—seems that a cross-corridor got in the way. This must be an understanding client since construction was started in 1952 and the end is still not in sight. This hospital (like some others we visited) reflects, in my opinion, the influence of USPHS planning suggestions. The bedroom wings of this hospital are planned on the double corridor arrangement (or racetrack plan, as the English say), except top floor (pediatrics) which has a glass-enclosed, cantilevered corridor around the perimeter.

*lunch—Cit  de l'Enfance*

One of the most pleasant experiences of the journey was luncheon this day at the "Cit  de l'Enfance," an orphanage in the suburbs of Charleroi, an adjunct facility of the Queen Astrid Maternity Hospital. The kids were delighted with our visit and so were we. This was a three-wine, two-hour feast, which the headmaster apologized for!

*afternoon—Traumatology Center*

The special function of this 111-bed hospital is to treat accident victims for initial injury and shock and then to rehabilitate the patients. The coal mines and numerous heavy industries in this area make such a hospital necessary. In fact, it is operated by a community assurance company. It has very spa-

cious and modern operating theaters. Equipment includes a small portable X-ray unit with a TV camera attachment and a large picture tube mounted in the wall of the operating room, so instead of a film in a view box, there is a continuous or intermittent picture while the operation is in progress. There were the usual elaborate group and individual therapy and rehabilitation rooms.

*afternoon (later)—Hospital Equipment Exhibition*

Conventions are a worldwide function. Visited large (two-story) exhibit hall with hospital equipment manufacturers displaying everything from needles to Volkswagen ambulances. Excellent quality of workmanship on various items.

#### Brussels—Thursday, May 31

*free day in Brussels; visited 1958 exposition grounds*

Edward Stone's fine US Pavilion has been truncated; with vandals and time adding their destructive bit. The small adjacent theater is in fair repair and being used by Belgian government as TV broadcasting studio. Having waited since June 1958 finally got seat in restaurant atop Atomium. Roast beef and brown 'gravy.

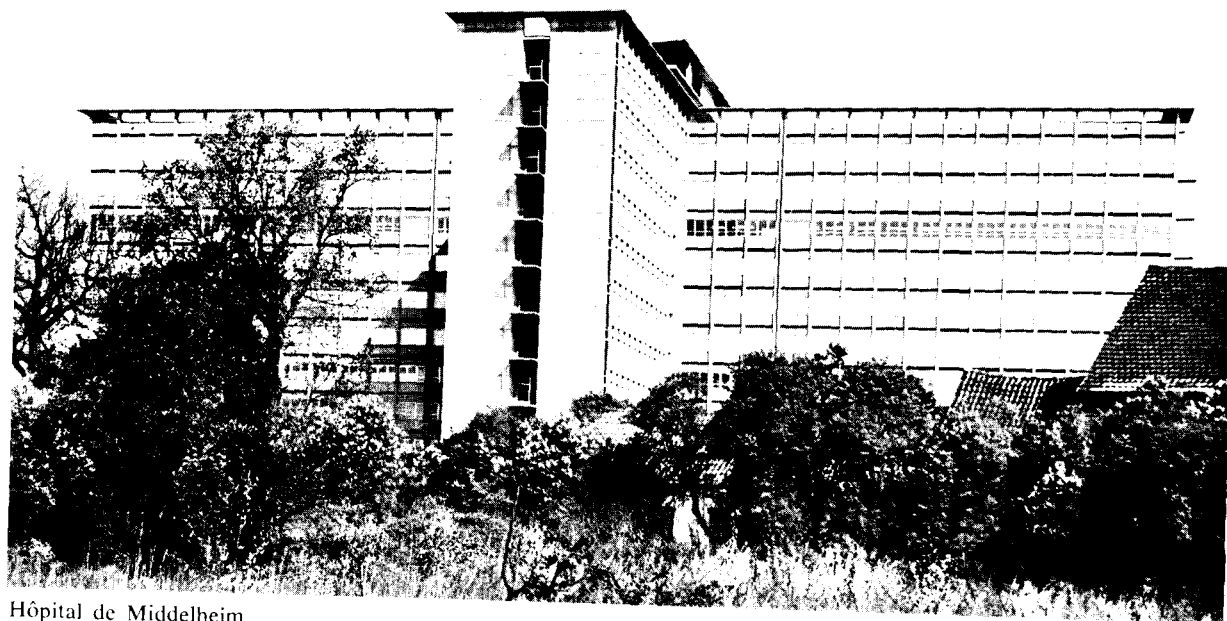
#### Antwerp—Friday, June 1

*morning—H pital de Middelheim*

A new hospital under construction on a new site. The semi-prefabricated concrete and steel frame and exterior walls were in place. It is being planned for 600 general hospital beds. It has an unusual framing system. There are no interior columns except at lifts and stairways. Divided steel trusses span from wall to wall and major members are in a rectangular pattern. The thought behind all this is to provide a shell with an unobstructed interior for flexible arrangement of rooms and piping for now and future. The building had been under construction since 1958 (expected completion date, 1965). On the third floor there were five or six full-size mock-ups of possible patient bedroom arrangements. Plan after you build—very interesting.

*afternoon—Clinique St Norbert (Duffel)*

This hospital, 196 beds, built in 1958, was operated by the Norbertine Sisters of Duffel. It is part of a complex that includes a 1500-bed psychiatric hospital for women,



Hôpital de Middelheim

a day nursery for children, a tuberculosis prevention dispensary, a health center and just plain schools. The finishes in this hospital were extremely good along with the workmanship. Again, I had a feeling that the planning was partially derived from USPHS suggestions. There is a school for midwives attached to the hospital. The adult patient bedrooms were either double or single accommodations with private toilets. The pediatric section was very well designed from the standpoint of control and observation.

**Saturday, June 2**

*morning—travel from Brussels to Spa*

*afternoon—Clinique Reine Astrid (Malmedy)*

A new hospital, opened 1960, with ninety beds. It is a community hospital owned by a local Board of Public Relief and managed by a group of Catholic sisters. It has an excellent department for premature babies and is used as a referral center. This is a three-story hospital with beds distributed to five different nursing services on the three floors. There is an audio-visual nurses' call station by each of the adult beds and one ward clerk on the top floor behind the elevator shaft in a closed room who takes all calls! In conjunction with the call system is a device in each

patient's room that the floor nurse activates upon entering the room and the signal registers on the control console of the ward clerk. Therefore, the ward clerk knows the location of nursing personnel and the patient needing something. Hence, the ward clerk is a message reception and dispatch center in the true sense. A short period of observations proved that the system worked; quite well, in fact.

*June 3 (Sunday)—free day, so a busman's holiday—a sightseeing tour of the Ardennes and upper part of Luxembourg. Lunch in Hotel Le Brun in Bastogne.*

**Hasselt—Monday, June 4**

*morning—Civil Hospital*

This was a large (200-bed) hospital, built between 1952 and 1960. It is the first phase of an ultimate 400-bed facility. The ancillary facilities have been sized and built for the projected 400 beds. This hospital also has one central communicating console, similar to the one described in the Malmedy hospital. However, this console is much larger, on the ground floor adjacent to the entrance vestibule enclosed with glass partitions. This was one hospital where all the groups descended at the same time. I did not get close enough to the twin operators of the nurses' call to observe the operation. Too many tourists!

*afternoon—free stroll in park at Bokrijk*

**Liege—Tuesday, June 5**

*morning—Geriatric Hospital (Valdor)*

An old hospital (opened in 1890, 404 beds) of the large (thirty-fourty patient) open-ward type. At the moment they were remodeling these wards into semi-private cubicles (16' ceiling a bit of a problem). A new hospital to replace this one was in preliminary planning stage.

*afternoon—Free, visit and sightseeing in Liège.*

**Spa to Ghent to Bruges to Ostend Wednesday, June 6**

A day of travel with stops at Ghent for inspection of Academisch Ziekenhuis and Hôpital St Jean in Bruges.

*Ghent—State University Hospital (teaching)*

A teaching hospital (315 beds, opened in 1951) that is still building. Great and elaborate kitchen (separate building) connected by underground tunnels large enough for motorized carts. Construction on this hospital started in 1936—frame and exterior walls erected—then a long postponement due to war—construction resumed after war by new architect. He has had his problems—changed the bedrooms from six-patient to three-patient accommodations. Elaborate closed circuit television system allows color pictures of operations on large screen in viewing room quite remote from surgical suite. Lots of technicians necessary for the transmission. Special design of





Clinique St Norbert (Duffel)

viewing dome and surgical light over operating table keep excess heat of light out of aircooled operating room.

#### *Bruges—Hôpital St Jean*

This hospital opened sometime prior to 1188. None of the old-timers around could remember exactly when the first patient was admitted. Only a few public rooms of this 700-year-plus-old hospital were visited. Excellent brickwork and very impressive display of plans for a new Hospital St Jean to be erected on the edge of town. Hospital owns priceless collection of paintings by Hans Memling.

#### **Waregem—Thursday, June 7**

*morning and afternoon—Clinique Notre Dame des Lourdes*

A 136-bed, four-story general hospital constructed in 1949. It belongs to a congregation of nuns from Tielt. Like the hospitals at Duffel and Malmedy, this hospital has generous use of space by our standards. There is a very pleasant, although hard to describe, atmosphere in these hospitals. They seem relaxed, yet efficient; the visitor has confidence in the experience of the staff. All of these have an exceptionally complete pediatric section, usually devoted to very young and premature babies.

This was the last hospital visited on the official tour, which, in summary, was a very worthwhile experience. It is rather difficult to condense the many personal and meaningful incidents into cold, cold words. So the writer attended the final gala dinner on Friday night in Ostend. Then on Saturday he boarded a channel steamer for the short trip to Dover, England, and as the skyline of Ostend slowly sank into the light haze, a bird flew over. Thus ended the Belgian section of hospital visitation.

To England, arriving on the eve of a bank holiday; we found business at a standstill, only transportation facilities and rent-a-car agencies operating. So after a seven-minute checkout by garage attendant, off to Cambridge on the wrong side of the road to inspect the New Addenbrooke's Hospital, and new it was. HM the Queen had opened it—formally of course—on Monday, May 28. This is the beginning of a new teaching hospital complex on the outskirts of Cambridge to replace the existing Addenbrooke (1766) down in the center of town. Beautiful site on forty-five acres of rolling hills. First impression—the hospital is really “strung out” along a single axis in the old pavilion manner. However, through talks and reading descriptive literature, it has developed that these several buildings are the nucleus for a total project. Hence, they are spaced for expansion in all directions—and probably will expand, as hospitals have a habit of doing. It was interesting to note that expansion would be horizontal instead of vertical. Most of the buildings were five stories or less with pitched and gabled roofs.

#### **Next Stop—Holland**

In the hands of a new-found friend, a native of Delft, architect on study tour, a quick tour of southwestern Holland was made. At a ground-speed approaching takeoff velocity, we quickly “reviewed” several hospitals and clinics in various stages of construction. Thence by motor launch through the canals of Amsterdam. Saw an ancient Dutch hospital with an emergency dock. Architecturally, the most interesting work was rebuilt Rotterdam. Some good, some bad, lots of indifferent structures with a real attempt at exte-

rior space planning. Attention drawn to massive symbols and signs incorporated into building designs. High point of the trip was living for several days in the home of my young friend in Delft.

By bus, by plane and by bus again and it was Copenhagen, primary target the Copenhagen County Hospital at Glostrup. This is an immense hospital by any standards, being a complex of five separate buildings all connected by tunnels. The patient bedrooms are arranged in nursing units of twenty-three beds each, with two single rooms per nursing unit. The nursing wings are nine stories tall. Add all that up and you get 1150 beds.

It is interesting to note that this hospital selected its architects by competition amongst practitioners in Denmark, Finland, Norway and Sweden. A firm of Finns finished first. Needless to report that, in the two trips to Glostrup (about ten miles from center of Copenhagen), there were parts of the installation I did not visit.

The journey through the institution (conducted by the administrator, another new friend from the Belgian tour) was impressive because of the excellent finishes and equipment. The operating rooms were of the “truncated egg” shape with fixed lights in walls and ceiling. Nurses on duty reported complete satisfaction with design of rooms. Patient on operating table declined to answer—gassed. In summary, this facility is an excellently planned and operated hospital; however (isn't there always a however?), the immense size and use of a rather cold gray stone, gray roof, and sometimes gray paint, left an impersonal sensation with this visitor.

Feet being tired and all 35mm (color) film exposed, it was time to return to the United States. Boarding a jet airliner at the beautiful Copenhagen airport, we headed west in a race with the sun, and almost won. The trip was worthwhile (and necessary). True, no space-shaking innovations were discovered; however (again), many ideas and details were gleaned and stored away for future reference. The architects from over the world are visiting the United States and adapting what they learn to their immediate areas, we can also learn by observing their handiwork and adapting to the needs of our immediate areas. So goes education of man. ◀

*Commission on Architectural Design, Morris Ketchum Jr FAIA, Chairman*  
*Committee on Hospital Architecture, Matt L. Jorgensen AIA, Chairman*

## An Occupational Therapy Unit for a Small Hospital

by **Carl C. Britsch FAIA**  
*Corresponding Member, CHA*

*The author is a corresponding member of the AIA Committee on Hospital Architecture. His article, "A Physical Therapy Department for Smaller Hospitals," appeared in the Journal in September 1960*

► Occupational therapy is any activity, mental or physical, definitely prescribed and guided for the distinct purpose of contributing to and hastening the patient's recovery from disease or injury.

It involves a progressive program of treatment in which occupation, physical training and recreation each play an important part toward the following objectives:

*physically*

- restore function to disabled members
- renew wasted nerve and muscle tissues, and prevent further deterioration through disuse
- increase blood supply and healing processes
- build up resistance to fatigue
- develop mental and physical coordination

*socially*

- raise the morale of the patient, ward and hospital
- develop group responsibility and cooperation
- give opportunity for social contacts in normal activities

*economically*

- shorten the period of stay of curable patients
- prevent deterioration of the extended hospital case

*mentally*

- arouse and develop attention
- create new interests
- give an opportunity for self-expression
- ease emotional strain
- give an outlet for repressed energy
- conserve the work habit and to prevent invalid habits

Occupational therapy in larger hospitals has long fulfilled a very important function in the curative

process of many patients; therefore the provision of facilities for such treatment has been a normal requirement in their planning.

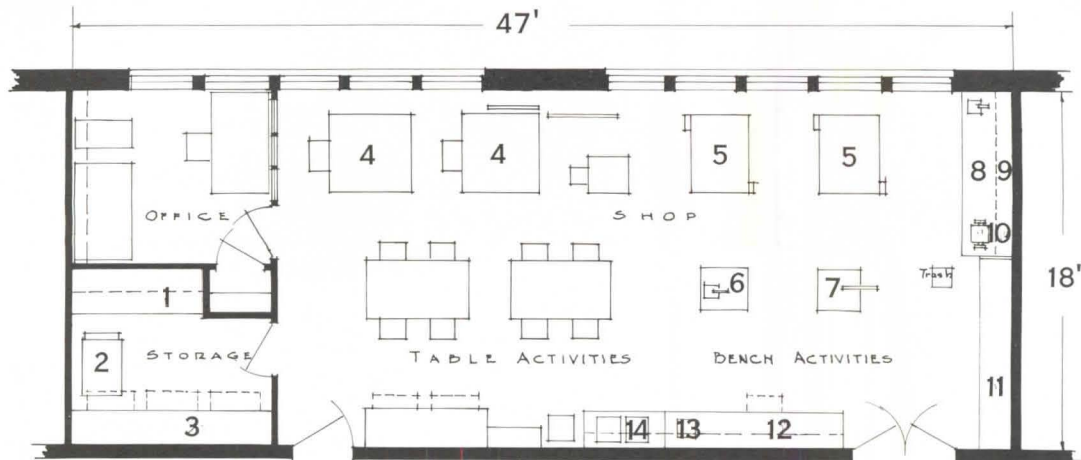
This has not so much been the case in the planning of smaller hospitals, perhaps for the twofold reason of cost of available space and equipment weighed against items that might be considered of greater priority, and the necessity for adding a qualified occupational therapist to the staff to carry on an effective program.

The objective of this article is to emphasize the value of occupational therapy in the small general hospital of 100- to 150-bed capacity and to set forth some facts to be considered in designing facilities for such services.

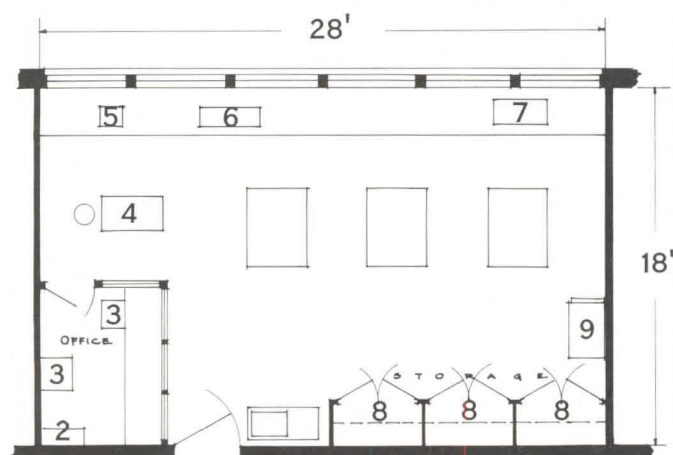
It is not difficult to prove the value of occupational therapy in the long-term treatment of tuberculosis, mental illness, or pediatrics in the aftermath of polio, concerning the patient's rehabilitation or restoration to a life of usefulness. The benefits of occupational therapy in short-term treatment in the small general hospital are more difficult to evaluate, but nevertheless fulfill a worthwhile function in treatment related to curative medicine.

We may assume that patients whose hospital stay is not more than a week or ten days would seldom be referred to occupational therapy, or if referred, the treatment would be more or less diversionary or psychological in nature. We shall consider, therefore, the cases of longer stay—patients who, because of surgery or permanent disabilities resulting from disease, must readjust to *psychological* acceptance of such handicaps through occupational therapy in an effort to return to normal living.





Plan A—occupational therapy department for a 100-bed hospital (US Dept of Health, Education & Welfare). Fixtures: 1 file cabinet; 2 bookcase; 3 chair; 4 bicycle jigsaw; 5 electric grinder; 6 electric lathe; 7 table loom; 8 shelves; 9 ward cart



Plan B—100-150-bed hospital (from *Hospitals, Journal of the AHA*). 1 storage & work counter; 2 ward cart; 3 open shelving; 4 floor loom; 5 two-man bench; 6 drill press; 7 jigsaw; 8 storage, workbench; 9 shadow board counter; 10 electric tool grinder; 11 lumber rack; 12 finishing bench, cabinets; 13 hot plate; 14 sink

In the average case, an interesting work program serves as a great ally to medical treatment in expediting recovery, by relieving anxiety and emotional tensions accompanying illness or injury, and by diverting the patient from worry about the eventual outcome.

Upon the physician's diagnosis, the first consideration in determining the best therapy for the individual should be the patient's physiological or psychological deficiencies.

To be most effective, the type of therapy should help the patient correct his deficiencies, beginning often with simple exercises or handling of materials, and progressing constantly to more challenging tasks.

For the short-term treatment of the general hospital, a great variety of activities involving small objects and light exercises are needed. Bedside therapy requires the aid of a well-organized ward cart.

A workshop is needed for ambulatory or wheelchair patients; it may provide out-patient treatment for those who require a continuing treatment program to develop muscular strength, accuracy and general endurance. Therefore, location in relation to other hospital facilities, as well as to the out-patient department, is of utmost importance.

It is possible to work out a formula that may be used in the planning of OT facilities in small hospitals to estimate, 1) number of patients to be treated, 2) floor space required and its relation to other facilities, 3) types of treatment media to be used.

Assume that 30% of the hospital patients might be referred to occupational therapy. Of these, 60% might receive bedside or on-the-ward treatment; the other 40% would be ambulatory or wheelchair patients who would be treated in the clinic.

Approximately the same treatment media would be required in hospitals of 100-bed or 150-bed capacity. Thus, on the basis of the above percentages, provision should be made as follows (assuming 100% occupancy—adjustments must of course be made for percentage occupancy):

100 beds—33 or 34 patients referred to OT, with 20 receiving bedside therapy and 13 or 14 recommended for clinic.

150 beds—45 patients referred to OT, with 26 receiving bedside therapy and 15 to 18 in clinic.

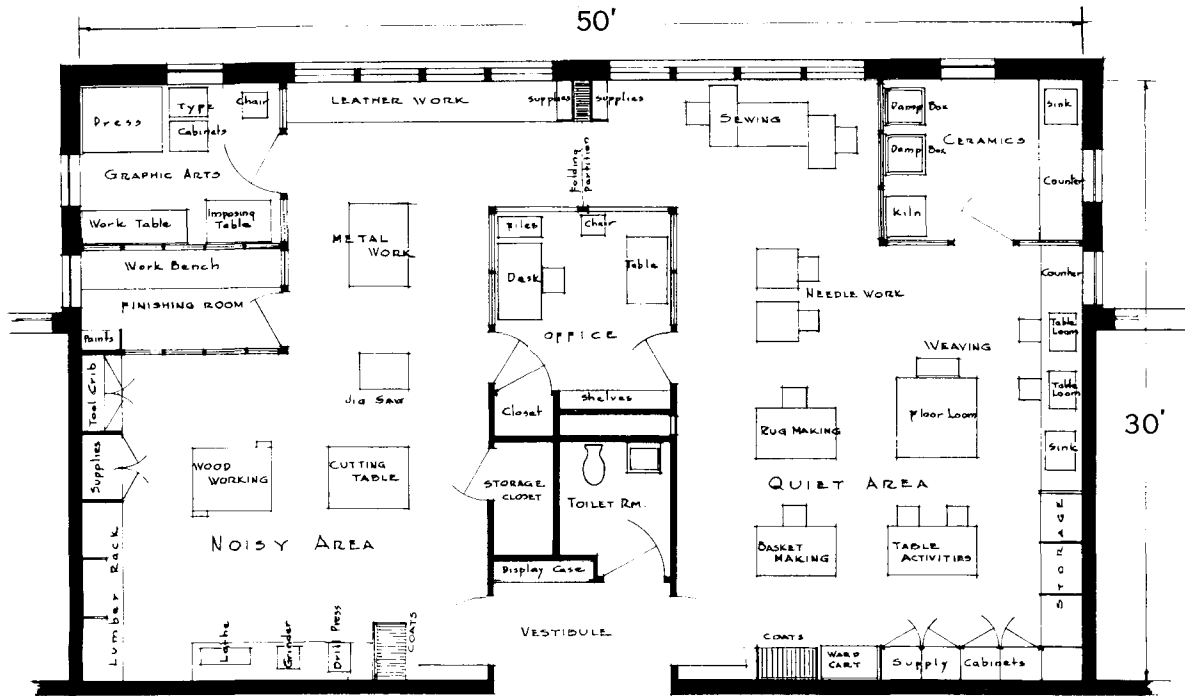
In the opinion of leading OT authorities, 50 to 54 sq ft per patient should be provided for the total

area (including office and storage space), of which 42 sq ft per patient should be devoted to therapy area. Thus 900 to 975 sq ft is recommended as an average area requirement.

#### Therapist's Office

This, of course, is more liberal than the minimum of 500 sq ft suggested for OT by the US Department of Health, Education, and Welfare in their Elements of General Hospital Standards. If funds are limited, a space 18' x 28' will provide minimum area in which a 6' x 8' glazed cubicle serves for office area; large enough for a built-in desk, a chair, filing cabinet, and some shelving for books.\* The remaining area could be devoted to a workbench for leather work, one for metal work, one for carpentry and a jigsaw. Space for a sink, plus storage cabinets, may be provided along the wall adjacent to the corridor. A 36"-high counter along the window wall provides space for a grinder, a lathe, table loom and some under-counter storage space (see sketch plan A). This would be minimal.

\* There is some question as to whether an enclosed office is a necessity, where space is at a premium. Several instances have been cited where part-time therapists serve several hospitals, and any necessary paperwork is handled at a desk located elsewhere in the department.

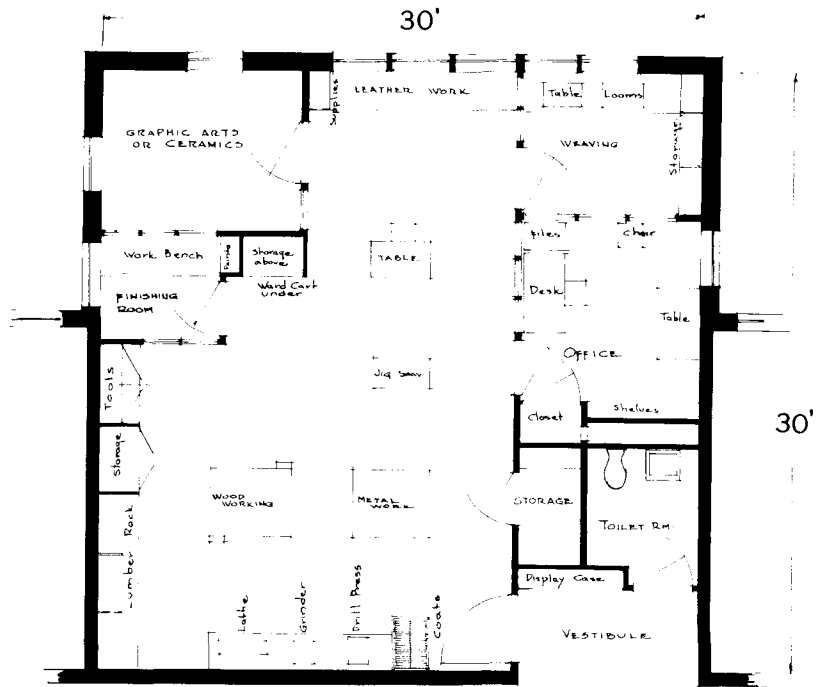


Plan C—space is provided in vestibule for display cases for finished work. Office at center of all activities for ease of supervision (subdivision of areas may be created by sliding glazed partitions which may be rolled back when desired)

We could go a step farther and include sewing, needlework, graphic and plastic arts, ceramics, modeling in plasticene or soap carving, etc. All of which involves possible division of space by glazed partitions, separating the noisy activities from the quiet; for some patients with bottled-up aggressive emotions may need to hammer on copper or brass, while others may require the quiet therapy of sewing, modeling or soap carving. If we provide these facilities, we see our OT department expanding to the above estimated area of 900 to 975 sq ft, a room 18' x 50-to-54'. (See sketch plan B.)

Hard-and-fast rules concerning the location of the OT activities are difficult to establish. There is some validity in the type of planning which provides the various types of treatment in small sub-units within or close to the specialized medical departments of the hospital. It might be desirable, for instance, to provide a small OT unit in a pediatric ward; or in a psychiatric ward containing eight or more beds; this would obviate the necessity for transporting materials through long corridors, or else transporting such patients to and from workshops at distant points elsewhere in the hospital.

However, it is conceivable that



Plan D—a modified version of Plan C (above). Where economies are necessary, this alternate therapy unit is suggested as a substitute

Sketch plans originally appeared in *Hospitals*, October 1951. Used by permission of *Hospitals* and Miss Wilma West OTR.



in a small hospital decentralization of OT would necessitate a larger staff than is generally available. Such decentralization would obviously not be possible in a community where the services of even one qualified occupational therapist are difficult to come by.

In a general hospital also serving outpatients, consideration may be given to an OT department in a separate one-story wing or semi-detached unit connected to the main building by a breezeway. The thought has been advanced that in psychiatric cases this may have some psychological value, by suggesting to the patients the return to normal living in the process of going to work each day.

Such a location should also provide opportunity for pleasant landscape views.

The accompanying drawing (sketch plan C) suggests an entrance vestibule where space is provided for a display case for examples of finished work. The office in the center of activities provides easy supervision of all areas, and divides noisy areas from quiet areas. Subdivision of these areas may also be created by sliding glazed partitions which may, for various joint activities, be rolled back to provide wider open spaces.

Light colors are suggested for whatever surfaces are to be painted. Since certain colors, as well as music, have therapeutic value, it is recommended that pastel shades be used. Examples of patients' handicraft may enhance the decoration.

If placement of workbenches along a window-wall can be avoided, the sills should be limited to 2'6" height to allow seated patients the value of the views.

Storage space for materials is of utmost importance, but shelf depths greater than 12" are rarely required. Except for lumber storage, 9-10" is often enough. These storage facilities should be provided within each area of activity, where the material used will determine the nature of storage.

In general, the equipment provided should be adequate, but not excessive. An accumulation of unused equipment becomes a nuisance, as well as an uneconomical use of space. Liberal area should be provided around fixed pieces of equipment to allow for wheelchair traffic.

Besides all of the foregoing, serious consideration must be given to 1) adequate heating, ventilation and lighting, 2) correct floor sur-

faces for safety, comfort and cleanliness, 3) proper seating and work tops, 4) convenient toilet facilities.

To develop an adequate OT department, all types of therapy should be provided.

For planning purposes, the following checklist is suggested:

#### *manual therapy*

- prescribed OT handicrafts
  - ceramics
  - basketwork
  - woodwork
  - needlework
  - metalcraft
- industrial
  - printing
  - repair work
  - gardening
- vocational
  - clerical work
  - TV repair
  - mechanical work
  - leather work

#### *mental therapy*

- intellectual
  - creative writing
  - group study
  - informative lectures
  - music
  - dramatics
  - painting
- educational
  - typing
  - shorthand
  - Braille
  - specialized studies

#### *physical or recreational therapy*

- physical
  - square or folk dancing
  - athletics
  - sports
- diversional and social activities
  - dances
  - movies
  - active games
  - passive games
  - indoor and outdoor games
  - gardening
  - swimming

In some cases there may be need for all three types of treatment. Emotional stress reacts on functional activities of the body. Physical injuries bring depression, mental fatigue and inertia, which in turn develop unsocial attitudes and actions. Therefore, treatment in any of these three areas will frequently react favorably on the other two. The selection of type of therapy provided will, of course, depend upon space availability and staff and financial limitations. For small hospitals, planning may permit consideration only of the first category or treatment or a limited venture into the second. The introduction of various therapies beyond the first group depends quite often on the skills or interests of occupational therapists available, or on the help of dedicated part-time assistants in a community. ◀

### CHA Member Comments

It is our custom to send articles pertaining to a particular building-type to members of the cognizant AIA committee for their review and comments. This article appears to have been particularly interesting and provocative to the Committee on Hospital Architecture. In addition to suggestions incorporated into the article, Committee members had many pertinent comments, a few of which follow:

"We have found that more flexibility is accomplished, especially in new installations before a therapist is hired, by making as much [as possible] of the equipment portable, including tables and benches. This allows them to rearrange the unit to suit their own programs or to change them as new ones are developed."

"I would like to see more emphasis on importance of developing a program of operation and assuring the availability of qualified personnel to operate the department. A hospital that would construct an OT department without such a program would certainly be throwing its money away."

"One thing which might be stressed . . . is the possibility of cooperation with the many agencies interested in the crippled, disabled, etc . . . the general hospital can do little for in-patients, but any community could probably support a rehabilitation facility for outpatients. This is an area where total community planning fits into the picture."

"The difficulty of obtaining up-to-date sketch plans points up a need for more research and work in this area."



# for FUNERAL HOMES

A combination of on-the-job construction and off-site fabrication is demonstrated in this unusual funeral home in Redmond, Washington. Using standard sizes and grades of West Coast Lumber, the architect designed an economical post and beam base structure and surmounted it with a series of folded plate sections to form the roof.

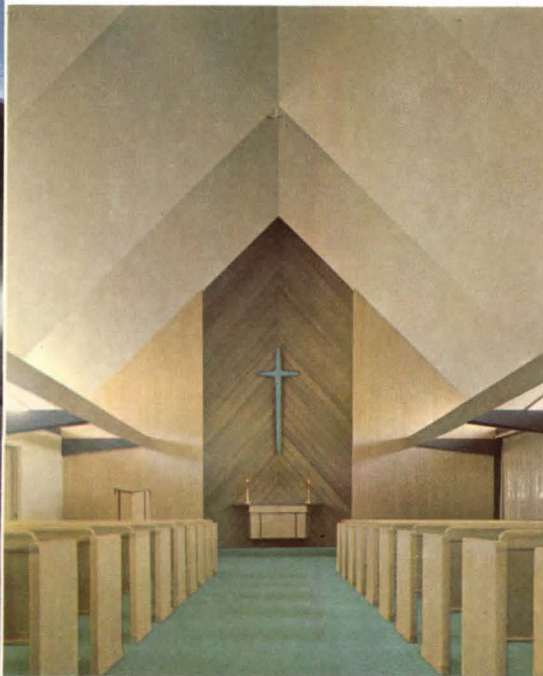
The character of the chapel is subtly expressed in the natural, quiet atmosphere created by the design with West Coast Lumber at the entrance, in the foyer and at the altar. Exposed

Douglas Fir beams and ceiling of tongue and groove West Coast Hemlock carry the same feeling into the office, family and slumber rooms and display area that surround chapel.

The stress grades of West Coast lumber are used in framing the folded plate sections as well as for the posts and beams. Western Red Cedar bevel siding, applied diagonally, results in an attractive gable pattern and is repeated as an effective background to the altar.

This funeral home is a practical example of the architect's ingenuity in effectively using the standard sizes and grades of coast region lumber to meet a design objective economically. The retail lumber dealer conveniently located in your community is your source of West Coast Lumber information and supply.

ARCHITECT: Harold J. Nesland, Sibold & Nesland.



Following are the standard sizes and grades of West Coast Lumber used in building the funeral home illustrated on these pages.



**West Coast Douglas Fir** 2" x 10" joists. 2" x 4" and 2" x 6" wall and partition framing. Sub floors are 1" x 8" shiplap.



**West Coast Douglas Fir.** Posts: 4" x 6" and 6" x 12". Beams: 3" x 16", 4" x 16" and 6" x 16".



**West Coast Hemlock** 3" x 6" double tongue and groove decking.



**Western Red Cedar** 1" x 8" bevel siding. Used for interior and exterior applications.



**Western Red Cedar** 1" x 8" paneling center V-grooved. Used for interior and exterior applications.



**West Coast Douglas Fir**, vertical grain, used for finish and millwork.

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# Allied Arts

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## Honi soit qui mal y pense

by Wolf Von Eckardt, HON AIA

► True to the motto on their coat of arms, which means, of course, “shame to him who thinks evil of it,” Her Majesty The Queen of England and His Royal Highness The Prince Philip, Duke of Edinburgh, have given a heartening boost to modern design. Like our own First Lady, the Queen has commissioned and personally supervised the remodeling and furnishing of a set of rooms in her official home, the King Edward III Tower at Windsor Castle.

Mrs Kennedy’s object has been to restore excellence and a sense of history. The Queen and the Duke, according to the English magazine *Design*, made it quite clear to their architects, Sir Hugh and Lady Casson, “that they wished to see within the castle at least one suite of rooms that would be as typical of this time as other suites have been of times past.

“Thus,” *Design* continues, “their two architects were encouraged either to commission special fabrics, wallpapers and furniture from prominent living designers or to buy from manufacturers’ modern ranges. They have, in fact, done both. Stock patterns are combined with specially designed pieces and all the examples of furniture, whether stock or special, have at Her Majesty’s invitation been examined by juries of the Furniture Makers’ Guild who have awarded the Guild Mark to eighteen of them—an indication that posterity will not fault them for quality of materials or workmanship and will respect their design as good of this period.”

The mistress of the White House has, of course, been equally judicious in doing over its interiors. Her Fine Arts Committee of advisors, headed by eighty-two-year-old Henry Francis du Pont, a special committee on paintings, a permanent curator and their staffs of experts meticulously certify and approve each item destined for the public rooms for authenticity and historic value. Her grand design, wholeheartedly applauded by the nation, is to make her current home “a treasure house of the finest in American life in decor and cultural tone”—of American life of the past.

Perhaps there is no room in the White House for modern or, as it is more politely called contemporary design. But room, it would seem, should be found somewhere in official Washington. *Novus ordo seclorum*, or “a new order of the ages,” which is the motto on the reverse of our seal, certainly shouldn’t stop with Duncan Phyfe, or with the “antique” mishmash displayed on the top floor of our New State Department. We receive the world’s dignitaries in a setting which reminds you of nothing so much as the decorator’s display floor of one of our better department stores. Are we proud only of our past?

The British Royal Family’s venture into mid-century design and art—some twenty original paintings by living British artists were also commissioned—will understandably not be shown to visitors to the castle nor published in photograph since the rooms are private and the British respect the privacy of their leaders. We are, therefore, in no position to report how successful this effort may be. But we can join *Design* magazine in applauding Her Majesty’s “faith in the British tradition of experiment and development.” And we can suspect without chauvenism that the Queen’s new furniture, though undoubtedly made in Britain, is bound to have been influenced by the work of such contemporary American designers as Charles Eames, Harry Bertoia and others.

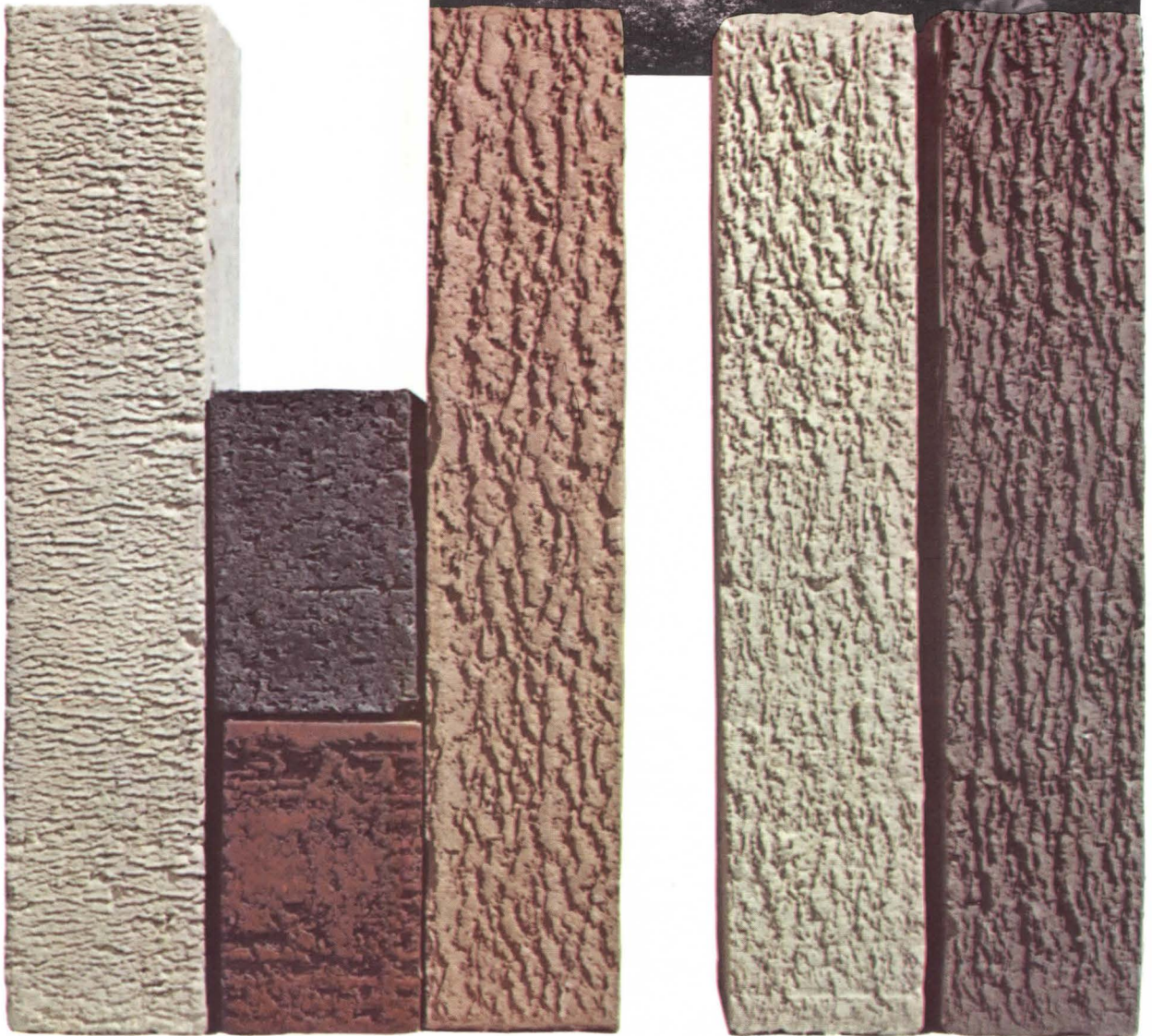
We see Eero Saarinen’s, Mies van der Rohe’s and Marcel Breuer’s furniture, American-designed modern fabrics and draperies, china and glassware everywhere in the world. They have become a standard vocabulary of modern interiors, classics as it were, which have long past the stage of the mere daring or avant-garde. They have proven that our time can match the past in the design for comfortable, elegant living. And much of this modern, comfortable and elegant living is associated with our country.

The government would thus neither be pioneering anything radically new, nor would it be introducing strange, foreign notions were it to furnish some of its official rooms of state in the modern manner. Our foreign visitors are likely to expect it. It is in modern interiors rather than imitation Georgian that America has put its best foot forward. It is time that the US government recognizes this fact. Like the Royal Family, it should seize the next opportunity to show its confidence in the best creative talent of our time. ◀



## **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.





# Library Notes

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## Materials in Design

The Sixth Congress of the International Union of Architects held in 1961 concerned itself with the impact that new materials and new techniques are making on architecture. In a paper presented to the Congress Henry Russell Hitchcock remarked, "From an architectural point of view an old material truly becomes a new one when the technique of its employment is drastically modified."

Something of the nature of such old materials as stone, brick, wood and glass is explored in a series of fairly recent additions to the AIA Library. The purpose of each of these books is to study the character and potentialities of a specific building material. Each one of the books has a point of view about the use of the material under consideration and its appropriate place in the design of buildings. Although the books deal with different materials, they have a common theme, namely, that all the natural properties of a material have to be understood before the material can be used with authenticity. The authors further contend that the esthetic element exists in terms of integrity in the use of the material. Indeed, the authors appear to discern definite architectural tendencies inherent in the nature of the materials.

Gerd Zimmerschied says, "The selection of a building material can only be made if its character and possibilities as a creative influence are considered together with a knowledge of the various ways in which it can be used." He is author of "Natural Stone as an Element in Design" (Berlin, Interbuch, 1961). For two years he and a photographic team collected photographs in order to give a complete coverage of the various uses of stone in architectural design today. The author states that due to the prevalence of new materials and techniques stone is used generally for ornamentation and facing, but that increasingly architects "in their efforts to develop the modern trend toward unity of structure and landscape" are "re-awakening" to the uses of stone as a basic building material.

The well-chosen photographs reveal many varied and esthetically delightful possibilities in stone as an element in design. It seems to possess, says Mr Zimmerschied, "certain imponderable qualities evolved from tradition and custom and conveying age-old meanings." Perhaps this is why its use in modern church architecture is appealing. The photographs show how stone incorporates "architectural plasticity into a structural element." Very rarely do the captions (in English, French and German) give names of buildings or of architects. This is frustrating, at least to a librarian. The book is successful, however, in that it cautions the contemporary architect not to forget that natural stone alone or in conjunction with other building materials has dramatic structural possibilities.

Mr Zimmerschied is responsible, too, for "Brick as an Element in Design" (Berlin, Interbuch, 1961). The many photographs, accompanied by a brief explanatory text, are arranged in four sections: 1) sur-

face design; 2) colored bricks; 3) the plastic treatment of wall surfaces; and 4) molded brickwork. Examples are selected from all over the world, including Kuwait, Russia, Denmark, Japan, Australia and the United States. The photographs are particularly effective in that they show not only the buildings as a whole but detailed close-ups of the brickwork. Perhaps the most interesting sections of the book deal with the manner in which brickwork can give a dynamic quality in plastic effects through the creation of different planes and with the way in which molded bricks, with their individual forms and spatial relationships, can create a harmonious sense of proportion.

A different approach is given in Bernard Foerster's "Man and Masonry" (Washington, Allied Council, 1960). The photographs arbitrarily chosen are "based on the variety of emotional content they reveal." The book might have been entitled "Man and Masonry and Music" because an essential part of it is a phonodisc. The musical score by Spencer Huffman is performed by the National Symphony Orchestra. Both the music and the photographs are from the film, "Man and Masonry." The music and the photographs develop such themes as Scale, Nature Form, Light, Screens, Patterns, Texture and Sculpture. It is claimed this is "the first music to find its inspiration purely in the esthetics of architecture." There is virtually no text, and the musical passages are related to the photographs.

Frank Lloyd Wright once wrote that wood is "a beautiful material, friendly to man, the supreme material for his dwelling purposes. If man is going to live, he should live with wood." This view is shared by a Danish writer, Finn Monies. In his book, "Wood in Architecture" (New York, Dodge, 1961), he recognizes the tremendous effect wood has had on the art of building, but except for brief references in the foreword augmented by complementary photographs, it is not the intention to present an historical survey. Rather, the purpose is to suggest "esthetic possibilities inherent in the use of wood in contemporary building." Technical problems are dealt with only to a limited degree. The five sections of the book cover Wood and Houses; Interiors; the Detail; Textures and Finishes; and Wood in Large Structures. Danish examples are given for the most part. The book clearly demonstrates that though wood is an old building material, its use is unlimited in the hands of an imaginative architect.

A well executed book is one by Raymond McGrath and A. C. Frost called "Glass in Architecture and Decoration" (2d ed, London, Architectural Press, 1961). The authors say that it is an architect's responsibility to know his material as "intimately" as possible. A reader will surely know glass if he studies this standard work on the subject. The section on the nature and properties of glass, illustrated with excellent photographs, furnishes thorough explanations. Glass has arrived *architecturally*, claims this book, so that its absence is more noticeable than its presence in contemporary architecture. Although an "old" material—like stone, brick and wood—its applications have been vastly extended in modern structures. Here is a definitive account of glass in both architecture and decoration.

All these books are available on loan to corporate members.

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